



Customer Interface Specification

24 October 2017

Summary of Changes, 24 October 2017

This document reflects changes made following the publication of the Release 17.Q4 version.

| Description of Change | Where to Look |
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| Data Element Definitions | |
| Mastercard is revising descriptions for DE 25 (Point-of-Service [POS] Condition Code) and DE 61 (Point-of-Service [POS] Data) and DE 61 subfields to ensure alignment between the Customer Interface Specification and the Single Message System Specifications. | DE 25—Point-of-Service (POS) Condition Code DE 61—Point-of-Service (POS) Data |

Summary of Changes, 10 October 2017

This document reflects changes associated with Release 17.Q4 since the 25 July 2017 publication.

| Description of Change | Where to Look |
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| General | |
| Added the registration mark to first use (in body of manual) of EMV®, along with the following footnote: "EMV is a registered trademark or trademark of EMVCo LLC in the United States and other countries." (The EMVCo LLC link is to www.emvco.com .) | Authorization Advice/0120—Acquirer-Generated |
| Where Global Safety and Security Standards effective dates for each region are listed, updated EUR: 13 Oct 2017 to EUR: 13 Oct 2017; Ukraine: 1 Apr 2018. | Throughout |
| Message Layouts | |

| Description of Change | Where to Look |
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| In the following message layouts, added DE 56 (Payment Account Data) to support enhancements to Payment Account Reference (PAR): | Authorization Advice/0120—Acquirer-Generated |
| <ul style="list-style-type: none"> • Authorization Advice/0120—Acquirer-Generated • Authorization Advice/0120—System-Generated • Authorization Advice Response/0130—Issuer-Generated (Responding to a System-Generated 0120 from SAF) • Authorization Advice Response/0130—Issuer-Generated (Responding to an Acquirer-Generated 0120 Response or an Authorization Advice Request 0120) • Authorization Advice Response/0130—System-Generated (Responding to an Acquirer-Generated 0120) • Issuer File Update Request/0302 • Reversal Request/0400 • Reversal Request Response/0410 • Reversal Advice/0420 • Reversal Advice Response/0430 | Authorization Advice/0120—System-Generated |
| | Authorization Advice Response/0130—Issuer-Generated (Responding to a System-Generated 0120 from SAF) |
| | Authorization Advice Response/0130—Issuer-Generated (Responding to an Acquirer-Generated 0120 Response or an Authorization Advice Request 0120) |
| | Authorization Advice Response/0130—System-Generated (Responding to an Acquirer-Generated 0120) |
| | Issuer File Update Request/0302 |
| | Reversal Request/0400 |
| | Reversal Request Response/0410 |
| | Reversal Advice/0420 |
| | Reversal Advice Response/0430 |

| Data Element Definitions | |
|---|---|
| In DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), Application Notes, updated the application note, “Value 20 is allowed for issuers participating in the Swedish Domestic Authorization Switching Service (SASS) for Private Label, Mastercard, and Maestro branded transactions” by removing the ending restriction “only if the issuer is enabled as a Refund Participant.” | Subfield 1—Cardholder Transaction Type Code |
| In DE 4 (Amount, Transaction), Application Notes, For Automated Fuel Dispenser (AFD) Transactions section, removed the effective date as it is no longer necessary. | DE 4—Amount, Transaction |
| In DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode), added new value 10 (Visa only. PAN entry via credential on file.) to support Visa gateway enhancements. | Subfield 1—POS Terminal PAN Entry Mode |

| Description of Change | Where to Look |
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| In DE 22, Authorization Platform Edits, performed the following updates to support Visa gateway enhancements: | Authorization Platform Edits Visa Credential on File Transactions |
| <ul style="list-style-type: none"> • Added Visa Credential on File Transactions to the list of programs and services on which the Authorization Platform performs edits. • Added new Visa Credential on File Transactions section with new edits. | |
| In DE 48 (Additional Data—Private Use), subelement 17 (Authentication Indicator), added new Application Notes section with an application note supporting the introduction by Mastercard of the capability to indicate the result of biometric authentication to global issuers that participate in the Cardholder Authentication Service. | Subelement 17—Authentication Indicator |
| In DE 48, subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier), Attribute section, updated Data Field description from Provides the Wallet indicator to Provides the Wallet Identifier. | Subfield 1—Wallet Identifier |
| In DE 48, subelement 32 (Mastercard Assigned ID), Values, first paragraph, updated "should always be" to "must be" and "should contain" to "must contain." | Subelement 32—Mastercard Assigned ID |
| In DE 48, subelement 33 (PAN Mapping File Information), performed the following updates: | Subelement 33—PAN Mapping File Information |
| <ul style="list-style-type: none"> • Usage section: <ul style="list-style-type: none"> – For the Authorization Advice Response/0130—Issuer-generated message, updated both the Originator code and the Destination code from C to CE. – For the Reversal Request Response/0410 message, updated the Originator code from Not Required or Not Applicable (•) to CE and updated the Destination code from C to CE. • In the Application Notes section, first paragraph, removed the last sentence regarding subfields to improve clarity. • In subfield 3 (Expiration Date), Values, updated Acquirer message value description to accommodate multiple methods for providing PAN expiry date. | Subfield 3—Expiration Date |

| Description of Change | Where to Look |
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| In DE 48, subelement 42 (Electronic Commerce Indicators), performed the following updates: | Subelement 42—Electronic Commerce Indicators |
| <ul style="list-style-type: none"> • In Data Representation, Data Field, and Values section, updated “if <i>SecureCode</i> downgrade occurred” to “if <i>SecureCode</i> downgrade or MDES SLI modification occurred” to support new MDES security level indicator (SLI) edit. • In Application Notes, added new application note supporting enhancement to Electronic Commerce Security Level Indicator validation and usage. • In subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator): <ul style="list-style-type: none"> – In Values, Position 3 (UCAF Collection Indicator), value 3 (UCAF data collection is supported by the merchant, and UCAF [Mastercard assigned Static Accountholder Authentication Value] data must be present.), added Maestro Static AAV for Masterpass as one of the programs in which value 3 indicates participation. – In Values, Position 3, value 6 (Merchant Risk Based Decisioning), added a note that issuers and acquirers must support the SLI value of 246 for Digital Secure Remote Payment (DSRP) transactions participating in the MDES for Merchants and MDES for Commerce Platforms. – In Application Notes, updated ECI to SLI. Also made this change within note in DE 48, subelement 43 (3-D Secure for Mastercard <i>SecureCode</i>), Application Notes. • In subfield 2 (Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator) and (renamed) subfield 3 (Reason for UCAF Collection Indicator Downgrade), updated “<i>SecureCode</i> downgrade” to “<i>SecureCode</i> downgrade or MDES SLI modification” as appropriate to support new MDES SLI edit. • Renamed subfield 3 (Reason for UCAF Collection Indicator Downgrade Values) to subfield 3 (Reason for UCAF Collection Indicator Downgrade) and reflected this change throughout the manual. | Subfield 1—Electronic Commerce Security Level Indicator and UCAF Collection Indicator Subfield 2—Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator Subfield 3—Reason for UCAF Collection Indicator Downgrade |
| In DE 48, subelement 43 (Universal Cardholder Authentication Field (UCAF)), performed the following updates: | Subelement 43—Universal Cardholder Authentication Field (UCAF) |
| <ul style="list-style-type: none"> • Added paragraph on subelement 43 (UCAF) support for Digital Secure Remote Payments (DSRP). • In the Values section, for the Digital Secure Remote Payments entry, added cross-reference link to the section Subelement 43—Digital Secure Remote Payment Universal Cardholder Authentication Field (UCAF). | |

| Description of Change | Where to Look |
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| <p>In the following definitions of DE 48, subelement 43, in the sections where noted, added the term “partial shipment verbiage” to refer to the subelement 43 values:</p> <ul style="list-style-type: none"> • Subelement 43—Digital Secure Remote Payment Universal Cardholder Authentication Field (UCAF), Values section • Subelement 43—3-D Secure Electronic Commerce Verification Service (Visa, JCB, Diners Club and American Express Only), Application Notes section | Subelement 43—Digital Secure Remote Payment Universal Cardholder Authentication Field (UCAF) Subelement 43—3-D Secure Electronic Commerce Verification Service (Visa, JCB, Diners Club and American Express Only) |
| <p>In DE 48, subelement 43 (Digital Secure Remote Payment Universal Cardholder Authentication Field [UCAF]), added note referring reader to <i>Digital Secure Remote Payments—UCAF Formats</i> manual for detailed information on the UCAF formats supported by Mastercard.</p> | Subelement 43—Digital Secure Remote Payment Universal Cardholder Authentication Field (UCAF) |
| <p>In DE 48, subelement 43 (Static AAV), performed the following updates:</p> <ul style="list-style-type: none"> • Added Maestro Static AAV for Masterpass as one of the programs to which the Static AAV in subelement 43 applies. • In Values, added the following additional value for Position 1: <ul style="list-style-type: none"> – 5 = Maestro Basic Static AAV (Maestro e-commerce transaction initiated through Masterpass) | Subelement 43—Static AAV |
| <p>In DE 48, subelement 63 (Trace ID), Application Notes, last paragraph, removed the phrase “as conditional data,” and at end of paragraph, added reference to Clearing AFD Transactions in the Automated Fuel Dispenser Completion section of the Program and Service Format Requirements chapter.</p> | Subelement 63—Trace ID |
| <p>In DE 48, subelement 71 (On-behalf Services), added a new Application Notes section with an application note regarding alternate processing using new service result code 26 in subfield 1 (On-behalf Service) and new service result codes A, F, M, N, P, U, V in subfield 2 (On-behalf Result 1). Refer to the following entry for more details on these new subfield 1 and subfield 2 values.</p> | Subelement 71—On-behalf Services |

| Description of Change | Where to Look |
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| <p>In DE 48, subelement 71, Subelement 71—Valid Subfield 1 and Subfield 2 Value Combinations, added the following new subfield 1 (On-behalf Service) and subfield 2 (On-behalf Result 1) value combinations:</p> | Subelement 71—Valid Subfield 1 and Subfield 2 Value Combinations |
| <ul style="list-style-type: none"> • New subfield 1 value 26 (Point-of-Interaction Eligibility and Enablement Service) with the following new subfield 2 values: <ul style="list-style-type: none"> – A (Amount does not qualify for Installment) – F (PAN does not qualify for Installment) – M (MCC does not qualify for Installment) – N (Record not found) – P (Installment Parameters missing) – U (Unable to Process) – V (Qualified for Installment) • New subfield 1 value 37 (Masterpass QR Blocking Service) with the following new subfield 2 values, to support the introduction of Mastercard Masterpass™ QR (Quick Response): <ul style="list-style-type: none"> – D = Masterpass QR Blocking—Transaction Amount Limit Exceeded – E = Masterpass QR Blocking—Cumulative Transaction Amount Limit Exceeded – F = Masterpass QR Blocking—Domestic Activity Only – U = Unable to Process – V = Valid | |
| <p>In DE 48, subelement 77 (Funding/Payment Transaction Type Indicator), Values section, renamed value C67 from (Inter Platform Person-to-Person) to (Masterpass QR) and in Application Notes section, added the application note, Usage of value C67 is limited to Masterpass QR transactions.</p> | Subelement 77—Funding/Payment Transaction Type Indicator |

| Description of Change | Where to Look |
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| <p>In DE 48, subelement 78 (Payment Service Indicators [Visa Only]) and its subfields as follows, performed the following updates to support Visa gateway enhancements:</p> <ul style="list-style-type: none"> • In subelement 78 Usage section, added the following messages each with Org, Sys, and Dst values of C, •, and C respectively: <ul style="list-style-type: none"> – Reversal Request/0400 – Reversal Request Response/0410 • In subfield 1 (Spend Qualified Indicator), updated the existing application note. • In subfield 2 (Dynamic Currency Conversion Indicator): <ul style="list-style-type: none"> – Updated the value Space to No Dynamic Currency Conversion or not echoed in the Authorization Request Response/0110 or Reversal Request Response/0410 message. – Updated the existing application note. • In subfield 3 (U.S. Deferred Billing Indicator), updated the existing application note. • Renamed subfield 4 from (Reserved for Future Use) to (Visa Checkout Indicator) and added new content to subfield 4 (Visa Checkout Indicator). | Subelement 78—Payment Service Indicators (Visa Only) |
| <p>In DE 48, subelement 87 (Card Validation Code Result), added Application Notes section with an application note on the use of subelement 87 with the Stand-In System and CVC 1 validation. Added a reference to this application note in the CVC 1 section of Values.</p> | Subelement 87—Card Validation Code Result |
| <p>In DE 48, DE 48—Authorization Platform Edits, performed the following updates:</p> <ul style="list-style-type: none"> • In DE 48, Subelement 42 and Subelement 43, added new edits supporting enhancement to Electronic Commerce Security Level Indicator (SLI) validation and usage. • In DE 48, Subelement 78, updated edits to support Visa gateway enhancements. | DE 48, Subelement 42 and Subelement 43 DE 48, Subelement 78 |

| Description of Change | Where to Look |
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| <p>In DE 54 (Additional Amounts), Application Notes, performed the following updates:</p> <ul style="list-style-type: none"> • Added heading General to encompass introductory application notes at beginning of section. • In General section, end of third note, added sentence stating exception that if an occurrence of DE 54, subfield 2 value 58 (POI Amount) is sent, then the Authorization Platform will not provide an additional occurrence in the issuer's currency. • Updated heading Cash Back without Purchase in India to Cash Back without Purchase in Participating Countries and updated application note text accordingly. • Added new application note on POI Currency Conversion. | DE 54—Additional Amounts |
| <p>In DE 54, subfield 2 (Amount Type), Example Values, added new value 58 (POI Amount).</p> | Subfield 2—Amount Type |
| <p>In DE 54, added new section DE 54—Authorization Platform Edits with new edits.</p> | DE 54—Authorization Platform Edits |
| <p>In DE 55 (Integrated Circuit Card [ICC] System-Related Data), DE 55—Authorization Platform Edits, performed the following updates:</p> <ul style="list-style-type: none"> • Removed edits incorrectly referring to Person Present Service and superseded by new edits as follows. • Added new section Authorization Platform Edits—Cardholder Authentication Service to support the introduction by Mastercard of the capability to indicate the result of biometric authentication to global issuers that participate in the Cardholder Authentication Service. Also added these new edits to the new Cardholder Authentication Service section in the Program and Service Format Requirements chapter (see the following). | DE 55—Authorization Platform Edits |
| <p>In DE 56 (Payment Account Data), Usage section, added the following new messages to support enhancements to PAR:</p> <ul style="list-style-type: none"> • Authorization Advice/0120—Acquirer-generated • Authorization Advice/0120—System-generated • Authorization Advice Response/0130—Issuer-generated • Reversal Request/0400 • Reversal Request Response/0410 • Reversal Advice/0420 • Reversal Advice Response/0430 | DE 56—Payment Account Data |

| Description of Change | Where to Look |
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| <p>In DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), section DE 60, Subfield 1 Values, in Authorization Advice/0120, performed the following updates:</p> <ul style="list-style-type: none"> Added new Advice Reason Code value 151 = In Control Processing Advice to Issuer (Masterpass QR). In DE 60, Authorization Advice/0120 Edits, removed edits duplicating those added in DE 55, DE 55—Authorization Platform Edits. (Refer to preceding entry.) | DE 60, Subfield 1 Values, in Authorization Advice/0120 DE 60, Authorization Advice/0120 Edits |
| <p>In DE 60, subfield 2 (Advice Detail Code), Values, updated value 0078 from 0078 (M/Chip Data not Present) to 0078 (Reject: M/Chip Biometric Data not Present).</p> | Subfield 2—Advice Detail Code |
| <p>In DE 60, subfield 2, section DE 60, Subfield 2 Values, in Mastercard Digital Enablement Service, added new code value 0215 (Reject: Declined by Transaction Analysis).</p> | DE 60, Subfield 2 Values, in Mastercard Digital Enablement Service |
| <p>In DE 60, subfield 2, added new section DE 60, Subfield 2 Values, in Mastercard Masterpass QR Service, with the following valid Advice Detail Code values in Mastercard Masterpass QR Service transactions:</p> <ul style="list-style-type: none"> 0064 (Reject: Transaction Amount Limit Check) 0065 (Reject: Cumulative Amount Limit Check) 0072 (Reject: Geographic Restriction) | DE 60, Subfield 2 Values, in Mastercard Masterpass QR Service |
| <p>In DE 61 (Point-of-Service [POS] Data), subfield 11 (POS Card Data Terminal Input Capability Indicator), Application Notes, removed the following two paragraphs, as they are incorrect:</p> <ul style="list-style-type: none"> “The PAN entry mode (DE 22 [Point-of-Service Entry Mode], subfield 1 [POS Terminal PAN Entry Mode]) may be any mode supported by the terminal.” “Acquirers may also continue to pass the POS Card Data Terminal Capability Indicator in DE 61, subfield 11 as they do today.” | Subfield 11—POS Card Data Terminal Input Capability Indicator |
| <p>In DE 63 (Network Data), subfield 1 (Financial Network Code), added new product code MWP (Mastercard® World Prepaid), a prepaid card program product code under the Mastercard credit acceptance brand issued in the Middle East/Africa (MEA) region.</p> | Subfield 1—Financial Network Code |
| <p>In DE 101 (File Name), Values section, added new file name value MCC111 (PAN-PAR [Payment Account Reference] Mapping File) to support enhancements to PAR.</p> | DE 101—File Name |

| Description of Change | Where to Look |
|---|--|
| In DE 112—Additional Data (National Use), added new section Spain—Domestic ATM Transactions containing the following new subelement and its new subfields to support domestic ATM Cash withdrawal transactions in Spain: <ul style="list-style-type: none">• Subelement 017 (ATM Domestic Fee)<ul style="list-style-type: none">– Subfield 1 (ATM Service Fee)– Subfield 2 (ATM Disloyalty Fee)– Subfield 3 (Credit Card Fee) | Spain—Domestic ATM Transactions |
| In DE 112, added new section United Kingdom—Debt Repayment Transactions containing the following new subelement and its new subfields to support capturing additional recipient data in authorization messages where a United Kingdom (U.K.) issued debit card is used to pay off another card (credit, prepaid). <ul style="list-style-type: none">• Subelement 033 (UK Recipient Details)<ul style="list-style-type: none">– Subfield 1 (Recipient Last Name)– Subfield 2 (Recipient Postal Code)– Subfield 3 (Recipient Date of Birth)– Subfield 4 (Recipient Account Number) | United Kingdom—Debt Repayment Transactions |

| Description of Change | Where to Look |
|---|---|
| <p>In DE 120 (Record Data), Online File Maintenance, performed the following updates:</p> <ul style="list-style-type: none"> • In the table of allowed DE 91 (Issuer File Update Code) values for each DE 101 (File Name) file type, added new entry MCC111 (PAN-PAR [Payment Account Reference] Mapping File) with a check mark under DE 91 value 2 Update only. • In sections MCC102 (Stand-In Account File) through MCC109 (Application Transaction Counter File): <ul style="list-style-type: none"> – Editorial updates for consistency and clarity. – Updated “data fields that should be completed in DE 120” to “data fields that should be included in DE 120” and updated “Complete These Fields in DE 120” to “Include These Fields in DE 120”. • In MCC106 (PAN Mapping File), performed the following additional updates: <ul style="list-style-type: none"> – In the first paragraph, changed “contains PAN Mapping File data” to “contains Token to Pan Mapping File data”. – In the DE 120 layout that applies to Issuer File Update Request/ 0302 Messages requesting the suspension, deactivation, or resumption of an MDES token in the MCC106 PAN Mapping File, in field 2 (Action Required), updated attribute from n-1 to an-1. • Added new section MCC111—PAN-PAR (Payment Account Reference) Mapping File. • In DE 120 Error Codes: <ul style="list-style-type: none"> – For each Error Codes section MCC102 through MCC109, updated the phrase (using MCC102 as an example), “DE 44 contains the value 120xxx (xxx indicates the field in MCC102 where the error occurred)” to “DE 44 contains the value 120xxx (xxx indicates the DE 120 field in which the error occurred).” – Added new section MCC111 Error Codes. | Online File Maintenance MCC106—PAN Mapping File MCC111—PAN-PAR (Payment Account Reference) Mapping File DE 120 Error Codes MCC111 Error Codes |

Program and Service Format Requirements

| Description of Change | Where to Look |
|--|---|
| <p>In Product Value Constraints, Permitted Transactions by Card Program, Permitted Transactions by Card Program table, removed from the following locations the superscript and footnote previously marked as h indicating “Refund Transactions apply only to Private Label and Swedish Domestic Authorization Switching Service (SASS)”: </p> | Permitted Transactions by Card Program |
| <ul style="list-style-type: none"> • Balance inquiry section, POS Balance Inquiry transaction type, references 6.3–6.7 • Refund section, Refund transaction type, references 8.1–8.7 • Table Key at end of table | |
| <p>Also promoted the former superscript and footnote I, “Approved domestic countries, as indicated in <i>Mastercard Rules</i>,” to the new superscript and footnote h, in the following locations in the table:</p> | |
| <ul style="list-style-type: none"> • Purchase with Cash Back (PWCB) section, PWCB transaction type, references 7.1–7.3, DMC column • Table Key at end of table | |
| <p>In Automated Fuel Dispenser Completion, performed the following updates:</p> | Authorization Advice/0120—Acquirer-Generated (Automated Fuel Dispenser Completion) Clearing AFD Transactions |
| <ul style="list-style-type: none"> • In Authorization Advice/0120—Acquirer-Generated (Automated Fuel Dispenser Completion), Critical AFD Advice Message Data, entry for DE 48 (Additional Data), subelement 63 (Trace ID), removed the phrase “is conditional data.” • In Clearing AFD Transactions, updated alternative case. | |
| <p>In Authorization and Preauthorization Processing Standards, performed the following updates:</p> | Authorization and Preauthorization Processing Standards |
| <ul style="list-style-type: none"> • In Preauthorization Message Data Integrity, added the following new exclusions to the list of types of transactions excluded from the compliance validation process: <ul style="list-style-type: none"> – e-commerce (POS PAN Entry, DE 22 subfield 1 = 81) – Merchant Category exclusions (MCC, DE 18): 5542 (AFD), 3000–3350 (Airlines), 3351–3500 (Rental Car), 3501–3999 (Hotels), 7512 (Generic Car Rental), 4511 (Generic Airline), 7011 (Generic Hotels), MCCs 5812, 5813, 5814, 7230 (Gratuity categories) • Added new section Frequently Asked Questions on Authorization and Preauthorization Rules, with the question “How should installment payment authorization messages be coded?” and two answers depending on whether the installment transactions are (1) Issuer-financed, or (2) Merchant-financed or Acquirer-financed. | |

| Description of Change | Where to Look |
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| Added new Cardholder Authentication Service section to support the introduction by Mastercard of the capability to indicate the result of biometric authentication to global issuers that participate in the Cardholder Authentication Service. New section includes data requirements and Authorization Platform edits. | Cardholder Authentication Service |
| Added new ICCR Service section providing issuers in the Europe region with the option to enroll in the Issuer Currency Conversion Rate (ICCR) service, which charges the cardholder an additional fee for transactions that require currency conversion. | ICCR Service |
| <p>In Mastercard Digital Enablement Service, Message Layouts—Pre-digitization Payment Network Messages, performed the following updates:</p> <ul style="list-style-type: none"> • In DE 124 Subfields in Authorization Request/0100—Tokenization Event Notification, under Subfield Name Tokenization Event Indicator, in Values/Comments, added new values 4 = Deleted from consumer device, and 9 = Replacement. • In DE 124 Subfields in Authorization Request Response/0110—Tokenization Authorization, under Subfield Name Token Data and Activation Method(s), for Token Data and Activation Method Type, in Values/Comments, added the Token Data and Activation Method Type value a = Alternate account identifier. • In DE 120 Layout for Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Event Notification, in Tokenization Event Indicator entry, added new Tokenization Event Indicator field value 4 = Deleted from consumer device. | DE 124 Subfields in Authorization Request/0100—Tokenization Event Notification DE 124 Subfields in Authorization Request Response/0110—Tokenization Authorization DE 120 Layout for Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Event Notification |
| Added new MDES for Masterpass section introducing two new authentication options, a Dynamic Token Verification Code and Dynamic Expiration Date. | MDES for Masterpass |
| Added new MDES for Merchants section to support introduction by Mastercard of specific values and purpose to existing data elements in the Dual Message (Authorization) System that will help issuers and acquirers identify the MDES for merchants program and participants throughout the authorization flow. | MDES for Merchants |
| In Mastercard Safety Net, Summary and Background, added effective date for Ukraine of July 2017 for required participation in the Mastercard Safety Net service except when processing Russian domestic transactions. | Mastercard Safety Net |
| Added new section on Masterpass™ QR (Quick Response), a new service by Mastercard that offers a mobile payment option for person-to-merchant transactions in markets where conventional transactions rely heavily on cash for retail purchases. | Masterpass QR |

| Description of Change | Where to Look |
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| In Visa Transaction Processing, Visa Token Processing, Tokenized Recurring Payment Messages, added the term “partial shipment verbiage” to refer to the DE 48 (Additional Data—Private Use), subelement 43 (Secure Electronic Commerce Verification Service) values for recurring payment transactions. | Visa Token Processing |

Summary of Changes, 25 July 2017

This document reflects changes associated with Release 17.Q3 since the 18 April 2017 publication.

| Description of Change | Where to Look |
|---|--|
| Data Element Definitions | |
| In DE 48 (Additional Data), renamed subelement 27 from "Additional Transaction Analysis" to "Transaction Analysis." | Subelement 27—Transaction Analysis |
| In subelement 27, renamed subfield 1 from "Transaction Disposition" to "Overview." | Subfield 1—Overview |
| Added application note to DE 48 (Additional Data), subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) and subfield 8 (Storage Technology). Also added Authorization Request Response/0110 message to subfield 8 Usage section. | Subfield 6—Token Requestor ID Subfield 8—Storage Technology |
| Program and Service Format Requirements | |
| In DE 124 Subfields in Authorization Request/0100—Tokenization Eligibility, changed values/comments to match Single Message System Specifications. | DE 124 Subfields in Authorization Request/0100—Tokenization Eligibility |
| In DE 124 Subfields in Authorization Request/0100—Tokenization Authorization, added missing values/comments 0, 1, and 2 in the Wallet Provider Tokenization Recommendation subfield. | DE 124 Subfields in Authorization Request/0100—Tokenization Authorization |
| In DE 124 Subfields in Authorization Request/0100—Tokenization Event Notification, changed values/comments in Tokenization Event Reason Code subfield to read 01 = Activation code expired or invalidated. | DE 124 Subfields in Authorization Request/0100—Tokenization Event Notification |

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Chapter 1 Overview

This section discusses the various conventions that the Mastercard® Authorization Platform has adopted from the International Organization for Standardization (ISO) 8583-1987 message formats. Standard message flows are presented for acknowledgements, advices, and error conditions.

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Customer Interface Specification Format

This document contains the Mastercard implementation of the ISO 8583–1987 international message standard for processing authorization information using the Mastercard Dual Message System, Authorization Platform. It provides Mastercard customers with information necessary for development of an application-level online software interface between customer processing systems (CPSs) and the Mastercard Dual Message System.

Benefits

All programs and services carrying the Mastercard brand use the ISO 8583–1987 message standard.

Benefits of using the ISO 8583–1987 international message standard include:

- Flexibility—Customers may use this interface as a “gateway” vehicle to other credit card and debit card networks. These networks include Visa’s credit and debit card systems; and all major travel and entertainment (T&E) card authorization services. Customers using these gateway capabilities can eliminate the time and expense involved in developing, operating, and maintaining multiple communication links to various regional, national, and international authorization networks in which they may participate.
- Capacity—This interface allows Mastercard and its customers to take full advantage of the Mastercard Network. This network features a fully-distributed network architecture at both the application and data-transport (communication network) levels. It provides direct high-speed “peer-to-peer” transaction routing (for example, acquirer-to-issuer), capable of handling several thousands of transactions per second.
- Functionality—Mastercard customers whose proprietary card processing systems support the Authorization Platform standard specified in this document can be assured that their systems will support:
 - All existing Mastercard programs and services, without requiring development of new system interfaces
 - Other national and international networks developed in accordance with ISO 8583–1987 interchange specifications
 - Upgrades related to future revisions of ISO standards

NOTE: Mastercard reserves the right to record, store, and use all data transmitted by the Mastercard Dual Message System in online electronic transactions, subject to Mastercard privacy and security compliance policies and applicable laws and regulations, without further notice.

NOTE: Throughout this document, functional references to “online” indicate an acquirer or issuer that is directly connected to a Mastercard Interface Processor (MIP) and does not imply any web-based or Internet connection.

Issuer Post-on-Authorization

The Authorization Platform and all Mastercard programs and services employ the Post-on-Authorization concept for handling issuer side transaction processing of authorization messages. This concept ensures necessary system integrity and optimizes efficient use of network resources.

The Post-on-Authorization concept is far more efficient than the alternative Post-on-Completion processing method. **It does not require** Completion Confirmation and Completion Response messages in order for the issuer processing system (IPS) to process Authorization Request/0100 messages. In contrast, the Post-on-Completion method **does require** propagation of Completion Confirmation and Completion Response messages between the acquirer and the issuer.

Under the Post-on-Authorization concept, when the Authorization Platform receives an Authorization Request Response/0110 message, it assumes that the issuer's authorization approval affected the cardholder's credit line or open-to-buy limit immediately. The system does not send an Authorization Confirmation message to the issuer. The issuer must assume that the transaction processed normally (**unless advised otherwise** by a Reversal Advice/0420). The Reversal Request/0400 message also may affect Post-on-Authorization processing because it cancels either a part or all of the authorization.

The Authorization Platform sends a response message to the issuer **only** if the Authorization Request Response/0110 message is late. This occurs, for example, when the IPS does not respond within the predetermined time (times-out) and the Authorization Platform forwards the message to the Stand-In System to process the transaction on behalf of the issuer. The Authorization Platform then sends the issuer an Authorization Negative Acknowledgement/0190 message, indicating that the Authorization Request Response/0110 message is unrecognizable.

If the issuer receives an Authorization Negative Acknowledgement/0190 message, the issuer must assume that the Authorization Platform:

- Timed-out the IPS
- Immediately went to the Stand-In System or alternate authorizer processing to service this transaction

If the issuer does not select Stand-In options, the Authorization Platform automatically sends an Authorization Request Response/0110 message to the acquirer with a negative response code (transaction request denied). **The issuer always must reverse any effect upon the cardholder's account.** Later, the issuer receives an Authorization Advice/0120 message indicating the specific action taken by the Stand-In System.

NOTE: The term “post” in Post-on-Authorization does not refer to actual posting of cardholder accounts for billing purposes. Post-on-Authorization refers only to the technique used to maintain accurate settlement reconciliation totals between the Authorization Platform and any attached customer processing system (CPS). The IPS handles actual posting of cardholder account data for cardholder billing purposes. Posting of the cardholder account data is not an Authorization Platform function.

Bit Mapped Message Encoding Scheme

A description of the bit map scheme.

All customer interface specification (CIS) messages are variable-length, with a bit map scheme used as the first data element(s) of the message following the Message Type Identifier (MTI) to indicate the presence or absence of additional data elements in the message. Each bit map is a 64-bit string contained within an eight-byte data element. The first bit in each bit map is 1 or 0 to indicate the presence or absence of another (immediately following) bit map data element.

The Authorization Platform uses a maximum of two-bit maps: a “Primary” and a “Secondary” Bit Map. Bits 1 or 0 in the Primary Bit Map indicate the presence or absence of DE 2 (Primary Account Number [PAN]) through DE 64 (Message Authentication Code [MAC]). Bits 1 or 0 in the Secondary Bit Map indicate the presence or absence of DE 66 (Settlement Code) through DE 128 (Message Authentication Code [MAC]).

NOTE: All bit positions are interpreted from left to right within each bit map. For example, within the Primary Bit Map, the leftmost bit is “bit number 1” and the rightmost bit is “bit number 64.”

Bit number 1 in the Primary Bit Map and bit number 65 in the Secondary Bit Map (that is, the first bit in each bit map) do not have corresponding data elements. These bits indicate the presence or absence of additional data elements in the message. If bit number 1 is 1, the Secondary Bit Map is present and selected data elements in the range DE 66–DE 128 exist in the Secondary Bit Map of the message. Bit number 65 **must always be 0** because no additional bit maps are defined beyond the Secondary Bit Map.

Each message **must** contain the Primary Bit Map. The Secondary Bit Map must be included only if data elements DE 66–DE 128 are present in the message.

Authorization Platform Processing Terms and Acronyms

Authorization Platform processing terms and acronyms are used in describing the logical flow of an Authorization Platform message from one point to another.

The following Authorization Platform terms or acronyms are used in describing the CIS message format:

- Acquirer processing system (APS)

- Customer processing system (CPS)
- Issuer processing system (IPS)
- Point of Sale (POS)

Customer Interface Specification Notations

The Customer Interface Specification notations describe the Customer Interface Specification (CIS) format.

The CIS format is described with the following notations:

- Data Length
- Data Representation
- Data Field
- Data Justification
- Date and Time
- Entities
- Presence
- Presence Requirements
- Program and Service Category

Data Length Notations

Data length notations indicate the format of the data length.

| Notation | Description |
|-------------|--|
| | All length fields are encoded as numeric EBCDIC, right-justified with leading zeros. If a customer sends ASCII, it is converted to EBCDIC and back to ASCII again if needed. |
| -digit(s) | Fixed length in number of positions. Example: n-3 indicates a three-position numeric data element. Example: an-10 indicates a 10-position alphanumeric data element. |
| ...digit(s) | Variable length, with maximum number of positions specified. Example: n...11 indicates a variable-length numeric data element of 1–11 digits. Example: an...25 indicates a variable-length alphanumeric data element of 1–25 positions. |
| LLVAR | Present with a variable-length data element attribute, indicates that the data element contains two fields: LL The length field represents the number of positions in the variable-length data field that follows. The length field contains a value in the range 01–99. |

| Notation | Description |
|-----------------|--|
| VAR | The variable-length data field Example: "an...25; LLVAR" represents a variable-length alphanumeric data element with a length of 1–25 positions. |
| LLVAR | Present with a variable-length data element attribute, indicates that the data element contains two fields: LLL The length field represents the number of positions in the variable-length data field that follows. The length field contains a value in the range 001–999. VAR The variable-length data field Example: "an...500; LLVAR" indicates a variable-length alphanumeric data element having a length of 1–500 positions. |

Data Representation Notations

Data representation notations indicate how data is represented. All message data elements are aligned on byte boundaries. The following data types are encoded using EBCDIC or ASCII display character representation, except for binary data.

| Notation | Description |
|-----------------|---|
| a | alphabetic characters A–Z and a–z |
| n | numeric digits 0–9 |
| an | alphabetic and numeric characters (excluding spaces and special characters) |
| ans | alphabetic, numeric, space, and special characters |
| b | space |
| b | binary representation of data in eight-bit bytes All binary data elements are constructed of bit-strings that have lengths that are an integral number of eight-bit bytes. No binary data element has a length of less than eight bits (one byte). b-8 indicates a fixed-length binary field of eight characters (eight bytes, 64 bits) |
| s | special character |

| Notation | Description |
|---|--------------------------------|
| ns | numeric and special characters |
| All track 2 or track 3 (attribute "ans") data elements are encoded as EBCDIC representations of the hexadecimal data specified in the ISO 7811 and 7812 specifications. Thus, a hexadecimal D (binary 1101) is encoded as an EBCDIC "D" character, and so forth. The LL or LLL length specification associated with these data elements specifies the data element length in number of bytes . | |

Data Field Notations

Data field notations indicate where the data exists in the data element.

| Notation | Description |
|-------------------------|---|
| Contents of subfields | Subfield number or number range Example: Contents of subfields 1–8 |
| Contents of position(s) | Position number or number range Example: Contents of positions 1–8 |
| N/A | Not applicable |

Data Justification Notations

Data justification indicates the position of the data in the data element.

| Notation | Description |
|-----------------|--|
| Left | Data is left justified |
| Right | Data is right justified |
| See subfields | Data justification is defined in the subfield description indicating the subfield justification may vary between subfields |
| N/A | Not applicable |

Date and Time Notations

Date and time notations indicate the format of the data that represents date and time.

| Notation | Description |
|-----------------|--|
| MM | month (two digits; 01–12) |
| DD | day (two digits; 01–31) |
| YY | year (last two digits of calendar year; 00–99) |

| Notation | Description |
|-----------------|----------------------------|
| hh | hour (two digits; 00–23) |
| mm | minute (two digits; 00–59) |
| ss | second (two digits; 00–59) |

Entity Notations

Entity notations identify who is responsible for a message (acquirer, issuer, processor, or the Authorization Platform) at any given point.

Purpose

Several entities may insert or modify data elements in an Authorization Platform message as it flows from the message origin to the Authorization Platform and from the Authorization Platform to the message destination. These entities typically include the customer or processor at the origin, the Authorization Platform, and the customer or processor at the destination. In the message format layouts, the following three entities provide information to the originator, the Authorization Platform, and destination related to the data element requirements.

Notations

| Notation | Description |
|-----------------|--|
| Org | Originator Requirements. The message originator must satisfy this data element's requirements. Examples of originators include acquirers sending Authorization Request/0100 or Network Management Request/0800 messages. |
| Sys | Authorization Platform Requirements. The Authorization Platform may insert, correct, modify, or echo this data element while, for example, routing a message from the origin to the destination. The Authorization Platform may overwrite the data element and thereby destroy any previous content. |
| Dst | Destination Requirements. The message destination must expect this data element (read it) and accept this data element (process it) if the originator requirements are satisfied. Examples of destinations include issuers receiving Authorization Request/0100 or Network Management Request/0800 messages. |

Presence Notations

Presence notations indicate if and how data is present. These notations appear in the originator (Org), Authorization Platform (Sys), and destination (Dst).

| Notation | Description |
|-----------------|---|
| M | Mandatory. The data element is required in the message. |

| Notation | Description |
|-----------------|---|
| C | Conditional. The data element is required in the message if the conditions described in the accompanying text apply. |
| O | Optional. The data element is not required, but may be included in the message at the message initiator's option. |
| X | Authorization Platform. The Authorization Platform may (or will) insert or overwrite the data element, depending on specific Authorization Platform support services provided for individual programs and services. |
| ME | Mandatory Echo. The data element is required in a response message and must contain the same value (echoed) from the original request or advice message. |
| CE | Conditional Echo. The data element is required in a response message if it was present in the original request or advice message, and it must contain the same value (echoed) from the original message. |
| XE | Authorization Platform Echo. The data element must contain the value from the original request or advice (echoed), if present. |
| • | Not Required or Not Applicable. The data element is not required or is not applicable. The transaction originator should not include this data element if this code is present in the Org or Dst column. |
| P | Sys passes data between Org and Dst. |

Presence Requirement Notations

Presence requirement notations describe the possible presence or usage requirements. An entity presence requirement is the three combined values in the originator (Org), Authorization Platform (Sys), and destination (Dst).

| Org | Sys | Dst | Description |
|------------|------------|------------|--|
| M | • | M | Mandatory; originator must provide the data element. |
| M | X | M | Mandatory; originator must provide the data element; Authorization Platform adjusts/appends data. |
| C | • | C | Conditionally required; conditions are described in Comments column. |
| C | X | C | Conditionally required; Authorization Platform adjusts/appends data. |
| • | X | C | Authorization Platform provides the data element conditionally. |
| • | X | M | Authorization Platform always provides the data element. |
| O | • | C | Optional; originator may provide the data element. |
| O | X | C | Optional; originator may provide the data element; Authorization Platform adjusts/appends data. |
| M | • | • | Mandatory; originator must provide the data element; Authorization Platform does not forward data. |

| Org | Sys | Dst | Description |
|------------|------------|------------|---|
| C | • | • | Conditionally required; Authorization Platform does not forward data. |
| O | • | • | Optional; Authorization Platform does not forward data. |
| • | X | • | Mastercard use only. |

Program and Service Category Notations

Program and Service Category notations identify the various programs and services.

| Notation | Description |
|-----------------|--|
| MC | All Mastercard activity the Authorization Platform processes. |
| NP | Network processing services activity (often referred to as private label activity) the Authorization Platform processes that does not fall into one of the following categories: Mastercard (MC), Visa (VI), and Travel and Entertainment (TE). This specification indicates the most general Authorization Platform data element requirements for private label activity. Processors that support all these general data element specifications are able to access or participate in any Authorization Platform credit card or debit card gateway. For detailed information on specific gateways, refer to the appropriate program or service user manual. |
| VI | Visa activity the Authorization Platform processes. This specification includes Authorization Platform requirements for accepting Visa activity. |
| TE | Travel and Entertainment (T&E) card activity the Authorization Platform processes that does not fall into one of the following categories: Mastercard (MC), network processing services activity (NP), and Visa (VI). This specification includes Authorization Platform interface requirements for Travel and Entertainment (T&E) card activity, including American Express, and Diners Club. |
| MS | Maestro card transactions that the Authorization Platform processes. |
| CI | Cirrus card transactions that the Authorization Platform processes. |

Authorization Platform Messages

Authorization Platform messages are those online transaction messages used to transmit authorization, file update, reversal, administrative, and network management data across the Mastercard Network.

The Authorization Platform supports the following online transaction message types:

- Authorization/01xx messages
- Issuer File Update/03xx messages
- Reversal/04xx messages
- Administrative/06xx messages
- Network Management/08xx messages

List of Authorization Messages

The following table lists the message types the Authorization Platform supports and indicates the originating entities for each message type. The Authorization Platform may not support all message types for each Mastercard program or service.

| MTI | Description | Acquirer | Issuer | Authorization Platform |
|---|--|-----------------|---------------|-------------------------------|
| Authorization/01xx messages | | | | |
| 0100 | Authorization Request | ✓ | | |
| 0110 | Authorization Request Response | | ✓ | ✓ |
| 0120 | Authorization Advice—Acquirer-generated | ✓ | | |
| 0120 | Authorization Advice—Issuer-generated | | ✓ | |
| 0120 | Authorization Advice—System-generated | | | ✓ |
| 0130 | Authorization Advice Response—Issuer-generated (Responding to an Acquirer-generated 0120) | | ✓ | |
| 0130 | Authorization Advice Response—Issuer-generated (Responding to a System-generated 0120 from SAF) | | ✓ | |
| 0130 | Authorization Advice Response—System-generated | | | ✓ |
| 0180 | Authorization Response Acknowledgement | ✓ | | |
| 0190 | Authorization Response Negative Acknowledgement | | | ✓ |
| Issuer File Update/03xx messages | | | | |
| 0302 | Issuer File Update Request | ✓ | | |
| 0312 | Issuer File Update Request Response | | | ✓ |
| Reversal/04xx messages | | | | |
| 0400 | Reversal Request | ✓ | | |
| 0410 | Reversal Request Response | | ✓ | ✓ |
| 0420 | Reversal Advice | | | ✓ |

| MTI | Description | Acquirer | Issuer | Authorization Platform |
|---|---|-----------------|---------------|-------------------------------|
| 0430 | Reversal Advice Response | | | ✓ |
| Administrative/06xx messages | | | | |
| 0600 | Administrative Request | ✓ | | |
| 0610 | Administrative Request Response | | ✓ | ✓ |
| 0620 | Administrative Advice | ✓ | ✓ | ✓ |
| 0630 | Administrative Advice Response | ✓ | ✓ | ✓ |
| Network Management/08xx messages | | | | |
| 0800 | Network Management Request—Sign-On/Sign-Off ¹ | ✓ | ✓ | |
| 0800 | Network Management Request—Network Connection Status, Member-generated | ✓ | ✓ | |
| 0800 | Network Management Request—Network Connection Status, System-generated | | | ✓ |
| 0800 | Network Management Request—Host Session Activation/Deactivation | ✓ | ✓ | ✓ |
| 0800 | Network Management Request—PEK Exchange | | | ✓ |
| 0800 | Network Management Request—PEK Exchange—On Demand | ✓ | ✓ | |
| 0810 | Network Management Request Response—Sign-On/ Sign-Off | | | ✓ |
| 0810 | Network Management Request Response—Network Connection Status, Member-generated | ✓ | ✓ | |
| 0810 | Network Management Request Response—Network Connection Status, System-generated | | | ✓ |
| 0810 | Network Management Request Response/—Host Session Activation/Deactivation | ✓ | ✓ | ✓ |
| 0810 | Network Management Request Response/— PEK Exchange | ✓ | ✓ | |
| 0810 | Network Management Request Response/— PEK Exchange—On Demand | | | ✓ |
| 0820 | Network Management Advice—PEK Exchange | | | ✓ |

¹ Because the Mastercard Network does not track session status information for an acquirer, Authorization Platform sign-on/sign-off for acquirers is not required. However, acquirers optionally may send Authorization Platform sign-on/sign-off messages (for example, if required by vendor software.)

Message Type Identifier Presence Requirements by Program and Service

The following table lists the message type indicator (MTI) presence requirements for each authorization message type as it relates to the card program categories.

| MTI | Description | MC | NP | VI | TE | MS | CI |
|------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 0100 | Authorization Request | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0110 | Authorization Request Response | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0120 | Authorization Advice—Acquirer-generated | ✓ | ✓ | • | • | ✓ | ✓ |
| 0120 | Authorization Advice—Issuer-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0120 | Authorization Advice—System-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0130 | Authorization Advice Response—Issuer-generated (Responding to an Acquirer-generated 0120) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0130 | Authorization Advice Response—Issuer-generated (Responding to a System-generated 0120 from SAF) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0130 | Authorization Advice Response—System-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0180 | Authorization Acknowledgement | X | X | X | X | X | X |
| 0190 | Authorization Negative Acknowledgement | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0302 | Issuer File Update Request | ✓ | ✓ | • | • | ✓ | ✓ |
| 0312 | Issuer File Update Request Response | ✓ | ✓ | • | • | ✓ | ✓ |
| 0400 | Reversal Request/0400 | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0410 | Reversal Request Response/0410 | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0420 | Reversal Advice | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0430 | Reversal Advice Response | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0600 | Administrative Request/0600 | ✓ | ✓ | • | • | • | • |
| 0610 | Administrative Request Response/0610 | ✓ | ✓ | • | • | • | • |
| 0620 | Administrative Advice | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0630 | Administrative Advice Response | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0800 | Network Management Request | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0810 | Network Management Request Response | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| MTI | Description | MC | NP | VI | TE | MS | CI |
|------|---------------------------|----|----|----|----|----|----|
| 0820 | Network Management Advice | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Table Key:

✓ = The MTI must be provided for the program or service indicated.

X = Optional support (for example, when individual Mastercard customers may elect to support certain message types at their own discretion.)

• = The MTI is unavailable for the program or service

Character Sets

Character sets define how letters, numbers, symbols, and special characters are displayed in computer text.

What Character Sets does Mastercard Support?

Mastercard supports the following code pages for both standard and extended character sets:

- ASCII (ISO 8859-1)
- EBCDIC (Code Page 1047)

Mastercard supports standard EBCDIC formatted messages and bulk files. In addition to standard EBCDIC, Mastercard also supports the extended EBCDIC format as well as the standard and extended ASCII format for both authorization messages and selected bulk files. Customers using the MIP to transmit bulk files will still need to adhere to the existing Mastercard File Transfer Protocol format—that is, EBCDIC (for Header and Trailer information).

NOTE: Extended characters: Within the full character set, the alphabet is represented as used in the English language (with no character “enhancements”) and also the characters that may be found, for example, in the Spanish alphabet where the tilde is used over the Ñ.

Mastercard uses extended EBCDIC as the default character set type for sending messages unless otherwise specified by the customer.

Customers also have the option to send and receive either standard or extended character sets for both ASCII and EBCDIC formats in specific data elements that contain text. Following are examples of some data elements that may contain standard or extended text characters:

- DE 42 (Card Acceptor ID Code)
- DE 43 (Card Acceptor Name/Location)
- DE 120 (Record Data)
- DE 123 (Receipt Free Text)
- DE 124 (Member-defined Data)

The following bulk files will be supported in ASCII:

- R311—AMS File Updates
- R361—AMS File Updates (TEST)

Customers that want to receive messages in standard EBCDIC or extended or standard ASCII must inform Mastercard.

Character Sets

These tables contains valid ASCII to EBCDIC character sets.

ASCII to EBCDIC Character Set—ASCII hex order

Note: For the purposes of ISO 8583, the < space > character is treated as a special character (attribute "s"). It may, however, also be used in fields designated as alphanumeric (attribute "an") but only in the form of trailing spaces used to pad out significant data to fill a fixed-length field.

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Symbol | Meaning | EBCDIC Symbol | Meaning |
|---------------|-----------|------------|--------------|--------------------------------|---------------|-----------------------------|
| 032 | 20 | 40 | < space > | Space | DS | digit select |
| 033 | 21 | 4F | ! | exclamation mark | SOS | start of significance |
| 034 | 22 | 7F | " | straight double quotation mark | FS | field separator |
| 035 | 23 | 7B | # | number sign | WUS | word underscore |
| 036 | 24 | 5B | \$ | dollar sign | BYP/INP | bypass/inhibit presentation |
| 037 | 25 | 6C | % | percent sign | LF | line feed |
| 038 | 26 | 50 | & | ampersand | ETB | end of transmission block |
| 039 | 27 | 7D | ' | apostrophe | ESC | escape |
| 040 | 28 | 4D | (| left parenthesis | SA | set attribute |
| 041 | 29 | 5D |) | right parenthesis | SFE | |
| 042 | 2A | 5C | * | asterisk | SM/SW | set mode switch |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Symbol | Meaning | EBCDIC Symbol | Meaning |
|---------------|-----------|------------|--------------|------------------|---------------|-------------------------|
| 043 | 2B | 4E | + | addition sign | CSP | control sequence prefix |
| 044 | 2C | 6B | , | comma | MFA | modify field attribute |
| 045 | 2D | 60 | - | subtraction sign | ENQ | enquiry |
| 046 | 2E | 4B | . | period | ACK | acknowledge |
| 047 | 2F | 61 | / | right slash | BEL | bell |
| 048 | 30 | F0 | 0 | | | |
| 049 | 31 | F1 | 1 | | | |
| 050 | 32 | F2 | 2 | | SYN | synchronous idle |
| 051 | 33 | F3 | 3 | | IR | index return |
| 052 | 34 | F4 | 4 | | PP | presentation position |
| 053 | 35 | F5 | 5 | | TRN | |
| 054 | 36 | F6 | 6 | | NBS | numeric backspace |
| 055 | 37 | F7 | 7 | | EOT | end of transmission |
| 056 | 38 | F8 | 8 | | SBS | subscript |
| 057 | 39 | F9 | 9 | | IT | indent tab |
| 058 | 3A | 7A | : | colon | RFF | required form feed |
| 059 | 3B | 5E | ; | semicolon | CU3 | customer use 3 |
| 060 | 3C | 4C | < | less than | DC4 | device control 4 |
| 061 | 3D | 7E | = | equal | NAK | negative acknowledge |
| 062 | 3E | 6E | > | greater than | | |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Symbol | Meaning | EBCDIC Symbol | Meaning |
|---------------|-----------|------------|--------------|---------------|---------------|------------------|
| 063 | 3F | 6F | ? | question mark | SUB | substitute |
| 064 | 40 | 7C | @ | at symbol | SP | space |
| 065 | 41 | C1 | A | | RSP | |
| 066 | 42 | C2 | B | | â | |
| 067 | 43 | C3 | C | | ä | |
| 068 | 44 | C4 | D | | à | |
| 069 | 45 | C5 | E | | á | |
| 070 | 46 | C6 | F | | ã | |
| 071 | 47 | C7 | G | | å | |
| 072 | 48 | C8 | H | | ç | |
| 073 | 49 | C9 | I | | ñ | |
| 074 | 4A | D1 | J | | ¢ | cent |
| 075 | 4B | D2 | K | | . | period |
| 076 | 4C | D3 | L | | < | less than |
| 077 | 4D | D4 | M | | (| left parenthesis |
| 078 | 4E | D5 | N | | + | addition sign |
| 079 | 4F | D6 | O | | | logical or |
| 080 | 50 | D7 | P | | & | ampersand |
| 081 | 51 | D8 | Q | | é | |
| 082 | 52 | D9 | R | | ê | |
| 083 | 53 | E2 | S | | ë | |
| 084 | 54 | E3 | T | | è | |
| 085 | 55 | E4 | U | | í | |
| 086 | 56 | E5 | V | | î | |
| 087 | 57 | E6 | W | | ï | |
| 088 | 58 | E7 | X | | ì | |
| 089 | 59 | E8 | Y | | þ | |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Symbol | Meaning | EBCDIC Symbol | Meaning |
|---------------|-----------|------------|--------------|-----------------|---------------|--------------------|
| 090 | 5A | E9 | Z | | ! | exclamation point |
| 091 | 5B | 4A | [| left bracket | \$ | dollar sign |
| 092 | 5C | E0 | \ | left slash | * | asterisk |
| 093 | 5D | 5A |] | right bracket |) | right parenthesis |
| 094 | 5E | 5F | ^ | hat, circumflex | ; | semicolon |
| 095 | 5F | 6D | _ | underscore | ¬ | logical not |
| 096 | 60 | 79 | ` | grave | - | subtraction sign |
| 097 | 61 | 81 | a | | / | right slash |
| 098 | 62 | 82 | b | | Â | |
| 099 | 63 | 83 | c | | Ä | |
| 100 | 64 | 84 | d | | À | |
| 101 | 65 | 85 | e | | Á | |
| 102 | 66 | 86 | f | | Ã | |
| 103 | 67 | 87 | g | | Å | |
| 104 | 68 | 88 | h | | Ç | |
| 105 | 69 | 89 | i | | Ñ | |
| 106 | 6A | 91 | j | | ¡ | split vertical bar |
| 107 | 6B | 92 | k | , | , | comma |
| 108 | 6C | 93 | l | | % | percen sign |
| 109 | 6D | 94 | m | | _ | underscore |
| 110 | 6E | 95 | n | | > | greater than |
| 111 | 6F | 96 | o | | ? | question mark |
| 112 | 70 | 97 | p | | Ø | |
| 113 | 71 | 98 | q | | É | |
| 114 | 72 | 99 | r | | Ê | |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Symbol | Meaning | EBCDIC Symbol | Meaning |
|---------------|-----------|------------|--------------|----------------|---------------|-------------|
| 115 | 73 | A2 | s | | Ё | |
| 116 | 74 | A3 | t | | Ѐ | |
| 117 | 75 | A4 | u | | Ӯ | |
| 118 | 76 | A5 | v | | ӻ | |
| 119 | 77 | A6 | w | | Ӵ | |
| 120 | 78 | A7 | x | | ӵ | |
| 121 | 79 | A8 | y | | Ӷ | grave |
| 122 | 7A | A9 | z | | ӷ | colon |
| 123 | 7B | C0 | { | left brace | # | number sign |
| 124 | 7C | 6A | | logical or | @ | at symbol |
| 125 | 7D | D0 |] | right brace | ' | apostrophe |
| 126 | 7E | A1 | ~ | similar, tilde | = | equal |

ASCII to EBCDIC Character Set—EBCDIC hex order

Note: For the purposes of ISO 8583, the < space > character is treated as a special character (attribute "s"). It may, however, also be used in fields designated as alphanumeric (attribute "an") but only in the form of trailing spaces used to pad out significant data to fill a fixed-length field.

| Decimal Value | EBCDIC Hex | ASCII Hex | EBCDIC Symbol | Meaning | ASCII Symbol | Meaning |
|---------------|------------|-----------|---------------|-------------------------|--------------|------------------|
| 032 | 40 | 20 | DS | digit select | < space > | Space |
| 091 | 4A | 5B | \$ | dollar sign | [| left bracket |
| 046 | 4B | 2E | ACK | acknowledge | . | period |
| 060 | 4C | 3C | DC4 | device control 4 | < | less than |
| 040 | 4D | 28 | SA | set attribute | (| left parenthesis |
| 043 | 4E | 2B | CSP | control sequence prefix | + | addition sign |

| Decimal Value | EBCDIC Hex | ASCII Hex | EBCDIC Symbol | Meaning | ASCII Symbol | Meaning |
|---------------|------------|-----------|---------------|-----------------------------|--------------|-------------------|
| 033 | 4F | 21 | SOS | start of significance | ! | exclamation mark |
| 038 | 50 | 26 | ETB | end of transmission block | & | ampersand |
| 093 | 5A | 5D |) | right parenthesis |] | right bracket |
| 036 | 5B | 24 | BYP/INP | bypass/inhibit presentation | \$ | dollar sign |
| 042 | 5C | 2A | SM/SW | set mode switch | * | asterisk |
| 041 | 5D | 29 | SFE | |) | right parenthesis |
| 059 | 5E | 3B | CU3 | customer use 3 | ; | semicolon |
| 094 | 5F | 5E | ; | semicolon | ^ | hat, circumflex |
| 045 | 60 | 2D | ENQ | enquiry | - | subtraction sign |
| 047 | 61 | 2F | BEL | bell | / | right slash |
| 124 | 6A | 7C | @ | at symbol | | logical or |
| 044 | 6B | 2C | MFA | modify field attribute | , | comma |
| 037 | 6C | 25 | LF | line feed | % | percent sign |
| 095 | 6D | 5F | ¬ | logical not | _ | underscore |
| 062 | 6E | 3E | | | > | greater than |
| 063 | 6F | 3F | SUB | substitute | ? | question mark |
| 096 | 79 | 60 | - | subtraction sign | ` | grave |
| 058 | 7A | 3A | RFF | required form feed | : | colon |
| 035 | 7B | 23 | WUS | word underscore | # | number sign |

| Decimal Value | EBCDIC Hex | ASCII Hex | EBCDIC Symbol | Meaning | ASCII Symbol | Meaning |
|---------------|------------|-----------|---------------|----------------------|--------------|--------------------------------|
| 064 | 7C | 40 | SP | space | @ | at symbol |
| 039 | 7D | 27 | ESC | escape | ' | apostrophe |
| 061 | 7E | 3D | NAK | negative acknowledge | = | equal |
| 034 | 7F | 22 | FS | field separator | " | straight double quotation mark |
| 097 | 81 | 61 | / | right slash | a | |
| 098 | 82 | 62 | Â | | b | |
| 099 | 83 | 63 | Ä | | c | |
| 100 | 84 | 64 | À | | d | |
| 101 | 85 | 65 | Á | | e | |
| 102 | 86 | 66 | Ã | | f | |
| 103 | 87 | 67 | Å | | g | |
| 104 | 88 | 68 | Ç | | h | |
| 105 | 89 | 69 | Ñ | | i | |
| 106 | 91 | 6A | | split vertical bar | j | |
| 107 | 92 | 6B | , | comma | k | |
| 108 | 93 | 6C | % | percen sign | l | |
| 109 | 94 | 6D | _ | underscore | m | |
| 110 | 95 | 6E | > | greater than | n | |
| 111 | 96 | 6F | ? | question mark | o | |
| 112 | 97 | 70 | Ø | | p | |
| 113 | 98 | 71 | É | | q | |
| 114 | 99 | 72 | Ê | | r | |
| 126 | A1 | 7E | = | equal | ~ | similar, tilde |
| 115 | A2 | 73 | Ë | | s | |
| 116 | A3 | 74 | È | | t | |

| Decimal Value | EBCDIC Hex | ASCII Hex | EBCDIC Symbol | Meaning | ASCII Symbol | Meaning |
|---------------|------------|-----------|---------------|------------------|--------------|-------------|
| 117 | A4 | 75 | ſ | | u | |
| 118 | A5 | 76 | ߁ | | v | |
| 119 | A6 | 77 | ߂ | | w | |
| 120 | A7 | 78 | ߃ | | x | |
| 121 | A8 | 79 | ߄ | grave | y | |
| 122 | A9 | 7A | : | colon | z | |
| 123 | C0 | 7B | # | number sign | { | left brace |
| 065 | C1 | 41 | RSP | | A | |
| 066 | C2 | 42 | â | | B | |
| 067 | C3 | 43 | ä | | C | |
| 068 | C4 | 44 | à | | D | |
| 069 | C5 | 45 | á | | E | |
| 070 | C6 | 46 | ã | | F | |
| 071 | C7 | 47 | å | | G | |
| 072 | C8 | 48 | ç | | H | |
| 073 | C9 | 49 | ñ | | I | |
| 125 | D0 | 7D | ' | apostrophe |] | right brace |
| 074 | D1 | 4A | ¢ | cent | J | |
| 075 | D2 | 4B | . | period | K | |
| 076 | D3 | 4C | < | less than | L | |
| 077 | D4 | 4D | (| left parenthesis | M | |
| 078 | D5 | 4E | + | addition sign | N | |
| 079 | D6 | 4F | | logical or | O | |
| 080 | D7 | 50 | & | ampersand | P | |
| 081 | D8 | 51 | é | | Q | |
| 082 | D9 | 52 | ê | | R | |
| 092 | E0 | 5C | * | asterisk | \ | left slash |
| 083 | E2 | 53 | ë | | S | |

| Decimal Value | EBCDIC Hex | ASCII Hex | EBCDIC Symbol | Meaning | ASCII Symbol | Meaning |
|---------------|------------|-----------|---------------|-----------------------|--------------|---------|
| 084 | E3 | 54 | è | | T | |
| 085 | E4 | 55 | í | | U | |
| 086 | E5 | 56 | ↑ | | V | |
| 087 | E6 | 57 | ī | | W | |
| 088 | E7 | 58 | ì | | X | |
| 089 | E8 | 59 | ß | | Y | |
| 090 | E9 | 5A | ! | exclamation point | Z | |
| 048 | F0 | 30 | | | 0 | |
| 049 | F1 | 31 | | | 1 | |
| 050 | F2 | 32 | SYN | synchronous idle | 2 | |
| 051 | F3 | 33 | IR | index return | 3 | |
| 052 | F4 | 34 | PP | presentation position | 4 | |
| 053 | F5 | 35 | TRN | | 5 | |
| 054 | F6 | 36 | NBS | numeric backspace | 6 | |
| 055 | F7 | 37 | EOT | end of transmission | 7 | |
| 056 | F8 | 38 | SBS | subscript | 8 | |
| 057 | F9 | 39 | IT | indent tab | 9 | |

Extended Character Sets

These tables contains valid ASCII to EBCDIC extended character sets.

Extended Character Set—ASCII Hex order

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|-----------|------------|--------------------------------|------------------|------------------|-------------|
| 192 | C0 | 64 | À | capital A, grave | A | 41 |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|-----------|------------|--------------------------------|------------------------|------------------|-------------|
| 193 | C1 | 65 | À | capital A, acute | A | 41 |
| 194 | C2 | 62 | Â | capital A, circumflex | A | 41 |
| 195 | C3 | 66 | Ã | capital A, tilde | A | 41 |
| 196 | C4 | 63 | Ä | capital A, umlaut | A | 41 |
| 197 | C5 | 67 | Å | capital A, ring | A | 41 |
| 198 | C6 | 9E | Æ | capital AE, diphthong | E | 45 |
| 199 | C7 | 68 | Ç | capital C, cedilla | C | 43 |
| 200 | C8 | 74 | È | capital E, grave | E | 45 |
| 201 | C9 | 71 | É | capital E, acute | E | 45 |
| 202 | CA | 72 | Ê | capital E, circumflex | E | 45 |
| 203 | CB | 73 | Ë | capital E, umlaut | E | 45 |
| 204 | CC | 78 | Ì | capital I, grave | I | 49 |
| 205 | CE | 75 | Í | capital I, acute | I | 49 |
| 206 | CD | 76 | Î | capital I, circumflex | I | 49 |
| 207 | CF | 77 | Ï | capital I, umlaut | I | 49 |
| 208 | D0 | AC | Ð | capital Eth, Icelandic | D | 44 |
| 209 | D1 | 69 | Ñ | capital N, tilde | N | 4E |
| 210 | D2 | ED | Ò | capital O, tilde | O | 4F |
| 211 | D3 | EE | Ó | capital O, acute | O | 4F |
| 212 | D4 | EB | Ô | capital O, circumflex | O | 4F |
| 213 | D5 | EF | Õ | capital O, tilde | O | 4F |
| 214 | D6 | EC | Ö | capital O, umlaut | O | 4F |
| 215 | D7 | BF | × | multiply sign | × | 78 |
| 216 | D8 | 80 | Ø | capital O, slash | O | 4F |
| 217 | D9 | FD | Ù | capital U, grave | U | 55 |
| 218 | DA | FE | Ú | capital U, acute | U | 55 |
| 219 | DB | FB | Û | capital U, circumflex | U | 55 |
| 220 | DC | FC | Ü | capital U, umlaut | U | 55 |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|-----------|------------|--------------------------------|--------------------------|------------------|-------------|
| 221 | DD | BA | Ý | capital Y, acute | Y | 59 |
| 222 | DE | AE | þ | capital THORN, Icelandic | P | 50 |
| 223 | DF | 59 | ß | small sap s, German | S | 53 |
| 224 | E0 | 44 | à | small a, grave | a | 61 |
| 225 | E1 | 45 | á | small a, acute | a | 61 |
| 226 | E2 | 42 | â | small a, circumflex | a | 61 |
| 227 | E3 | 46 | ã | small a, tilde | a | 61 |
| 228 | E4 | 43 | ä | small a, umlaut | a | 61 |
| 229 | E5 | 47 | å | small a, ring | a | 61 |
| 230 | E6 | 9C | æ | small ae diphthong | e | 65 |
| 231 | E7 | 48 | ç | small c, cedilla | c | 63 |
| 232 | E8 | 54 | è | small e, grave | e | 65 |
| 233 | E9 | 51 | é | small e, acute | e | 65 |
| 234 | EA | 52 | ê | small e, circumflex | e | 65 |
| 235 | EB | 53 | ë | small e, umlaut | e | 65 |
| 236 | EC | 58 | ì | small i, grave | i | 69 |
| 237 | ED | 55 | í | small i, acute | i | 69 |
| 238 | ED | 56 | î | small i, circumflex | i | 69 |
| 239 | EF | 57 | ï | small i, umlaut | i | 69 |
| 240 | F0 | 8C | ð | small eth, Icelandic | d | 64 |
| 241 | F1 | 49 | ñ | small n, tilde | n | 6E |
| 242 | F2 | CD | ò | small o, grave | o | 6F |
| 243 | F3 | CE | ó | small o, acute | o | 6F |
| 244 | F4 | CB | ô | small o, circumflex | o | 6F |
| 245 | F5 | CF | õ | small o, tilde | o | 6F |
| 246 | F6 | CC | ö | small o, umlaut | o | 6F |
| 247 | F7 | E1 | ÷ | division sign | / | 2F |
| 248 | F8 | 70 | ø | small o, slash | o | 6F |

| Decimal Value | ASCII Hex | EBCDIC Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|-----------|------------|--------------------------------|------------------------|------------------|-------------|
| 249 | F9 | DD | ù | small u, grave | u | 75 |
| 250 | FA | DE | ú | small u, acute | u | 75 |
| 251 | FB | DB | û | small u, circumflex | u | 75 |
| 252 | FC | DC | ü | small u, umlaut | u | 75 |
| 253 | FD | 8D | ý | small y, acute | y | 79 |
| 254 | FE | 8E | þ | small thorn, Icelandic | p | 70 |
| 255 | FF | DF | ÿ | small y, umlaut | y | 79 |

Extended Character Set—EBCDIC Hex order

| Decimal Value | EBCDIC Hex | ASCII Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|------------|-----------|--------------------------------|---------------------|------------------|-------------|
| 226 | 42 | E2 | â | small a, circumflex | a | 61 |
| 228 | 43 | E4 | ä | small a, umlaut | a | 61 |
| 224 | 44 | E0 | à | small a, grave | a | 61 |
| 225 | 45 | E1 | á | small a, acute | a | 61 |
| 227 | 46 | E3 | ã | small a, tilde | a | 61 |
| 229 | 47 | E5 | å | small a, ring | a | 61 |
| 231 | 48 | E7 | ç | small c, cedilla | c | 63 |
| 241 | 49 | F1 | ñ | small n, tilde | n | 6E |
| 233 | 51 | E9 | é | small e, acute | e | 65 |
| 234 | 52 | EA | ê | small e, circumflex | e | 65 |
| 235 | 53 | EB | ë | small e, umlaut | e | 65 |
| 232 | 54 | E8 | è | small e, grave | e | 65 |
| 237 | 55 | ED | í | small i, acute | i | 69 |
| 238 | 56 | ED | î | small i, circumflex | i | 69 |
| 239 | 57 | EF | ï | small i, umlaut | i | 69 |
| 236 | 58 | EC | ì | small i, grave | i | 69 |
| 223 | 59 | DF | þ | small sap s, German | S | 53 |

| Decimal Value | EBCDIC Hex | ASCII Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|------------|-----------|--------------------------------|--------------------------|------------------|-------------|
| 194 | 62 | C2 | Â | capital A, circumflex | A | 41 |
| 196 | 63 | C4 | Ä | capital A, umlaut | A | 41 |
| 192 | 64 | C0 | À | capital A, grave | A | 41 |
| 193 | 65 | C1 | Á | capital A, acute | A | 41 |
| 195 | 66 | C3 | Ã | capital A, tilde | A | 41 |
| 197 | 67 | C5 | Å | capital A, ring | A | 41 |
| 199 | 68 | C7 | Ç | capital C, cedilla | C | 43 |
| 209 | 69 | D1 | Ñ | capital N, tilde | N | 4E |
| 248 | 70 | F8 | ø | small o, slash | o | 6F |
| 201 | 71 | C9 | É | capital E, acute | E | 45 |
| 202 | 72 | CA | Ê | capital E, circumflex | E | 45 |
| 203 | 73 | CB | Ë | capital E, umlaut | E | 45 |
| 200 | 74 | C8 | È | capital E, grave | E | 45 |
| 205 | 75 | CE | Í | capital I, acute | I | 49 |
| 206 | 76 | CD | Î | capital I, circumflex | I | 49 |
| 207 | 77 | CF | Ï | capital I, umlaut | I | 49 |
| 204 | 78 | CC | Ї | capital I, grave | I | 49 |
| 216 | 80 | D8 | Ø | capital O, slash | O | 4F |
| 240 | 8C | F0 | ð | small eth, Icelandic | d | 64 |
| 253 | 8D | FD | ý | small y, acute | y | 79 |
| 254 | 8E | FE | þ | small thorn, Icelandic | p | 70 |
| 230 | 9C | E6 | æ | small ae diphthong | e | 65 |
| 198 | 9E | C6 | Æ | capital AE, diphthong | E | 45 |
| 208 | AC | D0 | Ð | capital Eth, Icelandic | D | 44 |
| 222 | AE | DE | Þ | capital THORN, Icelandic | P | 50 |
| 221 | BA | DD | Ý | capital Y, acute | Y | 59 |
| 215 | BF | D7 | × | multiply sign | x | 78 |
| 244 | CB | F4 | ô | small o, circumflex | o | 6F |

| Decimal Value | EBCDIC Hex | ASCII Hex | ASCII Character Representation | Meaning | Mapped Character | Mapping Hex |
|---------------|------------|-----------|--------------------------------|-----------------------|------------------|-------------|
| 246 | CC | F6 | ö | small o, umlaut | o | 6F |
| 242 | CD | F2 | ò | small o, grave | o | 6F |
| 243 | CE | F3 | ó | small o, acute | o | 6F |
| 245 | CF | F5 | õ | small o, tilde | o | 6F |
| 251 | DB | FB | û | small u, circumflex | u | 75 |
| 252 | DC | FC | ü | small u, umlaut | u | 75 |
| 249 | DD | F9 | ù | small u, grave | u | 75 |
| 250 | DE | FA | ú | small u, acute | u | 75 |
| 255 | DF | FF | ÿ | small y, umlaut | y | 79 |
| 247 | E1 | F7 | ÷ | division sign | / | 2F |
| 212 | EB | D4 | Ô | capital O, circumflex | O | 4F |
| 214 | EC | D6 | Ö | capital O, umlaut | O | 4F |
| 210 | ED | D2 | Ò | capital O, tilde | O | 4F |
| 211 | EE | D3 | Ó | capital O, acute | O | 4F |
| 213 | EF | D5 | Õ | capital O, tilde | O | 4F |
| 219 | FB | DB | Û | capital U, circumflex | U | 55 |
| 220 | FC | DC | Ü | capital U, umlaut | U | 55 |
| 217 | FD | D9 | Ù | capital U, grave | U | 55 |
| 218 | FE | DA | Ú | capital U, acute | U | 55 |

Swedish Domestic Authorization Switching Character Set

Customers using the Swedish Domestic Authorization Switching Service (SASS) also may support Swedish national characters in EBCDIC as described in the following table.

| EBCDIC IBM-278 | EBCDIC (Hexadecimal) | ASCII (Hexadecimal) | Graphic | Attribute |
|----------------|----------------------|---------------------|---------|-----------|
| Å | 5B | 24 | \$ | s |
| Ä | 7B | 23 | # | s |
| Ö | 7C | 40 | @ | s |
| å | D0 | 7d | } | s |

| EBCDIC IBM-278 | EBCDIC (Hexadecimal) | ASCII (Hexadecimal) | Graphic | Attribute |
|----------------|----------------------|---------------------|---------|-----------|
| ä | C0 | 7b | { | s |

Chapter 2 Message Definitions and Flows

This section provides message definitions of all message types the Authorization Platform uses followed by the detailed message flow diagrams that illustrate both the standard and exception (error condition) message processing.

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About Message Definitions

Message definitions describe the general purpose, type, routing, and response information of each Authorization Platform message type.

About Authorization Messages

The authorization message definitions define the authorization request, advice, and response message types.

Authorization/01xx messages transport authorization-related information. "Authorization" is a term applied to transactions for which, by design, there is partial transaction data contained within the individual messages; no actual posting of accounts at the issuer processing system (IPS) occurs during this type of transmission. Consequently, all Authorization/01xx messages and advice transactions assume that follow-up information (for example, paper or electronic clearing transactions) will be used to effect actual settlement, cardholder account posting, and cardholder billing.

Authorization/01xx messages are defined as:

- Authorization Request messages
- Authorization Advice messages
- Authorization Response Acknowledgement messages

Authorization Request/0100

The Authorization Request/0100 message requests approval authorization or guarantee for a transaction to proceed. The Authorization Request/0100 message is not intended to permit the application of this transaction to the cardholder's account for issuing a bill or statement.

| | |
|----------|--|
| Type | Interactive |
| Routing | <ul style="list-style-type: none">• From an acquirer processing system (APS) to the Authorization Platform.• From the Authorization Platform to an IPS. |
| Response | An Authorization Request Response/0110 message is required. |

Authorization Request Response/0110

The Authorization Request Response must be sent in response to an Authorization Request/0100 message; it carries the response information required to service (approve or deny) the Authorization Request/0100 message.

| | |
|---------|---|
| Type | Interactive |
| Routing | <ul style="list-style-type: none">• From an IPS to the Authorization Platform.• From the Authorization Platform to an APS. |

| | |
|----------|---|
| Response | The APS may provide an Authorization Acknowledgement/0180 message to the Authorization Platform to acknowledge positive receipt of the Authorization Request Response/0110 message from the Authorization Platform. The Authorization Acknowledgement/0180 message is optional for an APS. |
|----------|---|

About Authorization Advice Messages

The Authorization Platform uses guaranteed advice message delivery for all advice messages transmitted using the Authorization Platform.

Guaranteed advice message delivery provides a message routing facility. When an advice message is forwarded to the Authorization Platform, the Authorization Platform:

- Immediately secures the transaction for future delivery
- Responds to the advice message initiator with an advice response message, indicating that it received and secured the message
- Forwards the advice message to the appropriate receiving entity

The Authorization Platform guarantees the delivery of all advice messages routed through the Mastercard Network. Occasionally, the Authorization Platform cannot immediately deliver an advice message (for example, because of a system or communication failure at the destination). In this case, the Authorization Platform stores the message on its store-and-forward (SAF) processing facilities and automatically delivers the message when communication is restored.

The receiver of an advice message must acknowledge receipt with an appropriate advice response message. When the Authorization Platform receives the advice response message, Mastercard considers advice delivery complete and removes the message from SAF processing queues.

The Guaranteed Advice Message Delivery messages include:

- Authorization Advice/0120—Acquirer-generated
- Authorization Advice/0120—System-generated
- Authorization Advice Response/0130—Issuer-generated (Responding to a System-generated 0120 from SAF)
- Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120)
- Authorization Advice Response/0130—Issuer-generated (Responding to a System-generated 0120 from SAF)
- Authorization Advice Response/0130—System-generated

Authorization Advice/0120—Acquirer-Generated

The Authorization Advice/0120—Acquirer-generated message advises of an authorization that was carried out on the issuer's behalf. It is not intended to permit the application of this transaction to the cardholder's account for issuing a bill or statement; for example, this is a non-posting advice message.

| | |
|----------|---|
| Type | Noninteractive |
| Routing | From the APS to an IPS. |
| Response | An Authorization Advice Response/0130—Issuer-generated message is required. |

Automated Fuel Dispenser

Acquirers of Automated Fuel Dispenser (AFD) merchants send an Authorization Advice/0120 message containing DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), value 191 (Acquirer Processing System [APS] Completed Authorization Transaction) to the issuer providing the actual transaction amount for each approved AFD transaction.

Offline Account Status Inquiry for Account Ranges Registered for the Authentication Indicator Service

Acquirers of merchants supporting EMV®² offline account status inquiry transactions send an Authorization Advice/0120 message containing DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), value 192 (M/Chip Offline Advice to Issuer) to the issuer.

Authorization Advice/0120—Issuer-Generated

Authorization Request/0100 messages may contain Bank Identification Number (BINs) that customers have selected for scoring. For these transactions, issuers create and send Authorization Advice/0120 messages to the risk scoring system. The risk scoring system sends to the issuer an Authorization Advice Response/0130 to acknowledge receipt of the Authorization Advice/0120.

| | |
|----------|---|
| Type | Noninteractive |
| Routing | From the IPS to the Authorization Platform. |
| Response | An Authorization Advice Response/0130—System-generated message is required. |

Authorization Advice/0120—System-Generated

The Authorization Advice/0120—System-generated message advises of an authorization that was carried out on the issuer's behalf. It is not intended to permit the application of this transaction to the cardholder's account for issuing a bill or statement; for example, this is a non-posting advice message.

| | |
|---------|--|
| Type | Noninteractive |
| Routing | From the Authorization Platform to an IPS. |

² EMV is a registered trademark or trademark of [EMVCo LLC](#) in the United States and other countries.

| | |
|----------|---|
| Response | An Authorization Advice Response/0130—Issuer-generated message is required. |
|----------|---|

Authorization Advice Response/0130—Issuer-Generated (Responding to an Acquirer-Generated 0120)

The Authorization Advice Response/0130—Issuer-generated message indicates positive receipt of an Authorization Advice/0120—Acquirer-generated message.

| | |
|----------|--|
| Type | Noninteractive |
| Routing | From the IPS to the APS when responding to the Authorization Advice/0120—Acquirer-generated message. |
| Response | None |

Authorization Advice Response/0130—Issuer-Generated (Responding to a System-Generated 0120 from SAF)

The Authorization Advice Response/0130—Issuer-generated message indicates positive receipt of an Authorization Advice/0120—System-generated message from SAF.

| | |
|----------|--|
| Type | Noninteractive |
| Routing | From an IPS to the Authorization Platform when responding to the Authorization Advice/0120—System-generated message. |
| Response | None |

Authorization Advice Response/0130—System-Generated

The Authorization Advice Response/0130—System-generated message indicates positive receipt of an Authorization Advice/0120 message.

| | |
|----------|--|
| Type | Noninteractive |
| Routing | From the Authorization Platform to the APS or IPS. |
| Response | None |

About Authorization Response Acknowledgement Messages

For APS customers, the Authorization Platform provides optional interactive response acknowledgement for Authorization/0100 messages. Acknowledgement messages indicate positive receipt of a response or advice message.

Acquirers are not required to support Authorization Response Acknowledgement/0180 messages, but Mastercard encourages acquirer customers to select this option and to support these messages. Customers may select this option at network configuration time.

The Authorization Response Acknowledgement messages include:

- Authorization Response Acknowledgement/0180
- Authorization Response Negative Acknowledgement/0190

Authorization Acknowledgement/0180

The Authorization Advice Acknowledgement/0180 message indicates positive acknowledgement that it received a previous Authorization Request Response/0110 message. The Authorization Acknowledgement/0180 message is optional for an APS.

| | |
|----------|---|
| Type | Interactive |
| Routing | From an APS to the Authorization Platform |
| Response | None |

Authorization Negative Acknowledgement/0190

The Authorization Platform sends to an IPS an Authorization Negative Acknowledgement/0190 message only in response to late or invalid Authorization Request Response/0110 messages from an IPS. This informs the IPS that the Authorization Platform has timed-out or rejected the Authorization Request Response/0110 message and initiated Stand-In processing or alternate authorization services on the issuer's behalf. The Authorization Platform also may send the Authorization Negative Acknowledgement/0190 in response to a late or invalid Reversal Request Response/0410 message. In this scenario, the Authorization Negative Acknowledgement/0190 message informs the IPS that the Authorization Platform responded to the acquirer.

| | |
|----------|---|
| Type | Interactive |
| Routing | From the Authorization Platform to an IPS |
| Response | None |

About Issuer File Update Messages

Issuers use Issuer File Update/03xx messages to update individual data files or system parameter tables that the Authorization Platform maintains on their behalf. The Authorization Platform uses these data files to control the operation of standard and optional features that customers may select when they participate in one or more of the Mastercard program and service offerings.

The Issuer File Update messages include:

- Issuer File Update Request/0302
- Issuer File Update Request Response/0312

Issuer File Update Request/0302

The Issuer File Update Request/0302 message requests an Issuer File Update or inquiry action to be initiated on the issuer's behalf.

| | |
|----------|---|
| Type | Interactive |
| Routing | From an IPS to the Authorization Platform |
| Response | An Issuer File Update Request Response/0312 message is required |

Issuer File Update Request Response/0312

The Account Management System returns an Issuer File Update Request Response/0312 message after receiving and processing the Issuer File Update Request/0302 message.

The 0312 message will contain the echoed content of the 0302 message, and the addition of DE 39 (Response Code) and DE 44 (Additional Response Data) as described below. For details on the Issuer File Update Request Response/0312 message format, see the *Customer Interface Specification* or *Single Message System Specifications* manuals.

The Account Management System performs specific validations on the data present in online Issuer File Update Request/0302 messages and returns an Issuer File Update Request Response/0312 message containing a DE 39 value reflecting the processing result of the request.

If no errors are detected and the requested maintenance is completed successfully, the response code present in DE 39 will be 00.

When the Account Management System detects an error, validation processing ends, the message is rejected, and the appropriate reject response code for the error is included in DE 39 in the Issuer File Update Request Response/0312 message.

The following table lists the DE 39 values applicable to a request for MCC111 PAN-PAR Mapping File maintenance:

| Value | Description |
|-------|--|
| 00 | Issuer File Update action completed successfully |
| 25 | Unable to locate record on file |
| 27 | Issuer File Update field edit error |
| 30 | Format error |
| 40 | Requested function not supported |
| 80 | Duplicate add |

When DE 39 contains 25, 27, 30, 40 or 80, additional information describing the reject is contained in DE 44.

Customers should check for errors reported in the Issuer File Update Request Response/0312 messages they receive, and then correct and resubmit requests, as appropriate.

About Reversal Messages

Reversal Request/0400 messages are generated by an acquirer when the acquirer is unable to deliver an issuer's Authorization Request Response/0110 to a merchant. Merchants also may initiate a Reversal Request/0400 message to cancel the full or partial amount of the original authorization amount.

Reversal/04xx messages include:

- Reversal Request/0400
- Reversal Request Response/0410
- Reversal Advice/0420
- Reversal Advice Response/0430

Reversal Request/0400

The Reversal Request/0400 message reverses fully or partially an earlier authorization request.

| | |
|----------|--|
| Type | Interactive |
| Routing | From acquirer to the issuer or intermediate network facility |
| Response | A Reversal Request Response/0410 message is required |

Reversal Request Response/0410

The Reversal Request Response/0410 message is sent in response to a Reversal Request/0400 message and denotes the disposition of the Reversal Request/0400 message.

| | |
|----------|---------------------------------|
| Type | Interactive |
| Routing | From the issuer to the acquirer |
| Response | None |

Reversal Advice/0420

The Reversal Advice/0420 message fully reverses a previous Authorization Request/0100. It advises an issuer of a Reversal Request/0400 responded to by the Authorization Platform.

The Authorization Platform may generate this message on detection of an exception condition while processing a previous Authorization Request Response/0110 message.

The Authorization Platform may generate this message when an issuer is unavailable to respond a Reversal Request/0400 or is delayed in providing a Reversal Request Response/0410 message.

| | |
|----------|---|
| Type | Noninteractive |
| Routing | From the Authorization Platform to an IPS |
| Response | A Reversal Advice Response/0430 message is required |

Reversal Advice Response/0430

The Reversal Advice Response/0430 message must be sent in response to a Reversal Advice/0420 message to acknowledge positive receipt of that message.

| | |
|----------|---|
| Type | Noninteractive |
| Routing | From an IPS to the Authorization Platform |
| Response | None |

About Administrative Messages

Administrative messages request confirmation of data or transmit data in a format other than identified in this International Standard. Member generated advice messages are used to transmit administrative (free format) textual messages between any two parties participating as customers on the Authorization Platform. Authorization Platform generated advice messages return indecipherable messages to a message originator.

Administrative messages include:

- Administrative Request/0600
- Administrative Request Response/0610
- Administrative Advice/0620—System-generated
- Administrative Advice/0620—Member-generated
- Administrative Advice/0630

Administrative Request/0600

The Administrative Request/0600 message contains customer data in DE 113–119 (Reserved for National Use) and the type of usage in DE 60 (Advice Reason Code). Any eligible Administrative Request/0600 message is routed to the issuer associated to the account range within DE 2 (Primary Account Number [PAN]) and the appropriate response timer is set for the issuer Administrative Request Response/0610 message. The response timer is configured by each DE 60 usage type and initially will be set at a default of 30 seconds for each usage type.

| | |
|----------|--|
| Type | Interactive |
| Routing | From acquirer to issuer |
| Response | An Administrative Request Response/0610 message is required. |

Administrative Request Response/0610

The Authorization Platform forwards from the issuer to the acquirer an Administrative Request Response/0610 message that contains the issuer's response data, if the issuer provided a timely response or DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative), if an issuer response is not provided within applicable time limits.

| | |
|----------|-------------------------|
| Type | Interactive |
| Routing | From issuer to acquirer |
| Response | none |

Administrative Advice/0620

Administrative Advice/06xx messages are administrative messages that two parties participating in a given Mastercard program or service offering may use when using the Authorization Platform.

The Authorization Platform routes messages from an originator to a receiver and, in general, does not distinguish whether the originator or receiver is an issuer or an acquirer.

The Authorization Platform uses only noninteractive Administrative Advice/06xx messages. These messages fall under the general category of advice messages, and as such, are subject to the Authorization Platform Guaranteed Advice Delivery procedures that are standard for all advice messages. If the Authorization Platform cannot immediately deliver these messages to their intended destination, the Authorization Platform automatically assumes the responsibility for storing them in the SAF System. When network delivery-point communication has been reestablished and the receiver requests delivery of the advice messages, the Authorization Platform forwards them to the proper destination.

In all cases, DE 60 (Advice Reason Code) within the Administrative Advice/0620 message determines the specific reason for the advice message.

Following are how the Administrative Advice/06xx messages are used:

- Administrative Advice/0620—System Generated messages are used to:
 - Return indecipherable messages to a message originator with an appropriate error condition code, indicating the point at which the Authorization Platform terminated message parsing or message processing. In general, messages returned in Administrative Advice/0620 messages will have improperly coded or garbled Message Type Indicators (MTIs) or improperly coded bit maps.
- Administrative Advice/0620—Member-generated messages are used to transmit administrative (free format) textual messages between any two parties participating as customers on the Authorization Platform.

| | |
|---------|--|
| Type | Noninteractive |
| Routing | Between any two parties participating on the Authorization Platform. |

| | |
|----------|---|
| Response | An Administrative Advice Response/0630 message is required. |
|----------|---|

Administrative Advice Response/0630

The Administrative Advice Response/0630 message must be sent in response to an Administrative Advice/0620 message to acknowledge positive receipt of that message.

| | |
|----------|--|
| Type | Noninteractive |
| Routing | From the receiver to the originator of the related Administrative Advice/0620 message. |
| Response | None |

About Network Management Messages

The Authorization Platform, customer processing systems (CPSs), acquirer processing systems (APSs), issuer processing systems (IPSs), and intermediate network facilities (INFs) use Network Management/08xx messages to coordinate system or network events or tasks. These systems also use these messages to communicate network status conditions.

Network Management/08xx messages include:

- Network Management Request/0800
- Network Management Request Response/0810
- Network Management Advice/0820

Typical uses of Network Management/08xx messages include:

- Sign on to and sign off from the Authorization Platform
- Perform a Network Connection Status to Mastercard
- Perform Host Session Activation or Deactivation
- Perform encryption key management

The Authorization Platform routes Network Management/08xx messages from an originator to a receiver and, in general, does not distinguish whether the originator or receiver is an issuer or an acquirer.

Network Management Request/0800

The Network Management Request/0800 message controls the Mastercard Network by communicating or coordinating system condition or system security. DE 70, a mandatory data element in all Network Management/08xx messages, determines specific Network Management/08xx message functions.

| | |
|---------|--|
| Type | Interactive |
| Routing | Between the Authorization Platform and any other party (such as CPS, APS, IPS, INF) communicating directly with the Authorization Platform. May be originated by either party. |

| | |
|----------|---|
| Response | A Network Management Request Response/0810 message is required. |
|----------|---|

Network Management Request Response/0810

The Network Management Request Response/0810 message must be sent in response to a Network Management Request/0800 to acknowledge positive receipt of that message.

| | |
|----------|---|
| Type | Interactive |
| Routing | From "receiver" to "originator" of the related Network Management Request/0800. |
| Response | None |

Network Management Advice/0820

The Network Management Advice/0820 message advises of a previous Network Management Request/0800 message. There is no response to a Network Management Advice/0820 message.

| | |
|--|---|
| Type | Noninteractive |
| Routing | From the Authorization Platform to any other party (such as CPS, APS, IPS, INF) communicating directly with the Authorization Platform. |
| NOTE: May not be originated by any party other than the Authorization Platform. | |
| Response | None |

About Message Flows

Message flows describe the overall standard and exception process of a message type or message pair in various scenarios. Each message flow provides an illustration of the process with the associated stages that describe each part of the process. All Authorization/01xx message flows are illustrated without showing the optional (acquirer-selected) use of the Authorization Acknowledgement/0180 message.

Authorization Message Routing Timers

Following are the specific Authorization Platform message routing timer values applicable to acquirer-generated 0100, 0120, and 0400 messages. All system-generated Advice/0120, Issuer File Update/03xx, system-generated Reversal/0420, Administrative/06xx, and Network Management/08xx, messages remain unchanged and retain their current timer values.

| Product and Transaction Type | Issuer Response Time (in seconds) | Alternate Authorization Service Provider (if applicable) | Acquirer Minimum Wait Time (in seconds) |
|-------------------------------------|--|---|--|
| Mastercard Credit—POS | 9 ^a | 3 | 12 ^b |
| Mastercard—POS PIN for Credit | 18 ^c | 6 | 24 |
| Mastercard—ATM | 12 | 6 | 18 |
| Debit Mastercard—POS | Same as Mastercard Credit—POS | | |
| Maestro—All | 18 ^d | 6 | 24 |
| CIRRUS—ATM | 18 | 6 | 24 |
| Private Label—POS | 12 | 6 | 18 |
| AMEX—POS | 12 | 6 | 18 |
| Visa—POS | 12 | 6 | 18 |

^a For transactions acquired in the countries of Brazil, Canada, the United Kingdom, and the United States, Mastercard has reduced the timers by 2 additional seconds. In these countries, the maximum time Mastercard will wait before invoking alternate authorization provider processing is reduced to 7 seconds and the minimum time that an acquirer must wait is reduced to 10 seconds.

^b Because the Mastercard Network does not track session status information for an acquirer, Authorization Platform sign-on/sign-off for acquirers is not required. However, acquirers optionally may send Authorization Platform sign-on/sign-off messages (for example, if required by vendor software).

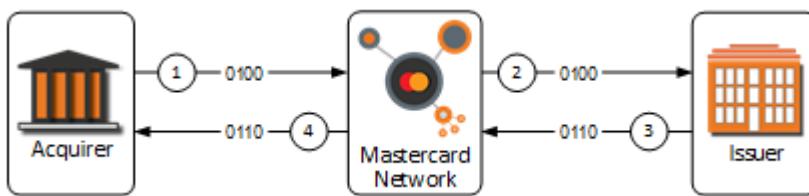
^c A transaction is considered to be PIN for Credit if it is Dual Message System acquired, but the issuer keys are managed by the Single Message System. If the issuer is Dual Message System managed, the transaction is not flagged as being PIN for Credit and defaults to the standard POS timer of 9 seconds.

^d For Maestro POS transactions acquired in the Netherlands, Mastercard has reduced the timer to 7 seconds, which is the maximum time Mastercard will wait before invoking alternate authorization provider processing. If no response is received within 10 seconds, Mastercard will send a time-out response to the acquirer.

Mastercard reserves the right to adjust local market timer values based on specific market conditions and as additional exception countries are added, they will be announced in the *Global Operations Bulletin*.

Authorization Request/0100 and Authorization Request Response/0110

This message flow describes the standard authorization transaction process.

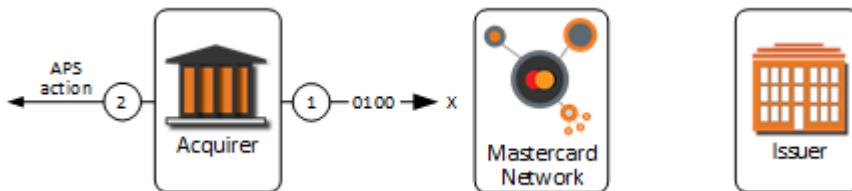


1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Authorization Request/0100 message to the issuer.
3. The issuer generates an appropriate Authorization Request Response/0110 message and sends it to the Authorization Platform.
4. The Authorization Platform forwards the Authorization Request Response/0110 message to the acquirer.

NOTE: The “issuer” in the illustration may in fact be a Mastercard IPS used for Dual Message System processing. Optional issuer processing services are available to Mastercard customers in support of various programs and services; for example, the Authorization Platform may provide IPS services for customers that elect to use this service.

Authorization Request/0100—Communication Failure at Acquirer

This message flow describes exception processing when communication fails between the APS and the Authorization Platform (resubmit processing is not supported).



1. The acquirer initiates an Authorization Request/0100 message, but it cannot be delivered to the Authorization Platform because of system failure.
2. The acquirer completes the transaction at the point of interaction. In most cases, the APS simply denies the transaction. However, the APS may elect to approve the transaction for completion for various reasons.

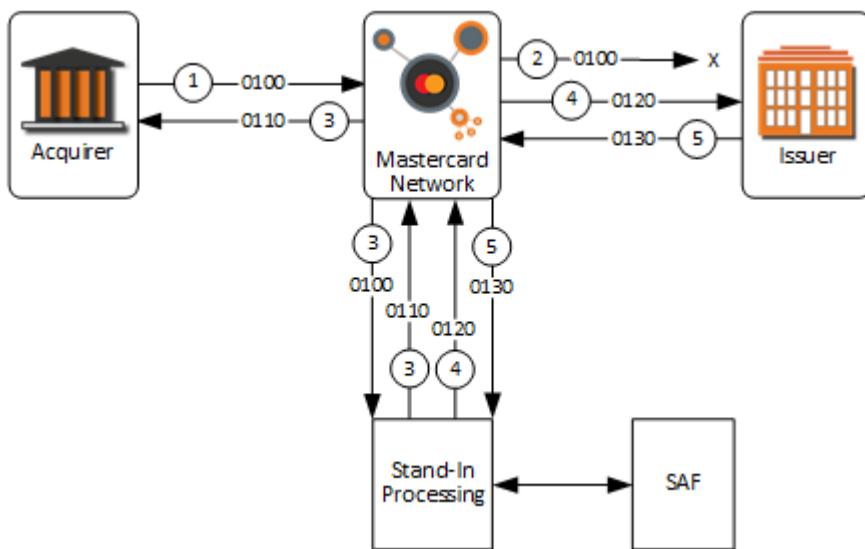
Depending on the type of systems failure and the operating procedures or regulations governing the program or service involved, the acquirer, the merchant, or both may be required to assume full or partial liability for the transaction if it is completed without appropriate issuer authorization.

If the acquirer elects to authorize the transaction at the point of interaction, the acquirer may be required to accept financial liability for the transaction. The acquirer may notify the

issuer of the authorization it approved on the issuer's behalf by sending an Authorization Advice/0120 message.

Authorization Request/0100—Communication Failure at Issuer

This message flow describes exception processing when communication fails between the IPS and the Authorization Platform during an Authorization Request/0100 message.



1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization platform.
2. The Authorization platform attempts to forward the Authorization Request/0100 message to the issuer but is unable to complete the message transmission because of a communication link failure or IPS failure. As a result, the Authorization platform immediately sends the Authorization Request/0100 message to Stand-In processing for alternate processing functions.
3. After the Authorization platform sends the Authorization Request/0100 message, if the issuer permits Stand-In processing to authorize transactions, Stand-In processing generates an appropriate Authorization Request Response/0110 message on the issuer's behalf and forwards it to the acquirer. Stand-In processing also generates an Authorization Advice/0120 message and forwards it to the Authorization platform store-and-forward (SAF) process for later transmission to the issuer.

NOTE: Stand-In processing generates and forwards Authorization Advice/0120 messages for “approved,” “declined,” and “capture card” Authorization Request/0100 messages.

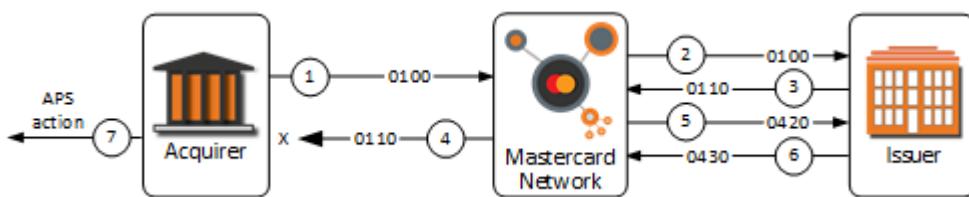
4. When communication re-establishes with the IPS, the Stand-In System SAF process forwards the Authorization Advice/0120 message to the issuer. This action allows the issuer to update its cardholder “open-to-buy” and “velocity” data files in a timely manner.

5. The issuer, upon receiving and securing the Authorization Advice/0120 message, returns an Authorization Advice Response/0130 message to the Authorization Platform to indicate positive receipt of the Authorization Advice/0120 message.

NOTE: Each time the SAF process receives an Authorization Advice Response/0130 message, it sends the next Authorization Advice/0120 message. This process repeats until there are no more Authorization Advice/0120 messages. If the Authorization Platform does not receive an Authorization Advice Response/0130 message, it assumes the issuer did not receive the previous Authorization Advice/0120 message, ceases the SAF session, and places an unqueued Authorization Advice/0120 message into the queue for delivery.

Authorization Request Response/0110—Communication Failure at Acquirer

This message flow describes exception processing when communication fails between the Authorization Platform and the APS during an Authorization Request Response/0110 message.



1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Authorization Request/0100 message to the issuer.
3. The issuer generates an appropriate Authorization Request Response/0110 message and sends it to the Authorization Platform.
4. The Authorization Platform attempts to forward the Authorization Request Response/0110 message to the acquirer but cannot successfully complete the transmission because of communications link failure or APS failure.
5. The Authorization Platform has determined that the issuer's Authorization Request Response/0110 message is "undeliverable," so the Authorization Platform immediately generates a Reversal Advice/0420 message back to the issuer if the Authorization Request Response/0110 message indicates an approval.

The purpose of this advice is to let the issuer know that its Authorization Request Response/0110 message was undelivered and that the issuer should "reverse" or otherwise adjust its cardholder authorization files as necessary to reflect that the transaction could not be completed.

6. The issuer responds back to the Authorization Platform with a Reversal Advice Response/0430 message to acknowledge positive receipt of the Reversal Advice/0420 message.
7. Meanwhile, if the APS is still operating, it detects a time-out condition on the Authorization Request Response/0110 message that it is expecting from the Authorization

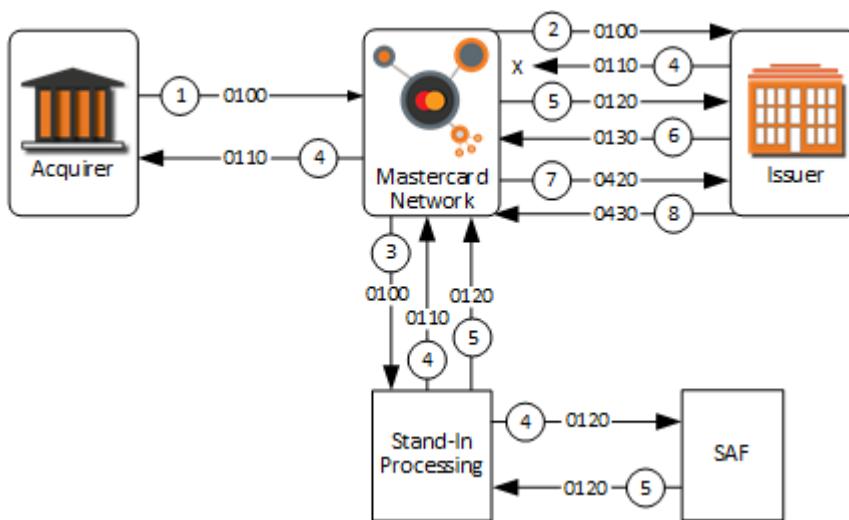
Platform. When the time-out occurs, the APS must make a decision whether to authorize the transaction at the point of interaction. If the APS denies the transaction, the message flow terminates at this point.

If the acquirer elects to authorize the transaction at the point of interaction, the acquirer may be required to accept financial liability for the transaction. The acquirer may notify the issuer of the authorization it approved on the issuer's behalf by sending an Authorization Advice/0120 message.

NOTE: Does not apply in the case of a Mastercard Hosted Mobile Phone Top-up request. If the issuer approves the Mastercard Hosted Mobile Phone Top-up transaction, the Authorization Platform will complete the Mastercard Hosted Mobile Phone Top-up request. The acquirer should provide the cardholder with notification at the ATM that the top-up request will be complete within 15 minutes.

Authorization Request Response/0110—Communication Failure at Issuer

This message flow describes exception processing when communication fails between the Authorization Platform and the IPS during an Authorization Request Response/0110 message.



1. The acquirer initiates an Authorization Request/0100 message.
2. The Authorization Platform forwards the Authorization Request/0100 message to the issuer.
3. The IPS cannot return the appropriate Authorization Request Response/0110 message because of a communications failure between the IPS and the Authorization Platform. The IPS **must** assume that the Authorization Platform or the acquirer will take appropriate action at this point and should reverse any effect to its cardholder or velocity files that may have taken place during the authorization process.

If Stand-In processing or an alternate authorization process subsequently approves the transaction, the issuer can receive a later notification by a SAF Authorization Advice/0120 message.

The Authorization Platform detects a time-out condition from the issuer on the Authorization Request Response/0110 message. If the issuer permits Stand-In processing, the Authorization Platform sends an Authorization Request/0100 message to Stand-In processing.

4. Stand-In processing generates an appropriate Authorization Request Response/0110 message on the issuer's behalf and forwards it to the acquirer. It also generates an Authorization Advice/0120 message and forwards it to the Authorization Platform SAF process for later transmission to the issuer.

NOTE: Stand-In processing generates and forwards Authorization Advice/0120 messages for both "approved" and "declined" Authorization Request/0100 messages.

5. When communication re-establishes with the IPS, the Stand-In System SAF process forwards the Authorization Advice/0120 message to the issuer. This action allows the issuer to update its cardholder "open-to-buy" and "velocity" data files in a timely manner.
6. The issuer, on receiving and securing the Authorization Advice/0120 message, returns an Authorization Advice Response/0130 message to the Authorization Platform to indicate positive receipt of the Authorization Advice/0120 message.

NOTE: Each time the SAF process receives an Authorization Advice Response/0130 message, it sends the next Authorization Advice/0120 message. This process repeats until there are no more Authorization Advice/0120 messages. If the Authorization Platform does not receive an Authorization Advice Response/0130 message, it assumes the issuer did not receive the previous Authorization Advice/0120 message and ceases the SAF session.

7. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the issuer because no issuer response is received:
 - DE 39 = 82 (Time-out at issuer)
 - DE 60, subfield 1 = 402 (Issuer Time-out)
8. When the issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message.

Authorization Request Response/0110—Stand-In System Allowed

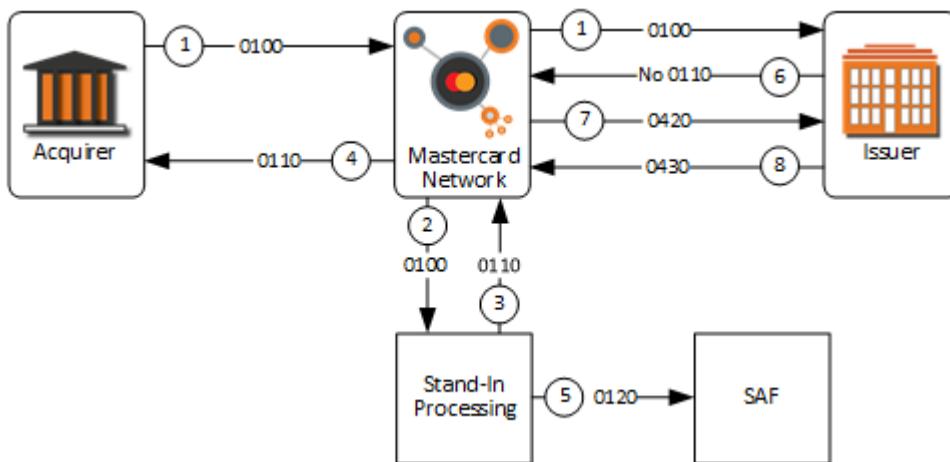
Following are the Authorization Request Response/0110 exception condition message flows that illustrate when Stand-In System processing is allowed on the transaction:

- Authorization Request Response/0110—Not Received within Time Limits
- Authorization Request Response/0110—Received within the Time Limit but after Stand-In System Response
- Authorization Request Response/0110—Received within Time Limit and before Stand-In System Response

NOTE: Authorization Message Routing Timers provides details regarding specific time limits.

Authorization Request Response/0110—Not Received within the Time Limit

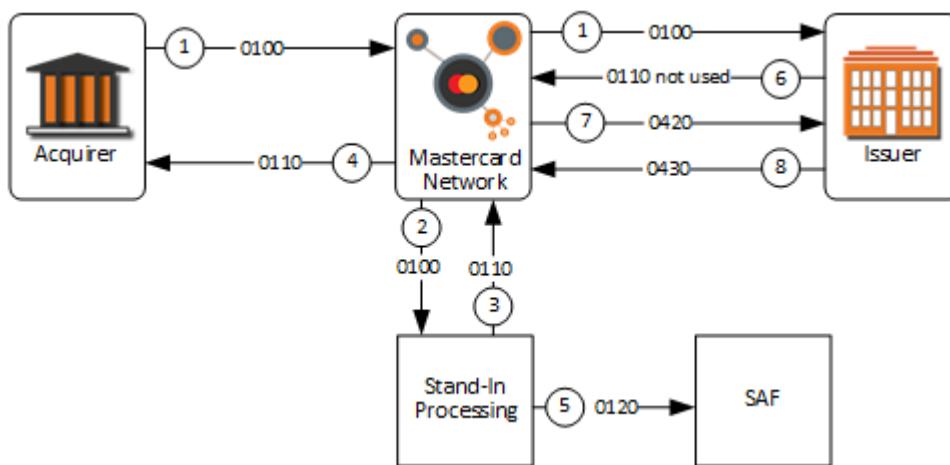
This message flow describes exception processing when no issuer Authorization Request Response/0110 message is received within the defined time limits after receipt of the Authorization Request/0100 message for transactions that are allowed to be processed by the Stand-In System.



1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the issuer.
2. If the Authorization Platform does not receive the Authorization Request Response/0110 message from the issuer within the time limit, the Authorization Platform sends the Authorization Request/0100 message to the Stand-In System.
3. The Stand-In System forwards the Authorization Request Response/0110 message to the Authorization Platform.
4. The Authorization Request Response/0110 message received from the Stand-In System is forwarded by the Authorization Platform to the acquirer.
5. The Stand-In System creates an Authorization Advice/0120 message and stores it in a SAF queue for guaranteed delivery to the issuer.
6. The Authorization Platform does not receive the Authorization Request Response/0110 message from the issuer within the time limit.
7. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the issuer because no issuer response is received:
 - DE 39 = 82 (Time-out at issuer)
 - DE 60, subfield 1 = 402 (Issuer Time-out)
8. When the issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Request Response/0110—Received within the Time Limit but after Stand-In System Response

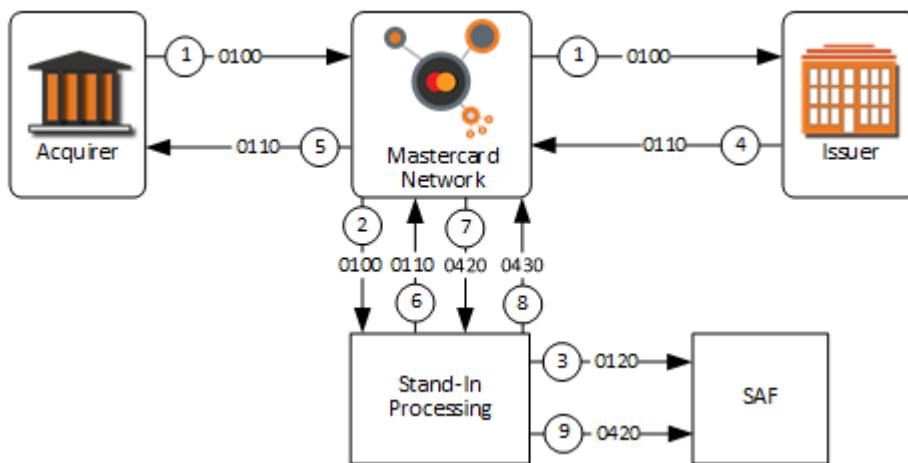
This message flow describes exception processing when the issuer's Authorization Request Response/0110 message is received within the time limit but after the Stand-In System response. Issuers can retrieve SAF messages upon request.



1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the issuer.
2. If the Authorization Platform does not receive the Authorization Request Response/0110 message within the time limit from the issuer, the Authorization Platform sends the Authorization Request/0100 message to the Stand-In System.
3. The Stand-In System forwards the Authorization Request Response/0110 message to the Authorization Platform.
4. The Authorization Platform sends the Authorization Request Response/0110 message to the acquirer.
5. The Stand-In System creates an Authorization Advice/0120 message and stores it in a SAF queue for guaranteed delivery to the issuer.
6. The issuer's Authorization Request Response/0110 message is received within the time limit but the issuer's response is not used because the issuer's response was received after the Authorization Request Response/0110 message from the Stand-In System.
7. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the issuer to reverse the issuer's response that was not used:
 - DE 39 = the value from the issuer's Authorization Request Response/0110
 - DE 60, subfield 1 = 400 (Banknet advice: APS error; unable to deliver response)
8. When the issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Request Response/0110—Received within the Time Limit and before Stand-In System Response

This message flow describes exception processing when the issuer's Authorization Request Response/0110 message is received within the time limit but before the Stand-In System response.



1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the issuer.
2. If the Authorization Platform does not receive the Authorization Request Response/0110 message within the time limit from the issuer, the Authorization Platform sends the Authorization Request/0100 message to the Stand-In System.
3. The Stand-In System creates an Authorization Advice/0120 message and stores it in SAF for guaranteed delivery to the issuer.
4. The issuer sends the Authorization Request Response/0110 message to the Authorization Platform.
5. The Authorization Platform receives the issuer's Authorization Request Response/0110 message within the time limit and before the Stand-In System response, and sends the issuer's Authorization Request Response/0110 message to the acquirer.
6. The Stand-In System forwards the Authorization Request Response/0110 message to the Authorization Platform.
7. The Authorization Platform sends the Reversal Advice/0420 message to the Stand-In System to reverse the Stand-In System's response that was not used.
8. The Stand-In System generates a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.
9. The Stand-In System stores the Reversal Advice/0420 in SAF for guaranteed delivery to the issuer.

Authorization Request Response/0110—Not Eligible for Alternate Processing

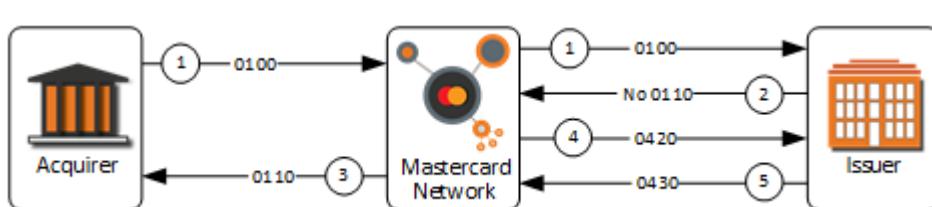
These message flows describe authorization message processing when the transaction is not eligible for alternate processing.

These message flows describe exception processing when:

- Authorization Request Response/0110—No Issuer Response
- Authorization Request Response/0110—Late Issuer Response
- Authorization Request Response/0110—Issuer Edit Error

Authorization Request Response/0110—No Issuer Response within Issuer Response Time Limit

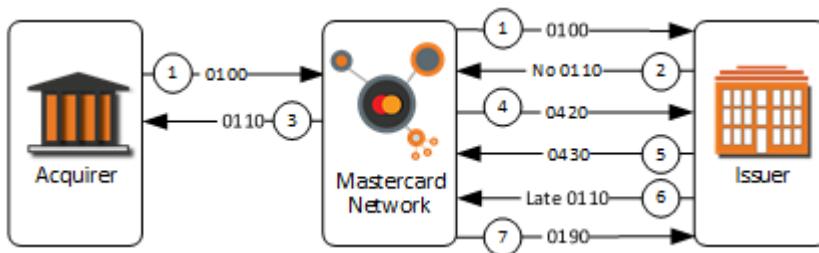
This message flow describes exception processing when the issuer's Authorization Request Response/0110 message is not received within the allowed issuer response time limit after receipt of the Authorization Request/0100 message.



1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the issuer.
2. The Authorization Platform does not receive the issuer's Authorization Request Response/0110 within the response time allowed for the issuer.
3. The Authorization Platform sends the Authorization Request Response/0110 to the acquirer where DE 39 (Response Code) = 91 (Authorization System or issuer system inoperative).
4. The Authorization Platform sends the Reversal Advice/0420 message to the issuer containing the following values:
 - DE 39 = 82 (Time-out at issuer)
 - DE 60, subfield 1 = 402 (Issuer Time-out)
5. When the issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Request Response/0110—Late Issuer Response

This message flow describes exception processing when the Authorization Platform detects a time-out condition on an expected Authorization Request Response/0110 message from an issuer, and then receives a late Authorization Request Response/0110 message.



1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the issuer.
2. The Authorization Platform does not receive the Authorization Request Response/0110 message within the time limits from the issuer.
3. The Authorization Platform generates an Authorization Request Response/0110 message where DE 39 (Response Code) = 91 (Authorization System or issuer system inoperative) and forwards it to the acquirer.
4. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the issuer because no issuer response is received:
 - DE 39 = 82 (Time-out at issuer)
 - DE 60, subfield 1 = 402 (Issuer Time-out)
5. When the issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.
6. The Authorization Platform receives a late Authorization Request Response/0110 message from the issuer.
7. The Authorization Platform sends an Authorization Response Negative Acknowledgement/0190 message to the issuer, indicating it has no record of a corresponding Authorization Request/0100 message.

NOTE: There is no response necessary from the issuer after the Authorization Platform sends an Authorization Response Negative Acknowledgement/0190 message.

Authorization Request Response/0110—Issuer Edit Error

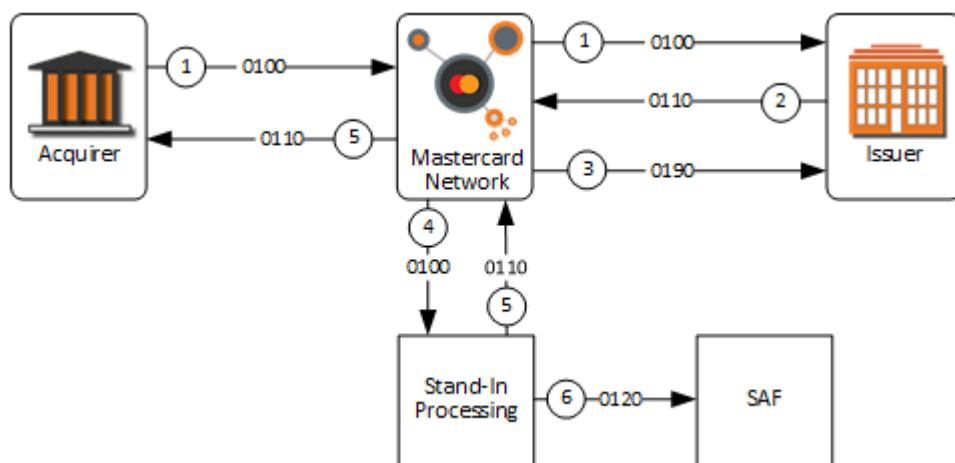
This message flow describes exception processing when an invalid issuer Authorization Request Response/0110 message is received after receipt of the Authorization Request/0100 message for transactions that are allowed to be processed by the Stand-In System.

Mastercard will provide the issuer's response to the Authorization Request/0110 message whenever possible. If the issuer returns an Authorization Request Response/0110 message, Mastercard evaluates the authorization response to determine if the transaction can be parsed and if data element (DE) 39 (Response Code) can be read. If DE 39 can be read and the issuer has approved the transaction, inclusive of the following response codes, this message flow is used (the request is sent to Stand-In processing):

- 00 Approved or completed successfully

- 10 Partial Approval
- 87 Purchase Amount Only, No Cash Back Allowed
- 91 Authorization System or issuer system inoperative
- 92 Unable to route transaction
- 96 System error (inclusive of Response Codes)

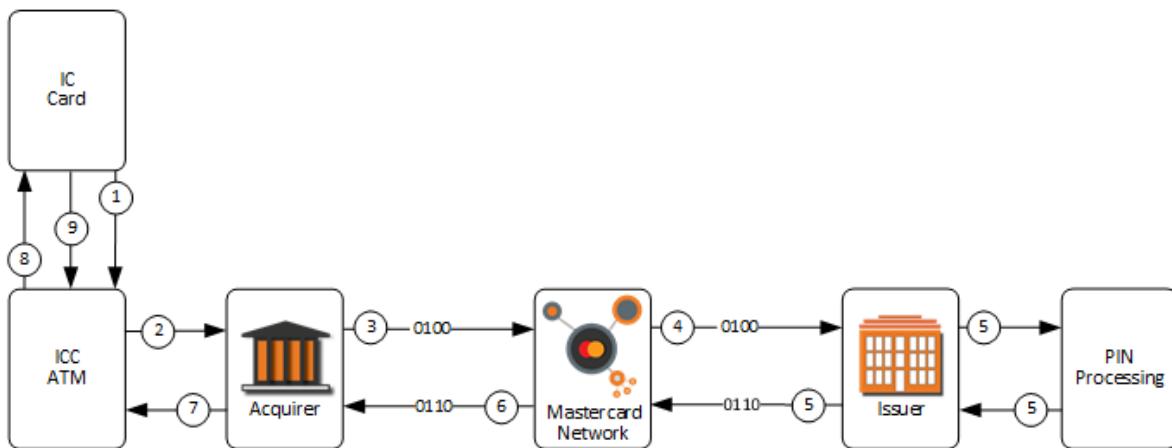
If the response code is any other than those previously listed, Mastercard replaces or removes the data responsible for the format error and forwards the remainder of the message to the acquirer. Mastercard continues to log information relevant to the format error for reference purposes.



1. The acquirer sends the Authorization Request/0100 message.
2. The issuer generates an invalid or late Authorization Request Response/0110 message.
3. The Authorization Platform sends an Authorization Response Negative Acknowledgement/0190 message to the issuer.
4. The Authorization Platform sends the Authorization Request/0100 message to Stand-In processing.
5. Stand-In processing generates an appropriate Authorization Request Response/0110 message on the issuer's behalf and forwards it to the acquirer.
6. The Stand-In System also generates an Authorization Advice/0120 message and forwards it to the Authorization Platform SAF process for later transmission to the issuer.

Authorization Request/0100—Chip PIN Management

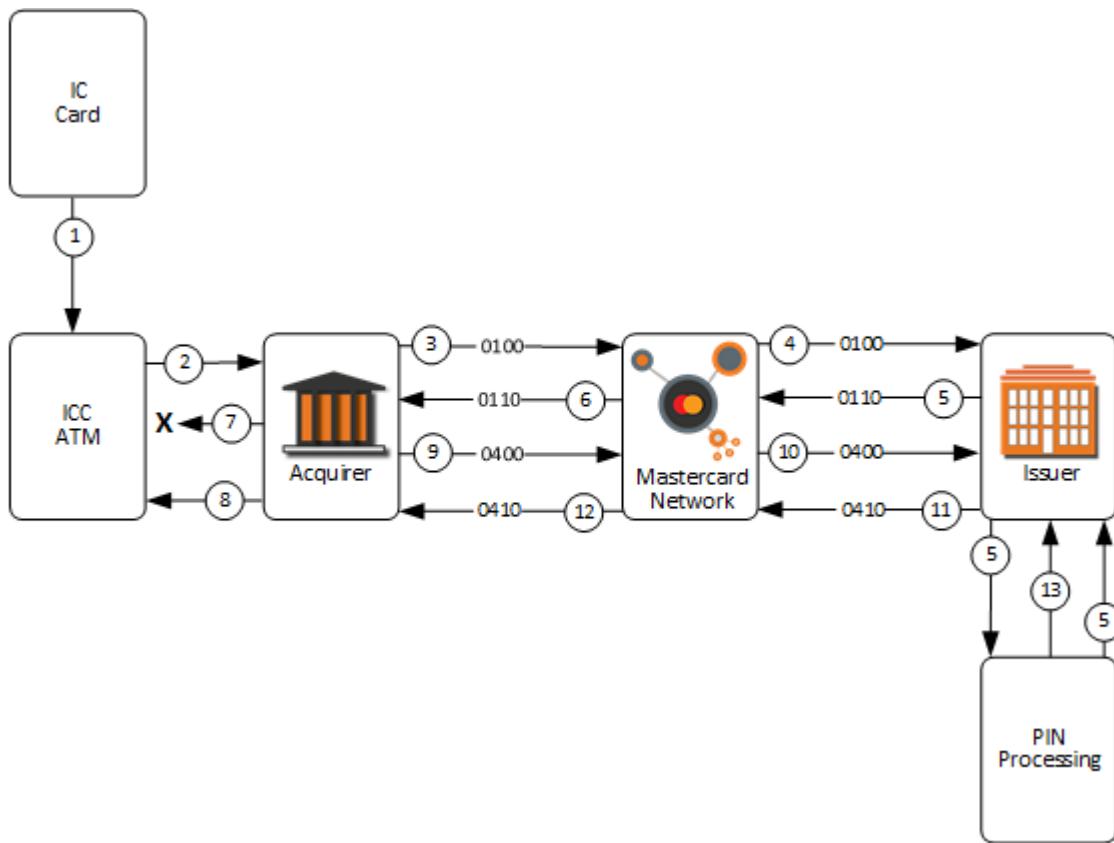
This message flow describes standard transaction processing when changing or unblocking a PIN on a chip card.



1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
2. The ATM requests an Authorization Request Cryptogram (ARQC) from the chip card.
 - For a **PIN change** transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a **PIN unblock** transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be unable to generate an AC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.
3. The acquirer sends an Authorization Request/0100—Chip PIN Management Request message to the Authorization Platform.
4. The Authorization Platform forwards the Authorization Request/0100 message to the issuer.
5. The issuer sends an Authorization Request Response/0110 message to the Authorization Platform approving or declining the request.
 - If approved, the issuer must insert the PIN change or PIN unblock script in DE 55. If the transaction is a PIN change, the issuer also stores the old online PIN and updates its system with the new online PIN.
 - If declined, the issuer may insert the PIN change or PIN unblock script in DE 55 and block the card, if stolen.
6. The Authorization Platform forwards the Authorization Request Response/0110 message to the acquirer.
7. The acquirer host sends the response to the ATM.
8. The ATM transmits the script to the card.
9. The chip card applies the script and provides the script processing result to the ATM.

Authorization Request/0100—Chip PIN Management (Failure to Transmit/Apply Script to Chip Card)

This message flow describes the transaction process when there is a failure in transmitting the script to the chip card, or a failure in applying the script to the chip card.

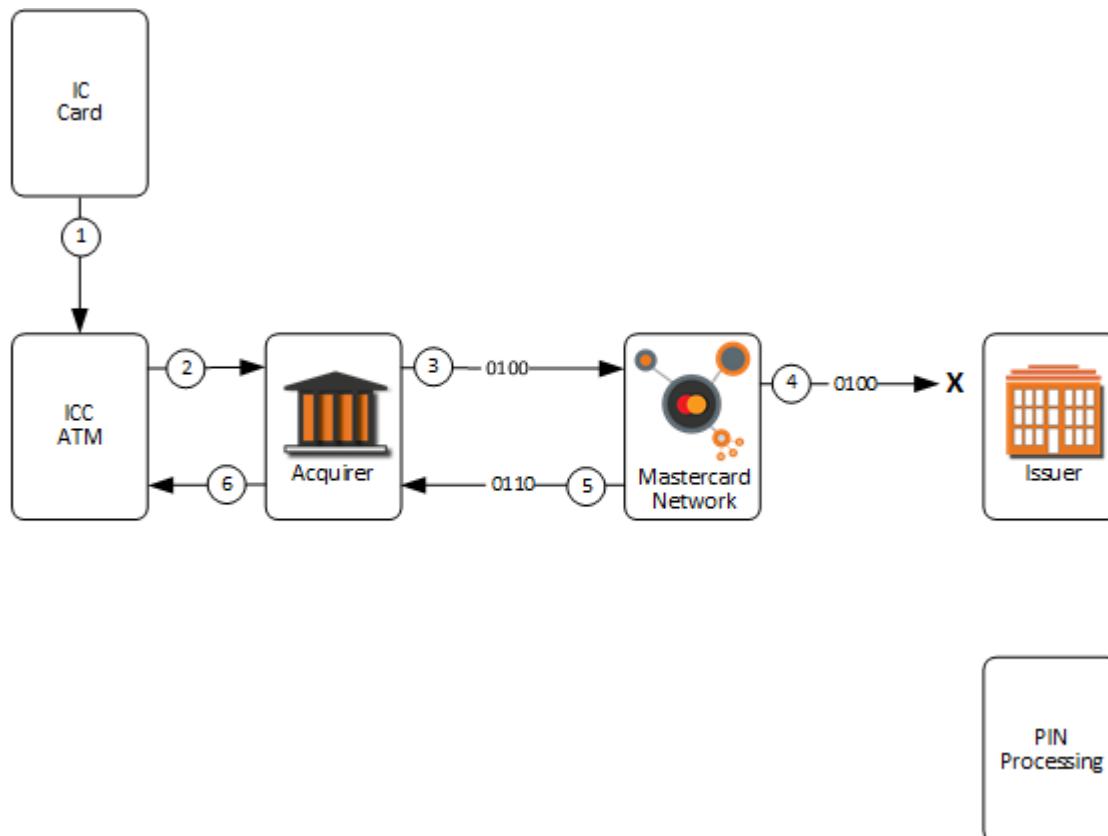


1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
2. The ATM requests an Authorization Request Cryptogram (ARQC) from the chip card.
 - For a **PIN change** transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a **PIN unblock** transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be unable to generate an ARQC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.
3. The acquirer sends an Authorization Request/0100—Chip PIN Management Request message to the Authorization Platform.
4. The Authorization Platform forwards the Authorization Request/0100 to the issuer.
5. The issuer sends an Authorization Request Response/0110 message to the Authorization Platform approving or declining the request.
 - If approved, the issuer must insert the PIN change or PIN unblock script in DE 55. If the transaction is a PIN change, the issuer also stores the old online PIN and updates its system with the new online PIN.
 - If declined, the issuer may insert the PIN change or PIN unblock script in DE 55 and block the card, if stolen.

6. The Authorization Platform forwards the Authorization Request Response/0110 message to the acquirer.
7. One of the following scenarios may occur:
 - The acquirer cannot send the script in DE 55 to the ATM (as illustrated), or
 - The ATM cannot transmit the script to the chip card, or
 - The chip card cannot process the script
8. The ATM sends the processing result to the acquirer.
9. The acquirer sends a Reversal Request/0400 message to the Authorization Platform.
10. The Authorization Platform forwards the Reversal Request/0400 message to the issuer.
11. The issuer sends a Reversal Request Response/0410 message to the Authorization Platform.
12. The Authorization Platform forwards the Reversal Request Response/0410 message to the acquirer.
13. If the issuer originally approved a PIN change, the issuer reactivates the old online PIN.

Authorization Request/0100—Chip PIN Management (Issuer Network Failure-Unable to Connect)

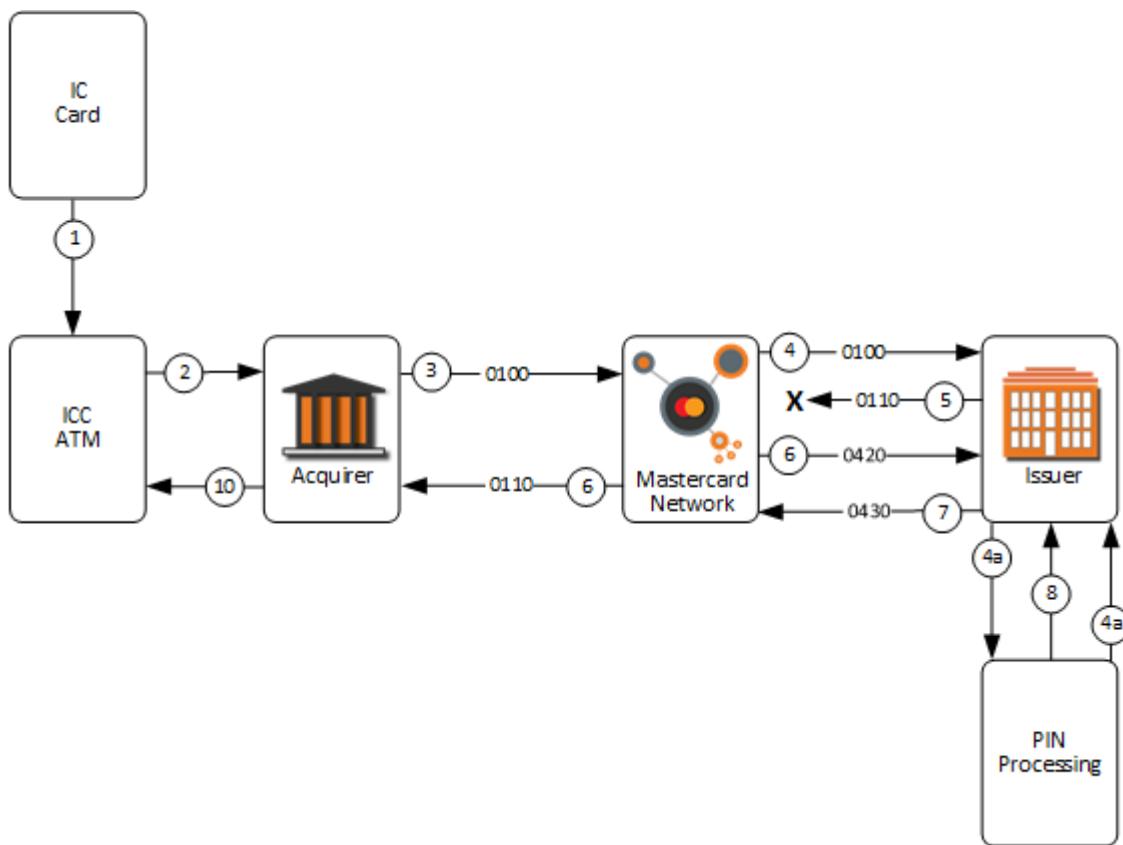
This message flow describes the transaction process when there is a network failure at the issuer.



1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
2. The ATM requests an Authorization Request Cryptogram (ARQC) with a zero amount from the chip card.
 - For a PIN change transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a PIN unblock transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be unable to generate an ARQC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.
3. The acquirer sends an Authorization Request/0100—Chip PIN Management Request message to the Authorization Platform.
4. The Authorization Platform forwards the Authorization Request/0100 to the issuer; however, the 0100 message does not reach the issuer and results in a timeout at the issuer MIP.
5. The Authorization Platform sends an Authorization Request Response/0110 to the acquirer with DE 39 = 91 (Authorization System or issuer system inoperative).
6. The acquirer sends a message to the ATM indicating that the service is unavailable.

Authorization Request/0100—Chip PIN Management (Issuer Network Failure, No Response from Issuer)

This message flow describes the transaction process when the issuer response is unsuccessfully delivered to the Authorization Platform or is delivered too late.



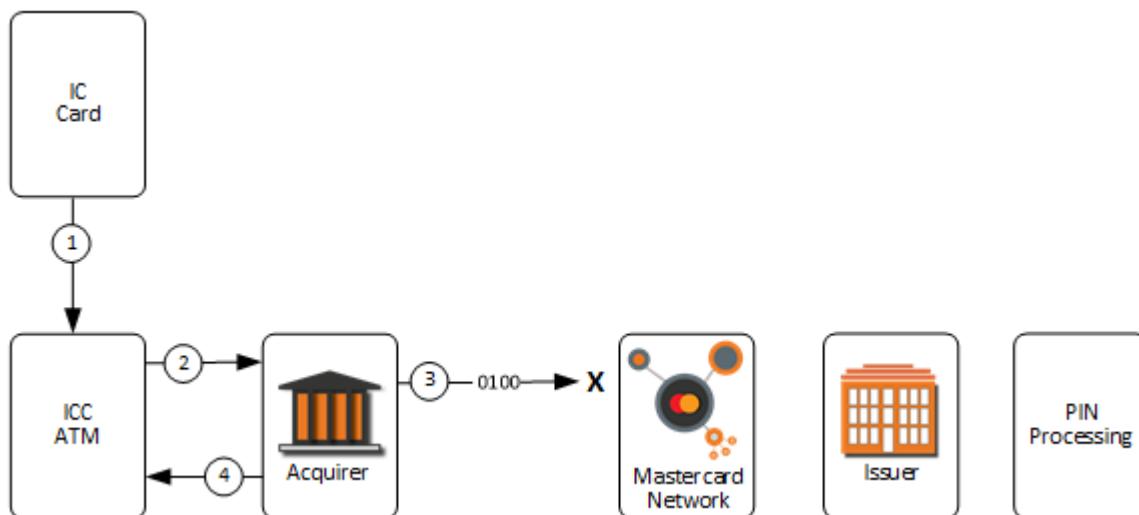
1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
 2. The ATM requests an Authorization Request Cryptogram (ARQC) with a zero amount from the chip card.
 - For a PIN change transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a PIN unblock transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be unable to generate an ARQC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.
 3. The acquirer sends an Authorization Request/0100 message to the Authorization Platform.
 4. The Authorization Platform forwards the Authorization Request/0100 to the issuer.
- If the transaction is a PIN change, the issuer stores the old online PIN and updates its system with the new online PIN.
5. The issuer fails to send the Authorization Request Response/0110 message to the Authorization Platform in time.
 6. The Authorization Platform sends a Reversal Advice/0420 message to the issuer with DE 39 (Response Code) = 82 (Timeout at issuer).

If a response is received from the issuer after the allowed response time limit for ATM transactions³, the Authorization Platform will send the issuer an Authorization Response Negative Acknowledgement/0190 message with DE 39 = 68 (Response received too late) (not illustrated).

7. The issuer sends a Reversal Advice Response/0430 message to the Authorization Platform acknowledging receipt of the Reversal Advice/0420 message.
8. If the original transaction was a PIN change, the issuer restores the old online PIN.
9. The Authorization Platform sends the acquirer an Authorization Request Response/0110 message with DE 39 = 91 (Authorization System or issuer system inoperative).
10. The acquirer sends a message to the ATM, indicating that the service is unavailable.

Authorization Request/0100—Chip PIN Management (Acquirer Network Failure-Unable to Connect)

This message flow describes the transaction process when there is a network failure at the acquirer.



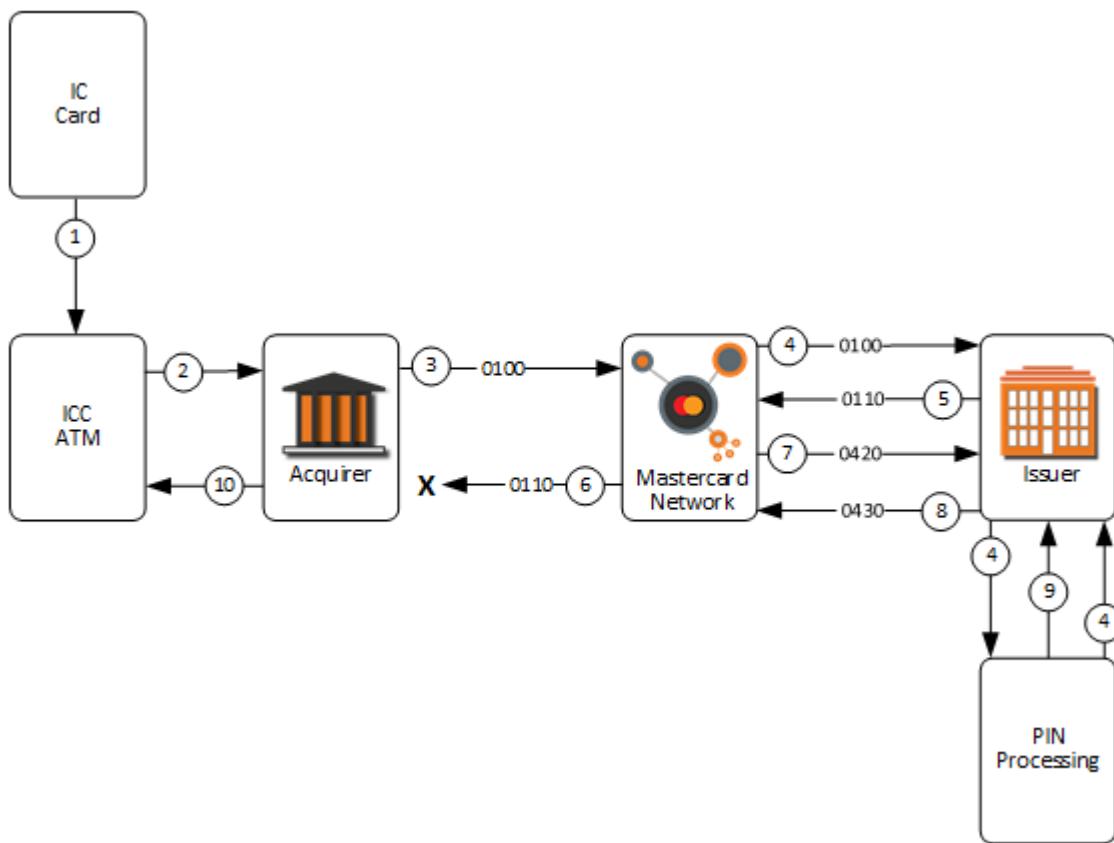
1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
2. The ATM requests an Authorization Request Cryptogram (ARQC) with a zero amount from the chip card.
 - For a **PIN change** transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a **PIN unblock** transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be unable to generate an ARQC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.

³ For Mastercard and Debit Mastercard only.

3. The acquirer sends an Authorization Request/0100—Chip PIN Management Request message to the Authorization Platform; however, the message does not reach the Authorization Platform.
4. The acquirer times out and sends a message to the ATM indicating that the service is unavailable.

Authorization Request/0100—Chip PIN Management (Acquirer Network Failure-Unable to Connect with Acquirer)

This message flow describes the transaction process when the Authorization Platform is unable to successfully deliver the issuer's response message to the acquirer.



1. The cardholder initiates a PIN change or PIN unblock transaction at the ATM.
2. The ATM requests an Authorization Request Cryptogram (ARQC) with a zero amount from the chip card.
 - For a **PIN change** transaction, if the card does not provide the ARQC and declines the request with an Application Authentication Cryptogram (AAC), processing stops.
 - For a **PIN unblock** transaction, if the card does not provide the ARQC and declines the request with an AAC, processing will continue (because the PIN is blocked, it may be

- unable to generate an ARQC). The acquirer inserts the AAC in DE 55 (Integrated Circuit Card [ICC] System-related Data) of the Authorization Request/0100 message.
3. The acquirer sends an Authorization Request/0100—Chip PIN Management Request message to the Authorization Platform.
 4. The Authorization Platform forwards the Authorization Request/0100 to the issuer.
If the transaction is a PIN change, the issuer stores the old online PIN and updates its system with the new online PIN.
 5. The issuer sends the Authorization Request Response/0110 message to the Authorization Platform.
 6. The Authorization Platform fails to deliver the Authorization Request Response/0110 message to the acquirer.
 7. The Authorization Platform sends the issuer a Reversal Advice/0420 message.
 8. The issuer sends a Reversal Advice Response/0430 message to the Authorization Platform acknowledging receipt of the Reversal Advice/0420 message.
 9. If the original transaction is a PIN change, the issuer restores the old online PIN.
 10. The acquirer's system times out and sends a message to the ATM indicating that the service is unavailable.

NOTE: The issuer may receive two reversals—one from the Authorization Platform to identify the undelivered response and a second from the acquirer as a result of a system timeout.

Guaranteed Advice Message Delivery

The guaranteed advice message delivery process provides a message routing facility. The Authorization Platform uses guaranteed advice message delivery for **all** advice messages transmitted using the Authorization Platform.

The Guaranteed Message Delivery Process

When an advice message is forwarded to the Authorization Platform, the Authorization Platform:

1. Immediately secures the transaction for future delivery
2. Responds to the advice message initiator with an advice response message, indicating that it received and secured the message
3. Forwards the advice message to the appropriate receiving entity

The Authorization Platform guarantees the delivery of all advice messages routed through the Mastercard Network. Occasionally, the Authorization Platform cannot immediately deliver an advice message (for example, because of a system or communication failure at the destination). In this case, the Authorization Platform stores the message on its store-and-forward (SAF) processing facilities and automatically delivers the message when communication is restored.

The receiver of an advice message must acknowledge receipt with an appropriate advice response message. When the Authorization Platform receives the advice response message,

Mastercard considers advice delivery complete and removes the message from SAF processing queues.

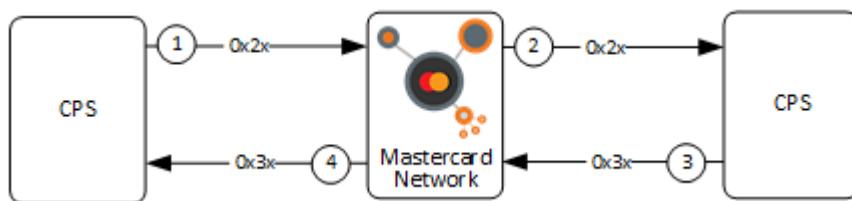
Authorization Advice/0120—Acquirer-generated messages are immediately sent to the issuer. The issuer responds with an Authorization Advice/0130—Issuer-generated message that the Authorization Platform forwards to the acquirer.

The Authorization Platform Guaranteed Advice Message Delivery process processes all Mastercard advice messages including the following:

- Authorization Advice/0120—Acquirer-generated
- Authorization Advice/0120—System-generated
- Reversal Advice/0420
- Administrative Advice/0620

Standard Advice Delivery—All Advice Message Types

This message flow describes the standard transaction processing of all advice messages originating from customer processing systems (CPS) connected to the Authorization Platform. The only exception is the Network Management Advice/0820 message, which has no response message.

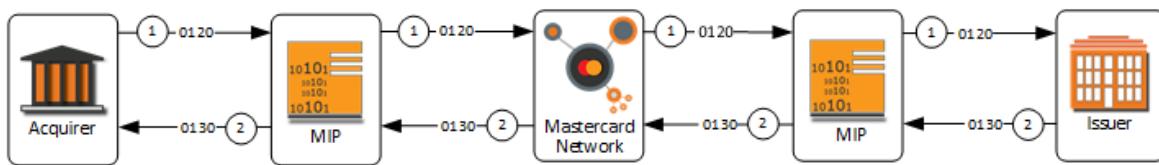


1. The CPS forwards the advice message to the Authorization Platform.
2. The Authorization Platform returns an appropriate advice response message when it secures the advice message.
3. The Authorization Platform forwards the advice message to the receiving entity.
4. The receiving entity returns an appropriate advice response message as positive acknowledgement of receipt when it secures the advice message.

NOTE: Only the Authorization Platform generates Network Management Advice/0820 messages. Network Management Advice/0820 messages do not require any type of response message.

Authorization Advice/0120—Acquirer-Generated, Issuer Available

This message flow describes the transaction process of the Authorization Advice/0120—Acquirer-generated and Authorization Advice Response/0130—Issuer-generated message when the issuer is available.



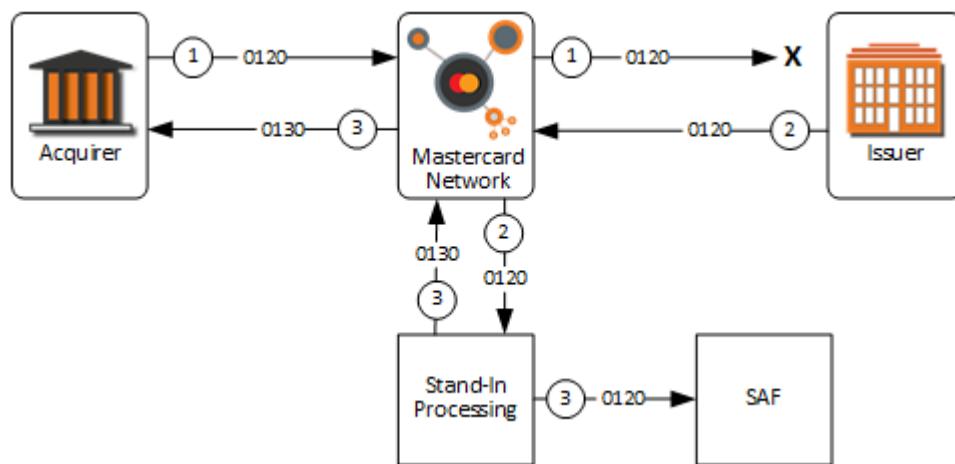
1. The acquirer initiates an Authorization Advice/0120—Acquirer-generated message containing DE 60, subfield 1, value 190 or 191, and then passes the 0120 message to the Authorization Platform.

The Authorization Platform inserts DE 48, subelement 15 (Authorization Platform Advice Date and Time) into the message and forwards the Authorization Advice/0120—Acquirer-generated message to the issuer.

2. The issuer returns an Authorization Advice Response/0130—Issuer-generated message to the acquirer to indicate positive receipt of the Authorization Advice/0120—Acquirer-generated message. The issuer's advice response message will contain DE 48, subelement 15 (Authorization Platform Advice Date and Time).

Authorization Advice/0120—Acquirer-Generated, Issuer Unavailable

This message flow describes the transaction process of the Authorization Advice/0120—Acquirer-generated and Authorization Advice Response/0130—System-generated message when the issuer is unavailable or there is no issuer response.



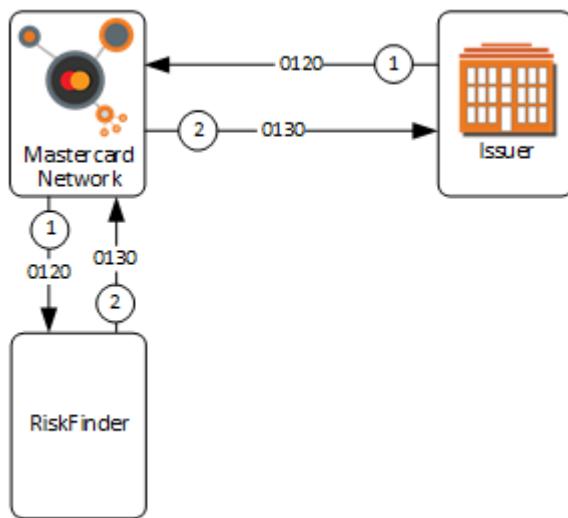
1. The acquirer initiates an Authorization Advice/0120—Acquirer-generated message containing DE 60, subfield 1, value 190 or 191, and then forwards the 0120 message to the Authorization Platform.
2. The Authorization Platform determines that the Authorization Advice/0120—Acquirer-generated message cannot be delivered to the issuer host. The Authorization Platform routes the Authorization Advice/0120—Acquirer-generated message to the Stand-In System to add to the issuer SAF queue.

3. The Stand-In System places the Authorization Advice/0120—Acquirer-generated message into the store-and-forward (SAF) queue for guaranteed delivery to the issuer. The Stand-In System responds to the acquirer with an Authorization Advice Response/0130—System-generated message containing DE 48, subelement 15 (Authorization Platform Advice Date and Time).

NOTE: Customers in the Europe region that route to an alternate issuer host for alternate processing instead of the Stand-In System will still receive an Authorization Advice/0120—Acquirer-generated as described here. Alternate issuer host processing does not send Reversal Request/0400 or Authorization Advice/0120 messages to the alternate host.

Authorization Advice/0120—Issuer-Generated

Authorization Request/0100 messages may contain BINs that customers have selected for scoring. For these transactions, issuers create and send Authorization Advice/0120 messages to the risk scoring system. The risk scoring system sends to the issuer an Authorization Advice Response/0130 message to acknowledge receipt of the Authorization Advice/0120 message.

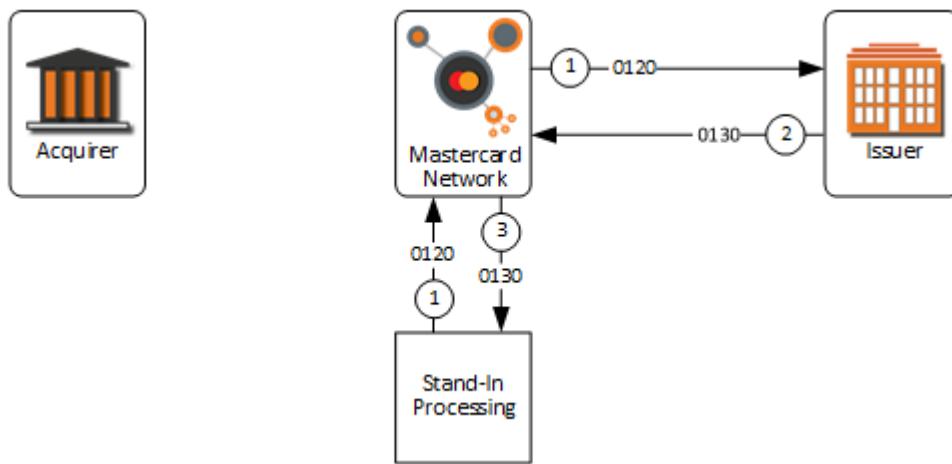


1. The issuer initiates an Authorization Advice/0120—Issuer-generated message and sends it to the Authorization Platform. The Authorization Platform forwards the message to the risk scoring system.
2. The risk scoring system creates an Authorization Advice Response/0130—System-generated message and sends it to the Authorization Platform. The Authorization Platform forwards the Authorization Advice Response/0130—System-generated message to the issuer to indicate positive receipt of the Authorization Advice/0120—Issuer-generated message.

Authorization Advice/0120—System-Generated

When Mastercard responds to an Authorization Request/0100 message on behalf of the issuer, the Authorization Platform generates an authorization response based on the issuer's parameters. The Authorization Platform also generates an Authorization Advice/0120—

System-generated message and stores it in a Store-and-Forward (SAF) queue. The Stand-In System will forward advice messages from the SAF queue when the issuer is available.

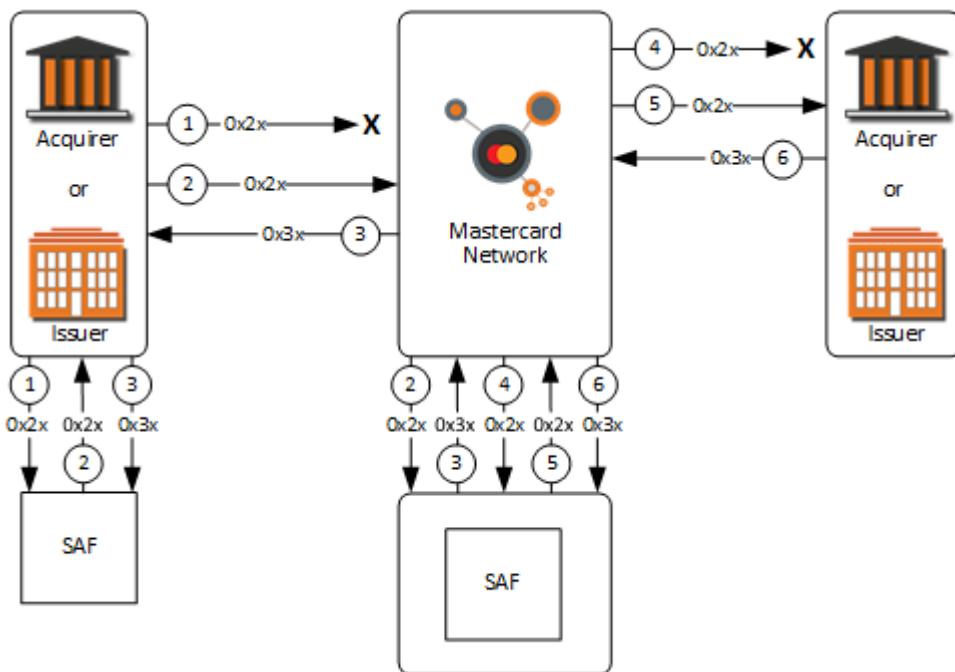


1. Stand-In System processing generates an Authorization Advice/0120—System generated message and sends it to the issuer.
2. The issuer returns an Authorization Advice Response/0130—Issuer-generated message.
3. The Authorization Platform receives the Authorization Advice Response/0130—Issuer-generated to indicate positive receipt of the Authorization Advice/0120—System-generated message.

NOTE: Issuers may differentiate between the acquirer-generated or system-generated Authorization Advice/0120 messages by examining the values in DE 60 (Advice Reason Code).

Advice Message Error Condition

This message flow describes the advice message error-condition process.



1. An issuer or acquirer (any customer processing system [CPS]) generates an advice message. If the message cannot be transmitted immediately, it should be stored by an appropriate Store-and-Forward (SAF) facility on the CPS for later transmission to the Authorization Platform.
2. The CPS forwards the advice message to the Authorization Platform.
3. The Authorization Platform returns an appropriate advice response message when it secures the advice message.
4. The Authorization Platform immediately attempts to deliver the transaction to the receiving entity. If the Authorization Platform cannot deliver the message, it stores it at the Mastercard SAF facility for later delivery.
5. The Authorization Platform forwards the advice message to the receiving entity when communication is restored.
6. The receiving entity returns an appropriate advice response message as positive acknowledgement of receipt when it secures the advice message.

Not all advice messages flow through the Authorization Platform from one CPS to another CPS. For example, the Authorization Platform originates some advice messages and forwards them to a CPS. Similarly, a CPS may initiate some advice messages and forward them to the Authorization Platform as the receiving destination.

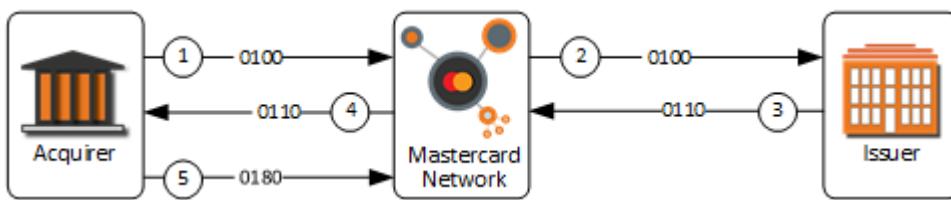
Acquirer Response Acknowledgement/0180 Messages

This message flow ensures control over system error conditions due to technical processing errors or transaction “failures” occurring in the acquirer processing system (APS), the merchant’s device, or both. Specifically, it ensures that responsibility for proper posting and

settlement falls to the acquirer. It protects the issuer (and the cardholder) from erroneous debits against their accounts due to incomplete or unsuccessful transactions.

The Authorization Platform provides optional interactive response acknowledgement for Authorization/0100 messages for acquirers. This process is accomplished using Authorization Acknowledgement/0180 messages.

Acquirers are not required to support Authorization Acknowledgement/0180 messages, but Mastercard encourages acquirers to select this option and to support these messages. Acquirers may select this option at network configuration time.



1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Authorization Request/0100 message to the issuer.
3. The issuer creates the appropriate Authorization Request Response/0110 message and sends it to the Authorization Platform.
4. The Authorization Platform forwards the Authorization Request Response/0110 message to the acquirer.
5. The acquirer sends an Authorization Acknowledgement/0180 message back to the Authorization Platform, indicating that the acquirer received and secured the preceding Authorization Request Response/0110 message at the application level.

In most cases, the acquirer should send the Authorization Acknowledgement/0180 message to the Authorization Platform:

- Immediately after it secures (or logs) the Authorization Request Response/0110 message
- Before the transaction actually is completed at the point of interaction

An Authorization Acknowledgement/0180 message does not necessarily indicate that the transaction was successfully completed at the point of interaction.

Alternate Issuer Host Processing for Online Europe Region Customers

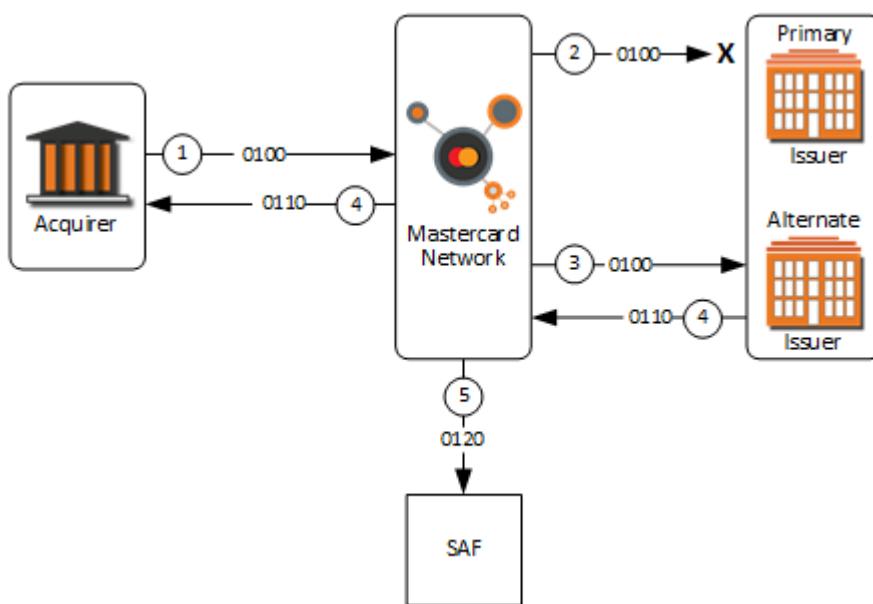
To support customers in the Europe region that route to an alternate issuer host for alternate processing instead of using the Stand-In System, Mastercard offers alternate issuer host processing.

The system routes transactions to the alternate issuer for those issuers that choose to use alternate issuer host processing as their secondary path.

NOTE: Authorization Message Routing Timers provides details on time limits.

Authorization Request/0100—Communication Failure at Issuer (Issuer is not signed in or transaction cannot be delivered)

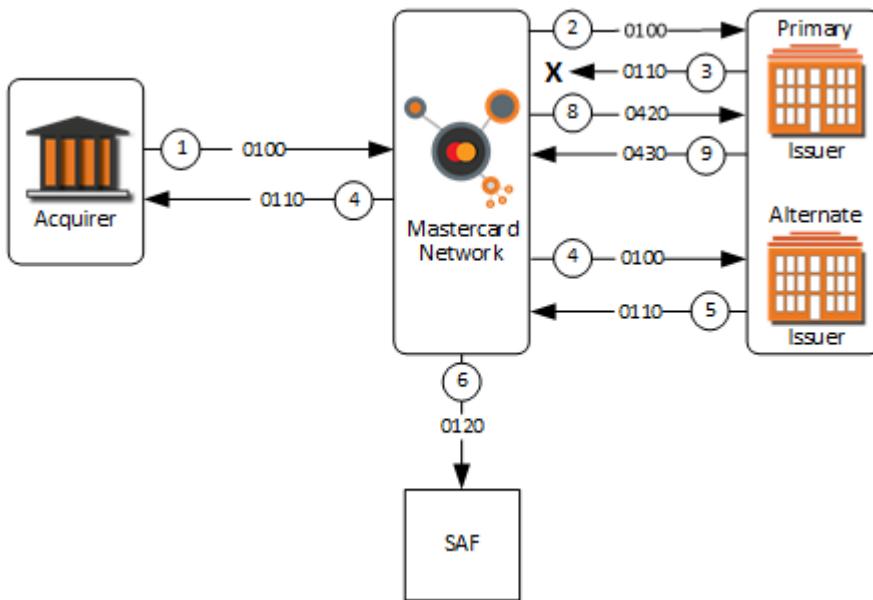
This message flow describes exception processing when the primary issuer is not signed in, the transaction could not be delivered to the primary issuer, or when the primary issuer does not respond with an Authorization Response/0110 message within the time limit defined for the acceptance brand.



1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform.
2. The Authorization Platform attempts to forward the Authorization Request/0100 message to the primary issuer but is unable to complete the message transmission because of a communication link failure or IPS failure.
3. The Authorization Platform immediately sends the Authorization Request/0100 message to the alternate issuer.
4. The alternate issuer generates an appropriate Authorization Request Response/0110 message on the primary issuer's behalf and forwards it to the acquirer.
5. The Authorization Platform generates an Authorization Advice/0120 message and forwards it to the Authorization Platform store-and-forward (SAF) process for later transmission to the primary issuer.

Authorization Request Response/0110—Alternate Issuer Allowed

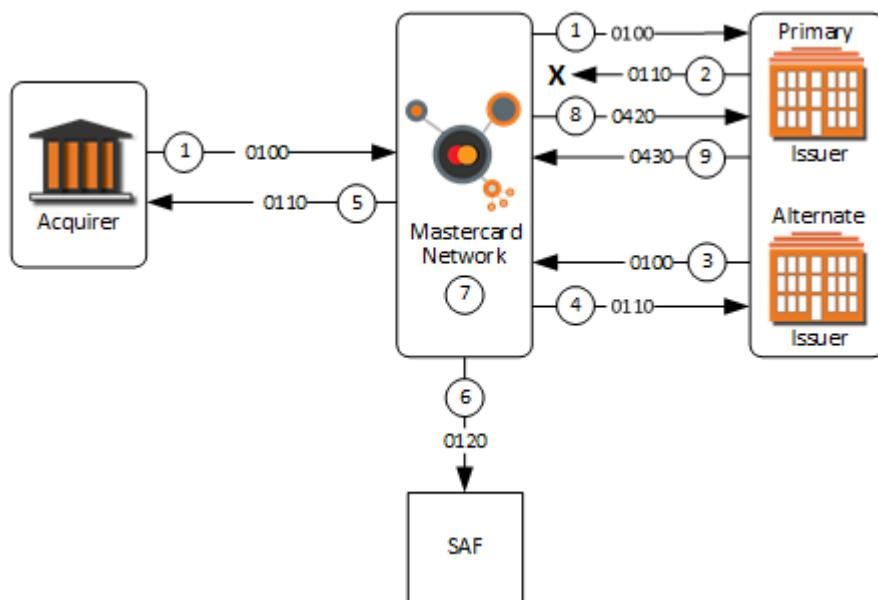
This message flow describes exception processing when communication fails between the Authorization Platform and the issuer processing system (IPS) during an Authorization Request Response/0110 message.



1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Authorization Request/0100 message to the primary issuer.
3. The IPS cannot return the appropriate Authorization Request Response/0110 message because of a communication failure between the IPS and the Authorization Platform.
4. The Authorization Platform detects an expected time-out condition from the primary issuer on the Authorization Request Response/0110 message. If the primary issuer permits alternate issuer processing, the Authorization Platform sends an Authorization Request/0100 message to the alternate issuer host.
5. The alternate issuer generates an appropriate Authorization Request Response/0110 message on the primary issuer's behalf and forwards it to the acquirer.
6. The Authorization Platform generates an Authorization Advice/0120 message and forwards it to the Authorization Platform SAF process for later transmission to the primary issuer.
7. The Authorization Platform does not receive the Authorization Request Response/0110 message from the primary issuer within the response time limits.
8. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the primary issuer because no issuer response is received:
 - DE 39 (Response Code) = 82 (Time out at issuer)
 - DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) = 402 (Issuer Time-out)
9. When the primary issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message.

Authorization Request Response/0110—Not Received within Time Limit

This message flow describes exception processing when no issuer Authorization Request Response/0110 message is received within the time limit after receipt of the Authorization Request/0100 message for transactions that are allowed to be processed by the alternate issuer host.

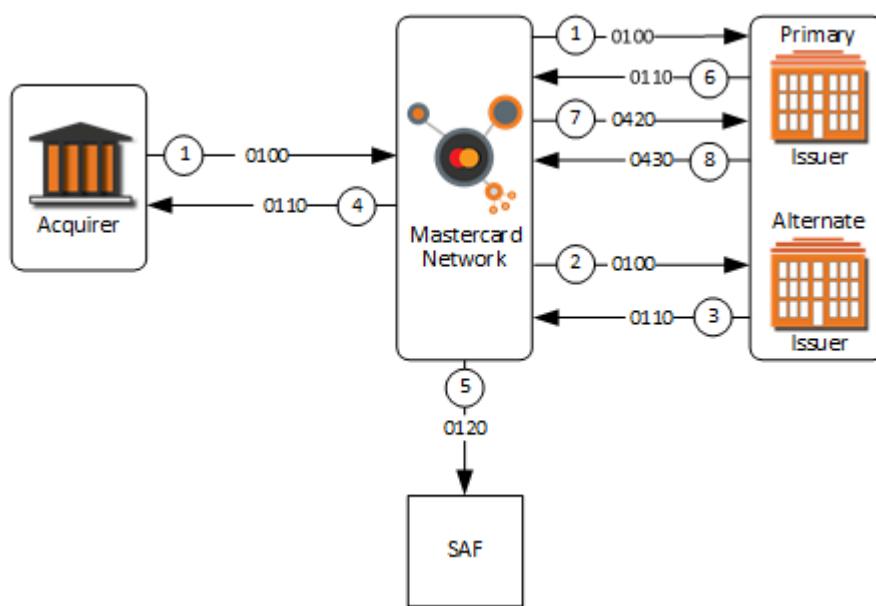


1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform and then the Authorization Platform forwards the Authorization Request/0100 message to the primary issuer.
2. The Authorization Platform does not receive the Authorization Request Response/0110 message from the primary issuer within the time limit.
3. The Authorization Platform sends the Authorization Request/0100 message to the alternate issuer.
4. The alternate issuer forwards the Authorization Request Response/0110 message to the Authorization Platform.
5. The Authorization Platform forwards to the acquirer the Authorization Request Response/0110 message received from the alternate issuer.
6. The Authorization Platform creates an Authorization Advice/0120 message and stores it in a SAF queue for guaranteed delivery to the primary issuer.
7. The Authorization Platform does not receive the Authorization Request Response/0110 message from the primary issuer within the time limit.
8. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the primary issuer because no issuer response is received:
 - DE 39 (Response Code) = 82 (Time out at issuer)
 - DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) = 402 (Issuer Time-out)

9. When the primary issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Request Response/0110—Received within the Time Limit but after Alternate Issuer Response

This message flow describes exception processing when the issuer's Authorization Request Response/0110 message is received within the time limit but after the alternate issuer response.

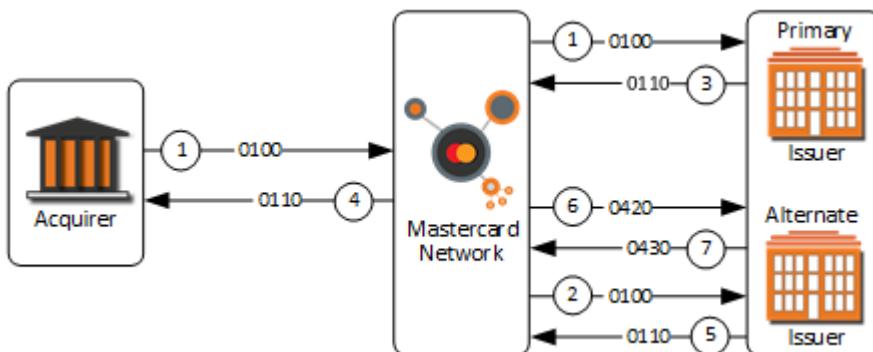


1. The acquirer initiates an Authorization Request/0100 message and sends it to the Authorization Platform and then the Authorization Platform forwards the Authorization Request/0100 message to the primary issuer.
2. If the Authorization Platform does not receive the Authorization Request Response/0110 message from the primary issuer within the time limit, the Authorization Platform sends the Authorization Request/0100 message to the alternate issuer.
3. The alternate issuer forwards the Authorization Request Response/0110 message to the Authorization Platform.
4. The Authorization Platform sends the alternate issuer Authorization Request Response/0110 message to the acquirer.
5. The Authorization Platform creates an Authorization Advice/0120 message and stores it in a SAF queue for guaranteed delivery to the primary issuer.
6. The primary issuer's Authorization Request Response/0110 message is received within the time limit, but the primary issuer's response is not used because the primary issuer's response was received after the alternate issuer Authorization Request Response/0110 message.

7. The Authorization Platform sends a Reversal Advice/0420 message containing the following values to the primary issuer to reverse the issuer's response that was not used:
 - DE 39 (Response code) = the value from the primary issuer's Authorization Request Response/0110 message
 - DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) = 400 (Banknet advice: APS error; unable to deliver response)
8. When the primary issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Request Response/0110—Received within the Time Limit and before Alternate Issuer Response

This message flow describes exception processing when the issuer's Authorization Request Response/0110 message is received within the time limit and before the alternate issuer response.

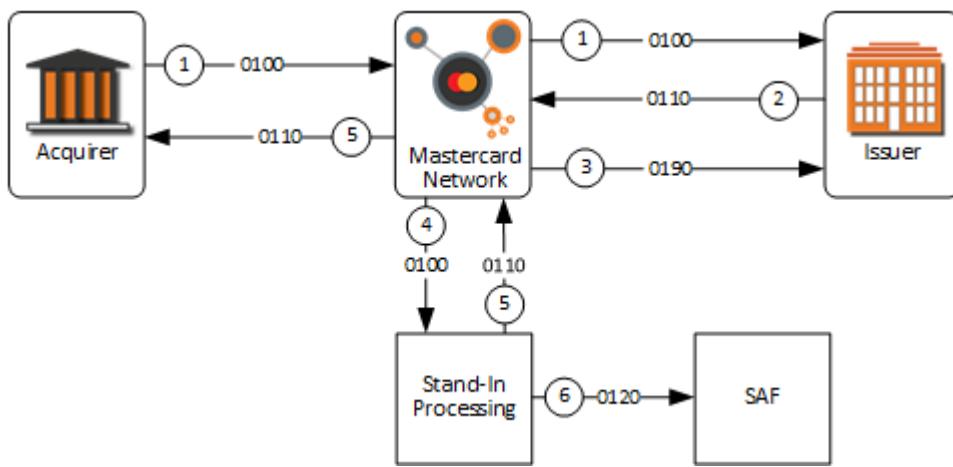


1. The acquirer sends the Authorization Request/0100 message to the Authorization Platform, and the Authorization Platform forwards the Authorization Request/0100 message to the primary issuer.
2. If the Authorization Platform does not receive the Authorization Request Response/0110 message within the time limit from the primary issuer, the Authorization Platform sends the Authorization Request/0100 message to the alternate issuer.
3. The primary issuer sends the Authorization Request Response/0110 message to the Authorization Platform.
4. The Authorization Platform receives the primary issuer's Authorization Request Response/0110 message within the time limit and before the alternate issuer's response and then sends the primary issuer's Authorization Request Response/0110 message to the acquirer.
5. The alternate issuer forwards the Authorization Request Response/0110 message to the Authorization Platform.
6. The Authorization Platform generates the Reversal Advice/0420 message for the alternate issuer to reverse the alternate issuer's response that was not used.

7. When the alternate issuer receives the Reversal Advice/0420 message, it must generate a Reversal Advice Response/0430 message to acknowledge receipt of the Reversal Advice/0420 message.

Authorization Response Negative Acknowledgement/0190 (Responding to the Authorization Request Response/0110)

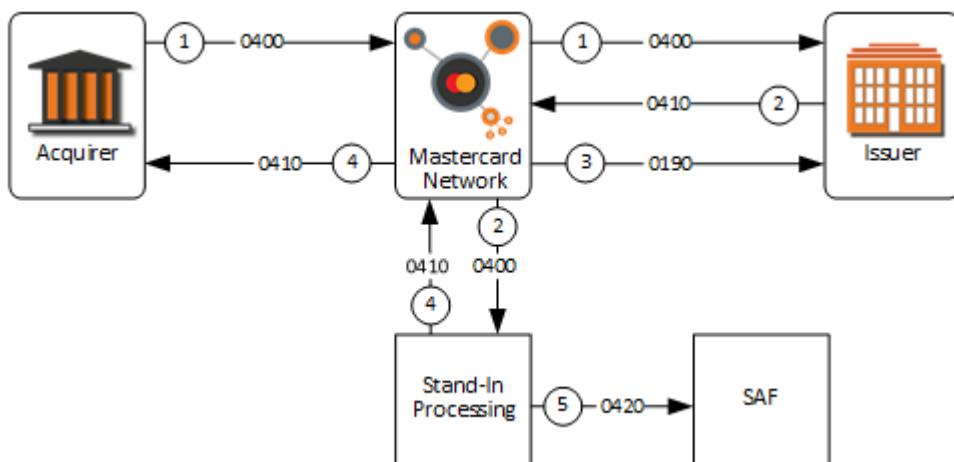
This message flow describes transaction processing when the issuer host generates an invalid or late Authorization Request Response/0110 message, and the Stand-In System processes the transaction and generates a response on behalf of the issuer. The Authorization Platform also sends an Authorization Response Negative Acknowledgement/0190 message to the issuer.



1. The acquirer sends the Authorization Request/0100 message.
2. The issuer generates an invalid or late Authorization Request Response/0110 message.
3. The Authorization Platform sends an Authorization Response Negative Acknowledgement/0190 message to the issuer.
4. The Authorization Platform sends the Authorization Request/0100 message to Stand-In processing.
5. Stand-In processing generates an appropriate Authorization Request Response/0110 message on the issuer's behalf and forwards it to the acquirer.
6. The Stand-In System also generates an Authorization Advice/0120 message and forwards it to the Authorization Platform SAF process for later transmission to the issuer.

Authorization Response Negative Acknowledgement/0190 (Responding to the Reversal Request Response/0410)

This message flow describes transaction processing when the issuer host generates an invalid or late Reversal Request Response/0410 message, and the Authorization Platform processes the transaction and generates a response on behalf of the issuer. The Authorization Platform also sends an Authorization Response Negative Acknowledgement/0190 message to the issuer.

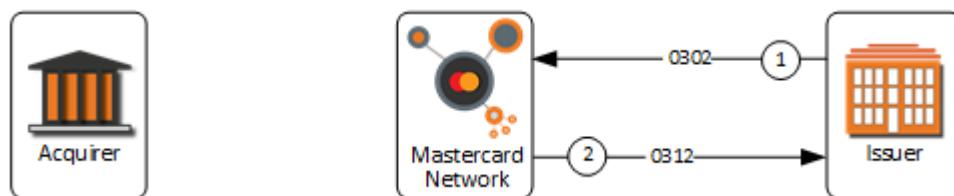


1. The acquirer sends the Reversal Request/0400 message.
2. The issuer generates an invalid or late Reversal Request Response/0410 message and forwards it to the Authorization Platform. The Authorization Platform routes the Reversal Request/0400 to the Stand-In System.
3. The Authorization Platform sends an Authorization Response Negative Acknowledgement/ 0190 message to the issuer.
4. The Authorization Platform generates the Reversal Request Response/0410 message and sends it to the acquirer.
5. The Stand-In System generates a Reversal Advice/0420 message and forwards it to the Authorization Platform SAF process for later transmission to the issuer.

NOTE: Customers in the Europe region that route to an alternate issuer host for alternate processing instead of the Stand-In System will still receive a Reversal Advice/0420 message as described here. Alternate issuer host processing does not send Reversal Request/0400 or Authorization Advice/0120 messages to the alternate host.

Issuer File Update Request/0302 and Issuer File Update Request Response/0312

This message flow describes transaction processing of the Issuer File Update Request/0302 message.



1. An issuer initiates an Issuer File Update Request/0302 message.
2. The Authorization Platform performs the requested issuer file update task and issues an Issuer File Update Request Response/0312 message back to the issuer. A Response

Indicator field in the Issuer File Update Request Response/0312 message indicates whether the issuer file update was successfully completed.

NOTE: The error-condition message process for Issuer File Update/03xx messages is not illustrated. If an issuer unsuccessfully forwards an Issuer File Update Request/0302 message to the Authorization Platform, the issuer should retransmit the message.

Reversal Messages

Acquirers must send a Reversal Request/0400 message when the acquirer is unable to deliver an issuer's approved Authorization Request Response/0110 to a merchant. Merchants also may request their acquirers to send a Reversal Request/0400 message to cancel the full or partial amount of the original authorization amount.

The Authorization Platform will not attempt to match the contents of the Reversal Request/0400 message with the contents of the original Authorization Request/0100 message.

NOTE:

The acquirer must send the Reversal Request/0400 message immediately, or as soon as possible, after detecting that an approved Authorization Request Response/0110 message cannot be delivered to a merchant. An approved transaction has DE 39 (Response Code) value of 00 (Approved or completed successfully), 08 (Honor with ID), 10 (Partial Approval), or 87 (Purchase amount only, no cash back allowed).

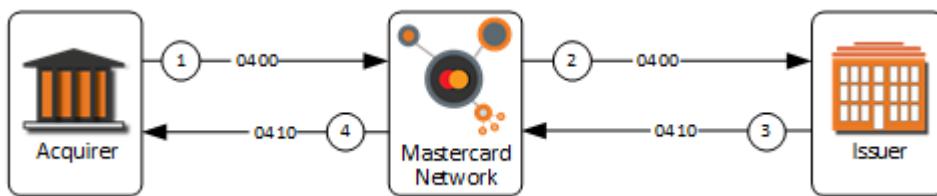
The acquirer must send a Reversal Request/0400 message as a result of an acquirer time-out based on transaction processing rules dictated by the brand. When an acquirer sends a reversal, it is possible that an issuer will receive two reversals for the same authorization request. Issuers must decline subsequent reversal messages using the duplicate transmission response value DE 39 = 94.

The following message flows describe Stand-In System processing of the Reversal Request/0400 message when:

- The issuer response is received within the time limit
- The issuer response is received after the time limit
- The issuer is signed off
- The issuer response contains errors
- The issuer does not receive the Reversal Request/0400 message

Reversal Request/0400 and Reversal Request Response/0410

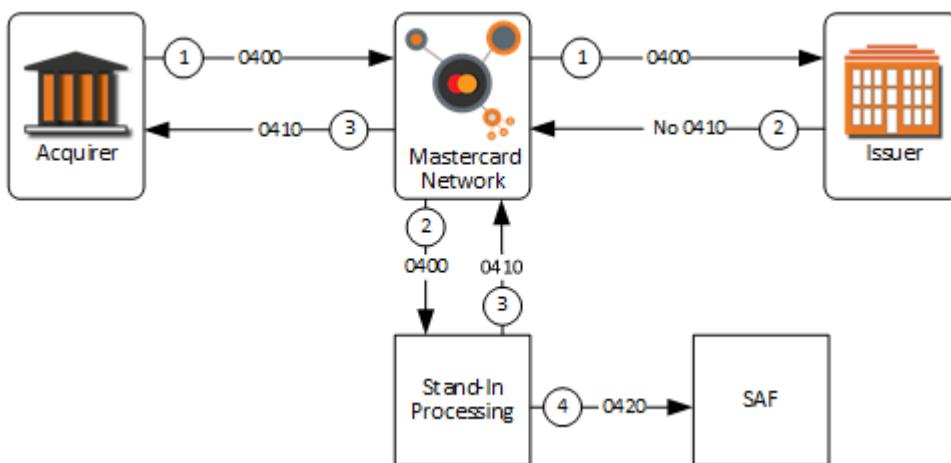
This message flow describes transaction processing of the Reversal Request/0400 and Reversal Request Response/0410 messages.



1. The acquirer initiates a Reversal Request/0400 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Reversal Request/0400 message to the issuer.
3. The issuer generates an appropriate Reversal Request Response/0410 message and sends it to the Authorization Platform.
4. The Authorization Platform forwards the Reversal Request Response/0410 message to the acquirer.

Reversal Request/0400—No Issuer Response Received within the Time Limit

This message flow describes transaction processing of the Reversal Request/0400 message when the issuer response is not received within the time limit.

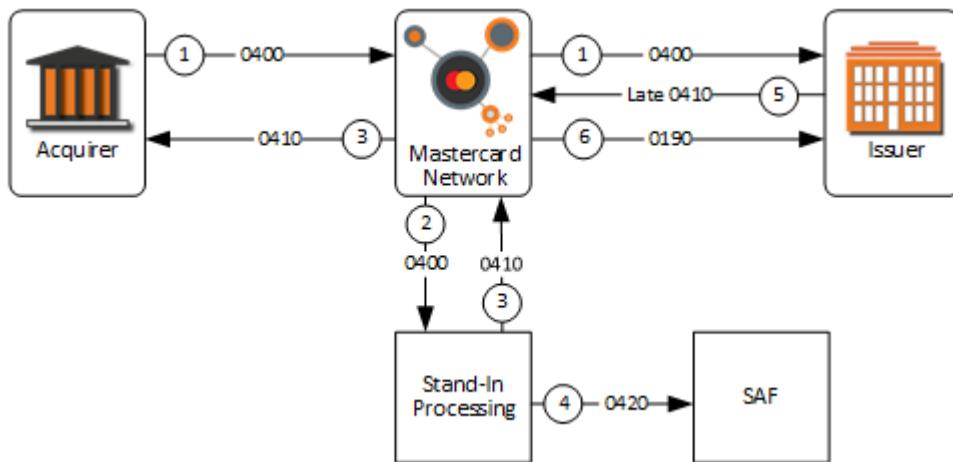


1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform, and then the Authorization Platform forwards the Reversal Request/0400 message to the issuer.
2. If the Authorization Platform does not receive the issuer's Reversal Request Response/0410 message within the time limit, the Authorization Platform sends the Reversal Request/0400 message to the Stand-In System.
3. The Stand-In System sends the acquirer a Reversal Request Response/0410 message where DE 39 (Response Code) contains the value 00 (Approved or Completed Successfully).
4. The Stand-In System creates a Reversal Advice/0420 message and stores it in a SAF queue for guaranteed delivery to the issuer where:
 - DE 39 = Response Code value from the original Reversal Request/0400 message

- DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) contains value 402 (Issuer Time-out)

Reversal Request/0400—Issuer Response Received after the Time Limit

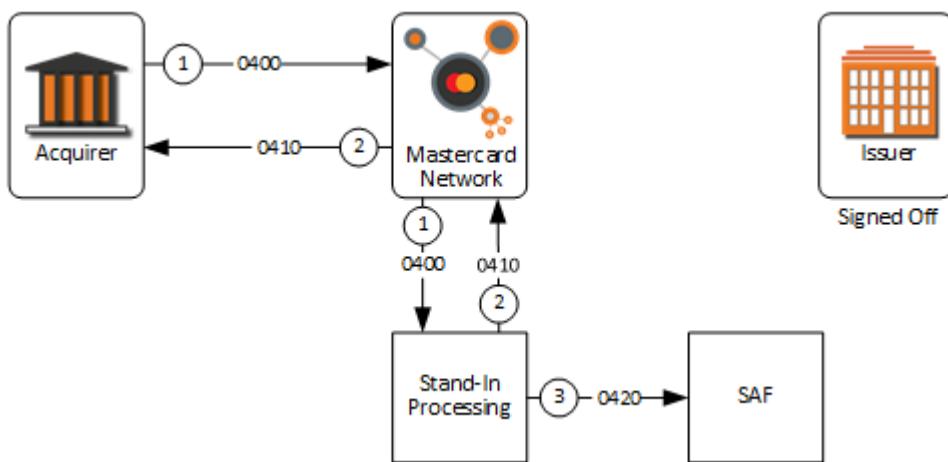
This message flow describes transaction processing when the issuer responds to the Reversal Request/0400 message after the time limit.



1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform, and then the Authorization Platform forwards the Reversal Request/0400 message to the issuer.
2. If the Authorization Platform does not receive the issuer's Reversal Request Response/0410 message within the time limit, the Authorization Platform sends the Reversal Request/0400 message to the Stand-In System.
3. The Stand-In System sends the Reversal Request Response/0410 message containing DE 39, value 00 (Approved or completed successfully) to the acquirer.
4. The Stand-In System creates a Reversal Advice/0420 message and stores it in a SAF queue for guaranteed delivery to the issuer. The Reversal Advice/0420 message contains the following information:
 - DE 39 = Response Code value from the original Reversal Request/0400 message
 - DE 60, subfield 1 = 402 (Issuer Time-out)
5. The Authorization Platform receives the issuer's Reversal Request Response/0410 message after the time limit.
6. The Authorization Platform sends the Authorization Negative Acknowledgement/0190 message containing DE 39, value 68 (Response received late) to indicate it has no record of a corresponding Reversal Request/0400 message.

Reversal Request/0400—Issuer Signed Off

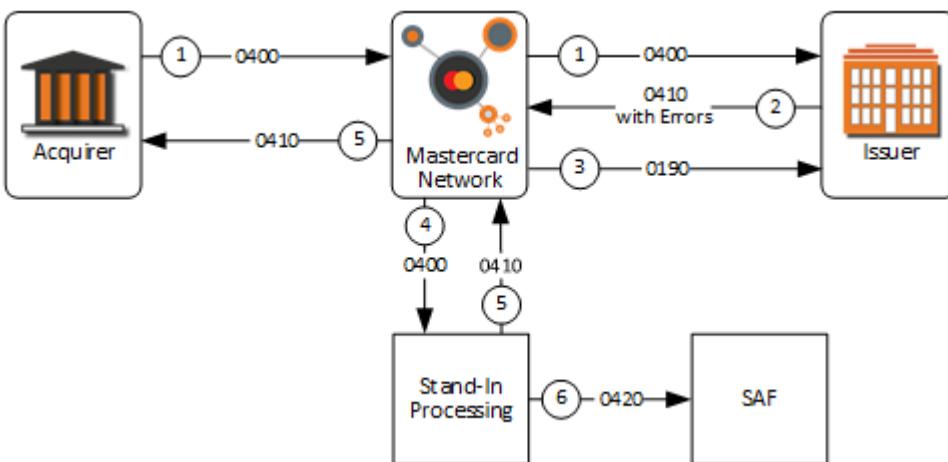
This message flow describes transaction processing when the issuer does not respond to the Reversal Request/0400 message because the issuer is signed off.



1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform, and then the Authorization Platform forwards the Reversal Request/0400 message to the Stand-In System.
2. The Stand-In System sends the Reversal Request Response/0410 message containing DE 39, value 00 (Approved or completed successfully) to the acquirer.
3. The Stand-In System creates a Reversal Advice/0420 message and stores it in a SAF queue for guaranteed delivery to the issuer where:
 - DE 39 = Response Code value from the original Reversal Request/0400 message
 - DE 60, subfield 1 = 403 (Issuer Sign-out)

Reversal Request/0400—Issuer Response Contains Errors

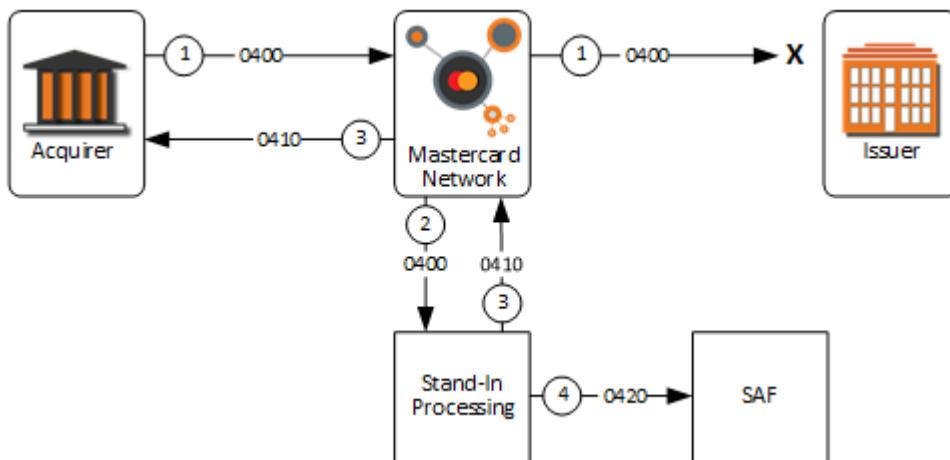
This message flow describes transaction processing when the issuer's response message contains errors.



1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform, and then the Authorization Platform forwards the Reversal Request/0400 message to the issuer.
2. The Authorization Platform receives the issuer's Reversal Request Response/0410 message and the message contains errors.
3. The Stand-In System sends the Reversal Request Response/0410 message containing DE 39, value 00 (Approved or completed successfully) to the acquirer.
4. The Stand-In System creates a Reversal Advice/0420 message and stores it in a SAF queue for guaranteed delivery to the issuer where:
 - DE 39 = Response Code value from the original Reversal Request/0400 message
 - DE 60, subfield 1 = 409 (Issuer Response Error)
5. The Authorization Platform sends the Authorization Negative Acknowledgement/0190 message containing DE 39, value 30 (Format error) and DE 44 containing the number of the data element in error.
6. The Authorization Platform sends the Reversal Request/0400 message to the Stand-In System.

Reversal Request/0400—Not Delivered to Issuer

This message flow describes transaction processing when the issuer does not receive the Reversal Request/0400 message.

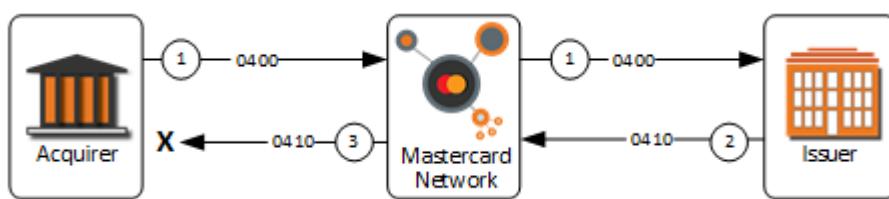


1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform and the Authorization Platform is unable to deliver the Reversal Request/0400 message to the issuer.
2. The Authorization Platform sends the Reversal Request/0400 message to the Stand-In System.
3. The Stand-In System sends the Reversal Request Response/0410 message containing DE 39, value 00 (Approved or completed successfully) to the acquirer.

4. The Stand-In System creates a Reversal Advice/0420 message and stores it in a SAF queue for guaranteed delivery to the issuer. The Reversal Advice/0420 message contains the following information:
 - DE 39 = Response Code value from the original Reversal Request/0400 message
 - DE 60, subfield 1 = 413 (Issuer Undelivered)

Reversal Request Response/0410—Not Delivered to Acquirer

This message flow describes transaction processing when the acquirer does not receive the Reversal Request Response/0410 message.

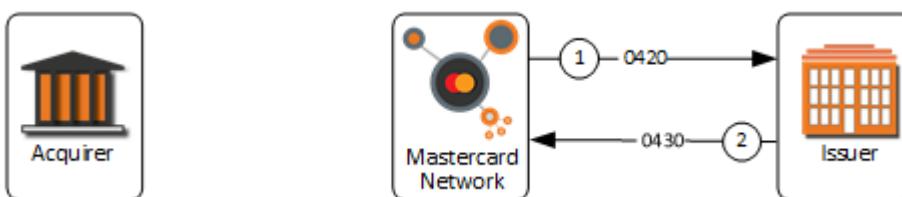


1. The acquirer sends the Reversal Request/0400 message to the Authorization Platform, and then the Authorization Platform forwards the Reversal Request/0400 message to the issuer.
2. The Authorization Platform receives the issuer's Reversal Request Response/0410 message.
3. The Authorization Platform cannot deliver the issuer's Reversal Request Response/0410 message to the acquiring host.
4. The Authorization Platform stores the Reversal Request/0400 and Reversal Request Response/0410 messages and takes no additional action.

NOTE: The acquirer has the responsibility to resend the Reversal Request/0400 message if the acquirer did not receive a response from the Authorization Platform.

Reversal Advice/0420 and Reversal Advice Response/0430

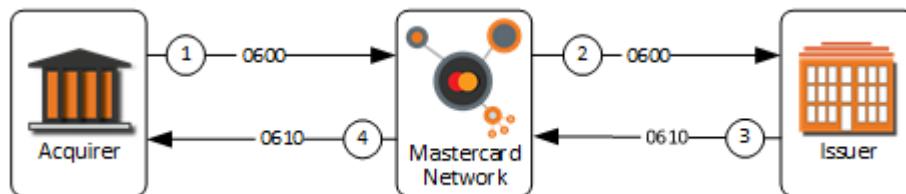
This message flow describes transaction processing of the Reversal Advice/0420 and the Reversal Advice/0430 messages.



1. The Authorization Platform sends a Reversal Advice/0420 message to the issuer.
2. The issuer responds to the Authorization Platform with a Reversal Advice Response/0430 message to acknowledge positive receipt of the Reversal Advice/0420 message.

Administrative Request/0600 and Administrative Request Response/0610

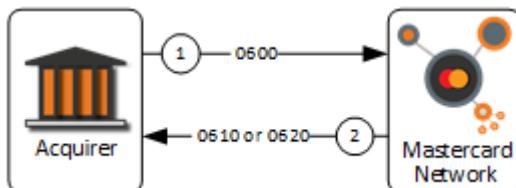
This message flow describes transaction processing of the Administrative Request/0600 and Administrative Request Response/0610 messages.



1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Administrative Request/0600 message to the issuer based on the account range contained in DE 2 (PAN).
3. The issuer sends an Administrative Request Response/0610 message to the Authorization Platform.
4. The Authorization Platform forwards the Administrative Request Response/0610 message to the acquirer.

Administrative Request/0600, Acquirer Edit Failure

This message flow describes exception processing when the Authorization Platform determines an acquirer edit failure during processing an Administrative Request/0600 message.



1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform edits the Administrative Request/0600 message and detects an acquirer edit failure. As a result, the Authorization Platform notifies the acquirer using the Administrative Request Response/0610 when the Administrative Request/0600 message:
 - is missing mandatory data element
 - contains data attribute error or invalid data value
 - is from ineligible acquirer/processor
 - is sent to ineligible issuer

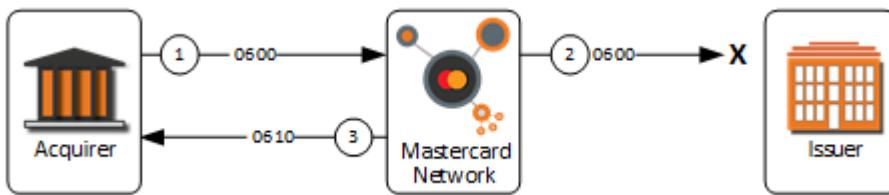
OR

Using the Administrative Advice/0620 message when the Administrative Request/0600 message:

- cannot be parsed
- exceeds the maximum message length of 8k bytes

Administrative Request/0600, Communication Failure at Issuer

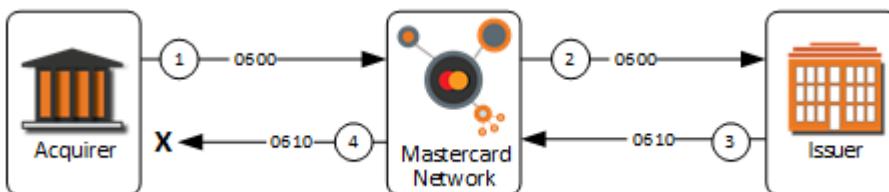
This message flow describes exception processing when communication fails between the issuer and the Authorization Platform during an Administrative Request/0600 message.



1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform attempts to forward the Administrative Request/0600 message to the issuer but is unable to complete the message transmission because of a technical problem.
3. As a result, the Authorization Platform sends the acquirer an Administrative Request Response/0610 message containing DE 39 (Response Code), value 92 (Unable to route transaction).

Administrative Request Response/0610, Communication Failure at Acquirer

This message flow describes exception processing when communication fails between the Authorization Platform and the acquirer during an Administrative Request Response/0610 message.

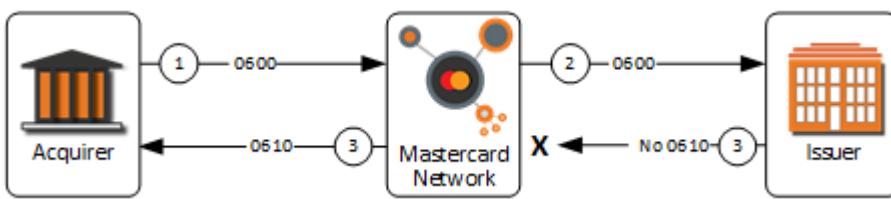


1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Administrative Request/0600 message to the issuer based upon the account range contained in DE 2 (Primary Account Number [PAN]).
3. The issuer sends an Administrative Request Response/0610 message to the Authorization Platform.

4. The Authorization Platform attempts to forward the Administrative Request Response/0610 message to the acquirer but is unable to complete the message transmission because of a communication link failure or acquirer failure. As a result, the Authorization Platform logs the undelivered 0610 message and takes no further action. The acquirer host will time out the 0600 message and resend, if appropriate.

Administrative Request Response/0610, No Issuer Response

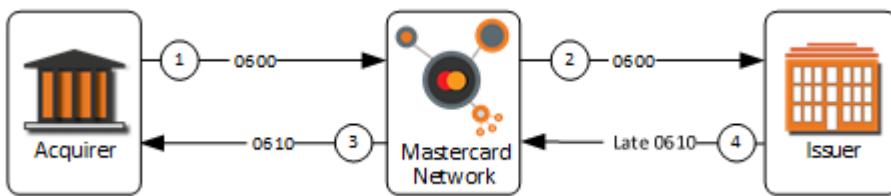
This message flow describes exception processing when there is no response from the issuer to the Authorization Platform for an Administrative Request/0600 message.



1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Administrative Request/0600 message to the issuer based upon the account range contained in DE 2 (Primary Account Number [PAN]).
3. If the Authorization Platform receives no response from the issuer before the expiration of the response timer, the Authorization Platform sends the acquirer an Administrative Request Response/0610 message containing DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).

Administrative Request Response/0610, Late Issuer Response

This message flow describes exception processing when the Authorization Platform receives a late Administrative Request Response/0610 message from the issuer.

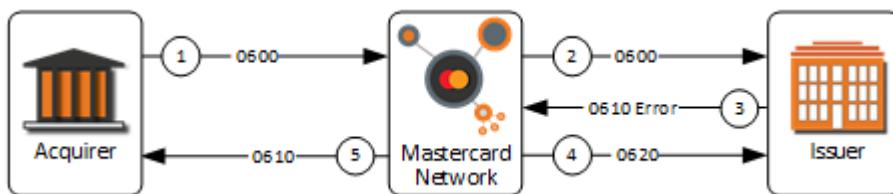


1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Administrative Request/0600 message to the issuer based upon the account range contained in DE 2 (PAN).
3. If the Authorization Platform receives no response from the issuer before the expiration of the response timer, the Authorization Platform sends the acquirer an Administrative

- Request Response/0610 message containing DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).
4. If the Authorization Platform receives the issuer's response after expiration of the response timer, the Authorization Platform logs the late issuer 0610 message and takes no further action.

Administrative Request Response/0610, Issuer Edit Failure

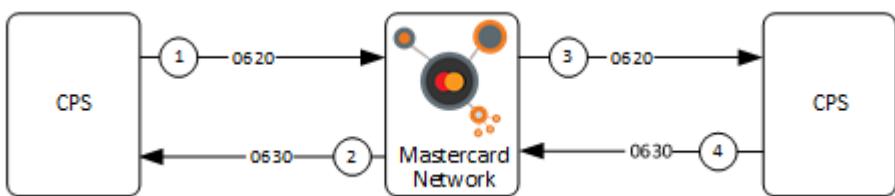
This message flow describes exception processing when the Authorization Platform receives an Administrative Request Response/0610 message that contains an edit failure from the issuer.



1. The acquirer initiates an Administrative Request/0600 message and sends it to the Authorization Platform.
2. The Authorization Platform forwards the Administrative Request/0600 message to the issuer based upon the account range contained in DE 2 (PAN).
3. The issuer sends an Administrative Request Response/0610 message to the Authorization Platform.
4. The Authorization Platform edits the Administrative Request Response/0610 message and detects an issuer edit failure. As a result, the Authorization Platform notifies the issuer using the Administrative Advice/0620 when the Administrative Request Response/0610 message:
 - cannot be parsed
 - exceeds the maximum message length of 8k bytes
 - is missing mandatory data element
 - contains a data attribute error or invalid data value
5. If the Authorization Platform receives an issuer response containing an edit failure, the Authorization Platform sends the acquirer an Administrative Request Response/0610 message containing DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).

Administrative Advice/0620 and Administrative Advice Response/0630

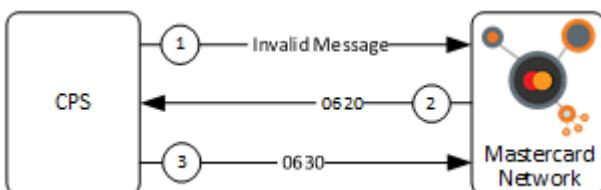
This message flow describes the standard Administrative Advice/06xx message process.



1. A customer processing system (CPS) generates an Administrative Advice/0620 message and forwards it to the Authorization Platform. Note that the CPS may be an issuer, an acquirer, or any other customer processing facility communicating via the Authorization Platform.
2. The Authorization Platform acknowledges receipt of the Administrative Advice/0620 message by returning an Administrative Advice Response/0630 message to the originating CPS.
3. The Authorization Platform forwards the Administrative Advice/0620 message to the receiving destination CPS.
4. The receiving CPS acknowledges receipt of the Administrative Advice/0620 message by returning an Administrative Advice Response/0630 message to the Authorization Platform.

Administrative Advice/0620 and Administrative Advice Response/0630—Invalid Message, System-Generated

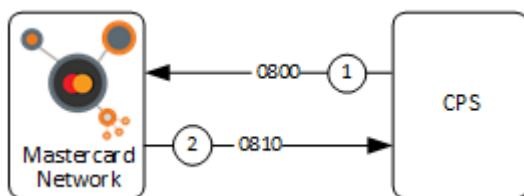
This message flow describes the standard Administrative Advice/06xx invalid message process.



1. A CPS generates an invalid message and forwards it to the Authorization Platform.
2. The Authorization Platform returns an Administrative Advice/0620 message to the CPS, with an appropriate error condition code indicating the point at which the Authorization Platform terminated message parsing or message processing.
3. The CPS acknowledges receipt of the Administrative Advice/0620 message and returns an Administrative Advice Response/0630 message to the Authorization Platform.

Network Management Request 0800—Sign-On/Sign-Off

This message flow describes the standard Network Management Request/0800—Sign-On/Sign-Off message to sign on to the Mastercard Network or to sign off from the Mastercard Network.



1. The customer processing system (CPS) creates a Network Management Request—Sign-On/Sign-Off message and sends it to the Authorization Platform.
2. After receiving the Network Management Request—Sign-On/Sign-off message, the Authorization Platform creates a Network Management Request Response/0810—Sign-On/Sign-off message and sends it to the CPS.

NOTE: Customers are reminded that they should use any one or a combination of the network connectivity management options described in the *Authorization Manual*. These varying levels of probes or echo tests are recommended in place of using a sign-on Network Management Request/0800 message to verify host connectivity to Mastercard.

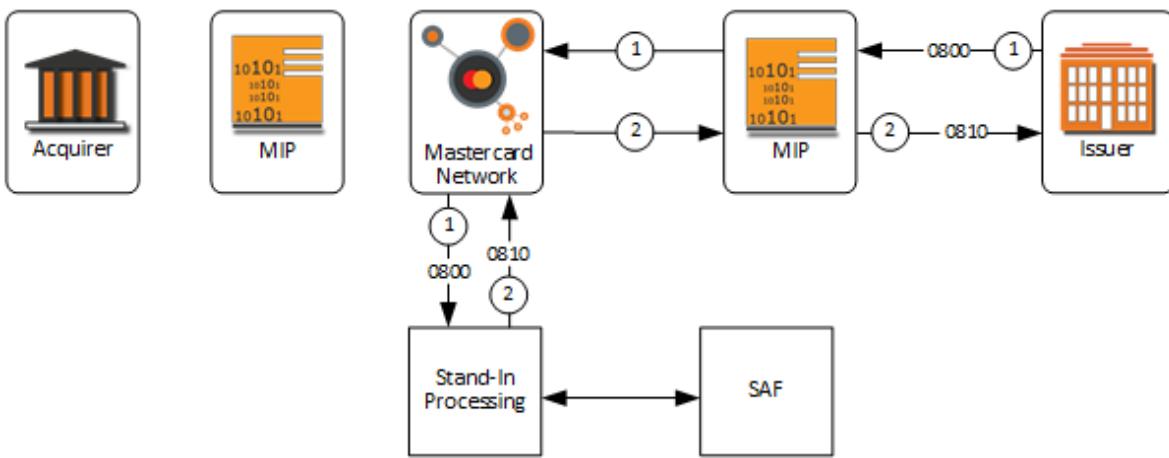
Network Management Request/0800—Solicited SAF

This message flow describes the issuer-initiated (solicited) SAF session using a Network Management Request/0800—SAF Request message.

NOTE: Mastercard no longer allows issuers to select the solicited SAF request option. Effective 22 June 2010, SAF participation for all group sign-in entries was changed to U (Unsolicited SAF).

When an issuer has a large number of SAF records (for example, because of an extended outage), Mastercard can provide SAF records to the issuer using Complex-to-complex (CTC) file transmission.

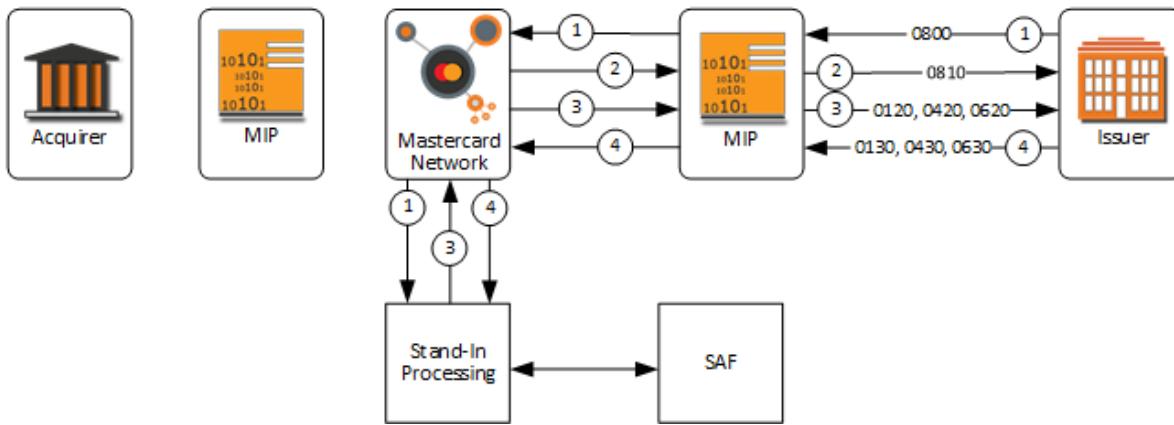
When Mastercard begins to create the bulk file for transmission, it halts the online transmission of SAF records. This halt prevents Mastercard from distributing duplicate SAF records via an online transmission.



1. The issuer sends a Network Management Request/0800—SAF Request message to the Mastercard Network. The network management code included in DE 70 (Network Management Information Code) contains value 060 (SAF session request.) The request is acknowledged; however, it will not affect SAF processing.
2. The Stand-In System generates the Network Management Request Response/0810 acknowledgement message. After the Stand-In System responds to the issuer SAF request message, no further processing of the issuer's request is performed by the Stand-In System. All SAF messages are processed unsolicited.

Network Management Request/0800—Unsolicited SAF

This message flow describes the unsolicited SAF session with the issuer after the issuer has signed on to the Mastercard Network using a Network Management Request/0800—Sign-On/Sign-Off message.



1. The issuer sends a Network Management Request/0800—Sign-On/Sign—Off message to sign on to the Mastercard Network.

2. The Authorization Platform forwards a Network Management Request Response/0810 message acknowledging the issuer's sign-on request.
3. The Stand-In System checks for SAF messages in the queue and initiates a SAF session. The SAF process forwards an Authorization Advice/0120, Reversal Advice/0420, or Administrative Advice/0620 message to the issuer. The Stand-In System continues to check for SAF messages periodically as long as the issuer is signed in, and forwards messages if there are any available.
4. The issuer generates an Authorization Advice Response/0130, Reversal Advice Response/0430, or Administrative Advice Response/0630 message. These response messages advise the Stand-In System that the issuer received the previous Authorization Advice/0120, Reversal Advice/0420, or Administrative Advice/0620 message and prompt Stand-In processing to send the next Authorization Advice/0120, Reversal Advice/0420, or Administrative Advice/0620 message.

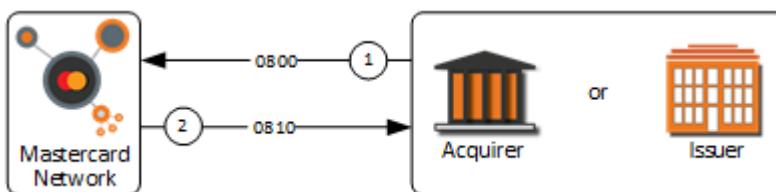
NOTE: Issuers receive SAF messages intermixed with authorization and reversal request messages.

Network Management Request/0800—Network Connection Status, Member-generated

This message flow describes transaction processing of the Network Management Request/0800—Network Connection Status, Member-generated message.

Customers should send the Network Management Request/0800 message with DE 70 (Network Management Information Code) value 270 (Network Connection Status—echo test) when they want to investigate the status of their Mastercard Network connection to Mastercard instead of using a repeat sign on message.

Mastercard will respond with a Network Management Request Response/0810 message containing DE 70, value 270 indicating positive acknowledgement of the Network Management Request/0800 message.



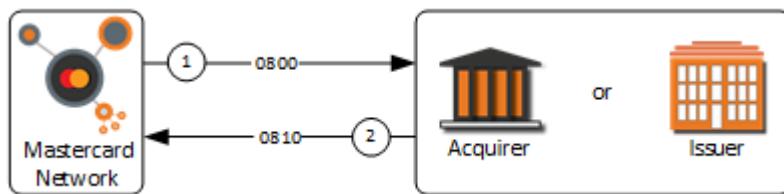
1. The customer sends a Network Management Request/0800—Network Connection Status, Member-generated message where DE 70 is 270 to the Authorization Platform to verify the customer's connection to the Mastercard Network.
2. The Authorization Platform responds with a Network Management Request Response/0810—Network Connection Status, System-generated message to confirm that the connection is active.

Network Management Request/0800—Network Connection Status, System-generated

This message flow describes transaction processing of the Network Management Request/0800—Network Connection Status, System-generated message.

Customers that request Mastercard to periodically check the status of their connection to the Mastercard Network will receive the Network Management Request/0800 message with DE 70 (Network Management Information Code) value 270 (Network Connection Status—echo test) from Mastercard.

A customer must respond with a Network Management Request Response/0810 message containing DE 70, value 270 to indicate positive acknowledgement of the Network Management Request/0800 message.



1. The Authorization Platform sends a Network Management Request/0800—Network Connection Status, System-generated message where DE 70 is 270 to the customer to verify the customer's connection to the Mastercard Network.
2. The customer responds with a Network Management Request Response/0810—Network Connection Status, Member-generated message to confirm that the connection is active.

Network Management Request/0800—Host Session Activation/Deactivation

This message flow describes transaction processing of the Network Management Request/0800—Host Session Activation/Deactivation message.

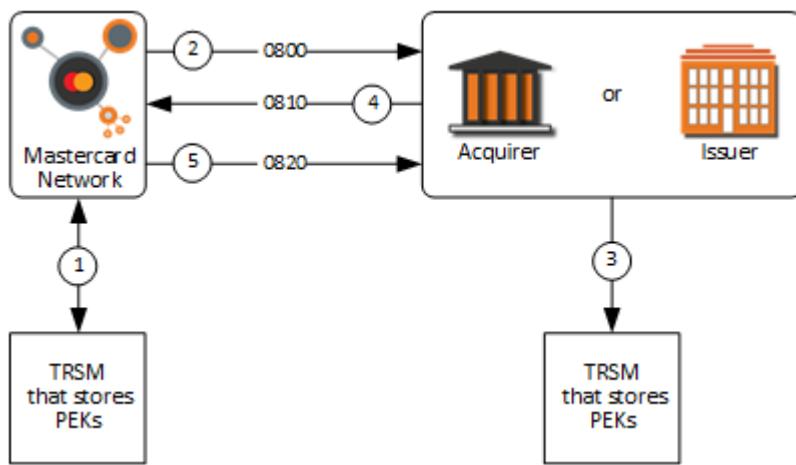


1. The customer sends a Network Management Request/0800—Host Session Activation/Deactivation message where DE 70 (Network Management Information Code) contains either a value of 081 (Host session activation) or 082 (Host session deactivation) to identify session activation or session deactivation to the Mastercard interface processor (MIP).
2. The MIP responds with a Network Management Request Response/0810—Host Session Activation/Deactivation message containing DE 39 (Response Code), value 00 (Approved or completed successfully).

NOTE: The Dynamic PIN Encryption Key (PEK) service is not available for use by customers in the Europe region that use Mastercard Network PIN Processing services. The Dynamic PIN Encryption Key service is available to customers outside the Europe region that use Single Message System PIN Processing services.

Network Management Request/0800—PEK Exchange Authorization Platform-Initiated

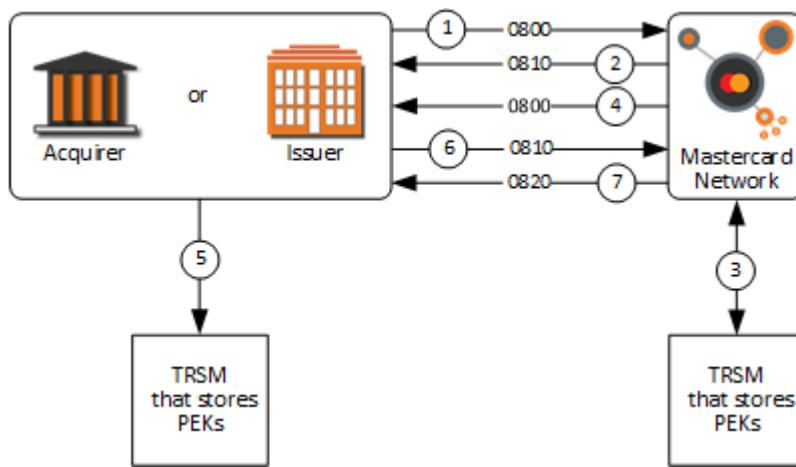
This message flow describes transaction processing as it exchanges new PEKs with the customer every 24 hours or every 2,500 transactions, whichever occurs first.



1. The pre-determined time or number of transactions has passed for exchanging a new PEK. The Authorization Platform uses the Key Encryption Key (KEK) on the tamper-resistant security module (TRSM) to encrypt the new PEK.
2. The Authorization Platform sends a Network Management Request/0800—PEK Exchange message containing the PEK. The message contains the new PEK (encrypted using the KEK) in DE 48 and the customer ID in DE 2 (Primary Account Number [PAN]). The customer uses the PEK for PIN translation in subsequent Authorization Request/0100 messages.
3. The customer stores the new PEK on its TRSM.
4. The customer sends a Network Management Request Response/0810—PEK Exchange message to the Authorization Platform acknowledging receipt of the Network Management Request/0800—PEK Exchange message exchanging the PEK. If the message does not contain DE 39 (Response Code) with the value 00 (Approved or completed successfully), the Authorization Platform sends another Network Management Request/0800—PEK Exchange message.
5. The Authorization Platform sends a Network Management Advice/0820—PEK Exchange message to notify the customer that the new PEK is active and operational. Subsequent Authorization Request/0100 messages must use the new PEK to translate the PIN data in DE 52 (Personal ID Number [PIN] Data).

Network Management Request/0800—PEK Exchange Member-Initiated

Customers must be capable of sending a Network Management Request/0800—PEK Exchange—Member-initiated message to the Authorization Platform requesting a new PEK. The Authorization Platform immediately initiates a PEK exchange with the customer identified in DE 33 (Forwarding Institution ID Code) of the Network Management Request/0800—PEK Exchange—On Demand message. Customers should use this feature when systems problems occur and a re-synchronization of the PEK is necessary.



1. The customer determines there is a problem with its PEK and sends a Network Management Request/0800—PEK Exchange—On Demand message to the Authorization Platform requesting a new PEK.
2. The Authorization Platform responds with a Network Management Request Response/0810—PEK Exchange—On Demand message.
3. The Authorization Platform uses the KEK on its TRSM to encrypt the new PEK.
4. The Authorization Platform sends a Network Management Request/0800—PEK Exchange message containing the new PEK. The message contains the new PEK (encrypted using the KEK) in DE 48 and the associated ID of the customer, identified in DE 2 (Primary Account Number [PAN]). The customer uses the PEK for PIN encryption in subsequent Authorization Request/0100 messages.
5. The customer stores the new PEK on its TRSM.
6. The customer sends a Network Management Request Response/0810—PEK Exchange message to the Authorization Platform acknowledging receipt of the Network Management Request/0800—PEK Exchange message exchanging the PEK. If the message does not contain DE 39 (Response Code) with the value 00 (Approved or completed successfully), the Authorization Platform sends another Network Management Request/0800—PEK Exchange message.
7. The Authorization Platform sends a Network Management Advice/0820—PEK Exchange message to the customer notifying it that the new PEK is active and operational. Subsequent Authorization Request/0100 messages must use the new PEK to translate the PIN in DE 52.

NOTE: Error-condition message flows for Network Management/08xx messages are not illustrated. If an APS or IPS unsuccessfully forwards a Network Management/08xx message to the Authorization Platform, the APS or IPS should retransmit the message.

Chapter 3 Message Layouts

This section describes the required, conditional, optional, or Authorization Platform–provided data element layouts for all messages that the Authorization Platform supports.

| | |
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Authorization Request/0100

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | • | M | Constant—0100 (Authorization Request). |
| - Bit Map, Primary | M | • | M | |
| 1 Bit Map, Secondary | C | • | C | Required data element if DE 65–DE 128 are present in the message. |
| 2 Primary Account Number (PAN) | M | • | M | |
| 3 Processing Code | M | • | M | |
| 4 Amount, Transaction | M | • | M | Transaction amount, in the transaction currency, at the point of interaction. |
| 5 Amount, Settlement | • | X | C | Transaction amount, in the reporting currency, as specified within individual Mastercard programs and services; the Authorization Platform provides DE 5 if the issuer chooses to receive settlement amount-related data elements. |
| 6 Amount, Cardholder Billing | • | X | M | Transaction amount in the issuer currency. The Authorization Platform provides this data element. |
| 7 Transmission Date and Time | M | • | M | Transaction time stamp; UTC date and time that this transaction was entered into the interchange. |
| 9 Conversion Rate, Settlement | • | X | C | The Authorization Platform provides DE 9 if the issuer chooses to receive settlement amount-related data elements. |
| 10 Conversion Rate, Cardholder Billing | • | X | M | The Authorization Platform provides DE 10 with the rate used to convert the transaction currency to the cardholder billing currency. If the acquirer and issuer currency are the same, this value will be 61000000. |
| 11 Systems Trace Audit Number (STAN) | M | • | M | |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 12 Time, Local Transaction | C | • | C | Used in all customer-related reports and statements, if available. Required for ATM, Chip, and POS card-read transactions. Required for Mastercard Hosted Mobile Phone Top-up transactions. |
| 13 Date, Local Transaction | C | • | C | Used in all customer-related reports and statements, if available. Required for ATM, Chip, and POS card-read transactions. Required for Mastercard Hosted Mobile Phone Top-up transactions. |
| 14 Date, Expiration | C | • | C | |
| 15 Date, Settlement | • | X | M | The acquirer omits this data element, and the Authorization Platform inserts it and forwards it to the issuer. |
| 16 Date, Conversion | • | X | M | Currency conversion rate file effective date. The Authorization Platform provides this data element. |
| 18 Merchant Type | M | • | M | Refer to the <i>Quick Reference Booklet</i> for a listing of MCCs. |
| 20 Primary Account Number (PAN) Country Code | C | • | C | |
| 22 Point-of-Service (POS) Entry Mode | M | • | M | |
| 23 Card Sequence Number | C | • | C | Conditional data for chip transactions. |
| 26 Point-of-Service (POS) Personal ID Number (PIN) Capture Code | C | • | C | |
| 28 Amount, Transaction Fee | C | • | C | Must contain fee amount, if applied. |
| 32 Acquiring Institution ID Code | M | • | M | |
| 33 Forwarding Institution ID Code | C | • | C | |
| 35 Track 2 Data | C | X | C | Required if the transaction entry point captured Track 2 data. Required for ATM transactions. For Maestro transactions, such as e-commerce, the Authorization Platform creates Track 2 data if it is not provided by the acquirer. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 37 Retrieval Reference Number | C | • | C | Required for ATM, Chip and POS card-read transactions. |
| 41 Card Acceptor Terminal ID | C | • | C | Required for ATM transactions and if DE 42 does not uniquely identify the terminal. |
| 42 Card Acceptor ID Code | C | • | C | Mandatory for POS transaction types containing DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), values 00 (Purchase), 09 (Purchase with Cash Back) and 28 (Payment Transaction). |
| 43 Card Acceptor Name and Location | C | • | C | Required for Chip and POS card-read transactions. Required for Mastercard Hosted Mobile Phone Top-up transactions. |
| 45 Track 1 Data | C | • | C | Required if the transaction entry point captured track 1 data. |
| 48 Additional Data—Private Use | M | X | M | Contains applicable subelement data. |
| 49 Currency Code, Transaction | M | • | M | |
| 50 Currency Code, Settlement | • | X | C | The Authorization Platform provides DE 50 if the issuer chooses to receive settlement amount-related data elements. |
| 51 Currency Code, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. |
| 52 Personal ID Number (PIN) Data | C | X | C | Required for ATM transactions. |
| 53 Security-Related Control information | C | X | C | Required for acquirers using the Authorization Platform to perform PIN translation services. Acquirers provide DE 53 to identify the PIN Block Format and key used for PIN encryption. The Authorization Platform provides issuers that perform PIN translation services using the Authorization Platform the PIN Block Format and key that was used by Mastercard to encrypt the PIN before sending the Authorization Request/0100 to the issuer. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 54 Additional Amounts | C | X | C | The Authorization Platform will forward the occurrence of each DE 54 amount type provided by the acquirer in the acquirer's currency and will provide an additional occurrence of each DE 54 amount type in the issuer's currency. |
| 55 Integrated Circuit Card (ICC) System-Related Data | C | • | C | Conditional data for chip-based transactions. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller (as defined by EMVCo) DE 56 will be present and contain the PAR value when one is associated with the PAN. |
| 61 Point-of-Service (POS) Data | M | • | M | |
| 62 Intermediate Network Facility (INF) Data | O | • | O | |
| 63 Network Data | • | X | M | |
| 108 MoneySend Reference Data | C | • | C | Mandatory for originating institution to submit DE 108 on all Mastercard® MoneySend™ Payment Transactions. Optional for originating institution to submit DE 108 on all MoneySend Funding Transactions. |
| 112 Additional Data (National Use) | C | • | C | Contains applicable subelement data. |
| 120 Record Data | C | X | C | |
| 124 Member-defined Data | C | • | C | Must contain customer-defined data; required for Mastercard MoneySend Payment Transactions. |
| 125 New PIN Data | C | X | C | Must be present for all PIN change transactions; otherwise not present. |
| 127 Private Data | O | X | • | Private data for message initiator's use. |

Authorization Request Response/0110

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | • | M | Constant—0110 (Authorization Request Response). |
| - Bit Map, Primary | M | • | M | |
| 1 Bit Map, Secondary | C | • | C | Mandatory if DE 65–DE 128 are present in the message. |
| 2 Primary Account Number (PAN) | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 3 Processing Code | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 4 Amount, Transaction | CE | X | M | Must be the same value as in the original Authorization Request/0100 except when DE 39 contains value 10 (Partial approval) or value 87 (Purchase Amount Only—No Cash Back Allowed). |
| 5 Amount, Settlement | CE | X | C | Must be the same value as in the original Authorization Request/0100, if present, except when DE 39 contains value 10 (Partial approval) or value 87 (Purchase Amount Only—No Cash Back Allowed). The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁴ |
| 6 Amount, Cardholder Billing | C | • | C | Must be the same value as in the original Authorization Request/0100, except when DE 39 contains value 10 (Partial approval) or value 87 (Purchase Amount Only—No Cash Back Allowed). ⁴ |
| 7 Transmission Date and Time | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 9 Conversion Rate, Settlement | CE | X | C | Must be the same value as in the original Authorization Request/0100, if present. The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁴ |

⁴ This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 10 Conversion Rate, Cardholder Billing | C | • | C | Must be the same value as in the original Authorization Request/0100. ⁴ |
| 11 Systems Trace Audit Number (STAN) | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 15 Date, Settlement | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 16 Date, Conversion | C | • | C | Must be the same value as in the original Authorization Request/0100. ⁴ |
| 20 Primary Account Number (PAN) Country Code | CE | • | CE | Must be the same value as in the original Authorization Request/0100, if present. |
| 28 Amount, Transaction Fee | CE | X | CE | Must be the same value as in the Authorization Request/0100, if present. |
| 32 Acquiring Institution ID Code | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 33 Forwarding Institution ID Code | CE | • | CE | Must be the same value as in the original Authorization Request/0100, if present. |
| 37 Retrieval Reference Number | CE | • | CE | Must be the same value as in the original Authorization Request/0100, if present. |
| 38 Authorization ID Response | C | • | C | Response ID that the authorizing institution or agent assigned for approved requests. |
| 39 Response Code | M | • | M | Contains message-specific values. Refer to the data element details for list of values by message type. ⁵ |
| 41 Card Acceptor Terminal ID | CE | • | CE | Must be the same value as in the original Authorization Request/0100, if present. |
| 44 Additional Response Data | C | • | C | May be used for referral phone numbers in denied transactions, or cardholder ID information in approved transactions. |

⁵ Issuers responding with DE 39 (Response Code), value 10 (Partial approval) or value 87 (Purchase amount only, no cash back allowed) will not be required to echo DE 4 (Amount, Transaction) in the Authorization Request Response/0110. Likewise, if DE 5 (Amount, Settlement) was present in the Authorization Request/0100 to the issuer, the issuer will not be required to echo DE 5 in the Authorization Request Response/0110 when responding with DE 39, value 10 or value 87. The issuer will provide the partial approval amount in DE 6 (Amount, Cardholder Billing).

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 48 Additional Data—Private Use | C | • | C | Contains applicable subelement data. |
| 49 Currency Code, Transaction | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 50 Currency Code, Settlement | CE | X | C | Must be the same value as in the original Authorization Request/0100, if present. The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁴ |
| 51 Currency Code, Cardholder Billing | C | • | C | Must be the same value as in the original Authorization Request/0100. ⁴ |
| 54 Additional Amounts | C | X | C | The Authorization Platform will forward the occurrence of each DE 54 amount type as provided by the issuer in the issuer's currency and will provide an additional occurrence of each DE 54 amount type in the acquirer's currency. |
| 55 Integrated Circuit Card (ICC) System-Related Data | C | • | C | Conditional data for chip-based transactions. |
| 56 Payment Account Data | C | X | C | When Mastercard is the BIN Controller (as defined by EMVCo), the issuer is not required to provide DE 56 in the response message. If a PAR value is associated with the PAN, Mastercard will insert DE 56 containing the PAR value in the response message before forwarding the message to the acquirer. When the issuer is the BIN Controller and has associated a PAR value with the PAN, the issuer must include DE 56 containing the PAR value in the response message. |
| 62 Intermediate Network Facility (INF) Data | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 63 Network Data | ME | • | ME | Must be the same value as in the original Authorization Request/0100. |
| 102 Account ID-1 | C | • | C | May contain cardholder "from" account number. |
| 103 Account ID-2 | C | • | C | May contain cardholder "to" account number. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 108 MoneySend Reference Data | C | • | C | Mandatory for originating institution to submit DE 108 on all MoneySend Payment Transactions, optional for originating institution to submit DE 108 on all MoneySend Funding Transactions. |
| 112 Additional Data (National Use) | C | • | C | Contains applicable subelement data. |
| 120 Record Data | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 121 Authorizing Agent ID Code | C | • | C | Contains the Mastercard customer ID of an alternate authorizer, if authorized by other than the issuer or issuer's primary authorizer. |
| 123 Receipt Free Text | O | X | C | Optional for issuers. Present for acquirers if provided by the issuer. If not supported by the acquirer, the Authorization Platform removes DE 123 from the message. |
| NOTE: Applicable only to Swedish Domestic Authorization Switching Service (SASS) or Peru domestic POS transactions. | | | | |
| 124 Member-defined Data | C | • | C | May contain issuer-defined data; required for Mastercard MoneySend Payment Transactions. |
| 127 Private Data | O | X | CE | Private data for message initiator's use. The Authorization Platform will echo DE 127 from the original Authorization Request/0100, if present. |

Authorization Advice/0120—Acquirer-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---------------------------------------|
| - Message Type Identifier (MTI) | M | • | M | Constant—0120 (Authorization Advice). |
| - Bit Map, Primary | M | • | M | |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 1 Bit Map, Secondary | C | • | C | Mandatory if DE 65–DE 128 are present in the message. |
| 2 Primary Account Number (PAN) | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 3 Processing Code | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 4 Amount, Transaction | M | • | M | Must be the same value as in the original Authorization Request/0100 unless the message is submitted to complete a pre-authorized transaction. |
| 5 Amount, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 6 Amount, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. |
| 7 Transmission Date and Time | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 9 Conversion Rate, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 10 Conversion Rate, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. |
| 11 Systems Trace Audit Number (STAN) | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 12 Time, Local Transaction | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 13 Date, Local Transaction | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 14 Date, Expiration | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 15 Date, Settlement | • | X | M | The Authorization Platform provides this data element. |
| 16 Date, Conversion | • | X | M | The Authorization Platform provides this data element. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 18 Merchant Type | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 20 Primary Account Number (PAN) Country Code | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 22 Point-of-Service (POS) Entry Mode | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 23 Card Sequence Number | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 26 Point-of-Service (POS) Personal ID Number (PIN) Capture Code | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 28 Amount, Transaction Fee | C | • | C | Contains an online transaction fee as permitted by the operating rules of a bank card product. |
| 32 Acquiring Institution ID Code | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 33 Forwarding Institution ID Code | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 35 Track 2 Data | O | • | O | Must be the same value as in the original Authorization Request/0100, if present. |
| 37 Retrieval Reference Number | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 38 Authorization ID Response | C | • | C | Must be either the same value as in the original Authorization Request Response/0110, if present, or a value provided by the acquirer if the acquirer or merchant processed and approved the transaction. Must be the same value as in the original Authorization Request Response/0110 provided by the acquirer, if present. |
| 39 Response Code | M | • | M | Must be either the same value as in the original Authorization Request Response/0110 or a value provided by the acquirer if the acquirer or merchant processed and approved the transaction. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 41 Card Acceptor Terminal ID | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 42 Card Acceptor ID Code | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 43 Card Acceptor Name and Location | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 44 Additional Response Data | C | • | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 45 Track 1 Data | O | • | O | Must be the same value as in the original Authorization Request/0100, if present. |
| 48 Additional Data—Private Use | M | X | M | Contains applicable subelement data. |
| 49 Currency Code, Transaction | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 50 Currency Code, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 51 Currency Code, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. |
| 54 Additional Amounts | C | X | C | Must be the same value as in the original Authorization Request/0100, if present. The Authorization Platform will forward the occurrence of each DE 54 amount type provided by the acquirer in the acquirer's currency and will provide an additional occurrence of each DE 54 amount type in the issuer's currency. |
| 55 Integrated Circuit Card (ICC) System-Related Data | C | • | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller, the PAR value is inserted when available. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 60 Advice Reason Code | M | • | M | DE 60, subfield 1 (Advice Reason Code) must contain the value 190 (APS approved), value 191 (Acquirer Processing System [APS] Completed Authorization Transaction), or value 192 (M/Chip Offline Advice to Issuer). |
| 61 Point-of-Service (POS) Data | M | • | M | Must be the same value as in the original Authorization Request/0100. |
| 62 Intermediate Network Facility (INF) Data | O | • | O | Must be the same value as in the original Authorization Request/0100, if present. |
| 63 Network Data | • | X | M | The Authorization Platform provides this data element. |
| 102 Account ID-1 | C | • | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 103 Account ID-2 | C | • | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 121 Authorizing Agent ID Code | C | • | C | Must be the Mastercard assigned customer ID of the authorizing entity, if present. Must be the same value as in the original Authorization Request Response/0110, if present. |
| 124 Member-defined Data | C | • | C | May contain acquirer-defined data; required for Mastercard MoneySend Payment Transactions. |
| 127 Private Data | O | X | • | Private data for message initiator's use. |

Authorization Advice/0120—Issuer-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---------------------------------------|
| - Message Type Identifier (MTI) | M | M | • | Constant—0120 (Authorization Advice). |
| - Bit Map, Primary | M | M | • | |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 1 Bit Map, Secondary | C | C | • | Mandatory if DE 65–DE 128 are present in the message. |
| 2 Primary Account Number (PAN) | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 3 Processing Code | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 4 Amount, Transaction | M | M | • | Must be the same value as in the original Authorization Request/0100 message or the partial approval amount or purchase only approval amount. |
| 5 Amount, Settlement | M | M | • | Must be the same value as in the original Authorization Request/0100 message or the partial approval amount or purchase only approval amount, if present. |
| 6 Amount, Cardholder Billing | M | M | • | Must be the same value as in the original Authorization Request/0100 message or the partial approval amount or purchase only approval amount. |
| 7 Transmission Date and Time | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 9 Conversion Rate, Settlement | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 10 Conversion Rate, Cardholder Billing | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 12 Time, Local Transaction | C | C | • | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 13 Date, Local Transaction | C | C | • | Must be the same value as in the original Authorization Request/0100 message, if present. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 14 Date, Expiration | C | C | • | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 15 Date, Settlement | M | M | • | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 16 Date, Conversion | M | M | • | Must be the same value as in the original Authorization Request/0100 message. |
| 18 Merchant Type | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 20 Primary Account Number (PAN) Country Code | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 22 Point-of-Service (POS) Entry Mode | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 23 Card Sequence Number | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 26 Point-of-Service (POS) Personal ID Number (PIN) Capture Code | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 32 Acquiring Institution ID Code | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 33 Forwarding Institution ID Code | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 35 Track 2 Data | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 37 Retrieval Reference Number | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 38 Authorization ID Response | C | C | • | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 39 Response Code | M | M | • | Must be the same value as in the original Authorization Request Response/0110. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 41 Card Acceptor Terminal ID | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 42 Card Acceptor ID Code | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 43 Card Acceptor Name and Location | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 44 Additional Response Data | C | C | • | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 45 Track 1 Data | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 48 Additional Data—Private Use | M | M | • | Contains applicable subelement data. |
| 49 Currency Code, Transaction | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 50 Currency Code, Settlement | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 51 Currency Code, Cardholder Billing | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 54 Additional Amounts | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 55 Integrated Circuit Card (ICC) System-Related Data | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 60 Advice Reason Code | M | M | • | Specifies reason for this Authorization Advice/0120. 6500030 = for customer-generated transactions |
| 61 Point-of-Service (POS) Data | M | M | • | Must be the same value as in the original Authorization Request/0100. |
| 62 Intermediate Network Facility (INF) Data | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 63 Network Data | M | M | • | Must be the same value as in the original Authorization Request/0100. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|------------------------------------|------------|------------|------------|--|
| 102 Account ID-1 | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 103 Account ID-2 | C | C | • | Must be the same value as in the original Authorization Request/0100, if present. |
| 112 Additional Data (National Use) | C | C | • | Contains applicable subelement data. |
| 121 Authorizing Agent ID Code | C | C | • | Must be the issuer customer ID if the issuer authorized the request; otherwise, must be the same value as in the Authorization Advice/0120—System-generated message for Mastercard processed authorizations. |

Authorization Advice/0120—System-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | • | M | M | Constant—0120 (Authorization Advice). |
| - Bit Map, Primary | • | M | M | |
| 1 Bit Map, Secondary | • | C | C | Mandatory if DE 65–DE 128 are present in the message. |
| 2 Primary Account Number (PAN) | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 3 Processing Code | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 4 Amount, Transaction | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 5 Amount, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 6 Amount, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |
| 7 Transmission Date and Time | • | M | M | Must be the same value as in the original Authorization Request/0100. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 9 Conversion Rate, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 10 Conversion Rate, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 12 Time, Local Transaction | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 13 Date, Local Transaction | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 14 Date, Expiration | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 15 Date, Settlement | • | M | M | The Authorization Platform provides this data element. |
| 16 Date, Conversion | • | M | M | The Authorization Platform provides this data element. |
| 18 Merchant Type | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 20 Primary Account Number (PAN) Country Code | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 22 Point-of-Service (POS) Entry Mode | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 23 Card Sequence Number | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 26 Point-of-Service (POS) Personal ID Number (PIN) Capture Code | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 28 Amount, Transaction Fee | • | C | C | Must contain the same value as the original Authorization Request/0100 message, if present. |
| 32 Acquiring Institution ID Code | • | M | M | Must be the same value as in the original Authorization Request/0100. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|---|
| 33 Forwarding Institution ID Code | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 35 Track 2 Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 37 Retrieval Reference Number | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 38 Authorization ID Response | • | C | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 39 Response Code | • | M | M | Must be the same value as in the original Authorization Request Response/0110. |
| 41 Card Acceptor Terminal ID | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 42 Card Acceptor ID Code | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 43 Card Acceptor Name and Location | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 44 Additional Response Data | • | C | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 45 Track 1 Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 48 Additional Data—Private Use | • | M | M | Contains applicable subelement data. |
| 49 Currency Code, Transaction | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 50 Currency Code, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 51 Currency Code, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 54 Additional Amounts | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 55 Integrated Circuit Card (ICC) System-Related Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller, the PAR value is inserted when available. |
| 60 Advice Reason Code | • | M | M | Specifies reason for this Authorization Advice/0120. |
| 61 Point-of-Service (POS) Data | • | M | M | Must be the same value as in the original Authorization Request/0100. |
| 62 Intermediate Network Facility (INF) Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 63 Banknet Data | • | M | M | Must be the same value as in the original Authorization Request/0100. The Authorization Platform provides this data element, if required. |
| 102 Account ID-1 | • | C | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 103 Account ID-2 | • | C | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 108 MoneySend Reference Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |
| 121 Authorizing Agent ID Code | • | C | C | Must be the same value as in the original Authorization Request Response/0110, if present. |
| 124 Member-defined Data | • | C | C | Must be the same value as in the original Authorization Request/0100, if present. |

Authorization Advice Response/0130—Issuer-Generated (Responding to a System-Generated 0120 from SAF)

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0130 (Authorization Advice Response). |
| - Bit Map, Primary | M | M | • | |
| 1 Bit Map, Secondary | C | C | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 2 Primary Account Number (PAN) | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 3 Processing Code | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 4 Amount, Transaction | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 5 Amount, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 6 Amount, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 7 Transmission Date and Time | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 9 Conversion Rate, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 10 Conversion Rate, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 11 Systems Trace Audit Number (STAN) | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 15 Date, Settlement | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 16 Date, Conversion | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 20 Primary Account Number (PAN) Country Code | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 23 Card Sequence Number | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 28 Amount, Transaction Fee | CE | CE | • | Must be the same value as in the Authorization Advice/0120 message, if present. |
| 32 Acquiring Institution ID Code | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 33 Forwarding Institution ID Code | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 37 Retrieval Reference Number | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 39 Response Code | M | M | • | For more detail, refer to the data element definition for DE 39. |
| 41 Card Acceptor Terminal ID | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 44 Additional Response Data | C | C | • | May contain additional response information for certain error conditions in original Authorization Advice/0120. |
| 49 Currency Code, Transaction | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 50 Currency Code, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 51 Currency Code, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 56 Payment Account Data | C | X | C | When Mastercard is the BIN Controller, issuers are not required to send PAR. Mastercard will insert the PAR in the message before sending to the acquirer, when available. When Mastercard is not the BIN Controller, the issuer may provide the PAR in the response message when available. Mastercard will pass this value to the acquirer. |
| 62 Intermediate Network Facility (INF) Data | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 63 Network Data | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |

Authorization Advice Response/0130—Issuer-Generated (Responding to an Acquirer-Generated 0120 Response or an Authorization Advice Request 0120)

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | • | M | Constant—0130 (Authorization Advice Response). |
| - Bit Map, Primary | M | • | M | |
| 1 Bit Map, Secondary | C | • | C | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 2 Primary Account Number (PAN) | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 3 Processing Code | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 4 Amount, Transaction | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 5 Amount, Settlement | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 6 Amount, Cardholder Billing | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 7 Transmission Date and Time | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 9 Conversion Rate, Settlement | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 10 Conversion Rate, Cardholder Billing | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 11 Systems Trace Audit Number (STAN) | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 15 Date, Settlement | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 16 Date, Conversion | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 20 Primary Account Number (PAN) Country Code | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 23 Card Sequence Number | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 28 Amount, Transaction Fee | CE | CE | • | Must be the same value as in the Authorization Advice/0120 message, if present. |
| 32 Acquiring Institution ID Code | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 33 Forwarding Institution ID Code | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 37 Retrieval Reference Number | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 39 Response Code | ME | • | ME | Response Code for the Authorization Advice Response/0130. For values, refer to DE 39 Response Code. |
| 41 Card Acceptor Terminal ID | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 44 Additional Response Data | CE | • | CE | May contain additional response information for certain error conditions in original Authorization Advice/0120—Acquirer-generated, if present. |
| 48 Additional Data—Private Use | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 49 Currency Code, Transaction | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 50 Currency Code, Settlement | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 51 Currency Code, Cardholder Billing | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 56 Payment Account Data | C | X | C | When Mastercard is the BIN Controller, issuers are not required to send PAR. Mastercard will insert the PAR in the message before sending to the acquirer, when available. |
| | | | | When Mastercard is not the BIN Controller, the issuer may provide the PAR in the response message when available. Mastercard will pass this value to the acquirer. |
| 62 Intermediate Network Facility (INF) Data | CE | • | CE | Must be the same value as in the Authorization Advice/0120—Acquirer-generated, if present. |
| 63 Network Data | ME | • | ME | Must be the same value as in the Authorization Advice/0120—Acquirer-generated. |
| 127 Private Data | CE | X | CE | Private data for message originator's use. The Authorization Platform will echo in DE 127 from the original Authorization Advice/0120—Acquirer-generated, if present. |

Authorization Advice Response/0130—System-Generated (Responding to an Acquirer-Generated 0120)

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0130 (Authorization Advice Response). |
| - Bit Map, Primary | M | M | • | |
| 1 Bit Map, Secondary | C | C | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 2 Primary Account Number (PAN) | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 3 Processing Code | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 4 Amount, Transaction | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 5 Amount, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 6 Amount, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 7 Transmission Date and Time | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 9 Conversion Rate, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 10 Conversion Rate, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 11 Systems Trace Audit Number (STAN) | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 15 Date, Settlement | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 16 Date, Conversion | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 20 Primary Account Number (PAN) Country Code | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 23 Card Sequence Number | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 28 Amount, Transaction Fee | CE | CE | • | Must be the same value as in the Authorization Advice/0120 message, if present. |
| 32 Acquiring Institution ID Code | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 33 Forwarding Institution ID Code | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 37 Retrieval Reference Number | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 39 Response Code | M | M | • | For more detail, refer to the data element definition for DE 39. |
| 41 Card Acceptor Terminal ID | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 44 Additional Response Data | C | C | • | May contain additional response information for certain error conditions in original Authorization Advice/0120. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 48 Additional Data—Private Use | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 49 Currency Code, Transaction | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 50 Currency Code, Settlement | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 51 Currency Code, Cardholder Billing | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |
| 56 Payment Account Data | C | C | • | When Mastercard is the BIN Controller, the PAR value is inserted when available. |
| 62 Intermediate Network Facility (INF) Data | CE | CE | • | Must be the same value as in the Authorization Advice/0120, if present. |
| 63 Network Data | ME | ME | • | Must be the same value as in the Authorization Advice/0120. |

Authorization Advice Response/0130—System-Generated (Responding to an Issuer-Generated 0120)

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0130 (Authorization Advice Response). |
| - Bit Map, Primary | • | M | M | |
| 1 Bit Map, Secondary | • | C | C | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 2 Primary Account Number (PAN) | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 3 Processing Code | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 4 Amount, Transaction | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 5 Amount, Settlement | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 6 Amount, Cardholder Billing | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 9 Conversion Rate, Settlement | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 10 Conversion Rate, Cardholder Billing | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 15 Date, Settlement | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 16 Date, Conversion | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 20 Primary Account Number (PAN) Country Code | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 23 Card Sequence Number | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 32 Acquiring Institution ID Code | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 33 Forwarding Institution ID Code | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 37 Retrieval Reference Number | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 39 Response Code | • | M | M | Response Code for this Authorization Advice Response/0130. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 41 Card Acceptor Terminal ID | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 44 Additional Response Data | • | X | C | May contain additional response information for certain error conditions in original Authorization Advice/0120—Issuer-generated. |
| 49 Currency Code, Transaction | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 50 Currency Code, Settlement | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 51 Currency Code, Cardholder Billing | • | ME | ME | Must be the same value as in the Authorization Advice/0120—Issuer-generated. |
| 62 Intermediate Network Facility (INF) Data | • | CE | CE | Must be the same value as in the Authorization Advice/0120—Issuer-generated, if present. |
| 63 Network Data | • | X | M | The Authorization Platform provides this data element, if required. |

Authorization Response Acknowledgement/0180

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | M | • | Constant—0180 (Authorization Response Acknowledgement). |
| - Bit Map, Primary | M | M | • | |
| 1 Bit Map, Secondary | C | C | • | Mandatory if DE 65–DE 128 are present in the message. |
| 7 Transmission Date and Time | ME | ME | • | Must be the same value as in the original Authorization Request Response/0110. |
| 11 Systems Trace Audit Number (STAN) | ME | ME | • | Must be the same value as in the original Authorization Request Response/0110. |
| 39 Response Code | M | M | • | Must be 00 to indicate positive “Response Acknowledgement.” |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| 63 Network Data | ME | ME | • | Must be the same value as in the original Authorization Request Response/0110. |
| 127 Private Data | CE | CE | • | Private data for message initiator's use. |

Authorization Response Negative Acknowledgement/0190

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0190 (Authorization Response Negative Acknowledgement). |
| - Bit Map, Primary | • | M | M | |
| 1 Bit Map, Secondary | • | C | C | Required data element if DE 65–DE 128 are present in the message. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410. |
| 39 Response Code | • | M | M | Indicates specific reason for this Negative Response Acknowledgement. |
| 44 Additional Response Data | • | C | C | For a listing of values, refer to this data element definition in the Data Element Definitions chapter of this manual. |
| 63 Network Data | • | ME | ME | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410. |
| 127 Private Data | • | X | CE | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410. |

Issuer File Update Request/0302

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | M | • | Constant—0302 (Issuer File Update Request). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | C | C | • | May contain PAN information if required for this Issuer File Update Request/0302. |
| 7 Transmission Date and Time | M | M | • | Transaction time stamp; UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Transaction trace number; must be unique value for transaction initiator within each UTC day. |
| 33 Forwarding Institution ID Code | M | M | • | Mastercard-assigned customer ID code. Identifies the institution submitting this file maintenance request. |
| 56 Payment Account Data | O | • | C | DE 56 is optional when DE 101 (File Name) is MCC111 (PAN-PAR Mapping File). |
| 63 Network Data | • | M | • | Authorization Platform transaction ID code; Mastercard provides this data as a unique identifier for this Issuer File Update Request/0302. |
| 91 Issuer File Update Code | M | M | • | Issuer File Update function code. |
| 96 Message Security Code | M | M | • | Issuer File Update password or security code used to authenticate Issuer File Update permissions. Data must be provided in EBCDIC hexadecimal format. |
| 101 File Name | M | M | • | Name of file the issuer is maintaining or accessing. |
| 120 Record Data | C | C | • | Contains the specific Issuer File Update detail record data. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| 127 Private Data | O | O | • | Private use data element, available for message initiator's optional use. |

Issuer File Update Request Response/0312

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0312 (Issuer File Update Request Response). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | CE | CE | Must be the same value as in the original Issuer File Update Request/0302, if present. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| 33 Forwarding Institution ID Code | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302, if present. |
| 39 Response Code | • | M | M | Indicates disposition of Issuer File Update Request/0302. |
| 44 Additional Response Data | • | C | C | May contain additional response information, based on DE 39. |
| 63 Network Data | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| 91 Issuer File Update Code | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| 96 Message Security Code | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| 101 File Name | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| 120 Record Data | • | C | C | This data element is used to return file inquiry and rejects records associated with reject responses. Refer to the data element definition for DE 120. |
| 122 Additional Record Data | • | C | C | This data element is used to return additional data resulting from a file inquiry. |
| 127 Private Data | • | CE | CE | Must be the same value as in the original Issuer File Update Request/0302, if present. |

Reversal Request/0400

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | • | M | Constant—0400 (Reversal Request). |
| - Bit Map, Primary | M | • | M | Mandatory. |
| 1 Bit Map, Secondary | M | • | M | Mandatory. |
| 2 Primary Account Number (PAN) | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 3 Processing Code | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 4 Amount, Transaction | M | • | M | Must be the same value as in the original Authorization Request/0100 message. On a partial approval or purchase only approval, must be the same as the Authorization Request Response/0110 message. Must be a value other than all zeros. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| 5 Amount, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. This value may be different from the Authorization Request/0100 message if the currency conversion rate used by the Authorization Platform has changed between the time the original Authorization Request/0100 message was processed and the time the Reversal Request/0400 message is processed by the Authorization Platform. |
| 6 Amount, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. This value may be different from the Authorization Request/0100 message if the currency conversion rate used by the Authorization Platform has changed between the time the original Authorization Request/0100 message was processed and the time the Reversal Request/0400 message is processed by the Authorization Platform. |
| 7 Transmission Date and Time | M | • | M | Transaction time stamp; UTC date and time that this transaction was entered into interchange. |
| 9 Conversion Rate, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. This value may be different from the Authorization Request/0100 message if the currency conversion rate used by the Authorization Platform has changed between the time the original Authorization Request/0100 message was processed and the time the Reversal Request/0400 message is processed by the Authorization Platform. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 10 Conversion Rate, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. This value may be different from the Authorization Request/0100 message if the currency conversion rate used by the Authorization Platform has changed between the time the original Authorization Request/0100 message was processed and the time the Reversal Request/0400 message is processed by the Authorization Platform. |
| 11 Systems Trace Audit Number (STAN) | M | • | M | Transaction trace number; must be unique value for transaction initiator within each UTC day. |
| 12 Time, Local Transaction | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 13 Date, Local Transaction | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 14 Date, Expiration | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 15 Date, Settlement | • | X | M | The Authorization Platform provides this data element. |
| 16 Date, Conversion | • | X | M | The Authorization Platform provides this data element. |
| 18 Merchant Type | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 20 Primary Account Number (PAN) Country Code | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 22 Point-of-Service (POS) Entry Mode | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 23 Card Sequence Number | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|-----------------------------------|------------|------------|------------|---|
| 28 Amount, Transaction Fee | C | X | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 32 Acquiring Institution ID Code | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 33 Forwarding Institution ID Code | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 37 Retrieval Reference Number | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 38 Authorization ID Response | C | • | C | Must be the same value as in the original Authorization Request Response/0110 message if present. |
| 39 Response Code | M | • | M | Must be the same value as in the original Authorization Request Response/0110 message or it may contain value 06, 17, 32, 34, or 68. |
| 41 Card Acceptor Terminal ID | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 42 Card Acceptor ID Code | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 43 Card Acceptor Name/Location | C | • | C | Must be the same value as in the original Authorization Request/0100 message, if present. |
| 48 Additional Data—Private Use | M | X | M | Must contain the transaction category code (TCC) from the original Authorization Request/0100. Subelement 63 (Trace ID) must be present. Subelement 58 (ATM Additional Data) and subelement 77 (Funding/Payment Transaction Type Indicator) may be present based on the usage condition defined for each of these subelements in the Data Element Definitions. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|-----|-----|-----|---|
| | | | | <p>May also contain the following DE 48 subelements for Visa issuers:</p> <ul style="list-style-type: none"> • 36 (Visa Defined Data [Visa Only]) • 42 (Electronic Commerce Indicators) • 43 (Universal Cardholder Authentication Field [UCAF]) • 44 (Visa 3-D Secure Electronic Commerce Transaction Identifier [XID]—Visa Only) • 90 (Custom Payment Service Request—Visa Only) • 91 (Custom Payment Service Request Transaction ID—Visa Only) • 94 (Commercial Card Inquiry Request—Visa Only) • 96 (Visa Market-Specific Data Identifier—Visa Only) |
| | | | | <p>NOTE: DE 48 subelements not specifically referenced in the Reversal Request/0400 message layout but submitted by an acquirer in the Reversal Request/0400 message will not be forwarded by the Authorization Platform to the issuer or returned to the acquirer.</p> |
| 49 Currency Code, Transaction | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 50 Currency Code, Settlement | • | X | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 51 Currency Code, Cardholder Billing | • | X | M | The Authorization Platform provides this data element. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 54 Additional Amounts | C | X | C | Must be the same value as in the original Authorization Request/0100 message. This data element will only be passed to the issuer when DE 54, subfield 2 contains the value 40. The Authorization Platform will forward occurrences of this amount type in both the acquirer's currency and the issuer's currency. If the original authorization was a Purchase with Cash Back request (subfield 2 value 40) and the cash back portion of the request was not approved by the issuer (Response Code 87 (Purchase Only Approval)), DE 54 should not be included in the reversal request. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller, the PAR value is inserted when available. |
| 61 Point-of-Service (POS) Data | M | • | M | Must be the same value as in the original Authorization Request/0100 message. |
| 62 Intermediate Network Facility (INF) Data | O | • | O | If present in an original Authorization Request/0100 message, may be present in subsequent Reversal Request/0400. |
| 63 Network Data | • | X | M | The Authorization Platform provides this data element. |
| 90 Original Data Elements | M | • | M | Contains certain data elements from the original Authorization Request/0100 message. |
| 95 Replacement Amounts | C | X | C | If this data element is provided by an acquirer in a full reversal message, it must contain all zeros to indicate a full reversal. If this data element is provided by an acquirer in a partial reversal message, it must contain a value other than all zeros to indicate a partial reversal. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|------------------------------------|------------|------------|------------|--|
| 108 MoneySend Reference Data | C | • | C | Mandatory for originating institution to submit DE 108 on all MoneySend Payment Transactions. Optional for originating institution to submit DE 108 on all MoneySend Funding Transactions. |
| 112 Additional Data (National Use) | C | • | C | Contains applicable subelement data. |
| 124 Member-defined Data | C | • | C | Member-defined data element, available for message initiator and recipient optional use; required for Mastercard MoneySend Payment Transactions. |
| 127 Private Data | O | X | • | Private use data element, available for message initiator's optional use. |

Reversal Request Response/0410

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | • | M | Constant—0410 (Reversal Request Response) |
| - Bit Map, Primary | M | • | M | Mandatory |
| 1 Bit Map, Secondary | M | • | M | Mandatory |
| 2 Primary Account Number (PAN) | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 3 Processing Code | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 4 Amount, Transaction | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 5 Amount, Settlement | CE | X | C | Must be the same value as in the original Reversal Request/0400 message, if present. The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁶ |

⁶ This data will be present, as defined, except when the Authorization Platform has declined a Reversal Request/0400 message and was unable to complete currency conversion processing.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 6 Amount, Cardholder Billing | CE | X | C | Must be the same value as in the original Reversal Request/0400 message. ⁶ |
| 7 Transmission Date and Time | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 9 Conversion Rate, Settlement | CE | X | C | Must be the same value as in the original Reversal Request/0400 message, if present. The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁶ |
| 10 Conversion Rate, Cardholder Billing | CE | X | C | Must be the same value as in the original Reversal Request/0400 message. ⁶ |
| 11 Systems Trace Audit Number | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 15 Date, Settlement | ME | • | M | Must be the same value as in the original Reversal Request/0400 message. |
| 16 Date, Conversion | CE | X | C | Must be the same value as in the original Reversal Request/0400 message. ⁶ |
| 20 Primary Account Number (PAN) Country Code | CE | • | CE | Must be the same value as in the original Reversal Request/0400 message, if present. |
| 28 Amount, Transaction Fee | CE | X | CE | Must contain the same value as in the original Reversal Request/0400 message, if present. |
| 32 Acquiring Institution ID Code | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 33 Forwarding Institution ID Code | CE | • | CE | Must be the same value as in the original Reversal Request/0400 message, if present. |
| 37 Retrieval Reference Number | CE | • | CE | Must be the same value as in the original Reversal Request/0400 message, if present. |
| 39 Response Code | M | • | M | Must be present in the Reversal Request Response/0410 message. Defines the disposition of a previous message or an action taken as a result of receipt of a previous message. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 41 Card Acceptor Terminal ID | CE | • | CE | Must be the same value as in the original Reversal Request/0400 message, if present. |
| 44 Additional Response Data | C | • | C | Contains additional response data. |
| 48 Additional Data—Private Use | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 49 Currency Code, Transaction | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 50 Currency Code, Settlement | CE | X | C | Must be the same value as in the original Reversal Request/0400 message, if present. The Authorization Platform provides this data element if the acquirer chooses to receive settlement amount-related data elements. ⁶ |
| 51 Currency Code, Cardholder Billing | CE | X | C | Must be the same value as in the original Reversal Request/0400 message. ⁶ |
| 56 Payment Account Data | C | X | C | When Mastercard is the BIN Controller, issuers are not required to send PAR. Mastercard will insert the PAR in the message before sending to the acquirer, when available. When Mastercard is not the BIN Controller, the issuer may provide the PAR in the response message when available. Mastercard will pass this value to the acquirer. |
| 62 Intermediate Network Facility (INF) Data | CE | • | CE | Must be the same value as in the original Reversal Request/0400 message, if present. |
| 63 Network Data | ME | X | M | Must be the same value as in the original Reversal Request/0400 message. |
| 90 Original Data Elements | ME | • | ME | Must be the same value as in the original Reversal Request/0400 message. |
| 95 Replacement Amounts | CE | X | C | Must be the same value as in the original Reversal Request/0400 message, if present. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|------------------------------------|------------|------------|------------|---|
| 108 MoneySend Reference Data | C | • | C | Mandatory for originating institution to submit DE 108 on all MoneySend Payment Transactions, optional for originating institution to submit DE 108 on all MoneySend Funding Transactions. If DE 108 is submitted but the acquirer is not ready to receive, the transaction may fail on the acquirer side. |
| 112 Additional Data (National Use) | C | • | C | Contains applicable subelement data. |
| 121 Authorizing Agent ID Code | C | • | C | Contains the Mastercard member ID of an alternate authorizer (Stand-In), that performed Dual Message System processing on-behalf of an issuer or issuer's primary authorizer. |
| 124 Member-defined Data | O | • | C | May contain customer-defined data; required for MoneySend Payment Transactions. |
| 127 Private Data | O | X | CE | Private data for message initiator's use. |

Reversal Advice/0420

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0420 (Reversal Advice). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |
| 3 Processing Code | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 4 Amount, Transaction | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 (except for a partial approval or purchase only approval). For a partial approval or purchase only approval, must be the same value as the Authorization Request Response/0110. |
| 5 Amount, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 6 Amount, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |
| 7 Transmission Date and Time | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |
| 9 Conversion Rate, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 10 Conversion Rate, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |
| 13 Date, Local Transaction | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 15 Date, Settlement | • | M | M | The Authorization Platform provides this data element. |
| 16 Date, Conversion | • | M | M | The Authorization Platform provides this data element. |
| 20 Primary Account Number (PAN) Country Code | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 22 Point-of-Service (POS) Entry Mode | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|-----------------------------------|------------|------------|------------|---|
| 28 Amount, Transaction Fee | • | C | C | Must contain the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 32 Acquiring Institution ID Code | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |
| 33 Forwarding Institution ID Code | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 37 Retrieval Reference Number | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 38 Authorization ID Response | • | C | C | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410 message, if present. |
| 39 Response Code | • | C | C | Must be the same value as in the original Authorization Request Response/0110. Otherwise, value 82, if no Authorization Request Response/0110 or Reversal Request Response/0410 is received. When provided in response to Reversal Request/0400 messages processed by the Authorization Platform on behalf of the issuer, will contain the value from the original Reversal Request/0400 message. |
| 43 Card Acceptor Name/Location | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| 48 Additional Data—Private Use | • | M | M | <p>Must contain the transaction category code (TCC) from the original Authorization Request/0100 or Reversal Request/0400 message. The following subelements may be present in the Reversal Advice if they were present in the original Authorization Request/0100:</p> <ul style="list-style-type: none"> • 20 (Cardholder Verification Method) • 33 (PAN Mapping File Information) • 38 (Account Category) • 58 (ATM Additional Data) • 63 (Trace ID) • 71 (On-behalf Services) • 77 (Funding/Payment Transaction Type Indicator) • 90 (Custom Payment Service Request [Visa Only]) • 91 (Custom Payment Service Request/Transaction ID [Visa Only]) • 94 (Commercial Card Inquiry Request [Visa Only]) • 95 (Mastercard Promotion Code) • 96 (Visa Market-Specific Data Identifier [Visa Only]) |
| 49 Currency Code, Transaction | • | M | M | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message. |
| 50 Currency Code, Settlement | • | C | C | The Authorization Platform provides this data element if the issuer chooses to receive settlement amount-related data elements. |
| 51 Currency Code, Cardholder Billing | • | M | M | The Authorization Platform provides this data element. |
| 54 Additional Amounts | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message or the original Authorization Request Response/0110 or Reversal Request Response/0410 message. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller, the PAR value is inserted when available. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 60 Advice Reason Code | • | M | M | Indicates exact purpose of the Reversal Advice/0420. |
| 62 Intermediate Network Facility (INF) Data | • | C | C | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |
| 63 Network Data | • | M | M | The Authorization Platform provides this data element. |
| 90 Original Data Elements | • | M | M | Must be present when the Authorization Platform reverses a Reversal Request/0400 message. |
| 95 Replacement Amounts | • | C | C | If this data element is provided by the acquirer in a partial reversal message, it must be included in the subsequent Reversal Advice/0420 message. |
| 121 Authorizing Agent ID Code | • | C | C | Must be the same value as in the original Authorization Request Response/0110 or Reversal Request Response/0410 message, if present. |
| 127 Private Data | • | X | CE | Must be the same value as in the original Authorization Request/0100 or Reversal Request/0400 message, if present. |

Reversal Advice Response/0430

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0430 (Reversal Advice Response) |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 3 Processing Code | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 4 Amount, Transaction | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 5 Amount, Settlement | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 6 Amount, Cardholder Billing | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 7 Transmission Date and Time | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 9 Conversion Rate, Settlement | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 10 Conversion Rate, Cardholder Billing | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 11 Systems Trace Audit Number | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 15 Date, Settlement | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 16 Date, Conversion | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 20 Primary Account Number (PAN) Country Code | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 28 Amount, Transaction Fee | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 32 Acquiring Institution ID Code | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 33 Forwarding Institution ID Code | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 37 Retrieval Reference Number | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 39 Response Code | M | M | • | Must be present in the Reversal Advice Response/0430 message. |
| 44 Additional Response Data | C | C | • | Contains additional response data. |
| 49 Currency Code, Transaction | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |

| Data Element ID and Name | | Org | Sys | Dst | Comments |
|---------------------------------|--|------------|------------|------------|---|
| 50 | Currency Code, Settlement | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 51 | Currency Code, Cardholder Billing | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 56 | Payment Account Data | O | • | • | Issuers may optionally provide DE 56. |
| 62 | Intermediate Network Facility (INF) Data | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 63 | Network Data | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 90 | Original Data Elements | ME | ME | • | Must be the same value as in the original Reversal Advice/0420 message. |
| 95 | Replacement Amounts | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |
| 127 | Private Data | CE | CE | • | Must be the same value as in the original Reversal Advice/0420 message, if present. |

Administrative Request/0600

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | | Org | Sys | Dst | Comments |
|---------------------------------|-----------------------------------|------------|------------|------------|---|
| - | Message Type Identifier (MTI) | M | • | M | Constant—0600 (Administrative Request). |
| - | Bit Map, Primary | M | • | M | Mandatory. |
| 1 | Bit Map, Secondary | M | • | M | Mandatory. |
| 2 | Primary Account Number (PAN) | M | • | M | Identifies the receiver of the Administrative Request/0600. |
| 7 | Transmission Date and Time | M | • | M | Transaction time stamp; UTC date and time that this transaction was entered into the interchange. |
| 11 | Systems Trace Audit Number (STAN) | M | • | M | Transaction trace number; must be a unique value for the message initiator within each UTC day |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 32 Acquiring Institution ID Code | M | • | M | Identifies the acquirer of the Administrative Request/0600. |
| 33 Forwarding Institution ID Code | C | • | C | Identifies the acquirer processor of the Administrative Request/0600 message, if present. |
| 41 Card Acceptor Terminal ID | O | • | O | Identifies the merchant terminal ID, if present. |
| 42 Card Acceptor ID Code | O | • | O | Identifies the merchant ID, if present. |
| 43 Card Acceptor Name and Location | O | • | O | Contains the merchant name and address, if present. |
| 60 Advice Reason Code | M | • | M | Indicates specific type of message. |
| 62 Intermediate Network Facility (INF) Data | O | • | O | May contain message initiator network trace information. |
| 63 Network Data | • | X | M | Contains the Banknet Reference Number that the Authorization Platform provides as a unique transaction ID. |
| 113 Reserved for National Use | C | • | C | Contains customer information. |
| 114 Reserved for National Use | C | • | C | Contains customer information. |
| 115 Reserved for National Use | C | • | C | Contains customer information. |
| 116 Reserved for National Use | C | • | C | Contains customer information. |
| 117 Reserved for National Use | C | • | C | Contains customer information. |
| 118 Reserved for National Use | C | • | C | Contains customer information. |
| 119 Reserved for National Use | C | • | C | Contains customer information. |
| 127 Private Data | O | X | • | May contain message initiator information. |

Administrative Request Response/0610

Following is the list of the data elements applicable to this message.

| Date Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | • | M | Constant—0610 (Administrative Request Response). |

| Date Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| - Bit Map, Primary | M | • | M | Mandatory. |
| 1 Bit Map, Secondary | M | • | M | Mandatory. |
| 2 Primary Account Number (PAN) | ME | • | ME | Must be the same value as in the original Administrative Request/0600. |
| 7 Transmission Date and Time | ME | • | ME | Must be the same value as in the original Administrative Request/0600. |
| 11 Systems Trace Audit Number (STAN) | ME | • | ME | Must be the same value as in the original Administrative Request/0600. |
| 32 Acquiring Institution ID Code | ME | • | ME | Must be the same value as in the original Administrative Request/0600. |
| 33 Forwarding Institution ID Code | CE | • | CE | Must be the same value as in the original Administrative Request/0600, if present. |
| 39 Response Code | M | • | M | Indicates the disposition of the original Administrative Request/0600. |
| 41 Card Acceptor Terminal ID | CE | • | CE | Must be the same value as in the original Administrative Request/0600, if present. |
| 42 Card Acceptor ID Code | CE | • | CE | Must be the same value from the original Administrative Request/0600, if present. |
| 43 Card Acceptor Name/Location | CE | • | CE | Must be the same value from the original Administrative Request/0600, if present. |
| 44 Additional Response Data | C | • | C | May contain additional error code information. |
| 60 Advice Reason Code | ME | • | ME | Must be the same value from the original Administrative Request/0600. |
| 62 Intermediate Network Facility (INF) Data | CE | • | CE | Must be the same value as in the original Administrative Request/0600, if present. |
| 63 Network Data | ME | • | ME | Must be the same value as in the original Administrative Request/0600. |
| 113 Reserved for National Use | C | • | C | Contains customer information. |
| 114 Reserved for National Use | C | • | C | Contains customer information. |
| 115 Reserved for National Use | C | • | C | Contains customer information. |
| 116 Reserved for National Use | C | • | C | Contains customer information. |
| 117 Reserved for National Use | C | • | C | Contains customer information. |
| 118 Reserved for National Use | C | • | C | Contains customer information. |
| 119 Reserved for National Use | C | • | C | Contains customer information. |

| Date Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| 127 Private Data | • | X | CE | May contain message initiator information. |

Administrative Advice/0620—System-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | • | M | M | Constant—0620 (Administrative Advice). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 7 Transmission Date and Time | • | M | M | Transaction time stamp; UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Transaction trace number; must be unique value for transaction initiator within each UTC day. |
| 33 Forwarding Institution ID Code | • | M | M | Identifies the customer, institution, or Authorization Platform facility originating this Administrative Advice/0620. |
| 42 Card Acceptor ID Code | • | M | M | Identifies the card acceptor that defines the point of the transaction in both local and interchange environments. DE 42 is used as a merchant ID to uniquely identify the merchant in a POS transaction. |
| 48 Additional Data—Private Use | • | C | C | If DE 60 = 600, DE 48 will not be present in the message. |
| 56 Payment Account Data | • | X | C | When Mastercard is the BIN Controller (as defined by EMVCo) DE 56 will be present and contain the PAR value when one is associated with the PAN. DE 56 is only present when DE 60 = 0251. |
| 60 Advice Reason Code | • | M | M | Indicates specific type of message. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 62 Intermediate Network Facility (INF) Data | • | C | C | If DE 60 = 600, INF data in the Administrative Advice/0620 contains MCBN620060000xxx, where xxx is the MIP ID. This data must be returned in an Administrative Advice Response/0630. If DE 60 = 650. INF data in the Administrative Advice/0620 contains the value RISK, and it must be returned in an Administrative Advice Response/0630. |
| 63 Network Data | • | M | M | Contains the Banknet Reference Number that the Authorization Platform provides as a unique transaction ID. |
| 100 Receiving Institution ID Code | • | M | M | Identifies the customer, institution, or Authorization Platform facility that will receive this Administrative Advice/0620. |
| 120 Record Data | • | C | C | If DE 60 = 600, contains rejected message. DE 120 will also be present if DE 60 = 0250, 0251, or 0252. |
| 127 Private Data | • | O | O | Private use data element, available for optional use by message initiator. |

Administrative Advice/0620—Member-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | • | M | Constant—0620 (Administrative Advice). |
| - Bit Map, Primary | M | • | M | Mandatory. |
| 1 Bit Map, Secondary | M | • | M | Mandatory. |
| 7 Transmission Date and Time | M | • | M | Transaction time stamp; UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | M | • | M | Transaction trace number; must be unique value for transaction initiator within each UTC day. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| 33 Forwarding Institution ID Code | M | • | M | Identifies the customer, institution, or Authorization Platform facility originating this Administrative Advice/0620. |
| 48 Additional Data—Private Use | C | • | C | This data element is not applicable to this message when used for Administrative textual message transmittal. |
| 60 Advice Reason Code | M | • | M | Must contain value 650 to indicate Administrative textual message transmittal. |
| 62 Intermediate Network Facility (INF) Data | C | • | C | Contains “acquiring network trace information” that intermediate network facilities (INFs) may require to quickly and accurately route Administrative Advice/0620 messages back to the originating institution. |
| 63 Network Data | • | X | M | Contains the Banknet Reference Number that the Authorization Platform provides as a unique transaction ID. |
| 100 Receiving Institution ID Code | M | • | M | Identifies the customer, institution, or Authorization Platform facility that will receive this Administrative Advice/0620. |
| 120 Record Data | C | • | C | Contains textual message. May contain name, address, or interoffice routing information; free text format; used as an aid to insure that administration message is forwarded to a specific individual. |
| 127 Private Data | O | X | • | Private use data element, available for optional use by message initiator. |

Administrative Advice Response/0630

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0630 (Administrative Advice Response). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|--|
| 7 Transmission Date and Time | ME | ME | • | Must be the same value from the original Administrative Advice/0620. |
| 11 Systems Trace Audit Number (STAN) | ME | ME | • | Must be the same value from the original Administrative Advice/0620. |
| 33 Forwarding Institution ID | ME | ME | • | Must be the same value from the original Administrative Advice/0620. |
| 39 Response Code | M | M | • | Indicates the disposition of the original Administrative Advice/0620. |
| 44 Additional Response Data | C | C | • | May contain the additional error code information depending on the value in DE 39. |
| 62 Intermediate Network Facility (INF) Data | CE | CE | • | Must be the same value as in the original Administrative Advice/0620 if present. |
| 63 Network Data | ME | ME | • | Must be the same value as in the original Administrative Advice/0620. |
| 100 Receiving Institution ID Code | ME | ME | • | Must be the same value as in the original Administrative Advice/0620. |
| 127 Private Data | O | X | • | Private use data element, available for optional use by message initiator. |

Network Management Request/0800—Sign-On/Sign-Off

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | M | • | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | M | M | • | Must contain PAN prefix for sign-on/off by prefix functions; must contain Mastercard Group Sign-on for group sign-on/off functions or both the Mastercard Group Sign-on followed by the card prefix for a prefix sign-on/sign-off within a particular group. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 7 Transmission Date and Time | M | M | • | Transaction time stamp; contains UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Transaction trace number; must be unique value for transaction indicator within each UTC day. |
| 20 Primary Account Number (PAN) Country Code | C | C | • | Country Code is required if DE 2 contains a BIN beginning with 59. |
| 33 Forwarding Institution ID Code | M | M | • | Identifies the customer, institution, or Authorization Platform facility originating this Network Management Request/0800. |
| 53 Security-Related Control Information | C | C | • | Issuers performing their own PIN validation and issuers participating in the PIN validation in Stand-In service must provide the PIN Key Index Number to be used for PIN translation. |
| 63 Network Data | • | X | • | Authorization Platform transaction ID code that the Authorization Platform provides as a unique identifier for this transaction. |
| 70 Network Management Information Code | M | M | • | Indicates the specific purpose of this message. Refer to the DE 70 data element definition for a list of applicable values by message type. |
| 94 Service Indicator | M | M | • | For values applicable to the Network Management/0800 message, refer to the details for this data element in the Data Element Definitions chapter of this manual. |
| 96 Message Security Code | M | M | • | Contains the Mastercard customer password security code, allowing access to the Authorization Platform network by a CPS or INF processor. Data must be provided in EBCDIC hexadecimal format. |
| 127 Private Data | O | X | • | Private use data element, available for optional use by message initiator. |

Network Management Request/0800—Network Connection Status, Member-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | M | M | • | Group Sign-on ID for which the network connection status is being requested. |
| 7 Transmission Date and Time | M | M | • | Transaction time stamp; contains UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Transaction trace number; must be unique value for transaction indicator within each UTC day. |
| 33 Forwarding Institution ID Code | M | M | • | Identifies the customer, institution, or Authorization Platform facility originating this Network Management Request/0800. |
| 63 Network Data | • | X | • | Authorization Platform transaction ID code that the Authorization Platform provides as a unique identifier for this transaction. |
| 70 Network Management Information Code | M | M | • | Indicates the specific purpose of this message. Refer to the DE 70 data element definition for a list of applicable values by message type. |

Network Management Request/0800—Network Connection Status, System-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| - Message Type Identifier (MTI) | • | M | M | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | M | M | Group Sign-on ID for which the Authorization Platform is requesting the network connection status. |
| 7 Transmission Date and Time | • | M | M | Transaction time stamp; contains UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Transaction trace number; must be unique value for transaction indicator within each UTC day. |
| 33 Forwarding Institution ID Code | • | M | M | Identifies the Authorization Platform facility originating this Network Management Request/0800. |
| 63 Network Data | • | X | M | Authorization Platform transaction ID code that the Authorization Platform provides as a unique identifier for this transaction. |
| 70 Network Management Information Code | • | M | M | Indicates the specific purpose of this message. Refer to the DE 70 data element definition for a list of applicable values by message type. |

Network Management Request/0800—Host Session Activation/Deactivation

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 2 Primary Account Number (PAN) | M | M | • | Group Sign-on ID for which the network connection status is being requested. |
| 7 Transmission Date and Time | M | M | • | Transaction time stamp; contains UTC date and time that this transaction was entered into interchange. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Transaction trace number; must be unique value for transaction indicator within each UTC day. |
| 33 Forwarding Institution ID Code | M | M | • | Identifies the customer, institution, or Authorization Platform facility originating this Network Management Request/0800. |
| 70 Network Management Information Code | M | M | • | Indicates the specific purpose of this message. Refer to the DE 70 data element definition for a list of applicable values by message type. |

Network Management Request/0800—PEK Exchange

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | M | M | Member Group ID of the member receiving the working key exchange; the Authorization Platform uses this to route the message to the appropriate issuer or acquirer. |
| 7 Transmission Date and Time | • | M | M | Date and time that this message is transmitted; specified in UTC date and time format. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Transaction trace number; must be unique value for all messages associated with a given transaction within each UTC day. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| 33 Forwarding Institution ID Code | • | M | M | Constant—002202; identifies the Authorization Platform. |
| 48 Additional Data—Private Use | • | M | M | Key Exchange Data Block for key change function; the KEK is used to encrypt the PEK. |
| 63 Network Data | • | M | M | Authorization Platform provides this data element; which includes a Banknet Reference Number for this transaction. |
| 70 Network Management Information Code | • | M | M | Indicates the specific purpose of this Network Management Request/0800 as follows: 161 = Encryption key exchange request |

Network Management Request/0800—PEK Exchange On Demand

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | M | M | • | Constant—0800 (Network Management Request). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | M | M | • | Member Group ID of the member requesting the working key exchange. |
| 7 Transmission Date and Time | M | M | • | Date and time that this message is transmitted; specified in UTC date and time format. |
| 11 Systems Trace Audit Number (STAN) | M | M | • | Transaction trace number; must be unique value for all messages associated with a given transaction within each UTC day. |
| 33 Forwarding Institution ID Code | M | M | • | ID of the member originating this message; must be the same value as DE 2. |
| 63 Network Data | • | X | • | Authorization Platform provides this data element; which includes a Banknet Reference Number for this transaction. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 70 Network Management Information Code | M | M | • | Indicates the specific purpose of this Network Management Request/0800 as follows: 162 = Solicitation for key exchange request |
| 127 Private Data | O | X | • | Private use data element, available for optional use by message initiator; this data is not passed to the Authorization Platform. |

Network Management Request Response/0810—Sign-On/Sign-Off

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0810 (Network Management Request Response). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | ME | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |
| 33 Forwarding Institution ID Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |
| 39 Response Code | • | M | M | Indicates disposition of original Network Management Request/0800—Sign-On/Sign-Off. |
| 44 Additional Response Data | • | C | C | May be present to provide additional information about message error conditions when the value in DE 39 is 30. |
| 63 Network Data | • | ME | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |

| Data Element ID and Name | | Org | Sys | Dst | Comments |
|--|--|------------|------------|------------|---|
| 70 Network Management Information Code | | • ME | | ME | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |
| 127 Private Data | | • X | | CE | Must be the same value as in the original Network Management Request/0800—Sign-On/Sign-Off. |

Network Management Request Response/0810—Network Connection Status, Member-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | | Org | Sys | Dst | Comments |
|--|--|------------|------------|------------|---|
| - Message Type Identifier (MTI) | | M | M | • | Constant—0810 (Network Management Request Response). |
| - Bit Map, Primary | | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | | ME | ME | • | The Member Group ID. Must be the same value as in the original Network Management Request/0800. |
| 7 Transmission Date and Time | | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 11 Systems Trace Audit Number (STAN) | | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 33 Forwarding Institution ID Code | | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 39 Response Code | | M | M | • | Indicates disposition of original Network Management Request/0800. |
| 63 Network Data | | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 70 Network Management Information Code | | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |

Network Management Request Response/0810—Network Connection Status, System-Generated

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|-----|-----|-----|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0810 (Network Management Request Response). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | ME | ME | The Member Group ID. Must be the same value as in the original Network Management Request/0800. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 33 Forwarding Institution ID Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 39 Response Code | • | M | M | Indicates disposition of original Network Management Request/0800. |
| 44 Additional Response Data | • | C | C | May be present to provide additional information about message error conditions when the value in DE 39 is 30. |
| 63 Network Data | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 70 Network Management Information Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |

Network Management Request Response/0810—Host Session Activation/Deactivation

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|-----|-----|-----|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0810 (Network Management Request Response). |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|--|
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | ME | ME | The Member Group ID. Must be the same value as in the original Network Management Request/0800. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 33 Forwarding Institution ID Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 39 Response Code | • | M | M | Indicates disposition of original Network Management Request/0800. |
| 44 Additional Response Data | • | C | C | May be present to provide additional information about message error conditions when the value in DE 39 is 30. |
| 70 Network Management Information Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |

Network Management Request Response/0810—PEK Exchange

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | M | M | • | Constant—0810 (Network Management Request Response). |
| - Bit Map, Primary | M | M | • | Mandatory. |
| 1 Bit Map, Secondary | M | M | • | Mandatory. |
| 2 Primary Account Number (PAN) | ME | ME | • | The Member Group ID. Must be the same value as in the original Network Management Request/0800. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 7 Transmission Date and Time | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 11 Systems Trace Audit Number (STAN) | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 33 Forwarding Institution ID Code | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 39 Response Code | M | M | • | Indicates disposition of original Network Management Request/0800. |
| 44 Additional Response Data | C | C | • | May be present to provide additional information on message error conditions when the value in DE 39 is 30. |
| 48 Additional Data—Private Use | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 63 Network Data | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |
| 70 Network Management Information Code | ME | ME | • | Must be the same value as in the original Network Management Request/0800. |

Network Management Request Response/0810—PEK Exchange-On Demand

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|---|
| - Message Type Identifier (MTI) | • | M | M | Constant—0810 (Network Management Request Response). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | ME | ME | The Member Group ID. Must be the same value as in the original Network Management Request/0800. |
| 7 Transmission Date and Time | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 11 Systems Trace Audit Number (STAN) | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|------------|------------|------------|---|
| 33 Forwarding Institution ID Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 39 Response Code | • | M | M | Indicates disposition of original Network Management Request/0800. |
| 44 Additional Response Data | • | C | C | May be present to provide additional information on message error conditions when the value in DE 39 is 30. |
| 63 Network Data | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |
| 70 Network Management Information Code | • | ME | ME | Must be the same value as in the original Network Management Request/0800. |

Network Management Advice/0820—PEK Exchange

Following is the list of the data elements applicable to this message.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--------------------------------------|------------|------------|------------|--|
| - Message Type Identifier (MTI) | • | M | M | Constant—0820 (Network Management Advice). |
| - Bit Map, Primary | • | M | M | Mandatory. |
| 1 Bit Map, Secondary | • | M | M | Mandatory. |
| 2 Primary Account Number (PAN) | • | M | M | Member Group ID of the member receiving this working key exchange; the Authorization Platform uses this data to route the transaction to the appropriate issuer or acquirer. |
| 7 Transmission Date and Time | • | M | M | Date and time that this message is transmitted; specified in UTC date and time format. |
| 11 Systems Trace Audit Number (STAN) | • | M | M | Transaction trace number; must be unique value for all messages associated with a given transaction within each UTC day. |
| 33 Forwarding Institution ID Code | • | M | M | Constant—002202; identifies the Authorization Platform. |
| 48 Additional Data—Private Use | • | M | M | Key Exchange Data Block for key exchange function; the communication key is used to encrypt the working key. |

| Data Element ID and Name | | Org | Sys | Dst | Comments |
|---------------------------------|-------------------------------------|------------|------------|------------|---|
| 63 | Network Data | • | M | M | Authorization Platform provides this data element; which includes a Banknet Reference Number for this transaction. |
| 70 | Network Management Information Code | • | M | M | Indicates the specific purpose of this Network Management Advice/0820 as follows: 161 = Encryption key exchange request |

Chapter 4 Data Element Definitions

This section provides data element (DE) detail definitions of all data elements used in Authorization Platform application messages.

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Data Element Layout

Following is the data element structure for describing data elements. Values and Application Note information is omitted from the data element attributes of those data elements not currently used in Authorization Platform messages.

| Attribute | Description |
|----------------------|--|
| Data Representation: | Annotation and data length (fixed or variable in length) |
| Length Field: | 2 or 3 if variable in length |
| Data Field: | Contents of subelement, subfields or N/A |
| Subfields: | Indicates number of subelements, subfields or N/A |
| Justification: | Left, Right, or N/A |

Usage

Following is the usage of DE xx (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

Message types applicable and the entities involved in the message. • • •

Values

Valid values and name of each value listed.

Application Notes

Specific application notes, conditions, and cross-edits where applicable.

Subelement Layout

Following is the subelement structure for describing data element subelements.

| Attribute | Description |
|----------------------|--|
| Subelement ID: | Subelement identifier |
| Data Representation: | Annotation and data length (fixed or variable in length) |
| Length Field | 2 or 3 if variable in length |
| Data Field: | Contents of subfields |
| Subfields: | Indicates number of subfields |
| Justification: | See subfields (may be subfield specific) |

Usage

Following is the usage of subelement XX (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

List of message types that use this data element and usage.

• • •

Values

The list of subelement values or see subfields.

Subfield Layout

Following is the subfield structure for describing data element and subelement subfields. Subfield ID and Length Field are omitted from the subfield attributes when subfield ID and length are not included in the data.

| Attribute | Description |
|----------------------|--|
| Subfield ID: | Subfield identifier (omitted if not part of the data) |
| Data Representation: | Annotation and data length (fixed or variable in length) |
| Length Field: | 2 if variable in length (omitted if not part of the data) |
| Data Field: | Contents of position(s) |
| Justification: | Left, Right, or N/A (justification is not used in describing subelement subfields) |

Values

Valid values and name of each value listed.

Position Layout

Following is the position structure for describing subelement and subfield positions.

| | |
|----------------------|--|
| Data Representation: | Annotation and data length (fixed or variable in length) |
| Data Field: | Description of Data |
| Values: | List of values |

List of Data Elements (Numeric Order)

Following is a the list of data elements in numeric order.

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 1 | Bit Map, Secondary | b-8 |
| 2 | Primary Account Number (PAN) | n...19; LLVAR |
| 3 | Processing Code | n-6 |
| 4 | Amount, Transaction | n-12 |
| 5 | Amount, Settlement | n-12 |
| 6 | Amount, Cardholder Billing | n-12 |
| 7 | Transmission Date and Time | n-10 |
| 8 | Amount, Cardholder Billing Fee ⁷ | n-8 |
| 9 | Conversion Rate, Settlement | n-8 |
| 10 | Conversion Rate, Cardholder Billing | n-8 |
| 11 | Systems Trace Audit Number | n-6 |
| 12 | Time, Local Transaction | n-6 |
| 13 | Date, Local Transaction | n-4 |
| 14 | Date, Expiration | n-4 |
| 15 | Date, Settlement | n-4 |
| 16 | Date, Conversion | n-4 |
| 17 | Date, Capture ⁷ | n-4 |
| 18 | Merchant Type | n-4 |
| 19 | Acquiring Institution Country Code ⁷ | n-3 |
| 20 | Primary Account Number (PAN) Country Code | n-3 |
| 21 | Forwarding Institution Country Code ⁷ | n-3 |
| 22 | Point-of-Service (POS) Entry Mode | n-3 |
| 23 | Card Sequence Number | n-3 |
| 24 | Network International ID ⁷ | n-3 |
| 25 | Point-of-Service (POS) Condition Code ⁷ | n-2 |
| 26 | Point-of-Service (POS) Personal ID Number (PIN) Capture Code | n-2 |
| 27 | Authorization ID Response Length ⁷ | n-1 |
| 28 | Amount, Transaction Fee | an-9 |

⁷ Mastercard currently does not use this data element and it should not be included in an authorization message. A program or service may use it at a later date.

| Number | Name | Data Representation |
|---------------|---|----------------------------|
| 29 | Amount, Settlement Fee ⁷ | an-9 |
| 30 | Amount, Transaction Processing Fee ⁷ | an-9 |
| 31 | Amount, Settlement Processing Fee ⁷ | an-9 |
| 32 | Acquiring Institution ID Code | n...6; LLVAR |
| 33 | Forwarding Institution ID Code | n...6; LLVAR |
| 34 | Primary Account Number (PAN), Extended ⁷ | ans...28; LLVAR |
| 35 | Track 2 Data | ans...37; LLVAR |
| 36 | Track 3 Data ⁷ | ans...104; LLLVAR |
| 37 | Retrieval Reference Number | an-12 |
| 38 | Authorization ID Response | ans-6 |
| 39 | Response Code | an-2 |
| 40 | Service Restriction Code ⁷ | an-3 |
| 41 | Card Acceptor Terminal ID | ans-8 |
| 42 | Card Acceptor ID Code | ans-15 |
| 43 | Card Acceptor Name/Location | ans-40 |
| 44 | Additional Response Data | ans...25; LLVAR |
| 45 | Track 1 Data | ans...76; LLVAR |
| 46 | Additional Data—ISO Use ⁷ | ans...999; LLLVAR |
| 47 | Additional Data—National Use ⁸ | ans...999; LLLVAR |
| 48 | Additional Data—Private Use ⁹ | ans...999; LLLVAR |
| 49 | Currency Code, Transaction | n-3 |
| 50 | Currency Code, Settlement | n-3 |
| 51 | Currency Code, Cardholder Billing | n-3 |
| 52 | Personal ID Number (PIN) Data | b-8 |
| 53 | Security-Related Control Information | n-16 |
| 54 | Additional Amounts | an...120; LLLVAR |
| 55 | Integrated Circuit Card (ICC) System-Related Data | b...255; LLLVAR |

⁸ This data element is reserved for national use. The Authorization Platform does not perform any processing on this data element. However, if it is included in an authorization message, the network will pass it from the originator to the receiver, provided that both the originator and the receiver are customers of the same national standards organizations.

⁹ This data element is an ISO-designated “private use” data element redefined by Mastercard in accordance with provisions of the ISO 8583–1987 specification.

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 56 | Payment Account Data | an...37; LLLVAR |
| 57–59 | Reserved for National Use ⁸ | ans...999; LLLVAR |
| 60 | Advice Reason Code ¹⁰ | ans...060; LLLVAR |
| 61 | Point-of-Service (POS) Data ¹⁰ | an...026; LLLVAR |
| 62 | Intermediate Network Facility (INF) Data ¹⁰ | ans...100; LLLVAR |
| 63 | Network Data ¹⁰ | an...050; LLLVAR |
| 64 | Message Authentication Code (MAC) ⁷ | b-8 |
| 65 | Bit Map, Extended ⁷ | b-8 |
| 66 | Settlement Code ⁷ | n-1 |
| 67 | Extended Payment Code ⁷ | n-2 |
| 68 | Receiving Institution Country Code ⁷ | n-3 |
| 69 | Settlement Institution Country Code ⁷ | n-3 |
| 70 | Network Management Information Code | n-3 |
| 71 | Message Number ⁷ | n-4 |
| 72 | Message Number Last ⁷ | n-4 |
| 73 | Date, Action | n-6 |
| 74 | Credits, Number ⁷ | n-10 |
| 75 | Credits, Reversal Number ⁷ | n-10 |
| 76 | Debits, Number ⁷ | n-10 |
| 77 | Debits, Reversal Number ⁷ | n-10 |
| 78 | Transfers, Number ⁷ | n-10 |
| 79 | Transfers, Reversal Number ⁷ | n-10 |
| 80 | Inquiries, Number ⁷ | n-10 |
| 81 | Authorizations, Number ⁷ | n-10 |
| 82 | Credits, Processing Fee Amount ⁷ | n-12 |
| 83 | Credits, Transaction Fee Amount ⁷ | n-12 |
| 84 | Debits, Processing Fee Amount ⁷ | n-12 |
| 85 | Debits, Transaction Fee Amount ⁷ | n-12 |
| 86 | Credits, Amount ⁷ | n-16 |

¹⁰ Although this data element is designated as binary, it also may contain up to eight bytes of EBCDIC encoded data.

| Number | Name | Data Representation |
|---------------|---|----------------------------|
| 87 | Credits, Reversal Amount ⁷ | n-16 |
| 88 | Debits, Amount ⁷ | n-16 |
| 89 | Debits, Reversal Amount ⁷ | n-16 |
| 90 | Original Data Elements | n-42 |
| 91 | Issuer File Update Code | an-1 |
| 92 | File Security Code ⁷ | an-2 |
| 93 | Response Indicator ⁷ | an-5 |
| 94 | Service Indicator | an-7 |
| 95 | Replacement Amounts | n-42 |
| 96 | Message Security Code ¹⁰ | b-8 |
| 97 | Amount, Net Settlement ⁷ | an-17 |
| 98 | Payee | ans-25 |
| 99 | Settlement Institution ID Code ⁷ | n...11; LLVAR |
| 100 | Receiving Institution ID Code | n...11; LLVAR |
| 101 | File Name | ans...17; LLVAR |
| 102 | Account ID-1 | ans...28; LLVAR |
| 103 | Account ID-2 | ans...28; LLVAR |
| 104 | Transaction Description ⁷ | ans...100; LLLVAR |
| 105–107 | Reserved for Mastercard Use ⁷ | ans...999; LLLVAR |
| 108 | MoneySend Reference Data | ans...999; LLLVAR |
| 109–111 | Reserved for ISO Use ⁷ | ans...999; LLLVAR |
| 112 | Additional Data (National Use) | ans...100; LLLVAR |
| 113–119 | Reserved for National Use ⁸ | ans...999; LLLVAR |
| 120 | Record Data ¹⁰ | ans...999; LLLVAR |
| 121 | Authorizing Agent ID Code ¹⁰ | n...6; LLLVAR |
| 122 | Additional Record Data ¹⁰ | ans...999; LLLVAR |
| 123 | Receipt Free Text | ans...512; LLLVAR |
| 124 | Member-defined Data | ans...199; LLLVAR |
| 125 | New PIN Data | b-8 |
| 126 | Private Data | ans...100; LLLVAR |
| 127 | Private Data ¹⁰ | ans...100; LLLVAR |

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 128 | Message Authentication Code (MAC) ⁷ | b-8 |

List of Data Elements (Alphabetic Order)

Following is the list of data elements in alphabetic order.

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 102 | Account ID-1 | ans...28; LLVAR |
| 103 | Account ID-2 | ans...28; LLVAR |
| 19 | Acquiring Institution Country Code ¹¹ | n-3 |
| 32 | Acquiring Institution ID Code | n...6; LLVAR |
| 54 | Additional Amounts | an...120; LLLVAR |
| 46 | Additional Data—ISO Use ¹¹ | ans...999; LLLVAR |
| 47 | Additional Data—National Use ¹² | ans...999; LLLVAR |
| 112 | Additional Data (National Use) | ans...100; LLLVAR |
| 48 | Additional Data—Private Use ¹³ | ans...999; LLLVAR |
| 122 | Additional Record Data ¹³ | ans...999; LLLVAR |
| 44 | Additional Response Data | ans...25; LLVAR |
| 60 | Advice Reason Code ¹³ | ans...060; LLLVAR |
| 6 | Amount, Cardholder Billing | n-12 |
| 8 | Amount, Cardholder Billing Fee ¹¹ | n-8 |
| 97 | Amount, Net Settlement ¹¹ | an-17 |
| 5 | Amount, Settlement | n-12 |
| 29 | Amount, Settlement Fee ¹¹ | an-9 |
| 31 | Amount, Settlement Processing Fee ¹¹ | an-9 |
| 4 | Amount, Transaction | n-12 |

¹¹ Mastercard currently does not use this data element and it should not be included in an authorization message. A program or service may use it at a later date.

¹² This data element is reserved for national use. The Authorization Platform does not perform any processing on this data element. However, if it is included in an authorization message, the network passes it from the originator to the receiver, provided that both the originator and the receiver are customers of the same national standards organizations.

¹³ This data element is an ISO-designated “private use” data element redefined by Mastercard in accordance with provisions of the ISO 8583–1987 specification.

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 28 | Amount, Transaction Fee | an-9 |
| 30 | Amount, Transaction Processing Fee ¹¹ | an-9 |
| 38 | Authorization ID Response | ans-6 |
| 27 | Authorization ID Response Length ¹¹ | n-1 |
| 81 | Authorizations, Number ¹¹ | n-10 |
| 121 | Authorizing Agent ID Code ¹³ | n...6; LLLVAR |
| 65 | Bit Map, Extended ¹¹ | b-8 |
| 1 | Bit Map, Secondary | b-8 |
| 42 | Card Acceptor ID Code | ans-15 |
| 43 | Card Acceptor Name/Location | ans-40 |
| 41 | Card Acceptor Terminal ID | ans-8 |
| 23 | Card Sequence Number | n-3 |
| 10 | Conversion Rate, Cardholder Billing | n-8 |
| 9 | Conversion Rate, Settlement | n-8 |
| 86 | Credits, Amount ¹¹ | n-16 |
| 74 | Credits, Number ¹¹ | n-10 |
| 82 | Credits, Processing Fee Amount ¹¹ | n-12 |
| 87 | Credits, Reversal Amount ¹¹ | n-16 |
| 75 | Credits, Reversal Number ¹¹ | n-10 |
| 83 | Credits, Transaction Fee Amount ¹¹ | n-12 |
| 51 | Currency Code, Cardholder Billing | n-3 |
| 50 | Currency Code, Settlement | n-3 |
| 49 | Currency Code, Transaction | n-3 |
| 73 | Date, Action | n-6 |
| 17 | Date, Capture ¹¹ | n-4 |
| 16 | Date, Conversion | n-4 |
| 14 | Date, Expiration | n-4 |
| 13 | Date, Local Transaction | n-4 |
| 15 | Date, Settlement | n-4 |
| 88 | Debits, Amount ¹¹ | n-16 |
| 76 | Debits, Number ¹¹ | n-10 |

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 84 | Debits, Processing Fee Amount ¹¹ | n-12 |
| 89 | Debits, Reversal Amount ¹¹ | n-16 |
| 77 | Debits, Reversal Number ¹¹ | n-10 |
| 85 | Debits, Transaction Fee Amount ¹¹ | n-12 |
| 67 | Extended Payment Code ¹¹ | n-2 |
| 101 | File Name | ans...17; LLVAR |
| 92 | File Security Code ¹¹ | an-2 |
| 21 | Forwarding Institution Country Code ¹¹ | n-3 |
| 33 | Forwarding Institution ID Code | n...6; LLVAR |
| 80 | Inquiries, Number ¹¹ | n-10 |
| 55 | Integrated Circuit Card (ICC) System-Related Data | b...255; LLLVAR |
| 62 | Intermediate Network Facility (INF) Data ¹³ | ans...100; LLLVAR |
| 91 | Issuer File Update Code | an-1 |
| 124 | Member-defined Data | ans...199; LLLVAR |
| 18 | Merchant Type | n-4 |
| 64 | Message Authentication Code (MAC) ¹¹ | b-8 |
| 128 | Message Authentication Code (MAC) ¹¹ | b-8 |
| 71 | Message Number ¹¹ | n-4 |
| 72 | Message Number Last ¹¹ | n-4 |
| 96 | Message Security Code ¹⁴ | b-8 |
| 108 | MoneySend Reference Data | ans...999; LLLVAR |
| 63 | Network Data ¹³ | an...050; LLLVAR |
| 24 | Network International ID ¹¹ | n-3 |
| 70 | Network Management Information Code | n-3 |
| 125 | New PIN Data | b-8 |
| 90 | Original Data Elements | n-42 |
| 98 | Payee ¹¹ | ans-25 |
| 56 | Payment Account Data | an...37; LLLVAR |
| 52 | Personal ID Number (PIN) Data | b-8 |

¹⁴ Although this data element is designated as binary, it also may contain up to eight bytes of EBCDIC encoded data

| Number | Name | Data Representation |
|---------------|--|----------------------------|
| 25 | Point-of-Service (POS) Condition Code ¹¹ | n-2 |
| 61 | Point-of-Service (POS) Data ¹³ | an...026; LLLVAR |
| 22 | Point-of-Service (POS) Entry Mode | n-3 |
| 26 | Point-of-Service (POS) Personal ID Number (PIN) Capture Code | n-2 |
| 2 | Primary Account Number (PAN) | n...19; LLLVAR |
| 20 | Primary Account Number (PAN) Country Code | n-3 |
| 34 | Primary Account Number (PAN), Extended ¹¹ | ans...28; LLLVAR |
| 126 | Private Data | ans...100; LLLVAR |
| 127 | Private Data ¹³ | ans...100; LLLVAR |
| 3 | Processing Code | n-6 |
| 123 | Receipt Free Text | ans...512; LLLVAR |
| 68 | Receiving Institution Country Code ¹¹ | n-3 |
| 100 | Receiving Institution ID Code | n...11; LLLVAR |
| 120 | Record Data ¹³ | ans...999; LLLVAR |
| 95 | Replacement Amounts | n-42 |
| 109–111 | Reserved for ISO Use ¹¹ | ans...999; LLLVAR |
| 105–107 | Reserved for Mastercard Use ¹¹ | ans...999; LLLVAR |
| 57–59 | Reserved for National Use ¹² | ans...999; LLLVAR |
| 113–119 | Reserved for National Use ¹² | ans...999; LLLVAR |
| 39 | Response Code | an-2 |
| 93 | Response Indicator ¹¹ | an-5 |
| 37 | Retrieval Reference Number | an-12 |
| 53 | Security-Related Control Information | n-16 |
| 94 | Service Indicator | an-7 |
| 40 | Service Restriction Code ¹¹ | an-3 |
| 66 | Settlement Code ¹¹ | n-1 |
| 69 | Settlement Institution Country Code ¹¹ | n-3 |
| 99 | Settlement Institution ID Code ¹¹ | n...11; LLLVAR |
| 11 | Systems Trace Audit Number | n-6 |
| 12 | Time, Local Transaction | n-6 |

| Number | Name | Data Representation |
|--------|--|---------------------|
| 45 | Track 1 Data | ans...76; LLVAR |
| 35 | Track 2 Data | ans...37; LLVAR |
| 36 | Track 3 Data ¹¹ | ans...104; LLLVAR |
| 104 | Transaction Description ¹¹ | ans...100; LLLVAR |
| 78 | Transfers, Number ¹¹ | n-10 |
| 79 | Transfers, Reversal Number ¹¹ | n-10 |
| 7 | Transmission Date and Time | n-10 |

Message Type Identifier

The Message Type Identifier (MTI) is a four-digit numeric data element describing the type of message being interpreted. The MTI is required and must be present as the first data element of each Authorization Platform message.

Attributes

| | |
|-------------------------|---------------------------|
| Length of Length Field: | N/A |
| Data Representation: | n-4 |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

| | | | |
|--|---|---|---|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | M | • | M |
| Authorization Advice Response/0130—Issuer-generated | M | M | • |
| Authorization Advice Response/0130—System-generated | • | M | M |
| Authorization Acknowledgement/0180 | M | M | • |
| Authorization Negative Acknowledgement/0190 | • | M | M |

| | | | |
|--|---|---|---|
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | M | M |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | M | • | M |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | M | M | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | M | • | M |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | M | M | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | M | M |
| Network Management Request/0800—Network Connection Status, Member-generated | M | M | • |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request Response/0810—Sign-On/Sign-Off | • | M | M |
| Network Management Request Response/0810—Host Session Activation/Deactivation | • | M | M |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | M | M |
| Network Management Request Response/0810—Network Connection Status, Member-generated | M | M | • |
| Network Management Request Response/0810—PEK Exchange | M | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | M | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |
| Values | | | |
| Position 1—Version Number | | | |
| 0 = ISO 8583: 1987 | | | |
| 1 = ISO 8583: 1992 | | | |
| 2–7 = Reserved for ISO use | | | |
| 8 = Reserved for national use | | | |

| | | |
|-----------------------------------|---|-------------------------|
| 9 | = | Reserved for future use |
| Position 2—Message Class | | |
| 0 | = | Reserved for ISO use |
| 1 | = | Authorization |
| 2 | = | Financial |
| 3 | = | File action |
| 4 | = | Reversal/chargeback |
| 5 | = | Reconciliation |
| 6 | = | Administrative |
| 7 | = | Fee collection |
| 8 | = | Network management |
| 9 | = | Reserved for ISO use |
| Position 3—Message Function | | |
| 0 | = | Request |
| 1 | = | Request response |
| 2 | = | Advice |
| 3 | = | Advice response |
| 4 | = | Notification |
| 5–9 | = | Reserved for ISO use |
| Position 4—Transaction Originator | | |
| 0 | = | Acquirer |
| 1 | = | Acquirer repeat |
| 2 | = | Card issuer |
| 3 | = | Card issuer repeat |
| 4 | = | Other |
| 5 | = | Other repeat |
| 6–9 | = | Reserved for ISO use |

Message Types and Applicable Program or Service

The following table specifies the permissible MTI values that may be used within each individual Authorization Platform message. The table key at the end of the table describes the symbols used under program and service columns.

| MTI | Description | MC | NP | VI | TE | MS | CI |
|------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 0100 | Authorization Request | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0110 | Authorization Request Response | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0120 | Authorization Advice—Acquirer-generated | ✓ | ✓ | • | • | ✓ | ✓ |
| 0120 | Authorization Advice—Issuer-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0120 | Authorization Advice—System-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0130 | Authorization Advice Response—Issuer-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0130 | Authorization Advice Response—System-generated | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0180 | Authorization Acknowledgement | ○ | ○ | ○ | ○ | ○ | ○ |
| 0190 | Authorization Negative Acknowledgement | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0302 | Issuer File Update Request | ✓ | ✓ | • | • | ✓ | ✓ |
| 0312 | Issuer File Update Request Response | ✓ | ✓ | • | • | ✓ | ✓ |
| 0400 | Reversal Request/0400 | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0410 | Reversal Request Response/0410 | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0420 | Reversal Advice | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0430 | Reversal Advice Response | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0600 | Administrative Request/0600 | ✓ | ✓ | • | • | • | • |
| 0610 | Administrative Request Response/0610 | ✓ | ✓ | • | • | • | • |
| 0620 | Administrative Advice | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0630 | Administrative Advice Response | ✓ | ✓ | ✓ | • | ✓ | ✓ |
| 0800 | Network Management Request | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0810 | Network Management Request Response | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| MTI | Description | MC | NP | VI | TE | MS | CI |
|------------|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0820 | Network Management Advice | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Table Key:

✓ = The MTI must be provided for the program or service indicated.

O = Optional support (for example, when individual Mastercard customers may elect to support or not support certain message types at their own discretion).

• = The MTI is unavailable for the program or service.

About Primary and Secondary Bit Maps

All Authorization Platform messages consist of one or two bit maps, each consisting of 64 bits. Bits are numbered from the left, starting with one. The first bit map contains bits one through 64; the second bit map contains bits 65 through 128.

A bit map is a series of 64 bits used to identify the presence or absence (denoted by 1 or 0) of each data element. The bit map is interpreted from left to right. The left-most bit represents bit number 1 in the Primary Bit Map and bit number 65 in the Secondary Bit Map. The rightmost bit represents bit number 64 in the Primary Bit Map and bit number 128 in the Secondary Bit Map.

Additional bit maps can be accommodated in the ISO 8583–1987 specification by using additional “Bit Maps, Extended” (setting the first bit in any bit map to 1 indicating the presence of a following extended bit map). However, Mastercard currently uses a maximum of two-bit maps (primary and secondary) in Authorization Platform messages, with a maximum number of message data elements ranging from DE 1 through DE 128. Consequently, DE 65 (the first bit in the Secondary Bit Map) must always be 0.

Primary Bit Map

The Primary Bit Map must always be present in a message. The most frequently used data elements are indexed from DE 1 (Bit Map, Secondary) through DE 64 (Message Authentication Code [MAC]). Infrequently used data elements are indexed from the DE 66 (Settlement Code) through DE 128 (Message Authentication Code [MAC]).

Attributes

| | |
|-------------------------|-----|
| Length of Length Field: | N/A |
| Data Representation: | b-8 |

| | |
|----------------|---|
| Data Field: | Fixed length 8 bytes (for each bit map) |
| Subfields: | N/A |
| Justification: | N/A |

If both bit maps are present, the total length of the bit map data element is 16 bytes.

Usage

Following is the usage of Bit Map, Primary (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | M | M | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | M | • | M |
| Authorization Advice Response/0130—System-generated | • | M | M |
| Authorization Acknowledgement/0180 | M | M | • |
| Authorization Negative Acknowledgement/0190 | • | M | M |
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | M | M |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | M | • | M |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | M | M | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | M | • | M |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | M | M | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | M | M |
| Network Management Request/0800—Network Connection Status, Member-generated | M | M | • |

| | | | |
|---|---|----|----|
| Network Management Request/0800—Host Session Activation/ Deactivation | • | M | M |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request Response/0810—Sign-On/Sign-Off | • | M | M |
| Network Management Request Response/0810—Host Session Activation/ Deactivation | • | ME | ME |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | M | M |
| Network Management Request Response/0810—Network Connection Status, Member-generated | M | M | • |
| Network Management Request Response/0810—PEK Exchange | M | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | M | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

Bits corresponding to mandatory data elements for a specific MTI must have a value of 1 to indicate the presence of the data element in the message. Otherwise, the Authorization Platform rejects the message and returns it to the message initiator using an Administrative Advice/0620, with the reject reason indicated in DE 60 (Advice Reason Code).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 1—Bit Map, Secondary

DE 1 (Bit Map, Secondary) is a series of 64 bits that identifies the presence (1) or absence (0) of each data element in the second segment of a message. This would include DE 65 (Bit Map, Extended) through DE 128 (Message Authentication Code [MAC]).

Attributes

| | |
|----------------------|---|
| Data Representation: | b-8 |
| Length Field: | N/A |
| Data Field: | Indicates the presence or absence of data elements 65–128 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 1 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | C | C | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | C | • | C |
| Authorization Advice Response/0130—System-generated | • | C | C |
| Authorization Acknowledgement/0180 | C | C | • |
| Authorization Negative Acknowledgement/0190 | • | C | C |
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | M | M |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | M | • | M |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | M | M | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | M | • | M |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | M | M | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request/0800—Network Connection Status, Member-generated | M | M | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | M | M |
| Network Management Request Response/0810—Sign-On/Sign-Off | • | M | M |

| | | | |
|---|---|---|---|
| Network Management Request Response/0810—Host Session Activation/ Deactivation | • | M | M |
| Network Management Request Response/0810—PEK Exchange | M | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | M | M |
| Network Management Request Response/0810—Network Connection Status, Member-generated | M | M | • |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | M | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

Bits corresponding to mandatory data elements for a specific MTI must have a value of 1 to indicate the presence of the data element in the message. Otherwise, the Authorization Platform rejects the message and returns it to the message initiator using an Administrative Advice/0620, with the reject reason indicated in DE 60 (Advice Reason Code).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 2—Primary Account Number (PAN)

DE 2 (Primary Account Number [PAN]) is a series of digits used to identify a customer account or relationship.

Attributes

Data Representation: n...19; LLVAR

Length Field: 2

Data Field: Contents of positions 1–19

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 2 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |

Data Element Definitions
DE 2—Primary Account Number (PAN)

| | | | |
|--|----|----|----|
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Issuer File Update Request/0302 | C | C | • |
| Issuer File Update Request Response/0312 | • | CE | CE |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | ME | • | ME |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—Network Connection Status, Member-generated | M | M | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | M | M |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | ME | ME |
| Network Management Request Response/0810—Network Connection Status, Member-generated | ME | ME | • |
| Network Management Request Response/0810—Host Session Activation/Deactivation | • | ME | ME |
| Network Management Advice/0820—PEK Exchange | • | M | M |
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Values | | | |

All PANs and card prefixes used in Authorization Platform messages must conform to the standard PAN encoding requirements as documented in the ISO 7812 and 7813 specifications.

Mastercard customer ID numbers, when used in this data element, must be valid values that Mastercard assigns.

DE 2 must be at least 11 digits and contain the variable-length prefix assigned to the specific Issuer ID Number (IIN) for Administrative Request/0600 messages.

Network Management Request/0800 messages may contain the Mastercard Group Sign-on ID only, the card prefix only, or both the Mastercard Group Sign-on ID followed by the card prefix in DE 2.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

About Primary Account Number

DE 2 (Primary Account Number [PAN]) is a series of digits used to identify a customer account or relationship.

Primary Account Number

This data element is used for all numeric PANs up to 19 digits long when PAN is in Authorization/01xx messages, Reversal Advice/04xx messages, and Administrative Advice/06xx messages (when required). DE 2 may contain a subset of this data within Network Management/08xx messages.

This data element data consists of three primary components:

- Issuing Institution Information (IIN)
- Individual Account ID Number
- PAN check digit

When DE 2 contains a 59 BIN, DE 20 (Primary Account Number Country Code) **also must be included in the message to uniquely identify the PAN**. Note that 59 numbers are not guaranteed to be unique without an accompanying Country Code.

Specific requirements for PAN composition are described in the ISO 7812 and 7813 specifications. **All PANs used in Authorization Platform messages must conform to the ISO PAN encoding requirements, as specified in those specifications.**

NOTE:

The Individual Account ID Number encoded or embossed on a card may be a cardholder ID number or a “master account number” related to one or more of the cardholder’s accounts.

A card issuer may return the actual number of the cardholder account(s) affected by a transaction in an appropriate response message by using DE 102 (Account ID-1), DE 103 (Account ID-2), or both. However, the PAN used in the original Request message must then remain in DE 2 for all subsequent messages related to the original request (such as Responses, Advices, Reversals, Chargebacks, Retrieval Requests, and Retrieval Fulfillments).

Issuing Institution Information

PAN may contain Issuing Institution Information (IIN) when required in Authorization/01xx, Issuer File Update/03xx, and Network Management/08xx messages. IIN may consist of either a Mastercard customer ID number, a variable-length issuer card prefix sequence, or a Mastercard assigned Group Sign-on ID as required by a specific message.

DE 2 may contain only an IIN or card prefix sequence assigned to an issuer. It may also contain a valid Mastercard customer ID number or Group Sign-on ID for certain messages. Where card prefix information is required, the Authorization Platform accommodates variable-length prefix sequences from one to 11 digits.

Where a Group Sign-on ID is required, the Authorization Platform accommodates the five-digit Member Group ID, which Mastercard uses to identify a grouping of issuer account ranges that use the same transaction criteria for routing to the same destination route. More than one Group Sign-on ID value may be defined for an account range if an issuer chooses to route authorization traffic to different destinations according to transaction criteria.

DE 3—Processing Code

DE 3 (Processing Code) describes the effect of a transaction on the customer account and the type of accounts affected.

Attributes

Data Representation: n-6

Length Field: N/A

Data Field: Contents of subfields 1–3

Subfields: 3

Justification: See subfields

Usage

Following is the usage of DE 3 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|----|----|----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

See subfields

Application Notes

Acquirers and prepaid card issuers in the U.S. region must support POS balance inquiry transaction type and functionality for all prepaid Mastercard credit and Debit Mastercard card account ranges.

The following cross edits occur for:

Authorization Request/0100

| IF... | THEN... |
|---------------------------------------|---|
| DE 48 (Transaction Category Code) = C | Cardholder Transaction Type Code must be 01, 17, or 30. |
| DE 48 (Transaction Category Code) = P | Cardholder Transaction Type Code must be 28. |
| DE 48 (Transaction Category Code) = Z | Cardholder Transaction Type Code must be 01, 30, 91, or 92. |

Reversal Request/0400 messages

| | |
|---------------------------------------|---|
| DE 48 (Transaction Category Code) = Z | Cardholder Transaction Type Code must be 01, 30, 91, or 92. |
|---------------------------------------|---|

Authorization Advice/0120—Acquirer-generated

| IF... | THEN... |
|-------|---------|
|-------|---------|

| | |
|---|--|
| DE 3, subfield 1 contains one of the following values: | The Authorization Platform will return to the acquirer an Authorization Advice Response/0130 messages where: |
| 01 = Withdrawal | DE 39 = 30 |
| 28 = Payment Transaction | DE 44 = 003 |
| 30 = Balance Inquiry | |
| 40 = Account Transfer | |
| 91 = PIN Unblock | |
| 92 = PIN Change | |
| or | |
| 00 = Purchase and DE 48 (Transaction Category Code) = Z | |

For Account Status Inquiry Service Transactions:

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100 message contains DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]) and | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 • DE 44 (Additional Response Data) = 003 |
| DE 3 (Processing Code) contains a value other than 00 (Purchase) or 28 (Payment) | |

Subfield 1—Cardholder Transaction Type Code

DE 3, subfield 1 (Cardholder Transaction Type Code) describes the specific transaction type.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |

Values

| Cardholder Account Debits | | MC | NP | VI | TE | MS | CI |
|---------------------------|------------------------------|----|----|----|----|----|----|
| 00 | = Purchase | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 | = Withdrawal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 02 | = Debit Adjustment | | ✓ | | | | |
| 09 | = Purchase with Cash Back | ✓ | ✓ | | | ✓ | |
| 10 | = Visa Only. Account Funding | | | ✓ | | | |

| | | | | | | |
|--|---|-------------------------------|---|---|---|---|
| 17 | = | Cash Disbursement | √ | √ | √ | √ |
| 18 | = | Scrip Issue | | √ | | |
| Cardholder Account Credits | | | | | | |
| 20 | = | Purchase Return/Refund | √ | √ | | √ |
| 21 | = | Deposit | | √ | | |
| 22 | = | Credit Adjustment | | √ | | |
| 23 | = | Check Deposit Guarantee | | √ | | |
| 24 | = | Check Deposit | | √ | | |
| 28 | = | Payment Transaction | √ | √ | √ | √ |
| Cardholder Account Inquiries | | | | | | |
| 30 | = | Balance Inquiry | √ | √ | √ | √ |
| Cardholder Account Transfers | | | | | | |
| 40 | = | Account Transfer | √ | √ | | |
| Reserved Values | | | | | | |
| 90 | = | Reserved for Future Use | √ | | | |
| PIN Management Transactions | | | | | | |
| 91 | = | PIN Unblock | √ | √ | √ | √ |
| 92 | = | PIN Change | √ | √ | √ | √ |
| Token Requests and Token Maintenance Requests | | | | | | |
| 93 | = | Card on File Token Processing | √ | | | |
| Application Notes | | | | | | |

Value 20 is allowed for issuers participating in the Swedish Domestic Authorization Switching Service (SASS) for Private Label, Mastercard, and Maestro branded transactions.

Value 20 will be allowed for MDES related Authorization Request/0100 messages even if the account status is suspended or delete pending.

Values 21–24 are not currently supported for use on the Authorization Platform.

Value 30 is only applicable to eligible issuers.

Values 91 and 92 are only applicable to eligible acquirers and issuers.

Value 93 is used only for token requests and maintenance by the token requestor and will appear in the following messages:

- Authorization Request/0100
- Authorization Request Response/0110

NOTE: Value 93 will be decommissioned in a future release.

Subfield 2—Cardholder "From Account" Type Code

DE 3, subfield 2 (Cardholder “From Account” Type Code) describes the cardholder account type affected for cardholder account debits and inquiries and the “from account” type for cardholder account transfer transactions.

Attributes

Data Representation: n-2

Data Field: Contents of positions 3–4

Justification: N/A

Values

Subfield 2 must now be one of the following values:

| Cardholder “From Account” Type Code | | MC | NP | VI | TE | MS | CI |
|--|---|----|----|----|----|----|----|
| 00 | = Default Account (not specified or not applicable) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10 | = Savings Account | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 20 | = Checking Account | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 30 | = Credit Card Account | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 38 | = Credit Line Account | | ✓ | | | | |
| 39 | = Corporate | | ✓ | | | | |
| 40 | = Universal Account (Customer ID number) | | | ✓ | | | |
| 50 | = Money Market Investment Account | | | | ✓ | | |

| | | | |
|----|---|------------------------|---|
| 60 | = | Stored Value Account | ✓ |
| 90 | = | Revolving Loan Account | ✓ |

Subfield 3—Cardholder "To Account" Type Code

DE 3, subfield 3 (Cardholder "To Account" Type Code) describes the cardholder account type affected for cardholder account credits and the "to account" type for cardholder account transfer transactions.

| Attributes | | | | | | | | | | | | | |
|---|---|---|----|----|----|----|----|--|--|--|--|--|--|
| Data Representation: | | n-2 | | | | | | | | | | | |
| Data Field: | | Contents of positions 5–6 | | | | | | | | | | | |
| Justification: | | N/A | | | | | | | | | | | |
| Values | | | | | | | | | | | | | |
| Subfield 3 must be one of the following values: | | | | | | | | | | | | | |
| Cardholder "To Account" Type Code | | | MC | NP | VI | TE | MS | | | | | | |
| 00 | = | Default Account (not specified or not applicable) | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| 10 | = | Savings Account | | ✓ | | ✓ | ✓ | | | | | | |
| 20 | = | Checking Account | | ✓ | | ✓ | ✓ | | | | | | |
| 30 | = | Credit Card Account | ✓ | ✓ | ✓ | | | | | | | | |
| 38 | = | Credit Line Account | | ✓ | | | | | | | | | |
| 40 | = | Universal Account | | ✓ | | | | | | | | | |
| 50 | = | Money Market Investment Account | | ✓ | | | | | | | | | |
| 58 | = | IRA Investment Account | | ✓ | | | | | | | | | |
| 90 | = | Revolving Loan Account | | ✓ | | | | | | | | | |
| 91 | = | Installment Loan Account | | ✓ | | | | | | | | | |
| 92 | = | Real Estate Loan Account | | ✓ | | | | | | | | | |

DE 4—Amount, Transaction

DE 4 (Amount, Transaction) is the amount of funds the cardholder requested in the local currency of the acquirer or source location of the transaction.

| Attributes |
|------------|
|------------|

| | |
|----------------------|----------------------------|
| Data Representation: | n-12 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–12 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

Following is the usage of DE 4 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | CE | X | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

Valid numeric data must be present in this data element.

The value must be zero for:

- Authorization Request/0100—Recurring Payment Test transaction
- Authorization Request/0100 and Reversal Request/0400—Balance Inquiry, except where ATM transaction fees are allowed
- Authorization Request/0100—Chargeback Period Extension Request
- Authorization Request/0100 and Reversal Request/0400—PIN Management (PIN Unblock and PIN Change), except where ATM transaction fees are allowed
- Authorization Request/0100—Card Activation Request at POS
- Authorization Request/0100—Account Status Inquiry with Authentication Indicator

DE 28 (Amount, Transaction Fee) must be included in DE 4 when DE 28 is present in the message.

Application Notes

DE 4 cannot exceed the region or country Mastercard® MoneySend™ Funding and Payment Transaction limit.

| WHEN... | THEN... |
|---|--|
| The issuer responds with DE 39 (Response Code), value 10 (Partial approval) or value 87 (Purchase amount only, no cash back allowed), the issuer is not required to echo DE 4 | The Authorization Platform will forward to the acquirer, the Authorization Request Response/0110 message containing the partial approval amount in DE 4. |

For Account Status Inquiry Service Transactions:

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100 message contains DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]) and DE 4 (Amount, Transaction) contains a value greater than zero and DE 3 (Processing Code) contains a value of 00 (Purchase) | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 • DE 44 (Additional Response Data) = 004 |

For Automated Fuel Dispenser (AFD) Transactions:

The contents of DE 4 may equal zero when the authorization Advice/0120 message is sent by a Europe region acquirer for an AFD transaction in Europe and contains DE 18 (Merchant Type) = 5542 (Fuel Dispenser, Automated) and DE 60 (Advice Reason Code) = 191 (Acquirer Processing System [APS] Completed Authorization Transaction).

Issuers should be prepared to receive zero amount AFD completion advices (cancelling a previously approved authorization) from any acquirer as there is no Authorization Platform edit restricting such advices from Europe region acquirers.

For Recurring Payment Test Transactions:

A recurring payment Authorization Request/0100 message test transaction contains DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence), value 4 (Standing order/recurring transactions), DE 61, subfield 7 (POS Transaction Status), value 4 (Preadvanced Request), and DE 4 (Amount, Transaction) = 0.

For Card Activation Requests:

| WHEN... | THEN... |
|---|--|
| The Authorization Request/0100 message contains DE 48, subelement 77 = C09 (Card Activation) and DE 4 other than zero | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 • DE 44 (Additional Response Data) = 004 Usage of value C09 is limited to Private Label Prepaid Cards issued in Europe. |

For Authorization Chargeback Protection Period Extension Requests:

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The acquirer sends an Authorization Chargeback Protection Period Extension Authorization Request/0100 message that contains the following:</p> <ul style="list-style-type: none"> • DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase) • DE 4 (Transaction Amount), value 0 • DE 48 (Additional Data), subelement 63 (Trace ID) is present • DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring) • DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized) <p>and the issuer is not available to respond to the request</p> | <p>Rejects the transaction where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 91 (Authorization System or issuer system inoperative) |
| <p>The acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request:</p> <ul style="list-style-type: none"> • DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase) • DE 4 (Transaction Amount), value 0 • DE 48 (Additional Data), subelement 63 (Trace ID) is NOT present • DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring), and • DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized) | <p>Rejects the transaction where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format Error) • DE 44 (Additional Response Data) = 048 (indicating the data element in error) |

The acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request:

- DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase)
- DE 4 (Transaction Amount), value 0
- DE 48 (Additional Data), subelement 63 (Trace ID) is present
- DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring)
- DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized)

And if the values for Contactless Transit Aggregated, Transit Debt Recovery Transactions are present:

- DE 48 (Additional Data), subelement 64 (Transit Program), subfield 1 (Transit Transaction Type Individual) = 03 (Post-Authorized Aggregated), 04 (Authorized Aggregated Split Clearing), or 06 (Post-Authorized Aggregated Maestro)

Rejects the transaction where:

- DE 39 (Response Code) = 30 (Format Error)
- DE 44 (Additional Response Data) = 061 (Point-of-Service [POS] Data)

The acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request:

- DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase)
- DE 4 (Transaction Amount), value 0
- DE 48 (Additional Data), subelement 63 (Trace ID) is present
- DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring)
- DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized)

Rejects the transaction where:

- DE 39 (Response Code) = 30 (Format Error)
- DE 44 (Additional Response Data) = 004 (Transaction Amount)

And if the values for Transit Debt Recovery Transactions are present:

- DE 48 (Additional Data), subelement 64 (Transit Program), subfield 1 (Transit Transaction Type Individual) = 07 (Debt Recovery)

Or if the values for an installment payment transaction are present:

- DE 48 (Additional Data), subelement 95 (Promotion Code)

The acquirer sends an Acquirer-Generated Advice/0120 or Acquirer-Generated Reversal/0400 message for an Authorization Chargeback Protection Period Extension request where the message contains the following:

- DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase)
 - DE 4 (Transaction Amount), value 0
 - DE 48 (Additional Data), subelement 63 (Trace ID) is present
 - DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring)
 - DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized)
-

Rejects the transaction where:

- DE 39 (Response Code) = 30 (Format Error)
- DE 44 (Additional Response Data) = 004 (Transaction Amount)

DE 5—Amount, Settlement

DE 5 (Amount, Settlement) is the amount of funds to be transferred between the acquirer and the issuer equal to DE 4 (Amount, Transaction) in the settlement currency. Mastercard programs and services use U.S. dollars as the currency of settlement.

Attributes

Data Representation: n-12

Length Field: N/A

Data Field: Contents of positions 1–12

Subfields: N/A

Justification: Right with leading zeros

Usage

Following is the usage of DE 5 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | CE | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |

| | | | |
|--|----|----|-----|
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | C |
| Authorization Advice Response/0130—System-generated | | • | X C |
| Reversal Request/0400 | | • | X C |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | | • | C C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

This data element must contain valid numeric data.

Application Notes

All settlement amounts are specified in U.S. dollars. The settlement amount in authorization messages should be interpreted as “Amount, Reporting” because “settlement” of funds (for example, accounting “posting” or “memo-posting”) does not currently occur online for authorization messages.

The Authorization Platform will provide this data element if the customer chooses to receive settlement amount-related data elements.

When the issuer responds with DE 39 (Response Code), value 10 (Partial approval) or value 87 (Purchase amount only, no cash back allowed), the issuer is not required to echo DE 5 if it was present in the Authorization Request/0100 message to the issuer. The Authorization Platform will provide the partial approval amount in DE 5 of the Authorization Request Response/0110 to the acquirer if the acquirer chooses to receive settlement amount-related data elements.

The issuer may receive a Reversal Request/0400 message containing a different value in DE 5 than was present in DE 5 of the original Authorization Request/0100 message. This difference occurs when the currency conversion rate used by the Authorization Platform changed between the time the Authorization Platform processed the original Authorization Request/0100 and the time the Authorization Platform processes the Reversal Request/0400 message.

If DE 4 converts to an amount that is more than 12 digits long in the settlement currency in DE 5, the Authorization Platform rejects the transaction with a format error in DE 4. When a customer receives this error code, it should verify that the transaction amount is correct.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

DE 6—Amount, Cardholder Billing

DE 6 (Amount, Cardholder Billing) indicates the transaction amount in the issuer’s currency. It is the amount billed to the cardholder in the cardholder account currency, excluding cardholder billing fees.

Attributes

| | |
|----------------------|----------------------------|
| Data Representation: | n-12 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–12 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

Following is the usage of DE 6 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | M |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

This data element must contain valid numeric data.

Application Notes

The Authorization Platform inserts this data element into all authorization and reversal messages. The Authorization Platform also will insert the following data elements to indicate the:

- Conversion factor used: DE 10 (Conversion Rate, Cardholder Billing)
- Conversion date: DE 16 (Date, Conversion)
- Issuer's currency: DE 51 (Currency Code, Cardholder Billing)

Issuers must adhere to the following when providing a partial approval Authorization Request/0110 message:

- If DE 39 is 87 (Purchase Amount Only, No Cash Back Allowed), DE 6 must be less than the requested amount
- If DE 39 is 10 (Partial Approval) and transaction is Automated Fuel Dispenser, DE 6 can be less, equal, or greater than requested amount.
- If DE 39 is 10 (Partial Approval) and transaction is not Automated Fuel Dispenser, DE 6 can be less or equal to the requested amount.

Where a minor unit of currency applies, amounts are expressed in the minor unit of currency without a decimal separator (example, value 100 represents USD 1.00).

This data element is defined as a mandatory echo in Authorization Request Response/0110 messages except when the issuer responds with DE 39 (Response Code, value 10 (Partial approval) or value 87 (Purchase amount only, no cash back allowed)).

The Authorization Platform forwards the partial approval amount in DE 6 of the Authorization Request Response/0110 to the acquirer.

The issuer may receive a Reversal Request/0400 message containing a different value in DE 6 than was present in DE 6 of the original Authorization Request/0100 message. This difference occurs when the currency conversion rate used by the Authorization Platform changed between the time the Authorization Platform processed the original Authorization Request/0100 and the time the Authorization Platform processes the Reversal Request/0400 message.

If DE 4 converts to an amount that is more than 12 digits long in the settlement currency in DE 5, the Authorization Platform rejects the transaction with a format error in DE 4. When a customer receives this error code, it should verify that the transaction amount is correct.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

DE 7—Transmission Date and Time

DE 7 (Transmission Date and Time) is the date and time that a message is entered into the Mastercard Network. Date and time must be expressed in Coordinated Universal Time (UTC).

Attributes

Data Representation: n-10

Length Field: N/A

| | |
|-------------|---------------------------|
| Data Field: | Contents of subfields 1–2 |
|-------------|---------------------------|

| | |
|------------|---|
| Subfields: | 2 |
|------------|---|

| | |
|----------------|---------------|
| Justification: | See subfields |
|----------------|---------------|

Usage

Following is the usage of DE 7 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Authorization Acknowledgement/0180 | ME | ME | • |
| Authorization Negative Acknowledgement/0190 | • | ME | ME |
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | ME | ME |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | ME | • | ME |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | ME | ME | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request Response/0810 | • | ME | ME |

| | | | |
|---|----|----|----|
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Network Management Request Response/0810—Host Session Activation/ Deactivation | • | ME | ME |
| Network Management Advice/0820 | • | M | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

See subfields

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 7 must remain unchanged for all messages associated with a given system transaction, which includes all responses and acknowledgements related to an original request message (such as authorization, file update, administrative, network management). For example, the same DE 7 is used in an Authorization Request/0100 and any related Authorization Request Response/0110, Authorization Advice/0120—Acquirer-generated, Authorization Advice/0120—System-generated, or Reversal Advice/0420—System-generated message.

The Reversal Request/0400 message is the exception to this rule. Reversal Request/0400 messages are treated as an originating request and must have a unique DE 7 value assigned. The DE 7 value from the original 0100 request is included in DE 90 (Original Data Elements) for transaction matching purposes.

Each message initiator must assign a DE 7 to each originating request message. Effective 12 October 2012, the transmission time provided in DE 7 must be within three minutes of the current time recorded by the Mastercard Network.

The combination of a message originator's DE 11 (Systems Trace Audit Number [STAN]) and DE 7 **must uniquely identify** any system transaction the message originator initiates on any given UTC day. These data elements together may be used as "key" data elements to identify and locate transaction records at some later time for the purpose of error resolution, settlement reconciliation, retrieval requests, and so forth.

Subfield 1—Date

DE 7, subfield 1 (Date) describes the valid date.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-4 |
| Data Field: | Contents of positions 1–4 |
| Justification: | N/A |

Values

This subfield must contain a valid date in MMDD format.

Subfield 2—Time

DE 7, subfield 2 (Time) describes the valid time.

Attributes

Data Representation: n-6

Data Field: Contents of positions 5–10

Justification: N/A

Values

Time must contain a valid time in hhmmss format.

DE 8—Amount, Cardholder Billing Fee

DE 8 (Amount, Cardholder Billing Fee) is the fee the issuer is to bill to the cardholder in the same currency as DE 6 (Amount, Cardholder Billing).

Attributes

Data Representation: n-8

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right with leading zeros

Usage

The Authorization Platform currently does not use this data element.

DE 9—Conversion Rate, Settlement

DE 9 (Conversion Rate, Settlement) is the factor used in the conversion from transaction to settlement amount. DE 4 (Amount, Transaction) is multiplied by DE 9 to determine DE 5 (Amount, Settlement).

Attributes

| | |
|----------------------|---|
| Data Representation: | n-8 |
| Length Field: | N/A |
| Data Field: | Contents of subfields 1–2 |
| Subfields: | 2 |
| Justification: | Right, excluding the decimal indicator that must be the leftmost digit. |

Usage

Following is the usage of DE 9 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | CE | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | C |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

The leftmost digit must be in the range 0–7 and denotes the number of positions that the decimal point shall be moved from the right. Example: For a value of "69972522," conversion rate is 9.972522.

Application Notes

The Authorization Platform will insert this data element into a message if the customer chooses to receive settlement amount-related data elements. If the settlement currency is the same as the acquirer's transaction currency, the conversion rate will be 1000000.

When used in Authorization/01xx messages, this data element should be interpreted as "Conversion Rate, Reporting" because settlement (for example, account "posting" or "memo posting") of funds does not occur "online" with Authorization/01xx messages and Reversal Advice/04xx messages.

Note that when this data element is present in a message, DE 5 (Amount, Settlement) and DE 50 (Currency Code, Settlement) also are present.

The issuer may receive a Reversal Request/0400 message containing a different value in DE 9 than was present in DE 9 of the original Authorization Request/0100 message. This difference occurs when the currency conversion rate used by the Authorization Platform changed between the time the Authorization Platform processed the original Authorization Request/0100 and the time the Authorization Platform processes the Reversal Request/0400 message.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 or Reversal Request/0400 message and was unable to complete currency conversion processing.

Subfield 1—Decimal Indicator

DE 9, subfield 1 (Decimal Indicator) indicates the number of positions the decimal point should be moved from the right.

Attributes

Data Representation: n-1

Data Field: Contents of position 1

Justification: N/A

Values

Must be in the range of 0–7.

Subfield 2—Conversion Rate

DE 9, subfield 2 (Conversion Rate) indicates the conversion rate.

Attributes

Data Representation: n-7

Data Field: Contents of positions 2–8

Justification: N/A

Values

Must be a valid conversion rate.

DE 10—Conversion Rate, Cardholder Billing

DE 10 (Conversion Rate, Cardholder Billing) is the factor used in the conversion from transaction to cardholder billing amount. DE 4 (Amount, Transaction) is multiplied by DE 10 to determine DE 6 (Amount, Cardholder Billing).

Attributes

| | |
|----------------------|---|
| Data Representation: | n-8 |
| Length Field: | N/A |
| Data Field: | Contents of subfields 1–2 |
| Subfields: | 2 |
| Justification: | Right, excluding the decimal indicator that must be the leftmost digit. |

Usage

Following is the usage of DE 10 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | M |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | CE | CE | • |

Values

Fixed length 8 positions; the leftmost decimal indicator denotes the number of positions that the decimal point shall be moved from the right. Example: For data element value "69972522," conversion rate is 9.972522. The leftmost digit must be in the range 0–7.

Application Notes

The Authorization Platform inserts this data element into all authorization and reversal messages. If the issuer's cardholder billing currency is the same as the acquirer's transaction currency, the conversion rate will be 1000000.

Note that DE 6 (Amount, Cardholder Billing) and DE 51 (Currency Code, Cardholder Billing) also are present.

The issuer may receive a Reversal Request/0400 message containing a different value in DE 10 than was present in DE 10 of the original Authorization Request/0100 message. This occurs when the currency conversion rate used by the Authorization Platform changed between the time the Authorization Platform processed the original Authorization Request/0100 and the time the Authorization Platform processes the Reversal Request/0400 message.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 or Reversal Request/0400 message and was unable to complete currency conversion processing.

Subfield 1—Decimal Indicator

DE 10, subfield 1 (Decimal Indicator) indicates the number of positions the decimal point should be moved from the right.

Attributes

Data Representation: n-1

Data Field: Contents of position 1

Justification: N/A

Values

Must be in the range of 0–7.

Subfield 2—Cardholder Billing Conversion Rate

DE 10, subfield 2 (Cardholder Billing Conversion Rate) indicates the cardholder billing conversion rate.

Attributes

Data Representation: n-7

Data Field: Contents of positions 2–8

Justification: N/A

Values

Must be a valid conversion rate.

DE 11—System Trace Audit Number (STAN)

DE 11 (Systems Trace Audit Number [STAN]) is a number a message initiator assigns to uniquely identify a transaction.

Attributes

Length of Length Field: N/A

Data Representation: n-6

Data Field: Contents of positions 1–6

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 11 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Authorization Acknowledgement/0180 | ME | ME | • |
| Authorization Negative Acknowledgement/0190 | • | ME | ME |
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | ME | ME |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |

| | | | |
|---|----|----|----|
| Reversal Advice Response/0430 | ME | ME | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | ME | • | ME |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | ME | ME | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Network Management Request Response/0810—Host Session Activation/Deactivation | • | ME | ME |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

This data element must **not** be all zeros or blanks.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 11 must remain unchanged for all messages associated with a given system transaction, which includes all responses and acknowledgements related to an original request message (such as authorization, file update, administrative, and network management). For example, the same DE 11 is used in an Authorization Request/0100 and any related Authorization Request Response/0110, Authorization Advice/0120—Acquirer-generated, Authorization Advice/0120—System-generated, or Reversal Advice/0420—System-generated message.

The Reversal Request/0400 message is the exception to this rule. Reversal Request/0400 messages are treated as an originating request and must have a unique DE 11 value assigned. The DE 11 value from the original 0100 request is included in DE 90 (Original Data Elements) for transaction matching purposes.

Each message initiator must assign DE 11 to each originating request message.

The combination of a message originator's DE 11 and DE 7 (Transmission Date and Time) **must uniquely identify** any system transaction the message originator initiates on any given UTC day. These data elements together may be used as key data elements to identify and locate transaction records at some later time for the purpose of error resolution, settlement reconciliation, retrieval requests.

Acquirers that process more than 999,999 transactions within a UTC day may repeat the same number.

DE 12—Time, Local Transaction

DE 12 (Time, Local Transaction) is the local time at which the transaction takes place at the point of card acceptor location.

Attributes

Data Representation: n-6

Length Field: N/A

Data Field: Contents of positions 1–6

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 12 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |

Values

Time must contain a valid time in hhmmss format.

Time must be specified in local time zone units, **not** in UTC units. The original value of this data element must not be changed. For example, if there is a delay between the time that a transaction was initiated or completed at a point of interaction and the time that the transaction was subsequently entered into the Authorization Platform, then DE 12 **must remain set to the actual local time** that the transaction was initiated at the card acceptor location.

If the transaction time is not known at the time of authorization (for example, in the case of a preauthorization request), the acquirer must use the authorization time in this field.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 12 is mandatory for all chip transactions (If missing, the Authorization Platform will not reject the message; however, a data integrity error will be reported.)

DE 12 is mandatory for all ATM transactions.

DE 12 is mandatory for all other card read transactions. (If it is missing, the Authorization Platform will not reject the message.)

DE 12 is mandatory for Mastercard Hosted Mobile Phone Top-up transactions.

DE 13—Date, Local Transaction

DE 13 (Date, Local Transaction) is the local month and day on which the transaction takes place at the point of card acceptor location.

Attributes

Data Representation: n-4

Length Field: N/A

Data Field: Contents of positions 1–4

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 13 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

Date must contain a valid date in MMDD format.

This date must be specified in local time zone units, **not** in UTC units. The original value of this data element must not be changed. For example, if there is a delay between the date that a transaction was initiated or completed at a point of interaction and the date that the transaction was subsequently entered into the Authorization Platform, DE 13 **must remain set to the actual local date** that the transaction was initiated at the card acceptor location.

If the transaction date is not known at the time of authorization (for example, in the case of a preauthorization request), the acquirer must use the authorization date in this field.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 13 is mandatory for all chip transactions (If missing, the Authorization Platform will not reject the message; however, a data integrity error will be reported.)

DE 13 is mandatory for all ATM transactions.

DE 13 is mandatory for all other card read transactions. (If missing, the Authorization Platform will not reject the message.)

DE 13 is mandatory for Mastercard Hosted Mobile Phone Top-up transactions.

DE 14—Date, Expiration

DE 14 (Date, Expiration) specifies the year and month after which an issuer designates a cardholder's card to be "expired."

Attributes

Data Representation: n-4

Length Field: N/A

Data Field: Contents of positions 1–4

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 14 (whether it is mandatory, conditional, optional, system-provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

| | | | |
|--|---|---|---|
| Reversal Request/0400 | C | • | C |
| Values | | | |
| This data element must consist of a year and a month in YYMM format. | | | |
| Application Notes | | | |
| This data element is defined and used identically within all Mastercard programs and services. | | | |
| IF... | | THEN... | |
| Track 1 or Track 2 (magnetic stripe) data is not present in the Authorization/01xx message | | DE 14 is conditional. | |
| Track 1 or Track 2 data (magnetic stripe) data is present in the Authorization/01xx message for Mastercard and Visa transactions | | DE 14 is optional. | |
| Track 1 or Track 2 (magnetic stripe) data is not present in the Authorization/01xx message for transactions other than Mastercard and Visa | | DE 14 is mandatory. | |
| The expiration date is unavailable | | DE 14 must not be present (applies to Mastercard and Visa only). | |
| An EMV transaction | | DE 14 must be populated with mandatory expiration date contained on the chip in TAG 5F24. | |

DE 15—Date, Settlement

DE 15 (Date, Settlement) is the date (month and day) that funds will be transferred between an acquirer and an issuer or an appropriate intermediate network facility (INF).

| | | | |
|--|---------------------------|-----|-----|
| Attributes | | | |
| Data Representation: | n-4 | | |
| Length Field: | N/A | | |
| Data Field: | Contents of positions 1–4 | | |
| Subfields: | N/A | | |
| Justification: | N/A | | |
| Usage | | | |
| Following is the usage of DE 15 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | Org | Sys | Dst |
| Authorization Request/0100 | • | X | M |

| | | | |
|--|----|----|----|
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | X | M |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | ME | X | M |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

This data element must consist of a month and day in MMDD format.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

For Authorization/01xx and Reversal Advice/04xx messages (in which there is no concurrent “online” settlement of funds), this data element is a date of “network reporting.” For example, the Authorization Platform provides program- or service-specific financial network business date to inform issuers and acquirers of the reporting date to which a transaction applies. It should be interpreted as “Date, Reporting.”

In all cases the Authorization Platform determines and inserts DE 15 in all originating Authorization/01xx and Reversal Advice/04xx messages.

The Authorization Platform provides this date. Therefore, this data element must not be present in any originating request or advice messages. Any customer processing system (CPS) or intermediate network facility (INF) **must not** change this date in any subsequent response message.

DE 16—Date, Conversion

DE 16 (Date, Conversion) indicates the effective date of DE 9 (Conversion Rate, Settlement) and also DE 10 (Conversion Rate, Cardholder Billing) whenever these data elements are present within a message.

Attributes

Data Representation: n-4

| | |
|----------------|---------------------------|
| Length Field: | N/A |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 16 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | M |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

This data element must consist of a month and day in MMDD format.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

DE 17—Date, Capture

DE 17 (Date, Capture) is the month and day the acquirer processed the transaction data.

Attributes

Data Representation: n-4

| | |
|----------------|-----|
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 18—Merchant Type

DE 18 (Merchant Type) is the classification (card acceptor business code/merchant category code [MCC]) of the merchant's type of business or service.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-4 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 18 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Reversal Request/0400 | M | • | M |

Values

This data element must contain a valid MCC. Refer to the *Quick Reference Booklet* for valid codes.

Application Notes

IF... **THEN...**

| | |
|---|--|
| The transaction is a Mastercard Electronic card Authorization Request/0100 message that occurs at magnetic stripe-reading or chip-reading terminals when the MCC represents a non-face-to-face environment, such as MCC 5542—Fuel Dispenser, Automated when PIN is present or chip is present with CAT 1. | The Authorization Platform sends the acquirer an Authorization Request Response/0100 where DE 39 (Response Code) = 58 (Transaction not permitted to acquirer/terminal). |
| The transaction is an Authorization Request/0100 or Reversal Request/0400 message and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 01 (Withdrawal) and DE 18 is not 6010 (Member Financial Institution—Manual Cash Disbursements) or 6011 (Member Financial Institution—Automated Cash Disbursements) | The Authorization Platform sends an Authorization Request Response/0110 or Reversal Request Response/0410 message where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 018 |
| The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 or Reversal Request/0400 message for a MoneySend Payment Transaction where: <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 does not contain MCC 6536 or MCC 6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met for MoneySend<ul style="list-style-type: none">– 0 = Not a CAT transaction– 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN– 2 = Authorized Level 2 CAT: Self-service terminal– 6 = Authorized Level 6 CAT: Electronic commerce• DE 124 is present | The Authorization Platform sends the OFI an Authorization Request Response/0110 or Reversal Request Response/0410 message where: <ul style="list-style-type: none">• DE 39 = 30 (Format error)• DE 44 = 018 (Merchant Type) |

DE 19—Acquiring Institution Country Code

DE 19 (Acquiring Institution Country Code) is the code of the country where the acquiring institution is located. Refer to the ISO 3166 specification for more information.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 20—Primary Account Number (PAN) Country Code

DE 20 (Primary Account Number [PAN] Country Code) is a code identifying the country where the card issuer is located.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 20 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

| | | | |
|--|----|----|---|
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |
| Network Management Request/0800—Sign-On/Sign-Off | C | C | • |

Values

Country Codes must be selected from the **numeric** ISO standard Country Codes. Refer to the *Quick Reference Booklet* for valid codes.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 20 is required in any Authorization Platform message when the associated DE 2 (Primary Account Number [PAN]) is present and begins with a 59 BIN. PANs beginning with a 59 are **not** guaranteed to be internationally unique without the use of this associated Country Code. When the BIN begins with 59, the country code entered in DE 20 is identified as that in IPM table 40 issuer account range.

DE 21—Forwarding Institution Country Code

DE 21 (Forwarding Institution Country Code) is the code of the country where the forwarding institution is located.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 22—Point-of-Service (POS) Entry Mode

DE 22 (Point-of-Service [POS] Entry Mode) consists of numeric codes to indicate the method by which the PAN was entered into the interchange system and to indicate the POS terminal PIN entry capabilities.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of subfields 1–2 |
| Subfields: | 2 |
| Justification: | See subfields |

Usage

Following is the usage of DE 22 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Reversal Request/0400 | M | • | M |
| Reversal Advice/0420 | • | M | M |

Values

See subfields

Application Notes

Following DE 22, subfield details are the [Authorization Platform Edits](#) that describe transaction-specific program and service edits for this data element.

PIN Management Transactions

Chip PIN Management: Only subfield 1, value 05 (PAN auto entry via chip) and subfield 2, value 1 (Terminal has PIN entry capability) are valid.

Magnetic Stripe PIN Management: subfield 1, values 02 and 90 are valid for magnetic stripe PIN change

All ATM Transactions

DE 22, subfield 2, must be value 1 (Terminal has PIN entry capability).

Mastercard Electronic Card

Mastercard Electronic consumer e-commerce MoneySend Payment Transactions do not require UCAF data (DE 48, subelement 43).

Short Message Service (SMS) Balance Inquiry service

Issuers participating in the Short Message Service (SMS) Balance Inquiry service will receive DE 22, subfield 1 (POS Terminal PAN Entry Mode), value 81 (PAN entry via electronic commerce, including chip).

Subfield 1—POS Terminal PAN Entry Mode

DE 22, subfield 1 (POS Terminal PAN Entry Mode) indicates how the PAN was entered at the terminal.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |

Values

| | |
|------|--|
| 00 = | PAN entry mode unknown |
| 01 = | PAN manual entry |
| 02 = | PAN auto-entry via magnetic stripe—track data is not required. OR The acquirer is not qualified to submit magnetic stripe transactions, so Mastercard replaced value 90 or 91 with value 02. |
| 03 = | PAN auto-entry via bar code reader |
| 04 = | PAN auto-entry via optical character reader (OCR) |
| 05 = | PAN auto-entry via chip |
| 06 = | PAN auto-entry via chip Contactless Mapping Service applied |

NOTE: As of 14 June 2016, Mastercard will no longer use value 06 for the Contactless Mapping Service. Acquirers are reminded to not use value 06.

| | |
|------|---|
| 07 = | PAN auto-entry via contactless M/Chip |
| 08 = | PAN auto-entry via contactless M/Chip Contactless Mapping Service applied NOTE: As of 14 June 2016, Mastercard will no longer use value 08 for the Contactless Mapping Service. Acquirers are reminded to not use value 08. |
| 09 = | PAN/Token entry via electronic commerce containing DSRP cryptogram in DE 55 (Integrated Circuit Card [ICC] System-Related Data). |
| 10 = | Visa only. PAN entry via credential on file. |

79 = A hybrid terminal with an online connection to the acquirer failed in sending a chip fallback transaction (in which DE 22, subfield 1 = 80) to the issuer.

or

A hybrid terminal with no online connection to the acquirer failed to read the chip card. The merchant is prompted to read the magnetic stripe from the card, the magstripe is successfully read and indicates a service code 2XX (or 6XX if card is domestic).

To complete the transaction in both cases, a voice transaction takes place during which the merchant communicates the PAN and the expiry date originating from the magstripe track 2 data to the acquirer. The acquirer then sends an online transaction to the issuer in which the value of DE 22, subfield 1 = 79 and in which DE 61 subfield 11 indicate that the terminal is chip capable.

Refer to the *M/Chip Requirements* for additional information.

80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip; therefore, the terminal defaulted to the magnetic stripe-read PAN. The full track data has been read from the data encoded on the card and transmitted within the Authorization Request/0100 in DE 45 (Track 1 Data) or DE 35 (Track 2 Data) without alteration or truncation. To use this value, the acquirer must be qualified to use value 90.

81 = PAN TokenName entry via electronic commerce with optional SecureCode-AAV or DSRP cryptogram in UCAF.

82 = PAN Auto Entry via Server (issuer, acquirer, or third party vendor system).

90 = PAN auto-entry via magnetic stripe—the full track data has been read from the data encoded on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation.

91 = PAN auto-entry via contactless magnetic stripe—the full track data has been transmitted by the acquirer within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) and forwarded to the issuer without alteration or truncation.

92 = Contactless input, Contactless Mapping Service applied when acquirer DE 22, subfield 1 = 91.

NOTE: As of 14 June 2016, Mastercard will no longer use value 92 for the Contactless Mapping Service. Acquirers are reminded to not use value 92.

95 = Visa only. Chip card with unreliable Card Verification Value (CVV) data.

Subfield 2—POS Terminal PIN Entry Mode

DE 22, subfield 2 (POS Terminal PIN Entry Mode) describes the capability of the terminal device to support/accept PIN entry.

Attributes

Data Representation: n-1

| | |
|----------------|--|
| Data Field: | Contents of position 3 |
| Justification: | N/A |
| Values | |
| 0 | = Unspecified or unknown |
| 1 | = Terminal has PIN entry capability |
| 2 | = Terminal does not have PIN entry capability |
| 8 | = Terminal has PIN entry capability but PIN pad is not currently operative |

Authorization Platform Edits

The Authorization Platform performs edits on specific programs and services.

Edits are performed on the following programs and services:

- Mastercard Electronic Card Transactions
- Chip Transactions
- Magnetic Stripe or Chip-Read Transactions for Mastercard Electronic Card
- Contactless Magnetic Stripe Transactions
- Visa Credential on File Transactions

Mastercard Electronic Card Transactions

The Authorization Platform performs a cross-edit between DE 22, subfield 1 and DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator) and DE 61 (Point-of-Service [POS] Data).

Authorization Request/0100 Message

| WHEN.... | THEN... |
|---|--|
| DE 22, subfield 1 contains the value 81 (PAN) | DE 48, subelement 42 must be present. entry via electronic commerce, including chip) |

Chip Transactions

If Mastercard determines through its Internal Chip Monitoring process that improperly formatted chip transactions are being submitted from acquirers not certified to send chip transactions, Mastercard will notify each acquirer before activating an edit.

Authorization Request/0100 message

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The Authorization Request/0100 message contains DE 22, subfield 1 = 05 or 07 or 09 and DE 55 is present and Acquirer Chip testing level associated with the acquirer indicates the acquirer is approved for partial grade chip transaction | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 055 |
| The Authorization Request/0100 message contains DE 22, subfield 1 contains value 09 and DE 55 is not present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is approved to send full grade chip transactions | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 = 055 |
| The Authorization Request/0100 message contains DE 22, subfield 1 contains value 05 or 07 or 09 and DE 55 may or may not be present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is not permitted to send chip transactions | Sends the acquirer an Authorization Request Response/0110 where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 022 |
| The Authorization Request/0100 message contains DE 22, subfield 1 contains value 09 and DE 61, subfield 4 does not contain value 5 and DE 61, subfield 10 does not contain value 6 | Sends the acquirer an Authorization Request Response/0110 where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 061 |
| The Authorization Request/0100 message contains DE 22, subfield 1 contains value 09 and DE 61, subfield 3 does not contain value 2 or 4 | Sends the acquirer an Authorization Request Response/0110 where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 061 |
| DE 55 is present in the Authorization Request/0100 message or the Authorization Advice/0120 message and DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 does not contain value 05, 07, 09 or 81 | Rejects the Authorization Request/0100 message or Authorization Advice/0120 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 055 |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>DE 22, subfield 1 contains value 05 or 07 and DE 55 may or may not be present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is not permitted to send chip transactions</p> | <p>Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where:</p> <ul style="list-style-type: none"> • DE 39 = 30 (Format error) • DE 44 = 022 |
| <p>DE 22, subfield 1, contains value 80 and the service code in DE 35—Track 2 Data is not 2xx or 6xx, indicating that it is not a chip card</p> | <p>Replaces DE 22, subfield 1, value 80 with value 90 before forwarding the Authorization Request/0100 message to the issuer and</p> <p>Notifies the acquirer of this downgrade by populating DE 48, subelement 74 (Additional Processing Information) in the Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • Subfield 1 = 90 (Chip Fallback Transaction Downgrade Process) • Subfield 2 = C (Completed Successfully) |

Authorization Advice/0120—Acquirer-generated Edit

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) contains value 80 and the service code in DE 35—Track 2 Data is not 2xx or 6xx, indicating that it is not a chip card</p> | <p>Replaces DE 22, subfield 1, value 80 with value 90 before forwarding the Authorization Advice/0120 message to the issuer.</p> |

Magnetic Stripe or Chip-Read Transactions for Mastercard Electronic Card

The Authorization Platform performs the following edits on DE 22 for Mastercard Electronic Card transactions.

Authorization Request/0100 Message

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Authorization Request/0100 message for a Mastercard Electronic card contains DE 22, subfield 1, value 02, 05, 07, 09, 80, 90, or 91 and the value in DE 18 is equal to a non-face-to-face environment | Determines whether the MCC in DE 18 (Merchant Type) is one of the following values that represent a non-face-to-face environment: <ul style="list-style-type: none">• 5960 = Direct Marketing—Insurance Services• 5962 = Direct Marketing—Travel- Related Arrangement Services• 5964 = Direct Marketing—Catalog Merchants• 5965 = Direct Marketing—Combination Catalog and Retail Merchants• 5966 = Direct Marketing—Outbound Telemarketing Merchants• 5967 = Direct Marketing—Inbound Telemarketing Merchants• 5968 = Direct Marketing—Continuity/ Subscription Merchants• 5969 = Direct Marketing—Other Direct Marketers—Not Elsewhere Classified Sends an Authorization Request Response/0110 message to the acquirer with DE 39 (Response Code), value 58 (Transaction not permitted to acquirer/terminal). |
| The Authorization Request/0100 message for a Mastercard Electronic card contains DE 22, subfield 1, value 02, 05, 07, 09, 80, 90, or 91, and DE 18 (Merchant Type) MCC value is 5542 (Fuel Dispensers, Automated) and DE 52 (Personal ID number [PIN] Data) or DE 55 (Integrated Circuit Card [ICC] System-related Data) is not present and DE 61, subfield 10 is not value 1 | Sends an Authorization Request Response/0110 message to the acquirer with DE 39 (Response Code), value 58 (Transaction not permitted to acquirer/terminal). |

Contactless Magnetic Stripe Transactions

The Authorization Platform will perform the following edit on authorization transactions that contain a contactless magnetic stripe account number that is participating in the Contactless Mapping Service.

Authorization Request/0100 Message

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 22, subfield 1 is value 91 and DE 35 or DE 45 is not present | Rejects the transaction and sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 022 |
| NOTE: This edit is not performed on an Authorization Advice/0120 message or a Reversal Request/0400 message because track data is not expected for a Reversal Request/0400 message and is optional for an Authorization Advice/0120 message. | |

Visa Credential on File Transactions

The Authorization Platform performs the following edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Authorization Platform receives an Authorization Request/0100 or Reversal Request/0400 message where: <ul style="list-style-type: none">• DE 22 (Point-of-Service Entry Mode), subfield 1 (Terminal Data: Card Data Input Capability) contains value 10, and• PAN in DE 2 (Primary Account Number [PAN]) is Non-Visa branded PAN | Rejects the message and forwards the acquirer an Authorization Request Response/0110 or Reversal Request Response/0410 message containing: <ul style="list-style-type: none">• DE 39 (Response Code) = 58 (Transaction not permitted to acquirer/terminal) |

DE 23—Card Sequence Number

DE 23 (Card Sequence Number) distinguishes among separate cards having the same DE 2 (Primary Account Number [PAN]) or DE 34 (Primary Account Number [PAN] Extended). Issuers may encode chip cards with Card Sequence Numbers. Acquirers with chip-reading capability may pass this information encoded on the chip in DE 23 of Authorization Request/0100 messages.

Attributes

Data Representation: n-3

| | |
|----------------|---------------------------|
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 23 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | C | • | C |

Values

Acquirers:

DE 23 must be three positions in the numeric range 000–099. For contact chip or contactless chip transactions where DE 22 subfield 1 is 05 or 07 respectively, DE 23 must contain the value of the Application PAN Sequence Number (EMV tag 5F34) as personalized on the chip. Considering that the Application PAN Sequence Number (EMV tag 5F34) is defined as a one-byte numeric value in the EMV specification, the terminal or the acquirer software must convert this one-byte numeric value to a three-byte value with leading zeros in DE 23. For example, if the value of EMV tag 5F34 on the chip card is 2, then the value of DE 23 is 002. For chip or contactless chip transactions, if EMV tag 5F34 is not personalized (not present) on the chip, DE 23 cannot be present in the authorization message.

When DE 23 (Card Sequence Number) is present in an Authorization Request/0100 message and the value is not in the range of 000–099, then the Authorization Platform forwards the Authorization Request Response/0110 where DE 39 = 30 (Format Error) and DE 44 (Additional Response Data) = 023.

If the account range is registered for the Authentication Indicator Type 1 Service, then DE 23 should be present.

Issuers:

The Authorization Platform does not cross-edit the presence or absence of DE 23 and the value in DE 22 (Point-of-Service [POS] Entry Mode) in Authorization Request/0100 messages. However, if DE 22 has a value 05 (PAN auto-entry via chip) or 07 (PAN auto-entry via contactless M/Chip) and if DE 23 is present in the Authorization Request/0100, DE 23 contains the card sequence number from the chip. If DE 22 has a value other than 05 or 07 and DE 23 is present, then DE 23 may contain erroneous information unrelated to the chip transaction.

Because of the potential for DE 23 to be present in Authorization/01xx messages, chip issuers must be prepared to receive store-and-forward (SAF) records containing DE 23.

Issuers must not return DE 23 in an Authorization Request Response/0110. If an issuer does so, Mastercard will delete DE 23 before passing the Authorization Request Response/0110 to the acquirer.

Application Notes

MDES Application Note

NOTE: The following feature only applies to tokens that use a secure element or cloud token type.

DE 23 is not provided unless the issuer opts to receive it.

For more information, refer to the *Mastercard Digital Enablement Service Issuer Implementation Guide*.

DE 24—Network International ID

DE 24 (Network International ID) identifies a single international network of card issuers.

Attributes

Data Representation: n-3

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 25—Point-of-Service (POS) Condition Code

DE 25 (Point-of-Service [POS] Condition Code) is an ID of the condition under which the transaction takes place at the point of interaction.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-2 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element. All Mastercard customers are required to use DE 61 for POS Condition Code information. DE 25 must not be used.

DE 26—Point-of-Service (POS) Personal ID Number (PIN) Capture Code

DE 26 (Point-of-Service [POS] Personal ID Number [PIN] Capture Code) indicates the technique, maximum number, or both of PIN characters that can be accepted by the POS terminal used to construct the PIN data.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | Right |

Usage

Following is the usage of DE 26 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

| | | |
|-------|---|---|
| 13–99 | = | Reserved |
| 04–12 | = | Indicates the maximum number of PIN characters that the terminal can accept |
| 00–03 | = | Invalid |

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 26 must be used to indicate the maximum number of PIN characters that the acquiring terminal device (for example; ATM and POS terminal) is capable of accepting.

The Authorization Platform requires that this data element be included in an Authorization Request/0100 message only when DE 52 (Personal ID Number [PIN] Data) is present and the maximum PIN character acceptance capability of the terminal is known to be other than 12 digits.

NOTE: This data element is not used to specify the number of PIN characters actually accepted by a POS terminal device.

DE 27—Authorization ID Response Length

DE 27 (Authorization ID Response Length) is the maximum length of the authorization response that the acquirer can accommodate. The issuer or its agent is expected to limit response to this length.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-1 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

ISO and Mastercard defined DE 38 (Authorization ID Response) to be a six-character data element. All issuers and acquirers are expected to be able to accommodate and use the six-character data element for all authorization ID response codes.

DE 28—Amount, Transaction Fee

DE 28 (Amount, Transaction Fee) is the fee charged (for example, by the acquirer) for transaction activity in the currency of DE 4 (Amount, Transaction).

Attributes

| | |
|----------------------|---------------|
| Data Representation: | an-9 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | 2 |
| Justification: | See subfields |

Usage

Following is the usage of DE 28 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | X | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Authorization Advice Response/0130—Issuer-generated | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | X | CE |
| Reversal Advice/0420 | • | X | C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

This data element may be present in a message whenever an online transaction fee is permitted by the operating rules of a bank card product.

The credit or debit indicator (the first position of the data element) applies to the message recipient. Within acquirer-generated message types, a D (debit) fee amount indicates that the fee is to be applied as a debit to the message recipient, the issuer, (and therefore as a credit to the message originator, the acquirer).

Application Notes

The Authorization Platform does not support real-time settlement of transaction fees or processing fees concurrently with each individual transaction. All such fees for each financial network are calculated and settled daily, upon completion of each financial network business day, for all customers.

NOTE: For acquirers that are approved to levy transaction fees, DE 28 must contain the transaction fee amount, and this amount also must be added to the requested amount contained in DE 4 (Amount, Transaction).

If DE 28 is not provided in an Authorization Request Response/0110 or Reversal Request Response/0410 or is provided but it contains a value different from the original request, the Authorization Platform will populate the DE 28 value from the original Authorization Request/0100 or Reversal Request/0400 message in the response message before sending to the acquirer.

If the Authorization Request/0100 message or Reversal Request/0400 message contains DE 28, and subfield 1 is not C or D or if subfield 2 is zeros or is greater than DE 4, then the Authorization Platform forwards to the acquirer an Authorization Request Response/0110 message or Reversal Request Response/0410 where DE 39 = 30 (Format Error) and DE 44 = 028.

WHEN an acquirer sends an Authorization Advice/0120 message and... THEN the Authorization Platform...

| | |
|---|--|
| DE 28 is not provided in an Authorization Advice Response/0130 message, or is provided, but it contains a value different from the original request | Populates the DE 28 value from the Authorization Advice/0120 message in the response message before sending to the acquirer. |
|---|--|

Subfield 1—Debit/Credit Indicator

DE 28, subfield 1 (Debit/Credit Indicator) indicates the program type.

Attributes

Data Representation: a-1

Data Field: Contents of position 1

Justification: N/A

Values

C = Credit

D = Debit

Application Notes

WHEN an acquirer sends an Authorization Advice/0120 message and... THEN the Authorization Platform...

| | |
|--|---|
| DE 28, subfield 1 (Debit/Credit Indicator) contains a value other than C (Credit) or D (Debit) | Forwards to the acquirer an Authorization Advice Response/0130 message where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error).• DE 44 (Additional Response Data) = 028 (indicating the data element in error). |
|--|---|

Subfield 2—Amount

DE 28, subfield 2 (Amount) indicates the fee amount in the currency of DE 4 (Amount, Transaction).

Attributes

Data Representation: n-8

Data Field: Contents of positions 2–9

Justification: Right with leading zeros

Values

The fee amount must not contain all zeros or be greater than DE 4 (Amount, Transaction).

DE 29—Amount, Settlement Fee

DE 29 (Amount, Settlement Fee) is the fee to be transferred between the acquirer and the issuer equal to DE 28 (Amount, Transaction Fee) in the currency of DE 5 (Amount, Settlement).

Attributes

Data Representation: an-9

Length Field: N/A

Data Field: N/A

Subfields: 2

Justification: See subfields

Usage

The Authorization Platform currently does not use this data element.

The Authorization Platform does not support real-time settlement of transaction fees or processing fees concurrently with each individual transaction. All such fees for each financial network are calculated and settled daily, upon completion of each financial network's business day, for all customers.

Subfield 1—Debit/Credit Indicator

DE 29, subfield 1 (Debit/Credit Indicator) indicates the program type.

| Attributes | |
|----------------------|------------------------|
| Data Representation: | a-1 |
| Data Field: | Contents of position 1 |
| Justification: | N/A |
| Values | |
| C = | Credit |
| D = | Debit |

Subfield 2—Amount

DE 29, subfield 2 (Amount) indicates the fee amount in the currency of DE 5 (Amount, Settlement).

| Attributes | |
|--|---------------------------|
| Data Representation: | n-8 |
| Data Field: | Contents of positions 2–9 |
| Justification: | Right with leading zeros |
| Values | |
| Fee amount in the currency of DE 5 (Amount, Settlement). | |

DE 30—Amount, Transaction Processing Fee

DE 30 (Amount, Transaction Processing Fee) is the fee charged (for example, by the acquirer, issuer, or INF) for the handling and routing of messages in the currency of DE 4 (Amount, Transaction).

| Attributes | |
|----------------------|---------------|
| Data Representation: | an-9 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | 2 |
| Justification: | See subfields |

Usage

The Authorization Platform currently does not use this data element.

The Authorization Platform does not support real-time settlement of transaction fees or processing fees concurrently with each individual transaction. All such fees for each financial network are calculated and settled daily, upon completion of each financial network's business day, for all customers.

Subfield 1—Debit/Credit Indicator

DE 30, subfield 1 (Debit/Credit Indicator) indicates the program type.

Attributes

Data Representation: a-1

Data Field: Contents of position 1

Justification: N/A

Values

C = Credit

D = Debit

Subfield 2—Amount

DE 30, subfield 2 (Amount) indicates the fee amount in the currency of DE 4 (Amount, Transaction).

Attributes

Data Representation: n-8

Data Field: Contents of positions 2-9

Justification: Right with leading zeros

Values

Fee amount in the currency of DE 4 (Amount, Transaction).

DE 31—Amount, Settlement Processing Fee

DE 31 (Amount, Settlement Processing Fee) is the fee charged (for example, by the acquirer, issuer, or INF) for the handling and routing of messages in the currency of DE 5 (Amount, Settlement).

Attributes

Data Representation: an-9

Length Field: N/A

Data Field: N/A

Subfields: 2

Justification: See subfields

Usage

The Authorization Platform currently does not use this data element.

The Authorization Platform does not support real-time settlement of transaction fees or processing fees concurrently with each individual transaction. All such fees for each financial network are calculated and settled daily, upon completion of each financial network's business day, for all customers.

Subfield 1—Debit/Credit Indicator

DE 31, subfield 1 (Debit/Credit Indicator) indicates the program type.

Attributes

Data Representation: a-1

Data Field: Contents of position 1

Justification: N/A

Values

C = Credit

D = Debit

Subfield 2—Amount

DE 31, subfield 2 (Amount) indicates the fee amount in the currency of DE 5 (Amount, Settlement).

Attributes

Data Representation: n-8

Data Field: Contents of positions 2–9

Justification: Right with leading zeros

Values

Fee amount in the currency of DE 5 (Amount, Settlement).

DE 32—Acquiring Institution ID Code

DE 32 (Acquiring Institution ID Code) identifies the acquiring institution (for example, merchant bank) or its agent.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n...6; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 32 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | ME | • | ME |

Values

A Mastercard customer ID number that Mastercard assigned to the entity acting as the acquiring institution for a transaction.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 32 **must** contain a six-digit customer ID number assigned by Mastercard that identifies the institution acting as the “acquiring bank” or “merchant bank” for a transaction.

When an institution acts as the customer processing system (CPS) or intermediate network facility (INF) for an acquirer, the institution **must**:

- Provide the acquirer’s Mastercard-assigned six-digit customer ID in DE 32
and
- Provide its Mastercard-assigned six-digit customer ID in DE 33 (Forwarding Institution ID Code)

The Mastercard customer ID number must be set up in the Authorization Platform for participants to process Administrative Request/06xx messages.

| IF... | THEN... |
|--|---|
| In a Mastercard transaction, the acquirer submits a transaction with a value of 90 in DE 22 (Point-of-Service [POS] Entry Mode) | DE 45 (Track 1 Data) or DE 35 (Track 2 Data) must be present, and DE 32 must contain the proper Mastercard customer ID number. |
| The Authorization Request/0100, Authorization Advice/0120, or Reversal Request/0400 message contains DE 32 and DE 32 is not 6 digits in length | The Authorization Platform forwards the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 where DE 39 = 30 (Format Error) and DE 44 = 032. |

For bridged transactions acquired on the Single Message System, issuers will receive the 6-digit customer ID number assigned by Mastercard that identifies the institution acting as the “acquiring bank” or “merchant bank” for a transaction in DE 32 (Acquiring Institution Identification Code) of the authorization message instead of a Mastercard-assigned internal ICA.

NOTE: Transactions that have passed between platforms (Single Message System to Dual Message System, Dual Message System to Single Message System) are referred to as bridged transactions.

Visa transactions:

Acquirers must use their Mastercard-assigned customer ID in DE 32 of Visa-branded authorizations, and must also provide their Visa-assigned acquirer BIN to the Global Customer Service team.

DE 33—Forwarding Institution ID Code

DE 33 (Forwarding Institution ID Code) identifies the institution forwarding a Request or Advice message in an interchange system if it is not the same institution as specified in DE 32 (Acquiring Institution ID Code). DE 33 is used within a message to contain the Mastercard six-

digit customer ID number of the CPS or INF responsible for directly routing that message to the Authorization Platform.

Attributes

| | |
|----------------------|--------------|
| Data Representation: | n...6; LLVAR |
|----------------------|--------------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

| | |
|-------------|---------------------------|
| Data Field: | Contents of positions 1–6 |
|-------------|---------------------------|

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of DE 33 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | ME | ME |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | CE | • | CE |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | ME | ME | • |
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—PEK Exchange | M | M | • |

| | | | |
|---|----|----|----|
| Network Management Request/0800—PEK Exchange—On Demand | • | M | M |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request Response/0810 | • | ME | ME |
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Network Management Request Response/0810—Host Session Activation/ Deactivation | • | ME | ME |
| Network Management Advice/0820 | • | M | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

This data element, when used, must contain a valid Mastercard customer ID number.

Application Notes

DE 33 must be present in messages together with DE 32 whenever the Mastercard customer ID number of a CPS or INF is different than the Mastercard customer ID number of the actual acquiring institution.

Automated Referral Service (ARS) store-and-forward transactions are included with other Stand-In processing transactions and are identified with a 003850 in DE 33 of the Authorization Advice/0120 message.

The Mastercard customer ID number must be set up in the Authorization Platform for participants to process Administrative Request/06xx messages.

If an Authorization Request/0100, Authorization Advice/0120, or Reversal Request/0400 message contains DE 33 and DE 33 is not 6 digits in length, then the Authorization Platform will forward to the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 where DE 39 = 30 (Format Error) and DE 44 = 033.

DE 34—Primary Account Number (PAN), Extended

DE 34 (Primary Account Number [PAN], Extended) identifies a customer account or relationship, and is used only when PAN begins with a 59 BIN.

Attributes

| | |
|----------------------|-----------------|
| Data Representation: | ans...28; LLVAR |
| Length Field: | 2 |
| Data Field: | N/A |
| Subfields: | N/A |

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

The Authorization Platform currently does not use this data element.

DE 35—Track 2 Data

DE 35 (Track 2 Data) is the information encoded on track 2 of the card magnetic stripe as defined in the ISO 7813 specification, including data element separators but excluding beginning and ending sentinels and longitudinal redundancy check (LRC) characters as defined therein.

Attributes

| | |
|----------------------|-----------------|
| Data Representation: | ans...37; LLVAR |
|----------------------|-----------------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

| | |
|-------------|----------------------------|
| Data Field: | Contents of positions 1–37 |
|-------------|----------------------------|

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of DE 35 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | X | C |
| Authorization Advice/0120—Acquirer-generated | O | • | O |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Whenever DE 35 is captured automatically at the point of interaction, DE 35 must contain whatever is encoded on the magnetic stripe (track 2) of the card, regardless of whether the card has been properly encoded with information in accordance with ISO specifications. The ISO 7810, 7811, 7812, and 7813 specifications document the international standards for encoding information on magnetic stripe cards.

For chip transactions, DE 35 carries data read from the chip as EMV tag 57 (Track 2 Equivalent Data). All ICCs issued by Mastercard customers must support EMV tag 57 (Track 2 Equivalent Data). Since January 2008, the value of the CVC in EMV tag 57 (Track 2 Equivalent Data) on the chip and the CVC value on the physical magnetic stripe must be different.

DE 35 must contain the hexadecimal digits “0” through “9” and “D” or “=” (the equal sign).

Application Notes

The account number in DE 2 (Primary Account Number [PAN]) or DE 34 (Primary Account Number [PAN], Extended) must match the account number in DE 35.

This data element is defined and used identically within all Mastercard programs and services.

DE 35 is mandatory for all chip transactions (if missing, the Authorization Platform will not reject the message; however, a data integrity error will be reported).

DE 35 is mandatory for all ATM transactions. For Maestro transactions, such as e-commerce, the Authorization Platform creates track 2 data if it is not provided by the acquirer.

DE 35 is optional for 0120 AFD completion advice. See *AFD Completion* for more detail.

The field separator character (binary 1101) is represented as the EBCDIC character D. However, because many ATM and POS devices perform nonstandard character translation while reading binary coded decimal (BCD) encoded magnetic stripe data, the EBCDIC character "=" may also be used to represent the field separator character in magnetic stripe data.

Following is Track 2 information content and format for Mastercard transactions:

| Field ID and Name | F (Fixed), V (Variable) | Maximum Length |
|---|-------------------------|--|
| 1 Start Sentinel ¹⁵ | F | n-1 |
| 2 Primary Account Number | V | n...19 |
| 3 Separator (binary) | F | ans-1 |
| 4 Expiration Date | F | ans-4 |
| 5 Extended Service Code | F | ans-3 |
| 6 Discretionary Data (must include CVC 1) | V | Balance of available digits not to exceed total track length of 40 characters. |
| 7 End Sentinel ⁸ | F | n-1 |
| 8 Longitudinal Redundancy Check | F | n-1 |

**NOTE: These fields are encoded on the card
but must be omitted within Track 2 data.**

Refer to the *Security Rules and Procedures* for additional Track 2 data information.

¹⁵ These fields are encoded on the card but must be omitted within Track 2 data.

DE 36—Track 3 Data

DE 36 (Track 3 Data) is the information encoded on track 3 of the card magnetic stripe as defined in the ISO 4909–1986 specification, including data element separators but excluding beginning and ending sentinels and LRC characters as defined therein.

Attributes

Data Representation: ans...104; LLLVAR

Length Field: 2

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 37—Retrieval Reference Number

DE 37 (Retrieval Reference Number) is a document reference number supplied by the system retaining the original source document of the transaction and assists in locating that source document or a copy thereof. DE 37 is made available for use by automated merchant POS systems that may be interconnected into the interchange system. Merchant POS systems may assign a unique receipt or sales document ID to be used to satisfy regulatory or legal requirements when the merchant performs source document capture and truncation. DE 37 may be used to relay source document reference numbers to the issuer at the time each transaction is processed.

Attributes

Data Representation: an-12

Length Field: 2

Data Field: Contents of positions 1–12

Subfields: 2 (for chip transactions)

Justification: See subfields

Usage

Following is the usage of DE 37 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|----|----|----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

Number assigned by the acquirer.

When present, DE 37 must contain a value other than all zeros or all spaces.

DE 37 can have trailing spaces if the transaction is not a Visa or EMV chip transaction.

Application Notes

The Authorization Platform will pass DE 37, unaltered, to the receiving entity. The receiving entity must return this data element within any corresponding response.

DE 37 is mandatory for all chip transactions (DE 22 = 05x or 07x), chip fallback transactions (DE 22 = 80x), as well as contactless magnetic stripe transactions (DE 22 = 91x). If DE 37 is not present, the Authorization Platform will not reject the message.

DE 37 is mandatory for all ATM transactions.

DE 37 is mandatory for all other card read transactions. (If missing, the Authorization Platform will not reject the message.)

Visa Transactions: Acquirers that use the Mastercard Network must populate CIS DE 37 with a 12-position, all numeric value containing a valid Julian date, in Visa Authorization Request/0100 and Reversal Request/0400 messages.

The format for CIS DE 37 on Visa transactions is (ydddhhnnnnnn):

- yddd (positions 1–4) is the year and day of year, equivalent of the value from DE 7 (Transmission Date and Time), y=0–9, ddd=001–366
- hh (positions 5 and 6) is the hours value from the time in DE 7 (Transmission Date and Time)
- nnnnnn (positions 7–12) is the value from DE 11 (Systems Trace Audit Number)

Visa will only edit positions 1–4. To avoid problems with system edits that may detect and reject duplicate and reused CIS DE 37 values, Visa recommends that endpoints construct CIS DE 37, positions 5–12 from the data in CIS DE 7 and CIS DE 11.

Acquirers may construct DE 37 in the same manner for Mastercard, as is indicated above for Visa messages.

Subfield 1—Transaction Date and Initiator Discretionary Data

DE 37, subfield 1 (Transaction Date and Initiator Discretionary Data) is used to pass chip data. The value information is specific to chip transactions.

Attributes

Data Representation: an-7

Data Field: Contents of positions 1–7

Justification: Left

Values

The date (MMDD) the transaction is captured at the point-of-service terminal.

If no discretionary data is included, the remaining three positions of this subfield should be zero-filled.

This subfield is left-justified with trailing zeros.

Subfield 2—Terminal Transaction Number

DE 37, subfield 2 (Terminal Transaction Number) is a unique number that identifies the transaction with a specific POS terminal within a specific 24 hour time period. The value information is specific to chip transactions.

Attributes

Data Representation: n-5

Data Field: Contents of positions 8–12

Justification: Right

Values

The Terminal Transaction Number—A sequential number, per terminal. Only numeric data may be present in this subfield. This subfield must contain a unique number that identifies the transaction with a specific POS terminal within a specific 24 hour time period.

Mastercard recommends that this subfield contain the value of the Transaction Sequence Counter (EMV tag 9F41), if available.

This subfield is right-justified with leading zeros.

DE 38—Authorization ID Response

DE 38 (Authorization ID Response) is a transaction response ID code that the authorizing institution assigns. DE 38 is used to transmit a card issuer's "authorization code" for Authorization transactions.

Attributes

Data Representation: ans-6

Length Field: N/A

Data Field: Contents of positions 1–6

Subfields: N/A

Justification: Left

Usage

Following is the usage of DE 38 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |

| | | | |
|--|---|---|---|
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

When present, DE 38 must be left-justified and cannot contain all spaces, embedded spaces, all low values, or all high values.

Application Notes

In general, the authorization code used in DE 38 may be any combination of alphanumeric characters. However, the following table identifies the standard conventions the major brands use:

| Card Type | Length | Authorization ID Response Code Format |
|------------------|--------|---|
| Mastercard | 6 | alphanumeric, with no spaces or special characters. |
| Visa | 6 | alphanumeric, with no special characters. |
| American Express | 6 | alphanumeric, trailing space(s). |
| Diners Club | 6 | numeric, trailing space(s). |
| Discover | 6 | numeric, trailing space(s). |

DE 38 is mandatory in the Authorization Request Response/0110 message when DE 39 (Response Code) contains the value 00 (approved), 08 (Honor with ID), 10 (Partial Approval), 85 (Not Declined), or 87 (Purchase amount only, no cash back allowed). If the transaction is approved by Stand-In processing, a six-digit authorization approval code beginning with "8" appears in this field.

DE 38, position 6 may contain any of the following Account Level Management account category codes when the account range is participating in an Account Level Management service. Valid account category codes by program are:

- B—Enhanced Value (Enhanced Value and High Spend)
- C—Level 1 (Small Business Spend Processing)
- D—Level 1 (Small Business Spend Processing and Product Graduation)
- E—Level 2 (Small Business Spend Processing)
- F—Level 2 (Small Business Spend Processing and Product Graduation)
- G—Level 3 (Small Business Spend Processing)
- H—Level 3 (Small Business Spend Processing and Product Graduation)
- J—Level 4 (Small Business Spend Processing)
- K—Level 4 (Small Business Spend Processing and Product Graduation)
- M = Enhanced Value (Enhanced Value and High Spend) and Product Graduation
- P = Product Graduation (or the Co-brand Proprietary card program)
- S = High Value and Premium High Spend
- T = High Value and Product Graduation
- W = Spend Shortfall
- Y = Spend Shortfall and Product Graduation
- Z = The default value provided by Mastercard indicating that while the account range does participate in Account Level Management processing, the specific cardholder account found in DE 2 (Primary Account Number [PAN]) of the transaction does not participate in Account Level Management processing.

Issuers: If DE 48, subelement 38 is present in the Authorization Request/0100 message and the issuer approves the request, then the Authorization Request Response/0110 message, DE 38, position 6 should contain the same value as received in DE 48, subelement 38.

Failure to include the category code in DE 38, position 6 on the approved authorization will cause the authorization request to be routed to and processed by the Stand-In System.

Acquirers: Acquirers should use DE 38, position 6 if the Authorization Request Response/0110 message was approved (DE 39 = 00, 08, 10, 85, or 87). Acquirers should use this value in their clearing process as indicated by IPM Clearing Member Parameter Extract (MPE). If the issuer provides DE 38 in an Authorization Request Response/0110 message and DE 39 is not an approval (00, 08, 10, 85, or 87), the Authorization Platform removes the DE 38 value from the response to the acquirer.

DE 39—Response Code

DE 39 (Response Code) defines the disposition of a previous message or an action taken as a result of receipt of a previous message. Response codes also are used to indicate approval or decline of a transaction. In the event an authorization is declined, the response code indicates the reason for rejection and may indicate an action to be taken at the card acceptor (for example, capture card).

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | an-2 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 39 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request Response/0110 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | M | M | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | M | • | M |
| Authorization Advice Response/0130—System-generated | • | M | M |
| Authorization Acknowledgement/0180 | M | M | • |
| Authorization Response Negative Acknowledgement/0190 | • | M | M |
| Issuer File Update Request Response/0312 | • | M | M |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | M | • | M |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | M | M | • |
| Administrative Request Response/0610 | M | • | M |
| Administrative Advice Response/0630 | M | M | • |
| Network Management Request Response/0810 | • | M | M |
| Network Management Request Response/0810—Network Connection Status, Member-generated | M | M | • |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | M | M |
| Network Management Request Response/0810—Host Session Activation/Deactivation | • | M | M |

| | | | |
|---|---|---|---|
| Network Management Request Response/0810—PEK Exchange | M | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | M | M |

Values

Valid values are listed by message type.

Application Notes

DE 39 must be present in all Request Response, Advice Response, and Acknowledgement messages. In addition, it is also present in Authorization Advice/0120 Stand-In messages to indicate the response code used in the Authorization Request Response/0110 to the original Authorization Request/0100.

The following information applies to purchase only, no cash back allowed responses from an issuer.

| The issuer must provide... | The acquirer will receive... |
|--|---|
| The approved amount (purchase amount) in DE 6 (Amount, Cardholder Billing) in the issuer's cardholder billing currency. This amount must be the purchase amount as calculated by subtracting the DE 54 (Additional Amounts) cash back amount and, if applicable, DE 28 (Amount, Transaction Fee) from the DE 6 amount present in the Authorization Request/0100 message in the amount data element that corresponds to the issuer's cardholder billing currency. | The purchase-only approval amount in the acquirer's transaction currency in DE 4 |
| DE 38 (Authorization ID Response) | DE 38 |
| DE 39 value 87 (Purchase only, no cash back allowed) | DE 39, value 87 |
| DE 51 (Currency Code, Cardholder Billing) with the issuer's cardholder billing currency code | An occurrence of the original amount of the transaction in DE 54 (Additional Amounts) in the acquirer's transaction currency. The original amount is identified by DE 54, subfield 2 (Amount Type), value 57 (Original Amount), and subfield 4 (Amount), value C plus 12-digit original amount. |
| IF the issuer provides a response code value of... | THEN the Authorization Platform... |
| 87 (Purchase Amount Only, No Cash Back Allowed) in the Authorization Request Response/0110 (applies to Mastercard only) | Requires that the amounts in DE 28 (Amount, Transaction Fee) and DE 54 (Additional Amounts) are subtracted from DE 6 (Amount, Cardholder Billing). |

The Authorization Platform responds as indicated for Mastercard transactions only.

| IF the issuer provides a response code value of... | THEN the Authorization Platform... |
|--|------------------------------------|
| | |

| | |
|---|--|
| 91, 92, or 96 in the Authorization Request Response/0110 (applies to Mastercard only) | Automatically invokes Stand-In processing. The Stand-In System processes the transaction according to issuer-specified parameters that generate the issuer-specified response (for example, approve, decline, refer, or capture card). |
| 00, 08, 10, 85, or 87 in the Authorization Request Response/0110 | Requires that DE 38 (Authorization Identification Response) is present. |
| Invalid values in DE 39 for a Mastercard ATM transaction... | Instead, the issuer should use the following response code... |
| 01, 03, 08, 12, 15, 63, 76, 77, or 87 | 57 |
| 78 | 14 |
| 84 or 94 | Any valid response code |
| WHEN the acquirer or issuer... | THEN the Authorization Platform... |
| Sends a Network Management/0800 group sign-off message (DE 70 = 062 or 064) within three minutes of the previous 0800 message for the same sign-on Member Group ID (DE 2 —Primary Account Number [PAN]) | Generates the Network Management Response/0810 message where DE 39 (Response Code) = 96 (System error). |

Authorization Request Response/0110 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|---|-------------|----|----|----|----|----|----|
| 00 = Approved or completed successfully | Approve | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 = Refer to card issuer | Call Issuer | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 03 = Invalid merchant | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 04 = Capture card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 05 = Do not honor ¹⁶ | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 08 = Honor with ID | Approve | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 10 = Partial Approval | Approve | ✓ | ✓ | ✓ | | ✓ | |
| 12 = Invalid transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 13 = Invalid amount | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 = Invalid card number | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

¹⁶ Issuers should use this response code only when no other reason code applies.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|--|-------------|-----------|-----------|-----------|-----------|-----------|
| 15 | = | Invalid issuer | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 | = | Format error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 41 | = | Lost card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 | = | Stolen card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 51 | = | Insufficient funds/over credit limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 54 | = | Expired card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 55 | = | Invalid PIN | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | = | Transaction not permitted to issuer/cardholder ¹⁷ | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 58 | = | Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 61 | = | Exceeds withdrawal amount limit ¹⁸ | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 62 | = | Restricted card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 | = | Security violation | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 65 | = | Exceeds withdrawal count limit ¹⁹ | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 70 | = | Contact Card Issuer | Call Issuer | ✓ | ✓ | | ✓ | ✓ |
| 71 | = | PIN Not Changed | Decline | ✓ | ✓ | | ✓ | ✓ |
| 75 | = | Allowable number of PIN tries exceeded | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 76 | = | Invalid/nonexistent “To Account” specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 77 | = | Invalid/nonexistent “From Account” specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 78 | = | Invalid/nonexistent account specified (general) | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 81 | = | Domestic Debit Transaction Not Allowed (Regional use only) ²⁰ | Decline | ✓ | | | | |

¹⁷ Issuers should use this response code when their host blocks transactions based on specific transaction processing or fraud rules.

¹⁸ Issuers may also use this response code for transaction types other than ATM.

¹⁹ Issuers may also use this response code for transaction types other than ATM.

²⁰ Refer to the Canada Region Debit Mastercard Merchant Acceptance section in the Program and Service Format Requirements chapter of this manual for details on the use of this response code for Canada-acquired transactions.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 84 | = | Invalid Authorization Life Cycle | Decline | | ✓ | | | |
| 85 | = | Not declined | Valid | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | Valid for all zero amount transactions. | | | | | | |
| 86 | = | PIN Validation not possible | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 87 | = | Purchase Amount Only, No Cash Back Allowed | Approved | ✓ | | | ✓ | |
| 88 | = | Cryptographic failure | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 89 | = | Unacceptable PIN—Transaction Declined—Retry | Decline | ✓ | ✓ | | ✓ | ✓ |
| 91 | = | Authorization System or issuer system inoperative | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 92 | = | Unable to route transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 | = | Duplicate transmission detected | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

Authorization Advice/0120 Response Codes

The following DE 39 response codes are valid in this message.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| 00 | = | Approved or completed successfully | Approve | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 | = | Refer to card issuer | Call Issuer | ✓ | ✓ | ✓ | ✓ | ✓ |
| 03 | = | Invalid merchant | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 04 | = | Capture card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 05 | = | Do not honor | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 08 | = | Honor with ID | Approve | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10 | = | Partial Approval | Approve | ✓ | ✓ | ✓ | | ✓ |
| 12 | = | Invalid transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 13 | = | Invalid amount | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 | = | Invalid card number | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|---|-------------|-----------|-----------|-----------|-----------|-----------|
| 15 | = | Invalid issuer | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 | = | Format error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 41 | = | Lost card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 | = | Stolen card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 51 | = | Insufficient funds/over credit limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 54 | = | Expired card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 55 | = | Invalid PIN | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | = | Transaction not permitted to issuer/cardholder | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 58 | = | Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 61 | = | Exceeds withdrawal amount limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 62 | = | Restricted card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 | = | Security violation | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 65 | = | Exceeds withdrawal count limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 70 | = | Contact Card Issuer | Call Issuer | ✓ | ✓ | | ✓ | ✓ |
| 71 | = | PIN Not Changed | Decline | ✓ | ✓ | | ✓ | ✓ |
| 75 | = | Allowable number of PIN tries exceeded | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 76 | = | Invalid/nonexistent "To Account" specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 77 | = | Invalid/nonexistent "From Account" specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 78 | = | Invalid/nonexistent account specified (general) | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 84 | = | Invalid Authorization Life Cycle | Decline | | ✓ | | | |
| 86 | = | PIN Validation not possible | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 87 | = | Purchase Amount Only, No Cash Back Allowed | Approved | ✓ | | | ✓ | |
| 88 | = | Cryptographic failure | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 89 | = | Unacceptable PIN— Transaction Declined—Retry | Decline | ✓ | ✓ | | ✓ | ✓ |
| 91 | = | Authorization System or issuer system inoperative | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 92 | = | Unable to route transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 | = | Duplicate transmission detected | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

Authorization Advice Response/0130 Response Codes

The following DE 39 response codes are valid in this message.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 | = | Approved or completed successfully | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 12 | = | Invalid transaction | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 | = | Invalid card number | — | ✓ | | | ✓ | ✓ |
| 30 | = | Format error | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | = | Transaction not permitted to issuer/cardholder. Valid only for Pay with Rewards Service | — | ✓ | | | | |
| 94 | = | Duplicate Transmission detected | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | — | ✓ | ✓ | ✓ | ✓ | ✓ |

Authorization Advice Response/0180 Response Codes

The following DE 39 response codes are valid in this message.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 | = | Completed successfully | — | ✓ | ✓ | ✓ | ✓ | ✓ |

Authorization Negative Acknowledgement/0190 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|-----------------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30 = Format error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 68 = Response received late | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 = System error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Issuer File Update Request Response/0312 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|--|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 = Issuer File Update action completed successfully | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 25 = Unable to locate record on file (no action taken) | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 26 = Record not in active status | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 27 = Issuer File Update field edit error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 28 = Record permanently deleted | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 29 = Delete request less than 540 days | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 = Format error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 40 = Requested function not supported | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 = Security violation | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 80 = Duplicate add, action not performed | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 = System error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Reversal Request/0400 Message Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|---|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 = Approved or completed successfully | Approve | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 = Refer to card issuer | Call Issuer | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 03 | = | Invalid merchant | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 04 | = | Capture card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 05 | = | Do not honor | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 06 | = | Error (/0400 only) | Decline | ✓ | | | ✓ | ✓ |
| 08 | = | Honor with ID | Approve | ✓ | ✓ | ✓ | ✓ | |
| 10 | = | Partial Approval | Approve | ✓ | ✓ | ✓ | | ✓ |
| 12 | = | Invalid transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 13 | = | Invalid amount | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 | = | Invalid card number | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 15 | = | Invalid issuer | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 17 | = | Customer cancellation (/0400 only) | Decline | ✓ | | | ✓ | ✓ |
| 30 | = | Format error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 32 | = | Partial reversal (/0400 only) | Decline | ✓ | | | ✓ | ✓ |
| 34 | = | Suspect Fraud (/0400 only) | Decline | ✓ | ✓ | | ✓ | |
| 41 | = | Lost card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 | = | Stolen card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 51 | = | Insufficient funds/over credit limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 54 | = | Expired card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 55 | = | Invalid PIN | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | = | Transaction not permitted to issuer/cardholder | Decline | ✓ | ✓ | ✓ | | ✓ |
| 58 | = | Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | ✓ | | ✓ |
| 61 | = | Exceeds withdrawal amount limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 62 | = | Restricted card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 | = | Security violation | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 65 | = | Exceeds withdrawal count limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 68 | = | Response received late (/0400 only) | Decline | ✓ | | | ✓ | ✓ |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|---|-------------|-----------|-----------|-----------|-----------|-----------|
| 70 | = | Contact Card Issuer | Call Issuer | ✓ | ✓ | | ✓ | ✓ |
| 71 | = | PIN Not Changed | Decline | ✓ | ✓ | | ✓ | ✓ |
| 75 | = | Allowable number of PIN tries exceeded | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 76 | = | Invalid/nonexistent "To Account" specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 77 | = | Invalid/nonexistent "From Account" specified | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 78 | = | Invalid/nonexistent account specified (general) | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 84 | = | Invalid Authorization Life Cycle | Decline | | ✓ | | | |
| 85 | = | Not declined | Valid | ✓ | ✓ | | ✓ | ✓ |
| 86 | = | PIN Validation not possible | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 87 | = | Purchase Amount Only, No Cash Back Allowed | Approved | ✓ | | | ✓ | |
| 88 | = | Cryptographic failure | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 89 | = | Unacceptable PIN—Transaction Declined—Retry | Decline | ✓ | ✓ | | ✓ | ✓ |
| 91 | = | Authorization System or issuer system inoperative | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 92 | = | Unable to route transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 | = | Duplicate transmission detected | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

Reversal Request Response/0410 Response Codes

The following DE 39 response codes are valid in this message.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| 00 | = | Approved or completed successfully | Approve | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 | = | Refer to card issuer | Call Issuer | ✓ | ✓ | ✓ | ✓ | ✓ |
| 12 | = | Invalid transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

| Values | Action | MC | NP | VI | TE | MS | CI |
|---|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 13 = Invalid amount | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 = Invalid card number | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 = Format error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 41 = Lost card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 = Stolen card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 = Transaction not permitted to issuer/ cardholder | Decline | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 58 = Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 62 = Restricted card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 = Security violation | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 76 = Invalid/nonexistent "To Account" specified | Decline | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 77 = Invalid/nonexistent "From Account" specified | Decline | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 91 = Authorization System or issuer system inoperative | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 92 = Unable to route transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 = Duplicate transmission detected | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 = System error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Reversal Advice/0420 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|--|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 = Approved or completed successfully | Approve | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 01 = Refer to card issuer | Call Issuer | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 03 = Invalid merchant | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 04 = Capture card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 05 = Do not honor | Decline | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 06 = Error | Decline | ✓ | | | | ✓ | ✓ |
| 08 = Honor with ID | Approve | ✓ | ✓ | ✓ | ✓ | | |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|--|-------------|-----------|-----------|-----------|-----------|-----------|
| 10 | = | Partial Approval | Approve | ✓ | ✓ | ✓ | | ✓ |
| 12 | = | Invalid transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 13 | = | Invalid amount | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 14 | = | Invalid card number | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 15 | = | Invalid issuer | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 17 | = | Customer cancellation | Decline | ✓ | | | ✓ | ✓ |
| 30 | = | Format error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 32 | = | Partial reversal | Decline | ✓ | | | ✓ | ✓ |
| 34 | = | Suspect Fraud | Decline | ✓ | ✓ | | | ✓ |
| 41 | = | Lost card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 | = | Stolen card | Capture | ✓ | ✓ | ✓ | ✓ | ✓ |
| 51 | = | Insufficient funds/over credit limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 54 | = | Expired card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 55 | = | Invalid PIN | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | = | Transaction not permitted to issuer/cardholder | Decline | ✓ | ✓ | ✓ | | ✓ |
| 58 | = | Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | ✓ | | ✓ |
| 61 | = | Exceeds withdrawal amount limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 62 | = | Restricted card | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 | = | Security violation | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 65 | = | Exceeds withdrawal count limit | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 68 | = | Response received late | Decline | ✓ | | | ✓ | ✓ |
| 70 | = | Contact Card Issuer | Call Issuer | ✓ | ✓ | | ✓ | ✓ |
| 71 | = | PIN Not Changed | Decline | ✓ | ✓ | | ✓ | ✓ |
| 75 | = | Allowable number of PIN tries exceeded | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 76 | = | Invalid/nonexistent "To Account" specified | Decline | ✓ | ✓ | ✓ | | ✓ |
| 77 | = | Invalid/nonexistent "From Account" specified | Decline | ✓ | ✓ | ✓ | | ✓ |

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 78 | = | Invalid/nonexistent account specified (general) | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 82 | = | Timeout at issuer | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 84 | = | Invalid Authorization Life Cycle | Decline | | ✓ | | | |
| 85 | = | Not declined | Valid | ✓ | ✓ | | ✓ | ✓ |
| | | Valid for zero amount transactions. | | | | | | |
| 86 | = | PIN Validation not possible | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 87 | = | Purchase Amount Only, No Cash Back Allowed | Approved | ✓ | | | ✓ | |
| 88 | = | Cryptographic failure | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 89 | = | Unacceptable PIN—Transaction Declined—Retry | Decline | ✓ | ✓ | | ✓ | ✓ |
| 91 | = | Authorization System or issuer system inoperative | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 92 | = | Unable to route transaction | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 | = | Duplicate transmission detected | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | Decline | ✓ | ✓ | ✓ | ✓ | ✓ |

Reversal Advice Response/0430 Message and Administrative Advice Response/0630 Response Codes

The following DE 39 response codes are valid in these messages.

| Values | | Action | MC | NP | VI | TE | MS | CI |
|---------------|---|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 | = | Approved or completed successfully | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 | = | Format error | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 | = | Duplicate Transmission detected | — | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 | = | System error | — | ✓ | ✓ | ✓ | ✓ | ✓ |

Administrative Request Response/0610 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|--|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 = Received and processed successfully | None | ✓ | ✓ | | | | |
| 30 = Format error | Determine error and resubmit request | ✓ | ✓ | | | | |
| 57 = Transaction not permitted to issuer/cardholder | Decline | ✓ | ✓ | | | | |
| 58 = Transaction not permitted to acquirer/terminal | Decline | ✓ | ✓ | | | | |
| 91 = Authorization System or issuer system inoperative | Resubmit request | ✓ | ✓ | | | | |
| 92 = Unable to route transaction | Determine error and resubmit request | ✓ | ✓ | | | | |
| 96 = System error | Resubmit request | ✓ | ✓ | | | | |

Network Management Request Response/0810 Response Codes

The following DE 39 response codes are valid in this message.

| Values | Action | MC | NP | VI | TE | MS | CI |
|--|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 = Approved or completed successfully | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 = Format error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 63 = Security violation | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 79 = Key Exchange Validation failed | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 91 = Authorization System or issuer system inoperative | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94 = Duplicate SAF request | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 96 = System error | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

DE 40—Service Restriction Code

DE 40 (Service Restriction Code) identifies geographic or service availability.

Attributes

Data Representation: an-3

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 41—Card Acceptor Terminal ID

DE 41 (Card Acceptor Terminal ID) uniquely identifies a terminal at the card acceptor location of acquiring institutions or merchant POS systems. The terminal ID should be printed on all transaction receipts in ATM and POS transactions where the terminal is capable of generating customer receipts.

Attributes

Data Representation: ans-8

Length Field: N/A

Data Field: Contents of positions 1–8

Subfields: N/A

Justification: Left

Usage

Following is the usage of DE 41 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|----|---|----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

| | | | |
|--|----|----|----|
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |
| Reversal Advice/0420 | CE | CE | • |
| Administrative Request/0600 | O | • | O |
| Administrative Request Response/0610 | CE | • | CE |

Values

Each terminal ID may be up to eight characters long and the terminal owner assigns it. It must be unique within the terminal owning organization (for example, unique within merchant or unique within acquiring institution).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

This data element must be present in Authorization Request/0100 messages if DE 42 (Card Acceptor ID Code) does not uniquely identify the terminal.

DE 41 is mandatory for all chip transactions (if missing, the Authorization Platform will not reject the message; however, a data integrity error will be reported.)

DE 41 is mandatory for all ATM transactions.

DE 41 is mandatory for all other card read transactions. If missing, the Authorization Platform will not reject the message.

DE 42—Card Acceptor ID Code

DE 42 (Card Acceptor ID Code) identifies the card acceptor that defines the point of the transaction in both local and interchange environments. DE 42 is used as a merchant ID to uniquely identify the merchant in a POS transaction.

Attributes

| | |
|----------------------|----------------------------|
| Data Representation: | ans-15 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–15 |
| Subfields: | N/A |
| Justification: | Left |

Usage

Following is the usage of DE 42 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Administrative Request/0600 | O | • | O |
| Administrative Request Response/0610 | CE | • | CE |
| Administrative Advice/0620 | • | C | C |

Values

Number assigned by the acquirer.

Application Notes

DE 42 is required in card-activated POS phone transactions initiated at public phones to identify the service provider (for example, AT&T, GTE). Refer to DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones).

DE 42 is not required for ATM transactions or other transactions where the acquiring institution directly provides the service (for example, where the “card acceptor” is the acquiring institution).

DE 42 is required for POS transaction types containing DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), values 00 (Purchase), 09 (Purchase with Cash Back), and 28 (Payment Transaction).

American Express Authorizations:

An American Express merchant ID consists of the 10-digit numeric value (referred to as “SE number” by American Express) or two-character alphanumeric IATA airline code (which may be followed by the IATA travel agent ID, T + 5-8 digits, separated by a space). Since DE 42 is defined as ans-15, an American Express 10-digit SE number in character format should be left justified and followed by trailing spaces. This 10-digit number also should pass the Modulus 9 check digit routine.

The following Authorization Platform edit will apply:

| WHEN... | THEN the Authorization Platform... |
|---------|------------------------------------|
|---------|------------------------------------|

DE 42 (Card Acceptor ID Code) is not present and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type code) contains the value 00 (Purchase), 09 (Purchase with Cash Back), or 28 (Payment Transaction) in an Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, or a Reversal Request/0400 message

Sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or a Reversal Request Response/0410 message where:

- DE 39 (Response Code) = 30 (Format Error)
- DE 44 (Additional Response Data) = 042 (which identifies DE 42 as the source of the error)

DE 43—Card Acceptor Name/Location for All Transactions

DE 43 (Card Acceptor Name/Location) contains the name and location of the card acceptor that defines the point of interaction in both local and interchange environments (excluding ATM and Card-Activated Public Phones).

Attributes

| | |
|----------------------|---|
| Data Representation: | ans-40 (supports extended character sets) |
| Length Field: | N/A |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | See subfields |

Usage

Following is the usage of DE 43 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |
| Administrative Request/0600 | O | • | O |
| Administrative Request Response/0610 | CE | • | CE |

Values

The data element subfields are dependent on the type of message type sent. The data element subfields in DE 43 for all transactions are for all transactions except those initiated at ATMs or at Bankcard-Activated POS phones.

Application Notes

This data element is required for all Authorization Request/0100 messages for Mastercard and Visa programs and services.

For Authorization Request/0100, use of DE 43 is conditional (C) based on the program or service being processed. If the program is Mastercard or Visa, use of DE 43 is mandatory (M). Its usage is optional if the transaction involves Private Label, Travel and Entertainment, or other programs.

This data element satisfies “Regulation-E” requirements. It also is required when the DE 22 (Point-of-Service [POS] Entry Mode) is 05 (PAN auto-entry via integrated circuit card).

As ISO specifies, this data element is an alphanumeric text string of 40 characters. Mastercard requires standardized formatting of this data element as specified in the following table to meet uniform standards for printing this information on customer account statements and billing statements.

This data element is required for all Mastercard programs and services. The Authorization Platform does not perform edits on this data element.

DE 43 is required for Mastercard Hosted Mobile Phone Top-up transactions.

Subfield 1—Card Acceptor Name (or Payment Facilitator & Sub-Merchant Information, if applicable)

DE 43 (Card Acceptor Name/Location for All Transactions), subfield 1 (Card Acceptor Name) is the merchant “doing business as” name.

Attributes

Data Representation: ans-22

Data Field: Contents of positions 1–22

Justification: Left

Values

Valid merchant name or “doing business as” name.

The merchant or “doing business as” name associated with a Mastercard® rePower transaction must have the value: MC rePower following the carrier name.

Application Notes

The following are rules for DE 43, subfield 1 (Card Acceptor Name [or Payment Facilitator & Sub-Merchant Information, if applicable]):

- The Card Acceptor Name should contain the same name as imprinted or printed on the transaction information document (TID)—the name most recognizable to the cardholder.
 - Acquirers must identify a merchant chain/franchise by providing either DE 48, subelement 32 (Mastercard Assigned ID) with the ID assigned to the chain/franchise, or by providing the chain/franchise name in DE 43, subfield 1 (Card Acceptor Name). If the merchant is part of a chain/franchise name, acquirers must provide the recognizable name in DE 43, subfield 1 and must provide DE 48, subelement 32 to reflect the chain or franchise identification. Whenever an acquirer has been provided a Mastercard Assigned ID for a merchant customer, they must identify that merchant by providing DE 48, subelement 32.
 - The Card Acceptor Name must contain the chain/franchise merchant name at the beginning of this subfield. If a chain is listed in the 3000–3999 range of card acceptor business codes (MCCs), use the exact chain name. If the merchant is part of a chain/franchise and the cardholder would not recognize the chain/franchise name, populate the recognizable name in DE 43, subfield 1, and provide DE 48, subelement 32 (Mastercard Assigned ID). A chain/franchise merchant is one of multiple merchant outlets selling the same line of goods or services, or authorized to sell a company's goods or services in a particular place. This mandate will not be associated with any edits in Authorization System; instead, it will be monitored and edited in the Authorization Data Integrity Monitoring Program.
 - The Card Acceptor Name should contain a unique identifier at the end of this subfield following the Card Acceptor Name/DBA Name if the merchant has more than one property in a city.
-

NOTE: The acquirer must ensure that the name of the payment facilitator appears in DE 43, subfield 1 in conjunction with the name of the sub-merchant. The payment facilitator name, in full or in abbreviated form, must be three, seven, or 12 characters in length, followed by an asterisk and the sub-merchant name. DE 43, subfields 3 and 5 must contain the location information of the sub-merchant, not the payment facilitator.

Subfield 2—Space

DE 43 (Card Acceptor Name/Location for All Transactions), subfield 2 (Space) indicates a space character.

Attributes

Data Representation: ans-1

Data Field: Contents of position 23

Justification: N/A

Value

Delimiter (space).

Subfield 3—Card Acceptor City (or Sub-Merchant Information, if applicable)

DE 43 (Card Acceptor Name/Location for All Transactions), subfield 3 (Card Acceptor City) indicates the city of the merchant.

Attributes

Data Representation: ans-13

Data Field: Contents of positions 24–36

Justification: Left

Values

Valid city name.

Subfield 4—Space

DE 43 (Card Acceptor Name/Location for All Transactions), subfield 4 (Space) indicates a space character.

Attributes

Data Representation: ans-1

Data Field: Contents of position 37

Justification: N/A

Value

Delimiter (space).

Subfield 5—Card Acceptor State or Country Code (or Sub-Merchant Information, if applicable)

DE 43 (Card Acceptor Name/Location for All Transactions), subfield 5 (Card Acceptor State or Country Code [or Sub-Merchant Information, if applicable]) indicates the state or country code (if not U.S.) of the merchant.

Attributes

Data Representation: a-3

Data Field: Contents of positions 38–40

Justification: Left

Values

State and Country Code must contain valid data. The three-character alphabetic Country Code must be used (not the three-character numeric Country Code). Refer to the *Quick Reference Booklet* for valid codes.

DE 43—Card Acceptor Name/Location for ATM Transactions

DE 43 (Card Acceptor Name/Location for ATM Transactions) contains the name and location of the card acceptor that defines the point of interaction in both local and interchange environments. The data element subfields are dependent on the message type sent. The data element subfields in DE 43 for ATM transactions are for transactions initiated at ATM terminals.

Attributes

| | |
|----------------------|---|
| Data Representation: | ans-40 (supports extended character sets) |
| Length Field: | N/A |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | See subfields |

Usage

Following is the usage of DE 43 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

See subfields.

Application Notes

This data element is required for all Mastercard programs and services. The Authorization Platform does not perform edits on this data element.

For Authorization Request/0100, use of DE 43 is conditional (C) based on the program or service being processed. If the program is Mastercard or Visa, use of DE 43 is mandatory (M). Its usage is optional if the transaction involves Private Label, Travel and Entertainment, or other programs.

Subfield 1—ATM Owning Institution or Terminal/Merchant Address or Both

DE 43 (Card Acceptor Name/Location for ATM Transactions), subfield 1 (ATM Owning Institution or Terminal/Merchant Address or Both) indicates the ATM owning institution name and terminal or merchant street address.

Attributes

Data Representation: ans-22

Data Field: Contents of positions 1–22

Justification: Left

Values

ATM owning institution name and terminal or merchant street address required.

Subfield 2—Space

DE 43 (Card Acceptor Name/Location for ATM Transactions), subfield 2 (Space) indicates a space character.

Attributes

Data Representation: ans-1

Data Field: Contents of position 23

Justification: N/A

Value

Delimiter (space).

Subfield 3—ATM or Merchant Location City

DE 43 (Card Acceptor Name/Location for ATM Transactions), subfield 3 (ATM or Merchant Location City) indicates the ATM or merchant's location city.

Attributes

Data Representation: ans-13

| | |
|---|-----------------------------|
| Data Field: | Contents of positions 24–36 |
| Justification: | Left |
| Values | |
| Valid ATM or merchant location city name. | |

Subfield 4—Space

DE 43 (Card Acceptor Name/Location for ATM Transactions), subfield 4 (Space) is used to include space character.

| | |
|----------------------|-------------------------|
| Attributes | |
| Data Representation: | ans-1 |
| Data Field: | Contents of position 37 |
| Justification: | N/A |
| Value | |
| Delimiter (space). | |

Subfield 5—ATM or Merchant State, Province, or Country Code Location

DE 43 (Card Acceptor Name/Location for ATM Transactions), subfield 5 (ATM or Merchant State, Province, or Country Code Location) indicates the ATM or Merchant location.

| | |
|---|--|
| Attributes | |
| Data Representation: | a-3 |
| Data Field: | Contents of positions 38–40 |
| Justification: | Right, blank-filled |
| Values | |
| U.S. and U.S. territories: | ATM or merchant location state code |
| Canada and Canadian territories: | ATM or merchant location province code |
| All other Countries: | ATM or merchant location country code |
| State and Country Code must contain valid data. The three-character alphabetic Country Code must be used (not the three-character numeric Country Code). Refer to the <i>Quick Reference Booklet</i> for valid codes. | |

DE 43—Card Acceptor Name/Location for Bankcard-Activated Public Phones

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones) contains the name and location of the card acceptor that defines the point of interaction in both local and interchange environments. The data element subfields are dependent on the type of message type sent. The data element subfields in DE 43 for Bankcard-Activated Public Phone Transactions are for transactions initiated through a phone service provider.

Attributes

Data Representation: ans-40 (supports extended character sets)

Length Field: N/A

Data Field: Contents of subfields 1–8

Subfields: 8

Justification: See subfields

Usage

Following is the usage of DE 43 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

See subfields.

When the transaction is initiated at a POS phone device, DE 43 must be formatted as described as described by the subfield data and the phone service provider (such as "AT&T" or "GTE") must be identified using DE 42 (Card Acceptor ID Code).

This data element is required for all Authorization Request/0100 messages for Mastercard and Visa programs and services.

For Authorization Request/0100, use of DE 43 is conditional (C) based on the program or service being processed. If the program is Mastercard or Visa, use of DE 43 is mandatory (M). Its usage is optional if the transaction involves Private Label, Travel and Entertainment, or other programs.

Application Notes

This data element is required for all Mastercard programs and services. The Authorization Platform does not perform edits on this data element.

Subfield 1—Abbreviation "TEL"

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 1 (Abbreviation TEL) indicates the transaction was initiated through a phone service provider.

Attributes

Data Representation: a-3

Data Field: Contents of positions 1–3

Justification: N/A

Values

TEL = Telephone

Subfield 2—Phone Number Dialed

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 2 (Phone Number Dialed) indicates the phone number initiating the transaction.

Attributes

Data Representation: ans-15

Data Field: Contents of positions 4–18

Justification: N/A

Values

If U.S. or Canadian number; includes area code. If non-U.S. or non-Canadian number, includes full phone number with country code, city code, and local number.

Subfield 3—Abbreviation "M"

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 3 (Abbreviation M) indicates minutes.

Attributes

Data Representation: a-1

Data Field: Contents of position 19

Justification: N/A

Values

M = Minutes

Subfield 4—Call Duration

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 4 (Call Duration) indicates the duration of the call in minutes.

Attributes

Data Representation: ans-3

Data Field: Contents of positions 20–22

Justification: Left-justified with trailing spaces

Values

Duration of call in minutes in mmm format (10 = 10 minutes).

Subfield 5—Space

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 5 (Space) indicates a space character.

Attributes

Data Representation: ans-1

Data Field: Contents of position 23

Justification: N/A

Values

Delimiter (space).

Subfield 6—Call Origin City

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 6 (Call Origin City) indicates the city where the call originated.

Attributes

Data Representation: ans-13

Data Field: Contents of positions 24–36

Justification: Left

Values

Valid city name.

Subfield 7—Space

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 7 (Space) indicates a space character.

Attributes

Data Representation: ans-1

Data Field: Contents of position 37

Justification: N/A

Values

Delimiter (space).

Subfield 8—Call Origin State or Country Code

DE 43 (Card Acceptor Name/Location for Bankcard-Activated Public Phones), subfield 8 (Call Origin State or Country Code) indicates the call origin state or country code.

Attributes

Data Representation: a-3

Data Field: Contents of positions 38–40

Justification: Left justified, blank-filled

Values

State or Country Code (country code if not U.S.) The three-character **alphabetic** Country Code must be used (not the three-character numeric Country Code). Refer to the *Quick Reference Booklet* for valid codes.

DE 44—Additional Response Data

DE 44 (Additional Response Data) provides other supplemental data that may be required in response to an authorization or other type of transaction request. This data element may also be present in any response message when DE 39 (Response Code) contains the value 30, indicating that a Format Error condition was detected in the preceding message. In this case, the first three bytes of DE 44 (if present) will contain a three-digit numeric value indicating the data element number where the format error occurred.

Attributes

Data Representation: ans...25; LLVAR

Length Field: 2

Data Field: Contents of positions 1–25

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 44 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Authorization Negative Acknowledgement/0190 | • | C | C |
| Issuer File Update Request Response/0312 | • | C | C |
| Reversal Request Response/0410 | C | • | C |
| Reversal Advice Response/0430 | C | C | • |
| Administrative Request Response/0610 | C | • | C |
| Administrative Advice Response/0630 | C | C | • |
| Network Management Request Response/0810—PEK Exchange | C | C | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | C | C |
| Network Management Request Response/0810—Host Session Activation/Deactivation | • | C | C |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | C | C |
| Network Management Request Response/0810—Sign-On/Sign-Off | • | C | C |

Values

Contains supplemental data.

Application Notes

The following table lists the usage of this data element. Usage is dependent on values in DE 39. The following table defines the additional response data that is in DE 44 when the listed values are present in DE 39. No data element edits are performed on the variable-length field.

DE 44 Values by Program or Service

The following table lists the usage of DE 44 by program or service. Usage is dependent on values in DE 39 (Response Code). The following table defines the additional response data that is in DE 44 when the listed values are present in DE 39. No data element edits are performed on the variable-length field.

| IF DE 39 | | is... | THEN DE 44... | MC | NP | VI | TE | MS | CI |
|-----------------|-----|--------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 | N/A | | | | | | | | |
| 01 | | | Contains the phone number for “call issuer” response codes. Applies to Authorization Request Response/0110 messages. | √ | √ | √ | √ | √ | √ |
| 08 | | | Contains the ID information for “approve with ID” response codes for example: <ul style="list-style-type: none">• B = Blank Name• C = Cardholder’s ID number or hologram message• X= Cardholder’s last name Applies to Authorization Request Response/0110 messages. | √ | √ | √ | √ | √ | √ |

| IF DE 39 | is... THEN DE 44... | MC | NP | VI | TE | MS | CI |
|-----------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 12 | Should be accessed when the value 12 is present in DE 39 for Mastercard Corporate Fleet Card® transactions only as follows: <ul style="list-style-type: none">• 01 = Issuer determines that the ID number provided in the Authorization Request/0100 message is invalid causing the transaction to be declined• 02 = Issuer determines that the Driver Number provided in the Authorization Request/0100 message is invalid causing the transaction to be declined• 03 = Issuer determines that the Vehicle Number provided in the Authorization Request/0100 message is invalid causing the transaction to be declined. Applies to Authorization Request Response/0110 messages. | ✓ | | | | | |
| 25 | Contains 120 indicating an error in DE 120 (Record Data) and a three-digit code (such as 120xxx, where xxx indicates the field in the file update request where the error occurred). A listing of these codes can be found in the Error Codes section for DE 120. Applies to Issuer File Update Request Response/0312 messages. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 27 | Contains a 120 indicating an error in DE 120 and a three-digit code (such as 120xxx, where xxx indicates the field in the file update request where the error occurred). A listing of these codes can be found in the Error Codes section for DE 120. Applies to Issuer File Update Request Response/0312 messages. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 30 | Contains the data element in error when a format error is detected (For example, if the error is in one of the subelements of DE 48, 048 will be shown). Applies to all response messages. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | Contains 003 indicating an error in DE 3 (Processing Code) when an issuer is unable to process a balance inquiry (30), purchase with cash back (09), purchase return (20), or payment (28) transaction type. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| IF DE 39 | | is... | THEN DE 44... | MC | NP | VI | TE | MS | CI |
|----------|--|-------|--|----|----|----|----|----|----|
| 85 | | | Contains the date and time used in electronic commerce transactions, after which a cardholder may re-apply for a certificate. Format is YYYYMMDDHH. HH is the 24-hour military clock. | ✓ | | ✓ | | ✓ | |

DE 45—Track 1 Data

DE 45 (Track 1 Data) is the information encoded on track 1 of the card's magnetic stripe as defined in the ISO 7813 specification, including data element separators but excluding beginning and ending sentinels and LRC characters as defined in this data element definition.

Attributes

Data Representation: ans...76; LLVAR

Length Field: 2

Data Field: Contents of positions 1–76

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 45 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| Org | Sys | Dst |
|-----|-----|-----|
|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | O | • | O |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Whenever DE 45 is captured automatically at the point of interaction, this data element must contain whatever is encoded on the magnetic stripe (track 1) of the card, regardless of whether the card has been properly encoded with information in accordance with ISO specifications.

The ISO 7810, 7811, 7812, and 7813 specifications document the international standards for encoding information on magnetic stripe cards.

Length subelement must not be greater than 76 bytes.

The account number in DE 2 (Primary Account Number) or DE 34 (Primary Account Number [PAN], Extended) must match the account number in DE 45.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 45 is optional for 0120 AFD completion advice. Refer to *AFD Completion* for more information.

| Field ID and Name | F = Fixed | V = Variable | Maximum Length |
|---|------------------|---------------------|--|
| 1 Start Sentinel ⁸ | F | | n-1 |
| 2 Format Code-B (encode character B) | F | | an-1 |
| 3 Primary Account Number | V | | n...19 |
| 4 Separator (binary) | F | | ans-1 |
| 5 Cardholder name | V | | ans...2-26 |
| 6 Separator (binary) | F | | ans-1 |
| 7 Expiration Date | F | | ans-4 |
| 8 Extended Service Code | F | | ans-3 |
| 9 Discretionary Data (must include CVC 1) | V | | Balance of available digits not to exceed total track length of 79 characters. |
| 10 End Sentinel ⁸ | F | | n-1 |
| 11 Longitudinal Redundancy Check ⁸ | F | | n-1 |

Refer to the *Security Rules and Procedures* for additional Track 1 data information.

DE 46—Expanded Additional Amounts

DE 46 (Additional Data—ISO Use) provides data supplemental to that already conveyed in the specific data elements in the message.

Attributes

| | |
|-------------------------|-------------------|
| Length of Length Field: | 3 |
| Data Representation: | ans...999; LLLVAR |
| Data Field: | N/A |
| Subfields: | N/A |

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

This data element is reserved for future definition and use.

DE 47—Additional Data—National Use

DE 47 (Additional Data—National Use) is reserved for national organizations to define data unique to country applications.

Attributes

Data Representation: ans...999; LLLVAR

Length Field: 3

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element. ISO reserves this data element for future definition and use.

Values

N/A

Application Notes

This data element should not be present in any Authorization Platform messages. However, if encountered in Authorization Platform messages routed between customers of the same country, it is passed unaltered through the network. The Authorization Platform performs no editing or processing functions on this data element.

DE 48—Additional Data—Private Use

DE 48 (Additional Data—Private Use) is reserved for private organizations to define data unique to specific networks or specific programs and services. DE 48 provides other supplemental data in a message when a specific ISO-designated data element is not available. It is a free-format, variable-length data element that may be used for multiple purposes.

Attributes

| | |
|----------------------|--|
| Data Representation: | ans...999; LLLVAR |
| | Although this data element is ans, some subelements deviate from ans and contain binary data. Refer to subelement descriptions of each subelement. |
| | The length field must be in the range 001–999. Subelements are identified by valid subelement ID and length. |
| Length Field: | 3 |
| Data Field: | Contents of subelements |
| Subelements: | 99 |
| Justification: | See "Subelements" |

Usage

The following applies to DE 48 usage:

- Subelements may occur as many times as needed based on the program or service used.
- Subelements do not need to be in any particular order or sequence within DE 48.
- Customers must be able to send and receive all subelements available within DE 48.
- For subelements defined with a CE (conditional echo) presence notation for an Org (originator) entity Mastercard will not reject a message from the message originator if the original subelement data is not returned as defined in a response message. Based on the presence notation for the Dst (destination) entity Mastercard will forward the subelement data as received from the message originator if it is present in a response message.

Following is the overall usage of DE 48 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | X | M |
| Authorization Request Response/0110 | C | X | C |
| Authorization Advice/0120—Acquirer-generated | M | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Reversal Request/0400 | M | X | M |

| | | | |
|---|----|---|----|
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | C | C |
| Administrative Advice/0620 | • | C | C |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request Response/0810—PEK Exchange | M | M | • |
| Network Management Advice/0820 | • | C | C |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

The length field must be in the range 001–999. Subelements are identified by valid subelement ID and length.

For Network Management Request/0800 messages, ID values in the range 00–69 are universally defined by CIS for use by all programs and services, and 70–99 are defined within individual programs and services only.

Application Notes

Mastercard may occasionally introduce new DE 48 subelements between releases to facilitate special processing within a country, region, or among pilot participants. Mastercard requires customers to be able to successfully process various online messages that may contain new unannounced DE 48 subelements.

This data element's content may vary by program and service. Additional or supplemental information that may be required in a transaction message is specified in Authorization Platform Edits for this data element.

For information on other uses of this data element, refer to the message layouts.

DE 48 Transaction Category Code

In Authorization/01XX and Reversal/04XX messages, the format is “LLLt,” where “t” is the transaction category code (TCC). The message must contain an appropriate TCC as the first byte of data after the length within DE 48. The TCC classifies major categories of transactions, such as “Retail Sale,” “Cash Disbursement,” and “Mail Order.” The TCC must be selected from one of the values listed below for POS transactions as defined in the *Quick Reference Booklet*.

| TCC | Description | MC | NP | VI | TE | MS | CI |
|-------|---|----|----|----|----|----|----|
| Space | A value of space in place of a valid TCC requests that the Authorization Platform perform the TCC assignment. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| A | Auto/Vehicle Rental | ✓ | ✓ | ✓ | ✓ | ✓ | |

| TCC | Description | MC | NP | VI | TE | MS | CI |
|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| C | Cash Disbursement | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| F | Restaurant | ✓ | ✓ | ✓ | ✓ | ✓ | |
| H | Hotel/Motel | ✓ | ✓ | ✓ | ✓ | ✓ | |
| O | Hospitalization, College | ✓ | ✓ | ✓ | ✓ | ✓ | |
| P | Payment Transaction | ✓ | ✓ | | | ✓ | ✓ |
| R | Retail Sale | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| T | Phone, Mail, or Electronic Commerce Order | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| U | Unique | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| X | Airline and Other Transportation Services | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Z | ATM Cash Disbursement | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

NOTE:

Mastercard will optionally assign the Transaction Category Code (TCC) in DE 48 (Additional Data—Private Use) of authorization messages on behalf of an acquirer. All acquirers processing through the Mastercard Network may choose to have the Authorization Platform assign the TCC in authorization messages on their behalf, if TCC is submitted with a <space> value.

Refer to the *Quick Reference Booklet* for a complete definition of all TCC values.

DE 48 Subelement Encoding Scheme in Authorization Request/0100 Messages

The following table identifies the structure of the DE 48 subelement encoding scheme in the Authorization Request/0100 message.

| "VAR"—999 maximum bytes (TCC + Subelement Data) | | | | | | | |
|---|---|-----------------------------------|-----------|------------------------------------|------------|-----------|---|
| LLL | 3 bytes | 1 byte | 2 bytes | 2 bytes | 1–99 bytes | 2 bytes | 2 bytes |
| | SE ID + Length + Data will not exceed 103 bytes | | | | | | SE ID + Length + Data will not exceed 103 bytes |
| Total Data Element Length | TCC | First Subelement (SE) Data | | Second Subelement (SE) Data | | | |
| mandatory | | SE ID | SE Length | SE Variable Length Data | SE ID | SE Length | SE Variable Length Data |
| 1002 maximum bytes (LLL + TCC + Subelement Data) | | | | | | | |

| Number of Bytes | Attribute | Description |
|------------------------|---------------------------------|---|
| 3 | Total Data Element Length | The “LLL” portion of the data element up to 999 |
| 1 | Transaction Category Code (TCC) | Must be a valid TCC or a space |
| 2 | Subelement ID | In the range 00–99 |
| 2 | Subelement Length | In the range of 01–99 |
| 1...99 | Subelement Variable Length Data | Contains valid values. |

DE 48 Subelement Encoding Scheme in Network Management Messages

The following table identifies the structure of the DE 48 subelement encoding scheme in Network Management messages.

| LLL “VAR”—999 maximum bytes (Subelement Data) | | | | | | |
|---|-----------------------------------|-----------|-------------------------|------------------------------------|-----------|-------------------------|
| 3 bytes | 2 bytes | 2 bytes | 1–96 bytes | 2 bytes | 2 byte | 1–96 bytes |
| Total Data Element Length | First Subelement (SE) Data | | | Second Subelement (SE) Data | | |
| | SE ID | SE Length | SE Variable Length Data | SE ID | SE Length | SE Variable Length Data |
| 1002 maximum bytes (LLL + Subelement Data) | | | | | | |

| Number of Bytes | Attribute | Description |
|------------------------|---------------------------------|-----------------------------|
| 3 | Total Data Element Length | The “LLL” portion of LLLVAR |
| 2 | Subelement ID | In the range 00–99 |
| 2 | Subelement Length | In the range of 01–96 |
| 1...96 | Subelement Variable Length Data | Contains valid values. |

List of DE 48 Subelements

DE 48 subelements are listed in numeric order. Subelements that are specific to a brand service or program are clearly indicated in the subelement title or description or both.

| Subelement ID and Name | Data Representation |
|---|----------------------------|
| 10 Encrypted PIN Block Key | an...16 |
| 11 Key Exchange Block Data (Single-length Keys) | an-38 |
| 11 Key Exchange Block Data (Double-length Keys) | an-54 |
| 11 Key Exchange Block Data (Triple-length Keys) | an-70 |
| 12 Routing Indicator | a-1 |
| 13 Mastercard Hosted Mobile Phone Top-up Request Data | ans-47 |
| 14 Account Type Indicator | ans-1 |
| 15 Authorization Platform Advice Date and Time | n-10 |
| 16 Processor Pseudo ICA | n-7 |
| 17 Authentication Indicator | n-1 |
| 18 Service Parameters | ans...99 |
| 19 Reserved for Future Use | N/A |
| 20 Cardholder Verification Method | a-1 |
| 21–22 Reserved for Future Use | N/A |
| 23 Payment Initiation Channel | an-2 |
| 25 Mastercard Cash Program Data | ans...14 |
| 26 Wallet Program Data | an-3 |
| 27 Additional Transaction Analysis | an...97 |
| 28–29 Reserved for Future Use | N/A |
| 30 Token Transaction Identifier | ans...64 |
| 31 Reserved for Future Use | N/A |
| 32 Mastercard Assigned ID | an-6 |
| 33 PAN Mapping File Information | ans...43 |
| 34 Dynamic CVC 3 ATC Information | an-11 |
| 35 Contactless Non-Card Form Factor Request/Response | an-1 |
| 36 Visa MVV (Visa Only) | an-14 |
| 37 Additional Merchant Data | ans...49 |
| 38 Account Category | an-1 |
| 39 Account Data Compromise Information | ans-30 |

| Subelement ID and Name | Data Representation |
|---|----------------------------|
| 40 Electronic Commerce Merchant/Cardholder Certificate Serial Number (Visa Only) | n...40 |
| 41 Electronic Commerce Certificate Qualifying Information | ans...95 |
| 42 Electronic Commerce Indicators | n-7 |
| 43 Universal Cardholder Authentication Field (UCAF) | ans...32 |
| 44 Visa 3-D Secure Electronic Commerce Transaction Identifier (XID) (Visa and American Express) | b-20 |
| 45 Visa 3-D Secure Electronic Commerce Transaction Response Code (Visa and American Express) | an-1 |
| 46 Product ID (Visa Only) | an-2 |
| 47 Mastercard Payment Gateway Indicator | ans...8 |
| 48 Mobile Program Indicators | n-1 |
| 49 Time Validation Information | n-15 |
| 50 Reserved for Future Use | N/A |
| 51 Merchant On-behalf Services | ans...99 |
| 52 Transaction Integrity Class | an-2 |
| 53–54 Reserved for Future Use | N/A |
| 55 Merchant Fraud Scoring Data | an...32 |
| 56 Security Services Additional Data for Issuers | an...99 |
| 57 Security Services Additional Data for Acquirers | an...99 |
| 58 ATM Additional Data | ans-33 |
| 59–60 Reserved for Future Use | N/A |
| 61 POS Data, Extended Condition Codes | n-5 |
| 62 Reserved for Future Use | N/A |
| 63 Trace ID | ans-15 |
| 64 Transit Program | n-4 |
| 65–70 Reserved for Future Use | N/A |
| 71 On-behalf Services | ans...40 |
| 72 Issuer Chip Authentication | b...16 |
| 73 Mastercard Internal Use Only | n...10 |
| 74 Additional Processing Information | an...30 |
| 75 Fraud Scoring Data | an...32 |

| Subelement ID and Name | Data Representation |
|--|----------------------------|
| 76 Mastercard Electronic Acceptance Indicator | a-1 |
| 77 Funding/Payment Transaction Type Indicator | an-3 |
| 78 Payment Service Indicators (Visa Only) | ans-6 |
| 79 Chip CVR/TVR Bit Error Result | an...50 |
| 80 PIN Service Code | a-2 |
| 81 Reserved for Future Use | N/A |
| 82 Address Verification Service Request | n-2 |
| 83 Address Verification Service Response | a-1 |
| 84 Merchant Advice Code | an-2 |
| 84 Visa Response Codes (Visa Only) | an-2 |
| 85 Account Status (Visa Only) | a-1 |
| 86 Relationship Participant Indicator (Visa Only) | a-1 |
| 87 Card Validation Code Result | a-1 |
| 87 CVV2 Response (Visa Only) | a-1 |
| 88 Magnetic Stripe Compliance Status Indicator | a-1 |
| 89 Magnetic Stripe Compliance Error Indicator | a-1 |
| 90 Lodging and Auto Rental Indicator | a-1 |
| 90 Custom Payment Service Request (Visa Only) | a-1 |
| 91 Custom Payment Service Request Transaction ID (Visa Only) | an...19 |
| 91 Custom Payment Service Response Transaction ID (Visa Only) | an...19 |
| 91 Acquirer Reference Data (American Express Only) | ans...15 |
| 92 CVC 2 | n-3 |
| 92 CVV2 Data (Visa Only) | n-6 |
| 93 Fleet Card ID Request Data (Visa Only) | ans...19 |
| 94 Commercial Card Inquiry Request (Visa Only) | ans-4 |
| 94 Commercial Card Inquiry Response (Visa Only) | ans-4 |
| 95 Mastercard Promotion Code | an-6 |
| 95 American Express Customer ID Number (American Express Only) | n-4 |
| 96 Visa Market-specific Data Identifier (Visa Only) | a-1 |
| 97 Prestigious Properties Indicator (Visa Only) | a-1 |

| Subelement ID and Name | | Data Representation |
|-------------------------------|---|----------------------------|
| 98 | Mastercard Corporate Fleet Card® ID/Driver Number | n-6 |
| 99 | Mastercard Corporate Fleet Card® Vehicle Number | n-6 |

Subelement 10—Encrypted PIN Block Key

Subelement 10 (Encrypted PIN Block Key) contains 16 hexadecimal characters in the range 0–9 and A–F to represent the 16 bits of a PIN block key encrypted under another key. Individual network, program, or service rules define the other encryption key.

Attributes

| | |
|----------------------|---------|
| Subelement ID: | 10 |
| Data Representation: | an...16 |
| Length Field: | 2 |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this subelement.

Subelement 11—Key Exchange Block Data (Single-Length Keys)

Subelement 11 (Key Exchange Block Data [Single-Length Keys]) contains a data block specifically formatted to contain all the control data, encrypted key data, and key check values to complete an encryption key change operation between any two processors (for example, between a CPS or INF and the network).

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 11 |
| Data Representation: | an-38 |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | N/A |

Usage

Following is the usage of subelement 11 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request Response/0810—PEK Exchange | M | M | • |

Values

Subelement 11 must be encoded for subfields 1–5 defined as follows:

Subfield 1 (Key Class ID)

| | |
|----------------------|---------------------------|
| Data Representation: | an-2 |
| Data Field: | Contents of positions 1–2 |
| Values: | PK (PIN key) |

Subfield 2 (Key Index Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 3–4 |
| Values: | 00 |

Subfield 3 (Key Cycle Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 5–6 |
| Values: | 00-99 (sequential) |

Subfield 4 (PIN Encryption Key [PEK])

| | |
|----------------------|----------------------------|
| Data Representation: | an-16 |
| Data Field: | Contents of positions 7–22 |
| Values: | hex, 0–9, A–F |

Subfield 5 (Key Check Value)

| | |
|----------------------|-----------------------------|
| Data Representation: | an-16 |
| Data Field: | Contents of positions 23–38 |
| Values: | hex, 0–9, A–F |

Subelement 11—Key Exchange Block Data (Double-Length Keys)

Subelement 11 (Key Exchange Block Data [Double-Length Keys]) contains a data block specifically formatted to contain all the control data, encrypted key data, and key check values to complete an encryption key change operation between any two processors (for example, between a CPS or INF and the network).

Attributes

| | |
|-------------------------|---------------------------|
| Subelement ID: | 11 |
| Length of Length Field: | 2 |
| Data Representation: | an-54 |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | N/A |

Usage

Following is the usage of subelement 11 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request Response/0810—PEK Exchange | M | M | • |

Values

Subelement 11 must be encoded for subfields 1–5 defined as follows:

Subfield 1 (Key Class ID)

| | |
|----------------------|---------------------------|
| Data Representation: | an-2 |
| Data Field: | Contents of positions 1–2 |
| Values: | PK (PIN key) |

Subfield 2 (Key Index Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 3–4 |
| Values: | 00 |

Subfield 3 (Key Cycle Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 4–6 |
| Values: | 00-99 (sequential) |

Subfield 4 (PIN Encryption Key [PEK])

| | |
|----------------------|----------------------------|
| Data Representation: | an-32 |
| Data Field: | Contents of positions 7–38 |
| Values: | hex, 0–9, A–F |

Subfield 5 (Key Check Value)

| | |
|----------------------|-----------------------------|
| Data Representation: | an-16 |
| Data Field: | Contents of positions 39–54 |
| Values: | hex, 0–9, A–F |

Subelement 11—Key Exchange Block Data (Triple-Length Keys)

Subelement 11 (Key Exchange Block Data [Triple-Length Keys]) contains a data block specifically formatted to contain all the control data, encrypted key data, and key check values to complete an encryption key change operation between any two processors (for example, between a CPS or INF and the network).

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 11 |
| Data Representation: | an-70 |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | N/A |

Usage

Following is the usage of subelement 11 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|---|---|---|---|
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request Response/0810—PEK Exchange | M | M | • |

Values

Subelement 11 must be encoded for subfields 1–5 as defined below:

Subfield 1 (Key Class ID)

| | |
|----------------------|---------------------------|
| Data Representation: | an-2 |
| Data Field: | Contents of positions 1–2 |
| Values: | PK (PIN key) |

Subfield 2 (Key Index Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 3–4 |
| Values: | 00 |

Subfield 3 (Key Cycle Number)

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 5–6 |
| Values: | 00-99 (sequential) |

Subfield 4 (PIN Encryption Key [PEK])

| | |
|----------------------|----------------------------|
| Data Representation: | an-48 |
| Data Field: | Contents of positions 7–54 |
| Values: | hex, 0–9, A–F |

Subfield 5 (Key Check Value)

| | |
|----------------------|-----------------------------|
| Data Representation: | an-16 |
| Data Field: | Contents of positions 55–70 |
| Values: | hex, 0–9, A–F |

Subelement 12—Routing Indicator

Subelement 12 (Routing Indicator) is defined and derived by the Authorization Platform and passed to the issuer to indicate that alternate issuer host routing has been invoked.

Subelement 12 is applicable only to issuers that use an alternate issuer host route instead of the Stand-In System.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 12 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 12 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | • | X | C |

Values

A = Alternate issuer host routing

P = Primary issuer host routing

Subelement 13—Mastercard Hosted Mobile Phone Top-Up Request Data

Subelement 13 (Mastercard Hosted Mobile Phone Top-up Request Data) contains the mobile phone number and mobile phone service provider name.

Attributes

Subelement ID: 13

Data Representation: ans-47

Length Field: 2

Data Field: Contents of subfields

Subfields: 2

Justification: See subfields

Usage

Following is the usage of subelement 13 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |

Subfield 1—Mobile Phone Number

DE 48, subelement 13, subfield 1 (Mobile Phone Number) contains the phone number of the wireless phone for which the customer is purchasing extra service.

Attributes

Data Representation: ans-17

Data Field: Contents of positions 1–17

Justification: Left

Values

Cannot contain all spaces or all zeros.

Subfield 2—Mobile Phone Service Provider Name

DE 48, subelement 13, subfield 2 (Mobile Phone Service Provider Name) contains the name or other identifier of the mobile phone service provider.

Attributes

Data Representation: ans-30

Data Field: Contents of positions 18–47

Justification: Left

Values

Cannot contain all spaces or all zeros.

Subelement 14—Account Type Indicator

DE 48, subelement 14 (Account Type Indicator) contains values that identify the cardholder's intention to process the transaction as Credit or Debit. Subelement 14 must only be included on Brazil Combo card transactions.

Attributes

Subelement ID 14

Data Representation ans-1

Length of Field 2

Data Field Contents of position 1

Subfields N/A

Justification N/A

Usage

Following is the usage of subelement 14 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Authorization Advice/0120 | C | • | C |
| Reversal Request/0400 | C | • | C |

Values

C = Credit Transaction

D = Debit Transaction

Application Notes

Subelement 14 (Account Type Indicator) is used in Brazil to identify the transaction as:

- Credit: (Credit/Mastercard). The transaction will be processed by the Dual Message System with a Mastercard credit brand/product.
- Debit: (Debit/Mastercard). The transaction will be processed by the Dual Message System as a Debit Mastercard transaction with a Mastercard debit brand/product.

The Mastercard Network will use the combination of the Account type indicator contained in DE 48, subelement 14 and the “from account type” value contained in DE 3 (Processing Code), subfield 2 (Cardholder “From” Account Type Code) to determine the issuer host destination for the authorization request messages.

Subelement 15—Authorization System Advice Date and Time

DE 48, subelement 15 (Authorization System Advice Date and Time), (in UTC units) is a transaction time stamp that the Authorization Platform supplies for each Authorization Advice/0120-Acquirer-generated message. It indicates the date and time that the advice is entered into the network.

Attributes

Subelement ID 15

Data Representation: n-10

Length Field: 2

Data Field: Contents of subfields 1–2

Subfields: 2

Justification: See subfields

Usage

Following is the usage of subelement 15 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |

Values

See subfields.

Application Notes

Acquirers may use the contents of subelement 15 to aid in the creation of the clearing message.

Subfield 1—Date

DE 48, subelement 15, subfield 1 (Date) contains the valid date of the Authorization Advice/0120—Acquirer-generated message inserted by the Authorization Platform.

| Attributes | |
|----------------------|---|
| Data Representation: | n-4 |
| Data Field: | Contents of positions 1–4 |
| Justification | N/A |
| Values: | This subfield contains a valid date in MMDD format. |

Subfield 2—Time

DE 48, subelement 15, subfield 2 (Time) contains the valid time of the Authorization Advice/0120—Acquirer-generated message inserted by the Authorization Platform.

| Attributes | |
|----------------------|---|
| Data Representation: | n-6 |
| Data Field: | Contents of positions 5–10 |
| Justification | N/A |
| Values: | This subfield contains a valid time in hhmmss format. |

Subelement 16—Processor Pseudo ICA

DE 48, subelement 16 (Processor Pseudo ICA) identifies the institution submitting a request or advice that is not the same as the institution provided in DE 32 (Acquiring Institution ID Code) or DE 33 (Forwarding Institution ID Code).

| Attribute | |
|----------------------|-----|
| Subelement ID | 16 |
| Data Representation: | n-7 |
| Length Field: | 2 |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 48, subelement 16 (whether it is mandatory, conditional, optional, system-provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Application Notes

The Authorization Platform populates this subelement based on the institution submitting the transaction and the issuer's preference for receipt of this data.

Subelement 17—Authentication Indicator

DE 48, subelement 17 (Authentication Indicator) is defined by the Authorization Platform and is passed to the issuer to indicate that the transaction qualified for Authentication service.

| Attribute | Value |
|---------------------|--------------|
| Subelement ID | n-2 |
| Subelement Length | 01 |
| Data Representation | n-1 |
| Number of Subfields | N/A |

Usage

Following is the usage of subelement 17 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| Message | Org | Sys | Dst |
|---|------------|------------|------------|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | • | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Authorization Advice Response/0130—Issuer-generated (Responding to Acquirer-generated 0120) | • | X | C |

| Value | Description |
|--------------|---|
| 1 | Transaction qualified for Authentication Service Type 1 |
| 2 | Transaction qualified for Authentication Service Type 2 |

Application Notes

Cardholder Authentication Service

Acquirers must support receiving subelement 17 in authorization response messages.

Issuers that have registered for or are already participating in the Cardholder Authentication Service must be prepared to receive the valid cardholder authentication result in subelement 17.

Subelement 18—Service Parameters

DE 48, subelement 18 (Service Parameters) defines the service parameters of the transaction.

Attributes

| | |
|----------------------|-------------------------|
| Subelement ID: | 18 |
| Data Representation: | ans...99; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfield 01 |
| Subfields: | 01 |
| Justification: | N/A |

Usage

Following is the usage of subelement 18 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages.

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | C | X | • |

Values

Contains the Canada Domestic Indicator value in subfield 01.

Application Notes

Refer to the Canada Region Debit Mastercard Merchant Acceptance section in the Program and Service Format Requirements chapter of this manual for additional details on the use of subelement 18 for Canada-acquired transactions.

Subfield 01—Canada Domestic Indicator

DE 48, subelement 18, subfield 01 (Canada Domestic Indicator) indicates the merchant accepts Canada domestic Debit Mastercard cards.

Attributes

| | |
|----------------------|-------------------------|
| Subfield ID: | 01 |
| Data Representation: | an-1 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 01 |

Justification: N/A

Values

Y = Yes, the merchant accepts Canada domestic Debit Mastercard cards.

Example: 18050101Y—subelement 18 (Service Parameters), length 05, subfield 01 (Canada Domestic Indicator), length 01, value Y.

NOTE: The remaining 94 characters are reserved for future use.

Subelement 20—Cardholder Verification Method

Acquirers use subelement 20 (Cardholder Verification Method) to notify Mastercard that the original transaction is signature/offline PIN-based, no CVM used, or online PIN-based for transaction routing in Authorization Advice/0120—Acquirer-generated and Reversal Request/0400 messages.

Attributes

Subelement ID: 20

Length Field: 2

Data Representation: a-1

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Following is the usage of subelement 20 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Advice/0120—Acquirer-generated | M | X | • |
|--|---|---|---|

| | | | |
|-----------------------|---|---|---|
| Reversal Request/0400 | M | X | • |
|-----------------------|---|---|---|

| | | | |
|----------------------|---|---|---|
| Reversal Advice/0420 | • | M | M |
|----------------------|---|---|---|

Values

P = Online PIN verification

S = Can signify signature, “Offline PIN verification” (for chip transactions), “M-PIN” (for Mobile Device with PIN entry capability) or “No CVM used”

Subelement 23—Payment Initiation Channel

DE 48, subelement 23 (Payment Initiation Channel) provides information about the device type used to identify mobile-initiated (m-commerce) or other EMV Contact, Magnetic stripe Contactless, or M/Chip Contactless transactions.

| Attribute | Description |
|----------------------|------------------------|
| Subelement ID: | 23 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 |
| Subfields: | 1 |
| Justification: | N/A |

Usage

Following is the usage of subelement 23 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120 | C | • | C |
| Reversal Request/0400 | C | • | C |

Values

See subfield 1.

Application Notes

Acquirers in regions where it is mandated must ensure that each newly deployed or re-deployed contactless-enabled POS terminal used by their merchants transmits the device type indicator value, if present on the card or non-card form factor, in data element DE 48 (Additional Data—Private Use), subelement 23 (Payment Initiation Channel), subfield 1 (Device Type) of authorization messages.

Subfield 1—Device Type

DE 48, subelement 23, subfield 1 (Device Type) indicates the type of device used at the terminal. In the scope of chip transactions it must be populated using the device type field value of chip tag 9F6E.

NOTE: Effective immediately, new values in DE 48, subelement 23, subfield 1 contain an indication of the form factor. Existing values from 00–19 may continue to be used, and their meanings remain unchanged; however, Mastercard will not send these values in future communication as part of DE 48, subelement 23, subfield 1. New values from 20–99 exclusively indicate the form factor only without also indicating the storage technology. Mastercard has introduced new device type values from 20–33 in anticipation of new form factors for payments, with values 34–99 reserved for future use. For information on storage technology of device types (such as Trusted Execution Environment [TEE] or Secure Element), refer to the description of DE 48, subelement 33 (PAN Mapping File Information), subfield 8 (Storage Technology).

| Attribute | Description |
|----------------------|---------------------------|
| Data Representation: | an-2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |
| Values | |

NOTE: Some values from 00–19 may indicate not only the physical form factor but also other attributes such as device technology and payment app specifications.

00 = Card

01 = Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use with a mobile phone or smartphone

02 = Key Fob

03 = Watch using a contactless chip or a fixed (non-removable) secure element not controlled by the MNO

04 = Mobile Tag

05 = Wristband

06 = Mobile Phone Case or Sleeve

07 = Mobile phone or smartphone with a fixed (non-removable) secure element controlled by the MNO, for example, code division multiple access (CDMA)

08 = Removable secure element not controlled by the MNO, for example, memory card personalized for used with a mobile phone or smartphone

09 = Mobile Phone or smartphone with a fixed (non-removable) secure element not controlled by the MNO

10 = MNO controlled removable secure element (SIM or UICC) personalized for use with a tablet or e-book

11 = Tablet or e-book with a fixed (non-removable) secure element controlled by the MNO

12 = Removable secure element not controlled by the MNO, for example, memory card personalized for use with a tablet or e-book

13 = Tablet or e-book with fixed (non-removable) secure element not controlled by the MNO

14 = Mobile phone or smartphone with a payment application running in a host processor

15 = Tablet or e-book with a payment application running in a host processor

16 = Mobile phone or smartphone with a payment application running in the Trusted Execution Environment (TEE) of a host processor

17 = Tablet or e-book with a payment application running in the TEE of a host processor

18 = Watch with a payment application running in the TEE of a host processor

19 = Watch with a payment application running in a host processor

NOTE: Values from 20–99 exclusively indicate the form factor only without also indicating the storage technology.

| Value | Meaning | Example |
|-------|---------|---------|
|-------|---------|---------|

| | | |
|-------|---|--|
| 20 | Card | |
| 21 | Phone | Mobile phone |
| 22 | Tablet/e-reader | Tablet computer or e-reader |
| 23 | Watch/Wristband | Watch or wristband, including a fitness band, smart strap, disposable band, watch add-on, and security/ID band |
| 24 | Sticker | |
| 25 | PC | PC or laptop |
| 26 | Device Peripheral | Mobile phone case or sleeve |
| 27 | Tag | Key fob or mobile tag |
| 28 | Jewelry | Ring, bracelet, necklace, and cuff links |
| 29 | Fashion Accessory | Handbag, bag charm, and glasses |
| 30 | Garment | Dress |
| 31 | Domestic Appliance | Refrigerator, washing machine |
| 32 | Vehicle | Vehicle, including vehicle attached devices |
| 33 | Media/Gaming Device | Media or gaming device, including a set top box, media player, and television |
| 34–99 | Reserved for future form factors. Any value in this range may occur within form factor and transaction data without prior notice. | |

Subelement 25—Mastercard Cash Program Data

Subelement 25 (Mastercard Cash Program Data) contains information necessary to process Mastercard Cash transactions, which includes message type identifiers.

| | |
|----------------------|-----------------------|
| Attribute | |
| Subelement ID: | 25 |
| Data Representation: | ans...14; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields |
| Subfields: | 1 |
| Justification: | See subfields |
| Usage | |

| | | | |
|--|-----|-----|-----|
| Following is the usage of subelement 25 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | Org | Sys | Dst |
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |

Values

See subfields.

Subfield 01—Message Identifier

DE 48, subelement 25, subfield 01 (Message Identifier) indicates the type of cash transaction.

| Attribute | Description |
|----------------------|---|
| Subfield ID: | 01 |
| Data Representation: | ans...10; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2, positions 3–10 undefined |
| Justification: | N/A |

Values

LR = Unlinked load request, or linked load request with no purchase

LP = Linked load request with a purchase

LU = Linked status update

CM = Confirmation message

Subelement 26—Wallet Program Data

DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data) contains the subfield that will identify transactions submitted using wallets on the Mastercard Digital Enablement Service (MDES) or Masterpass platform. Subelement 26 must be present in all Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, and Authorization Advice/0120—System-generated messages for transactions processed using wallets on MDES or the Masterpass™ by Mastercard® platform.

| Attribute | |
|----------------------|------|
| Subelement ID: | 26 |
| Data Representation: | an-3 |
| Length Field: | 2 |

| | |
|-------------|------------------------|
| Data Field: | Contents of subfield 1 |
|-------------|------------------------|

| | |
|------------|---|
| Subfields: | 1 |
|------------|---|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of subelement 26 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| Org | Sys | Dst |
|-----|-----|-----|
|-----|-----|-----|

| | | | |
|----------------------------|---|---|---|
| Authorization Request/0100 | C | • | C |
|----------------------------|---|---|---|

| | | | |
|--|---|---|---|
| Authorization Advice/0120—Acquirer-generated | C | • | C |
|--|---|---|---|

| | | | |
|--|---|---|---|
| Authorization Advice/0120—System-generated | • | C | C |
|--|---|---|---|

Values

| |
|----------------|
| See subfield 1 |
|----------------|

Subfield 1—Wallet Identifier

DE 48, subelement 26, subfield 1 (Wallet Identifier) provides information about transactions initiated through the Masterpass Online platform or through the Mastercard Digital Enablement Service (MDES) and indicates who the Wallet Provider was for the transaction.

| Attribute | Description |
|-----------|-------------|
|-----------|-------------|

| | |
|----------------------|------|
| Data Representation: | an-3 |
|----------------------|------|

| | |
|-------------|--------------------------------|
| Data Field: | Provides the Wallet Identifier |
|-------------|--------------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

| Value | Description |
|-------|-------------|
|-------|-------------|

Note: The following values apply to both Masterpass and MDES transactions.

| | |
|-----|--------------------------|
| 101 | Masterpass by Mastercard |
|-----|--------------------------|

Note: The following values only apply to MDES transactions.

| | |
|-----|-----------|
| 103 | Apple Pay |
|-----|-----------|

| | |
|-----|-------------|
| 216 | Android Pay |
|-----|-------------|

| | |
|-----|-------------|
| 217 | Samsung Pay |
|-----|-------------|

| | |
|-----|-------------------------------|
| 327 | Merchant tokenization program |
|-----|-------------------------------|

Application Notes

The Wallet ID is now required in Masterpass transactions submitted from certain regions or countries. The Wallet ID cannot contain all zeros, spaces, or special characters.

The Authorization Platform inserts the Wallet Identifier for MDES transactions when available, which identifies the wallet that the transaction came from.

New Wallet Identifier values may be provided in this field without prior written notice.

The following table indicates the presence of the Wallet Identifier in Masterpass and MDES transactions.

| Masterpass Messages | Org | Sys | Dst |
|--|------------|------------|------------|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Application Notes

If the card in Masterpass is an MDES token, then MDES would add the correct Wallet ID to the transaction.

| MDES Messages | Org | Sys | Dst |
|--|------------|------------|------------|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Reversal Request/0400 | • | X | C |
| Reversal Advice/0420 | • | X | C |

Application Notes

For MDES, Mastercard inserts the Wallet Identifier for the wallet that the token was supplied to.

Subelement 27—Transaction Analysis

DE 48, subelement 27 (Transaction Analysis) contains information about transaction analysis.

| Attribute | Value |
|------------------|--------------|
| Subelement ID | n-2 |

| | | |
|---------------------|---------------------------|---------|
| Subelement Length | n-2 | 13...97 |
| Data Representation | an...97; LLVAR | |
| Data Field | Contents of subfields 1–2 | |
| Number of Subfields | 2 | |

Usage

Following is the usage of subelement 27 (whether it is mandatory, conditional, optional, or system provided) in applicable messages.

| Message | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | C | • | C |

Application Notes

DE 48, subelement 27 and subfields 1 and 2 are set up in Tag, Length, Value format:
27LL01LLVV02LLVVVVVVV... For example, see as follows:

| | |
|------------|------------|
| Subfield 1 | Subfield 2 |
| 0102CI | 0206SNAOVP |

Subfield 1—Overview

DE 48, subelement 27, subfield 1 (Overview) provides issuers with a code that represents the overall disposition of the transaction based on the applicable transaction validation results and corresponding decision matrix.

| Attributes | |
|---------------------|------------------------|
| Subfield ID | 01 |
| Data Representation | an-2 |
| Subfield Length | 2 |
| Data Field | Contents of subfield 1 |
| Justification | N/A |

| Values | Description |
|--------|--------------------------------------|
| CI | Continue processing with information |
| CW | Continue processing with warning |
| DI | Decline issuer decision |

| Values | Description |
|---------------|--------------------|
| DS | Decline suspicious |

Subfield 2—Test Results

DE 48, subelement 27, subfield 2 (Test Results) provides the list of failed validations. If several failed validations generate the same test result code, the code will only be reported one time in subfield 2.

| Attribute | Value |
|---------------------|---|
| Subfield ID | 02 |
| Data Representation | an...87; LLVAR; The LL length field of LLVAR will be an integral multiple of 3, not to exceed 87. |
| Subfield Length | 2 |
| Data Field | Contents of subfield 2 |
| Justification | N/A |

| Values | Description |
|---------------|--|
| CAM | Invalid Card Authentication |
| CCH | Cross channel |
| CVF | Cardholder verification (on terminal) was not successful |
| CVU | CVM requirements not fulfilled |
| CVX | Status CVM unknown |
| DAF | ODA failed |
| DAU | ODA was not performed |
| DMM | Data mismatch |
| DNC | Data not consistent with application or product |
| EXP | Token expired |
| FER | Format error |
| FUZ | Fuzzing |
| ICT | Not a valid cryptogram type |
| NMK | No matching key file/KDI combination |
| OVE | CDCVM retry exceeded—token suspended |

| Values | Description |
|---------------|--|
| OVF | CDCVM failed |
| OVP | CDCVM (was possible but) not performed |
| OVU | CDCVM not performed |
| PKC | ODA compromised |
| PPP | PIN Pad Problem |
| PTB | PIN on terminal bypass |
| PWE | Possible wedge attack |
| REP | ATC replay—Same UN |
| SKC | Key compromised |
| SNA | Request service not allowed for this product |
| UTP | Unable to process |

Subelement 30—Token Transaction Identifier

DE 48, subelement 30 (Token Transaction Identifier) will contain, when available, the calculated Token Transaction Identifier to identify the transaction. The Token Transaction Identifier is to be retained and used to provide the transaction details associated with an original purchase and subsequent reversal messages. The Token Transaction Identifier is only sent to issuers participating in the Mastercard Digital Enablement Service.

| Attribute | Description | Value |
|---------------------|--------------------|--------------|
| Subelement ID | n-2 | 30 |
| Subelement Length | n-2 | 44 or 64 |
| Data Representation | ans..64; LLVAR | Variable |
| Number of Subfields | N/A | |

Usage

Following is the usage of subelement 30 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| Message | Org | Sys | Dst |
|--|------------|------------|------------|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Values | | | |

A 44 byte base 64 value will be sent for Mastercard BIN ranges.

A 64 byte value will be sent for Visa BIN ranges.

Application Notes

DE 48, subelement 30 will not be present when DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains a value of 20 (Purchase Return/Refund).

Subelement 32—Mastercard Assigned ID

Subelement 32 (Mastercard Assigned ID) contains the merchant ID assigned by Mastercard.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 32 |
| Data Representation: | an-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 32 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

The Mastercard Assigned ID must be a value assigned by Mastercard, and is the same value in both the Authorization and Clearing Platforms. Mastercard assigns one ID to the merchant regardless if the merchant is participating in multiple programs. This ID can also be assigned for transaction data integrity purposes. For all card acceptors that have been issued a Mastercard Assigned ID, all submitted authorization requests, reversals, and advices must contain the Mastercard Assigned ID in DE 48, subelement 32.

This field is required when transactions are submitted for real-time substantiation. Real-time substantiation is indicated by DE 48, subelement 61, subfield 3 (Real-time Substantiation Indicator) containing a value of 1 (Merchant terminal verified the purchased items against the Inventory Information Approval System [IIAS]).

Participating merchants must submit the Mastercard Assigned ID for e-commerce transactions that are processed under the Maestro® Recurring Payments Program and the Mastercard® Utility Payment Program.

Subelement 33—PAN Mapping File Information

DE 48, subelement 33 (PAN Mapping File Information) supports the mapping between the virtual account data and actual account data.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 33 |
| Data Representation: | an...93; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1-8 |
| Subfields: | 8 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 33 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | C | X | C |
| Authorization Request Response/0110 | C | X | C |
| Authorization Advice/0120—Acquirer-generated | C | X | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | X | C |
| Authorization Advice Response/0130—Issuer-generated | CE | • | CE |
| Reversal Request/0400 | C | X | C |
| Reversal Request Response/0410 | CE | X | CE |

| | | | |
|--------------------------|---|---|---|
| Reversal Advice/0420 | • | X | C |
| Values | | | |
| See subfields | | | |
| Application Notes | | | |

The Authorization Platform inserts this subelement when PAN Mapping Service was performed on the transaction. Subelement 33 may be used for research or audit purposes but need not be used for processing authorization messages.

Acquirers will receive subelement 33 in contact M/Chip, contactless magnetic stripe, or contactless M/Chip transactions when the issuer is participating in the Contactless Mapping Service. Acquirers will also receive subelement 33 in contactless M/Chip, contactless magnetic stripe, magnetic stripe, or Digital Secure Remote Payment transactions when the issuer is participating in the Mastercard Digital Enablement Service. Acquirers do not receive subelement 33 for the Mastercard In Control™ Purchase Control Service or Mastercard In Control Virtual Card Spend Control Service.

Issuers that issue contactless cards or devices that provide a primary account number (PAN) within a transaction different from what is embossed on the card, must ensure that the following is provided in Authorization Request Response/0110 messages when responding to MCC 4111, 4131, 4784, 7523 transactions.

- The value E in DE 48, subelement 33, subfield 1 (Account Number Indicator)
- The embossed number in DE 48, subelement 33, subfield 2 (Account Number)
- The card expiration date of the embossed number in DE 48, subelement 33, subfield 3 (Expiration Date)

Acquirers processing transactions for merchant categories 4111, 4131, 4784, and 7523 must pass the PAN Mapping information back to the merchants.

Subfield 1—Account Number Indicator

DE 48, subelement 33, subfield 1 (Account Number Indicator) indicates the type of PAN mapping account.

| Attributes | |
|----------------------|------------------------|
| Subfield ID: | 01 |
| Data Representation: | an-1 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 |
| Justification: | N/A |
| Values | Description |

C = Mastercard Digital Enablement Service Secure Element Token
E = Embossed Account Number Provided by Issuer
F = Mastercard Digital Enablement Service Card on File Token
H = Mastercard Digital Enablement Service Cloud-based Payments Token
L = Pay with Rewards Loyalty Program Operator [LPO] Card
M = Primary Account Number
P = Contactless Account Number
R = Pay with Rewards Card
V = Virtual Card Number

Subfield 2—Account Number

DE 48, subelement 33, subfield 2 (Account Number) indicates the PAN mapping account number.

Attributes

| | |
|----------------------|------------------------|
| Subfield ID: | 02 |
| Data Representation: | n...19, LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfield 2 |
| Justification: | N/A |

Values Description

Acquirer message = Contains primary account number

For Visa authorization transactions, subfield 2 contains the last four digits of the cardholder's primary account number (PAN) and will be provided when the transaction was initiated with a Visa token and the data is provided on the response from Visa.

Issuer message = Contains virtual number or token

For Mastercard Digital Enablement Service transactions, subfield 2 is the token rather than the primary account number, if subfield 1 value is C, H, or F.

Subfield 3—Expiration Date

DE 48, subelement 33, subfield 3 (Expiration Date) indicates the expiration date of the PAN mapping account.

Attributes

| | |
|----------------------|------------------------|
| Subfield ID: | 03 |
| Data Representation: | n-4; format YYMM |
| Length Field: | 2 |
| Data Field: | Contents of subfield 3 |
| Justification: | N/A |

Values

| | |
|--------------------|--|
| Acquirer message = | Will contain the expiration date when <ul style="list-style-type: none">• The issuer provided one for a PAN mapping record added to the MCC106 PAN Mapping File, or• A transit transaction response contains MCC 4111, 4131, 4784, and 7523, or• The Mastercard Digital Enablement Service was applied |
| Issuer message = | May contain virtual card number or token expiration date only if acquirer provided in DE 14 of the authorization message. For contactless transit transactions, subfield 3 is the expiration date of the embossed number rather than the virtual number, if subfield 1 value is E. |

Subfield 4—Product Code

DE 48, subelement 33, subfield 4 (Product Code) may indicate the product code for subfield 2 account number.

Attributes

| | |
|----------------------|------------------------|
| Subfield ID: | 04 |
| Data Representation: | an-3 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 4 |
| Justification: | N/A |

Values

Subfield 4 may contain product code for subfield 2 account number.

Subfield 5—Token Assurance Level

DE 48, subelement 33, subfield 5 (Token Assurance Level) contains a value indicating the confidence level of the token to PAN/cardholder binding.

Attributes

Subfield ID: 05

Data Representation: n-2

Length Field: 2

Data Field: Contents of subfield 5

Justification: N/A

Values

Contains a value indicating the confidence level of the token to PAN/cardholder relationship.

Application Notes

Subfield 5 is optional but should be included in messages sent to Mastercard by the acquirer if provided to the acquirer by the merchant. Acquirers may receive the value back in an Authorization Request Response/0110 message.

Subfield 6—Token Requestor ID

DE 48, subelement 33, subfield 6 (Token Requestor ID) contains the ID assigned by the Token Service Provider to the Token Requestor.

Attributes

Subfield ID: 06

Data Representation: n-11

Length Field: 2

Data Field: Contents of subfield 6

Justification: N/A

Values

Contains the ID assigned by the Token Service Provider to the Token Requestor. The Token Requestor ID is required for Card-on-File Token Request messages and is optional for all others.

Application Notes

Subfield 6 is optional but should be included in messages sent to Mastercard by the acquirer if provided to the acquirer by the merchant. Acquirers may receive the value back in an Authorization Request Response/0110 message.

Subfield 7—Primary Account Number, Account Range

DE 48, subelement 33, subfield 7 (Primary Account Number, Account Range) carries either the first nine digits of the cardholder PAN, or the full Visa cardholder PAN in the authorization response for a transaction initiated with a Visa token.

Attributes

Subfield ID: 07

Data Representation: n...19; LLVAR

Length Field: 2

Data Field: Contents of subfield 7

Justification: N/A

Values

The first nine digits of the Visa cardholder PAN, or the full Visa cardholder PAN. Acquirers must be aware that this information must not be forwarded to their merchants.

Subfield 8—Storage Technology

DE 48, subelement 33, subfield 8 (Storage Technology) describes the Storage Technology of a requested or created token.

Attributes

Subfield ID: 08

Data Representation: an-2

Length Field: 2

Data Field: Contents of subfield 8

Justification: N/A

Usage

Following is the usage of DE 48, subelement 33, subfield 8 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Reversal Request/0400 | • | X | C |
| Reversal Advice/0420 | • | X | C |

| Authorization Request/0100—Tokenization Eligibility Request (TER) | • | X | C |
|---|--|---|---|
| Authorization Request/0100—Tokenization Authorization Request (TAR) | • | X | C |
| Authorization Request/0100—Tokenization Complete Notification (TCN) | • | X | C |
| Values | Description | | |
| 01 | Device Memory | | |
| 02 | Device Memory protected by Trusted Platform Module (TPM) | | |
| 03 | Server | | |
| 04 | Trusted Execution Environment (TEE) | | |
| 05 | Secure Element (SE) | | |
| 06 | Virtual Execution Environment (VEE) | | |

Application Notes

Subfield 8 is optional but should be included in messages sent to Mastercard by the acquirer if provided to the acquirer by the merchant. Acquirers may receive the value back in an Authorization Request Response/0110 message.

Subelement 34—ATC Information

Subelement 34 (ATC Information) supports On-behalf Services.

Attributes

| | | | |
|----------------------|---------------------------|--|--|
| Subelement ID: | 34 | | |
| Data Representation: | an-11 | | |
| Length Field: | 2 | | |
| Data Field: | Contents of subfields 1-3 | | |
| Subfields: | 3 | | |
| Justification: | See subfields | | |

Usage

Following is the usage of subelement 34 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Values

See subfields

Application Notes

The Authorization Platform inserts this subelement when the Dynamic CVC 3 Pre-validation Service (OBS 15), Dynamic CVC 3 Validation in Stand-In Processing Service (OBS 16), M/Chip Cryptogram Pre-validation Service (OBS 02), or M/Chip Cryptogram Validation in Stand-In Processing Service (OBS 03) was performed on the transaction and the validation result was V (Valid), A (Valid AC; ATC outside allowed range), E (Valid AC; ATC Replay), T (Valid ARQC/TC and ATC; TVR/CVR invalid), or G (Application Cryptogram is valid but not an ARQC; status of TVR/CVR unknown).

Chip Services

- V = Valid ARQC/TC and ATC and TVR/CVR
- A = Valid Application Cryptogram; ATC out of range
- E = Valid Application Cryptogram; ATC replay
- T = Valid ARQC/TC and ATC; TVR/CVR invalid
- G = Application Cryptogram valid but not an ARQC; ATC valid; status of TVR/CVR unknown

CVC Services

- V = Valid CVC3 and ATC and TVR/CVR
- A = Valid CVC3; ATC out of range
- E = Valid CVC; ATC replay

These results are found in DE 48, subelement 71, subfield 2 (On-behalf [OB] Result 1).

Subelement 34 should be used for processing authorization messages and maintaining the ATC values on the issuer host. Subfields 1–3 are always present.

The following ATC information will be provided in Dual Message (Authorization) and Single Message financial transaction requests and advices to issuers for MDES transactions initiated with a token, when available. ATC information will not be provided in declined advices.

- DE 48, subelement 34, subfield 1 (ATC Value)
 - DE 48, subelement 34, subfield 2 (ATC Discrepancy Value)
 - DE 48, subelement 34, subfield 3 (ATC Discrepancy Indicator)
-

Subfield 1—ATC Value

DE 48, subelement 34, subfield 1 (ATC Value) contains the derived full ATC Value used in the validation.

Attributes

Data Representation: n-5

Data Field: Contents of subfield 1

Justification: Right-justified, leading zeros

Subfield 2—ATC Discrepancy Value

DE 48, subelement 34, subfield 2 (ATC Discrepancy Value) is the differential between the transaction ATC and the maximum value allowed by the issuer when the transaction ATC is above the previous ATC, or the differential between the transaction ATC and the minimum value allowed by the issuer when the transaction ATC is below the previous ATC. ATC Discrepancy Value will be zero when the transaction ATC is within the issuer-defined limits.

Attributes

Data Representation: n-5

Data Field: Contents of subfield 2

Justification: Right-justified, leading zeros

Subfield 3—ATC Discrepancy Indicator

DE 48, subelement 34, subfield 3 (ATC Discrepancy Indicator) indicates if the ATC Discrepancy Value is above, below or within the maximum values allowed by the issuer.

Attributes

Data Representation: an-1

Data Field: Contents of subfield 3

Justification: N/A

Values

G = Indicates that the ATC value is greater than the maximum value allowed

L = Indicates that the ATC value is lower than the minimum value allowed

W = Indicates that the ATC value is within the issuer-defined limits

Subelement 34 Subfield Data Examples

Following are examples of how data may appear in subfield 1, subfield 2, and subfield 3.

Example 1

Last valid ATC value processed by Mastercard was 00011.

Issuer provided a maximum allowed range of 00035.

$00011 + 00035 = 00046$, which represents the maximum ATC value, allowed in the next transaction.

The derived value of the ATC in the next transaction is 00088.

The ATC Discrepancy Value for this transaction is 42 which represents the difference between the maximum ATC value allowed 00046 and the derived ATC value from the transaction 00088.

Subelement 34 will contain the following:

- Subfield 1 = 00088
- Subfield 2 = 00042
- Subfield 3 = G

Example 2

Last valid ATC value processed by Mastercard was 00068.

Issuer provided a minimum allowed range of 00035.

$00068 - 00035 = 00033$, which represents the minimum ATC value allowed in the next transaction.

The derived value of the ATC in the next transaction is 00020.

The ATC Discrepancy Value for this transaction is 13, which represents the difference between the minimum ATC value allowed 00033 and the derived ATC value from the transaction 00020.

Subelement 34 will contain the following:

- Subfield 1 = 00020
- Subfield 2 = 00013
- Subfield 3 = L

Example 3

Last valid ATC value processed by Mastercard was 00037.

Issuer provided a maximum allowed range of 00005.

$00037 + 00005 = 00042$, which represents the maximum ATC value allowed in the next transaction.

The derived value of the ATC in the next transaction is 00040.

The ATC Discrepancy Value for this transaction is 0 because the derived value of the ATC in the next transaction 00040 is greater than the last valid ATC value 00037 and below the maximum ATC value allowed in the next transaction 00042.

Subelement 34 will contain the following:

- Subfield 1 = 00040
- Subfield 2 = 00000
- Subfield 3 = W

Subelement 35—Contactless Non-Card Form Factor Request/Response

Subelement 35 (Contactless Non-Card Form Factor Request/Response) supports Contactless Mapping Service.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 35 |
| Data Representation: | an-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 35 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | C | C | • |

Values

The contactless issuer will receive the Authorization Request/0100 message containing DE 48, subelement 35, value R (Cardholder request for device).

The contactless issuer should respond with an Authorization Request Response/0110 message containing DE 48, subelement 35, value A (Approve cardholder request for device) or D (Decline cardholder request for device).

Application Notes

Issuers choosing the Contactless Mapping Service “Processing and Issuance of devices” participation option (Passive Participation) will receive an Authorization Request/0100 message when a cardholder requests a contactless device from the issuer-branded, secure website hosted by Mastercard. The issuer may then decide if the cardholder should receive the contactless device.

The Authorization Platform will use the value in DE 48, subelement 35 of the Authorization Request Response/0110 message to issue the contactless device or to decline the cardholder’s request.

If an issuer chooses not to support subelement 35, the issuer-branded website will evaluate the responses provided for AVS and CVC 2 and approve or decline the cardholder request based on those values.

Subelement 36—Visa MVV (Visa Only)

DE 48, subelement 36 (Visa MVV [Visa Only]) supports the Visa-assigned Merchant Verification Value (MVV).

| Attribute | Description |
|-----------|-------------|
| | |

| | |
|----------------------|-----------------------|
| Subelement ID: | 36 |
| Data Representation: | a-14 |
| Length Field: | 2 |
| Data Field: | Contents of subfields |
| Subfields: | 1 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 36 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request/0100

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Reversal Request/0400

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Values

See subfields.

Subfield 1—Merchant Verification Value (MVV)

DE 48, subelement 36, subfield 1 (Merchant Verification Value) contains the merchant verification value for subelement 36.

| Attribute | Description |
|----------------------|-------------------------|
| Subfield ID: | 01 |
| Data Representation: | an-10 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1. |
| Justification: | N/A |

| Attribute | Description |
|--------------|-------------|
| Subfield ID: | 01 |

| Attribute | Description |
|--------------|-------------|
| Subfield ID: | 01 |

| Attribute | Description |
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| Subfield ID: | 01 |

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| Attribute | Description |
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| Subfield ID: | 01 |

| Attribute | Description |
|--------------|-------------|
| Subfield ID: | 01 |

| Attribute | Description |
|-----------|-------------|
|-----------|-------------|

| | |
|----------------------|---------------------------|
| Data Representation: | ans...49; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–3 |
| Subfields: | 3 |
| Justification: | see subfields |

Usage

Following is the usage of subelement 37 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

See subfields.

Application Notes

Specific application notes, conditions, and cross-edits where applicable.

Valid Combinations of DE 48, subelement 37, subfields 1, 2, and 3:

-
- Subfields 1 and 3 only
 - Subfield 2 only
 - Subfields 1, 2, and 3
-

Subfield 1—Payment Facilitator ID

DE 48, subelement 37, subfield 1 (Payment Facilitator ID) contains the Payment Facilitator ID assigned by Mastercard.

| Attribute | Description |
|----------------------|------------------------------------|
| Subfield ID: | 01 |
| Data Representation: | n-11 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 |
| Justification: | Right justified with leading zeros |

Values

The Payment Facilitator ID must always be a value assigned by Mastercard and must be the same value in both the Authorization and Clearing Platforms. This ID is the Company ID that will be assigned during the time of registration with Mastercard for a Service Provider as "Payment Facilitator."

The value must be provided by the acquirer when a registered payment facilitator is involved in a transaction and should be right justified with leading zeros. For example, if the Company ID is 123456, DE 48, SE 37, SF 1 should be 00000123456.

Subfield 2—Independent Sales Organization ID

DE 48, subelement 37, subfield 2 (Independent Sales Organization ID) contains the Independent Sales Organization ID assigned by Mastercard.

| Attribute | Description |
|----------------------|------------------------------------|
| Subfield ID: | 02 |
| Data Representation: | n-11 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 2 |
| Justification: | Right justified with leading zeros |

Values

The Independent Sales Organization ID must always be a value assigned by Mastercard and is the same value in both the Authorization and Clearing Platforms. This ID is the "Company ID" that is assigned during the time of registration via Mastercard Connect of a service provider as "Independent Sales Organization."

This value must be provided by the acquirer when a registered independent sales organization is involved in a transaction and should be right justified with leading zeros. For example, if the Company ID is 123456, DE 48, SE 37, SF 2 should be 00000123456.

Subfield 3—Sub-Merchant ID

DE 48, subelement 37, subfield 3 (Sub-Merchant ID) contains the Merchant ID of the sub-merchant.

| Attribute | Description |
|----------------------|---------------------------------|
| Subfield ID: | 03 |
| Data Representation: | ans-15 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 3 |
| Justification: | Left justified, trailing spaces |

Values

The Sub-Merchant ID must always be the merchant ID of the sub-merchant whenever a payment facilitator is involved in a transaction. This value, which is assigned by the payment facilitator or their acquirer, must be provided by the acquirer whenever the Payment Facilitator ID is provided in the DE 48, SE 37 (Additional Merchant Data), SF 1 (Payment Facilitator ID).

Subelement 38—Account Category

Subelement 38 (Account Category) supports Account Level Management.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 38 |
| Data Representation: | an-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | NA |
| Justification: | NA |

Usage

Following is the usage of subelement 38 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Advice/0420 | • | C | C |

Values

| | | |
|---|---|--|
| B | = | Enhanced Value (Enhanced Value and High Spend) |
| C | = | Level 1 (Small Business Spend Processing) |
| D | = | Level 1 (Small Business Spend Processing and Product Graduation) |
| E | = | Level 2 (Small Business Spend Processing) |
| F | = | Level 2 (Small Business Spend Processing and Product Graduation) |
| G | = | Level 3 (Small Business Spend Processing) |
| H | = | Level 3 (Small Business Spend Processing and Product Graduation) |
| J | = | Level 4 (Small Business Spend Processing) |
| K | = | Level 4 (Small Business Spend Processing and Product Graduation) |

| | | |
|---|---|--|
| M | = | Enhanced Value (Enhanced Value and High Spend) and Product Graduation |
| P | = | Product Graduation (or the Co-brand Proprietary card program) |
| S | = | High Value (High Value, Small Business Spend Processing and Premium High Spend) |
| T | = | High Value (High Value, Small Business Spend Processing and Premium High Spend) and Product Graduation |
| W | = | Spend Shortfall |
| Y | = | Spend Shortfall and Product Graduation |
| Z | = | The default value provided by Mastercard indicating that while the account range does participate in Account Level Management processing, the specific cardholder account found in DE 2 (Primary Account Number [PAN]) of the transaction does not participate in Account Level Management processing. |

Refer to the *Account Level Management User Manual* for additional information.

Subelement 39—Account Data Compromise Information

DE 48, subelement 39 (Account Data Compromise Information) contains confirmed or suspected account data compromise event information for account ranges.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 39 |
| Data Representation: | ans-30 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–30 |
| Subfields: | N/A |
| Justification: | Left |

Usage

Following is the usage of subelement 39 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Positions 1–3 (Reserved for Future Use)

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Data Field: | Contents of positions 1–3 |
| Values: | 000 = Not available |

Positions 4–6 (Reserved for Future Use)

Data Representation: n-3
Data Field: Contents of positions 4–6
Values: N/A

Positions 7–12 (Case Key Code number 1)

Data Representation: ans-6
Data Field: Contents of positions 7–12
Values: Unique Key to Identify Case

Positions 13–18 (Case Key Code number 2)

Data Representation: ans-6
Data Field: Contents of positions 13–18
Values: Unique Key to Identify Case

Positions 19–24 (Case Key Code number 3)

Data Representation: ans-6
Data Field: Contents of positions 19–24
Values: Unique Key to Identify Case

Position 25 (Account Number)

Data Representation: n-1
Data Field: Contents of position 25
Values: 0–9 = Number of events in which the account number has been exposed

Position 26 (Expiration Date)

Data Representation: n-1
Data Field: Contents of position 26
Values: 0–9 = Number of events in which expiration date has been exposed

Position 27 (CVC 2)

Data Representation: n-1
Data Field: Contents of position 27
Values: 0–9 = Number of events in which the CVC 2 has been exposed

Position 28 (PIN)

Data Representation: n-1
Data Field: Contents of position 28

Values: 0–9 = Number of events in which the PIN has been exposed

Position 29 (Magnetic Stripe)

Data Representation: n-1

Data Field: Contents of position 29

Values: 0–9 = Number of events in which the Magnetic Stripe has been exposed

Position 30 (Personal Information)

Data Representation: n-1

Data Field: Contents of position 30

Values: 0–9 = Number of events in which the cardholder's personal information has been exposed

Subelement 40—Electronic Commerce Merchant/Cardholder Certificate Serial Number (Visa Only)

Subelement 40 (Electronic Commerce Merchant/Cardholder Certificate Serial Number) contains certificate information on electronic commerce transactions when applicable.

Attributes

Subelement ID: 40

Data Representation: n...40 (also contains binary data. See subfields.); LLVAR

Length Field: 2

Data Field: Contents of subfield 1 or 2 or both

Subfields: 2

Justification: N/A

Usage

Following is the usage of subelement 40 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|----|---|----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | C | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Contains the contents of subfield 1 or subfield 2 or both.

Subfield 1—Merchant Certificate Serial Number

DE 48, subelement 40, subfield 1 (Merchant Certificate Serial Number) is the Merchant Certificate Serial Number in binary data.

| Attributes | |
|----------------------|--|
| Subfield ID: | 01 |
| Data Representation: | b...16 |
| Length Field: | 2 |
| Data Field: | Merchant Certificate Serial Number in binary data. |
| Justification: | N/A |
| Values: | Merchant specific: b...16 |

Subfield 2—Cardholder Certificate Serial Number

DE 48, subelement 40, subfield 2 (Cardholder Certificate Serial Number) is the cardholder certificate serial number in binary format.

| Attributes | |
|----------------------|--|
| Subfield ID: | 02 |
| Data Representation: | b...16 |
| Length Field: | 2 |
| Data Field: | Cardholder Certificate Serial Number in binary data. |
| Justification: | N/A |
| Values: | Cardholder specific: b...16 |

Subelement 41—Electronic Commerce Certificate Qualifying Information

Mastercard discontinued use of subelement 41 (Electronic Commerce Certificate Qualifying Information) for submitting Electronic Commerce Certificate Qualifying Information.

Subelement 41, subfields 1–10 and 12–18 are reserved for future use. Subelement 41, subfield 11 (Citizen ID) may contain Citizen ID (formerly National ID) information. Applicable only to domestic Venezuela transactions.

| Attributes | |
|----------------------|---------------------------------|
| Subelement ID: | 41 |
| Data Representation: | ans...95; LLVAR |
| Length Field: | 2 (value in the range of 05–95) |
| Data Field: | Contents of subfield(s) |

Subfields: 18

Justification: N/A

Usage

Following is the usage of subelement 41 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120 | • | C | C |

Values

See subfields.

Subfield 1—Reserved for Future Use

DE 48, subelement 41, subfield 1 (Reserved for Future Use) is for future use.

Attributes

Subfield ID: 01

Data Representation: ans...26

Length Field: 2

Subfield 2—Reserved for Future Use

DE 48, subelement 41, subfield 2 (Reserved for Future Use) is for future use.

Attributes

Subfield ID: 02

Data Representation: n-6

Length Field: 2

Subfield 3—Reserved for Future Use

DE 48, subelement 41, subfield 3 (Reserved for Future Use) is for future use.

Attributes

Subfield ID: 03

Data Representation: n-3

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

Subfield 4—Reserved for Future Use

DE 48, subelement 41, subfield 4 (Reserved for Future Use) is for future use.

| | |
|------------|--|
| Attributes | |
|------------|--|

| | |
|--------------|----|
| Subfield ID: | 04 |
|--------------|----|

| | |
|----------------------|---------|
| Data Representation: | an...22 |
|----------------------|---------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

Subfield 5—Reserved for Future Use

DE 48, subelement 41, subfield 5 (Reserved for Future Use) is for future use.

| | |
|------------|--|
| Attributes | |
|------------|--|

| | |
|--------------|----|
| Subfield ID: | 05 |
|--------------|----|

| | |
|----------------------|----------|
| Data Representation: | ans...20 |
|----------------------|----------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

Subfield 6—Reserved for Future Use

DE 48, subelement 41, subfield 6 (Reserved for Future Use) is for future use.

| | |
|------------|--|
| Attributes | |
|------------|--|

| | |
|--------------|----|
| Subfield ID: | 06 |
|--------------|----|

| | |
|----------------------|--------|
| Data Representation: | a...13 |
|----------------------|--------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

Subfield 7—Reserved for Future Use

DE 48, subelement 41, subfield 7 (Reserved for Future Use) is for future use.

| | |
|------------|--|
| Attributes | |
|------------|--|

| | |
|--------------|----|
| Subfield ID: | 07 |
|--------------|----|

| | |
|----------------------|-----|
| Data Representation: | a-3 |
|----------------------|-----|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

Subfield 8—Reserved for Future Use

DE 48, subelement 41, subfield 8 (Reserved for Future Use) is for future use.

| | |
|----------------------|---------|
| Attributes | |
| Subfield ID: | 08 |
| Data Representation: | an...10 |
| Length Field: | 2 |

Subfield 9—Reserved for Future Use

DE 48, subelement 41, subfield 9 (Reserved for Future Use) is for future use.

| | |
|----------------------|--------|
| Attributes | |
| Subfield ID: | 09 |
| Data Representation: | a...22 |
| Length Field: | 2 |

Subfield 10—Reserved for Future Use

DE 48, subelement 41, subfield 10 (Reserved for Future Use) is for future use.

| | |
|----------------------|-----|
| Attributes | |
| Subfield ID: | 10 |
| Data Representation: | n-9 |
| Length Field: | 2 |

Subfield 11—Citizen ID

DE 48, subelement 41, subfield 11 (Citizen ID) indicates the citizen ID.

| | |
|----------------------|---------------------|
| Attributes | |
| Subfield ID: | 11 |
| Data Representation: | an...20 |
| Length Field: | 2 |
| Data Field: | National ID |
| Justification: | N/A |
| Values: | Cardholder specific |

Subfield 12—Reserved for Future Use

DE 48, subelement 41, subfield 12 (Reserved for Future Use) is for future use.

| | |
|----------------------|----------|
| Attributes | |
| Subfield ID: | 12 |
| Data Representation: | ans...20 |
| Length Field: | 2 |

Subfield 13—Reserved for Future Use

DE 48, subelement 41, subfield 13 (Reserved for Future Use) is for future use.

| | |
|----------------------|----------|
| Attributes | |
| Subfield ID: | 13 |
| Data Representation: | ans...20 |
| Length Field: | 2 |

Subfield 14—Reserved for Future Use

DE 48, subelement 41, subfield 14 (Reserved for Future Use) is for future use.

| | |
|----------------------|----------|
| Attributes | |
| Subfield ID: | 14 |
| Data Representation: | ans...20 |
| Length Field: | 2 |

Subfield 15—Reserved for Future Use

DE 48, subelement 41, subfield 15 (Reserved for Future Use) is for future use.

| | |
|----------------------|----------|
| Attributes | |
| Subfield ID: | 15 |
| Data Representation: | ans...10 |
| Length Field: | 2 |

Subfield 16—Reserved for Future Use

DE 48, subelement 41, subfield 16 (Reserved for Future Use) is for future use.

Attributes

| | |
|----------------------|-----|
| Subfield ID: | 16 |
| Data Representation: | n-2 |
| Length Field: | 2 |

Subfield 17—Reserved for Future Use

DE 48, subelement 41, subfield 17 (Reserved for Future Use) is for future use.

Attributes

| | |
|----------------------|-----|
| Subfield ID: | 17 |
| Data Representation: | a-1 |
| Length Field: | 2 |

Subfield 18—Reserved for Future Use

DE 48, subelement 41, subfield 18 (Reserved for Future Use) is for future use.

Attributes

| | |
|----------------------|--------|
| Subfield ID: | 18 |
| Data Representation: | a...20 |
| Length Field: | 2 |

Subelement 42—Electronic Commerce Indicators

DE 48, subelement 42 (Electronic Commerce Indicators) contains the electronic commerce indicators representing the security level and cardholder authentication associated with the transaction.

Attributes

| | |
|----------------------|---|
| Subelement ID: | 42 |
| Data Representation: | n-7 (except n-19 for acquirer Authorization Request Response/0110 messages if SecureCode downgrade or MDES SLI modification occurred) |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 (except contents of subfields 1, 2, and 3 for acquirer Authorization Request Response/0110 messages if SecureCode downgrade or MDES SLI modification occurred) |

| | |
|----------------|-----|
| Subfields: | 3 |
| Justification: | N/A |

Usage

Subelement 42 must be present in all Authorization Request/0100 messages for electronic commerce transactions. Following is the usage of subelement 42 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | X | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |

Values

If *SecureCode* downgrade or MDES SLI modification did not occur, contains the electronic commerce security level indicator and UCAF collection indicator data in subfield 1 that consists of a valid combination of positions 1, 2, and 3.

If *SecureCode* downgrade or MDES SLI modification occurred, contains contents of subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), subfield 2 (Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator), and subfield 3 (Reason for UCAF Collection Indicator Downgrade) for acquirer Authorization Request Response/0110 messages.

Application Notes

A Mastercard *SecureCode* transaction is downgraded to a non-*SecureCode* transaction if an Accountholder Authentication Value (AAV) is not present or is invalid in DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]).

For transactions initiated with Mastercard Digital Enablement Service (MDES) Tokens, Mastercard provides Authorization Platform edits that validate and when necessary, modify the Security Level Indicator (SLI) in DE 48, subelement 42, subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection indicator) in Authorization Request/0100 messages.

Mastercard sends the correct SLI to the issuer in Authorization Request/0100 messages for MDES transactions.

Mastercard notifies acquirers when the SLI has been corrected by inserting two additional DE 48, subelement 42 indicators, as follows. All acquirers must be ready to receive DE 48, subelement 42, subfield 2 (Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator), and subfield 3 (Reason for UCAF Collection Indicator Downgrade) in the Authorization Request Response/0110 messages.

Subfield 1—Electronic Commerce Security Level Indicator and UCAF Collection Indicator

DE 48, subelement 42, subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator) indicates the electronic commerce security level and UCAF collection in positions 1, 2, and 3.

Attributes

| | |
|----------------------|---|
| Subfield ID: | 01 |
| Data Representation: | n-3 |
| Length Field: | 2 |
| Data Field: | Indicates the electronic commerce security level and UCAF collection in positions 1, 2, and 3 |
| Justification: | N/A |

Values

Valid combination of the security level indicators in positions 1 and 2 and the UCAF collection indicator in position 3.

Position 1 (Security Protocol)

| | | | | | | | | | | | | | | | | |
|----------------------|---|--|---|--|---|---|-------------------------|---|---|---------|-----|---|-------------------------|---|---|-----------------------------|
| Data Representation: | n-1 | | | | | | | | | | | | | | | |
| Data Field: | The electronic commerce security level indicator | | | | | | | | | | | | | | | |
| Values: | <table><tr><td>0</td><td>=</td><td>Reserved for existing Mastercard Europe/Visa definitions</td></tr><tr><td>1</td><td>=</td><td>Reserved for future use</td></tr><tr><td>2</td><td>=</td><td>Channel</td></tr><tr><td>3–8</td><td>=</td><td>Reserved for future use</td></tr><tr><td>9</td><td>=</td><td>None (no security protocol)</td></tr></table> | 0 | = | Reserved for existing Mastercard Europe/Visa definitions | 1 | = | Reserved for future use | 2 | = | Channel | 3–8 | = | Reserved for future use | 9 | = | None (no security protocol) |
| 0 | = | Reserved for existing Mastercard Europe/Visa definitions | | | | | | | | | | | | | | |
| 1 | = | Reserved for future use | | | | | | | | | | | | | | |
| 2 | = | Channel | | | | | | | | | | | | | | |
| 3–8 | = | Reserved for future use | | | | | | | | | | | | | | |
| 9 | = | None (no security protocol) | | | | | | | | | | | | | | |

Position 2 (Cardholder Authentication)

| | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|-------------------------|---|---|------------------------|---|---|------------------------------|---|---|-------------------------|---|---|---|-----|---|-------------------------|
| Data Representation: | n-1 | | | | | | | | | | | | | | | | | | |
| Data Field: | The cardholder authentication indicator | | | | | | | | | | | | | | | | | | |
| Values: | <table><tr><td>0</td><td>=</td><td>Reserved for future use</td></tr><tr><td>1</td><td>=</td><td>eCommerce / SecureCode</td></tr><tr><td>2</td><td>=</td><td>Processed through Masterpass</td></tr><tr><td>3</td><td>=</td><td>Reserved for future use</td></tr><tr><td>4</td><td>=</td><td>Digital Secure Remote Payment (DSRP) with UCAF data</td></tr><tr><td>5–9</td><td>=</td><td>Reserved for future use</td></tr></table> | 0 | = | Reserved for future use | 1 | = | eCommerce / SecureCode | 2 | = | Processed through Masterpass | 3 | = | Reserved for future use | 4 | = | Digital Secure Remote Payment (DSRP) with UCAF data | 5–9 | = | Reserved for future use |
| 0 | = | Reserved for future use | | | | | | | | | | | | | | | | | |
| 1 | = | eCommerce / SecureCode | | | | | | | | | | | | | | | | | |
| 2 | = | Processed through Masterpass | | | | | | | | | | | | | | | | | |
| 3 | = | Reserved for future use | | | | | | | | | | | | | | | | | |
| 4 | = | Digital Secure Remote Payment (DSRP) with UCAF data | | | | | | | | | | | | | | | | | |
| 5–9 | = | Reserved for future use | | | | | | | | | | | | | | | | | |

Valid combinations of position 1 and position 2:

21 = Channel encryption; cardholder certificate not used (this is the preferred value for Mastercard® SecureCode™)

22 = Masterpass-generated transaction

24 = Digital Secure Remote Payment transaction

91 = No security protocol; cardholder certificate not used

Position 3 (UCAF Collection Indicator)

Data Representation: n-1

Data Field: The UCAF collection indicator

| | | | |
|---------|---|---|--|
| Values: | 0 | = | UCAF data collection is not supported by the merchant or a SecureCode merchant has chosen not to undertake SecureCode on this transaction |
| | 1 | = | UCAF data collection is supported by the merchant, and UCAF data must be present (DE 48, subelement 43 must be present and contain an attempt AAV for Mastercard SecureCode) |
| | 2 | = | UCAF data collection is supported by the merchant, and UCAF data must be present (DE 48, subelement 43 must contain a fully authenticated AAV) |

3 = UCAF data collection is supported by the merchant, and UCAF (Mastercard assigned Static Accountholder Authentication Value) data must be present.

NOTE: DE 48, subelements 32 and 43 are required for Static AAV transactions.

Identifies participation in one of the following programs:

- Maestro Recurring Payments Program
- Mastercard Utility Payment Program
- Maestro Low Risk Merchant Program
- Maestro Static AAV for Masterpass

NOTE: Effective 16.Q2 in the Europe region only, Mastercard provides the new Maestro Low Risk Merchant Program for e-commerce transactions, whose purpose is to: reduce fraud in online payments, encourage merchants to implement SecureCode, promote a risk-based approach to SecureCode authentication, and promote an enhanced checkout experience for Maestro cardholders.

4 = Reserved for future use

5 = Issuer Risk Based Decisioning

6 = Merchant Risk Based Decisioning

NOTE: Issuers and acquirers must support the security level indicator (SLI) value of 246 for Digital Secure Remote Payment (DSRP) transactions participating in the MDES for Merchants and MDES for Commerce Platforms.

7 = Partial shipment or recurring payment (DE 48, subelement 43 not required). Liability will depend on the original UCAF values provided and matching with the initial transaction.

8–9 = Reserved for future use

Application Notes

For Visa Gateway 3-D Secure transactions the following mapping applies:

- Position 3 "0" maps to Field 60 SLI = 07 (Not Authenticated)
- Position 3 "1" maps to Field 60 SLI = 06 (3-D Secure merchant, not authenticated)
- Position 3 "2" maps to Field 60 SLI = 05 (Authenticated with CAVV)

For American Express Gateway 3-D Secure transactions the following mapping applies:

- Position 3 "0" maps to Field 61 SLI = 07 (Not Authenticated)
- Position 3 "1" maps to Field 61 SLI = 06 (Attempted with AEVV)
- Position 3 "2" maps to Field 61 SLI = 05 (Authenticated with AEVV)

SLI is the level of security used when a cardmember provides payment information to the merchant during authentication.

JCB and Diners Club use the same Position 3 values (0, 1, and 2) as defined for Mastercard *SecureCode*.

Subfield 2—Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator

DE 48, subelement 42, subfield 2 (Original Electronic Commerce Security Level Indicator and UCAF Collection Indicator) describes the original Security Level Indicators sent by the acquirer in the Authorization Request/0100 message before the *SecureCode* downgrade or MDES SLI modification occurred.

Attributes

| | |
|----------------------|------------------------|
| Subfield ID: | 02 |
| Data Representation: | n-3 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 2 |
| Justification: | N/A |

| Position | Description |
|-----------------|---------------------------|
| 1 | Security Protocol |
| 2 | Cardholder Authentication |
| 3 | UCAF Collection Indicator |

Application Notes

A Mastercard *SecureCode* transaction is downgraded to a non-*SecureCode* transaction if an Accountholder Authentication Value (AAV) is not present or is invalid in DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]).

DE 48, subelement 42, subfields 2 and 3 are only present in the Authorization Request Response/0110 message provided by Mastercard to the acquirer if a *SecureCode* downgrade or MDES SLI modification occurred.

For an acquirer-generated Reversal Request/0400 message, the contents of DE 48, subelement 42 (if present) should be the same as that which the acquirer sent in the Authorization Request/0100 message regardless of whether or not the Authorization Request Response/0110 message contains DE 48, subelement 42 with all three subfields due to the *SecureCode* downgrade or MDES SLI modification.

The message format sent in the acquirer Authorization Request Response/0110 message will be in the format 0103xxx0203yyy0301z only if the *SecureCode* downgrade occurs. Otherwise, the message format will remain as it is today which is 0103xxx.

NOTE: DE 48, subelement 42, subfields 2 and 3 will always be submitted together.

Subfield 3—Reason for UCAF Collection Indicator Downgrade

DE 48, subelement 42, subfield 3 (Reason for UCAF Collection Indicator Downgrade) describes the reason why the Authorization Request/0100 message was downgraded or modified. Refer to Application Notes for details on *SecureCode* downgrade or MDES SLI modification.

Attributes

Subfield ID: 03

Data Representation: n-1

Length Field: 2

Data Field: Contents of subfield 3

Justification: N/A

Values Description

0 Missing Universal Cardholder Authentication Field (UCAF)

1 Invalid Universal Cardholder Authentication Field (UCAF)

Application Notes

A Mastercard *SecureCode* transaction is downgraded to a non-*SecureCode* transaction if an Accountholder Authentication Value (AAV) is not present or is invalid in DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]).

DE 48, subelement 42, subfields 2 and 3 are only present in the Authorization Request Response/0110 message provided by Mastercard to the acquirer if a *SecureCode* downgrade or MDES SLI modification occurred.

For an acquirer-generated Reversal Request/0400 message, the contents of DE 48, subelement 42 (if present) should be the same as that which the acquirer sent in the Authorization Request/0100 message regardless of whether or not the Authorization Request Response/0110 message contains DE 48, subelement 42 with all three subfields due to the *SecureCode* downgrade or MDES SLI modification.

The message format sent in the acquirer Authorization Request Response/0110 message will be in the format 0103xxx0203yyy0301z only if the *SecureCode* downgrade occurs. Otherwise, the message format will remain as it is today which is 0103xxx.

NOTE: DE 48, subelement 42, subfields 2 and 3 will always be submitted together.

Subelement 43—Universal Cardholder Authentication Field (UCAF)

Subelement 43 (Universal Cardholder Authentication Field [UCAF]) contains the encoded Mastercard *SecureCode* issuer or cardholder-generated authentication data (collected by the merchant) resulting from all *SecureCode* fully authenticated or attempts transactions, data for Visa, JCB, Diners Club, or American Express transactions associated with the 3-D Secure Electronic Commerce Verification Service (if collected), or the Static AAV assigned by Mastercard for Maestro Recurring Payments Program, Mastercard Utility Payment Program, or Maestro Low Risk Merchant Program.

Subelement 43 (UCAF) is also used to support Digital Secure Remote Payments (DSRP) submitted as Electronic Commerce (POS entry mode DE 22, subfield 1, value of 81) transactions. In this case, this UCAF field will contain an encoded list of data constructed according to a UCAF format. Refer to the *Digital Secure Remote Payments—UCAF Formats* manual for information on the UCAF formats supported by Mastercard.

Attributes

| | |
|----------------------|---------------------|
| Subelement ID: | 43 |
| Data Representation: | ans...32; LLVAR |
| Length Field: | 2 |
| Data Field: | Contains UCAF™ data |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 43 must be present whenever UCAF data is collected for electronic commerce transactions. Following is the usage of subelement 43 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

Values

Refer to the specific program or service applications for:

- [3-D Secure for Mastercard SecureCode](#)
 - [3-D Secure Electronic Commerce Verification Service \(Visa or American Express\)](#)
 - [Recurring Payment Test Transactions](#)
 - [Digital Secure Remote Payments](#)
-

Subelement 43—3-D Secure for Mastercard SecureCode

Subelement 43 contains UCAF data and is described here for Mastercard Implementation of 3-D Secure for Mastercard SecureCode.

Attributes

Data Representation: ans-28 (base 64 encoded)

Data Field: The Mastercard 3-D Secure SPA AAV

Values

Transaction specific. Position 1 of the Mastercard 3-D Secure SPA AAV is a control byte indicating the SecureCode platform that created the field contents.

j = Mastercard 3-D Secure SPA AAV for fully authenticated.

h = Mastercard 3-D Secure SPA AAV for attempts.

Application Notes

NOTE: Issuers must pass the correct security level indicator (SLI) value with the corresponding AAV control byte during cardholder authentication. Mastercard 3DS protocol, SecureCode Program Rules, and DW Integrity Edits do not allow sending Fully Authenticated AAVs for Attempted Authentications nor Attempted AAVs for Fully Authenticated Authentications.

The following is an example of a properly coded DE 48, subelement 43 for Mastercard SecureCode for Fully Authenticated Authorization including AVS request.

T420701032124328JJL_tQa+lws8AREAEbj_sA1MAAAA=

Refer to the *Mastercard SecureCode—Issuer Implementation Guide* and *Mastercard SecureCode—Acquirer Implementation Guide* for more information.

Mastercard supports attempts AAV, the acquirer should forward to Mastercard any attempts AAV it receives so that Mastercard can pass to the issuer.

NOTE: Issuers should not perform SecureCode validation on static AAVs in DE 48, subelement 43 nor on attempts AAV generated by Mastercard.

The UCAF field (DE 48, subelement 43) is a variable length field up to a maximum of 32 positions. The Mastercard SecureCode AAV is 28 characters in length. There must be no trailing spaces in the UCAF field.

Subelement 43—Digital Secure Remote Payment Universal Cardholder Authentication Field (UCAF)

Subelement 43 contains UCAF data and is described here for Mastercard Digital Secure Remote Payments (DSRP).

Attributes

| | |
|----------------------|--|
| Subelement ID: | 43 |
| Data Representation: | ans-28; (base 64 encoded) |
| Length Field: | 2 |
| Data Field: | Mastercard Digital Secure Remote Payment UCAF format |
| Subfields: | N/A |
| Justification: | N/A |

Values

Transaction specific.

Refer to the *Digital Secure Remote Payments—UCAF Formats* manual for detailed information on the UCAF formats supported by Mastercard.

A Digital Secure Remote Payment transaction submitted for Mastercard Digital Enablement Service processing that involves an authorization request for a partial shipment or a recurring payment must contain the partial shipment verbiage in subelement 43 as follows:

PARTIALbSHIPMENTbbbbbbbbbbb or PARTIALSHIPMENT000000000000 unless subelement 42 = 247 in which case subelement 43 is not required. This field contains 28 positions where b represents a space.

Application Notes

The format is version dependent.

Subelement 43—Static AAV

DE 48, subelement 43 is the Mastercard implementation of the Static AAV for Maestro Recurring Payments Program, Mastercard Utility Payment Program, Maestro Low Risk Merchant Program, or Maestro Static AAV for Masterpass.

Attributes

Data Representation: ans-28

Data Field: The Mastercard assigned Static AAV

Values

Position 1 = one of the following values:

- 3 = Transaction processed under the Maestro Recurring Payments Program
- 5 = Transaction processed under the Mastercard Utility Payment Program
- 5 = Maestro Basic Static AAV (Maestro e-commerce transaction initiated through Masterpass)

Position 2–7 = The Mastercard Assigned ID which uniquely identifies the merchant.

Position 8–28 = The merchant name, padded to the right with nines (9).

For the Maestro Low Risk Merchant Program (Europe region only), for subsequent transactions after the first Maestro e-commerce transaction with the same Maestro card, approved merchants will use DE 48, subelement 43 in the Authorization Request/0100 message with the Mastercard-assigned static Accountholder Authentication Value (AAV) **5MARPPROGRAM9999999999999999** (28 positions).

Application Notes

When subelement 43 contains a Static AAV, subelement 32 (Mastercard Assigned ID) is mandatory. Issuers should not attempt SecureCode validation on a Static AAV.

Subelement 43—3-D Secure Electronic Commerce Verification Service (Visa, JCB, Diners Club and American Express Only)

Subelement 43 (3-D Secure Electronic Commerce Verification Service [Visa, JCB, Diners Club, and American Express]) is for 3-D Secure Electronic Commerce Verification Service (Visa, JCB, Diners Club, and American Express).

Attributes

Position 1 (3-D Secure Electronic Commerce Transaction Indicator)

| | |
|----------------------|--|
| Subelement ID: | 43 |
| Data Representation: | n-1 |
| Length Field: | 2 |
| Data Field: | Indicates a 3-D Secure Electronic Commerce transaction |
| Subfields: | N/A |
| Justification: | N/A |
| Values: | 8 = Non-Mastercard 3-D Secure Electronic Commerce transaction (Visa, JCB, Diners Club or American Express) |

Position 2-21 (3-D Secure Electronic Commerce Cardholder Authentication Verification Value [CAVV] Visa Field 126.9 and American Express Verification Value [AEVV] AMEX field 61)

| | |
|----------------------|--|
| Data Representation: | b-20 |
| Data Field: | The 3-D Secure Electronic Commerce Visa, JCB, Diners Club, CAVV or American Express AEVV value in binary format for usage 2 and 3. |
| Values: | Transaction specific |

Application Notes

For American Express Gateway 3-D Secure transactions, position 1 is information-only and will not be passed.

For recurring payment transactions, DE 48, subelement 43 will contain the partial shipment verbiage as follows: PARTIALSHIPMENTbbbbbbbbbb or PARTIALSHIPMENT000000000000 where b represents a space. Zeros are literal and must be included as indicated. This field contains 28 positions.

For partial shipment transactions, DE 48, subelement 43 will contain the cryptographic data from the original transaction.

Subelement 44—3-D Secure Electronic Commerce Transaction Identifier (XID) (Visa and American Express)

Subelement 44 (3-D Secure Electronic Commerce Transaction Identifier [XID][Visa and American Express]) contains the 3-D Secure Electronic Commerce Transaction Identifier (XID).

Attributes

| | |
|----------------------|---|
| Subelement ID: | 44 |
| Data Representation: | b-20 |
| Length Field: | 2 |
| Data Field: | The Visa or American Express XID value in binary format |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 44 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

Values

The Visa XID value in binary. Visa field 126.8 or the American Express XID value in binary—AMEX field 61.

Application Notes

The Visa XID value is optional in authorization messages for Visa usage 3 TransStain.

Refer to the Visa Base I Technical Specifications manual for the specific formats for Visa 3-D Secure Electronic Commerce Transaction Identifier (XID).

Subelement 45—3-D Secure Electronic Commerce Transaction Response Code (Visa and American Express)

Subelement 45 (3-D Secure Electronic Commerce Transaction Response Code) is the 3-D Secure Electronic Commerce Transaction Response Code that contains the Visa Cardholder Authentication Verification Value (CAVV) or the American Express Verification Value (AEVV) results code.

Attributes

| | |
|----------------------|------|
| Subelement ID: | 45 |
| Data Representation: | an-1 |

| | |
|----------------|---|
| Length Field: | 2 |
| Data Field: | Visa 3-D Secure CAVV or American Express 3-D Secure AEVV results code |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 45 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |

Values

Refer to the Visa Base I Technical Specifications manual for field 44.13 (CAVV Results Code) for a complete list of values available for this field.

Refer to the American Express Technical Specifications manual for AMEX field 61, position 9, American Express Verification Value (AEVV Results Code) for a complete list of values available for this field.

Subelement 46—Product ID (Visa Only)

DE 48, subelement 46 (Product ID) contains the Visa Product ID value (Visa Only).

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 46 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 46 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |
| Reversal Request Response/0410 | C | • | C |

Values

Refer to the Visa Base I Technical Specifications manual for a complete list of values for field 62.23 (Product ID).

Application Notes

Acquirers should be prepared to receive subelement 46 in the Authorization Request Response/0110 message when one of the following occurs:

- Subelement 90 (Custom Payment Service Request [Visa]) is included in the Authorization Request/0100, which the Authorization Platform forwards to the Visa network.
 - Subelement 90 is not included in the Authorization Request/0100 message and the Authorization Platform sends the message non-peer-to-peer to the Visa issuer via the Visa network.

Subelement 47—Mastercard Payment Gateway Transaction Indicator

DE 48, subelement 47 (Mastercard Payment Gateway Transaction Indicator) indicates that the transaction is a Mastercard Payment Gateway transaction.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 47 |
| Data Representation: | ans-8 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–8 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 47 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| conditional, optional, or system provided) in applicable messages: | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | • | C | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | • |

Values

MC-MPG/W

| IF... | THEN the Authorization Platform... |
|--|--|
| The account range does not participate in the MPG Authorization Blocking Service and DE 48, subelement 47 is present but does not contain value MC-MPG/W | Sends to the acquirer an Authorization Request Response/0110 message containing: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 • DE 44 (Additional Data) = 048 |

Subelement 48—Mobile Program Indicators

DE 48, subelement 48 (Mobile Program Indicators) identifies the service manager of the Mastercard Mobile Remote Payments Program.

| Attribute | Description |
|----------------------|---------------------------|
| Subelement ID: | 48 |
| Data Representation: | ans...73; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–4 |
| Subfields: | 4 |
| Justification: | N/A |

Usage

Following is the usage of subelement 48 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request/0100

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Authorization Advice/0120—Acquirer-generated

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Authorization Advice/0120—System-generated

| | | |
|---|---|---|
| • | C | C |
|---|---|---|

Values

See subfields.

Application Notes

DE 48, subelement 48 (Mobile Program Indicators) must be present in all Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages for Mobile Remote Payments program transactions.

Subfield 1—Remote Payments Program Type Identifier

DE 48, subelement 48 (Mobile Program Indicators), subfield 1 (Remote Payments Program Type Identifier) indicates the Service Manager (or program originator) of the Mobile Remote Payments program.

| Attribute | Description |
|----------------------|--------------|
| Subfield ID: | 01 |
| Data Representation: | n...1; LLVAR |
| Length Field: | 2 |

| | |
|----------------|------------------------|
| Data Field: | Contents of subfield 1 |
| Justification: | N/A |
| Values | |
| 1 | = Issuer domain |
| 2 | = Acquirer domain |

Subfield 2—Mastercard Mobile Remote Payment Transaction Type

DE 48, subelement 48, subfield 2 (Mastercard Mobile Remote Payment Transaction Type) describes the available transaction types for Mastercard Mobile Remote Payments.

| Attribute | Description |
|----------------------|--|
| Subfield ID: | 02 |
| Data Representation: | n...1; LLVAR |
| Length Field | 2 positions, value = 01 |
| Data Field: | Contents of subfield 2 |
| Justification: | N/A |
| Values | |
| 1 | Remote Purchase (Consumer Initiated)—Face-to-Face |
| 2 | Remote Purchase (Consumer Initiated)—e-Commerce |
| 3 | Remote Purchase (Consumer Initiated)—MOTO |
| 4 | Bill Pay (Consumer Initiated) |
| 5 | Top-up (Consumer Initiated) |
| 6 | Cash-out (Consumer Initiated) |
| 7 | Cash-out (ATM/Agent Triggered)—DE 61, SF 10 can differentiate between ATM or non-CAT (Agent) transaction |
| 8 | Remote Purchase (Merchant Triggered)—Face-to-Face |
| 9 | Remote Purchase (Merchant Triggered)—e-Commerce |

Subfield 3—Mobile Phone Number

DE 48, subelement 48 (Mobile Program Indicators), subfield 3 (Mobile Phone Number) contains the customer mobile phone number.

| Attribute | Description |
|--------------|-------------|
| Subfield ID: | 03 |

Data Representation: n...15; LLVAR

Length Field: 2

Data Field: Contents of subfield 3

Justification: N/A

Values

Customer mobile phone number

Subfield 4—Convenience Fee

DE 48, subelement 48 (Mobile Program Indicators), subfield 4 (Convenience Fee) contains customer convenience fee data.

Attribute Description

Subfield ID: 04

Data Representation: ans...40; LLVAR

Length Field: 2

Data Field: Contents of subfield 4

Justification: N/A

Values

Customer convenience fee data.

Application Note

The Convenience Fee amount that is present in subfield 4 must not be included in DE 4 (Amount, Transaction).

Subelement 49—Time Validation Information

DE 48, subelement 49 (Time Validation Information) contains time data used to calculate time validation and the results of validation when performed.

| Attribute | Value |
|---------------------|-------|
| Subelement ID | n-2 |
| Subelement Length | n-2 |
| Data Representation | n-15 |
| | Fixed |

| | | |
|---------------------|---|---------------------------------------|
| Number of Subfields | 3 | Subfield 1—Time Value |
| | | Subfield 2—Time Discrepancy Value |
| | | Subfield 3—Time Discrepancy Indicator |

Usage

Following is the usage of subelement 49 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| Message | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Subfield 1—Time Value

DE 48, subelement 49, subfield 1 (Time Value) contains the time data derived from the acquirer transaction to be used in the time validation.

Attributes

| | |
|---------------------|--------------------------------|
| Data Representation | n-8 |
| Data Field | Contents of subfield 1 |
| Justification | Right-justified, leading zeros |

Subfield 2—Time Discrepancy Value

DE 48, subelement 49, subfield 2 (Time Discrepancy Value) contains a positive value representing the differential in minutes between the transaction time data and service-calculated time.

Attributes

| | |
|---------------------|--------------------------------|
| Data Representation | n-5 |
| Data Field | Contents of subfield 2 |
| Justification | Right-justified, leading zeros |

Subfield 3—Time Discrepancy Indicator

DE 48, subelement 49, subfield 3 (Time Discrepancy Indicator) contains a value that indicates if the time discrepancy value is below, above, or within the minimum and maximum values for the time validation window or that indicates time validation was not performed.

Attributes

| Data Representation | n-2 |
|---------------------|---|
| Data Field | Contents of subfield 3 |
| Justification | Left-justified |
| Values | Description |
| 01 | Positive value within time validation window |
| 02 | Positive value outside time validation window |
| 03 | Negative value within time validation window |
| 04 | Negative value outside time validation window |
| 05 | Unknown (time validation not performed) |

Subelement 51—Merchant On-behalf Services

DE 48, subelement 51 (Merchant On-behalf [OB] Services) notifies the acquirer of the On-behalf Service performed on the transaction, and the results. DE 48 will support multiple occurrences of subelement 51 up to the maximum services for a transaction.

| | |
|--|--|
| Attribute | Description |
| Subelement ID: | 51 |
| Data Representation: | ans...99; LLVAR The “LL” length field of LLVAR must be an integral multiple of 4, not to exceed 96. |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–3 |
| Subfields: | 3 |
| Justification: | N/A |
| Usage | |
| Following is the usage of subelement 51 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | |
| Authorization Request Response/0110 | |
| | |
| Org Sys Dst | |
| • X C | |
| Values | |
| See subfields. | |

Subfield 1—Merchant On-behalf (OB) Service

DE 48, subelement 51, subfield 1 (Merchant On-behalf [OB] Service) indicates the service performed on the transaction.

Attributes

Data Representation: an-2

Data Field: Contents of positions 1-2

Justification: Left-justified

Values

See "Valid Subfield 1 and Subfield 2 Value Combinations."

Subfield 2—Merchant On-behalf (OB) Result 1

DE 48, subelement 51, subfield 2 (Merchant On-behalf [OB] Result 1) indicates the results of the service processing.

Attributes

Data Representation: an-1

Data Field: Contents of position 3

Justification: N/A

Values

See "Valid Subfield 1 and Subfield 2 Value Combinations."

Subelement 51—Valid Subfield 1 and Subfield 2 Value Combinations

Following is the valid value combinations for DE 48, subelement 51, subfield 1 (Merchant On-behalf [OB] Service) and subfield 2 (Merchant On-behalf [OB] Result 1). The contents of subfield 2 depend on the contents of subfield 1 as described here.

| Attributes | Subfield 1 (Merchant On-behalf [OB] Service) | Subfield 2 (Merchant On-behalf [OB] Result 1) |
|---------------------|--|---|
| Data Representation | an-2 | an-1 |
| Data Field | Contents of positions 1-2 | Contents of position 3 |
| Justification | Left-justified | N/A |

Values

See the following table.

Application Notes

| Attributes | Subfield 1 (Merchant On-behalf [OB] Service) | Subfield 2 (Merchant On-behalf [OB] Result 1) |
|---|--|--|
| If the value of subfield 1 and subfield 2 is 90C, then DE 48, SE 55, subfield 1 and subfield 2 will be populated. | | |
| Subfield 2 will have values that identify the results from the EMS Real-time Fraud Scoring Service for Merchants processing result. | | |
| DE 48, Subelement 51, Subfield 1 (Merchant On-behalf [OB] Service) Values (an-2) | | |
| 53 = Mastercard Digital Enablement Service Card on File PAN Mapping | C = Conversion of token to PAN completed successfully. F = Format error; Incorrect POS Entry Mode (not equal to 81 or 82) applicable to Authorization Request/0100, Authorization Advice/0120 Acquirer-generated, and Reversal Request/0400 messages. | |
| | F = Format error; Token Requestor ID required (based on Token Requestor ID validation bypass parameter), not present (DE 48, subelement 33 not present), or not formatted correctly (DE 48, subelement 33 not formatted correctly). | |
| | I = Invalid; Token suspended or deactivated. | |
| | I = Invalid; Token not found on mapping table. | |
| | T = Invalid; Token Requestor ID/Token combination invalid. | |
| | U = Unable to process—Mapping Table unreachable/unavailable. | |
| | U = Unable to process—Token expired. | |
| 56 = Mastercard Digital Enablement Service Card on File Tokenization and Maintenance | C = Tokenization request completed successfully. C = Token maintenance / inquiry request completed successfully. | |
| NOTE: Value 56 will be decommissioned in a future release. | F = Format error; Incorrect POS Entry Mode (not equal to 01) applicable to Authorization Request/0100—Token Request and Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry messages. | |

DE 48, Subelement 51, Subfield 1 (Merchant On-behalf [OB] Service) Values (an-2)

DE 48, Subelement 51, Subfield 2 (Merchant On-behalf [OB] Result 1) Values (an-1)

| | |
|----|--|
| F | = Format error; Token Requestor ID required (based on Token Requestor ID validation bypass parameter), not present (DE 48, subelement 33 not present), or not formatted correctly (DE 48, subelement 33 not formatted correctly). |
| I | = Invalid; Token Requestor ID invalid. |
| I | = Invalid; Token not found on mapping table. |
| T | = Invalid; Token Requestor ID/Token combination invalid. |
| U | = Unable to process—Mapping Table unreachable/unavailable. |
| W | = PAN listed in Electronic Warning Bulletin (EWB). |
| 90 | = EMS Real-time Fraud Scoring Service for Merchants |
| C | = EMS Real-time Fraud Scoring Service for Merchants was performed successfully. |
| I | = Invalid; transaction does not qualify for the EMS Real-time Fraud Scoring Service for Merchants due to one of the following: <ul style="list-style-type: none"> • Transaction is card present, or • Card issuance is outside of the valid issuing region |
| U | = EMS Real-time Fraud Scoring Service for Merchants was not performed successfully. |

Subfield 3—Additional Information

DE 48, subelement 51, subfield 3 (Additional Information) indicates if the acquirer in the transaction is enrolled with the service and if the service was requested.

Attributes

Data Representation: an-1

Data Field: Contents of position 4

Justification: N/A

Values

N = Not qualified for EMS Real-time Fraud Scoring Service for Merchants

blank = No value present

Application Notes

Subfield 3 will have an indicator of N if the score was not delivered to the acquirer but the acquirer had requested the transaction be scored. This is based on service participation.

Subelement 52—Transaction Integrity Class

DE 48, subelement 52 (Transaction Integrity Class) contains the Mastercard-provided Transaction Integrity Classification for Point of Sale (POS) Purchase and Purchase with Cash Back transactions initiated on the Authorization Platform.

| Attribute | Value |
|---------------------|---------------------------|
| Subelement ID | n-2 |
| Subelement Length | n-2 |
| Data Representation | an-2 |
| Data Field | Contents of positions 1–2 |
| Number of Subfields | N/A |

Usage

Following is the usage of subelement 52 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| Message | Org | Sys | Dst |
|--|--|--------------|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Response/0110 | OE | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Classification | Description | Value | |
| Card and Cardholder Present | EMV/Token in a Secure, Trusted Environment | | A1 |
| Card and Cardholder Present | EMV/Chip Equivalent | | B1 |
| Card and Cardholder Present | Mag Stripe | | C1 |
| Card and Cardholder Present | Key Entered | | E1 |
| Card and Cardholder Present | Unclassified | | U0 |
| Card and/or Cardholder Not Present | Digital Transactions | | A2 |
| Card and/or Cardholder Not Present | Authenticated Checkout | | B2 |
| Card and/or Cardholder Not Present | Transaction Validation | | C2 |
| Card and/or Cardholder Not Present | Enhanced Data | | D2 |
| Card and/or Cardholder Not Present | Generic Messaging | | E2 |
| Card and/or Cardholder Not Present | Unclassified | | U0 |

Application Notes

The Transaction Integrity Class may optionally be provided in the designated clearing messages when provided by Mastercard via the Authorization Platform for Point of Sale (POS) Purchase and Purchase with Cash Back transactions destined for all issuers in the U.S. region of Mastercard® credit and Debit Mastercard® cards.

Issuers in the U.S. region must support receiving DE 48 (Additional Data), new subelement 52 (Transaction Integrity Class) in Authorization Request/0100 messages and optionally provide it in the Authorization Request Response/0110 messages. Issuers in the U.S. region must also support receiving DE 48 (Additional Data), new subelement 52 (Transaction Integrity Class) in Authorization Advice/0120—System-generated messages.

The Transaction Integrity Class is not sent to non-U.S. region issuers in authorization or clearing messages.

Subelement 55—Merchant Fraud Scoring Data

DE 48, subelement 55 (Merchant Fraud Scoring Data) indicates the fraud score on a fraud scoring service transaction when the acquirer requested the transaction to be scored.

| Attribute | Description |
|----------------------|---------------------------|
| Subelement ID: | 55 |
| Data Representation: | an...32; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 55 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-------------------------------------|---|---|---|
| Authorization Request Response/0110 | • | X | C |
|-------------------------------------|---|---|---|

Values

Contents of subfield 1–5

Application Notes

The Authorization Platform inserts this subelement when EMS Real-time Fraud Scoring Service for Merchants is performed on the transaction.

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subfield 1—Merchant Fraud Score

DE 48, subelement 55, subfield 1 (Merchant Fraud Score) indicates the transaction risk score.

| Attribute | Description |
|----------------------|---------------------------|
| Subfield ID: | 01 |
| Data Representation: | an-3 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–3 |
| Justification: | N/A |

Values

The EMS Real-time Fraud Scoring Service for Merchants provides the risk score of 001–998, where 001 indicates the least likely fraudulent transaction and 998 indicates the most likely fraudulent transaction.

Subfield 2—Merchant Score Reason Code

DE 48, subelement 55, subfield 2 (Merchant Score Reason Code) indicates the key factors that influenced the fraud score.

| Attribute | Description |
|----------------------|-------------|
| Subfield ID: | 02 |
| Data Representation: | an-2 |

| | |
|----------------|---------------------------|
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |

Values

The EMS Real-time Fraud Scoring Service for Merchants provides the score reason code, an alphanumeric code identifying the data used to derive the fraud score.

Application Notes

Participating acquirers may contact the Risk Solutions Team for a list of the specific score reason codes that apply to their institution.

Subfield 3—Reserved for Future Use

DE 48, subelement 55, subfield 3 (Reserved for Future Use) is reserved for future use.

| Attribute | Description |
|----------------------|---------------------------|
| Subfield ID: | 03 |
| Data Representation: | an-3 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–3 |
| Justification: | N/A |

Values

Reserved for Future Use

Subfield 4—Reserved for Future Use

DE 48, subelement 55, subfield 4 (Reserved for Future Use) is reserved for future use.

| Attribute | Description |
|----------------------|---------------------------|
| Subfield ID: | 04 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |

Values

Reserved for Future Use

Subfield 5—Reserved for Future Use

DE 48, subelement 55, subfield 5 (Reserved for Future Use) is reserved for future use.

| Attribute | Description |
|-------------------------|---------------------------|
| Subfield ID: | 05 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |
| Values | |
| Reserved for Future Use | |

Subelement 56—Security Services Additional Data for Issuers

DE 48, subelement 56 (Security Services Additional Data for Issuers) supports Mastercard embedded security services for issuers. Issuers can receive up to 16 instances of subelement 56. Each instance has the same format for each service. Issuers must code to receive the 16 instances that the service supports.

| Attribute | Description |
|--|---|
| Subelement ID: | 56 |
| Data Representation: | an...99; LLVAR The “LL” length field of LLVAR must be an integral multiple of 6, not to exceed 96. |
| Length Field: | 2 |
| Data Field: | Contents of subfields |
| Subfields: | 2 |
| Justification: | N/A |
| Usage | |
| Following is the usage of subelement 56 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | |
| | Org Sys Dst |
| Authorization Request/0100 | • X C |
| Authorization Advice/0120—System-generated | • C C |
| Values | |
| See subfields. | |

Application Notes

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subfield 1—Security Services Indicator

DE 48, subelement 56, subfield 1 (Security Services Indicator) provides the security services indicator for issuers.

| Attribute | Description |
|---|---------------------------|
| Data Representation: | an-3 |
| Data Field: | Contents of positions 1–3 |
| Justification: | N/A |
| Values | |
| A three-character code identifying the real-time monitoring service used. | |

Subfield 2—Security Services Data

DE 48, subelement 56, subfield 2 (Security Services Data) contains additional data supporting the issuer fraud score.

| Attribute | Description |
|----------------------|---------------------------|
| Data Representation: | an-3 |
| Data Field: | Contents of positions 4–6 |
| Justification: | N/A |
| Values | |

A three-character value will be populated.

Subelement 56—Valid Subfield 1 and Subfield 2 Value Combinations

Following is the valid DE 48, subelement 56, subfield 1 (Security Services Indicator) and subfield 2 (Security Services Data) value combinations.

Service Data Content for Mastercard Assurance IQ Service

Following is the Service Data Content for the Mastercard Assurance IQ service.

| Subfield 2 (an-3) | | | |
|---------------------------|--|---|---|
| Subfield 1 (an-3) | Position 1 | Position 2 | Position 3 |
| Assurance Insights | Assurance Level | Reason Code 1 and Reason Code 2 | |
| AIQ—Assurance IQ | 0–9 where higher values indicate higher degree of assurance. | The following codes apply to both Reason Code fields 1 and 2, where: | <ul style="list-style-type: none">• Position 2 = a Mastercard-determined reason code• Position 3 = a merchant-determined reason code |

NOTE: This information is subject to change.

| Reason Code | Description |
|--------------------|---|
| A | Normal Activity for Account Relationship; Known Device/Account Relationship |
| B | Established Account Relationship |
| C | Strong Authentication History; Established Account Relationship |
| D | Valid Device/PAN Pairing; Established Account Relationship |
| E | Risk Event—Suspicious Account Activity |
| F | Risk Event—Unknown Device/Account Relationship |
| G | Risk Event—Device or Profile Information associated with fraud event |
| H | Risk Event—Recent change to Device or Profile Information |

| Subfield 2 (an-3) | | | |
|--------------------|-----------------|---|------------|
| Subfield 1 (an-3) | Position 1 | Position 2 | Position 3 |
| Assurance Insights | Assurance Level | Reason Code 1 and Reason Code 2 | |
| | I | Risk Event—Recent High Risk Change to Device or Profile Information | |
| | J | Risk Event—PAN associated with fraud event | |
| | K-Y | Reserved for future use | |
| | Z | New Account or Insufficient Data | |

Service Data Content for Mastercard Authorization IQ Service

Following is the Service Data Content for the Mastercard Authorization IQ service. Customers that support Authorization IQ will receive AQV (GDV-based Spend Ranking), AQF (Frequency-based Spend Ranking), and AQS (Segment Qualifier) on all transactions.

NOTE: Positions 2 and 3 use the same reason code definitions.

| Subfield 2 (an-3) | | | |
|-----------------------------------|---|--|------------------------------|
| Subfield 1 (an-3) | Position 1 | Position 2 | Position 3 |
| Spending Dimension Insights | Overall Account Spending Insights | Channel Spending Insights | Account Transaction Insights |
| AQV—GDV-based Spend Ranking | New (card activity on the network less than 60 days old) | 0 New (card activity on the network less than 60 days old) | 0 |
| Or | | Or | |
| AQF—Frequency-based Spend Ranking | | None (No network activity in the last 12 months or Dormant Card Number) | |
| | High = 1 | High = 1 | |
| | Med-1 = 4 | Med-1 = 4 | |
| | Med-2 = 5 | Med-2 = 5 | |
| | Med-3 = 6 | Med-3 = 6 | |
| | Low = 9 | Low = 9 | |

| Subfield 2 (an-3) | | | |
|------------------------------------|--|----------------------------------|-------------------------------------|
| Subfield 1 (an-3) | Position 1 | Position 2 | Position 3 |
| Spending Dimension Insights | Overall Account Spending Insights | Channel Spending Insights | Account Transaction Insights |
| AQS—Segment Qualifier | Refer to the Segment Definitions table that follows. | | |

Segment Definitions for Mastercard Authorization IQ Service

The Mastercard Authorization IQ service supports the following series of segments under which each transaction is qualified for dimension analysis.

NOTE: New segments may be added to the Authorization IQ service at any time.

| Segment | Segment Qualifier ID |
|--|--|
| Channel: Card Present—Domestic Segments | 000—Card activity on network less than 60 days old |
| Travel | 001 |
| Retail | 002 |
| Gaming | 003 |
| Gambling | 004 |
| Education/Healthcare | 005 |
| Cash (for example: ATM) | 006 |
| Fuel | 007 |
| Utilities | 008 |
| Leisure and Entertainment | 009 |
| Digital Goods | 010 |
| Professional Services | 011 |
| Reserved for Future Use | 012–198 |
| Other Card Present—Domestic | 199 |
| Channel: Card Present—Cross-Border Segments | 200—Card activity on network less than 60 days old |
| Travel | 201 |
| Retail | 202 |
| Gaming | 203 |

| Segment | Segment Qualifier ID |
|--|--|
| Gambling | 204 |
| Education/Healthcare | 205 |
| Cash (for example: ATM) | 206 |
| Fuel | 207 |
| Utilities | 208 |
| Leisure and Entertainment | 209 |
| Digital Goods | 210 |
| Professional Services | 211 |
| Reserved for Future Use | 212–398 |
| Other Card Present—Cross-Border | 399 |
| Channel: Card Not Present—Domestic Segments | 400—Card activity on network less than 60 days old |
| Travel | 401 |
| Retail | 402 |
| Gaming | 403 |
| Gambling | 404 |
| Education/Healthcare | 405 |
| Cash (for example: ATM) | 406 |
| Utilities | 407 |
| Leisure and Entertainment | 408 |
| Digital Goods | 409 |
| Professional Services | 410 |
| Reserved for Future Use | 411–598 |
| Other Card Not Present—Domestic | 599 |
| Channel: Card Not Present—Cross-Border Segments | 600—Card activity on network less than 60 days old |
| Travel | 601 |
| Retail | 602 |
| Gaming | 603 |
| Gambling | 604 |
| Education/Healthcare | 605 |

| Segment | Segment Qualifier ID |
|-------------------------------------|---|
| Cash (for example: ATM) | 606 |
| Utilities | 607 |
| Leisure and Entertainment | 608 |
| Digital Goods | 609 |
| Professional Services | 610 |
| Reserved for Future Use | 611–798 |
| Other Card Not Present—Cross-Border | 799 |
| Reserved for Future Use | 800–899 |
| Dormant Card Number | 900—Previously active card with no activity on the network in the last 120 days |
| Reserved for Future Use | 901–999 |

Service Data Content for Mastercard Spend Alerts and Controls

Following is the Service Data Content for Mastercard Spend Alerts and Controls.

| Subfield 1 (an-3) | Subfield 2 (an-3) | |
|-----------------------------|--------------------------|--------------------------------|
| Service Code | Reason Code | Description |
| INC—Spend Alerts Real Cards | AAL | Alert All Transactions |
| | ACB | Alert Cross-border |
| | ACH | Alert Transaction Channel |
| | AGE | Alert Transaction Geography |
| | AMC | Alert Merchant Category Code |
| | ATA | Alert Transaction Amount |
| | DCB | Decline Cross-border |
| | DCD | Decline Card Disabled |
| | DCH | Decline Transaction Channel |
| | DGE | Decline Transaction Geography |
| | DMC | Decline Merchant Category Code |
| | DTA | Decline Transaction Amount |

| Subfield 1 (an-3) | Subfield 2 (an-3) | |
|-------------------|-------------------|-----------------|
| Service Code | Reason Code | Description |
| | NAT | No Action Taken |

Subelement 57—Security Services Additional Data for Acquirers

DE 48, subelement 57 (Security Services Additional Data for Acquirers) supports Mastercard embedded security services for acquirers.

| Attribute | Description |
|--|---|
| Subelement ID: | 57 |
| Data Representation: | an...99; LLVAR The “LL” length field of LLVAR must be an integral multiple of 6, not to exceed 96. |
| Length Field: | 2 |
| Data Field: | Contents of subfields |
| Subfields: | 2 |
| Justification: | N/A |
| Usage | |
| Following is the usage of subelement 57 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | |
| | Org Sys Dst |
| Authorization Request Response/0110 | • X C |
| Values | |
| See subfields. | |

Subfield 1—Security Services Indicator

DE 48, subelement 57, subfield 1 (Security Services Indicator) provides the security services indicator for acquirers.

| Attribute | Description |
|----------------------|---------------------------|
| Data Representation: | an-3 |
| Data Field: | Contents of positions 1–3 |
| Justification: | N/A |
| Values | |

A three-character code identifying the real-time monitoring service used.

Subfield 2—Security Services Data

DE 48, subelement 57, subfield 2 contains additional data supporting the Merchant fraud score.

| Attribute | Description |
|----------------------|---------------------------|
| Data Representation: | an-3 |
| Data Field: | Contents of positions 4–6 |
| Justification: | N/A |

Values

A three-character value will be populated.

Subelement 58—ATM Additional Data

DE 48, subelement 58 (ATM Additional Data) only applies to Swedish Domestic Authorization Switching Service (SASS). Subelement 58 contains watermark data captured at an ATM. Watermark data is a card authentication technology supported by Swedish ATMs.

Attributes

| | |
|----------------------|-----------------------|
| Subelement ID: | 58 |
| Data Representation: | ans-33 |
| Length Field: | 2 |
| Data Field: | Contents of subfields |
| Subfields: | 8 |
| Justification: | N/A |

Usage

Following is the usage of subelement 58 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | O | X | C |
| Reversal Request/0400 | O | X | C |
| Reversal Advice/0420 | • | C | C |

Values

See subfields.

Subfield 1—ATM Time

DE 48, subelement 58, subfield 1 (ATM Time) indicates the ATM time.

Attributes

Data Representation: n-4

Data Field: Contents of positions 1–4 (hhmm)

Justification: N/A

Subfield 2—ATM Date

DE 48, subelement 58, subfield 2 (ATM Date) indicates the ATM date.

Attributes

Data Representation: n-6

Data Field: Contents of positions 5–10 (YYMMDD)

Justification: N/A

Subfield 3—Watermark

DE 48, subelement 58, subfield 3 (Watermark) is the watermark value.

Attributes

Data Representation: n-12

Data Field: Contents of positions 11–22

Justification: N/A

Subfield 4—Mark 1

DE 48, subelement 58, subfield 4 (Mark 1) indicates the card and the watermark status.

Attributes

Data Representation: ans-2

Data Field: Contents of positions 23–24

Justification: N/A

Values

0- = National card

4- = National card, foreign currency

8- = International card

Attributes

| | | |
|----|---|--------------------------------------|
| C- | = | International card, foreign currency |
| -0 | = | Watermark readable |
| -B | = | Watermark unreadable |
| -C | = | Watermark missing |
| -D | = | Test mode |
| -E | = | Test mode |

Subfield 5—Mark 2

DE 48, subelement 58, subfield 5 (Mark 2) indicates the reason code for reversal from ATM.

Attributes

| | |
|----------------------|-----------------------------|
| Data Representation: | an-2 |
| Data Field: | Contents of positions 25–26 |
| Justification: | N/A |

Values

| | | |
|----|---|---|
| 00 | = | Dispensing error for bank notes or receipts |
| 02 | = | Error in response |
| 08 | = | Failure to return card, response received from host |
| 48 | = | Failure to return card, single reversal |
| 04 | = | Timeout—card not picked up, response received from host |
| 80 | = | Timeout—card not picked up, response received from host |
| 44 | = | Timeout—card not picked up, single reversal |
| 40 | = | Single reversal, unknown reason |
| 06 | = | Error in response and timeout picking up card |
| 0A | = | Error in response and failure to return card |

Subfield 6—Mark 3

DE 48, subelement 58, subfield 6 (Mark 3) indicates stock of bank notes and receipt status.

Attributes

| | |
|----------------------|-----------------------------|
| Data Representation: | ans-2 |
| Data Field: | Contents of positions 27–28 |

Attributes

Justification: N/A

Values

| | | |
|----|---|--|
| 0- | = | Both SEK 100 and SEK 500 notes available |
| 4- | = | SEK 500 notes not available |
| 8- | = | SEK 100 notes not available |
| C- | = | No money available |
| -0 | = | Receipt OK |
| -4 | = | Receipt low |
| -8 | = | Receipt paper empty |
| -C | = | Receipt technical error |

Subfield 7—Card Swallowed Status

DE 48, subelement 58, subfield 7 (Card Swallowed Status) indicates if the ATM took the card or not.

Attributes

Data Representation: n-1

Data Field: Contents of position 29

Justification: N/A

Values

| | | |
|---|---|--------------------|
| 0 | = | Card not swallowed |
| 1 | = | Card swallowed |

Subfield 8—Posting Date

DE 48, subelement 58, subfield 8 (Posting Date) is the posting date.

Attributes

Data Representation: n-4

Data Field: Contents of position 30–33

Justification: N/A

Subelement 61—POS Data Extended Condition Codes

DE 48, subelement 61 (POS Data, Extended Condition Codes) indicates whether the merchant terminal supports a specific program or service.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 61 |
| Data Representation: | n-5 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–5 |
| Subfields: | 5 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 61 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | X | C |
| Authorization Advice/0120—Acquirer-generated | C | X | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

See subfields.

Application Notes

This subelement should be provided to indicate the merchant terminal's capabilities in supporting specific programs and services.

Subfield 1—Partial Approval Terminal Support Indicator

DE 48, subelement 61, subfield 1 (Partial Approval Terminal Support Indicator) indicates if the merchant terminal supports partial approvals.

Attributes

| | |
|----------------------|------------------------|
| Data Representation: | n-1 |
| Data Field: | Contents of position 1 |
| Justification: | N/A |

Values

| | | |
|---|---|---|
| 0 | = | Merchant terminal does not support receipt of partial approvals |
| 1 | = | Merchant terminal supports receipt of partial approvals |

Subfield 2—Purchase Amount Only Terminal Support Indicator

DE 48, subelement 61, subfield 2 (Purchase Amount Only Terminal Support Indicator) indicates if the merchant terminal supports purchase only approvals.

| Attributes | |
|----------------------|---|
| Data Representation: | n-1 |
| Data Field: | Contents of position 2 |
| Justification: | N/A |
| Values | |
| 0 = | Merchant terminal does not support receipt of purchase only approvals |
| 1 = | Merchant terminal supports receipt of purchase only approvals |

Subfield 3—Real-time Substantiation Indicator

DE 48, subelement 61, subfield 3 (Real-time Substantiation Indicator) indicates if the merchant terminal verified the purchased items against the Inventory Information Approval System (IIAS).

| Attributes | |
|----------------------|--|
| Data Representation: | n-1 |
| Data Field: | Contents of position 3 |
| Justification: | N/A |
| Values | |
| 0 = | Merchant terminal did not verify the purchased items against an Inventory Information Approval System (IIAS) |
| 1 = | Merchant terminal verified the purchased items against an Inventory Information Approval System (IIAS) |
| 2 = | Merchant claims exemption from using an IIAS based on the IRS 90 percent rule |
| 4 = | Transaction was submitted as real-time substantiated but from a non-IIAS-certified merchant. Mastercard uses this value to notify the issuer that the merchant could not be substantiated. Acquirers may not use this value. |

Subfield 4—Merchant Transaction Fraud Scoring Indicator

DE 48, subelement 61, subfield 4 (Merchant Transaction Fraud Scoring Indicator) indicates if the acquirer requested the transaction to be scored by the Expert Monitoring System (EMS).

| Attributes | |
|----------------------|------|
| Data Representation: | an-1 |

| | |
|----------------|--------------------------|
| Data Field: | Contents of position 4 |
| Justification: | N/A |
| Values | |
| 0 = | No action required |
| 1 = | Transaction to be scored |

Application Notes

Only a value of zero is passed to the issuer on the Authorization Request/0100 message.

The Acquirer Generated Authorization Advice/0120 is rejected and will not be sent to EMS for scoring if it is any other value than zero.

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subfield 5—Final Authorization Indicator

DE 48, subelement 61, subfield 5 (Final Authorization Indicator) is used to identify final authorization messages.

| | |
|----------------------|---|
| Attributes | |
| Data Representation: | n-1 |
| Data Field: | Contents of position 5 |
| Justification: | N/A |
| Values | |
| 0 = | Normal Authorization/Undefined Finality |
| 1 = | Final Authorization |

Application Notes

Final authorization is an authorization request for an amount greater than zero, which meets the following conditions:

- Authorization is requested for the final transaction amount.
- The transaction is not expected to be canceled after the authorization request is approved in full (excluding non-completion for technical reasons such as telecommunications failure or terminal failure).

Any transaction corresponding to an authorization identified as a final authorization must be presented within seven calendar days of the authorization approval date. An authorization request is properly identified as a final authorization when DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 0 and DE 48 (Additional Data), subelement 61 (POS Data Extended Condition Codes), subfield 5 contains value 1.

Coding authorization messages as “final” or “preauthorized” are mandatory for acquirers of Europe card acceptors and optional for acquirers of non-Europe card acceptors.

When submitting an Acquirer-generated Authorization Advice/0120, subfield 5 (Final Authorization Indicator) should be populated with the same value as provided in the original Authorization Request/0100 message.

Normal authorization/undefined finality is an authorization request for an amount greater than zero where a final amount may or may not be known and the transaction is not expected to be canceled after the authorization request is approved in full.

An authorization request is identified as normal or undefined finality authorization when DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 0 and DE 48 (Additional Data), subelement 61 (POS Data Extended Condition Codes), subfield 5 contains value 0 or is not present.

When DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 4 (Preauthorized request), DE 48 (Additional Data), subelement 61 (POS Data Extended Condition Codes), subfield 5 must either contain value 0 (Normal Authorization/Undefined Finality) or not be present.

Subelement 63—Trace ID

DE 48, subelement 63 (Trace ID) contains data from DE 63 (Network Data), subfield 1 (Financial Network Code) and subfield 2 (Banknet Reference Number) and DE 15 (Date, Settlement) that is in the original Authorization Request Response/0110 message.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 63 |
| Data Representation: | ans-15 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–15 |

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of subelement 63 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |

Values

Contains the contents of positions 1–15 as defined below:

Positions 1–9 (Network Data)

| | |
|----------------------|-------|
| Data Representation: | ans-9 |
|----------------------|-------|

| | |
|-------------|---------------------------|
| Data Field: | Contents of positions 1–9 |
|-------------|---------------------------|

| | |
|---------|---|
| Values: | Contents of DE 63, subfield 1 (Financial Network Code) and subfield 2 (Banknet Reference Number) in the original Authorization Request Response/0110 message. The Banknet Reference number is six characters. |
|---------|---|

| | | |
|---------------|---|-------------------|
| Positions 1–3 | = | DE 63, subfield 1 |
|---------------|---|-------------------|

| | | |
|---------------|---|-------------------|
| Positions 4–9 | = | DE 63, subfield 2 |
|---------------|---|-------------------|

Positions 10–15 (Date Settlement)

| | |
|----------------------|-------|
| Data Representation: | ans-6 |
|----------------------|-------|

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 10–15 |
|-------------|-----------------------------|

| | |
|---------|--|
| Values: | Contents of DE 15 (Date, Settlement) in the original Authorization Request Response/0110 message. The four-digit Settlement Date is in MMDD format followed by two spaces. |
|---------|--|

Application Notes

DE 48, subelement 63 must be present in Reversal Request/0400 messages and must contain data in positions 1–15, otherwise the message will be rejected with a format error response where DE 39 is 30 and DE 44 is 048. DE 48, subelement 63 may contain a value of zeros in Reversal Request/0400 messages or Reversal Advice/0420 messages only when an Authorization Request Response/0110 was not successfully received or processed by the acquirer.

DE 48, subelement 63 must be provided in Authorization Request/0100 messages to identify an incremental preauthorization and a zero amount Authorization Chargeback Protection Period Extension request.

DE 48, subelement 63 has been added to the acquirer-generated authorization advice/0120 layout to further assist issuers in matching an AFD completion advice to the original preauthorization. For additional details, refer to Clearing AFD Transactions in the Automated Fuel Dispenser Completion section of the Program and Service Format Requirements chapter.

Subelement 64—Transit Program

DE 48, subelement 64 (Transit Program) is used to identify transit transactions in authorization messages.

NOTE: Transit Program field is not limited to MCC 4111, MCC 4131, and MCC 4784.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 64 |
| Data Representation: | n-4 |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–2 |
| Subfields: | 2 |
| Justification: | N/A |

Usage

Following is the usage of subelement 64 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Contains the Transit Program values in subfields 1 and 2.

Subfield 1—Transit Transaction Type Indicator

DE 48, subelement 64, subfield 1 (Transit Transaction Type Indicator) indicates the transit transaction type identifier.

NOTE: Values 3, 4, and 6 for Transit Transaction Type Indicators subelement 64, subfield 1 are limited to MCC 4111, MCC 4131, and MCC 4784.

| Attributes | | |
|----------------------|---------------------------|--------------------------------------|
| Data Representation: | n-2 | |
| Data Field: | Contents of positions 1–2 | |
| Justification: | N/A | |
| Values | | |
| 01 | = | Prefunded |
| 02 | = | Real-time Authorized |
| 03 | = | Post-Authorized Aggregated |
| 04 | = | Authorized Aggregated Split Clearing |
| 05 | = | Other |
| 06 | = | Post-authorized Aggregated Maestro |
| 07 | = | Debt Recovery |
| 08–99 | = | Reserved for Future Use |

Subfield 2—Transportation Mode Indicator

DE 48, subelement 64, subfield 2 (Transportation Mode Indicator) indicates the transportation mode for a transit transaction.

| Attributes | | |
|----------------------|---------------------------|---|
| Data Representation: | n-2 | |
| Data Field: | Contents of positions 3–4 | |
| Justification: | N/A | |
| Values | | |
| 00 | = | Unknown |
| 01 | = | Urban Bus |
| 02 | = | Interurban Bus |
| 03 | = | Light Train Mass Transit (Underground Metro, LTR) |

| | | |
|-------|---|-------------------------|
| 04 | = | Train |
| 05 | = | Commuter Train |
| 06 | = | Water Borne Vehicle |
| 07 | = | Toll |
| 08 | = | Parking |
| 09 | = | Taxi |
| 10 | = | High Speed Train |
| 11 | = | Rural Bus |
| 12 | = | Express Commuter Train |
| 13 | = | Para Transit |
| 14 | = | Self Drive Vehicle |
| 15 | = | Coach |
| 16 | = | Locomotive |
| 17 | = | Powered Motor Vehicle |
| 18 | = | Trailer |
| 19 | = | Regional Train |
| 20 | = | Inter City |
| 21 | = | Funicular Train |
| 22 | = | Cable Car |
| 23–99 | = | Reserved for Future Use |

Subelement 65—Terminal Compliant Indicator

DE 48 (Additional Data—Private Use), subelement 65 (Terminal Compliant Indicator) contains two subfields that identify whether or not a POS terminal from which the transaction originated is Terminal Line Encryption (TLE) and Unique Key Per Terminal (UKPT)/Derived Unique Key Per Terminal (DUKPT) compliant. This field must be present in card-present, POS transactions acquired in India.

| | |
|----------------------|---------------------------|
| Attributes | |
| Subelement ID: | 65 |
| Data Representation: | n-2 |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–2 |

| | |
|------------|---|
| Subfields: | 2 |
|------------|---|

| | |
|----------------|---------------|
| Justification: | See subfields |
|----------------|---------------|

Usage

Following is the usage of subelement 65 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Contains the Terminal Compliant Indicator values in subfields 1 and 2.

Subfield 1—TLE Compliant

DE 48, subelement 65, subfield 1 indicates whether or not the POS terminal from which the transaction occurred is Terminal Line Encryption (TLE)-certified.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-1 |
|----------------------|-----|

| | |
|-------------|------------------------|
| Data Field: | Contents of subfield 1 |
|-------------|------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

| | |
|-----|---------------|
| 1 = | Not Certified |
|-----|---------------|

| | |
|-----|-----------|
| 2 = | Certified |
|-----|-----------|

Subfield 2—UKPT/DUKPT Compliant

DE 48, subelement 65, subfield 2 indicates whether or not the POS terminal from which the transaction occurred is Unique Key Per Terminal/Derived Unique Key Per Terminal (UKPT/DUKPT)-certified.

| | |
|------------|--|
| Attributes | |
|------------|--|

| | |
|----------------------|-----|
| Data Representation: | n-1 |
|----------------------|-----|

| | |
|-------------|------------------------|
| Data Field: | Contents of subfield 2 |
|-------------|------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

| | |
|---------------|--|
| Values | |
|---------------|--|

| | | |
|---|---|---------------|
| 1 | = | Not Certified |
| 2 | = | Certified |

Subelement 67—MoneySend Information

DE 48, subelement 67 (MoneySend Information) contains subfield representing the Sanction Screening Score.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 67 |
| Data Representation: | ans...99; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 |
| Subfields: | 1 |
| Justification: | see subfields |

Usage

Following is the usage of subelement 67 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Values

See subfields

Subfield 1—Sanction Screening Score

DE 48, subelement 67, subfield 1 (Sanction Screening Score) contains the Sanction Screening Score populated by Mastercard.

Attributes

| | |
|----------------------|------------------------|
| Subfield ID: | 01 |
| Data Representation: | n-3 |
| Length Field: | 2 |
| Data Field: | Contents of subfield 1 |

| | |
|----------------|------------------------------------|
| Justification: | Right justified with leading zeros |
|----------------|------------------------------------|

Values

Sanction Screening Score value will be populated by Mastercard on all cross-border MoneySend Payment Transactions globally and domestic MoneySend Payment Transactions in Egypt, Hungary, the United Kingdom, Canada, and the United States. The score is populated based on the Sender name (consumer, business, government, and non-government) matched against key screening lists such as the OFAC Specially Designated Nationals and Blocked Persons List, UN List, and EU List. The score will be 3 bytes and between a value of 000–100 or 999. A higher score indicates a closer match to names on the applicable screening lists, while lower scores indicate a less likely match. When a score cannot be determined, the value will be 999.

Subelement 71—On-behalf Services

DE 48, subelement 71 (On-behalf [OB] Services) notifies the issuer of the On-behalf Service performed on the transaction and the results. Subelement 71 will support up to ten services for a transaction.

Attributes

| | |
|----------------|----|
| Subelement ID: | 71 |
|----------------|----|

| | |
|----------------------|-----------------|
| Data Representation: | ans...40; LLVAR |
|----------------------|-----------------|

The “LL” length field of LLVAR must be an integral multiple of 4, not to exceed 40.

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

| | |
|-------------|---------------------------|
| Data Field: | Contents of subfields 1–3 |
|-------------|---------------------------|

| | |
|------------|---|
| Subfields: | 3 |
|------------|---|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of subelement 71 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | CE | CE | • |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |
| Reversal Request/0400 | • | X | C |
| Reversal Advice/0420 | • | C | C |

Values

See subfields.

Subfield 1—On-behalf (OB) Service

DE 48, subelement 71, subfield 1 (On-behalf [OB] Service) indicates the service performed on the transaction.

Attributes

Data Representation: an-2

Data Field: Contents of positions 1–2

Justification: Left-justified

Values

See the following section Subelement 71—Valid Subfield 1 and Subfield 2 Value Combinations.

Subfield 2—On-behalf Result 1

DE 48, subelement 71, subfield 2 (On-behalf [OB] Result 1) indicates the results of the service processing.

Attributes

Data Representation: an-1

Data Field: Contents of position 3

Justification: N/A

Values

See the following section Subelement 71—Valid Subfield 1 and Subfield 2 Value Combinations.

Subfield 3—On-behalf Result 2

DE 48, subelement 71, subfield 3 (On-behalf Result 2) identifies the results of the service processing.

Attributes

Data Representation: ans-1

Data Field: Contents of position 4

Justification: N/A

Values

Mastercard use only. May contain a space or a value.

Subelement 71—Valid Subfield 1 and Subfield 2 Value Combinations

Following is the valid DE 48, subelement 71, subfield 1 (OB Service) and subfield 2 (OB Result 1) value combinations. The contents of subfield 2 depend on the contents of subfield 1 as described here.

| Attributes | Subfield 1 (OB Service) | Subfield 2 (OB Result 1) |
|---------------------|--------------------------------|---------------------------------|
| Data Representation | an-2 | an-1 |
| Data Field | Contents of positions 1–2 | Contents of position 3 |
| Justification | Left-justified | N/A |
| Values | | |

DE 48, Subelement 71, Subfield 1 (OB Service) Values (an-2) and DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)

| | |
|---|--|
| 01 = Chip to Magnetic Stripe Conversion Service | C = Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry] |
| | M = Conversion of the M/Chip fallback transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 80—PAN auto-entry with magnetic stripe |
| | S = Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 07—PAN auto-entry via contactless M/Chip |
| 02 = M/Chip Cryptogram Pre-validation Service | A = Valid Application Cryptogram (AC); ATC outside allowed range |
| | E = Valid Application Cryptogram; ATC Replay |
| | F = Format Error |
| | G = Application Cryptogram is valid but not an ARQC nor a TC, status of TVR/CVR unknown |
| | I = Invalid Cryptogram |
| | K = No matching key file for this PAN, PAN expiry date and KDI combination |
| | T = Valid ARQC/TC and ATC; TVR/CVR invalid |
| | U = Unable to process |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|--|---|
| | V = Valid |
| | X = Security platform time out |
| | Z = Security platform processing error |
| 03 = M/Chip Cryptogram Validation in Stand-In Processing | A = Valid Application Cryptogram (AC); ATC outside allowed range |
| | E = Valid Application Cryptogram; ATC Replay |
| | F = Format Error |
| | G = Application Cryptogram is valid but not an ARQC nor a TC, status of TVR/CVR unknown |
| | I = Invalid Cryptogram |
| | K = No matching key file for this PAN, PAN expiry date and KDI combination |
| | T = Valid ARQC/TC and ATC; TVR/CVR invalid |
| | U = Unable to process |
| | V = Valid |
| | X = Security platform time out |
| | Z = Security platform processing error |
| 05 = Mastercard® SecureCode™ AAV Verification Service | I = Invalid AAV |
| | U = Unable to process |
| | V = Valid |
| 06 = Mastercard® SecureCode™ Dynamic AAV Verification in Stand-In Processing | I = Invalid AAV |
| | U = Unable to process |
| | V = Valid |
| 08 = Online PIN Pre-validation (Europe Only) | I = Invalid PIN |
| | P = Mandatory PVV not on file |
| | R = PIN retry exceeded (invalid PIN) |
| | U = Unable to process |
| | V = Valid |
| 09 = Online PIN Validation in Stand-In (Europe only) | I = Invalid PIN |
| | P = Mandatory PVV not on file |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|---|--|
| | R = PIN retry exceeded (invalid PIN) |
| | U = Unable to process |
| | V = Valid |
| 13 = Static CVC 3 Validation in Stand-In Processing | I = Invalid AAV |
| | U = Unable to process |
| | V = Valid |
| 14 = Contactless Mapping Service | C = Conversion of contactless account number to PAN was completed |
| | I = Invalid |
| | U = Unable to process |
| 15 = Dynamic CVC 3 Pre-validation (with or without Contactless Mapping Service) | A = ATC outside allowed range (applicable when ATC value is dynamic [varying] value) |
| | E = CVC 3 ATC Replay |
| | I = Invalid CVC 3 |
| | N = Unpredictable Number Mismatch (applicable when the UN is dynamic [varying] value) (Indicates that the number/length in the discretionary data in DE 45 or DE 35 does not match the number/length provided by the issuer during personalization) |
| | U = Unable to process |
| | V = Valid |
| 16 = Dynamic CVC 3 Validation in Stand-In Processing | A = ATC outside allowed range (applicable when ATC value is dynamic [varying] value) |
| | E = CVC 3 ATC Replay |
| | I = Invalid CVC 3 |
| | N = Unpredictable Number Mismatch (applicable when the UN is dynamic [varying] value) (Indicates that the number/length in the discretionary data in DE 45 or DE 35 does not match the number/length provided by the issuer during personalization) |
| | U = Unable to process |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|---|--|
| | V = Valid |
| 17 = In Control Virtual Card Service | A = Virtual Card Number (expiration date does not match) |
| | B = Virtual Card Number (expiration date expired) |
| | C = Virtual Card Number Virtual CVC 2 does not match |
| | D = In Control Validity Period Limit |
| | E = In Control Transaction Amount Limit Check |
| | F = In Control Cumulative Amount Limit Check |
| | G = In Control Transaction Number Usage |
| | H = In Control Merchant ID Limit |
| | I = In Control Invalid Virtual Card Number—Real Card Number mapping relationship |
| | J = In Control MCC Limit |
| | K = In Control Database Status Bad |
| | L = In Control Geographic Restriction |
| | M = In Control Transaction Type Restriction |
| | P = In Control Transaction Time/Date Restriction |
| | U = Unable to process |
| | V = Valid |
| 18 = Fraud Scoring Service | C = Fraud Scoring Service was performed successfully |
| | U = Fraud Scoring Service was not performed successfully |
| 20 = In Control RCN Spend Control Service | D = In Control Validity Period Limit |
| | E = In Control Transaction Amount Limit Check |
| | F = In Control Cumulative Amount Limit Check |
| | G = In Control Transaction Number Usage |
| | H = In Control Merchant ID Limit |
| | J = In Control MCC Limit |
| | K = In Control Database Status Bad |
| | L = In Control Geographic Restriction |
| | M = In Control Transaction Type Restriction |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | | | | | | | | |
|---|--|---|--|---|---|---|-----------------------|-------------------------------|
| | P = In Control Transaction Time/Date Restriction | | | | | | | |
| | U = Unable to process | | | | | | | |
| | V = Valid | | | | | | | |
| 25 = Account Data Compromise Information | <table border="1"> <tr> <td>Y = Compromised Event Data Found</td> </tr> <tr> <td>N = Compromised Event Data Not Found</td> </tr> <tr> <td>U = Unable to process</td> </tr> </table> | Y = Compromised Event Data Found | N = Compromised Event Data Not Found | U = Unable to process | | | | |
| Y = Compromised Event Data Found | | | | | | | | |
| N = Compromised Event Data Not Found | | | | | | | | |
| U = Unable to process | | | | | | | | |
| 26 = Point-of-Interaction Eligibility and Enablement Service | <table border="1"> <tr> <td>A = Amount does not qualify for Installment</td> </tr> <tr> <td>F = PAN does not qualify for Installment</td> </tr> <tr> <td>M = MCC does not qualify for Installment</td> </tr> <tr> <td>N = Record not found</td> </tr> <tr> <td>P = Installment Parameters missing</td> </tr> <tr> <td>U = Unable to Process</td> </tr> <tr> <td>V = Qualified for Installment</td> </tr> </table> | A = Amount does not qualify for Installment | F = PAN does not qualify for Installment | M = MCC does not qualify for Installment | N = Record not found | P = Installment Parameters missing | U = Unable to Process | V = Qualified for Installment |
| A = Amount does not qualify for Installment | | | | | | | | |
| F = PAN does not qualify for Installment | | | | | | | | |
| M = MCC does not qualify for Installment | | | | | | | | |
| N = Record not found | | | | | | | | |
| P = Installment Parameters missing | | | | | | | | |
| U = Unable to Process | | | | | | | | |
| V = Qualified for Installment | | | | | | | | |
| 31 = Chip CVC to CVC 1 Conversion Service—CVC 1 Key/Decision Matrix Only | <table border="1"> <tr> <td>C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully</td> </tr> <tr> <td>F = Track Data Formatted Incorrectly</td> </tr> <tr> <td>I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed</td> </tr> <tr> <td>K = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed</td> </tr> <tr> <td>U = Unable to process</td> </tr> </table> | C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully | F = Track Data Formatted Incorrectly | I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed | K = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed | U = Unable to process | | |
| C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully | | | | | | | | |
| F = Track Data Formatted Incorrectly | | | | | | | | |
| I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed | | | | | | | | |
| K = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed | | | | | | | | |
| U = Unable to process | | | | | | | | |
| 32 = Chip CVC to CVC 1 Conversion Service—Separate Keys/Decision Matrices | <table border="1"> <tr> <td>C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully</td> </tr> <tr> <td>F = Track Data Formatted Incorrectly</td> </tr> <tr> <td>I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed</td> </tr> <tr> <td>K = Issuer Chip CVC Key Record not found and Issuer CVC 1 Key Record not found for Account Range / Expiry Date combination; Service Not Performed</td> </tr> <tr> <td>L = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed</td> </tr> </table> | C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully | F = Track Data Formatted Incorrectly | I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed | K = Issuer Chip CVC Key Record not found and Issuer CVC 1 Key Record not found for Account Range / Expiry Date combination; Service Not Performed | L = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed | | |
| C = Chip CVC Validated Successfully; Conversion of Chip CVC to CVC 1 Performed Successfully | | | | | | | | |
| F = Track Data Formatted Incorrectly | | | | | | | | |
| I = Chip CVC Invalid; Conversion of Chip CVC to CVC 1 Not Performed | | | | | | | | |
| K = Issuer Chip CVC Key Record not found and Issuer CVC 1 Key Record not found for Account Range / Expiry Date combination; Service Not Performed | | | | | | | | |
| L = Issuer CVC 1 Key Record not Found for Account Range / Expiry Date combination; Service Not Performed | | | | | | | | |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|---------------------------------|--|
| M | = Issuer Chip CVC Key Record not Found for Account Range / Expiry Date combination; Service Not Performed |
| U | = Unable to process |
| 33 = MoneySend Blocking Service | A = MoneySend Issuer Blocking—Transaction limit not allowed for the MoneySend Payment type |
| | B = MoneySend Issuer Blocking—Merchant not allowed for the MoneySend Payment type |
| | D = MoneySend Issuer Blocking—Country not allowed for the MoneySend Payment type |
| | E = MoneySend Issuer Blocking—Domestic activity only allowed |
| | F = MoneySend Issuer Blocking—Sanction Screening Score limit exceeded |
| | G = MoneySend Mastercard Blocking—Transaction limit not allowed for the MoneySend Payment type and Country |
| | H = MoneySend Mastercard Blocking—Merchant not allowed for the MoneySend Payment type |
| | I = MoneySend Mastercard Blocking—Cross-border not allowed for the MoneySend Payment type |
| | J = MoneySend Mastercard Blocking—MoneySend Transaction Count exceeded |
| | K = MoneySend Mastercard Blocking—Aggregate transaction amount limit exceeded |
| | L = MoneySend Issuer Blocking—MoneySend Transaction Count exceeded |
| | M = MoneySend Issuer Blocking—Aggregate transaction amount limit exceeded |
| | N = MoneySend Issuer Monitoring—MoneySend Transaction Count exceeded |
| | O = MoneySend Issuer Monitoring—Aggregate transaction amount limit exceeded |
| | P = MoneySend Issuer Monitoring—Transaction amount limit exceeded |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|--|---|
| | Q = MoneySend Issuer Monitoring—Sanction Screening Score exceeded |
| | R = MoneySend Issuer Blocking—Invalid Card |
| | S = MoneySend Mastercard Blocking—Product code invalid for the Transaction Type indicator |
| | T = MoneySend Mastercard Blocking—Transaction Amount limit not allowed for the MoneySend Funding transaction type |
| | U = Unable to process |
| | V = Valid |
| | W = MoneySend Mastercard Blocking—Country not allowed for the MoneySend Transaction |
| 37 = Masterpass QR Blocking Service | D = Masterpass QR Blocking—Transaction Amount Limit Exceeded |
| | E = Masterpass QR Blocking—Cumulative Transaction Amount Limit Exceeded |
| | F = Masterpass QR Blocking—Domestic Activity Only |
| | U = Unable to Process |
| | V = Valid |
| 50 = Mastercard Digital Enablement Service PAN Mapping | C = Conversion of Token to PAN completed successfully |
| | F = Format Error |
| | I = Invalid Token |
| | U = Unable to process |
| 51 = Mastercard Digital Enablement Service Chip Pre-Validation | A = ATC outside allowed range (applicable when ATC value is dynamic [varying] value) |
| | E = ATC Replay |
| | F = Format Error |
| | G = Application Cryptogram is valid but not an ARQC nor a TC, status of TVR/CVR unknown |
| | I = Invalid Cryptogram |
| | K = No matching key file for this PAN, PAN expiry date and KDI combination |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|---|---|
| | T = Valid ARQC/TC and ATC; TVR/CVR invalid |
| | U = Unable to process |
| | V = Valid ARQC/TC and ATC and TVR/CVR |
| 52 = Mastercard Digital Enablement Service CVC 3 Pre-Validation | A = ATC outside allowed range (applicable when ATC value is dynamic [varying] value) |
| | E = CVC 3 ATC Replay |
| | H = Invalid Time Validation |
| | I = Invalid CVC 3 |
| | N = Unpredictable Number Length Indicator Mismatch |
| | U = Unable to process |
| | V = Valid |
| 61 = Mastercard Digital Enablement Service Cloud-based Payments Chip Pre-Validation Service | D = ATC Invalid—Not in list of currently active Single-Use Keys |
| | E = ATC Replay |
| | F = Format Error |
| | I = Invalid MD AC and UMD AC |
| | K = No matching key file for this PAN, PAN expiry date and KDI combination |
| | L = Invalid MD AC; Valid UMD AC |
| | M = Valid MD AC; Invalid UMD AC (Mobile PIN Try Counter Max Limit Reached, Token Suspended) |
| | P = Valid MD AC; Invalid UMD AC (Invalid Mobile PIN) |
| | T = Invalid TVR/CVR |
| | U = Unable to process |
| | V = Valid |
| 62 = Mastercard Digital Enablement Service Cloud-based Payments Magnetic Stripe Pre-Validation Service | D = ATC Invalid—Not in list of currently active Single-Use Keys |
| | E = ATC Replay |
| | F = Format Error |
| | I = Invalid MD AC and UMD AC |
| | H = Invalid Time Validation |

**DE 48, Subelement 71, Subfield DE 48, Subelement 71, Subfield 2 (OB Result 1) Values (an-1)
1 (OB Service) Values (an-2)**

| | |
|---|---|
| K | = No matching key file for this PAN, PAN expiry date and KDI combination |
| L | = Invalid MD AC; Valid UMD AC |
| M | = Valid MD AC; Invalid UMD AC (Mobile PIN Try Counter Max Limit Reached, Token Suspended) |
| N | = Unpredictable Number Length Indicator Mismatch |
| P | = Valid MD AC; Invalid UMD AC (Invalid Mobile PIN) |
| U | = Unable to process |
| V | = Valid |

Subelement 72—Issuer Chip Authentication

DE 48, subelement 72 (Issuer Chip Authentication) carries data used during cryptogram processing.

Attributes

| | |
|----------------------|--|
| Subelement ID: | 72 |
| Data Representation: | b...16; LLVAR (the “LL” length field of LLVAR must be between 8–16 positions.) |
| Length Field: | 2 |
| Data Field: | Contents of subelement |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 72 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--|---|---|---|
| Authorization Request/0100 | • | C | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Mastercard generated.

Application Notes

Issuers no longer need to echo DE 48, subelement 72 in their response messages.

Subelement 74—Additional Processing Information

DE 48, subelement 74 (Additional Processing Information) provides additional information about chip transaction processing and results.

Attributes

Subelement ID: 74

Data Representation: an...30; LLVAR

The "LL" length field of LLVAR must be an integral multiple of 3 not to exceed 30.

Length Field: 2

Data Field: Contents of subfields

Subfields: 2

Justification: See subfields

Usage

Following is the usage of subelement 74 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request Response/0110

| | | |
|---|---|---|
| O | X | C |
|---|---|---|

Values

See subfields

Application Notes

DE 48, subelement 74 is not applicable in the 0120/0130, 0400/0410 and 0420/0430 messages. If present, it will be removed before forwarding to its destination.

Chip Cryptogram Validation

Issuers performing chip cryptogram validation may include their validation results in DE 48, subelement 74 in the Authorization Request Response/0110 message.

Chip Fallback Transaction Downgrade

The Dual Message System will include DE 48, subelement 74 in the Authorization Request Response/0110 message when the transaction is eligible for the Chip Fallback Transaction Downgrade. In which case DE 48, subelement 74, subfield 1 value will be "90" and subfield 2 value will be "C". Refer to the DE 22—Point-of-Service (POS) Entry Mode section for additional details.

When the issuer sends an Authorization Request Response/0110 message containing DE 48, subelement 74 and...

THEN the Authorization Platform...

Subfield 1 does not contain 50

Will remove DE 48, subelement 74 before forwarding the message to the acquirer.

| | |
|--|--|
| Subfield 2 contains an invalid value | Will replace the invalid subfield 2 value with an X to indicate an unknown issue before forwarding the message to the acquirer |
| DE 48 (Additional Data—Private Use), subelement 74 (Additional Processing Information) in the Authorization Advice Response/0130 is received from the issuer contains: <ul style="list-style-type: none">• Subfield 1 = value 90 (Chip Fallback Transaction Downgrade Process)• Subfield 2 = value C (Completed Successfully) | Removes this data from transaction before forwarding to the acquirer |

Subfield 1—Processing Indicator

DE 48, subelement 74, subfield 1 (Processing Indicator) indicates the transaction processing type.

| | |
|----------------------|--|
| Attributes | |
| Data Representation: | an-2 |
| Data Field: | Identifies the service performed |
| Justification: | N/A |
| Values | |
| 02 | = Mastercard On-behalf Service—M/Chip Cryptogram Pre-validation |
| 03 | = Mastercard On-behalf Service—M/Chip Cryptogram Validation in Stand-In Processing |
| 50 | = Issuer Chip Validation |
| 90 | = Chip Fall-back Transaction Downgrade Process |

Subfield 2—Processing Information

DE 48, subelement 74, subfield 2 (Processing Information) contains additional information about the issue incurred during chip transaction processing.

| | |
|----------------------|---|
| Attributes | |
| Data Representation: | an-1 |
| Data Field: | Additional information being provided about the service |
| Justification: | N/A |
| Values | |

| | | |
|---|---|--|
| A | = | Valid Application Cryptogram (AC); Application Transaction Counter (ATC) outside allowed range |
| C | = | Completed Successfully |
| E | = | Valid Application Cryptogram; ATC Replay |
| F | = | Format error in DE 55 |
| G | = | Application Cryptogram is valid but is not an ARQC |
| I | = | Application Cryptogram invalid |
| K | = | No matching key file for this PAN, PAN expiry date and KDI combination |
| T | = | Application Cryptogram is valid but TVR/CVR was invalid |
| U | = | Application Cryptogram could not be validated due to technical error |
| X | = | Issuer provided incorrect subfield 2 value |
| X | = | Security platform time out |
| Z | = | Security platform processing error |

Valid Subfield 1 and Subfield 2 Value Combinations

Following is the valid DE 48, subelement 74, subfield 1 (Processing Indicator) and subfield 2 (Processing Information) value combinations. The contents of subfield 2 depend on the contents of subfield 1 as described here.

| IF subfield 1 contains... | THEN subfield 2 may contain... |
|----------------------------------|---------------------------------------|
| 02 | A, E, F, G, I, K, T, U, X, or Z |
| 03 | A, E, F, G, I, K, T, U, X, or Z |
| 50 | A, E, F, G, I, T, U, or X |
| 90 | C |

Subelement 75—Fraud Scoring Data

DE 48, subelement 75 (Fraud Scoring Data) indicates the fraud score on a fraud scoring service transaction.

Customers can enroll with one of the Mastercard scoring solutions: Expert Monitoring Solutions (EMS) or Decision Intelligence (DI). A score will be included in Authorization Request/0100 and Authorization Advice/0120—System-generated messages to the issuer when the Expert Monitoring or Decision Intelligence scoring was performed on a transaction. Issuers may also enroll in the Fraud Rule Manager Service to create rules that may adjust these fraud scores.

| Attribute | Description |
|----------------------|---------------------------|
| Subelement ID: | 75 |
| Data Representation: | an...32; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1–5 |
| Subfields: | 5 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 75 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Contents of subfield 1–2 and applicable subfields 3–5

Application Notes

The Authorization Platform inserts this subelement when one of the Fraud Scoring Services is performed or when both a Fraud Scoring Service and the Fraud Rule Manager Service are performed on the transaction.

NOTE: When a rule adjusted score is provided in subfield 3, at least one or more rule reason code values will be provided in subfields 4–5. However, rule reason code values may be provided in subfields 4 or 5 with or without a rule adjusted score in subfield 3.

NOTE: Issuers participating in a scoring service will receive subfields 1–2. If those issuers choose to participate in the Fraud Rule Manager Service then those issuers must also prepare to receive subfields 3–5.

NOTE: DE 48, subelement 75 will not be included in Authorization Request/0100 messages to the issuer when Mastercard is unable to perform the Fraud Scoring Service.

Mastercard Expert Monitoring and Decision Intelligence services evaluate fraud detection elements to produce a score that indicates a level of risk in the transaction. Both services utilize the same DE 48, subelement 75 field with dual message authorization transactions. Issuers can only enroll with one of these services through their Mastercard account representative.

Expert Monitoring (EMS) provides best-in-class transaction fraud monitoring that enables Mastercard issuers to evaluate and manage the probability of fraud in transactions at the point of interaction. As an integrated, multi-component, transaction fraud monitoring solution, Expert Monitoring provides:

- Network fraud monitoring
- Customized fraud rule management
- Finely-tuned fraud detection models
- Predictive, real-time fraud scoring

Decision Intelligence (DI) is a real-time authorization decisioning solution that applies thousands of data points and sophisticated modeling techniques to each transaction, simplifying these insights into a single transaction decision score that helps issuers to fine-tune their authorization decisions with the goal of approving genuine transactions and declining fraudulent ones.

For additional details on these services, refer to the Mastercard Scoring Services section in the Program and Service Format Requirements chapter of this manual.

Subfield 1—Fraud Score

DE 48, subelement 75, subfield 1 (Fraud Score) indicates the transaction risk score.

Attribute

| | |
|----------------------|---------------------------|
| Subfield ID: | 01 |
| Data Representation: | an-3 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1-3 |
| Justification: | N/A |

Values

Fraud Scoring System provides the risk score of 000–999, where 000 indicates the least likely fraudulent transaction and 999 indicates the most likely fraudulent transaction.

Subfield 2—Score Reason Code

DE 48, subelement 75, subfield 2 (Score Reason Code) indicates the key factors that influenced the fraud score.

Attribute

| | |
|--------------|----|
| Subfield ID: | 02 |
|--------------|----|

Data Representation: an-2

Length Field: 2

Data Field: Contents of positions 1–2

Justification: N/A

Values

The Fraud Scoring Service provides the score reason code, an alphanumeric code identifying the data used to derive the fraud score.

NOTE: Participating issuers may contact the Risk Solutions team for a list of the specific score reason codes that apply to their institution.

Subfield 3—Rules Score

DE 48, subelement 75, subfield 3 (Rules Score) contains the Fraud Rule Manager Service, rules score.

Attributes

Subfield ID: 03

Data Representation: an-3

Length Field: 2

Data Field: Contents of positions 1–3

Justification: N/A

Values

The Fraud Rule Manager Service provides a rules score of 000–999, where 000 indicates the least likely fraudulent transaction and 999 indicates the most likely fraudulent transaction.

Subfield 4—Rules Reason Code 1

DE 48, subelement 75, subfield 4 (Rules Reason Code 1) indicates the data used to derive the rule adjusted score.

Attributes

Subfield ID: 04

Data Representation: an-2

Length Field: 2

Data Field: Contents of positions 1–2

Justification: N/A

Values

The Fraud Rule Manager Service provides the rule reason code, an alphanumeric code where the information provided gives the data used to derive the rules adjusted score.

Subfield 5—Rules Reason Code 2

DE 48, subelement 75, subfield 5 (Rules Reason Code 2) indicates the data used to derive the rule adjusted score.

Attributes

| | |
|----------------------|---------------------------|
| Subfield ID: | 05 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Justification: | N/A |

Values

The Fraud Rule Manager Service provides the rule reason code, an alphanumeric code where the information provided gives the data used to derive the rules adjusted score.

Application Notes

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subelement 76—Mastercard Electronic Acceptance Indicator

DE 48, subelement 76 (Mastercard Electronic Acceptance Indicator) identifies that the transaction is a Mastercard Electronic card transaction. It indicates that the acquirer participates or does not participate in Mastercard Electronic card processing.

Attributes

Subelement ID: 76

Data Representation: a-1

Length Field: 2

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Following is the usage of subelement 76 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | X | C |
| Authorization Request Response/0110 | O | X | • |
| Authorization Advice/0120—Acquirer-generated | O | X | C |
| Authorization Advice/0120—Issuer-generated | C | X | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

C = Mastercard only participant (not considered a Mastercard Electronic card transaction).

E = Acquirer and its merchant both participate in Mastercard Electronic card processing (considered as a Mastercard Electronic transaction).

M = Acquirer participates in Mastercard Electronic card processing, but the merchant that processed this specific transaction does not participate in Mastercard Electronic (considered not to be a Mastercard Electronic transaction).

U = Unidentified acquirer. It is unknown if the acquirer is a Mastercard Electronic card participant.

Application Notes

If acquirers do not populate subelement 76 with a valid value or a value is not present, Mastercard will populate DE 48, subelement 76 on behalf of the acquirer based on the acquirer's participation in Mastercard Electronic Card Program and forward the transaction to the issuer.

Acquirers

When the merchant participates in the Mastercard Electronic Card Program, the participating acquirer should send DE 48, subelement 76 with a value of E in the Authorization Request/0100 message.

When the merchant does not participate in the Mastercard Electronic Card Program, the participating acquirer should send DE 48, subelement 76 with a value of M in the Authorization Request/0100 message.

When participating acquirers do not provide a value or provide an incorrect value in subelement 76, Mastercard will default subelement 76 to the value of E in the Authorization Request/0100 message.

Issuers

Issuers participating in Mastercard Electronic Card must be prepared to receive DE 48, subelement 76 with values of C, E, or U in the Authorization Request/0100 and Authorization Advice/0120 messages.

Issuers participating in Mastercard Electronic Card must be prepared to send DE 48, subelement 76 with values of C, E, or U in Authorization Request Response/0110 messages.

Mastercard will convert the subelement value of M to the value C in the Authorization Request/0100 sent to the issuer. Therefore, the issuer will not receive a value of M.

Subelement 77—Funding/Payment Transaction Type Indicator

DE 48, subelement 77 (Funding/Payment Transaction Type Indicator) indicates the type of Funding/Payment Transaction taking place. **NOTE: All MoneySend Funding and Payment Transactions require the presence of this indicator.**

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 77 |
| Data Representation: | an-3 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1-3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 77 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | C |

| | | | |
|--------------------------|---|---|---|
| Reversal Advice/0420 | • | C | C |
| Values | | | |
| C01 | = | Person-to-Person | |
| C02 | = | Mastercard rebate | |
| C03 | = | rePower Load Value | |
| C04 | = | Gaming Re-pay | |
| C05 | = | Payment Transaction for a reason other than those defined in values C01–C04 | |
| C06 | = | Payment of a credit card balance with cash or check | |
| C07 | = | MoneySend Person-to-Person | |
| C09 | = | Card Activation | |
| C51 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C52 | = | MoneySend Account-to-Account Transfers | |
| C53 | = | MoneySend Agent Cash Out | |
| C54 | = | MoneySend Credit Card Bill Payment | |
| C55 | = | MoneySend Business Disbursement | |
| C56 | = | MoneySend Government/Non-profit Disbursement | |
| C57 | = | MoneySend Acquirer Merchant Settlement | |
| C58 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C59 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C60 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C61 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C62 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C63 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C64 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C65 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C66 | = | MoneySend Additional Funding/Payment Indicator (Reserved for Future Use) | |
| C67 | = | Masterpass QR | |
| C91 | = | Utility Payments—Brazil domestic transactions | |
| C92 | = | Government Services—Brazil domestic transactions | |
| C93 | = | Mobile phone top-ups—Brazil domestic transactions | |
| C94 | = | Coupon Booklet Payments (CARNE)—Brazil domestic transactions | |
| Application Notes | | | |

If DE 3, subfield 1 contains value 28 (Payment Transaction), then DE 48, subelement 77 must be present.

If DE 3, subfield 1 contains value 00 (Purchase of Goods and Services) and DE 18 contains value 6538 (MoneySend Funding), then DE 48, subelement 77 must be present.

Usage of value C04 is limited to eligible acquirers and issuers in eligible countries.

Usage of value C07 and new payment type codes C52–C57 and C67 is limited to eligible countries and eligible acquirers. Refer to the *MoneySend Program Guide*.

Usage of value C09 is limited to Private Label Prepaid Cards issued in the Europe region.

Usage of value C67 is limited to Masterpass QR transactions.

Subelement 78—Payment Service Indicators (Visa Only)

DE 48, subelement 78 (Payment Service Indicators [Visa Only]) contains subfields which represent various Visa payment service indicators.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 78 |
| Data Representation: | ans-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | 6 |
| Justification: | See subfields |

Usage

| Following is the usage of subelement 78 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | C | • | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | C | • | C |

Values

See subfields.

Application Notes

Acquirers are not required to populate this subelement in the Authorization Request/0100 if they do not support any of the Visa payment indicators in subfields 2 through 6 as noted below.

Subfield 1—Spend Qualified Indicator

DE 48, subelement 78, subfield 1 (Spend Qualified Indicator) provides the Visa spend qualification assessment.

Attributes

Data Representation: ans-1

Data Field: Contents of position 1

Justification: N/A

Values

Space Space will be sent back in the Authorization Request Response/0110 message to the acquirer when Visa field 62.25 is not present in the Visa 0110 message response

N Spend assessment threshold defined by Visa has not been met

B Basic spend assessment threshold level met

Q Highest spend assessment threshold level met

Application Notes

The value for this field is mapped from Visa field 62.25—Spend Qualified Indicator. Refer to the Visa Base I Technical Specifications manual. Acquirers will need to populate subfield 1 with a “Space” if any other Payment Service Indicator is submitted in the Authorization Request/0100 and Reversal Request/0400 message. “Space” will be sent back in subfield 1 to the acquirer if any other Payment Service Indicator is returned back in Authorization Request Response/0110 and Reversal Request Response/0410 messages.

NOTE: The Spend Qualified Indicator is used by acquirers for Visa's Account Level Processing (ALP) program.

Subfield 2—Dynamic Currency Conversion Indicator

DE 48, subelement 78, subfield 2 (Dynamic Currency Conversion Indicator) indicates a transaction for which Dynamic Currency Conversion (DCC) is performed by the merchant at the point of sale.

Attributes

Data Representation: ans-1

Data Field: Contents of position 2

Justification: N/A

Values

Y Dynamic Currency Conversion was performed at the point of sale.

| | |
|-------|--|
| Space | No Dynamic Currency Conversion or not echoed in the Authorization Request Response/0110 or Reversal Request Response/0410 message. |
|-------|--|

Application Notes

If the merchant performs dynamic currency conversion at the point of sale, acquirers must send this value in the Authorization Request/0100 message and in Reversal Request/0400 message in case of Reversal. This value will be mapped to Visa Field 126.19—Dynamic Currency Conversion Indicator. Refer to the Visa Base I Technical Specifications manual. The acquirer will need to populate subfield 2 with a space if DCC was not performed and any other Payment Service Indicator is submitted in the Authorization Request/0100. “Space” will be sent back in subfield 2 to the acquirer if any other Payment Service Indicator is returned back in Authorization Request Response/0110 message.

NOTE: Dynamic Currency Conversion (DCC) provides the cardholder the option to pay for goods or services in their own billing currency. DCC occurs when a merchant performs currency conversion locally and submits the transaction in the cardholder's billing currency. Acquirers must ensure that they receive an indicator from their merchants when DCC is performed for a Visa transaction.

Subfield 3—U.S. Deferred Billing Indicator

DE 48, subelement 78, subfield 3 (U.S. Deferred Billing Indicator) indicates a transaction for which the billing for merchandise occurred after the merchandise was delivered to the cardholder. This applies to U.S. region acquirers only.

Attributes

Data Representation: ans-1

Data Field: Contents of position 3

Justification: N/A

Values

D U.S. Deferred Billing Indicator

Space No Deferred Billing or not echoed in Authorization Request Response/0110 message

Application Notes

This code is provided by the merchant through U.S. region acquirers in the Authorization Request/0100 message to indicate that a Visa card is to be billed on a deferred basis, that is, the cardholder is to be billed for merchandise already received. This value will be mapped to Visa field 126.12—Service Indicators, position 3 (Deferred Billing Indicator). Refer to the Visa Base I Technical Specifications manual. Acquirers will need to populate subfield 3 with a “Space” if Deferred Billing is not applicable and any other Payment Service Indicator is submitted in the Authorization Request/0100 and Reversal Request/0400 message. “Space” will be sent back in subfield 3 to the acquirer if any other Payment Service Indicator is returned back in Authorization Request Response/0110 and Reversal Request Response/0410 messages.

Subfield 4—Visa Checkout Indicator

DE 48, subelement 78, subfield 4 (Visa Checkout Indicator) indicates that the transaction was processed through Visa Checkout.

Attributes

| | |
|----------------------|------------------------|
| Data Representation: | ans-1 |
| Data Field: | Contents of position 4 |
| Justification: | N/A |

| Values | Description |
|---------------|---|
| Y | Transaction is processed through Visa Checkout |
| Space | No Visa Checkout or not echoed in the Authorization Request Response/0110 message |

Application Notes

If the transaction is performed through Visa Checkout, acquirers must send this value in the Authorization Request/0100 message. This value will be mapped to Visa Field 126.18—Agent Unique Account Result. Refer to the Visa Base I Technical Specifications manual. The acquirer will need to populate subfield 4 with a space if Visa Checkout was not performed and any other Payment Service Indicator is submitted in the Authorization Request/0100 and Reversal Request/0400 messages. “Space” will be sent back in subfield 4 to the acquirer if any other Payment Service Indicator is returned back in Authorization Request Response/0110 and Reversal Request Response/0410 messages.

Subfield 5—Reserved for Future Use

DE 48, subelement 78, subfield 5 (Reserved for Future Use) is reserved for future use.

Attributes

| | |
|----------------------|------------------------|
| Data Representation: | ans-1 |
| Data Field: | Contents of position 5 |
| Justification: | N/A |

Values

| | |
|-------|-------------------------|
| Space | Reserved for future use |
|-------|-------------------------|

Subfield 6—Reserved for Future Use

DE 48, subelement 78, subfield 6 (Reserved for Future Use) is reserved for future use.

Attributes

| | |
|----------------------|-------|
| Data Representation: | ans-1 |
|----------------------|-------|

| | |
|----------------|-------------------------|
| Data Field: | Contents of position 6 |
| Justification: | N/A |
| Values | |
| Space | Reserved for future use |

Subelement 79—Chip CVR/TVR Bit Error Results

Subelement 79 (Chip CVR/TVR Bit Error Results) provides the Terminal Verification Results (TVR) and Card Verification Results (CVR) bitmask, and expected values registered by the issuer. This serves as notification of bit validation errors detected in the CVR/TVR within the Issuer Application data during M/Chip Cryptogram Validation processing.

Attributes

| | |
|----------------------|---|
| Subelement ID | 79 |
| Data Representation: | an...50; LLVAR The "LL" length field of LLVAR must be an integral multiple of 5, not to exceed 50. |
| Length Field: | 2 |
| Data Field: | Contents of subfields 1-4 |
| Subfields: | 4 |
| Justification: | N/A |

Usage

Following is the usage of subelement 79 (whether it is mandatory, conditional, optional, system provided, or not required) in all applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request/0100 | • | X | C |
| Authorization Advice/0120—System-generated | • | X | C |

Values

See subfields.

Application Notes

The Authorization Platform will stop verification of CVR/TVR bits when 10 errors are detected.

Refer to the following example. In the example:

- The binary representation of the TVR Bit Mask for Byte 3 is “10101000”
- The binary representation of the Expected Result for Byte 3 is “00000000”
- The binary representation of the Validation Result for Byte 3 is “10000000”

The Validation Result indicates that the cardholder verification was not successful.

Refer to the *M/Chip Processing Services—Service Description* document for recommended bit mask settings.

| | Byte 1 | Byte 2 | Byte 3 | Byte 4 | Byte 5 |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| TVR Bit Mask—Hex | 00 | 00 | A8 | 00 | 00 |
| Expected Result | 00 | 00 | 00 | 00 | 00 |
| Validation Result | 00 | 00 | 80 | 00 | 00 |

| | | |
|------------|-----------------------|----|
| Subfield 1 | CVR or TVR Identifier | T |
| Subfield 2 | Byte ID | 03 |
| Subfield 3 | Bit Identifier | 8 |
| Subfield 4 | Value of Bit in Error | 1 |

Subfield 1—CVR or TVR Identifier

DE 48, subelement 79, subfield 1 (CVR or TVR Identifier) indicates whether bit reported in error is part of CVR or TVR.

Attributes

Data Representation: an-1

Data Field: Contents of position 1

Justification: N/A

Values

C = CVR

T = TVR

Subfield 2—Byte ID

DE 48, subelement 79, subfield 2 (Byte ID) identifies the byte number of the associated bit reported in error.

| | |
|----------------------|---------------------------|
| Attributes | |
| Data Representation: | an-2 |
| Data Field: | Contents of positions 2-3 |
| Justification: | N/A |
| Values | |
| 01-99 | |

Subfield 3—Byte Identifier

DE 48, subelement 79, subfield 3 (Byte Identifier) identifies the bit number in error within the byte identified in subfield 2.

| | |
|----------------------|------------------------|
| Attributes | |
| Data Representation: | an-1 |
| Data Field: | Contents of position 4 |
| Justification: | N/A |
| Values | |
| 1-8 | |

Subfield 4—Value of Bit in Error

DE 48, subelement 79, subfield 4 (Value of Bit in Error) identifies the value of the bit in error that was submitted in transaction.

| | |
|----------------------|------------------------|
| Attributes | |
| Data Representation: | an-1 |
| Data Field: | Contents of position 5 |
| Justification: | N/A |
| Values | |
| 0-1 | |

Subelement 80—PIN Service Code

DE 48, subelement 80 (PIN Service Code) indicates the results of PIN processing by the Authorization Platform.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 80 |
| Data Representation: | a-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 80 is provided by the Authorization Platform in the Authorization Request/0100 message whenever PIN data is present in the Authorization Request/0100 message.

Following is the usage of subelement 80 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | C | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | C | • | C |

Values

| | | |
|----|---|---|
| PD | = | The Authorization Platform dropped the PIN (Mastercard Use Only for Credit Transactions with PIN) |
| PV | = | The Authorization Platform verified the PIN. |
| TV | = | The Authorization Platform translated the PIN for issuer verification. |
| PI | = | The Authorization Platform was unable to verify the PIN. |
| TI | = | The Authorization Platform was unable to translate the PIN. |

Subelement 82—Address Verification Service Request

DE 48, subelement 82 (Address Verification Service Request) indicates that verification of the cardholder billing address is requested in the authorization message.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 82 |
| Data Representation: | n-2 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 82 must be present in the authorization request message whenever cardholder address verification is requested by the acquirer.

Following is the usage of subelement 82 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

52 = AVS and Authorization Request/0100

Application Notes

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subelement 83—Address Verification Service Response

DE 48, subelement 83 (Address Verification Service Response) contains the AVS verification response code in the Authorization Request Response/0110 message.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 83 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 83 must be provided by the issuer in the Authorization Request Response/0110 message whenever AVS is requested by the acquirer.

Following is the usage of subelement 83 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

| | | |
|---|---|--|
| A | = | Address matches, postal code does not. |
| B | = | Visa only. Street address match. Postal code not verified because of incompatible formats. (Acquirer sent both street address and postal code.) |
| C | = | Visa only. Street address and postal code not verified because of incompatible formats. (Acquirer sent both street address and postal code.) |
| D | = | Visa only. Street address and postal code match. |
| F | = | Visa only. Street address and postal code match. Applies to U.K. only. |
| G | = | Visa only. Non-AVS participant outside the U.S.; address not verified for international transaction. |
| I | = | Visa only. Address information not verified for international transaction. |
| M | = | Visa only. Street addresses and postal code match. |
| N | = | Neither address nor postal code matches. |
| P | = | Visa only. Postal codes match. Street address not verified because of incompatible formats. (Acquirer sent both street address and postal code.) |
| R | = | Retry, system unable to process. |

| | | |
|---|---|--|
| S | = | AVS currently not supported. |
| U | = | No data from issuer/Authorization Platform |
| W | = | For U.S. addresses, nine-digit postal code matches, address does not; for address outside the U.S., postal code matches, address does not. |
| X | = | For U.S. addresses, nine-digit postal code and address matches; for addresses outside the U.S., postal code and address match. |
| Y | = | For U.S. addresses, five-digit postal code and address matches. |
| Z | = | For U.S. addresses, five-digit postal code matches, address does not. |

Application Notes

Mastercard will require all issuing and acquiring processors to code for, support, and integrate into their systems the data elements, subelements, and values associated with this item.

The following provides the Global Safety and Security Standards effective dates for each region.

- USA: 21 Apr 2017
- EUR: 13 Oct 2017; Ukraine: 1 Apr 2018
- LAC: 13 Oct 2017
- MEA: 13 Oct 2017
- AP: 13 Apr 2018
- CAN: 13 Apr 2018

For additional information about the requirement please refer to the *Global Safety and Security Standards Roadmap*.

NOTE: Mastercard does not require issuers or acquirers to enroll in these optional products and services, but they must code their systems to support these fields to leverage such products and services in a timely manner in the event of a security issue.

Subelement 84—Merchant Advice Code

DE 48, subelement 84 (Merchant Advice Code) contains the merchant advice code.

Attributes

Subelement ID: 84

Data Representation: an-2

Length Field: 2

Data Field: Contents of positions 1–2

Subfields: N/A

Justification: N/A

Usage

Subelement 84 is optionally provided by the issuer in the Authorization Request Response/0110 message.

Following is the usage of subelement 84 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request Response/0110 | O | • | O |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

| | | |
|----|---|--|
| 01 | = | New account information available |
| 02 | = | Cannot approve at this time, try again later |
| 03 | = | Do not try again |
| 04 | = | Token requirements not fulfilled for this token type |
| 21 | = | Recurring Payment Cancellation Service (Mastercard use only) |

Subelement 84—Visa Response Codes (Visa Only)

DE 48, subelement 84 (Visa Response Codes) will contain the following new values when a Visa issuer provides an alphanumeric value in Visa Field 39 (Response Code).

Attributes

| | |
|----------------------|--------------------------|
| Subelement ID: | 84 |
| Data Representation: | an-2 |
| Length Field: | 2 |
| Data Field: | Contents of position 1–2 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 84 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | • | X | C |

Values

| | | |
|----|---|-----------------------------------|
| R0 | = | Stop Payment Order |
| R1 | = | Revocation of Authorization Order |

R3 = Revocation of All Authorizations Order

Subelement 85—Account Status (Visa Only)

DE 48, subelement 85 (Account Status [Visa Only]) identifies the account range as regulated or non-regulated interchange.

Attributes

Subelement ID: 85

Data Representation: a-1

Length Field: 2

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Following is the usage of subelement 85 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-------------------------------------|---|---|---|
| Authorization Request Response/0110 | C | • | C |
|-------------------------------------|---|---|---|

Values

R = Account is regulated

N = Account is non-regulated

Subelement 86—Relationship Participant Indicator (Visa Only)

DE 48, subelement 86 (Relationship Participant Indicator) indicates the transaction is with a cardholder with whom the merchant has had a long-term relationship and from whom the merchant regularly collects recurring payments.

Attributes

Subelement ID: 86

Data Representation: a-1

Length Field: 2

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Subelement 86 contains an indicator to denote a recurring payment transaction on a Visa account for a cardholder with a long standing relationship.

Following is the usage of subelement 86 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Values | | | |
| I = Installment Payment | | | |
| R = Merchant/Cardholder Relationship | | | |

Subelement 87—Card Validation Code Result

DE 48, subelement 87 (Card Validation Code Result) indicates the CVC 1, CVC 2, or CVC 3 result code.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 87 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 87 must be provided by the issuer in the Authorization Request Response/0110 message whenever CVC 2 verification is requested by the acquirer.

Subelement 87 is optional whenever DE 45 (Track 1 Data) or DE 35 (Track 2 Data) is present in the Authorization Request/0100 message and CVC 1 is invalid.

Subelement 87 is optionally provided in the Authorization Request Response/0110 message when an issue is encountered during CVC 3 validation.

Following is the usage of subelement 87 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |

Authorization Advice/0120—System-generated • C C

Values

CVC 1

Y = Invalid CVC 1 (only if DE 35 (Track 2 Data) or DE 45 (Track 1 Data) is present in the Authorization Request/0100 message.)

Refer to Application Notes section that follows for Stand-In System considerations.

CVC 2

M = Valid CVC 2 (match)

N = Invalid CVC 2 (non-match)

P = CVC 2 not processed (issuer temporarily unavailable)

U = CVC 2 Unverified—Mastercard Use Only

CVC 3

E = Length of unpredictable number was not a valid length

P = Unable to process

Y = Invalid

Application Notes

If the issuer participates in the CVC 1 validation service and the transaction meets the criteria for the CVC 1 test, the Stand-In System considers the results of the CVC 1 validation in subelement 87 when responding to the Authorization Request/0100 message. The issuer can control the response that the Stand-In System uses when the CVC 1 value is invalid or validation cannot be performed. The default value is 05 (Do Not Honor). To change these values, contact Key Management Services at key_management@Mastercard.com.

Subelement 87—CVV2 Response (Visa Only)

DE 48, subelement 87 (CVV2 Response) indicates the CVV2 response on a Visa account.

Attributes

Subelement ID: 87

Data Representation: a-1

Length Field: 2

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Following is the usage of subelement 87 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | | Org | Sys | Dst |
|-------------------------------------|---|--|-----|-----|
| Authorization Request Response/0110 | | C | • | C |
| Values | | | | |
| M | = | CVV2 match | | |
| N | = | CVV2 no match | | |
| P | = | Not processed | | |
| S | = | CVV2 is on the card, but the merchant has indicated that CVV2 is not present. | | |
| U | = | Issuer is not Visa-certified for CVV2, has not provided Visa encryption keys, or both. | | |

Subelement 88—Magnetic Stripe Compliance Status Indicator

DE 48, subelement 88 (Magnetic Stripe Compliance Status Indicator) indicates that the Authorization Platform replaced the DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) value of 90 or 91 with value of 02.

Attributes

| | | | |
|----------------------|------------------------|--|--|
| Subelement ID: | 88 | | |
| Data Representation: | a-1 | | |
| Length Field: | 2 | | |
| Data Field: | Contents of position 1 | | |
| Subfields: | N/A | | |
| Justification: | N/A | | |

Usage

Subelement 88 is provided by the Authorization Platform whenever the Authorization Platform replaces the DE 22, subfield 1, value of 90 or 91 to a value of 02 due to magnetic stripe compliance downgrade of the acquirer.

Following is the usage of subelement 88 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | C | C |
| Authorization Request Response/0110 | CE | C | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

Y = Authorization Platform replaced DE 22, subfield 1, value 90 or 91 with value 02.

Subelement 89—Magnetic Stripe Compliance Error Indicator

DE 48, subelement 89 (Magnetic Stripe Compliance Error Indicator) indicates magnetic stripe compliance errors.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 89 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 89 is provided by the Authorization Platform whenever errors are detected while editing transactions for magnetic stripe compliance. Following is the usage of subelement 89 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | C | C |
| Authorization Request Response/0110 | CE | C | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

| | | |
|---|---|---|
| A | = | Track 1 or Track 2 not present in the message |
| B | = | Track 1 and Track 2 present in the message |
| C | = | DE 2 (Primary Account Number [PAN]) not equal in track data |
| D | = | DE 14 (Expiration Date) not equal in track data |
| E | = | Service code invalid in track data |
| F | = | Field separator(s) invalid in track data |
| G | = | A field within the track data has an invalid length |
| H | = | DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) is 80, 90, or 91 when DE 48, Transaction Category Code (TCC) is T |
| I | = | DE 61 (Point-of-Service Data), subfield 4 (POS Cardholder Presence) is 1, 2, 3, 4, or 5 |

J = DE 61 Point-of-Service Data), subfield 5 (POS Card Presence) is 1

Subelement 90—Lodging and Auto Rental Indicator

DE 48, subelement 90 (Lodging and Auto Rental Indicator) indicates the presence of Lodging and Auto Rental Service interchange program.

Attributes

Subelement ID: 90

Data Representation: a-1

Length Field: 2

Data Field: Contents of position 1

Subfields: N/A

Justification: N/A

Usage

Subelement 90 is provided whenever the cardholder is a preferred customer of the merchant.

Following is the usage of subelement 90 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |

Values

P = Cardholder is enrolled in a merchant preferred customer program and magnetic stripe data may be absent

Subelement 90—Custom Payment Service Request (Visa Only)

DE 48, subelement 90 (Custom Payment Service Request [Visa Only]) contains the Authorization Characteristics Indicator (Visa field 62.1).

Attributes

Subelement ID: 90

Data Representation: a-1

| | |
|----------------|------------------------|
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 90 is used to indicate a custom payment service transaction on a Visa account whenever applicable.

Following is the usage of subelement 90 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Reversal Request/0400 | C | • | C |

Values

| | | |
|---|---|--|
| I | = | Incremental authorization |
| P | = | Preferred customer |
| R | = | Recurring payment |
| Y | = | Request for Custom Payment Service participation |

Application Notes

Refer to Visa Base I Technical Specifications manual for a list of all CPS request values in Visa field 62.1.

Subelement 90—Custom Payment Service Request Response (Visa Only)

DE 48, subelement 90 (Custom Payment Service Request Response) contains the Authorization Characteristics Indicator (Visa field 62.1).

| | |
|----------------------|------------------------|
| Attributes | |
| Subelement ID: | 90 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 90 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |
| Reversal Request Response/0410 | C | • | C |

Values

Acquirer receives Visa CPS response code, see application notes

Application Notes

If the request qualifies for Visa CPS and is approved, refer to the Visa Base I Technical Specifications manual for a complete list of CPS-qualified codes in Visa field 62.1. If the original request does not qualify for CPS, Visa returns an "N" or "T" in the response.

Subelement 91—Acquirer Reference Data (American Express Only)

DE 48, subelement 91 (Acquirer Reference Data) contains the 15-digit Transaction Identifier (TID), a unique American Express tracking number. The TID is used to identify and track a card customer transaction throughout its life cycle.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 91 |
| Data Representation: | ans...15; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–15 |
| Subfields: | N/A |

Usage

Following is the usage of subelement 91 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | M | • | M |

Values

A unique 15 digit TID.

Subelement 91—Custom Payment Service Request/Transaction ID (Visa Only)

DE 48, subelement 91 (Custom Payment Service Request/Transaction ID) indicates the presence of Custom Payment Service Request response data.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 91 |
| Data Representation: | ans...19; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–19 |
| Subfields: | N/A |

Usage

Subelement 91 is used to provide transaction ID and/or Validation Code when subelement 90 indicates an incremental authorization or when submitting a reversal on a Visa account.

Following is the usage of subelement 91 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|----------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Reversal Request/0400 | C | • | C |

Values

Subelement 91 must contain the transaction ID (Visa field 62.2, 15 byte numeric) and/or validation code (Visa field 62.3, 4 bytes alphanumeric) when subelement 90 indicates an incremental authorization or when submitting a reversal on a Visa account.

Subelement 91—Custom Payment Service Response/Transaction ID (Visa Only)

DE 48, subelement 91 (Custom Payment Service Response/Transaction ID) provides authorization response data when custom payment service (subelement 90) is requested on a Visa account.

| | |
|----------------------|--|
| Attributes | |
| Subelement ID: | 91 |
| Data Representation: | ans...19; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–4, 1–15, or 1–19 depending on the length field |
| Subfields: | N/A |

Usage

Following is the usage of subelement 91 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |

| | | | |
|--------------------------------|---|---|---|
| Reversal Request Response/0410 | C | • | C |
|--------------------------------|---|---|---|

Values

When length field is 04:

Subelement 91 contains the Visa CPS validation code (Visa field 62.3, four bytes alphanumeric). Refer to the Visa Base I Technical Specifications manual for more information on Visa CPS validation codes.

When length field is 15:

Subelement 91 contains the transaction ID (Visa field 62.2, 15 bytes numeric).

When length field is 19:

Subelement 91 contains the transaction ID (Visa field 62.2, 15 byte numeric) and CPS validation code (Visa field 62.3, four bytes alphanumeric).

Subelement 92—CVC 2

DE 48, subelement 92 (CVC 2) contains the CVC 2 value from the signature panel of the card.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 92 |
| Data Representation: | n-3 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Subelement 92 contains the CVC 2 value from the signature panel of the card when applicable.

Following is the usage of subelement 92 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120 | • | C | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |

Values

Acquirers must not use 000 as a default when sending this subelement. Acquirers must only provide this subelement when requesting CVC 2 verification.

Subelement 92—CVV2 Data (Visa Only)

DE 48, subelement 92 (CVV2 Data) consists of the Visa CVV2 presence ID, response type, and CVV2 value.

Attributes

| | |
|----------------------|-------------------------------------|
| Subelement ID: | 92 |
| Data Representation: | n-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1, 2, and 3-6 |
| Subfields: | 3 |
| Justification: | See subfields |

Usage

Subelement 92 contains the CVV2 value from the signature panel of the card when applicable.

Following is the usage of subelement 92 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |

Values

Position 1 (CVV2 Presence ID)

| | |
|----------------------|---|
| Data Representation: | n-1 |
| Data Field: | Contents of position 1 |
| Values: | 0 = Merchant did not provide CVV2 or it was deliberately bypassed |
| | 1 = CVV2 value present |
| | 2 = CVV2 is on card, but not legible |
| | 9 = Cardholder states no CVV2 is on card |

Position 2 (CVV2 Response Code)

| | |
|----------------------|------------------------|
| Data Representation: | n-1 |
| Data Field: | Contents of position 2 |

| | | |
|---------|-----|--|
| Values: | 0 = | Only the normal response code in DE 39 should be returned by the issuer |
| | 1 = | The normal response code and CVV2 response code should be returned by the issuer |

Positions 3-6 (CVV2 Value)

Data Representation: n-4; Right justified, blank-filled

Data Field: Contents of positions 3-6

Values: CVV2 value from the signature panel of the card.

Subelement 93—Fleet Card ID Request Data (Visa Only)

DE 48, subelement 93 (Fleet Card ID Request Data) contains the Fleet Card ID information on a Visa account, when applicable.

Attributes

Subelement ID: 93

Data Representation: ans...19; LLVAR

Length Field: 2

Data Field: Contents of subfields

Subfields: 2

Justification: N/A

Usage

Following is the usage of subelement 93 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request/0100

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Values

See subfields

Subfield 1—Fleet Card ID Request Indicator

DE 48, subelement 93, subfield 1 (Fleet Card ID Request Indicator) identifies the Fleet Card ID.

Attributes

Data Representation: ans-2

Data Field: Contents of position 1-2

| | |
|---------|----------------------|
| Values: | \$\$ = Fleet Card ID |
|---------|----------------------|

Subfield 2—Optional Free-form Informational Text

DE 48, subelement 93, subfield 2 (Optional Free-form Informational Text) provides additional Point-of-Service (POS) information.

| |
|------------|
| Attributes |
|------------|

| | |
|----------------------|----------|
| Data Representation: | ans...17 |
|----------------------|----------|

| | |
|-------------|----------------------------|
| Data Field: | Contents of positions 3–19 |
|-------------|----------------------------|

| | |
|---------|--|
| Values: | Additional Point-of-Service (POS) information (optional) |
|---------|--|

Subelement 94—Commercial Card Inquiry Request (Visa Only)

Subelement 94 (Commercial Card Inquiry Request) contains an indicator requesting a commercial card inquiry on a Visa account, when applicable.

| |
|------------|
| Attributes |
|------------|

| | |
|----------------|----|
| Subelement ID: | 94 |
|----------------|----|

| | |
|----------------------|-------|
| Data Representation: | ans-4 |
|----------------------|-------|

| | |
|---------------|---|
| Length Field: | 2 |
|---------------|---|

| | |
|-------------|-----------------------|
| Data Field: | Contents of positions |
|-------------|-----------------------|

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of subelement 94 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|----------------------------|---|---|---|
| Authorization Request/0100 | C | • | C |
|----------------------------|---|---|---|

Values

| |
|--|
| Positions 1–3 (Card Request Indicator) |
|--|

| | |
|----------------------|-------|
| Data Representation: | ans-3 |
|----------------------|-------|

| | |
|-------------|---|
| Data Field: | Contents of positions 1–3 (Hexadecimal value: 5AF0F1) |
|-------------|---|

| | |
|---------|---|
| Values: | !01 (where 0 is zero) = Commercial Card Inquiry |
|---------|---|

| |
|--|
| Position 4 (Merchant Request for Commercial Card Type) |
|--|

| | |
|----------------------|-------|
| Data Representation: | ans-1 |
|----------------------|-------|

| | |
|-------------|------------------------|
| Data Field: | Contents of position 4 |
|-------------|------------------------|

| | |
|---------|---|
| Values: | 0 (where 0 is zero) = Request Indicator |
|---------|---|

Subelement 94—Commercial Card Inquiry Response (Visa Only)

DE 48, subelement 94 (Commercial Card Inquiry Response) contains the commercial card inquiry response data as a result of a commercial card inquiry on a Visa account.

Attributes

| | |
|----------------------|-----------------------|
| Subelement ID: | 94 |
| Data Representation: | ans-4 |
| Length Field: | 2 |
| Data Field: | Contents of positions |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 94 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-------------------------------------|---|---|---|
| Authorization Request Response/0110 | C | • | C |
|-------------------------------------|---|---|---|

Values

Positions 1–3 (Card Request Indicator)

| | |
|----------------------|---|
| Data Representation: | ans-3 |
| Data Field: | Contents of positions 1–3 (Hexadecimal value: 5AF0F1) |
| Values: | !01 (where 0 is zero) = Commercial Card Inquiry |

Position 4 (Visa Commercial Card Response)

| | |
|----------------------|---|
| Data Representation: | a-1 |
| Data Field: | Contents of position 4 |
| Values: | 0 (where 0 is zero) = Not a Commercial Card |
| | B = Business Card |
| | R = Corporate Card |
| | S = Purchasing Card |

DE 48 Subelement 95—Mastercard Promotion Code

DE 48, subelement 95 (Mastercard Promotion Code) contains the promotion code to identify unique use of a Mastercard product for a specific program or service established between issuers and merchants. The requirement is conditional.

Attributes

| | |
|----------------------|---------------------------|
| Usage: | Optional |
| Subelement ID: | 95 |
| Data Representation: | an-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 95 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request /0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |
| Reversal Advice/0420 | • | C | C |

Values

Program or service specific.

COLCTA = Installment payment transaction within Colombia

Subelement 95—American Express Customer ID Number (American Express Only)

DE 48, subelement 95 (American Express Customer ID Number) contains the American Express Customer ID Number (CIN) from the face of the American Express card, when applicable.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 95 |
| Data Representation: | n-4 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 95 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |

Values

The four-digit customer ID number on the front of the American Express card.

Subelement 96—Visa Market-Specific Data Identifier (Visa Only)

DE 48, subelement 96 (Visa Market-Specific Data Identifier) contains the market-specific data identifier.

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 96 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 96 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|------|-----|------|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE/C | • | CE/C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

Values

| | | |
|---|---|---|
| A | = | Automobile rental |
| B | = | Bill Payment Transaction |
| E | = | Electronic commerce transaction aggregation |
| H | = | Hotel rental |
| J | = | B2B invoice payments |
| M | = | Healthcare—Medical |
| N | = | Failed market-specific data edit |
| T | = | Transit (in healthcare transactions only) |

Subelement 97—Prestigious Properties Indicator (Visa Only)

DE 48, subelement 97 (Prestigious Properties Indicator) contains the prestigious property indicator. For participants in the Visa Prestigious Lodging program (conditional).

Attributes

| | |
|----------------------|------------------------|
| Subelement ID: | 97 |
| Data Representation: | a-1 |
| Length Field: | 2 |
| Data Field: | Contents of position 1 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 97 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-------------------------------------|----|---|----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |

Values

| | | |
|---|---|-------------------------|
| D | = | Visa established limits |
| B | = | Visa established limits |
| S | = | Visa established limits |

Subelement 98—Mastercard Corporate Fleet Card ID/Driver Number

DE 48, subelement 98 (Mastercard Corporate Fleet Card ID/Driver Number) allows the corporate customer to verify the user of the card and enables more detailed reporting. It contains the ID of the user of a Fleet card, when applicable.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 98 |
| Data Representation: | n-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 98 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | • | CE |

Values

Cardholder unique.

Application Notes

If DE 48, subelement 98 (Mastercard Corporate Fleet Card ID/Driver Number) was present in the original 0100 AFD authorization message, subelement 98 must be the same value in acquirer-generated 0120 completion advice.

Subelement 99—Mastercard Corporate Fleet Card Vehicle Number

DE 48, subelement 99 (Mastercard Corporate Fleet Card Vehicle Number) allows the corporate customer to verify the user of the card and enables more detailed reporting. It contains the ID of the vehicle used in conjunction with a Fleet card purchase, when applicable.

Attributes

| | |
|----------------|----|
| Subelement ID: | 99 |
|----------------|----|

| | |
|----------------------|---------------------------|
| Data Representation: | n-6 |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–6 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of subelement 99 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | • | CE |

Values

Vehicle-specific

Application Notes

If subelement 99 was present in the original 0100 AFD authorization message, subelement 99 must be the same value in acquirer-generated 0120 completion advice.

DE 48—Authorization Platform Edits

The Authorization Platform performs edits as described in this section.

DE 48, TCC

The Authorization Platform performs the following edit.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| An Authorization Request/0100, Authorization Advice/0120, or Reversal Request/0400 message contains DE 48, TCC with an invalid value in position 1 | Rejects the message and forwards the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 (Format Error) • DE 44 = 048 |

DE 48, TCC and DE 3

The Authorization Platform performs the following edits.

| WHEN TCC contains... | THEN the first two positions of DE 3 (Processing Code) must contain one of the following values... |
|-----------------------------|---|
| C = Cash Disbursement | 01 = Withdrawal 17 = Cash Disbursement 30 = Balance Inquiry |
| P = Payment Transaction | 28 = Payment Transaction |
| Z = ATM Cash Disbursement | 00 = Purchase 01 = Withdrawal 30 = Balance Inquiry 91 = PIN Unblock 92 = PIN Change Only eligible acquirers may use values 91 or 92. |
| IF this edit... | THEN the Authorization Platform... |
| Fails | Rejects the transaction with a format error, indicated by: <ul style="list-style-type: none">• DE 39 (Response Code) = 30• DE 44 (Additional Response Data = 003 |
| Passes | Goes to the next edit |
| WHEN... | THEN the Authorization Platform... |
| TCC contains a space | Assigns in an Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, and Reversal Request/0400 message, a TCC value based on the card acceptor business code/merchant category code (MCC) in DE 18 (Merchant Type) except under the following conditions |
| WHEN... | THEN the Authorization Platform... |

DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type) contains value 00 (Purchase)

and

DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) contains value 00 (PAN entry mode unknown) or value 01 (PAN manual entry)

and

DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence) **does not** contain value 0 (Cardholder Present)

DE 48, Subelement 14

The Authorization Platform will perform the following system edits.

Combo Cards with a Single PAN

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100, the Authorization Advice/0120—Acquirer-generated, or the Reversal Request/0400 message contains DE 48 (Additional Data—Private Use), subelement 14 (Account Type Indicator) with values other than C (Credit Transaction) or D (Debit Transaction) | Will reject the transaction and forward the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or a Reversal Request Response/0410 with <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048 (indicating the data element in error) |

DE 48, Subelement 26

The Authorization Platform performs the following edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| The Authorization Request/0100 or Authorization Advice/0120 message includes DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) with any combination other than a valid numeric value | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130—System-generated where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048 (indicating the data element in error) |

NOTE: Special characters, spaces, or all zeros not allowed.

DE 48, Subelement 35

The Authorization Platform performs the following edits.

Following are Authorization Request/0100 message edits.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The acquirer sends an Authorization Request/0100 message containing DE 48 (Additional Data—Private Use), subelement 35 (Contactless Non-Card Form Factor Request/Response) | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none">• DE 39 = 30 (Format error)• DE 44 = 048 |

The issuer-branded website will perform the following processing based on the Authorization Request Response/0110 messages.

| WHEN... | THEN the issuer-branded website... |
|--|--|
| The Authorization Request Response/0110 message contains DE 48, subelement 35, value A | Arranges for the request contactless card or device to be sent to the cardholder |
| The Authorization Request Response/0110 message contains DE 48, subelement 35, value D | Declines the cardholder's request for the contactless card or device and instructs the cardholder to contact the issuer for more information |
| The Authorization Request/0100 message contains DE 48, subelement 35 and the Authorization Request Response/0110 message does not contain DE 48, subelement 35 or The Authorization Request Response/0110 message containing DE 48, subelement 35 does not contain a valid value of A or D | Arranges for the requested contactless card or device to be sent to the cardholder when: Subelement 83 (Address Verification Service Response) is X or Y and Subelement 87 (Card Validation Code Result) is M |

DE 48, Subelement 37

The Authorization Platform performs the following edits.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 48 (Additional Data—Private Use), subelement 37 (Additional Merchant Data), subfields 1 (Payment Facilitator ID) or 2 (Independent Sales Organization ID) has values other than 0–9 or contains all zeros in the Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated message | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = value 30 (Format error) • DE 44 (Additional Response Data) = value 048 (indicating the data element in error) |
| DE 48, subelement 37, subfield 3 (Sub-Merchant ID) contains all spaces or all zeros in the Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated message | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 = value 30 • DE 44 = value 048 |

DE 48, Subelement 38

The Authorization Platform performs the following edits.

| WHEN... | THEN... |
|--|--|
| The Authorization Platform finds that the entire account range no longer participates in Enhanced Value, Product Graduation, or High Value and At least one cardholder account within the account range previously participated in Enhanced Value, Product Graduation, or High Value | The Authorization Platform adds DE 48, subelement 38 (Account Category), value Z to the Authorization Request/0100 message for the following transaction types: <ul style="list-style-type: none"> • Purchases as indicated by DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) = 00 • Purchase with Cash Back as indicated by DE 3, subfield 1 = 09 and <p>The Authorization Platform forwards the Authorization Request/0100 message to the issuer.</p> |

| WHEN... | THEN... |
|---|--|
| <p>The Authorization Platform provides DE 48, subelement 38 in the Authorization Request/0100 message to the issuer</p> <p>and</p> <p>The issuer populates DE 39 (Response Code) in the Authorization Request Response/0110 message with one of the following values that indicate an authorization approval:</p> <ul style="list-style-type: none"> • 00 (Approved or completed successfully) • 08 (Honor with ID) • 10 (Partial Approval) • 87 (Purchase Amount Only, No Cash Back Allowed) | <p>DE 38 (Authorization ID Response), position 6 in the Authorization Request Response/0110 message must equal the value of DE 48, subelement 38 of the original Authorization Request/0100 message that was provided to the issuer by the Authorization Platform.</p> |
| <p>The Authorization Platform provides DE 48, subelement 38 in the Authorization Request/0100 message to the issuer</p> <p>and</p> <p>The issuer populates DE 39 (Response Code) in the Authorization Request Response/0110 message with the value 85 (Not declined)</p> <p>and</p> <p>DE 38 is present</p> | <p>DE 38 (Authorization ID Response), position 6 in the Authorization Request Response/0110 message must equal the value of DE 48, subelement 38 of the original Authorization Request/0100 message that was provided to the issuer by the Authorization Platform.</p> <p>If DE 38 is not present, the Authorization Platform will not perform this validation.</p> |
| <p>DE 38, position 6 in the Authorization Request Response/0110 message does not equal the value of DE 48, subelement 38 of the original Authorization Request/0100 message that was provided to the issuer by the Authorization Platform</p> | <p>The Authorization Platform rejects the Authorization Request Response/0110 message and sends the Authorization Request/0100 message to the Stand-In System for processing.</p> <p>Stand-In will ensure that DE 38, position 6 of the Authorization Request Response/0110 message matches the value provided by the Authorization Platform in DE 48, subelement 38 of the original Authorization Request/0100 message.</p> |
| <p>DE 48, subelement 38 is included in the Authorization Request Response/0110 message from the issuer</p> | <p>The Authorization Platform removes DE 48, subelement 38 from the Authorization Request Response/0110 message before providing the 0110 message to the acquirer.</p> |

DE 48, Subelement 42 and Subelement 43

The Authorization Platform performs the following system edits.

The Authorization Platform performs the following edits on Authorization Request/0100 and Authorization Advice/0120 messages.

| WHEN DE 48, subelement 42, subfield 01, position 3 is... | THEN DE 48, subelement 43... |
|---|--|
| 0 or is not present | Cannot contain UCAF data. |
| 1 | Must contain UCAF data. |
| 2 or 3 and PAN is not Mastercard Electronic | Must contain UCAF data. |
| 5 | Must contain UCAF data. |
| IF this edit... | THEN the Authorization Platform... |
| Fails | Rejects the transaction with a format error, indicated by: DE 39 = 30 DE 44 = 048 |
| Passes | The Authorization Platform goes to the next edit. |

| WHEN DE 48, subelement 43... | THEN DE 48, subelement 42, subfield 01, position 3 must equal... |
|-------------------------------------|---|
| Contains UCAF data | 1, 2, 3, or 5 |
| Does not contain UCAF data | 0, 1, or 6, or not be present |
| IF this edit... | THEN the Authorization Platform... |
| Fails | Rejects the transaction with a format error, indicated by: DE 39 (Response Code) = 30 DE 44 (Additional Response Data) = 048 |
| Passes | The Authorization Platform goes to the next edit. |

The Authorization Platform performs the following edits on Authorization Request/0100 messages.

DSRP partial shipments or recurring payments, where SLI value is not 247

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DSRP transaction initiated with a Secure Element or Cloud token, DE 22, subfield 1 = 81 (POS entry mode) and the Authorization Request/0100 contains DE 48, subelement 42, not equal to 247 and DE 48, subelement 43 is not present | Rejects the transaction with <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048 (Indicating the data element in error) |

Non-DSRP transactions initiated with an MDES token and submitted with a merchant attempt SecureCode AAV

| WHEN... | THEN the Authorization Platform... |
|--|--|
| A transaction initiated with a Secure Element or Cloud token, DE 22, subfield 1 = 81 (POS entry mode) and the Authorization Request/0100 request contains DE 48, subelement 43, pos1 = h (Merchant Attempt SecureCode AAV) | Rejects the transaction with <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048 (Indicating the data element in error) |

DE 48, Subelement 43 (Static AAV)

The following edits on Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages are performed on transactions submitted under the Maestro Recurring Payments Program, the Mastercard Utility Payment Program, and the Maestro Low Risk Merchant Program.

| WHEN the Mastercard assigned static AAV in DE 48, subelement 43, position 1 begins with... | THEN the Authorization Platform... |
|---|--|
| 3 and the acceptance brand is not Maestro | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none">DE 39 (Response Code) = 30 (Format error)DE 44 = 048 (identifying the data element in error) |

| WHEN the Mastercard assigned static AAV in DE 48, subelement 43, position 1 begins with... | THEN the Authorization Platform... |
|---|---|
| 5 and the acceptance brand is not Maestro | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 048 |
| Any value other than 3 or 5 and the acceptance brands are Mastercard, Maestro, or both | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 048 |

DE 48, Subelement 42 and DE 61

The Authorization Platform performs the following edits.

The following edits apply on Electronic Commerce transactions.

| WHEN... | THEN... |
|--|---|
| DE 48, subelement 42, subfield 1, position 3 contains value 1, 2, or 3, and DE 61, subfield 10, contains value 6 | DE 61, subfield 4 contains value 4 or 5 and DE 61, subfield 7, must not contain value 2 |
| IF this edit... | THEN the Authorization Platform... |
| Fails | Generates a format error, indicated by: DE 39 (Response Code) = 30 DE 44 (Additional Response Data) = 061 |
| Passes | The Authorization Platform goes to the next edit. |

The following edits apply on SecureCode Phone Order transactions.

| WHEN... | THEN... |
|---|--|
| DE 48, subelement 42, subfield 1, position 3 contains value 1 or 2 and DE 61, subfield 7 contains value 2 | DE 61, subfield 4 must contain a value 3 or 4 and DE 61, subfield 10 must not contain value 6. |

| WHEN... | THEN... |
|------------------------|---|
| IF this edit... | THEN the Authorization Platform... |
| Fails | Generates a format error indicated by: DE 39 = 30 DE 44 = 061 |
| Passes | The Authorization Platform goes to the next edit. |

DE 48, Subelement 61

The Authorization Platform performs the following edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 61 is present and DE 4 contains all zeros | Drops DE 48, subelement 61 from the Authorization Request/0100 message to the issuer. |

WHEN DE 48, subelement 61, subfield 3 is... THEN the Authorization Platform...

| | |
|---|--|
| 1 (Merchant terminal verified the purchase items against an Inventory Information Approval System [IIAS]) | Validates that DE 48, subelement 32 (if present) contains a valid Mastercard Assigned ID for IIAS. |
| IF the... | THEN the Authorization Platform... |
| Mastercard Assigned ID is valid | Updates the value in DE 48, subelement 61, subfield 3 as follows: <ul style="list-style-type: none"> • If the issuer participates in real-time substantiation, sends DE 48, subelement 61, subfield 3, value 1 (Merchant terminal verified the purchased items against an IIAS) • If the issuer does not participate in real-time substantiation sends DE 48, subelement 61, subfield 3, value 0 (Merchant terminal did not verify the purchased items against an IIAS). |

| | |
|--|--|
| Mastercard Assigned ID is not valid or not present in the Authorization Request/0100 message | Updates the value in DE 48, subelement 61, subfield 3 as follows: <ul style="list-style-type: none"> • If the issuer participates in real-time substantiation, sends DE 48, subelement 61, subfield 3, value 4 (Transaction was submitted as real-time substantiated but from a non-IIAS certified merchant). • If the issuer does not participate in real-time substantiation sends DE 48, subelement 61, subfield 3, value 0 (Merchant terminal did not verify the purchased items against an IIAS). |
|--|--|

The following edits are on Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The acquirer sends DE 48, subelement 61, subfield 3 (Real-time Substantiation Indicator), value 2 (Merchant claims exemption from IIAS rules based on the IRS 90 percent rule) in an Authorization Request/0100 message or Authorization Advice/0120—Acquirer-generated message | Forwards the issuer the Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated message containing DE 48, subelement 61, subfield 3, value 0 (Merchant terminal did not verify the purchased items against an IIAS). |
| and | |
| The issuer does not participate in real-time substantiation | |
| The acquirer sends DE 48, subelement 61, subfield 3 (Real-time Substantiation Indicator), value 2 (Merchant claims exemption from IIAS rules based on the IRS 90 percent rule) in an Authorization Request/0100 message or Authorization Advice/0120—Acquirer-generated message | Forwards the issuer the Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated message containing DE 48, subelement 61, subfield 3, value 2 (Merchant claims exemption from using the IIAS, based on the IRS 90 percent rule). |
| and | |
| The issuer does participate in real-time substantiation | |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The acquirer sends DE 48, subelement 61, subfield 3 (Real-time Substantiation Indicator), value other than 0, 1, or 2 in Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated message | <p>Declines the Authorization Request/0100 or Authorization Advice/0120—Acquirer-generated messages where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) is 30 • DE 44 (Response Data) is 048 |

DE 48, Subelement 77

The Authorization Platform will perform the following system edits.

Bill Pay

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The Authorization Request/0100 message or the Reversal Request/0400 message contains DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator) with value C91, C92, C93, or C94 and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) is not value 00 (Purchase) | <p>Will reject the transaction with</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 12 (Invalid Transaction) |

DE 48, Subelement 78

The Authorization Platform performs the following edits.

| WHEN DE 48, Subelement 78 is... | THEN DE 2... |
|--|--|
| D (U.S. Deferred Billing Indicator) | DE 2 (Primary Account Number [PAN]) must be a Visa PAN |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The Authorization Platform receives an Authorization Request/0100 and Reversal Request/0400 for a Visa-branded, Dual Message System (Authorization) transaction with DE 48 (Additional Data—Private Use), subelement 78 (Payment Service Indicators) where:</p> <ul style="list-style-type: none"> • Subfield 1 (Spend Qualified Indicator) contains a value other than "Space" • Subfield 2 (Dynamic Currency Conversion Indicator) contains a value other than "Y" or "Space" • Subfield 3 (U.S. Deferred Billing Indicator) contains a value other than "D" or "Space" • Subfield 4 (Visa Checkout Indicator) contains a value other than "Y" or "Space" • Subfield 5 (Reserved for Future Use) contains a value other than "Space" • Subfield 6 (Reserved for Future Use) contains a value other than "Space" | <p>Sends an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 048 (indicating the data element in error) |

DE 48, Subelement 82

The Authorization Platform performs the following edits.

| WHEN DE 48, Subelement 82 is... | THEN the Authorization Platform... |
|---|---|
| 51 (AVS-Only) | <p>Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 12 (Invalid Transaction)</p> |
| 52 (AVS Request) and DE 39 is 00 (Approved) or 08 (Honor with ID) or 85 (Not declined) and DE 48 SE 83 (AVS Response) is present with a value not equal to X, Y, A, W, Z, N, U, R, S. | <p>Sends the issuer an Authorization Response Negative Acknowledgement/0190 message where:</p> <ul style="list-style-type: none"> • DE 39 = 30 (Format Error) • DE 44 = 048 |

DE 48, Subelement 84

The Authorization Platform performs the following edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 48, subelement 42 and/or DE 48, subelement 43 are invalid due to token requirements that are not met | <p>Returns to the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 048 (indicating the data element in error) • DE 48 (Additional Data—Private Use), subelement 84 = 04 <p>NOTE: Issuers do not receive decline advice messages for transactions that are rejected back to acquirers for format errors (DE 39 = 30).</p> |

DE 48, Subelement 86

The Authorization Platform performs the following edits.

| WHEN DE 48, Subelement 86 is... | THEN DE 2... |
|--|--|
| R (Relationship Participant) | DE 2 (Primary Account Number [PAN]) must be a Visa PAN |

DE 48, Subelement 95

The Authorization Platform performs the following system edit on Authorization Request/0100 and Reversal Request/0400 messages for Brazil installment payment transactions.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 48 (Additional Data—Private Use), subelement 95 (Mastercard Promotion Code) contains the value PARCEL, And DE 112 (Additional Data [National Use]), subelement 001 (Installment Payment Data) is not present | <p>Rejects the transaction sending the acquirer an Authorization Request Response/0110 or Reversal Request Response/0410 where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) contains value 30 (Format error) • DE 44 (Additional Response Data) contains value 112 (indicating the data element in error) |

DE 48, in Authorization Request Response

The following edit applies to DE 48 and the Authorization Request Response/0110 message.

| WHEN the issuer... | THEN the Authorization Request Response/ 0110 message must... |
|---|--|
| Provides response data, such as AVS response, Merchant Advice Code, CVC 2 response, and CVC 1 response, in DE 48 of the Authorization Request Response/0110 message | Contain the TCC as the first byte of data within DE 48 and Contain all the subelements present in DE 48 of the original Authorization Request/0100 message that also are defined in the Authorization Request Response/0110 message. |
| Does not provide response data | Not contain DE 48, including the TCC. |

DE 49—Currency Code, Transaction

DE 49 (Currency Code, Transaction) is the local currency of the acquirer or source location of the transaction. It specifies the currency used in DE 4 (Amount, Transaction).

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 49 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Request Response/0110 | ME | • | ME |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | ME | ME |

| | | | |
|--------------------------------|----|----|----|
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

All currency codes must be selected from the numeric ISO standard currency codes.

ISO standard currency codes identify DE 49. A list of valid values is available in the *Quick Reference Booklet*.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

Acquirers will receive an Authorization Request Response/0110 message containing a format error in DE 39 when the currency code in DE 49 is a currency code other than those in the ISO Standard Currency Codes table.

DE 50—Currency Code, Settlement

DE 50 (Currency Code, Settlement) defines the currency of DE 5 (Amount, Settlement) and DE 29 (Amount, Settlement Fee).

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 50 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | CE | X | C |
| Authorization Advice/0120—Acquirer-generated | • | X | C |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | C | C |

| | | | |
|--|----|----|----|
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | C |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

All currency codes must be selected from the numeric ISO standard currency codes.

ISO standard currency codes identify DE 50. A list of valid values is in the *Quick Reference Booklet*.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

As of the date of this publication, all Mastercard programs and services use U.S. dollars (840) as the currency of settlement for programs and services that the Authorization Platform supports.

The Authorization Platform includes this data element if the customer chooses to receive settlement amount-related data elements.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

DE 51—Currency Code, Cardholder Billing

DE 51 (Currency Code, Cardholder Billing) defines the currency of DE 6 (Amount, Cardholder Billing) and DE 8 (Amount, Cardholder Billing Fee).

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 51 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | | |
|-----|-----|-----|
| Org | Sys | Dst |
|-----|-----|-----|

| | | | |
|--|----|----|----|
| Authorization Request/0100 | • | X | M |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | X | C |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

All currency codes must be selected from the numeric ISO standard currency codes.

ISO standard currency codes identify DE 51. A list of valid values is in the *Quick Reference Booklet*.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

This data will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

DE 52—Personal ID Number (PIN) Data

DE 52 (Personal ID Number [PIN] Data) contains a number assigned to a cardholder intended to uniquely identify that cardholder at the point of interaction. The use of the PIN is subject to bilateral agreement. The data element may contain the PIN itself or a derivative. This data element transmits PIN information from acquirers to issuers (or to the network) for PIN verification or validation.

Attributes

| | |
|----------------------|--|
| Data Representation: | b-8 |
| Length Field: | N/A |
| Data Field: | Contents of bit positions 1–64 (8 bytes) |

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of DE 52 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request/0100

C X C

Values

The network supports PINs from four to 12 characters long.

The encrypted PIN block always is eight bytes (64 bits) long regardless of the original PIN length.

CIS uses the Data Encryption Standard (DES) algorithm (ISO 9564-2) to translate PIN data. For purposes of PIN translation, DES requires that a 16-digit hexadecimal number and working key be provided. DE 52 houses the 16-digit number in the customer's PIN block format.

Application Notes

Because of strict security requirements implemented within the network environment, PINs are never transmitted "in the clear" as character data. In addition, PIN data is never included in Advice or Reversal messages. The primary reason for this is that PIN data is highly sensitive information that is never stored (even in encrypted form) as a permanent component of a transaction, for security reasons. The rules, bylaws, and procedures established for individual programs and services dictate the specific requirements for PIN usage.

This data element is supported for Mastercard transactions.

The Authorization Platform may perform PIN verification or validation services on behalf of customers that elect to use this optional service. Refer to the appropriate user manual and the *Security Rules and Procedures* manual to determine specific PIN verification/validation options that may be selected for individual Mastercard programs and services.

DE 52 is mandatory for all ATM transactions.

| IF... | THEN the Authorization Platform... |
|--|---|
| An Authorization Request/0100 message contains DE 52 (PIN Data) and DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) is not 02, 05, 07, 80, 81, 82, 90, or 91 | Rejects the message and forwards the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 052 |

DE 53—Security-Related Control Information

DE 53 (Security-Related Control Information) is used with PIN data to provide specific information about PIN block encoding and PIN data encryption to assist the issuer (or its agent) in processing PINs entered at the point of interaction.

Attributes

Data Representation: n-16

Length Field: N/A

Data Field: Contents of subfields

Subfields: 6

Justification: See subfields

Usage

Following is the usage of DE 53 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|----------------------------|---|---|---|
| Authorization Request/0100 | C | X | C |
|----------------------------|---|---|---|

| | | | |
|--|---|---|---|
| Network Management Request/0800—Sign-On/Sign-Off | C | C | • |
|--|---|---|---|

Values

See subfields.

Application Notes

Use of DE 53 in online PIN transactions is specific to the PIN translation process performed on the dual message authorization network (Banknet) for Europe Region Acquirers and Issuers. It is not required to be provided in online PIN transactions for messages from non-Europe Region Acquirers.

Subfield 1—PIN Security Type Code

DE 53, subfield 1 (PIN Security Type Code) indicates the type of security processing used for the PIN data.

Attributes

Data Representation: n-2

Data Field: Contents of positions 1–2

Justification: N/A

Values

97 = Multiple (indexed) keys

Subfield 2—PIN Encryption Type Code

DE 53, subfield 2 (PIN Encryption Type Code) indicates the type of security processing used for the PIN data.

Attributes

Data Representation: n-2

Data Field Contents of positions 3–4

Justification: N/A

Values

01 = DES encryption

Subfield 3—PIN Block Format Code

DE 53, subfield 3 (PIN Block Format Code) indicates the type of PIN block format used.

Attributes

Data Representation: n-2

Data Field: Contents of positions 5–6

Justification: N/A

Values

01 = ANSI 1

02 = ANSI 2

03 = ANSI 3

10 = ISO Format 0

11 = ISO Format 1

19 = ISO Format 0 or ISO Format 1

Subfield 4—PIN Key Index Number

DE 53, subfield 4 (PIN Key Index Number) indicates the specific PIN key to be used when more than one key is available in a PIN key set.

Attributes

Data Representation: n-4

Data Field: Contents of positions 7–10

Justification: N/A

Values

0001–0099

Subfield 5—Reserved for Future Use

DE 53, subfield 5 (Reserved) is reserved for future use.

Attributes

Data Representation: n-2

Data Field: Contents of positions 11–12

Justification: N/A

Values

Not used, default to zero.

Subfield 6—Reserved for Future Use

DE 53, subfield 6 (Reserved) is reserved for future use.

Attributes

Data Representation: n-4

Data Field: Contents of positions 13–16

Justification: N/A

Values

Not used, default to zero.

DE 54—Additional Amounts

DE 54 (Additional Amounts) provides information on up to two amount types and related account data.

Attributes

Data Representation: an...120; LLLVAR

The “LLL” length field of LLLVAR must be an integral multiple of 20, not to exceed 120.

Length Field: 3

Data Field: Contents of subfields 1–4

| | |
|----------------|---------------|
| Subfields: | 4 |
| Justification: | See subfields |

Usage

Following is the usage of DE 54 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | X | C |
| Authorization Request Response/0110 | C | X | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice/0120—Acquirer-generated | C | X | C |
| Authorization Advice/0120—Issuer-generated | • | C | C |
| Reversal Request/0400 | C | X | C |
| Reversal Advice/0420 | • | C | C |

Values

See subfields.

Application Notes

General

An “occurrence” is defined as one set of the four DE 54 subfields. Depending on the conditions of the message, DE 54 can be sent by the acquirer, issuer, or the Authorization Platform.

Currently, Authorization Platform programs and services do not use more than two “additional amounts” amount types within a single Authorization Platform message.

The message initiator can send only two occurrences of the DE 54 subfields in a message. One occurrence is the first amount type in the message initiator’s currency. The other occurrence is the second amount type in the message initiator’s currency. The Authorization Platform will then provide an additional occurrence of each amount type to the message recipient in the message recipient’s currency. Therefore, the message recipient can receive a maximum of four occurrences of the DE 54 subfields. Each amount type will have two occurrences, one in the message initiator’s currency, and one in the message recipient’s currency.

When the Authorization Request Response/0110 message contains DE 39, value 10 (Partial Approval) or 87 (Purchase Amount Only, No Cash Back Allowed), the issuer can send only one occurrence of the DE 54 subfields in the issuer’s currency that is not equal to DE 54, subfield 2 (Amount Type) value 57 (Original Amount). The Authorization Platform will provide two occurrences of the amount type sent by the issuer to the acquirer, one in the acquirer’s currency, and one in the issuer’s currency. The Authorization Platform also will provide two occurrences of the DE 54 subfields where DE 54, subfield 2 is 57 and DE 54, subfield 4 is C plus the 12-digit original amount. One occurrence will be in the acquirer’s currency and one occurrence will be in the issuer’s currency. The exception is that if an occurrence of DE 54, subfield 2 value 58 (POI Amount) is sent, then the Authorization Platform will not provide an additional occurrence in the issuer’s currency.

Partial Approvals

The Authorization Request Response/0110 message contains DE 54, subfield 2, value 57 only if the acquirer can process partial approvals and if the issuer is approving part of the total transaction amount. Issuers may include one additional occurrence of DE 54 subfields in the issuer's currency with an amount type value of 02 to indicate the available balance of the account. If the issuer approves the entire transaction amount, DE 54, subfield 2, with a value 57 will not be present in the authorization request response and the issuer may provide more than one occurrence of DE 54 subfields.

Account Balance Response

The account balance response enables the issuers to include balance information as part of the response to a financial authorization request. Issuers can add account balance response information when responding to authorization requests for prepaid accounts and in ATM transactions. The account balance response is an "unsolicited" transmission of account balance data to the point-of-sale (POS) terminal or ATM. Account balance information returned in the Authorization Request Response/0110 must be provided in the same currency as the Cardholder Billing Currency (DE 51).

Purchase with Cash Back

Issuers are not required to return DE 54 in Purchase with Cash Back Authorization Request Response/0110 messages. If DE 54 is returned by the issuer, it will be dropped before the response is forwarded to an acquirer. The Authorization Request Response/0110 message contains only DE 54, subfield 2, value 40 in an Authorization Request Response/0110 message when transaction is processed by X-Code or declined by Mastercard with a format error condition (DE 39 = 30). When reversing a Purchase with Cash Back Authorization where only the purchase amount of the transaction was approved by the issuer (Response Code 87 (Purchase Only Approval)), acquirers are not required to include the cash portion of the original authorization request in DE 54 of the Reversal Request/0400 message. Also, DE 4 (Amount, Transaction) of the reversal request should also contain only the actual Purchase Amount of the original authorization request.

Cash Back without Purchase in Participating Countries

Cash Back without Purchase is supported for intracountry transactions in participating countries and is identified in the Authorization Request/0100 messages containing DE 3, subfield 1, value 09 with the presence of DE 54, subfield 2, value 40. For Cash Back without Purchase transactions, DE 54 must be present and equal the same amount in DE 4.

Real-time Substantiation

The Authorization Request/0100 or Authorization Advice/0120 messages contain DE 54, subfield 2, value 10 or 11 to indicate the healthcare and prescription amounts. DE 54, subfield 2, value 10 and 11 are sent only to the issuers that participate in Real-time Substantiation.

Purchase of Goods or Services with Cash Back

Refer to [Programs and Service Requirements](#), [Purchase of Goods or Services with Cash Back](#), [Authorization Platform Edits](#).

POI Currency Conversion

When POI currency conversion (also known as Dynamic Currency Conversion [DCC]) is performed, Mastercard suggests that acquirers provide the pre-conversion currency and amount in DE 54 with an amount type value of 58 (POI Amount) in subfield 2 for Authorization Request/ 0100, Authorization Advice/0120, and Reversal Request/0400 messages.

The processing criteria for DCC transactions are as follows:

- The transaction currency code in DE 49 (Currency Code, Transaction) must not be equal to the pre-conversion currency code in DE 54, subfield 3 (Currency Code).
- DE 54 must contain subfield 2 (Amount Type), value 58 (POI Amount), along with all other DE 54 subfields.
- The transaction amount provided in DE 54, subfield 4 (Amount) cannot contain all zeros.
- DE 54, subfield 3 must contain a valid, pre-conversion currency code.
- Issuers are not required to return an occurrence of DE 54 with subfield 2, value 58 in Authorization Request Response/0110 message. If it is returned by the issuer, it will be dropped before the response is forwarded to an acquirer.
- For a Purchase with Cash Back transaction to be subjected to DCC, it must contain two occurrences of DE 54 in Authorization Request/0100 or Authorization Advice/0120 messages: one occurrence with a subfield 2 value of 58 and another occurrence with a subfield 2 value of 40 (Amount Cash Back).
- Mastercard will allow acquirers to send one occurrence of DE 54 with a subfield 2 value of 58 in Reversal Request/0400 messages.
- Mastercard will forward an occurrence of DE 54 with subfield 2, value of 58 in Reversal Advice/0420 messages to the issuers if the acquirer has provided an occurrence of DE 54 with subfield 2, value 58 in Authorization Request/0100 or Reversal Request/0400 message, except when a Reversal Advice/0420 message is sent to the issuer when an Authorization Request Response/0110 message from the issuer is not delivered to the acquirer.

For partial Reversal Request/0400 messages subjected to DCC, acquirers may optionally supply the remainder of the transaction amount to be authorized in pre-conversion currency in DE 54, subfield 4 (Amount).

Subfield 1—Account Type

DE 54, subfield 1 (Account Type) contains the two-digit code as defined in DE 3 (Processing Code), subfield 2 (Cardholder “From Account” Type Code) or subfield 3 (Cardholder “To Account” Type Code).

Attributes

Data Representation: n-2

Data Field: Contents of positions 1–2

Justification: N/A

Values

The valid values for this field are the same values as defined for DE 3 (Processing Code), subfield 2 (Cardholder “From Account” Type Code).

Subfield 2—Amount Type

DE 54, subfield 2 (Amount Type) indicates the type of amount applied.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-2 |
| Data Field: | Contents of positions 3–4 |
| Justification: | N/A |
| Required As: | Conditional |

Example Values

| | | |
|----|---|---|
| 01 | = | Ledger Balance |
| 02 | = | Available Balance |
| 03 | = | Amount Owing |
| 04 | = | Amount Due |
| 10 | = | Healthcare Eligibility Amount |
| 11 | = | Prescription Eligibility Amount |
| 12 | = | Reserved for future use |
| 13 | = | Reserved for future use |
| 14 | = | Reserved for future use |
| 17 | = | Mastercard Prepaid Online Bill Pay Transaction Fee Amount |
| 40 | = | Amount Cash Back |
| 44 | = | Amount Gratuity |
| 57 | = | Original Amount |
| 58 | = | POI Amount |
| 59 | = | Limit/Balance available amount from Mastercard In Control |

Subfield 3—Currency Code

DE 54, subfield 3 (Currency Code) is a three-digit code that must contain a valid numeric code.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Data Field: | Contents of positions 5–7 |
| Justification: | Right |

Values

Refer to the *Quick Reference Booklet*.

Subfield 4—Amount

DE 54, subfield 4 (Amount) indicates the amount is a credit or debit amount.

Attributes

Data Representation: an-13

Data Field: Contents of positions 8–20

Justification: Right

Values

C = (credit amount) plus 12 digits

D = (debit amount) plus 12 digits

DE 54—Authorization Platform Edits

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The acquirer sends an Authorization Request/0100 or an Authorization Advice/0120 message in which: | <p>Will reject the transaction where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format Error)• DE 44 (Additional Response Data) = 054 (indicating the data element in error) |

OR

- An occurrence of DE 54 contains an invalid currency code in subfield 3.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The acquirer sends an Authorization Request/0100 or an Authorization Advice/0120 message in which:</p> <ul style="list-style-type: none"> • DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 09 (Purchase with Cash Back), and • DE 54, subfield 2 contains value 40 (Amount Cash Back), and • DE 54, subfield 3 contains a value that does not match the value in DE 49 | <p>Will reject the transaction where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |

DE 55—Integrated Circuit Card (ICC) System-Related Data

DE 55 (Integrated Circuit Card [ICC] System-Related Data) contains binary data that only the issuer, the issuer agent, or MDES processes; it is used locally by the payment application on the chip at a chip-capable terminal. This data element is present in chip full-grade transactions and can be present in DSRP transactions.

Attributes

| | |
|----------------------|----------------------------------|
| Data Representation: | b...255; LLLVAR |
| | The “LLL” length field of LLLVAR |

| | |
|---------------|---|
| Length Field: | 3 |
|---------------|---|

| | |
|-------------|-------------------------|
| Data Field: | Contents of subelements |
|-------------|-------------------------|

| | |
|--------------|--|
| Subelements: | Number of subelements depend on message type |
|--------------|--|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of DE 55 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| Org | Sys | Dst |
|-----|-----|-----|
|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request/0100 | C | • | O |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |

Values

See "Subelements".

Application Notes

For ICC information, refer to *M/Chip Requirements*.

Refer to DE 55—Authorization Platform Edits for a description of the edits performed on this data element.

For DSRP information, refer to Mastercard Cloud-Based Payments Product description.

DE 55—Subelement Encoding Scheme

DE 55 contains chip data formatted in accordance with EMV specifications. EMV uses Basic Encoding Rules (BER). Reference the EMV specification for details regarding coding of BER-ID, length, value (TLV) data objects. The chip data in DE 55 consists of a series of subelements in an "ID-length-data" format.

| Position(s) | Description |
|--------------------|---|
| 1–3 | DE 55 Total Length |
| 4 or 4–5 | First subelement ID, in binary representation; the length is either one or two positions depending on the definition of the subelement ID in the EMV specification. |
| 5 or 5–6 | First subelement length; the value of the length subelement is always one; position depends on the subelement ID length. |
| 6–xxx or 7–xxx | First subelement variable length data; the starting position depends on the subelement ID length. |

Positions of the subelement length and variable length data depend on the subelements used.

Subelement ID, Length, and Variable Length Data may be repeated as needed until all chip data has been presented.

DE 55—Subelements

The following table lists the required and optional subelements in Authorization Request/0100 and Authorization Request Response/0110 messages that contain chip data.

| Subelement Description | Tag Value | Component²¹ | Each Component Length²² | Total Subelement Length²³ |
|--|------------------|-------------------------------|---|---|
| Required Subelements in Authorization Request/0100 | | | | |
| | | | | For Authorization requests related to Chip full-grade transactions and requests related to e-commerce transactions with EMV compliant ICC data, acquirers must provide DE 55 including the following subelements: |
| Application Cryptogram (AC) | 9F26 | ID | 2 | 11 |
| | | length | 1 | |
| | | data | 8 | |
| Cryptogram Information Data | 9F27 | ID | 2 | 4 |
| | | length | 1 | |
| | | data | 1 | |
| Issuer Application Data (IAD) (Mandatory if the corresponding data object [EMV tag 9F10] is provided by the card to the terminal) | 9F10 | ID | 2 | 4–35 |
| | | length | 1 | |
| | | data | 1–32 | |
| Unpredictable Number | 9F37 | ID | 2 | 7 |
| | | length | 1 | |
| | | data | 4 | |
| Application Transaction Counter | 9F36 | ID | 2 | 5 |
| | | length | 1 | |
| | | data | 2 | |
| Terminal Verification Result (TVR) | 95 | ID | 1 | 7 |
| | | length | 1 | |
| | | data | 5 | |
| Transaction Date | 9A | ID | 1 | 5 |
| | | length | 1 | |
| | | data | 3 | |

²¹ The hexadecimal representation is given here. Every two positions of hexadecimal data is one byte of binary data.

| Subelement Description | Tag Value | | Each Component²¹ | Total Subelement Length²³ |
|--|------------------|--------|------------------------------------|---|
| Transaction Type | 9C | ID | 1 | 3 |
| | | length | 1 | |
| | | data | 1 | |
| Amount Authorized | 9F02 | ID | 2 | 9 |
| | | length | 1 | |
| | | data | 6 | |
| Transaction Currency Code | 5F2A | ID | 2 | 5 |
| | | length | 1 | |
| | | data | 2 | |
| Application Interchange Profile | 82 | ID | 1 | 4 |
| | | length | 1 | |
| | | data | 2 | |
| Terminal Country Code | 9F1A | ID | 2 | 5 |
| | | length | 1 | |
| | | data | 2 | |
| Cardholder Verification Method (CVM) Results | 9F34 | ID | 2 | 6 |
| | | length | 1 | |
| | | data | 3 | |

NOTE: Effective 1 April 2017, the presence of 9F34 is mandatory for all authorization messages containing DE 55.

| | | | | |
|-----------------------|--------------------|--------|---|---|
| Terminal Capabilities | 9F33 | ID | 2 | 6 |
| | (U.S. region only) | length | 1 | |
| | | data | 3 | |

²¹ The hexadecimal representation is given here. Every two positions of hexadecimal data is one byte of binary data.

²² Lengths are in binary format.

²³ The Total Subelement Length is the sum of the subelement's ID, length, and data subfields.

| Subelement Description | Tag Value | Component²¹ | Each Component Length²² | Total Subelement Length²³ |
|-------------------------------|------------------|-------------------------------|---|---|
| Dedicated File Name | 84 | ID | 1 | 7–18 |
| | | length | 1 | |
| | | data | 5–16 | |
| Amount Other | 9F03 | ID | 2 | 9 |
| | | length | 1 | |
| | | data | 6 | |

When cash back is not permitted by product rules, 9F03 may be absent, or present with a zero value. When cash back is permitted by product rules:

- And there is a cash back amount, 9F03 carries the amount and presence is mandatory
- And there is no cash back amount, the value of 9F03 is zero. 9F03 may be absent, or present with a zero value.

Optional Subelements in Authorization Request/0100

When DE 55 is present in the Authorization Request/0100 message, the following subelements are optional in DE 55:

| | | | | |
|--------------------------------------|------|--------|---|----|
| Terminal Type | 9F35 | ID | 2 | 4 |
| | | length | 1 | |
| | | data | 1 | |
| Interface Device (IFD) Serial Number | 9F1E | ID | 2 | 11 |
| | | length | 1 | |
| | | data | 8 | |
| Transaction Category Code | 9F53 | ID | 2 | 4 |
| | | length | 1 | |
| | | data | 1 | |
| Application Version Number | 9F09 | ID | 2 | 5 |
| | | length | 1 | |
| | | data | 2 | |

²¹ The hexadecimal representation is given here. Every two positions of hexadecimal data is one byte of binary data.

²² Lengths are in binary format.

²³ The Total Subelement Length is the sum of the subelement's ID, length, and data subfields.

| Subelement Description | Tag Value | Component²¹ | Each Component Length²² | Total Subelement Length²³ |
|--|------------------|-------------------------------|---|---|
| Transaction Sequence Counter | 9F41 | ID | 2 | 5–7 |
| | | length | 1 | |
| | | data | 2–4 | |
| Terminal Capabilities (non-U.S. regions only) | 9F33 | ID | 2 | 6 |
| | | length | 1 | |
| | | data | 3 | |

Optional Subelements in Authorization Request Response/0110

For Authorization Request Response/0110 messages related to chip full-grade transactions and response messages related to e-commerce transactions with EMV-compliant ICC data, issuers may provide DE 55, including the following subelements: if any of these subfields are present in the Authorization Request Response/0110 message, the acquirer must pass the subelements, unaltered, to the IC card.

| | | | | |
|---|----|--------|-------|-------|
| Issuer Authentication Data (Provides data to be transmitted to the card for issuer authentication.) | 91 | ID | 1 | 10–18 |
| | | length | 1 | |
| | | data | 8–16 | |
| Issuer Script Template 1 and 2 (Allows the issuer to provide a post-issuance command for transmission to the card. Present if issuer sends commands to ICC.) | 71 | ID | 1 | 3–129 |
| | | length | 1 | |
| | | data | 1–127 | |
| Issuers may send more than one instance (maximum of 10 instances or maximum length of DE 55) of subelement 71 in the Authorization Request Response/0110. | | | | |

DE 55—Authorization Platform Edits

The Authorization Platform performs the following edits.

If Mastercard determines through its Internal Chip Monitoring process that improperly formatted chip transactions are being submitted from acquirers not certified to send chip transactions, Mastercard will

²¹ The hexadecimal representation is given here. Every two positions of hexadecimal data is one byte of binary data.

²² Lengths are in binary format.

²³ The Total Subelement Length is the sum of the subelement's ID, length, and data subfields.

²² Lengths are in binary format.

²³ The Total Subelement Length is the sum of the subelement's ID, length, and data subfields.

notify each acquirer before activating an edit. The Authorization Platform will perform the following edits on the Authorization Request/0100 message.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 22, subfield 1 contains value 05 or 07 and DE 55 is present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is approved for partial grade chip transactions | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |
| DE 22, subfield 1 contains value 05 and DE 55 is not present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is approved to send full grade chip transactions | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |
| DE 22, subfield 1 contains value 07 and DE 55 is not present and Acquirer Chip Testing Level associated with the acquirer indicates the acquirer is approved to send full grade chip transactions | Sends the acquirer an Authorization Request Response/0110 where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |
| WHEN... | THEN... |
| DE 55 is present in the Authorization Request/0100 message or the Authorization Advice/0120 message | DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 must be 05, 07, or 81 or the Authorization Platform rejects the Authorization Request/0100 message or Authorization Advice/0120 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |

| | |
|--|---|
| DE 55 is not present in the Authorization Request/0100 message for a Chip PIN Management transaction | The Authorization Platform sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |
| DE 55 is greater than 255 characters in length in the Authorization Request/0100 message | The Authorization Platform sends the acquirer an Authorization Request Response/0110 where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |

The Authorization Platform will perform the following edits on an Authorization Request Response/0110 message.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 55 is echoed in the Authorization Request Response/0110 message | Sends the issuer an Authorization Response Negative Acknowledgement/0190 message where: <ul style="list-style-type: none"> • DE 39 = 30 (Format error) • DE 44 = 055 |
| WHEN the issuer... | THEN the Authorization Platform... |
| Sends an Authorization Request Response/0110 message where DE 55, subelement 71 is present and exceeds 127 bytes in length | Sends an Authorization Response Negative Acknowledgement/0190 message to the issuer where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |
| IF... | THEN the Authorization Platform... |
| DE 55 is present in the Authorization Request Response/0110 and DE 55 was not present in the original Authorization Request/0100 | Sends an Authorization Response Negative Acknowledgement/0190 message to the issuer where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 055 |

Authorization Platform Edits—Cardholder Authentication Service

The Authorization Platform will perform the following system edits related to the Cardholder Authentication Service.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Request/0100 message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 1 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 23 (Card Sequence Number) contains a value of 01X, and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 05 (Do not honor), and <p>Sends the issuer an Authorization Advice/0120 message with DE 60 (Advice Reason Code):</p> <ul style="list-style-type: none"> • Subfield 1 (Advice Reason Code) value 160 (Authentication Advice to Issuer), and • Subfield 2 (Advice Detail Code) value 0078 (M/ Chip Biometric Data not present) |
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Advice/0120—Acquirer-generated message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 1 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 23 (Card Sequence Number) contains a value of 01X (X can be any number from 0 to 9 inclusive), and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Advice Response/0130 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format Error), and • DE 44 (Additional Response Data) = 055 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Request/0100 message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 2 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 05 (Do not honor), and <p>Sends the issuer an Authorization Advice/0120 message with DE 60 (Advice Reason Code):</p> <ul style="list-style-type: none"> • Subfield 1 (Advice Reason Code) value 160 (Authentication Advice to Issuer), and • Subfield 2 (Advice Detail Code) value 0078 (M/ Chip Biometric Data not present) |
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Advice/0120—Acquirer-generated message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 2 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Advice Response/0130 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format Error), and • DE 44 (Additional Response Data) = 055 (indicating the data element in error) |

DE 56—Payment Account Data

DE 56 (Payment Account Data) contains unique, non-financial reference information associated with the PAN or token used to initiate the transaction.

| Attribute | Value | | | |
|--|-------------------------|---|-----|-----|
| Data Representation: | an...37; LLLVAR | | | |
| Length Field: | 3 | | | |
| Data Field: | Contents of subelements | | | |
| Subelements: | 1 | | | |
| Justification: | See subelement | | | |
| Usage | | | | |
| Following is the usage of DE 56 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | | | Org | Sys |
| | | | Dst | |
| Authorization Request/0100 | • | X | C | |
| Authorization Request/0100—Account Status inquiry (merchant initiated message and MD5 pre-digitization message) | • | X | C | |
| Authorization Request/0100—Tokenization Complete Notification* | • | X | C | |
| Authorization Request Response/0110 | C | X | C | |
| Authorization Request Response/0110—Tokenization Authorization Request Response* | C | X | C | |
| Authorization Request Response/0110—Account Status Inquiry* | C | X | C | |
| Authorization Advice/0120—Acquirer-generated | • | X | C | |
| Authorization Advice/0120—System-generated | • | X | C | |
| Authorization Advice Response/0130—Issuer-generated | C | X | C | |
| Reversal Request/0400 | • | X | C | |
| Reversal Request Response/0410 | C | X | C | |
| Reversal Advice/0420 | • | X | C | |
| Reversal Advice Response/0430 | O | • | • | |
| Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Complete Notification* | • | X | C | |

* MD5 pre-digitization message

Subelement 01—Payment Account Data

DE 56, subelement 01 (Payment Account Data) contains the applicable subfields to carry the unique Payment Account Data specifically associated with the PAN or token used to initiate the transaction.

| Attribute | Value |
|---------------------|---------------------------|
| Subelement ID | n-2 |
| Subelement Length | n-2 |
| Data Representation | an...33; LLVAR |
| Data Field | Contents of positions 1–2 |
| Number of Subfields | 1 |
| | Payment Account Reference |

Subfield 01—Payment Account Reference (PAR)

DE 56, subelement 01, subfield 01 (Payment Account Reference [PAR]) contains the assigned PAR value. A PAR is a unique value associated with a single PAN and attributed to all tokens associated with that PAN. A PAR can be used to link transactions containing PANs or tokens associated with the same underlying payment account.

| Attribute | Value |
|---------------------|--|
| Subfield ID | n-2 |
| Subfield Length | n-2 |
| Data Representation | an...29; LLVAR |
| Justification | N/A |
| Position | Description |
| 1–4 | BIN Controller Identifier—A four-character value assigned by EMVCo |
| 5–29 | A unique 25-character alphanumeric uppercase value generated by the BIN Controller and linked to a PAN |

DE 57–DE 59—Reserved for National Use

DE 57–DE 59 are reserved for future use.

| | |
|----------------------|-------------------|
| Attributes | |
| Data Representation: | ans...999; LLLVAR |

| | |
|----------------|-----|
| Length Field: | 3 |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

Values

N/A

DE 60—Advice Reason Code

DE 60 (Advice Reason Code) indicates to the receiver of an Advice message the specific reason for the transmission of the Advice message.

Attributes

| | |
|----------------------|-------------------------------|
| Data Representation: | ISO: ans...999; LLLVAR |
| | Mastercard: ans...060; LLLVAR |

| | |
|----------------|-----------------------|
| Length Field: | 3 |
| Data Field: | Contents of subfields |
| Subfields: | 3 |
| Justification: | See subfields |

| |
|--|
| Usage |
| Following is the usage of DE 60 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: |

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Reversal Advice/0420 | • | M | M |
| Administrative Request/0600 | M | • | M |
| Administrative Request Response/0610 | ME | • | ME |
| Administrative Advice/0620 | • | M | M |

Values

See subfields

Application Notes

Not all Advice Reason Codes may be used within all programs and services.

Subfield 1—Advice Reason Code

DE 60, subfield 1 (Advice Reason Code) is mandatory for all Advice messages and indicates the general category of (or reason for) the Advice message. Advice reason code values are listed by message type identifier (MTI) and by program or service.

Attributes

Data Representation: n-3

Data Field: Contents of positions 1–3

Justification: N/A

Values

See Advice Reason Codes listed by MTI.

DE 60, Subfield 1 Values, in Authorization Advice/0120

The following values are valid in Authorization Advice/0120 messages.

| Code | Description | MC | NP | VI | TE | MS | CI |
|------|--|----|----|----|----|----|----|
| 100 | Alternate Issuer Route: Issuer selected option ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 101 | Alternate Issuer Route: IPS signed out ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 102 | Alternate Issuer Route: IPS timed out ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 103 | Alternate Issuer Route: IPS unavailable ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 105 | Transaction processed via X-Code | ✓ | ✓ | ✓ | | | |
| 107 | PIN processing error | ✓ | | | | ✓ | ✓ |
| 108 | Alternate Issuer Route: MIP Error ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 109 | Alternate Issuer Route: Issuer Edit Response Error ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 111 | Alternate Issuer Route: Issuer Host System Error ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 112 | Alternate Route: Network Not Dispatched Error ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 113 | Alternate Route: Issuer Undelivered ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 114 | Alternate Route: Direct Down Option ²⁴ | ✓ | ✓ | ✓ | | ✓ | ✓ |

²⁴ This secondary route is to either the Stand-In System or the optional alternate route.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 115 | Transaction Processed via On-behalf Service Decision | ✓ | | | | ✓ | ✓ |
| 116 | Invalid Merchant | ✓ | | | | | |
| 120 | Transaction Blocking | ✓ | | | | ✓ | ✓ |
| 121 | Account Lookup Service | ✓ | ✓ | | | ✓ | |
| 126 | Pay with Rewards Processing Advice to Issuer | ✓ | | | | | |
| 140 | Unable to convert contactless or virtual account number | ✓ | | | | ✓ | |
| 141 | Mastercard Digital Enablement Service Advice to Issuer | ✓ | | | | ✓ | |
| 151 | In Control Processing Advice to Issuer (Masterpass QR) | ✓ | | | | | |
| 160 | Authentication Advice to Issuer | ✓ | | | | ✓ | |
| 180 | CAT Risk Level 3 | ✓ | ✓ | | | | |
| 190 | Acquirer Processing System (APS) Approved | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 191 | Acquirer Processing System (APS) Completed Authorization Transaction | ✓ | ✓ | | ✓ | ✓ | |
| 192 | M/Chip Offline Advice to Issuer | ✓ | | | | ✓ | |
| 200 | In Control Processing Advice to Issuer | ✓ | | | | | |
| 650 | Administrative textual message transmittal (reference applicable user manual for Administrative message delivery capabilities within each program and service) | ✓ | ✓ | ✓ | | ✓ | ✓ |

DE 60, Authorization Advice/0120 Edits

The Authorization Platform performs the following system edits on Authorization Advice/0120—Acquirer-generated messages.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 60 in the Authorization Advice/0120—Acquirer-generated messages is not the value 190 (Acquirer Processing System (APS) Approved) or 191 (Acquirer Processing System (APS) Completed Authorization Transaction) or 192 (M/Chip Offline Advice to Issuer) | Sends the acquirer an Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format Error) • DE 44 (Additional Response Data) = 060 (Invalid DE 60 value) |

DE 60, Subfield 1 Values, in Reversal Advice/0420

The following values are valid in Reversal Advice/0420 messages.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 400 | Banknet advice: APS error; unable to deliver response | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 401 | Banknet advice: APS error; no APS Authorization Acknowledgement/0180 or Financial Transaction Acknowledgement/0280 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 402 | Issuer Time-out | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 403 | Issuer Sign-out | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 409 | Issuer Response Error | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 410 | Reversal message provided by a system other than Banknet | ✓ | | | | ✓ | ✓ |
| 413 | Issuer Undelivered | ✓ | ✓ | ✓ | | ✓ | ✓ |

DE 60, Subfield 1 Values, in Administrative Request/0600

Following are the valid values in Administrative Request/0600 messages.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 650 | Administrative message containing customer application and account data | ✓ | ✓ | | | | |

DE 60, Subfield 1 Values, in Administrative Request Response/0610

Following are valid values in Administrative Request Response/0610 messages.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 650 | Administrative message containing customer application and account data | ✓ | ✓ | | | | |

DE 60, Subfield 1 Values, in Administrative Advice/0620

Following are valid values in Administrative Advice/0620 messages.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| 600 | Message unreadable or indecipherable or contains invalid data. Subfield 2 (Advice Detail Code) may contain the bit map number of the data element where message scanning was aborted) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 650 | Administrative textual message transmittal (reference applicable user manual for Administrative message delivery capabilities within each program and service) | √ | √ | √ | | √ | √ |

Subfield 2—Advice Detail Code

DE 60, subfield 2 (Advice Detail Code) is optional, depending on the primary Advice Reason Code; if used, it provides additional (specific) information as to the exact nature of the Advice message. Advice Detail Codes are determined individually for each program and service. The Advice Detail Codes for Mastercard activity appear below. Refer to the appropriate documentation for information on codes for non-Mastercard activity.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-4 |
| Data Field: | Contents of positions 4–7 |
| Justification: | N/A |

Values

| | |
|------|--|
| 0000 | Accept |
| 0001 | Reject: negative file |
| 0002 | Reject: capture card |
| 0003 | Reject: issuer not participating |
| 0004 | Reject: invalid PIN |
| 0005 | Reject: ATM |
| 0006 | Reject: transaction limit test |
| 0009 | Reject: Invalid Time Validation |
| 0041 | Reject: Recurring Payment Cancellation Service |
| 0078 | Reject: M/Chip Biometric Data not Present |

DE 60, Subfield 2 Values, in Authorization Advice/0120—Issuer-Generated

The following values are valid in Authorization Advice/0120—Issuer-generated messages.

| Code | Description |
|------|---|
| 0030 | Accept: Member-generated Authorization Advice/0120 sent to the risk scoring server. (Used with Advice Reason Code 650.) |

DE 60, Subfield 2 Values, in Authorization Advice/0120—System-Generated

The following values are valid in Authorization Advice/0120—System-generated messages.

| Values | |
|--|--|
| Reason codes 0007–1611 apply only to the Authorization Advice/0120—System-generated message. | |
| 0007 | Reject: Premium listing cumulative limit test |
| 0008 | Reject: merchant suspicious indicator test |
| 0009 | Reserved |
| 0010 | Reserved |
| 0011 | Reject: day number 1/number of transactions |
| 0012 | Reject: day number 2/number of transactions |
| 0013 | Reject: day number 3/number of transactions |
| 0014 | Reject: day number 4/number of transactions |
| 0015 | Reject: day number 1/amount |
| 0016 | Reject: day number 2/amount |
| 0017 | Reject: day number 3/amount |
| 0018 | Reject: day number 4/amount |
| 0019 | Reject: extended Cash Advance cumulative amount |
| 0020 | Reject: card number in blocked range |
| 0021 | Reject: Premium Listing transaction limit test |
| 0028 | Reject: invalid CVC 1 |
| 0029 | Reject: expired card |
| 0031 | Reject: unable to decrypt/encrypt PIN data. (Used with Advice Reason Code 107) |
| 0036 | Reject: CVC 1 Unable to process |

DE 60, Subfield 2 Values, in Administrative Advice/0620

Following are the valid values in Administrative Advice/0620 messages.

| Code | Description |
|------|---|
| 0029 | MIP-generated risk Advice transactions |
| 0030 | Member-generated risk Advice transactions |
| 0250 | Activation Code Notification |
| 0251 | Tokenization Complete Notification |
| 0252 | Tokenization Event Notification |

DE 60, Subfield 2 Values, in Customer Service Messages

Following are the valid values in Customer Service messages.

| Code | Description |
|------|--------------------------------------|
| 0080 | Consumer application request |
| 0081 | Consumer application status inquiry |
| 0082 | Consumer user lookup inquiry |
| 0083 | Consumer account lookup inquiry |
| 0084 | Consumer account maintenance request |
| 0085 | Consumer counteroffer reply |
| 0086 | Consumer preapproved offer inquiry |
| 0090 | Business application request |
| 0091 | Business application status inquiry |
| 0092 | Business user lookup inquiry |
| 0093 | Business account lookup inquiry |
| 0094 | Business account maintenance request |
| 0095 | Business counteroffer reply |
| 0096 | Business pre-approved offer inquiry |

DE 60, Subfield 2 Values, in CVC 3 Validation

Following are valid values in CVC 3 Validation transactions.

| Code | Description |
|------|-----------------------------------|
| 0042 | Reject: CVC 3 Unable to process |
| 0043 | Reject: ATC outside allowed range |

| Code | Description |
|-------------|---|
| 0044 | Reject: CVC 3 Invalid |
| 0045 | Reject: CVC 3 Unpredictable number mismatch |
| 0046 | Reject: ATC Replay |

DE 60, Subfield 2 Values, in Mastercard In Control Service

The following values are valid in Mastercard In Control™ Service transactions.

| Code | Description |
|-------------|---|
| 0060 | Reject: Virtual Card Number (expiration date does not match) |
| 0061 | Reject: Virtual Card Number (expiration date expired) |
| 0062 | Reject: Virtual CVC 2 does not match |
| 0063 | Reject: Validity Period Limit: In Control |
| 0064 | Reject: Transaction Amount Limit Check |
| 0065 | Reject: Cumulative Amount Limit Check |
| 0066 | Reject: Transaction Number Usage |
| 0067 | Reject: Merchant ID Limit |
| 0068 | Reject: Invalid Virtual Card Number–Real Card Number Mapping Relationship |
| 0069 | Reject: MCC Limit |
| 0070 | Reject: Database Status Bad |
| 0071 | Reject: Decline Other |
| 0072 | Reject: Geographic Restriction |
| 0073 | Reject: Transaction Type Restriction |
| 0075 | Reject: Transaction Time/Date Restriction |
| 0076 | Reject: Sanction Screening Score Restriction |
| 0077 | Reject: MoneySend Transaction Count Check |

DE 60, Subfield 2 Values, in M/Chip On-Behalf Services

Following are valid values in M/Chip On-Behalf Services transactions.

| Code | Description |
|-------------|---------------------------------------|
| 0032 | Reject: Chip Data Processing Error |
| 0033 | Reject: PIN or CHIP Validation Failed |

| Code | Description |
|-------------|--|
| 0034 | Reject: Chip validation failed |
| 0035 | Reject: TVR/CVR validation failed |
| 0037 | Reject: No matching key File for this PAN, PAN expiry date and KDI combination—Validation of ARQC and CVR/TR not performed, status unknown |
| 0038 | Reject: Security platform time out |
| 0039 | Reject: Cryptogram not ARQC |
| 0040 | Reject: Security platform processing error |
| 0043 | Reject: ATC outside allowed range |
| 0046 | Reject: ATC Replay |
| 0054 | Reject: Track Data Format Error |
| 0055 | Reject: Chip CVC Invalid |
| 0056 | Reject: Chip CVC/CVC 1 Unable to process |

DE 60, Subfield 2 Values, in Mastercard Digital Enablement Service

Following are valid values in Mastercard Digital Enablement Service.

| Code | Description |
|-------------|---|
| 0201 | Reject: Invalid Token—Primary Account Number mapping relationship |
| 0202 | Reject: Token in suspended status |
| 0203 | Reject: Token deactivated |
| 0204 | Reject: ATC Invalid—Not in List of Currently Active Single Use Keys |
| 0205 | Reject: ATC Replay |
| 0206 | Reject: Invalid MD AC and UMD AC (Invalid Mobile PIN) |
| 0207 | Reject: Valid MD AC; Invalid UMD AC (Mobile PIN Try Counter Max Limit not Reached, Token not Suspended) |
| 0208 | Reject: Invalid MD AC; Valid UMD AC |
| 0209 | Reject: Valid MD AC; Invalid UMD AC (Mobile PIN Try Counter Max Limit Reached, Token Suspended) |
| 0210 | Reject: Unpredictable Number Length Indicator Mismatch |
| 0211 | Reject: TVR/CVR validation failed |
| 0212 | Reject: Unable to Process |
| 0213 | Reject: Invalid Token |
| 0215 | Reject: Declined by Transaction Analysis |

| Code | Description |
|------|---|
| 0032 | Reject: Chip Data Processing Error |
| 0034 | Reject: Chip validation failed |
| 0035 | Reject: TVR/CVR validation failed |
| 0039 | Reject: Cryptogram not ARQC |
| 0042 | Reject: CVC 3 Unable to process |
| 0043 | Reject: CVC 3 ATC outside allowed range |
| 0044 | Reject: CVC 3 Invalid |
| 0045 | Reject: CVC 3 Unpredictable number mismatch |
| 0046 | Reject: CVC 3 ATC Replay |

DE 60, Subfield 2 Values, in Mastercard Masterpass QR Service

Following are valid values in Mastercard Masterpass QR Service transactions.

| Code | Description |
|------|--|
| 0064 | Reject: Transaction Amount Limit Check |
| 0065 | Reject: Cumulative Amount Limit Check |
| 0072 | Reject: Geographic Restriction |

DE 60, Subfield 2 Values, in Pay with Rewards

Following are valid values in Mastercard Pay with Rewards service.

| Code | Description |
|------|---|
| 0120 | Reject: Pay with Rewards—Insufficient points balance |
| 0121 | Reject: Pay with Rewards—Redemption rule(s) failed |
| 0122 | Reject: Pay with Rewards service was not performed successfully |
| 0123 | Reject: Pay with Rewards—Account not registered |
| 0124 | Reject: Pay with Rewards System error |

DE 60, Subfield 2 Values, in PIN Validation

Following are the valid values in PIN Validation transactions.

| Code | Description |
|------|---------------------------|
| 0050 | Reject: Unable to Process |

| Code | Description |
|------|--|
| 0051 | Reject: Invalid PIN |
| 0052 | Reject: Mandatory PVW not on file |
| 0052 | Reject: PIN Retry Exceeded (invalid PIN) |

DE 60, Subfield 2 Values, in Private Label Processing

Following are valid values in Private Label Processing transactions.

| Code | Description |
|------|--|
| 0116 | Reject: Merchant not allowed for Private Label transaction |

DE 60, Subfield 2 Values, in TCC, CAT Level, and Promotion Code in Failed Parameter Combinations (Country-Specific)

Following are valid values in TCC, CAT Level, and Promotion Code in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|------|--|
| 0300 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0301 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0310 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0311 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC, CAT Level, and Promotion Code in Failed Parameter Combinations (Global)

Following are valid values in TCC, CAT Level, and Promotion Code in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 0400 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0401 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0410 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0411 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC, CAT Level, and Promotion Code in Failed Parameter Combinations (Country-Specific)

Following are valid values for MCC, CAT Level, and Promotion Code in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 0100 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0101 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0110 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0111 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC and Promotion Code in Failed Parameter Combinations (Country-Specific)

Following are valid values in MCC and Promotion Code in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 0500 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0501 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0510 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0511 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC and Promotion Code in Failed Parameter Combinations (Global)

Following are valid values in MCC and Promotion Code in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 0600 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0601 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0610 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0611 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC and Promotion Code in Failed Parameter Combinations (Country-Specific)

Following are valid values in TCC and Promotion Code in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 0700 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0701 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0710 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0711 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC and Promotion Code in Failed Parameter Combinations (Global)

Following are valid values in TCC and Promotion Code in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 0800 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0801 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0810 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0811 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC and CAT Level in Failed Parameter Combinations (Country-Specific)

Following are valid values in MCC and CAT Level in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 0900 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 0901 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 0910 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 0911 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC and CAT Level in Failed Parameter Combinations (Global)

Following are valid values in MCC and CAT Level in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 1000 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1001 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1010 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1011 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC and CAT Level in Failed Parameter Combinations (Country-Specific)

Following are valid values in TCC and CAT Level in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 1100 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1101 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1110 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1111 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC and CAT Level in Failed Parameter Combinations (Global)

Following are valid values in TCC and CAT Level in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 1200 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1201 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1210 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1211 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC in Failed Parameter Combinations (Country-Specific)

Following are valid values in MCC in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|------|--|
| 1300 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1301 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1310 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1311 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in MCC in Failed Parameter Combinations (Global)

Following are valid values in MCC in Failed Parameter Combinations (global) transactions.

| Code | Description |
|------|--|
| 1400 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1401 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1410 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1411 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC in Failed Parameter Combinations (Country-Specific)

Following are valid values in TCC in Failed Parameter Combinations (country-specific) transactions.

| Code | Description |
|-------------|--|
| 1500 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1501 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1510 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1511 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in TCC in Failed Parameter Combinations (Global)

Following are valid values in TCC in Failed Parameter Combinations (global) transactions.

| Code | Description |
|-------------|--|
| 1600 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card present at point of interaction |
| 1601 | Reject: transaction limit test Mastercard default limits caused transaction to fail; card not present at point of interaction |
| 1610 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card present at point of interaction |
| 1611 | Reject: transaction limit test Customer-defined limits caused transaction to fail; card not present at point of interaction |

DE 60, Subfield 2 Values, in Miscellaneous Processing

Following are valid values in miscellaneous processing transactions.

| Code | Description |
|-------------|-------------------------------|
| 1700 | Accept: via X-Code processing |

| Code | Description |
|-------------|--|
| 1701 | Reject: via X-Code processing |
| 1702 | Reject: capture card via X-Code processing |
| 1903 | Reject: via MIP Transaction Blocking |
| 2000 | Reject: PIN data present in Authorization Request/0100 message (used in conjunction with Reversal Advice/0420 message) |
| 9999 | Reject: failed validation test because transaction type or authorization method was invalid |

Subfield 3—Advice Detail Text

Subfield 3 (Advice Detail Text) is optional and may be used to contain textual information supplementary to the Advice Detail Code. Advice Detail Text data is determined individually for each program and service. Refer to the appropriate user manual for information on Advice message text.

| | |
|----------------------|----------------------------|
| Attributes | |
| Data Representation: | ans...53 |
| Data Field: | Contents of positions 8–60 |
| Justification: | Left |
| Values | |
| Advice message text | |

DE 61—Point-of-Service (POS) Data

DE 61 (Point-of-Service [POS] Data) indicates the conditions that exist at the point of service at the time of the transaction. Note that DE 61 supersedes and replaces the ISO-specified DE 25 (Point-of-Service [POS] Condition Code) which is not used in the *Customer Interface Specification*.

| | |
|----------------------|---|
| Attributes | |
| Data Representation: | ISO: ans...999; LLLVAR Mastercard: ans...026; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of subfields |
| Subfields: | 14 |

| | |
|----------------|---------------|
| Justification: | See subfields |
|----------------|---------------|

Usage

Following is the usage of DE 61 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | M | • | M |
| Authorization Advice/0120—Acquirer-generated | M | • | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Reversal Request/0400 | M | • | M |

Values

See subfields.

Three basic categories of data include:

- POS Condition Code: Indicating POS terminal data (mandatory) in subfields 1–11
- POS Authorization Life Cycle: Indicating the transaction is a pre-authorization request and the specific amount of days for which the pre-authorization will remain valid (the number of days the issuer or its agent will guarantee or hold funds) in subfield 12
- POS geographic reference: Indicating the specific merchant location of the transaction in subfields 13–14

Application Notes

This data element will be edited as described in the [Authorization Platform Edits](#).

Subfield 1—POS Terminal Attendance

DE 61, subfield 1 (POS Terminal Attendance) indicates if the card acceptor is attending the terminal.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-1 |
|----------------------|-----|

| | |
|-------------|------------------------|
| Data Field: | Contents of position 1 |
|-------------|------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

| | | |
|---|---|-------------------|
| 0 | = | Attended Terminal |
|---|---|-------------------|

| | | |
|---|---|---|
| 1 | = | Unattended terminal (cardholder-activated terminal [CAT], home PC, mobile phone, PDA) |
|---|---|---|

| | | |
|---|---|--|
| 2 | = | No terminal used (voice/audio response unit [ARU] authorization); server |
|---|---|--|

Subfield 2—Reserved for Future Use

DE 61, subfield 2 (Reserved) is reserved.

Attributes

Data Representation: n-1

Data Field: Contents of position 2

Justification: N/A

Values

Zero-filled

Subfield 3—POS Terminal Location

DE 61, subfield 3 (POS Terminal Location) indicates the terminal location.

Attributes

Data Representation: n-1

Data Field: Contents of position 3

Justification: N/A

Values

0 = On premises of card acceptor facility

1 = Off premises of card acceptor facility (merchant terminal—remote location)

2 = Off premises of card acceptor facility (cardholder terminal including home PC, mobile phone, PDA)

3 = No terminal used (voice/ARU authorization); server

4 = On premises of card acceptor facility (cardholder terminal including home PC, mobile phone, PDA)

Subfield 4—POS Cardholder Presence

DE 61, subfield 4 (POS Cardholder Presence) indicates whether the cardholder is present at the point of service and explains the condition if the cardholder is not present.

Attributes

Data Representation: an-1

Data Field: Contents of position 4

Justification: N/A

Values

| | | |
|---|---|--|
| 0 | = | Cardholder present |
| 1 | = | Cardholder not present, unspecified |
| 2 | = | Cardholder not present (mail/facsimile order) |
| 3 | = | Cardholder not present (phone or Automated Response Unit [ARU]) |
| 4 | = | Standing order/recurring transactions |
| 5 | = | Cardholder not present (Electronic order [home PC, Internet, mobile phone, PDA]) |

Application Notes

Refer to the Canada Region Debit Mastercard Merchant Acceptance section in the Program and Service Format Requirements chapter of this manual for details on the use of subfield 4 for Canada-acquired transactions.

Subfield 5—POS Card Presence

DE 61, subfield 5 (POS Card Presence) indicates if the card is present at the point of service.

Attributes

| | |
|----------------------|------------------------|
| Data Representation: | n-1 |
| Data Field: | Contents of position 5 |
| Justification: | N/A |

Values

| | | |
|---|---|------------------|
| 0 | = | Card present |
| 1 | = | Card not present |

Subfield 6—POS Card Capture Capabilities

DE 61, subfield 6 (POS Card Capture Capabilities) indicates whether the terminal has card capture capabilities.

Attributes

| | |
|----------------------|------------------------|
| Data Representation: | n-1 |
| Data Field: | Contents of position 6 |
| Justification: | N/A |

Values

| | | |
|---|---|---|
| 0 | = | Terminal/operator does not have card capture capability |
|---|---|---|

| | | |
|---|---|---|
| 1 | = | Terminal/operator has card capture capability |
|---|---|---|

Subfield 7—POS Transaction Status

DE 61, Subfield 7 (POS Transaction Status) indicates the purpose or status of the request.

Attributes

Data Representation: n-1

Data Field: Contents of position 7

Justification: N/A

Values

0 = Normal request (original presentation)

2 = SecureCode Phone Order

3 = ATM Installment Inquiry

4 = Preauthorized request

5 = Time Based Payment Authorization Request—Brazil domestic transactions

6 = ATC Update

8 = Account Status Inquiry Service (ASI)

9 = Tokenization Request/Notification

Application Notes

For DE 61, subfield 7, value 8, see separate description of Account Status Inquiry Service (both Purchase ASI and Payment ASI) and Product Inquiry Service.

Subfield 8—POS Transaction Security

DE 61, subfield 8 (POS Transaction Security) indicates the card acceptor's confidence in the transaction security level.

Attributes

Data Representation: n-1

Data Field: Contents of position 8

Justification: N/A

Values

0 = No security concern

| | | |
|---|---|---|
| 1 | = | Suspected fraud (merchant suspicious—code 10) |
| 2 | = | ID verified |

Subfield 9—Reserved for Future Use

DE 61, Subfield 9 (Reserved) is reserved.

Attributes

Data Representation: n-1

Data Field: Contents of position 9

Justification: N/A

Values

Zero-filled.

Subfield 10—Cardholder-Activated Terminal Level

DE 61, subfield 10 (Cardholder-Activated Terminal Level) indicates the type of cardholder activated terminal used by the cardholder to initiate the transaction.

Attributes

Data Representation: n-1

Data Field: Contents of position 10

Justification: N/A

Values

0 = Not a CAT transaction

1 = Authorized Level 1 CAT: Automated dispensing machine with PIN

2 = Authorized Level 2 CAT: Self-service terminal

3 = Authorized Level 3 CAT: Limited-amount terminal

4 = Authorized Level 4 CAT: In-flight commerce

5 = Reserved

6 = Authorized Level 6 CAT: Electronic commerce

7 = Authorized Level 7 CAT: Transponder transaction

8 = Reserved for future use

9 = MPOS Acceptance Device

NOTE: Mobile POS are always attended devices and not cardholder activated.

Application Notes

When the recipient of the money transfer (Payment Transaction; DE 3 subfield 1=09) is not present, the transaction is not considered a CAT level transaction. In that case the CAT level = 0.

Subfield 11—POS Card Data Terminal Input Capability Indicator

DE 61, subfield 11 indicates the set of methods supported by the terminal for the input of account number, card, or mobile device data.

Attributes

Data Representation: n-1

Data Field: Contents of position 11

Justification: N/A

Values

0 = Input capability unknown or unspecified.

1 = No terminal used (voice/ARU authorization); server.

2 = Terminal supports magnetic stripe input only.

3 = Contactless EMV/Chip (Proximity Chip)

Terminal supports contactless EMV input and contactless magstripe input. The terminal also may support one or more other card input types, including EMV contact chip input, magnetic stripe input and key entry input.

4 = Contactless Mag Stripe (Proximity Chip)

Terminal supports contactless magstripe input but not contactless EMV input. The terminal also may support one or more other card input types, including EMV contact chip input, magnetic stripe input, and key entry input.

5 = Terminal supports EMV contact chip input and magnetic stripe input.

6 = Terminal supports key entry input only.

7 = Terminal supports magnetic stripe input and key entry input.

8 = Terminal supports EMV contact chip input, magnetic stripe input and key entry input.

9 = Terminal supports EMV contact chip input only.

Application Notes

DE 61, subfield 11 values 3, 4 (contactless related), 5, 8, and 9 (chip contact) related can ONLY be used if the terminal is chip certified by Mastercard .

DE 61, subfield 11 is used in conjunction with DE 22 (Point of Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode). DE 22, subfield 1 values indicate the method by which the PAN was entered.

DE 61, subfield 11 indicates the terminal data input capabilities and not the specific manner in which the terminal captured the card data for a given transaction.

For example, values 5 and 8 could be used for a magnetic stripe transaction originating from an EMV contact chip capable terminal when the contact magnetic stripe reader was used instead. Similarly, value 3 would be used for a contact chip transaction originating from a contactless EMV capable terminal when the EMV contact chip reader was used.

Subfield 12—POS Authorization Life Cycle

DE 61, subfield 12 (POS Authorization Life Cycle) indicates the number of days a preauthorization will stay in effect for Visa Custom Payment Service automobile rentals and hotel reservations—otherwise it must contain zeros.

Attributes

Data Representation: n-2

Data Field: Contents of positions 12 and 13

Justification: N/A

Values

Indicates the number of days the preauthorization stays in effect; ATM and Maestro POS transactions should use 01, Visa CPS transactions use applicable value. Must be zero filled when not applicable.

Subfield 13—POS Country Code (or Sub-Merchant Information, if applicable)

DE 61, subfield 13 (POS Country Code) indicates the country of the POS location (not the acquirer location) using ISO-specified codes.

Attributes

Data Representation: n-3

Data Field: Contents of positions 14–16

Justification: N/A

Values

Refer to the *Quick Reference Booklet* for valid country codes.

Application Notes

Refer to the Canada Region Debit Mastercard Merchant Acceptance section in the Program and Service Format Requirements chapter of this manual for details on the use of subfield 13 for Canada-acquired transactions.

Subfield 14—POS Postal Code (or Sub-Merchant Information, if applicable)

DE 61, subfield 14 (POS Postal Code) indicates the geographic code of the POS (merchant) location (not the acquirer's location).

Attributes

Data Representation: ans...10

Data Field: Contents of positions 17–26

Justification: Left

Values

Postal code of merchant location. Must not be blank filled.

Application Notes

Subfield 14 must be present if postal codes are available in the acquiring country. However, subfield 14 may be omitted rather than a space or blank filled if the postal code does not exist in the acquiring country. If the data is missing or blank filled for an acquiring country identified as using postal codes, the Authorization Platform will not reject the message; however a data integrity error may be reported.

Postal code data, when present, must be valid and accurate. The content, format and presentation of postal code data must match in all authorization and clearing messages associated with a transaction.

Authorization Platform Edits

The Authorization Platform performs the following edits on data element 61 (Point-of-Service [POS] Data).

Authorization Request/0100 Character Edit

| WHEN the Acquirer... | THEN the Authorization Platform... |
|--|--|
| Sends an Authorization Request/0100 message containing less than nine characters | Sends an Authorization Request Response/0110 message to the acquirer where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 061 |

| WHEN the Acquirer... | THEN the Authorization Platform... |
|--|---|
| Sends an Authorization Request/0100 message where DE 61, subfields 1–9 contain a non-numeric character | Sends an Authorization Request Response/0110 message to the acquirer where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 061 |

Non-ATM CAT Level 1 Transactions

| WHEN the Authorization Request/0100 message contains... | THEN the Authorization Platform... |
|--|---|
| DE 61, subfield 10, value 1 (Authorized Level 1 CAT: Automated dispensing machine with a PIN) and DE 52 (PIN Data) is not present and DE 55 (Integrated Circuit Card [ICC] System-related Data) is present | Forwards the Authorization Request/0100 message to the issuer. |
| DE 61, subfield 10, value 1 and DE 52 is present and DE 55 is present | Forwards the Authorization Request/0100 message to the issuer. |
| DE 61, subfield 10, value 1 and DE 52 is present and DE 55 is not present | Forwards the Authorization Request/0100 message to the issuer. |
| DE 61, subfield 10, value 1 and DE 55 is not present and DE 52 is not present | Sends an Authorization Request Response/0110 message to the acquirer where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 052 |
| MoneySend transactions with a CAT 1 are excluded from this edit. | |

Electronic Commerce Transactions

| IF... | THEN... | Otherwise, the Authorization Platform... |
|---|---|--|
| DE 48, subelement 42, position 3 is value 1, 2, or 3 and DE 61, subfield 4 is value 4 (Standing order/recurring transactions) or 5 (Electronic Order) | DE 61, subfield 7 must not contain value 2 (<i>SecureCode Phone Order</i>) and Subfield 10 must contain value 6 (Electronic commerce) | Rejects the authorization transaction with a format error indicated by: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 061 |

Phone Order Transactions

| IF... | THEN... | Otherwise, the Authorization Platform... |
|--|--|--|
| DE 48, subelement 42, position 3 is value 1 or 2 | DE 61, subfield 4 must contain value 3 or 4 and Subfield 7 must contain value 2 (<i>SecureCode Phone Order</i>) and Subfield 10 must not contain value 6 | Rejects the authorization transaction with a format error indicated by: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 061 |

Account Status Inquiry Service

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 8 (Account Status Inquiry Service [ASI]) and DE 4 (Amount, Transaction) contains a value other than zero | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 004 |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 8 (Account Status Inquiry Service [ASI]) and | Sends the acquirer an Authorization Request Response/0110 message where: |
| DE 4 (Amount, Transaction) contains a value equal to zero and | <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 003 |
| DE 3 (Processing Code) contains a value other than 00 (Purchase) | |

Contactless Chip Transaction Edits

| WHEN the Authorization Request/0100, Authorization Advice/0120, Reversal Request/0400, message contains... | THEN the Authorization Platform... |
|--|---|
| The PAN entry mode (DE 22 [Point-of-Service Entry Mode], subfield 1 [POS Terminal PAN Entry Mode]) of 07 (PAN auto-entry via contactless M/Chip) and DE 61 (Point-of-Service [POS] Data), subfield 11 (POS Card Data Terminal Input Capability Indicator) is not 3 (Contactless M/Chip [Proximity Chip]) | Sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 061 |

DE 62—Intermediate Network Facility (INF) Data

DE 62 (Intermediate Network Facility [INF] Data), contains “acquiring network trace information” that INFs may require to quickly and accurately route Administrative Advice/0620 messages back to the original acquiring institution. DE 62 assists acquiring INF facilities that connect directly to the Authorization Platform. It allows these INFs to maintain sufficient information within a message to permit immediate online routing of chargebacks and retrieval requests without the requirement of maintaining large online reference databases containing the original transactions.

| Attributes | | |
|----------------------|-----------------------------|-------------------|
| Data Representation: | ISO: | ans...999; LLLVAR |
| | Mastercard: | ans...100; LLLVAR |
| Length Field: | 3 | |
| Data Field: | Contents of positions 1–100 | |

| | |
|------------|-----|
| Subfields: | N/A |
|------------|-----|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Usage

Following is the usage of DE 62 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | O | • | O |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Acquirer-generated | O | • | O |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice Response/0130—Issuer-generated | CE | CE | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | • | CE |
| Authorization Advice Response/0130—System-generated | • | CE | CE |
| Reversal Request/0400 | O | • | O |
| Reversal Request Response/0410 | CE | • | CE |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |
| Administrative Request/0600 | O | • | O |
| Administrative Request Response/0610 | CE | • | CE |
| Administrative Advice/0620 | • | C | C |
| Administrative Advice Response/0630 | CE | CE | • |

Values

DE 62 is a free-format, variable-length alphanumeric data element that may be used to store unique acquiring network ID codes, acquiring network chaining data, or other information useful to INFs in routing online chargebacks and retrieval requests.

Application Notes

DE 62 is an optional data element that customers may place in any originating Authorization Request/0100 or Authorization Advice/0120. Subsequently, this data element (if present in an original transaction) is required to be returned without alteration in any Administrative Advice (Retrieval)/0620 pertaining to the original transaction. It contains INF network trace information that allows acquiring INFs to directly route the chargeback or retrieval request to the original acquirer.

When the Authorization Platform generates an Administrative Advice/0620, it places the value MCBN620060000xxx, where xxx is the MIP ID. When a customer generates a corresponding Administrative Advice Response/0630, DE 62 must contain the same value.

DE 63—Network Data

DE 63 (Network Data) is generated by the Authorization Platform for each originating message routed through the network. The receiver must retain the data element and use it in any response or acknowledgement message associated with the originating message.

Attributes

| | | |
|----------------------|-----------------------|-------------------|
| Data Representation: | ISO: | ans...999; LLLVAR |
| | Mastercard: | an...050; LLLVAR |
| Length Field: | 3 | |
| Data Field: | Contents of subfields | |
| Subfields: | 2 | |
| Justification: | See subfields | |

Usage

Following is the usage of DE 63 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | M |
| Authorization Request Response/0110 | ME | • | M |
| Authorization Advice/0120—Acquirer-generated | • | X | M |
| Authorization Advice/0120—Issuer-generated | M | M | • |
| Authorization Advice/0120—System-generated | • | M | M |
| Authorization Advice Response/0130—Issuer-generated | ME | ME | • |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | ME | • | ME |
| Authorization Advice Response/0130—System-generated | • | X | M |
| Authorization Acknowledgement/0180 | ME | ME | • |

| | | | |
|--|----|----|----|
| Authorization Negative Acknowledgement/0190 | • | ME | ME |
| Issuer File Update Request/0302 | • | M | • |
| Issuer File Update Request Response/0312 | • | ME | ME |
| Reversal Request/0400 | • | X | M |
| Reversal Request Response/0410 | ME | • | M |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |
| Administrative Request/0600 | • | X | M |
| Administrative Request Response/0610 | ME | • | ME |
| Administrative Advice/0620 | • | M | M |
| Administrative Advice Response/0630 | ME | ME | • |
| Network Management Request/0800—Sign-On/Sign-Off | • | X | • |
| Network Management Request/0800—Network Connection Status, Member-generated | • | X | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | X | • |
| Network Management Request Response/0810—Network Connection Status, Member-generated | ME | ME | • |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | ME | ME |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request/0800—PEK Exchange—On Demand | • | M | • |
| Network Management Request Response/0810 | • | ME | ME |
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Network Management Advice/0820 | • | • | M |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

See subfields

Application Notes

This data element contains blanks if the transaction fails edit checking and is rejected before determining the appropriate Financial Network Code.

Subfield 1—Financial Network Code

DE 63, subfield 1 (Financial Network Code) identifies the specific program or service (for example, the financial network, financial program, or card program) with which the transaction is associated. DE 63 will contain the graduated product when the issuer's cardholder account participates in the Product Graduation Account Level Management service.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | an-3 |
| Data Field: | Contents of positions 1–3 |
| Justification: | Left |

Values

| Code | Description | MC | NP | VI | TE | MS | CI |
|------|---|----|----|----|----|----|----|
| AMX | American Express ²⁵ | | | | ✓ | | |
| BPD | Business Premium Debit | | ✓ | | | | |
| CBL | Carte Blanche ²⁵ | | | | ✓ | | |
| CIR | Cirrus | | | | | ✓ | |
| DAG | Gold Debit Mastercard® Salary | ✓ | | | | | |
| DAP | Platinum Debit Mastercard® Salary | ✓ | | | | | |
| DAS | Standard Debit Mastercard® Salary | ✓ | | | | | |
| DOS | Standard Debit Mastercard® Social | ✓ | | | | | |
| DCC | Diners Club ²⁵ | | | | ✓ | | |
| DLG | Debit Mastercard Gold—Delayed Debit | ✓ | | | | | |
| DLH | Debit Mastercard World Embossed—Delayed Debit | ✓ | | | | | |
| DLI | Debit Mastercard Standard ISIC Student Card—Delayed Debit | ✓ | | | | | |
| DLP | Debit Mastercard Platinum—Delayed Debit | ✓ | | | | | |

²⁵ This product code is not a valid value in DE 120, MCC103 or MCC104, field 3, Card Program.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| DLS | Debit Mastercard Card—Delayed Debit | ✓ | | | | | |
| DLU | Debit Mastercard Unembossed—Delayed Debit | ✓ | | | | | |
| DSV | Discover ²⁵ | | | | ✓ | | |
| DWF | Debit Mastercard Humanitarian Prepaid ²⁶ | ✓ | | | | | |
| EXC | ADP/Exchange ²⁵ | | ✓ | | | | |
| HNR | Honor ²⁵ | | ✓ | | | | |
| ITT | Instant Teller ²⁵ | | ✓ | | | | |
| JCB | Japanese Credit Bureau ²⁵ | | ✓ | | | | |
| LNC | LINC New York ²⁵ | | ✓ | | | | |
| MAB | World Elite™ Mastercard® Business | ✓ | | | | | |
| MAC | Mastercard® Corporate World Elite® | ✓ | | | | | |
| MAP | Mastercard Commercial Payments Account | ✓ | | | | | |
| MAQ | Mastercard® Prepaid Commercial Payments Account | ✓ | | | | | |
| MBB | Mastercard Prepaid Consumer | ✓ | | | | | |
| MBC | Mastercard Prepaid Voucher | ✓ | | | | | |
| MBD | Mastercard Professional Debit Business Card | ✓ | | | | | |
| MBE | Mastercard® Electronic Business Card | ✓ | | | | | |
| MBF | Mastercard® Alimentação (Food) (MBF—Prepaid Mastercard Food) | ✓ | | | | | |
| MBK | Mastercard Black | ✓ | | | | | |
| MBM | Mastercard® Refeição (Meal) (MBM—Prepaid Mastercard Meal) | ✓ | | | | | |
| MBP | Mastercard Corporate Prepaid | ✓ | | | | | |
| MBS | Mastercard® B2B Product | ✓ | | | | | |
| MBT | Mastercard Corporate Prepaid Travel | ✓ | | | | | |
| MBW | World Mastercard® Black Edition—Debit | ✓ | | | | | |
| MCA | Mastercard Electronic Basic Card | ✓ | | | | | |

²⁶ This product code is not currently available for issuance in the Canada region.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| MCB | Mastercard BusinessCard® Card Mastercard Corporate Card® | ✓ | | | | | |
| MCC | Mastercard® Card | ✓ | | | | | |
| MCE | Mastercard® Electronic™ Card | ✓ | | | | | |
| MCF | Mastercard Corporate Fleet Card® | ✓ | | | | | |
| MCG | Gold Mastercard® Card | ✓ | | | | | |
| MCH | Mastercard Premium Charge | ✓ | | | | | |
| MCM | Mastercard Corporate Meeting Card ²⁵ | ✓ | | | | | |
| MCO | Mastercard Corporate | ✓ | | | | | |
| MCP | Mastercard Corporate Purchasing Card® | ✓ | | | | | |
| MCS | Mastercard® Standard Card | ✓ | | | | | |
| MCT | Titanium Mastercard | ✓ | | | | | |
| MCU | Mastercard Unembossed | ✓ | | | | | |
| MCV | Merchant-Branded Program | ✓ | | | | | |
| MCW | World Mastercard™ Card | ✓ | | | | | |
| MDB | Debit Mastercard BusinessCard Card | ✓ | | | | | |
| MDG | Debit Gold Mastercard® | ✓ | | | | | |
| MDH | World Debit Embossed | ✓ | | | | | |
| MDJ | Debit Mastercard® (Enhanced) | ✓ | | | | | |
| MDL | Business Debit Other Embossed | ✓ | | | | | |
| MDM | Middle Market Fleet Card | ✓ | | | | | |
| MDN | Middle Market Purchasing Card | ✓ | | | | | |
| MDO | Debit Mastercard Other | ✓ | | | | | |
| MDP | Debit Mastercard Platinum® | ✓ | | | | | |
| MDQ | Middle Market Corporate Card | ✓ | | | | | |
| MDR | Mastercard Debit Brokerage Card | ✓ | | | | | |
| MDS | Debit Mastercard® | ✓ | | | | | |
| MDT | Mastercard Business Debit | ✓ | | | | | |
| MDU | Debit Mastercard Unembossed | ✓ | | | | | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| MDW | World Elite™ Debit Mastercard® (Mastercard Black™ Debit LAC region excluding Mexico) | ✓ | | | | | |
| MEB | Mastercard Executive BusinessCard Card | ✓ | | | | | |
| MEC | Mastercard® Electronic Commercial | ✓ | | | | | |
| MED | Debit Mastercard Electronic | ✓ | | | | | |
| MEF | Mastercard Electronic Payment Account | ✓ | | | | | |
| MEO | Mastercard Corporate Executive Card® ²⁵ | ✓ | | | | | |
| MEP | Premium Debit Mastercard | ✓ | | | | | |
| MET | Titanium Debit Mastercard® | ✓ | | | | | |
| MFB | Flex World Elite | ✓ | | | | | |
| MFD | Flex Platinum | ✓ | | | | | |
| MFE | Flex Charge World Elite | ✓ | | | | | |
| MFH | Flex World | ✓ | | | | | |
| MFL | Flex Charge Platinum | ✓ | | | | | |
| MFW | Flex Charge World | ✓ | | | | | |
| MGF | Mastercard® Government Commercial Card | ✓ | | | | | |
| MHA | Mastercard Healthcare Prepaid Non-tax | ✓ | | | | | |
| MHB | Mastercard HSA Substantiated | ✓ | | | | | |
| MHC | Mastercard Healthcare Credit Non-substantiated | ✓ | | | | | |
| MHH | Mastercard HSA Non-substantiated | ✓ | | | | | |
| MIA | Mastercard Unembossed Prepaid Student Card | ✓ | | | | | |
| MIB | Mastercard Credit Electronic Student Card | ✓ | | | | | |
| MIC | Mastercard Credit Standard Student Card | ✓ | | | | | |
| MID | Mastercard Debit Unembossed Student Card | ✓ | | | | | |
| MIG | Mastercard Credit Unembossed Student Card | ✓ | | | | | |
| MIH | Mastercard Electronic Consumer Non U.S. Student Card | ✓ | | | | | |
| MIJ | Mastercard Debit Unembossed Non U.S. Student Card | ✓ | | | | | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| MIK | Mastercard Electronic Consumer Prepaid Non U.S. Student Card | ✓ | | | | | |
| MIL | Mastercard Unembossed Prepaid Non U.S. Student Card | ✓ | | | | | |
| MIP | Mastercard Debit Prepaid Student Card | ✓ | | | | | |
| MIS | Mastercard Debit Standard Student Card | ✓ | | | | | |
| MIU | Debit Mastercard Unembossed Outside US | ✓ | | | | | |
| MLA | Mastercard Central Travel Solutions Air | ✓ | | | | | |
| MLC | Mastercard Micro-Business Card | ✓ | | | | | |
| MLD | Mastercard Distribution Card | ✓ | | | | | |
| MLE | Mastercard® Pedágio Prepaid Card (MLE—Mastercard Brazil General Benefits) | ✓ | | | | | |
| MLF | Mastercard Agro | ✓ | | | | | |
| MLL | Mastercard Central Travel Solutions Land | ✓ | | | | | |
| MNF | Mastercard® Public Sector Commercial Card | ✓ | | | | | |
| MNW | World Mastercard Card (Europe) | ✓ | | | | | |
| MOC | Standard Maestro® Social | | | | | ✓ | |
| MOG | Maestro® Gold ²⁵ | | | | | ✓ | |
| MOP | Maestro® Platinum ²⁵ | | | | | ✓ | |
| MOW | World Maestro | | | | | ✓ | |
| MPA | Prepaid Mastercard Payroll Card | ✓ | | | | | |
| MPB | Mastercard Preferred BusinessCard | ✓ | | | | | |
| MPC | Mastercard Professional Card | ✓ | | | | | |
| MPD | Mastercard Flex Prepaid | ✓ | | | | | |
| MPF | Prepaid Mastercard Gift Card | ✓ | | | | | |
| MPG | Prepaid Mastercard Consumer Reloadable Card | ✓ | | | | | |
| MPJ | Prepaid Debit Mastercard® Card Gold | ✓ | | | | | |
| MPK | Prepaid Mastercard® Government Commercial Card | ✓ | | | | | |
| MPL | Platinum Mastercard® Card | ✓ | | | | | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| MPM | Prepaid Mastercard Consumer Promotion Card | ✓ | | | | | |
| MPN | Prepaid Mastercard Insurance Card | | ✓ | | | | |
| MPO | Prepaid Mastercard Other Card | | ✓ | | | | |
| MPR | Prepaid Mastercard Travel Card | | ✓ | | | | |
| MPT | Prepaid Mastercard Teen Card | | ✓ | | | | |
| MPV | Prepaid Mastercard Government Benefit Card | ✓ | | | | | |
| MPW | Prepaid Mastercard Corporate Card | ✓ | | | | | |
| MPX | Prepaid Mastercard Flex Benefit Card | ✓ | | | | | |
| MPY | Prepaid Mastercard Employee Incentive Card | ✓ | | | | | |
| MPZ | Prepaid Mastercard Emergency Assistance Card | ✓ | | | | | |
| MRB | Prepaid Mastercard Electronic BusinessCard | ✓ | | | | | |
| MRC | Prepaid Mastercard Electronic Card | ✓ | | | | | |
| MRF | European Regulated Individual Pay | ✓ | | | | | |
| MRG | Prepaid Mastercard Card Outside US | ✓ | | | | | |
| MRH | Mastercard Platinum Prepaid Travel Card | ✓ | | | | | |
| MRJ | Prepaid Mastercard Gold Card | ✓ | | | | | |
| MRL | Prepaid Mastercard Electronic Commercial | ✓ | | | | | |
| MRK | Prepaid Mastercard Public Sector Commercial Card | ✓ | | | | | |
| MRO | Mastercard Rewards Only | ✓ | | | | | |
| MRP | Standard Retailer Centric Payments | ✓ | | | | | |
| MRS | Prepaid Mastercard ISIC Student Card | ✓ | | | | | |
| MRW | Prepaid Mastercard BusinessCard Credit Outside US | ✓ | | | | | |
| MSA | Prepaid Maestro Payroll Card | | | | | ✓ | |
| MSB | Maestro Small Business | | | | | ✓ | |
| MSD | Deferred Debit Mastercard | | | ✓ | | | |
| MSF | Prepaid Maestro Gift Card | | | | | ✓ | |
| MSG | Prepaid Maestro Consumer Reloadable Card | | | | | ✓ | |
| MSI | Maestro | | | | | ✓ | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| MSJ | Prepaid Maestro Gold | | | | | ✓ | |
| MSM | Prepaid Maestro Consumer Promotion Card | | | | | ✓ | |
| MSN | Prepaid Maestro Insurance Card | | | | | ✓ | |
| MSO | Prepaid Maestro Other Card | | | | | ✓ | |
| MSQ | Maestro Prepaid (Reserved for Future Use) | | | | | ✓ | |
| MSR | Prepaid Maestro Travel Card | | | | | ✓ | |
| MSS | Maestro Student Card | | | | | ✓ | |
| MST | Prepaid Maestro Teen Card | | | | | ✓ | |
| MSV | Prepaid Maestro Government Benefit Card | | | | | ✓ | |
| MSW | Prepaid Maestro Corporate Card | | | | | ✓ | |
| MSX | Prepaid Maestro Flex Benefit Card | | | | | ✓ | |
| MSY | Prepaid Maestro Employee Incentive Card | | | | | ✓ | |
| MSZ | Prepaid Maestro Emergency Assistance Card | | | | | ✓ | |
| MTP | Mastercard Platinum Prepaid Travel Card | ✓ | | | | | |
| MUP | Platinum Debit Mastercard Unembossed | ✓ | | | | | |
| MUS | Prepaid Mastercard Unembossed US | ✓ | | | | | |
| MUW | Mastercard World Domestic Affluent | ✓ | | | | | |
| MWB | World Mastercard® for Business | ✓ | | | | | |
| MWD | World Deferred | ✓ | | | | | |
| MWE | Mastercard World Elite | ✓ | | | | | |
| MWF | Mastercard Humanitarian Prepaid ²⁷ | ✓ | | | | | |
| MWO | Mastercard Corporate World | ✓ | | | | | |
| MWP | Mastercard® World Prepaid | ✓ | | | | | |
| MWR | World Retailer Centric Payment | ✓ | | | | | |
| NYC | NYCE Network ²⁵ | | ✓ | | | | |
| OLB | Maestro Small Business—Delayed Debit | | | | | ✓ | |
| OLG | Maestro Gold—Delayed Debit | | | | | ✓ | |
| OLI | ISIC Maestro Student Card—Delayed Debit | | | | | ✓ | |

²⁷ This product code is not currently available for issuance in the Canada region.

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| OLP | Maestro Platinum—Delayed Debit | | | | | ✓ | |
| OLS | Maestro—Delayed Debit | | | | | ✓ | |
| OLW | World Maestro Delayed Debit | | | | | ✓ | |
| PLU | PLUS ²⁵ | | | | ✓ | | |
| PRO | Proprietary Card ²⁵ | | | | ✓ | | |
| PUL | Pulse ²⁵ | | | | ✓ | | |
| PVA | Private Label 1 | | | ✓ | | | |
| PVB | Private Label 2 | | | ✓ | | | |
| PVC | Private Label 3 | | | ✓ | | | |
| PVD | Private Label 4 | | | ✓ | | | |
| PVE | Private Label 5 | | | ✓ | | | |
| PVF | Private Label 6 | | | ✓ | | | |
| PVG | Private Label 7 | | | ✓ | | | |
| PVH | Private Label 8 | | | ✓ | | | |
| PVI | Private Label 9 | | | ✓ | | | |
| PVJ | Private Label 10 | | | ✓ | | | |
| PVL | Private label—generic ²⁵ | | | | ✓ | | |
| SAG | Gold Mastercard® Salary-Immediate Debit | | | ✓ | | | |
| SAL | Standard Maestro® Salary | | | | | ✓ | |
| SAP | Platinum Mastercard® Salary-Immediate Debit | | | ✓ | | | |
| SAS | Standard Mastercard® Salary-Immediate Debit | | | ✓ | | | |
| SOS | Standard Mastercard® Social-Immediate Debit | | | ✓ | | | |
| STR | Star Network ²⁵ | | | | ✓ | | |
| SUR | Prepaid Mastercard Unembossed Outside US | | | ✓ | | | |
| TBE | Business—Immediate Debit | | | ✓ | | | |
| TCB | Mastercard Business Card—Immediate Debit | | | ✓ | | | |
| TCC | Mastercard (Mixed BIN)—Immediate Debit | | | ✓ | | | |
| TCE | Mastercard Electronic—Immediate Debit | | | ✓ | | | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| TCF | Mastercard Fleet Card—Immediate Debit | ✓ | | | | | |
| TCG | Gold Mastercard Card—Immediate Debit | ✓ | | | | | |
| TCO | Mastercard Corporate—Immediate Debit | ✓ | | | | | |
| TCP | Mastercard Purchasing Card—Immediate Debit | ✓ | | | | | |
| TCS | Mastercard Standard Card—Immediate Debit | ✓ | | | | | |
| TCW | World Signia Mastercard Card—Immediate Debit | ✓ | | | | | |
| TDN | Middle Market Mastercard Purchasing Card—Immediate Debit | ✓ | | | | | |
| TEB | Mastercard Executive BusinessCard Card—Immediate Debit | ✓ | | | | | |
| TEC | Mastercard Electronic Commercial—Immediate Debit | ✓ | | | | | |
| TEO | Mastercard Corporate Executive Card—Immediate Debit | ✓ | | | | | |
| TIB | ISIC Mastercard Electronic Student Card—Immediate Debit | ✓ | | | | | |
| TIC | ISIC Mastercard Standard Student Card—Immediate Debit | ✓ | | | | | |
| TIU | Mastercard Unembossed—Immediate Debit | ✓ | | | | | |
| TLA | Mastercard Central Travel Solutions Air—Immediate Debit | ✓ | | | | | |
| TNF | Mastercard Public Sector Commercial Card—Immediate Debit | ✓ | | | | | |
| TNW | Mastercard New World—Immediate Debit | ✓ | | | | | |
| TPB | Mastercard Preferred Business Card—Immediate Debit | ✓ | | | | | |
| TPC | Mastercard Professional Card—Immediate Debit | ✓ | | | | | |
| TPL | Platinum Mastercard—Immediate Debit | ✓ | | | | | |
| TWB | World Mastercard® Black Edition—Immediate Debit | ✓ | | | | | |
| VIS | VisaNet ²⁵ | | | | | ✓ | |

| Code | Description | MC | NP | VI | TE | MS | CI |
|------|---------------------------------|----|----|----|----|----|----|
| WBE | World Mastercard® Black Edition | ✓ | | | | | |
| WDR | World Debit Mastercard Rewards | ✓ | | | | | |
| WMR | World Mastercard Rewards | ✓ | | | | | |

Subfield 2—Banknet Reference Number

DE 63, subfield 2 (Banknet Reference Number) is generated by the Authorization Platform for each originating message it routes. The reference number is guaranteed to be a unique value for any transaction within the specified financial network on any processing day.

Attributes

Data Representation: an...9

Data Field: Contents of positions 4–12

Justification: Left

Values

The Banknet reference number is a minimum of six characters and a maximum of nine characters long.

DE 64—Message Authentication Code

DE 64 (Message Authentication Code [MAC]) validates the source and the text of the message between the sender and the receiver.

Attributes

Data Representation: b-8

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

May contain message authentication code as defined by ISO standards.

Values

The last bit position within any bit map is reserved for DE 64. If authentication is to be used on a message, the MAC information is indicated by the final bit of the final bit map of that message. The final bit of all preceding bit maps shall contain 0; for example, there shall be only one DE 64 per message and that DE 64 must be the last data element of the message.

DE 65—Bit Map, Extended

DE 65 (Bit Map, Extended) is a series of eight bytes (64 bits) used to identify the presence (denoted by 1) or the absence (denoted by 0) of each data element in an extended (third) message segment.

Attributes

Data Representation: b-8

Length Field: N/A

Data Field: Contents of bit positions 1–64 (8 bytes)

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform defines only two message segments, the presence or absence of which is indicated by Primary and Secondary Bit Maps. DE 65 would indicate the presence of a third message segment, and must never be present in an Authorization Platform message. The corresponding bit (number 65) must always be 0 in the Secondary Bit Map.

DE 66—Settlement Code

DE 66 (Settlement Code) indicates the result of a reconciliation request.

Attributes

Data Representation: n-1

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 67—Extended Payment Code

DE 67 (Extended Payment Code) indicates the number of months that the cardholder prefers to pay for an item (the item purchased during the course of this transaction) if permitted by the card issuer.

Attributes

Data Representation: n-2

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 68—Receiving Institution Country Code

DE 68 (Receiving Institution Country Code) is the code of the country where the receiving institution is located.

Attributes

Data Representation: n-3

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 69—Settlement Institution Country Code

DE 69 (Settlement Institution Country Code) is the code of the country where the settlement institution is located.

Attributes

| | |
|----------------------|-----|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 70—Network Management Information Code

DE 70 (Network Management Information Code) identifies network status.

Attributes

| | |
|----------------------|---------------------------|
| Data Representation: | n-3 |
| Length Field: | N/A |
| Data Field: | Contents of positions 1–3 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 70 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Network Management Request/0800—Sign-On/Sign-Off | M | M | • |
| Network Management Request/0800—Host Session Activation/Deactivation | M | M | • |
| Network Management Request/0800—Network Connection Status, Member-generated | M | M | • |
| Network Management Request/0800—Network Connection Status, System-generated | • | M | M |

| | | | |
|---|----|----|----|
| Network Management Request/0800—PEK Exchange—On Demand | M | M | • |
| Network Management Request/0800—PEK Exchange | • | M | M |
| Network Management Request Response/0810—Sign-On/Sign-Off | • | ME | ME |
| Network Management Request Response/0810—Host Session Activation/ Deactivation | • | ME | ME |
| Network Management Request Response/0810—Network Connection Status, Member-generated | ME | ME | • |
| Network Management Request Response/0810—Network Connection Status, System-generated | • | ME | ME |
| Network Management Request Response/0810—PEK Exchange | ME | M | • |
| Network Management Request Response/0810—PEK Exchange—On Demand | • | ME | ME |
| Network Management Advice/0820—PEK Exchange | • | M | M |

Values

See specific Network Management Information Codes and their status functions, control functions, or both.

Application Notes

DE 48 (Additional Data—Private Use) may be used in conjunction with DE 70 to provide complete network status or control information. The Authorization Platform uses this data element in Network Management/08xx messages to convey network control commands and network status information to and from customer information processing systems that interface directly to the Authorization Platform.

This data element is defined and used identically within all Mastercard programs and services.

Network Management Request/0800—Sign-On/Sign-Off

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 001 = | Sign-on (by prefix) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 002 = | Sign-off (by prefix) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 061 = | Group sign-on (by Mastercard group sign-on) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 062 = | Group sign-off (by Mastercard group sign-on) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 063 = | Group sign-on alternate issuer route | ✓ | ✓ | | | ✓ | ✓ |
| 064 = | Group sign-off alternate issuer route | ✓ | ✓ | | | ✓ | ✓ |

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| 065 = | Prefix sign-on (by Group Sign-on ID for primary route) | ✓ | ✓ | | | ✓ | ✓ |
| 066 = | Prefix sign-off (by Group Sign-on ID for primary route) | ✓ | ✓ | | | ✓ | ✓ |
| 067 = | Prefix sign-on (by Group Sign-on ID for alternate issuer route) ¹⁴ | ✓ | ✓ | | | ✓ | ✓ |
| 068 = | Prefix sign-off (by Group Sign-on ID for alternate issuer route) ¹⁴ | ✓ | ✓ | | | ✓ | ✓ |

Network Management Request/0800—Network Connection Status, Member-Generated

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 270 = | Network connection status—echo test | ✓ | | | | ✓ | ✓ |

Network Management Request/0800—Network Connection Status, System-Generated

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 270 = | Network connection status—echo test | ✓ | | | | ✓ | ✓ |

Network Management Request/0800—Host Session Activation/Deactivation

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 081 = | Host session activation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 082 = | Host session deactivation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Network Management Request/0800—PEK Exchange

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 161 = | Encryption key exchange request | ✓ | ✓ | | | ✓ | ✓ |

Network Management Request/0800—PEK Exchange-On Demand

The following values apply to this message.

| Code | Financial Network | MC | NP | VI | TE | MS | CI |
|-------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 162 = | Solicitation for key exchange request | ✓ | ✓ | | | ✓ | ✓ |

DE 71—Message Number

DE 71 (Message Number) is a sequential, cyclic number the message initiator assigns to a message. Message Number is used to monitor the integrity of interchange.

Attributes

Data Representation: n-4

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 72—Message Number Last

DE 72 (Message Number Last) is a sequential, cyclic number the message initiator assigns to a message, used to monitor the integrity of interchange.

Attributes

Data Representation: n-4

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 73—Date, Action

DE 73 (Date, Action) specifies the date (year, month, and day) of a future action. In addition, a message originator may use it as a static time such as a birthdate.

Attributes

Data Representation: n-6

Length Field: N/A

Data Field: Contents of positions 1–6

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 74—Credits, Number

DE 74 (Credits, Number) is the numeric sum of credit transactions processed.

Attributes

Data Representation: n-10

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 75—Credits, Reversal Number

DE 75 (Credits, Reversal Number) is the sum number of reversal credit transactions.

Attributes

Data Representation: n-10

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 76—Debits, Number

DE 76 (Debits, Number) is the sum number of debit transactions processed.

Attributes

Data Representation: n-10

Length Field: N/A

Data Field: Contents of positions 1–10

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 77—Debits, Reversal Number

DE 77 (Debits, Reversal Number) is the sum number of reversal debit transactions.

Attributes

Data Representation: n-10

| | |
|----------------|-------|
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | Right |

Usage

The Authorization Platform currently does not use this data element.

DE 78—Transfers, Number

DE 78 (Transfers, Number) is the sum number of all transfer transactions processed.

Attributes

| | |
|----------------------|-------|
| Data Representation: | n-10 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | Right |

Usage

The Authorization Platform currently does not use this data element.

DE 79—Transfers, Reversal Number

DE 79 (Transfers, Reversal Number) is the sum number of all transfer reversal transactions processed.

Attributes

| | |
|----------------------|-------|
| Data Representation: | n-10 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | Right |

Usage

The Authorization Platform currently does not use this data element.

DE 80—Inquiries, Number

DE 80 (Inquiries, Number) is the sum number of inquiry transaction requests processed.

Attributes

| | |
|----------------------|-------|
| Data Representation: | n-10 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | Right |

Usage

The Authorization Platform currently does not use this data element.

DE 81—Authorizations, Number

DE 81 (Authorizations, Number) is the sum number of Authorization Request/0100 and Authorization Advice/0120 messages processed.

Attributes

| | |
|----------------------|-------|
| Data Representation: | n-10 |
| Length Field: | N/A |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | Right |

Usage

The Authorization Platform currently does not use this data element.

DE 82—Credits, Processing Fee Amount

DE 82 (Credits, Processing Fee Amount) is the sum of all processing fees due to an institution or customer for services associated with handling and routing transactions. This Mastercard definition replaces the ISO standard definition.

Attributes

Data Representation: n-12

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 83—Credits, Transaction Fee Amount

DE 83 (Credits, Transaction Fee Amount) is the sum of all transaction fees due to an institution or customer for processing interchange transactions. This Mastercard definition replaces the ISO standard definition.

Attributes

Data Representation: n-12

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 84—Debits, Processing Fee Amount

DE 84 (Debits, Processing Fee Amount) is the sum of all processing fees due from an institution or customer for services associated with handling and routing transactions. This Mastercard definition replaces the ISO standard definition.

Attributes

Data Representation: n-12

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 85—Debits, Transaction Fee Amount

DE 85 (Debits, Transaction Fee Amount) is the sum of all transaction fees due from an institution or customer for processing interchange transactions. This Mastercard definition replaces the ISO standard definition.

Attributes

Data Representation: n-12

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 86—Credits, Amount

DE 86 (Credits, Amount) is the sum amount of all credit transactions processed exclusive of any fees.

Attributes

Data Representation: n-16

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 87—Credits, Reversal Amount

DE 87 (Credits, Reversal Amount) is the sum amount of reversal credits processed exclusive of any fees.

Attributes

Data Representation: n-16

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 88—Debits, Amount

DE 88 (Debits, Amount) is the sum amount of all debit transactions processed exclusive of any fees.

Attributes

Data Representation: n-16

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 89—Debits, Reversal Amount

DE 89 (Debits, Reversal Amount) is the sum amount of reversal debits processed exclusive of any fees.

Attributes

Data Representation: n-16

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 90—Original Data Elements

DE 90 (Original Data Elements) is the data elements in the original message, intended to identify a transaction for correction or reversal.

Attributes

Data Representation: n-42

Length Field: N/A

Data Field: Contents of subfields 1–5

Subfields: 5

Justification: see subfields

Usage

Following is the usage of DE 90 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

Org Sys Dst

| | | | |
|--------------------------------|----|----|----|
| Reversal Request/0400 | M | • | M |
| Reversal Request Response/0410 | ME | • | ME |
| Reversal Advice/0420 | • | M | M |
| Reversal Advice Response/0430 | ME | ME | • |

Values

See subfields.

Application Notes

DE 90 is mandatory in the Reversal Advice/0420 message. DE 90 is always present in the Reversal Advice/0420 message whether the Reversal Advice/0420 message is reversing an Authorization Request/0100 message or advising the issuer that Mastercard processed a Reversal Request/0400 message on behalf of the issuer.

DE 90, subfield 1 must contain the Message Type Identifier (MTI) of the original authorization message. The remaining subfields may contain valid matching values from the original authorization or may be zero-filled if they are not available.

For reversal messages, if DE 7 (Transmission Date and Time) and DE 11 (System Trace Audit Number [STAN]) from the original Authorization 0100/0110 cannot be saved, DE 90, subelements 2 and 3 may be zero-filled within the Reversal Request/0400 message.

Subfield 1—Original Message Type Identifier

DE 90, subfield 1 (Original Message Type Identifier) indicates the Message Type Identifier (MTI) of the original message.

Attributes

Data Representation: n-4

Data Field: Contents of positions 1–4

Justification: N/A

Values

MTI of original message.

Subfield 2—Original DE 11 (Systems Trace Audit Number)

DE 90, subfield 2 (Original DE 11 [Systems Trace Audit Number]) indicates the Systems Trace Audit Number (STAN) that was in DE 11 of the original message.

Attributes

Data Representation: n-6

Data Field: Contents of positions 5–10

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

STAN of original message.

Subfield 3—Original DE 7 (Transmission Date and Time)

DE 90, subfield 3 (Original DE 7 [Transmission Date and Time]) indicates the Transmission Date and Time that was in DE 7 of the original message.

Attributes

| | |
|----------------------|------|
| Data Representation: | n-10 |
|----------------------|------|

| | |
|-------------|--|
| Data Field: | Contents of positions 11-20 (in MMDDhhmmss format) |
|-------------|--|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

Transmission date and time of original message. This subfield must contain a valid date expressed as month (MM) and day (DD) and a valid time expressed as hours (hh), minutes (mm), and seconds (ss).

Subfield 4—Original DE 32 (Acquiring Institution ID Code)

DE 90, subfield 4 (Original DE 32 [Acquiring Institution ID Code]) indicates the Acquiring Institution ID Code that was in DE 32 of the original message.

Attributes

| | |
|----------------------|------|
| Data Representation: | n-11 |
|----------------------|------|

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 21–31 |
|-------------|-----------------------------|

| | |
|----------------|--------------------------|
| Justification: | Right with leading zeros |
|----------------|--------------------------|

Values

Acquiring Institution ID code of original message.

Subfield 5—Original DE 33 (Forwarding Institution ID Code)

DE 90, subfield 5 (Original DE 33 [Forwarding Institution ID Code]) indicates the Forwarding Institution ID Code that was in DE 33 of the original message.

Attributes

| | |
|----------------------|------|
| Data Representation: | n-11 |
|----------------------|------|

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 32–42 |
|-------------|-----------------------------|

Justification: Right with leading zeros

Values

Forwarding Institution ID code of original message. If the Forwarding Institution ID code was not present in the original message, then subfield 5 must contain all zeros.

DE 91—Issuer File Update Code

DE 91 (Issuer File Update Code) indicates to the system maintaining a file which procedure to follow.

Attributes

Data Representation: an-1

Length Field: N/A

Data Field: Contents of position 1

Subfields: N/A

Justification: Right

Usage

Following is the usage of DE 91 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|---------------------------------|---|---|---|
| Issuer File Update Request/0302 | M | M | • |
|---------------------------------|---|---|---|

| | | | |
|--|---|----|----|
| Issuer File Update Request Response/0312 | • | ME | ME |
|--|---|----|----|

Values

1 = Add

2 = Update

3 = Delete

5 = Inquiry

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 92—File Security Code

DE 92 (File Security Code) is an Issuer File Update security code used to indicate that a message originator is authorized to update a file.

Attributes

Data Representation: an-2

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 93—Response Indicator

DE 93 (Response Indicator) indicates the update action a POS system takes.

Attributes

Data Representation: n-5

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: Right

Usage

The Authorization Platform currently does not use this data element.

DE 94—Service Indicator

DE 94 (Service Indicator) indicates the service a message recipient requires.

Attributes

Data Representation: ans-7

Length Field: N/A

Data Field: Contents of positions 1–7. Positions 4–7 must contain spaces or zeros.

Subfields: 3

Justification: See subfields

Usage

Following is the usage of DE 94 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Network Management Request/0800

| | | |
|---|---|---|
| M | M | • |
|---|---|---|

Values

This data element is used in Network Management Request/0800 Sign-on/off messages to indicate that a CPS is signing on or off for debit card traffic, credit card traffic, or both. It is also used to indicate if the sign-on or sign-off applies to acquirer traffic, issuer traffic, or both.

The Authorization Platform allows credit card transactions and debit card transactions from a single institution to be routed to different processing systems.

Application Notes

See subfields

Subfield 1—Reserved for Future Use

DE 94, subfield 1 (Reserved for Future Use) is reserved for future use.

Attributes

Data Representation: an-1

Data Field: Contents of position 1

Justification: N/A

Values

0 = Reserved for Future Use

Subfield 2—Acquirer/Issuer Indicator

DE 94, subfield 2 (Acquirer/Issuer Indicator) indicates if the sign-on or sign-off message applies to acquirer traffic, issuer traffic, or both.

Attributes

Data Representation: a-1

Data Field: Contents of position 2

Justification: N/A

Values

A = Acquirer only

| | | |
|---|---|--------------------------|
| I | = | Issuer only |
| B | = | Both acquirer and issuer |

Subfield 3—Address Data Indicator

DE 94, subfield 3 (Address Data Indicator) indicates how the address data is provided.

| | | |
|----------------------|------------------------|--|
| Attributes | | |
| Data Representation: | n-1 | |
| Data Field: | Contents of position 3 | |
| Justification: | N/A | |
| Values | | |
| 0 | = | AVS not currently supported |
| 1 | = | Issuer receives complete address data |
| 2 | = | Issuer receives condensed address data. (This supports the algorithm that uses the first five numeric digits in an address [when scanning the address from left to right].) |
| 3 | = | Issuer receives condensed address data. (This supports the algorithm that uses up to the first five numeric digits in an address. This algorithm stops searching for a numeric after it encounters an alphabetic character or space [when scanning the address from left to right].) |
| 4 | = | Issuer receives condensed numeric postal code and condensed numeric address data only. (This supports the algorithm that uses the first five numeric digits in an address [when scanning the address from left to right].) |

DE 95—Replacement Amounts

DE 95 (Replacement Amounts) contains the “actual amount” subfields necessary to perform a partial or full reversal of a financial transaction.

| | | |
|----------------------|---------------------------|--|
| Attributes | | |
| Data Representation: | n-42 | |
| Length Field: | N/A | |
| Data Field: | Contents of subfields 1–4 | |
| Subfields: | 4 | |
| Justification: | See subfields | |
| Usage | | |

Following is the usage of DE 95 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--------------------------------|-----|-----|-----|
| Reversal Request/0400 | C | X | C |
| Reversal Request Response/0410 | CE | X | C |
| Reversal Advice/0420 | • | C | C |
| Reversal Advice Response/0430 | CE | CE | • |

Values

See subfields.

Subfield 1 (Actual Amount, Transaction) must contain valid numeric data. All other subfields must be zero-filled; if required, the Authorization Platform performs currency conversion.

DE 95 is necessary to perform a partial reversal of an authorization transaction. However, the Authorization Platform will support full reversals via usage of a Reversal Request/0400 message. Therefore, acquirers are not required to include DE 95 in the Reversal Request/0400 message. If DE 95 is included in a Reversal Request/0400 message for full reversals, DE 95 must contain a value of all zeros.

The Authorization Platform requires a message initiator to generate only subfield 1 (Actual Amount, Transaction). The Authorization Platform automatically calculates and inserts subfield 2 (Actual Amount, Settlement) and subfield 3 (Actual Amount, Cardholder Billing).

The subfield definitions the Authorization Platform employs differ slightly from the ISO subfield definitions for this data element. This difference accommodates the Authorization Platform automatic currency conversion service.

Application Notes

This data element is defined and used identically within all Mastercard programs and services. Mastercard does not provide currency conversion services for all programs and services.

Mastercard supports DE 95 in Reversal Request/0400 and Reversal Advice/0420 messages. DE 95 must be less than DE 4. If DE 95 contains all zeros, Mastercard will remove DE 95 before forwarding the message to the issuer.

Subfield 1—Actual Amount, Transaction

DE 95, subfield 1 (Actual Amount, Transaction) indicates the actual transaction amount.

Attributes

Data Representation: n-12

Data Field: Contents of positions 1–12

Justification: Right with leading zeros

Values

Full Reversal: If present, and the reversal is a full reversal, DE 95, subfield 1 must contain a value of all zeros.

Partial Reversal: If the reversal is a partial reversal, DE 95, subfield 1 must contain a value less than the amount in DE 4 (Amount Transaction).

Subfield 2—Actual Amount, Settlement

DE 95, subfield 2 (Actual Amount, Settlement) indicates the actual settlement amount in the settlement currency.

Attributes

Data Representation: n-12

Data Field: Contents of positions 13–24

Justification: Right with leading zeros

Values

Must contain valid numeric data. Absence of data must be indicated with zeros.

Application Notes

All settlement amounts are specified in U.S. dollars. The Authorization Platform will provide this subfield in the settlement currency (U.S. dollars) if subfield 1 is not all zeros and if the customer chooses to receive settlement amount-related data elements; otherwise, subfield 2 is zero-filled.

Subfield 3—Actual Amount, Cardholder Billing

DE 95, subfield 3 (Actual Amount, Cardholder Billing) the actual amount in the issuer currency.

Attributes

Data Representation: n-12

Data Field: Contents of positions 25–36

Justification: Right with leading zeros

Values

Must contain valid numeric data. Absence of data must be indicated with zeros. The Authorization Platform will provide this subfield in the issuer's cardholder billing currency if subfield 1 is not all zeros.

Subfield 4—Zero Fill

DE 95, subfield 4 (Zero Fill) indicates zeros.

Attributes

Data Representation: n-6

Data Field: Contents of positions 37–42

Justification: N/A

Values

Must contain zeros.

DE 96—Message Security Code

DE 96 (Message Security Code) is a verification between a card acceptor and a card issuer that a message is authorized to update or modify a special file.

Attributes

Data Representation: ISO: b-8

Mastercard: n-8

Length Field: N/A

Data Field: ISO: Contents of bit positions 1–64 (8 bytes)

Mastercard: Contents of positions 1–8 (EBCDIC hexadecimal format)

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 96 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| Org | Sys | Dst |
|-----|-----|-----|
|-----|-----|-----|

| | | | |
|---------------------------------|---|---|---|
| Issuer File Update Request/0302 | M | M | • |
|---------------------------------|---|---|---|

| | | | |
|---------------------------------|---|---|---|
| Network Management Request/0800 | M | M | • |
|---------------------------------|---|---|---|

Values

If an issuer has been assigned a Security Authorization Code that represents the Mastercard customer password, allowing access in the Authorization Platform network by the CPS or INF processor, this data element must contain valid security control data when used in Issuer File Update/0302 and Network Management Request/0800—Sign-On/Sign-Off messages.

DE 97—Amount, Net Settlement

DE 97 (Amount, Net Settlement) is the net value of all gross amounts.

Attributes

Data Representation: an-17

Length Field: N/A

Data Field: Contents of subfields 1–2

Subfields: 2

Justification: See subfields

Usage

The Authorization Platform currently does not use this data element.

Subfield 1—Debit/Credit Indicator

DE 97, subfield 1 (Debit/Credit Indicator) indicates whether the transaction was credit or debit.

Attributes

Data Representation: a-1

Data Field: Contents of position 1

Justification: N/A

Values

N/A

Subfield 2—Amount

DE 97, subfield 2 (Amount) indicates the transaction amount.

Attributes

Data Representation: n-16

Data Field: Contents of positions 2–17

Justification: Right

Values

N/A

DE 98—Payee

DE 98 (Payee), is the third-party beneficiary in a payment transaction.

Attributes

Data Representation: ans-25

Length Field: N/A

Data Field: N/A

Subfields: N/A

Justification: N/A

The Authorization Platform currently does not use this data element.

DE 99—Settlement Institution ID Code

DE 99 (Settlement Institution ID Code) identifies the settlement institution or its agent.

Attributes

Data Representation: n...11; LLVAR

Length Field: 2

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 100—Receiving Institution ID Code

DE 100 (Receiving Institution ID Code) is the identity of the institution receiving a Request or Advice message in an interchange system if not the same as identified in DE 2 (Primary Account Number [PAN]) or DE 34 (Primary Account Number [PAN], Extended). The Authorization Platform uses DE 100 to determine the destination routing of Administrative/06xx messages. For these messages, DE 33 (Forwarding Institution ID Code) identifies the sender of the message; DE 100 identifies the receiver of the message.

Attributes

Data Representation: n...11; LLVAR

Length Field: 2

Data Field: Contents of positions 1–11

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 100 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|----------------------------|---|---|---|
| Administrative Advice/0620 | • | M | M |
|----------------------------|---|---|---|

| | | | |
|-------------------------------------|----|----|---|
| Administrative Advice Response/0630 | ME | ME | • |
|-------------------------------------|----|----|---|

Values

Must contain a valid five-digit Mastercard customer ID number. It identifies the destination CPS or INF to receive the message.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

Processing systems responding to originating Administrative Advice/06xx and Network Management/08xx messages must not swap the contents of DE 33 and DE 100 in the Response message to achieve proper routing of the Response to the originator.

DE 101—File Name

DE 101 (File Name) is the actual or abbreviated name of the file that the issuer accesses. DE 101 is used in Issuer File Update/03xx messages to identify the specific name of an Authorization Platform data file or program parameter table that is being updated by a customer's Issuer File Update Request/0302.

Attributes

Data Representation: ans...17; LLVAR

Length Field: 2

Data Field: Contents of positions 1–17

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 101 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Issuer File Update Request/0302 | M | M | • |
| Issuer File Update Request Response/0312 | • | ME | ME |

Values

| | | |
|--------|---|--|
| MCC102 | = | Stand-In Account File |
| MCC103 | = | Electronic Warning Bulletin File |
| MCC104 | = | Local Stoplist File |
| MCC105 | = | Recurring Payment Cancellation Service File |
| MCC106 | = | PAN Mapping File |
| MCC107 | = | Enhanced Value File |
| MCC108 | = | Product Graduation File |
| MCC109 | = | Contactless Application Transaction Counter (ATC) File |
| MCC111 | = | PAN-PAR (Payment Account Reference) Mapping File |

DE 102—Account ID 1

DE 102 (Account ID-1) is a series of digits that identify a customer account or relationship. Customers primarily use it for the "from" account in a transfer transaction. DE 102 may be used in Authorization Request Response/0110 messages to identify the specific "from" account that the transaction affected. DE 102 may be used for printing on cardholder transaction receipts.

Attributes

| | |
|----------------------|----------------------------|
| Data Representation: | ans...28; LLVAR |
| Length Field: | 2 |
| Data Field: | Contents of positions 1–28 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 102 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |

| | | | |
|--|---|---|---|
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

The “from” account is the account specified in digits three and four of DE 3 (Processing Code).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 103—Account ID 2

DE 103 (Account ID-2) is a series of digits that identify a customer account or relationship. Customers primarily use it for the “to” account in a transfer transaction.

Attributes

Data Representation: ans...28; LLVAR

Length Field: 2

Data Field: Contents of positions 1–28

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 103 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |

Values

The “to” account is specified in digits five and six of DE 3 (Processing Code).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 104—Transaction Description

DE 104 (Transaction Description) describes additional characteristics of the transaction for billing purposes

Attributes

| | |
|----------------------|-------------------|
| Data Representation: | ans...100; LLLVAR |
| Length Field: | 3 |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 105–DE 107—Reserved for Mastercard Use

DE 105–DE 107 (Reserved for Mastercard Use) are reserved for Mastercard use.

Attributes

| | |
|----------------------|-------------------|
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | N/A |
| Subfields: | N/A |
| Justification: | N/A |

Usage

The Authorization Platform currently does not use this data element.

DE 108—MoneySend Reference Data

DE 108 (MoneySend Reference Data) provides the capability for the acquirers to send in Sender, Receiver, and Transaction level data to the issuer in MoneySend Payment Transactions or MoneySend Funding Transactions.

Attributes

| | |
|----------------------|-------------------------|
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of subelements |
| Subelements: | 4 |
| Justification: | See "Subelements" |

Usage

Following is the usage of DE 108 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request/0400 | O | • | C |
| Reversal Request Response/0410 | C | • | C |

Application Notes

For MoneySend Payment transactions, acquirers that process transactions must send and receive DE 108 (MoneySend Reference Data). Issuers must receive and return DE 108 (MoneySend Reference Data) for all MoneySend Payment Transactions.

For MoneySend Funding transactions, acquirers that process transactions may optionally send and be prepared to receive if sending DE 108 (MoneySend Reference Data) for MoneySend Funding Transactions. Issuers must receive and return DE 108 (MoneySend Reference Data) when submitted by the acquirer on MoneySend Funding transactions.

Subelement 01—Receiver/Recipient Data

This subelement contains the receiver name, address, phone number, date of birth, and account details.

| Attribute | Value |
|---------------------|-------------------|
| Subelement ID | 01 |
| Subelement Length | 3 |
| Data Representation | ans...322; LLLVAR |

| Attribute | Value |
|---------------------|---|
| Number of Subfields | 17 |
| | Subfield 01—Receiver/Recipient First Name |
| | Subfield 02—Receiver/Recipient Middle Name |
| | Subfield 03—Receiver/Recipient Last Name |
| | Subfield 04—Receiver/Recipient Street Address |
| | Subfield 05—Receiver/Recipient City |
| | Subfield 06—Receiver/Recipient State/Province Code |
| | Subfield 07—Receiver/Recipient Country |
| | Subfield 08—Receiver/Recipient Postal Code |
| | Subfield 09—Receiver/Recipient Phone Number |
| | Subfield 10—Receiver/Recipient Date of Birth |
| | Subfield 11—Receiver/Recipient Account Number |
| | Subfield 12—Receiver/Recipient Identification Type |
| | Subfield 13—Receiver/Recipient Identification Number |
| | Subfield 14—Receiver/Recipient Identification Country Code |
| | Subfield 15—Receiver/Recipient Identification Expiration Date |
| | Subfield 16—Receiver/Recipient Nationality |
| | Subfield 17—Receiver/Recipient Country of Birth |

Subfield 01—Receiver/Recipient First Name

DE 108, subelement 01, subfield 01 (Receiver/Recipient First Name) contains the Recipient/Receiver first name.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 01 |
| Subfield Length | 2 |
| Data Representation | ans...35; LLVAR |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| If present, cannot contain all spaces or all numeric values. | |

Application Notes

Subfield 01 must be present for cross-border MoneySend Payment Transactions and must be properly formatted. Subfield 01 is optional for MoneySend Funding Transactions and domestic MoneySend Payment Transactions.

The first name (Consumer/Business) of the recipient/receiver is included in this subelement.

The following describes the correct submission of business names.

| Business Name | First Name | Last Name |
|----------------------|-------------------|------------------|
| XYZ | XYZ | XYZ |
| XYZ International | XYZ | International |
| XYZ DBA MA | XYZ | DBA MA |

Subfield 02—Receiver/Recipient Middle Name

DE 108, subelement 01, subfield 02 (Receiver/Recipient Middle Name) contains the middle name of the Recipient/Receiver.

| Attribute | Value |
|------------------|--------------|
| Subfield ID | 02 |

| Attribute | Value |
|---------------------|--------------|
| Subfield Length | 2 |
| Data Representation | ans-1 |
| Justification | N/A |

| Values | Description |
|--|--|
| | Valid value will consist of the middle name initial of the Receiver. |
| Application Notes | |
| Subfield 02 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 03—Receiver/Recipient Last Name

DE 108, subelement 01, subfield 03 (Receiver/Recipient Last Name) contains the last name of the Recipient/Receiver.

| Attribute |
|---------------------|
| Subfield ID |
| 03 |
| Subfield Length |
| 2 |
| Data Representation |
| ans...35; LLVAR |
| Justification |
| N/A |

| Values | Description |
|---|---|
| | If present cannot contain all spaces or all numeric values. |
| Application Notes | |
| Subfield 03 must be present for cross-border MoneySend Payment Transaction and must be properly formatted. Subfield 03 is optional for MoneySend Funding and Domestic MoneySend Payment Transactions. | |

The last name (Consumer/Business) of the recipient/receiver is included in this subelement.

The following describes the correct submission of business names.

| Business Name | First Name | Last Name |
|-------------------|------------|---------------|
| XYZ | XYZ | XYZ |
| XYZ International | XYZ | International |
| XYZ DBA MA | XYZ | DBA MA |

Subfield 04—Receiver/Recipient Street Address

DE 108, subelement 01, subfield 04 (Receiver/Recipient Street Address) contains the Street Address of the Recipient/Receiver.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 04 |
| Subfield Length | 2 |
| Data Representation | ans...50; LLVAR |
| Justification | N/A |

| Values | Description |
|--|-------------|
| Valid value will consist of the street address of the Receiver. | |
| Application Notes | |
| Subfield 04 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 05—Receiver/Recipient City

DE 108, subelement 01, subfield 05 (Receiver/Recipient City) contains the city of the Receiver/Recipient.

| Attributes | |
|---------------------|-----------------|
| Subfield ID | 05 |
| Subfield Length | 2 |
| Data Representation | ans...25; LLVAR |
| Justification | N/A |

| Values |
|---|
| Valid location city name of the Receiver/Recipient. |

Application Notes

Subfield 05 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions.

Subfield 06—Receiver/Recipient State/Province Code

DE 108, subelement 01, subfield 06 (Receiver/Recipient State/Province Code) contains the state/province code of the Recipient/Receiver.

Attributes

Subfield ID 06

Subfield Length 2

Data Representation ans...3; LLVAR

Justification N/A

Values

Valid location state code of the Receiver/Recipient.

Application Notes

Subfield 06 for MoneySend Payment Transactions cannot contain spaces or invalid code when country is U.S. or Canada. Subfield 06 is optional for MoneySend Funding Transactions.

Subfield 07—Receiver/Recipient Country

DE 108, subelement 01, subfield 07 (Receiver/Recipient Country) contains the country of the Recipient/Receiver.

| Attribute | Value |
|---------------------|-------|
| Subfield ID | 07 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

Values Description

If present must be a valid ISO country code and must not be part of blocked country list.

Application Notes

| Values | Description |
|--------|--|
| | <p>Subfield 07 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions.</p> <p>Transaction will be declined if the sender country is subject to comprehensive geographic sanctions published by the Office of Foreign Assets Control (OFAC), http://www.treasury.gov/resource-center/sanctions/Pages/default.aspx. The current list of countries subject to such sanctions is Cuba, Iran, North Korea, Sudan, and Syria; however, this list is subject to change.</p> |

Subfield 08—Receiver/Recipient Postal Code

DE 108, subelement 01, subfield 08 (Receiver/Recipient Postal Code) contains the postal code of the Recipient/Receiver.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 08 |
| Subfield Length | 2 |
| Data Representation | ans...10; LLVAR |
| Justification | N/A |

| Values | Description |
|--------|---|
| | Valid location Postal Code of the Recipient's/Receiver. |

Application Notes

Subfield 08 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions.

Subfield 09—Receiver/Recipient Phone Number

DE 108, subelement 01, subfield 09 (Receiver/Recipient Phone Number) contains the phone number of the Recipient/Receiver.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 09 |
| Subfield Length | 2 |
| Data Representation | ans...20; LLVAR |
| Justification | N/A |

| Values | Description |
|--|-------------|
| Valid phone number of the Recipient/Receiver. | |
| Application Notes | |
| Subfield 09 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 10—Receiver/Recipient Date of Birth

DE 108, subelement 01, subfield 10 (Receiver/Recipient Date of Birth) contains the date of birth of the Receiver/Recipient.

| Attributes | |
|--|-------------|
| Subfield ID | 10 |
| Subfield Length | 2 |
| Data Representation | n-8 |
| Justification | N/A |
| Values | Description |
| Valid date of birth of the Receiver/Recipient in the format MMDDYYYY. | |
| Application Notes | |
| Subfield 10 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 11—Receiver/Recipient Account Number

DE 108, subelement 01, subfield 12 (Receiver/Recipient Account Number) contains the account number of the Recipient/Receiver.

| Attribute | |
|---|---------------|
| Subfield ID | 11 |
| Subfield Length | 2 |
| Data Representation | n...20; LLVAR |
| Justification | N/A |
| Values | Description |
| Valid Account Number of the Receiver/Recipient. | |

| Values | Description |
|--|-------------|
| Application Notes | |
| Subfield 11 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 12—Receiver/Recipient Identification Type

DE 108, subelement 01, subfield 12 (Receiver/Recipient Identification Type) contains the identification type of the Recipient/Receiver.

| Attribute | |
|---------------------|-----|
| Subfield ID | 12 |
| Subfield Length | 2 |
| Data Representation | n-2 |
| Justification | N/A |

| Values | Description |
|--|-------------|
| If present on all MoneySend Payment transactions, it must contain one of the following valid values: | |
| 00 = Passport | |
| 01 = National Identification Card | |
| 02 = Driver's License | |
| 03 = Government Issued | |
| 04 = Other | |
| 05–10 = Reserved | |

Application Notes

Subfield 12 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions.

Subfield 13—Receiver/Recipient Identification Number

DE 108, subelement 01, subfield 13 (Receiver/Recipient Identification Number) contains the identification number of the Recipient/Receiver.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 13 |
| Subfield Length | 2 |
| Data Representation | ans...25; LLVAR |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Valid identification number of the Receiver/Recipient. |
| Application Notes | |
| | Subfield 13 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 14—Receiver/Recipient Identification Country Code

DE 108, subelement 01, subfield 14 (Receiver/Recipient Identification Country Code) contains the identification country code of the Recipient/Receiver.

| Attribute | |
|---------------------|-------|
| Subfield ID | 14 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Valid identification country code of the Receiver/Recipient. |
| Application Notes | |
| | Subfield 14 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 15—Receiver/Recipient Identification Expiration Date

DE 108, subelement 01, subfield 15 (Receiver/Recipient Identification Expiration Date) contains the identification expiration date of the Recipient/Receiver.

| Attribute | |
|---------------------|-----|
| Subfield ID | 15 |
| Subfield Length | 2 |
| Data Representation | n-8 |
| Justification | N/A |

| Values | Description |
|--|--|
| | Valid identification expiration date of the Receiver/Recipient in the format MMDDYYYY. |
| Application Notes | |
| Subfield 15 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 16—Receiver/Recipient Nationality

DE 108, subelement 01, subfield 16 (Receiver/Recipient Nationality) contains the nationality of the Recipient/Receiver.

| Attribute | |
|---------------------|-------|
| Subfield ID | 16 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--|--|
| | Nationality of the Receiver/Recipient as defined by a valid country code for the country of citizenship. |
| Application Notes | |
| Subfield 16 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 17—Receiver/Recipient Country of Birth

DE 108, subelement 01, subfield 17 (Receiver/Recipient Country of Birth) contains the country of birth of the Recipient/Receiver.

| Attribute | |
|---------------------|-------|
| Subfield ID | 17 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| Valid Country of birth of the Receiver/Recipient. | |
| Application Notes | |
| Subfield 17 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subelement 02—Sender Data

This subelement contains the sender name, address, phone number, date of birth, and account details.

| Attribute | Value |
|---------------------|-------------------|
| Subelement ID | 02 |
| Subelement Length | 3 |
| Data Representation | ans...322; LLLVAR |

| Attribute | Value |
|---------------------|---|
| Number of Subfields | 17 |
| | Subfield 01—Sender First Name |
| | Subfield 02—Sender Middle Name |
| | Subfield 03—Sender Last Name |
| | Subfield 04—Sender Street Address |
| | Subfield 05—Sender City |
| | Subfield 06—Sender State/Province Code |
| | Subfield 07—Sender Country |
| | Subfield 08—Sender Postal Code |
| | Subfield 09—Sender Phone Number |
| | Subfield 10—Sender Date of Birth |
| | Subfield 11—Sender Account Number |
| | Subfield 12—Sender Identification Type |
| | Subfield 13—Sender Identification Number |
| | Subfield 14—Sender Identification Country Code |
| | Subfield 15—Sender Identification Expiration Date |
| | Subfield 16—Sender Nationality |
| | Subfield 17—Sender Country of Birth |

Subfield 01—Sender First Name

DE 108, subelement 02, subfield 01 (Sender First Name) contains the first name of the Sender.

| Attribute |
|------------------|
| Subfield ID |

| Attribute | |
|---------------------|-----------------|
| Subfield Length | 2 |
| Data Representation | ans...35; LLVAR |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| If present, cannot contain all spaces or all numeric values. | |

Application Notes

Subfield 01 must be present for MoneySend Payment Transactions and must be properly formatted.
Subfield 01 is optional for MoneySend Funding Transactions.

The first name (Consumer/Business/Government/Non-Government Organization) of the sender is included in this subelement.

The following describes the correct submission of business names.

| Business Name | First Name | Last Name |
|----------------------|-------------------|------------------|
| XYZ | XYZ | XYZ |
| XYZ International | XYZ | International |
| XYZ DBA MA | XYZ | DBA MA |

Subfield 02—Sender Middle Name

DE 108, subelement 02, subfield 02 (Sender Middle Name) contains the middle name initial of the Sender.

| | Attribute | Value |
|---------------------|------------------|--------------|
| Subfield ID | 02 | |
| Subfield Length | 2 | |
| Data Representation | ans-1 | |
| Justification | N/A | |

| Values | Description |
|--------------------------|--|
| | Valid value will consist of the middle name initial of the Sender. |
| Application Notes | |
| | Subfield 02 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 03—Sender Last Name

DE 108, subelement 02, subfield 03 (Sender Last Name) contains the last name of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 03 |
| Subfield Length | 2 |
| Data Representation | ans...35; LLVAR |
| Justification | N/A |

| Values | Description |
|---|--|
| | If present, cannot contain all spaces or numeric values. |
| Application Notes | |
| Subfield 03 must be present for MoneySend Payment Transactions and must be properly formatted. Subfield 03 is optional for MoneySend Funding Transactions. | |
| The last name (Consumer/Business/Government/Non-Government Organization) of the sender is included in this subelement. | |
| The following describes the correct submission of business names. | |

| Business Name | First Name | Last Name |
|-------------------|------------|---------------|
| XYZ | XYZ | XYZ |
| XYZ International | XYZ | International |
| XYZ DBA MA | XYZ | DBA MA |

Subfield 04—Sender Street Address

DE 108, subelement 02, subfield 04 (Sender Street Address) contains the street address of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 04 |
| Subfield Length | 2 |
| Data Representation | ans...50; LLVAR |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| Valid values will consist of street address of the Sender. | |
| Application Notes | |
| Subfield 04 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 05—Sender City

DE 108, subelement 02, subfield 05 (Sender City) contains the city of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 05 |
| Subfield Length | 2 |
| Data Representation | ans...25; LLVAR |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| Valid location city name of the Sender. | |
| Application Notes | |
| Subfield 05 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 06—Sender State/Province Code

DE 108, subelement 02, subfield 06 (Sender State/Province Code) contains the state/province code of the Sender.

Attributes

Subfield ID 06

Subfield Length 2

Data Representation ans...3; LLVAR

Justification N/A

Values

Valid location State code of the Sender. Cannot contain spaces or invalid code when country is U.S. or Canada.

Application Notes

Subfield 06 is optional for MoneySend Payment Transactions and MoneySend Funding Transactions. If submitted on MoneySend Payment Transactions, subfield 06 cannot contain spaces or invalid code when country is U.S. or Canada.

Subfield 07—Sender Country

DE 108, subelement 02, subfield 07 (Sender Country) contains the country code of the Sender.

| Attribute | Value |
|---------------------|-------|
| Subfield ID | 07 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

Values

Description

If present must be a valid ISO country code and must not be part of blocked country list.

Application Notes

| Values | Description |
|--------|--|
| | <p>Subfield 07 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions.</p> <p>Transaction will be declined if the sender country is subject to comprehensive geographic sanctions published by the Office of Foreign Assets Control (OFAC), http://www.treasury.gov/resource-center/sanctions/Pages/default.aspx. The current list of countries subject to such sanctions is Cuba, Iran, North Korea, Sudan, and Syria; however, this list is subject to change.</p> |

Subfield 08—Postal Code

DE 108, subelement 02, subfield 08 (Postal Code) contains the postal code of the Sender.

| Attributes | |
|--|-----------------|
| Subfield ID | 08 |
| Subfield Length | 2 |
| Data Representation | ans...10; LLVAR |
| Justification | N/A |
| Values | |
| Valid location Postal Code of the Sender. | |
| Application Notes | |
| Subfield 08 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 09—Sender Phone Number

DE 108, subelement 02, subfield 09 (Sender Phone Number) contains the phone number of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 09 |
| Subfield Length | 2 |
| Data Representation | ans...20; LLVAR |
| Justification | N/A |

| Values | Description |
|--------|-----------------------------------|
| | Valid phone number of the Sender. |

| Values | Description |
|--|-------------|
| Application Notes | |
| Subfield 09 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 10—Sender Date of Birth

DE 108, subelement 02, subfield 10 (Sender Date of Birth) contains the date of birth of the Sender.

| Attributes | |
|--|-----|
| Subfield ID | 10 |
| Subfield Length | 2 |
| Data Representation | n-8 |
| Justification | N/A |
| Values | |
| Valid values will consist of the date of birth of the Sender in the format MMDDYYYY. | |
| Application Notes | |
| Subfield 10 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 11—Sender Account Number

DE 108, subelement 02, subfield 11 (Sender Account Number) contains the account number of the Sender.

| Attribute | |
|---------------------|---------------|
| Subfield ID | 11 |
| Subfield Length | 2 |
| Data Representation | n...20; LLVAR |
| Justification | N/A |

| Values | Description |
|--|--|
| | Valid account number of the Sender. The account number that was used to fund the money transfer (for example, the sender used a credit, debit, or other account to fund the money transfer). When cash is used to fund the money transfer, this field should be populated with a unique transaction reference number or an account number from the OI. This information will assist in identifying the sender if the receiving institution requires additional information from the originating institution for the money transfer. |
| Application Notes | |
| Subfield 11 must be present for MoneySend Payment Transactions and must be properly formatted. Subfield 11 is optional for MoneySend Funding Transactions. | |
| Subfield 11 must be present for Masterpass QR (Quick Response) transactions and must be properly formatted. | |

Subfield 12—Sender Identification Type

DE 108, subelement 02, subfield 12 (Sender Identification Type) contains the identification type of the Sender.

| Attribute | |
|---------------------|-----|
| Subfield ID | 12 |
| Subfield Length | 2 |
| Data Representation | n-2 |
| Justification | N/A |

| Values | Description |
|--------|--|
| | If present on all MoneySend Payment transactions, it must contain one of the following valid values: |
| 00 | = Passport |
| 01 | = National Identification Card |
| 02 | = Driver's License |
| 03 | = Government Issued |
| 04 | = Other |
| 05–10 | = Reserved |

| Values | Description |
|--|-------------|
| Application Notes | |
| Subfield 12 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 13—Sender Identification Number

DE 108, subelement 02, subfield 13 (Sender Identification Number) contains the identification number of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 13 |
| Subfield Length | 2 |
| Data Representation | ans...25; LLVAR |
| Justification | N/A |

| Values | Description |
|--|-------------|
| Valid identification number of the Sender. | |
| Application Notes | |
| Subfield 13 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. | |

Subfield 14—Sender Identification Country Code

DE 108, subelement 02, subfield 14 (Sender Identification Country Code) contains the identification country code of the Sender.

| Attribute | |
|---------------------|-------|
| Subfield ID | 14 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Valid identification country code of the Sender. |
| Application Notes | |
| | Subfield 14 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 15—Sender Identification Expiration Date

DE 108, subelement 02, subfield 15 (Sender Identification Expiration Date) contains the identification expiration date of the Sender.

| Attribute | |
|---------------------|-----|
| Subfield ID | 15 |
| Subfield Length | 2 |
| Data Representation | n-8 |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Valid identification expiration date of the Sender in the format MMDDYYYY. |
| Application Notes | |
| | Subfield 15 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 16—Sender Nationality

DE 108, subelement 02, subfield 16 (Sender Nationality) contains the nationality of the Sender.

| Attribute | |
|---------------------|-------|
| Subfield ID | 16 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Nationality of the sender as defined by a valid country code for the country of citizenship. |
| Application Notes | |
| | Subfield 16 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subfield 17—Sender Country of Birth

DE 108, subelement 02, subfield 17 (Sender Country of Birth) contains the country of birth of the Sender.

| Attribute | |
|---------------------|-------|
| Subfield ID | 17 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

| Values | Description |
|--------------------------|--|
| | Valid country of birth of the Sender. |
| Application Notes | |
| | Subfield 17 is optional for MoneySend Funding Transactions and MoneySend Payment Transactions. |

Subelement 03—MoneySend Transaction Data

This subelement contains the transaction reference number, funding source, participation ID, and additional messages related to MoneySend transactions.

| Attribute | Value |
|---------------------|-------------------|
| Subelement ID | 03 |
| Subelement Length | 3 |
| Data Representation | ans...138; LLLVAR |

| Attribute | Value |
|---------------------|--|
| Number of Subfields | 5 |
| | Subfield 01—Unique Transaction Reference |
| | Subfield 02—Additional Message |
| | Subfield 03—Funding Source |
| | Subfield 04—Participant ID |
| | Subfield 05—Transaction Purpose |

Subfield 01—Unique Transaction Reference

DE 108, subelement 03, subfield 01 (Unique Transaction Reference) contains the Unique Transaction Reference.

| Attribute | Value |
|---------------------|--------------|
| Subfield ID | 01 |
| Subfield Length | 2 |
| Data Representation | ans-19 |
| Justification | N/A |

| Values | Description |
|--|--------------------|
| Unique Transaction Reference Number (ans-19). | |
| Valid value string will contain a leading zero (0), followed by: | |
| <ul style="list-style-type: none"> • ICA (n-6) • Year (n-1) • Julian Date (n-3) • Time hhmmss (n-6) • Transaction Sequence Number (01–99) (n-2) | |
| Example: 0555555801215305401 | |
| Application Notes | |
| Subfield 01 is optional for MoneySend Funding and MoneySend Payment Transactions. | |

Subfield 02—Additional Message

DE 108, subelement 03, subfield 02 (Additional Message) contains the additional message.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 02 |
| Subfield Length | 2 |
| Data Representation | ans...65; LLVAR |
| Justification | N/A |

| Values | Application Notes |
|---|--------------------------|
| Subfield 02 is optional for MoneySend Funding and MoneySend Payment Transactions. | |

Subfield 03—Funding Source

DE 108, subelement 03, subfield 03 (Funding Source) contains the information representing the MoneySend transaction funding source.

| Attribute | |
|---------------------|------|
| Subfield ID | 03 |
| Subfield Length | 2 |
| Data Representation | n-2; |
| Justification | N/A |

| Values | Description |
|---|--------------------|
| Must be present, and must contain one of the following valid values for MoneySend Payment Transactions: | |
| <ul style="list-style-type: none">• 01=Credit• 02=Debit• 03=Prepaid• 04=Deposit Account• 05=Mobile Money Account• 06=Cash• 07=Reserved for future use | |

| Values | Description |
|---|-------------|
| Application Notes | |
| Subfield 03 is optional for MoneySend Funding transactions. | |
| Subfield 03 must be present for Masterpass QR (Quick Response) transactions and must be properly formatted. | |

Subfield 04—Participation ID

DE 108, subelement 03, subfield 04 (Participation ID) contains participation ID details of the Sender.

| Attribute | |
|---------------------|-----------------|
| Subfield ID | 04 |
| Subfield Length | 2 |
| Data Representation | ans...30; LLVAR |
| Justification | N/A |

| Values | Description |
|---|-------------|
| Contains the participation ID of the Sender. | |
| Application Notes | |
| Subfield 04 is optional for MoneySend Payment and MoneySend Funding Transactions. | |

Subfield 05—Transaction Purpose

DE 108, subelement 03, subfield 05 (Transaction Purpose) contains MoneySend transaction purpose details.

| Attribute | |
|---------------------|-----|
| Subfield ID | 05 |
| Subfield Length | 2 |
| Data Representation | n-2 |
| Justification | N/A |

| Values | Description |
|---|---|
| If present on a MoneySend Payment transaction, it must contain one of the following valid values: | |
| 00 | = Family Support |
| 01 | = Regular Labor Transfers (expatriates) |
| 02 | = Travel & Tourism |
| 03 | = Education |
| 04 | = Hospitalization & Medical Treatment |
| 05 | = Emergency Need |
| 06 | = Savings |
| 07 | = Gifts |
| 08 | = Other |
| 09–15 | = Reserved |

Application Notes

Subfield 05 is optional for MoneySend Payment and MoneySend Funding Transactions.

Subelement 04—MoneySend Language Description

This subelement contains additional language details supported by the customer.

| Attribute | Value |
|---------------------|------------------------------------|
| Subelement ID | 04 |
| Subelement Length | 3 |
| Data Representation | ans...061; LLLVAR |
| Number of Subfields | 2 |
| | Subfield 1—Language Identification |
| | Subfield 2—Language Data |

Subfield 01—Language Identification

DE 108, subelement 04, subfield 01 (Language Identification) contains information about the language selected by the customer.

| Attribute | Value |
|---------------------|--------------|
| Subfield ID | 01 |
| Subfield Length | 2 |
| Data Representation | ans-3 |
| Justification | N/A |

Application Notes

Subfield 01 is optional for MoneySend Funding and MoneySend Payment Transactions.

Subfield 02—Language Data

DE 108, subelement 04, subfield 02 (Language Data) contains additional MoneySend information in the language selected by the customer.

| Attribute |
|---------------------|
| Subfield ID |
| 02 |
| Subfield Length |
| 2 |
| Data Representation |
| b...50; LLVAR |
| Justification |
| N/A |

Application Notes

Subfield 02 is optional for MoneySend Funding and MoneySend Payment Transactions.

DE 109–DE 111—Reserved for ISO Use

DE 109–DE 111 (Reserved for ISO Use) are reserved for ISO use.

Attributes

| | |
|----------------------|-------------------|
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |

Data Field: N/A

Subfields: N/A

Justification: N/A

Usage

The Authorization Platform currently does not use this data element.

DE 112—Additional Data (National Use)

DE 112 (Additional Data [National Use]) is reserved for national organizations to define data unique to specific networks or specific programs and services. DE 112 provides other supplemental data in a message when a specific ISO-designated data element is not available. It is a free-format, variable-length, alphanumeric data element used for information on transactions between customers.

Attributes

Data Representation: ans...100; LLLVAR (The operational length is limited to 100 bytes for global usage)

ans-170 (for Brazil domestic usage only for Brazil Commercial and Financing Data)

ans-227 (for Brazil domestic usage only for BNDES card alternative financing options)

ans...105; LLLVAR (for Japan domestic usage only for Japan National Data payment transactions)

ans-782 (Global for all regions for the Mastercard Installment Payment Service)

For customers in the Europe region participating in installment payments, the overall length of DE 112 is restricted to 591 bytes to accommodate operational limitations.

Length Field: 3

Data Field: Contents of subelements

Subelements: Determined by program

Justification: N/A

Usage

Following is the usage of DE 112 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Authorization Request/0100

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

| | | | |
|--|---|---|---|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | C | • | C |

Values

See subfields

Application Notes

Mastercard does not perform currency conversion on any amounts in DE 112.

DE 112—Encoding Scheme

Mastercard organizes DE 112 into a group of encoded subelements. The following table illustrates the structure of DE 112.

| LLL “VAR”—maximum length varies by program; refer to Data Representation previously for maximum length by program | | | | | | |
|---|-----------------------------------|-----------|-------------------------|------------------------------------|-----------|-------------------------|
| 3 bytes | 3 bytes | 3 bytes | variable by program | 3 bytes | 3 bytes | variable by program |
| Total Length | First Subelement (SE) Data | | | Second Subelement (SE) Data | | |
| | SE ID | SE Length | SE Variable Length Data | SE ID | SE Length | SE Variable Length Data |

| Number of Bytes | Attribute | Description |
|------------------------|---------------------------|---|
| 3 | Total Data Element Length | The “LLL” portion of the data element up to maximum allowed by program. |
| 3 | Subelement ID | In the range 000–099 000–069 Defined universally for all programs and services. 070–099 Defined for individual programs and services. |
| 3 | Subelement Length | Varies by program. |

| Number of Bytes | Attribute | Description |
|-----------------|---------------------------------|------------------------|
| 1...nnn | Subelement Variable Length Data | Contains valid values. |

All Regions—Installment Payment Transactions

Following are the technical specifications for Authorization/01xx messages for the global Mastercard Installment Payment Service. Refer to the *Mastercard Installment Payment Service User Guide* for additional details.

Background

Effective 14 June 2016, Mastercard authorization and clearing processing supports installment payment data globally (previously available in the Europe region only).

Existing installment payment processing will not change for the Philippines, Europe region, and Latin America and the Caribbean region. All existing installment payment processing will not be affected. The Europe region should use these global specifications rather than the Europe specifications introduced in 16.Q1, although Georgia may continue to use HGMINs.

NOTE: Customers in the Europe region should refer to global release articles and the *Mastercard Installment Payment Service User Guide* for information about installment payment processing. Mastercard will no longer publish this information in articles specific to the Europe region as this service is now available globally.

Subelement 021—Installment Payment Data 1

Subelement 021 (Installment Payment Data 1) is used in the Authorization System for installment payment transactions (in the Europe region currently and in all other regions effective 14 June 2016).

Attributes

Subelement ID: 021

Data Representation: an-3

Length Field: 3

Data Field: Contents of positions 1–3

Subfields: N/A

Justification: Right with leading zeros

Usage

Following is the usage of subelement 021 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | O | • | C |
| Reversal Request/0400 | O | • | O |
| Reversal Request Response/0410 | O | • | O |

Values

| Position | Attribute | Description |
|----------|-----------|--|
| 1-2 | n-2 | <p>Installment Type</p> <p>Contains the type of installment. Valid values include:</p> <ul style="list-style-type: none"> • 20 = Issuer-Financed • 21 = Merchant-Financed • 22 = Acquirer-Financed |
| 3 | a-1 | <p>Payment Options</p> <p>Payment options provided by issuer. Valid values include:</p> <ul style="list-style-type: none"> • I (Pay in Installments Only) • F (Pay in Full Only) • B (Pay in Full or Pay in Installments) |

Subelement 022—Installment Payment Data 2

Subelement 022 (Installment Payment Data 2) is used in the Authorization System for installment payment transactions (in the Europe region currently and in all other regions effective 14 June 2016).

Attributes

| | |
|----------------------|---|
| Subelement ID: | 022 |
| Data Representation: | ns...720; LLLVAR |
| | The “LLL” length field of LLLVAR must be an integral multiple of 12, not to exceed 720. |
| Length Field: | 3 |
| Data Field: | Contents of subfields 1–7 |

| | |
|----------------|---------------|
| Subfields: | 7 |
| Justification: | See subfields |

Usage

Following is the usage of subelement 022 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | O | • | C |
| Reversal Request/0400 | O | • | O |
| Reversal Request Response/0410 | O | • | O |

Values

See subfields

Application Notes

An “occurrence” is defined as one set of the seven subfields in subelement 022. Depending on the conditions of the message, subelement 022 can be sent by the acquirer, by the issuer, or by Mastercard.

Subfield 1—Number of Installments

DE 112, subelement 022, subfield 1 (Number of Installments) contains the number of installment payments provided by the issuer and selected by the cardholder.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 1–2 |
| Justification | Right with leading zeros |

Values

Valid values are 02–99

Subfield 2—Interest Rate

DE 112, subelement 022, subfield 2 (Interest Rate) contains the rate (two decimal places) that the issuer assesses the cardholder for the installment payment.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | ns-5 |
| Data Field | Contents of positions 3–7 |

| | |
|---------------|--------------------------|
| Justification | Right with leading zeros |
|---------------|--------------------------|

Values

Will be populated as spaces if interest rate is not required to be displayed in the terminal.

Subfield 3—Installment Fee

DE 112, subelement 022, subfield 3 (Installment Fee) contains the fee amount in cardholder billing currency that the issuer assesses the cardholder for the installment payments.

Attributes

| | |
|---------------------|-------|
| Data Representation | ns-12 |
|---------------------|-------|

| | |
|------------|----------------------------|
| Data Field | Contents of positions 8–19 |
|------------|----------------------------|

| | |
|---------------|--------------------------|
| Justification | Right with leading zeros |
|---------------|--------------------------|

Values

Will be populated as spaces if installment fee is not required to be displayed in the terminal.

Subfield 4—Annual Percentage Rate

DE 112, subelement 022, subfield 4 (Annual Percentage Rate [APR]) contains the rate (two decimal places) that the issuer charges the cardholder for the installment payment.

Attributes

| | |
|---------------------|------|
| Data Representation | ns-5 |
|---------------------|------|

| | |
|------------|-----------------------------|
| Data Field | Contents of positions 20–24 |
|------------|-----------------------------|

| | |
|---------------|--------------------------|
| Justification | Right with leading zeros |
|---------------|--------------------------|

Values

Will be populated as spaces if Annual Percentage Rate is not required to be displayed in the terminal.

Subfield 5—First Installment Amount

DE 112, subelement 022, subfield 5 (First Installment Amount) contains the amount of the first installment in cardholder billing currency that the issuer will charge the cardholder for the installment payments.

Attributes

| | |
|---------------------|-------|
| Data Representation | ns-12 |
|---------------------|-------|

| | |
|------------|-----------------------------|
| Data Field | Contents of positions 25–36 |
|------------|-----------------------------|

| | |
|---------------|--------------------------|
| Justification | Right with leading zeros |
|---------------|--------------------------|

Values

Default is all spaces

Subfield 6—Subsequent Installment Amount

DE 112, subelement 022, subfield 6 (Subsequent Installment Amount) contains the amount of the subsequent installments in cardholder billing currency that the issuer will charge the cardholder for the installment payments.

Attributes

Data Representation

ns-12

Data Field

Contents of positions 37–48

Justification

Right with leading zeros

Values

Default is all spaces

Subfield 7—Total Amount Due

DE 112, subelement 022, subfield 7 (Total Amount Due) contains the total amount due in cardholder billing currency that the issuer charges the cardholder for the installment payments.

Attributes

Data Representation

ns-12

Data Field

Contents of positions 49–60

Justification

Right with leading zeros

Values

Default is all spaces

Subelement 023—Installment Payment Data 3

Subelement 023 (Installment Payment Data 3) is used in the Authorization System for installment payment transactions (in the Europe region currently and in all other regions effective 14 June 2016).

Attributes

Subelement ID:

023

Data Representation:

ns-38

Length Field:

3

| | |
|----------------|----------------------------|
| Data Field: | Contents of positions 1–38 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

Following is the usage of subelement 023 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | • | X | C |
| Authorization Request Response/0110 | C | • | C |
| Reversal Request/0400 | O | • | O |
| Reversal Request Response/0410 | O | • | O |

Values

| Position | Description |
|----------|---|
| 1–2 | Minimum Number of Installments—Contains the number of installment payments provided by the issuer and selected by the cardholder. Valid values are 02–99. |
| 3–4 | Maximum number of installments—Contains the number of installment payments provided by the issuer and selected by the cardholder. Valid values are 02–99. |
| 5–9 | Interest Rate—Contains the interest rate (2 decimal) that the issuer charges the cardholder for the installment payments. Will be populated as spaces if Interest Rate is not required to be displayed in the terminal. |
| 10–21 | Installment Fee—Contains the fee amount that the issuer charges the cardholder for the installment payments in cardholder billing currency. Will be populated as spaces if Installment Fee is not required to be displayed in the terminal. Default is all zeros. |
| 22–26 | Annual Percentage Rate (APR)—Contains the annual percentage rate (2 decimal) that the issuer charges the cardholder for the installment payment. Will be populated as spaces if Annual Percentage Rate is not required to be displayed in the terminal. |
| 27–38 | Total Amount Due—Contains the total amount due in cardholder billing currency that the issuer charges the cardholder for the installment payment. |

Alternate Processing

Installment payments are not eligible for alternate processing (Stand-In System or X-Code System). When an issuer is not available, or offline, the Installment Payment transactions will be declined using the Authorization Request Response/0110 message containing DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).

Brazil—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Brazil payment transactions within Brazil.

Subelement 012—Brazil Commercial and Financing Data

DE 112, subelement 012 (Brazil Commercial and Financing Data) contains additional data to support financing data provided by the acquirer, merchant, or issuer.

NOTE: For data requirements for Brazil intracountry transactions using the Mastercard BNDES card, refer to the section that follows. The following table applies to non-BNDES transactions only.

Attributes

| | |
|----------------------|-----------------------------|
| Subelement ID: | 012 |
| Data Representation: | ans-170 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–170 |
| Subfields: | N/A |
| Justification: | N/A |

Values

| Field Name/ Positions | Type | Size | Comment |
|---|-------------|-------------|---|
| Financing Type (Positions 1–20) | Alpha | 20 | Type of loan operation, agreed between Merchant and issuer. Examples: AGRO-CUSTEIO, AGRO-INVEST, FINAME, CBN. |
| Buyer ID Type (Position 21) | Alpha | 1 | Possible values F or J: F = pessoa Física (person/consumer) J = pessoa Jurídica (company/commercial) |
| Buyer ID (Positions 22–35) | Numeric | 14 | Merchant to fill in with cardholder's CPF (Cadastro de Pessoa Física, a registration number provided by the Brazil government to all persons living in Brazil) or company's CNPJ (Cadastro Nacional da Pessoa Jurídica, registration number provided by the Brazil government to all merchants) number or issuers to supply with company's CNPJ number. |
| Buyer Phone Number (Positions 36–46) | Numeric | 11 | Merchant to fill in with buyer phone number. |

| | | | |
|--|--------------|--------------|---|
| Purchase Identification (Positions 47–66) | Alphanumeric | 20 | Invoice data or purchase request data, depending on agreement between merchant and issuer. |
| Installments Cycle (Positions 67–68) | Numeric | 2 | Different amortization types than monthly. For future use, it does not affect transaction clearing and settlement. |
| Interest Rate (Positions 69–86) | Numeric | 18 (12.6) | Interest rate on loan. For future use. |
| Grace Period (Positions 87–89) | Numeric | 3 | Number of amortization cycles to wait before charging the installments. For future use, it does not affect transaction clearing and settlement. |
| Grace Period Cycle (Positions 90–92) | Numeric | 3 | Allow different grace period types than monthly. For future use, it does not affect transaction clearing and settlement. |
| Grace Period Interest Rate (Positions 93–110) | Numeric | 18 (12.6) | Interest rate on grace period. For future use, it does not affect transaction clearing and settlement. |
| Reference Field 1 (Positions 111–130) | Numeric | 20 | Acquirer to populate with merchant's CNPJ number. |
| Reference Field 2 (Positions 131–150) | Alpha | 20 | Data exchange between merchant and issuer, to identify the transaction. |
| Reference Field 3 (Positions 151–170) | Alpha | 20 | Data exchange between merchant and issuer, to identify the transaction. |
| Filler Data (Positions 171–227) | Alphanumeric | 57 | Reserved for future Brazil domestic enhancements. |

Mastercard Brazil BNDES Card Data Requirements

Mastercard has enhanced the Mastercard Brazilian Development Bank (BNDES) Card to increase card issuance and usage in Brazil and support alternative financing options for small and medium-sized businesses.

Mastercard supports the presence of additional data fields for Brazil intracountry transactions submitted with product code MLD (Mastercard Distribution Card). This addition meets BNDES requirements, in terms of addendum data processed and sent by the BNDES generic module, through the acquirers.

The Mastercard BNDES Card is a solution to access a credit line with subsidized rates by BNDES to finance investments for micro-, small-, and medium-sized businesses established in Brazil.

This product is developed for Brazil domestic use only and transactions are sent to the Mastercard Network using the MLD (Mastercard Distribution Card) product code with a specific promotion code (BNDES1) in all transactions. These are issuer-financed installment (up to 48 installments) transactions, made exclusively through the BNDES Operations Portal.

BNDES has enhanced its Operations Portal's Generic Module, which requires acquirers to send additional data through the Mastercard Network.

NOTE: All Brazil domestic transactions using the Mastercard BNDES card must contain DE 63 (Network Data), subfield 1 (Financial Network Code), value MLD (Mastercard Distribution Card) in the authorization message. The specific promotion code value BNDES1 must be included in DE 48 (Additional Data—Private Use), subelement 95 (Mastercard Promotion Code).

In issuer-financed installment billing, the acquirer submits a single clearing record for the full transaction amount. The issuer then bills the cardholder for the installments in accordance with the terms agreed by the cardholder at the point of sale.

NOTE: A customer's CNPJ number is the registration number provided by the Brazil government to all merchants.

DE 112, subelement 012 (Brazil Commercial and Financing Data) contains additional data to support Brazil intracountry, consumer credit transactions submitted with value MLD (Mastercard Distribution Card) in DE 63 (Network Data), subfield 1 (Financial Network Code).

For Brazil intracountry transactions using the Mastercard BNDES card, the following data must be included.

Attributes

| | |
|----------------------|-----------------------------|
| Subelement ID: | 012 |
| Data Representation: | ans-227 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–227 |
| Subfields: | N/A |
| Justification: | N/A |

Values

| Data Element | Subelement | Positions | Value |
|---|---|---------------------------------|-------|
| DE 112 (Additional Data [National Use]) | Subelement 012 (Brazil Commercial and Financing Data) | Positions 1–20 (Financing Type) | CBN |
| | | Position 21 (Buyer ID Type) | J |

| | |
|---------------------------------------|---|
| Positions 22–35 (Buyer ID) | CNPJ number (Buyer Company Tax ID) |
| Positions 36–110 | Spaces |
| Positions 111–130 (Reference Field 1) | CNPJ number (Merchant Brazilian Tax ID) |
| Positions 131–227 | Spaces |

Subelement 018—Brazil Post-Dated Transaction Data

DE 112, subelement 018 (Brazil Post-Dated Transaction Data) contains additional data to support post-dated transaction data provided by the acquirer.

Attributes

| | |
|---------------------|----------------------------|
| Subelement ID | 018 |
| Data Representation | ans-39 |
| Length of Field | 3 |
| Data Field | Contents of positions 1–39 |
| Subfields | N/A |
| Justification | N/A |

Usage

Following is the usage of subelement 018 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | | | |
|-------------------------------------|----|---|---|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Authorization Advice/0120 | C | • | C |
| Reversal Request/0400 | C | • | C |

Values

| Field Name | Positions | Attribute | Field Description |
|------------|-----------|-----------|-------------------|
|------------|-----------|-----------|-------------------|

| | | | |
|-------------------------------------|-------|-----|---|
| Service Code | 1–2 | n-2 | Type of post-dated transaction. Valid Values: <ul style="list-style-type: none">• 30 = Post-Dated with Guarantee• 31 = Post-Dated without Guarantee Must be present and equal to 30 or 31 when DE 61, subfield 7 = 5. |
| Number of Installments | 3 | n-1 | Valid Values: If present, value will always be 1. |
| Guarantee | 4 | a-1 | Valid Values: <ul style="list-style-type: none">• Y = Yes• N = No |
| Guarantee Amount | 5–12 | n-8 | Amount of guarantee to be settled; assumed to be a credit to the issuer. Valid Values: Must be 00000000 if Position 1–2 = 31 (Post-Dated without Guarantee). |
| Post Settlement Date | 13–18 | n-6 | Proposed settlement date (expected date for completion message arrival). Format: MMDDYY |
| Original Mastercard Settlement Date | 19–24 | n-6 | Contains zeros on authorization message. Format: MMDDYY |
| Original Banknet Reference Number | 25–33 | n-9 | Original Banknet reference number assigned by Banknet to original authorization request; contains zeros on authorization request/0100 message. |
| Authorization Code | 34–39 | n-6 | Contains the online authorization code provided by the issuer on the original authorization response. |

Authorization Platform Edits

The Authorization Platform performs the following system edits on DE 112, subelement 018 (Brazil Post-Dated Transaction Data), on authorization messages submitted for Post-Dated transactions in Brazil.

Post-Dated Transactions

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The Authorization Request/0100 message contains DE 112 (Additional Data—National Use), subelement 018 (Brazil Post-Dated Transaction Data) and the issuer account range is not set up for the Post-Dated Payment service or the issuer and acquirer country codes are not the same | Will reject the transaction with <ul style="list-style-type: none">• DE 39 (Response Code) = 57 (Transaction not permitted to issuer/cardholder) |
| The Authorization Request/0100 message contains DE 112 (Additional Data—National Use), subelement 018 (Brazil Post-Dated Transaction Data), subfield 1 (Service Code) contains value 30 or 31 and DE 61 (Point of Service Data), subfield 7 (POS Transaction Status) does not contain value 5 (Time Based Payment Authorization Request) | Will reject the transaction with <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 061 (indicating the data element in error) |
| The Authorization Request/0100 message contains DE 61 (Point of Service Data), subfield 7 (POS Transaction Status) does not contain value 5 (Time Based Payment Authorization Request) and DE 112 (Additional Data—National Use), subelement 018 (Brazil Post-Dated Transaction Data), subfield 1 (Service Code) does not contain value 30 or 31 | Will reject the transaction with <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 112 (indicating the data element in error) |

Alternate Processing

Post-Dated transactions are not eligible for Stand-In or X-Code processing. If an issuer is not available, or offline, the transactions will be declined using the Authorization Request Response/0110 message containing DE 39 (Response Code), value 91 (Authorization Platform or issuer system inoperative).

Brazil—Merchant Fraud Scoring Data

Following are the technical specifications for Authorization Request/0100 and Authorization Request Response/0110 messages that contain merchant fraud scoring data for card-not-present (CNP) transactions from acquirers in Brazil.

Subelement 028—Merchant Fraud Score Data

DE 112, subelement 028 (Merchant Fraud Score Data) should be used by acquirers in Brazil to send merchant fraud score data.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID | 028 |
| Data Representation: | ns-4 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | see values |

Usage

Following is the usage of subelement 028 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | O | • | C |
| Authorization Request Response/0110 | • | X | C |

Values

Acquirers may perform merchant fraud scoring either by themselves or through payment gateways. Acquirers in Brazil can forward the merchant fraud scoring information to issuers using this subelement. Issuers can use this data to know that merchant fraud scoring is done by the acquirer and use the data to make approval decision for CNP transaction.

Merchant Fraud Score data provided by acquirers in Brazil should be in the range -999 to +999. Merchant fraud score should be right justified with leading zeros if the value is less than three digits.

Application Notes

Issuers are not expected to echo DE 112, subelement 028 (Merchant Fraud Score Data) in the Authorization Request Response/0110 message. Mastercard will echo DE 112, subelement 028 (Merchant Fraud Score Data) from Authorization Request/0100 to the acquirers in the Authorization Request Response/0110 message.

Chile—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Chile payment transactions within Chile.

Subelement 010—Installment Payment Data

DE 112, Chile, subelement 010 is used in the Authorization Platform for installment payment transactions within Chile.

Subelement 010 must be present if DE 48 (Additional Data—Private Use), subelement 95 (Mastercard Promotion Code) contains the value CHLCTA.

Subelement 010 contains the following subfields used in Chile Domestic Switch (ChIDS) processing. For details on data requirements for these subfields refer to the *Chile Domestic Switch Implementation Guide*.

- Subfield 1—Total Purchase Amount
- Subfield 2—Number of Installments
- Subfield 3—Installment Type
- Subfield 4—Installment Amount
- Subfield 5—Transaction Interest Rate
- Subfield 6—Deferred Period
- Subfield 7—Deferred Period 1: Installment Amount
- Subfield 8—Deferred Period 1: Interest Rate
- Subfield 9—Deferred Period 1: Period Identifier
- Subfield 10—Deferred Period 2 Installment Amount
- Subfield 11—Deferred Period 2 Interest Rate
- Subfield 12—Deferred Period 2 Period Identifier
- Subfield 13—Deferred Period 3 Installment Amount
- Subfield 14—Deferred Period 3 Interest Rate
- Subfield 15—Deferred Period 3 Period Identifier
- Subfield 16—Simulation Flag
- Subfield 17—Grace Period Flag
- Subfield 18—Grace Period
- Subfield 19—Deferred Period Simulation Flag
- Subfield 20—Reserved for Annual Equivalent Charge Rate (CAE)

Colombia—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Colombia payment transactions within Colombia.

Subelement 010—Installment Payment Data

DE 112, Colombia, subelement 010 (Installment Payment Data) is used in the authorization platform for Colombia payment transactions.

Subelement 010 must be present if DE 48, subelement 95 (Mastercard Promotion Code) contains the value COLCTA.

Attributes

| | |
|----------------------|-------------------------------------|
| Subelement ID: | 010 |
| Data Representation: | ans-2 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–2 |
| Subfields: | N/A |
| Justification: | Left-justified with trailing spaces |
| Usage: | Conditional |

Example Values

XX = The number of installments (01–XX) Maximum number of installments accepted in Colombia varies from time to time (99 as maximum value allowed)

Subelement 011—Customer ID

DE 112, Colombia, subelement 011 (Customer ID) is the customer associated with a voice, card not present, or manual transaction.

Attributes

| | |
|----------------------|-------------------------------------|
| Subelement ID: | 011 |
| Data Representation: | ans-11 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–11 |
| Subfields: | N/A |
| Justification: | Left-justified with trailing spaces |
| Usage: | Conditional |

Example Values

Contains customer ID information.

Cuotas—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Cuotas payment transactions within Argentina, Paraguay, and Uruguay.

Subelement 001—Installment Payment Data

DE 112, Cuotas, subelement 001 (Installment Payment Data) is used in the Authorization Platform for Cuotas payment transactions. Subelement 001 must be present if DE 48,

subelement 95 (Mastercard Promotion Code) contains the value ARGCTA, PRYCTA, or URYCTA.

Attributes

Subelement ID: 001

Data Representation: ans...4

Length Field: 3

Data Field: Contents of positions 1–4 where:

XX = positions 1–2

YY = positions 3–4

Subfields: N/A

Justification: N/A

Values

Cuotas Payment Transactions in the Authorization Request/0100

Used for various Cuotas transactions: From acquirer to issuer in the following format:

XX Cuotas plan type:

20 = Issuer-financed

21 = Merchant-financed

22 = Acquirer-financed

23 = Average payment financing

24 = Consumer financing (Purchase)

25 = Consumer financing (Manual Cash Advance)

80 = ATM Installment Inquiry

81 = ATM Installment Withdrawal

YY The total number of Cuotas

Cuotas Payment Transactions in the Authorization Request Response/0110

Used for various Cuotas transactions: From issuer to acquirer in the following format:

XX Cuotas plan type:

20 = Issuer-financed

21 = Merchant-financed

22 = Acquirer-financed

23 = Average payment financing

24 = Consumer financing (Purchase)

| | | |
|----|---|--|
| 25 | = | Consumer financing (Manual Cash Advance) |
| 80 | = | ATM Installment Inquiry |
| 81 | = | ATM Installment Withdrawal |
| YY | | The total number of Cuotas. |

Subelement 003—Installment Payment Response Data

DE 112, Cuotas, subelement 003 (Installment Payment Response Data) is used in the Authorization Platform and Cuotas payment transactions to provide issuer response data only for consumer financing plan types 24 and 25.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 003 |
| Data Representation: | ans...55 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–55 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Consumer Financing Cuotas transactions in the Authorization Request Response/0110:

From issuer to acquirer, upon transaction approval; all amounts in transaction currency; use the following format:

| Positions | Length | Description |
|-----------|--------|---|
| 1–12 | 12 | Installment amount including any issuer-calculated interest, insurance, or other charges; two decimal places. |
| 13–17 | 5 | Annual nominal interest percentage rate or all zeros if nominal rate not applicable; two decimal places. |
| 18–22 | 5 | Annual actual interest percentage rate or all zeros if actual rate not applicable; two decimal places. |
| 23–27 | 5 | Insurance percentage rate or all zeros if insurance not applicable; two decimal places. |
| 28–39 | 12 | Insurance amount or all zeros if insurance not applicable; two decimal places. |
| 40–51 | 12 | Issuing charge amount or all zeros if issuing charge not applicable; two decimal places. |
| 52–53 | 2 | Total number of installments, or all zeros if total number of installments not applicable. |

| | | |
|-------|---|--|
| 54–55 | 2 | Reserved for future use; insert all zeros. |
|-------|---|--|

Subelement 027—ATM Credit Card Cash Advance Installments

DE 112, Cuotas—Payment Transactions, subelement 027 (ATM Credit Card Cash Advance Installments) is used in the Authorization System for credit card cash advance installment transactions performed at the ATM. Subelement 027 contains details of the cash advance installment transaction.

Attributes

| | |
|----------------|-----|
| Subelement ID: | 027 |
|----------------|-----|

| | |
|----------------------|--|
| Data Representation: | an-4 (Authorization Request/0100) |
| | an-137 (Authorization Request Response/0110) |

| | |
|---------------|---|
| Length Field: | 3 |
|---------------|---|

| | |
|-------------|--|
| Data Field: | Contents of subfields |
| | Subfields 1–2 (Authorization Request/0100) |
| | Subfields 3–11 (Authorization Request Response/0110) |

| | |
|------------|----|
| Subfields: | 11 |
|------------|----|

| | |
|----------------|---------------|
| Justification: | See subfields |
|----------------|---------------|

Usage

Following is the usage of subelement 027 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|----------------------------|---|---|---|
| Authorization Request/0100 | C | • | C |
|----------------------------|---|---|---|

| | | | |
|-------------------------------------|---|---|---|
| Authorization Request Response/0110 | C | • | C |
|-------------------------------------|---|---|---|

Values

| |
|---------------|
| See subfields |
|---------------|

Subfield 1—Transaction Type

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 1 (Transaction Type) contains the type of ATM credit card cash advance installment transaction.

Attributes

| | |
|--------------|---|
| Subfield ID: | 1 |
|--------------|---|

| | |
|----------------------|------|
| Data Representation: | an-2 |
|----------------------|------|

| | |
|-------------|---------------------------|
| Data Field: | Contents of positions 7–8 |
|-------------|---------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Values

80 = ATM Installment Inquiry

81 = ATM Installment Withdrawal

Subfield 2—Requested Number of Installments

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 2 (Requested Number of Installments) contains the requested number of payments required to payoff the credit card cash advance.

Attributes

Subfield ID: 2

Data Representation: n-2

Data Field: Contents of positions 9–10

Justification: N/A

Values

Valid values 01–99

Subfield 3—Approved Number of Installments

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 3 (Approved Number of Installments) contains the number of installment payments approved by the issuer.

Attributes

Subfield ID: 3

Data Representation: n-2

Data Field: Contents of positions 11–12

Justification: Left

Values

Valid values 01–99

Subfield 4—Installment Amount

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 4 (Installment Amount) contains the monthly payment amount.

Attributes

| | |
|----------------------|-----------------------------|
| Subfield ID: | 4 |
| Data Representation: | n-12 |
| Data Field: | Contents of positions 13–24 |
| Justification: | Right with leading zeros |

Subfield 5—Total Transaction Amount

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 5 (Total Transaction Amount) contains the total amount of the credit card cash advance and the interest charged by the issuer.

| | |
|----------------------|-----------------------------|
| Attributes | |
| Subfield ID: | 5 |
| Data Representation: | n-12 |
| Data Field: | Contents of positions 25–36 |
| Justification: | Right with leading zeros |

Subfield 6—Yearly Interest Rate

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 6 (Yearly Interest Rate) contains the yearly interest rate that the issuer charges the cardholder for the installment payment.

| | |
|----------------------|-----------------------------|
| Attributes | |
| Subfield ID: | 6 |
| Data Representation: | n-4 |
| Data Field: | Contents of positions 37–40 |
| Justification: | Right with leading zeros |

Subfield 7—Currency Code

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 7 (Currency Code) contains the currency code the issuer will be charging the cardholder for repayment.

| | |
|----------------------|-----------------------------|
| Attributes | |
| Subfield ID: | 7 |
| Data Representation: | n-3 |
| Data Field: | Contents of positions 41–43 |

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Subfield 8—Member-Defined Data

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 8 (Member-defined Data) contains member data.

| |
|------------|
| Attributes |
|------------|

| | |
|--------------|---|
| Subfield ID: | 8 |
|--------------|---|

| | |
|----------------------|-------|
| Data Representation: | an-25 |
|----------------------|-------|

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 44–68 |
|-------------|-----------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Subfield 9—Member-Defined Data

DE 112, Cuotas—Payment Transactions, subelement 027, subfield 9 (Member-defined Data) contains member data.

| |
|------------|
| Attributes |
|------------|

| | |
|--------------|---|
| Subfield ID: | 9 |
|--------------|---|

| | |
|----------------------|-------|
| Data Representation: | an-25 |
|----------------------|-------|

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 69–93 |
|-------------|-----------------------------|

| | |
|----------------|-----|
| Justification: | N/A |
|----------------|-----|

Europe Region and Philippines—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for the Europe Region and Philippines payment transactions.

Subelement 009—Installment Payment Data

DE 112, subelement 009 (Installment Payment Data) is used in the Authorization System for installment payment transactions in Georgia and Philippines.

DE 112, subelement 009 only applies when DE 48 (Additional Data—Private Use), subelement 95 (Mastercard Promotion Code) contains the value HGMINS or PHINST.

NOTE: Customers in the Europe region should refer to global release articles and the *Mastercard Installment Payment Service User Guide* for information about installment payment processing. Mastercard will no longer publish this information in articles specific to the Europe region as this service is now available globally. Refer to the previous section All Regions—Installment Payment Transactions.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 009 |
| Data Representation: | n-33 |
| Length Field: | 3 |
| Data Field: | Contents of Positions 1–33 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

Following is the usage of subelement 009 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

Values

| | |
|---|---|
| Installment type (positions 1–2) | Installment type contains a type of installment. Valid values include 20 (Issuer-financed), 21 (Merchant-financed), and 22 (Acquirer-financed). |
| Number of installments (positions 3–4) | Number of installments contains the number of installment payments selected by the cardholder. Valid values are 01–99. |
| Interest rate (positions 5–9) | Interest rate contains the interest rate (2 decimal) that the issuer charges the cardholder for the installment payments. Default rate is 0% ("00000"). |
| First installment amount (positions 10–21) | First installment amount contains the amount of the first installment in transaction currency. |
| Subsequent installment amount (positions 22–33) | Subsequent installment amount contains the amount of the subsequent installment in transaction currency. |

NOTE: DE 112 (Additional Data [National Use]), subelement 009 (Installment Payment Data) is a conditional echo in the Authorization Request Response/0110 message for Philippines installment payment transactions for finance type 21 (merchant-financed).

Authorization Platform Edits

The Authorization Platform performs the following edits on data element 112, subelement 009 (Installment Payment Data), on authorization messages submitted for installment payment transactions in Georgia.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>DE 48 (Additional Data—Private Use), subelement 95 (Mastercard Promotion Code) contains the value HGMINS and DE 112 (Additional Data [National Use]), subelement 009 (Installment Payment Data) is not present in an Authorization Request/0100 message</p> | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 112 (indicating the data element in error) |
| <p>DE 48, subelement 95 contains the value HGMINS and DE 112, subelement 009 is present in the Authorization Request/0100 message and DE 112, subelement 009 is not present back in the Authorization Request Response/0110 message</p> | <p>Sends the issuer an Authorization Negative Acknowledgement/0190 message where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 (Additional Response Data) = 112 (indicating the data element in error) <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = 91 (Authorization System or issuer system inoperative) or 05 (Do not honor) |

Subelement 020—Domestic Card Acceptor Tax ID

Subelement 020 (Domestic Card Acceptor Tax ID) is used in the Croatia Authorization System for payment transactions.

Attributes

Subelement ID: 020

Data Representation: ans-20; LLVAR

Length Field: 3

Data Field: Contents of Positions 1–20

Subfields: N/A

Justification: Left with trailing spaces

Usage

Following is the usage of subelement 020 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | CE |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | CE |

Values

Values are assigned by the acquirer.

Application Notes

This field is required when installment transactions are submitted by participating acquirers in Croatia.

Greece—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for installment payment transactions in Greece.

Subelement 006—Installment Payment Data

DE 112, Greece, subelement 006 (Installment Payment Data) is used in the Authorization Platform for Greece payment transactions. It must be present in Authorization Request/0100 and Authorization Request Response/0110 messages when DE 48, subelement 95 (Mastercard Promotion Code) contains the value GREECE.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 006 |
| Data Representation: | ans...10 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–10 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Greece payment transactions in the Authorization Request/0100 and Authorization Request Response/0110

| Positions | Length | Description |
|-----------|--------|-------------|
| | | |

| | | |
|------|---|---|
| 1–2 | 2 | Type of Credit |
| | | <ul style="list-style-type: none"> • 21 = Merchant Financed |
| 3–4 | 2 | Number of Installments |
| | | <ul style="list-style-type: none"> • 01 to 99 |
| 5–7 | 3 | Grace Period Before First Payment in UZZ format where |
| | | <ul style="list-style-type: none"> • U indicates unit type <ul style="list-style-type: none"> – N = No grace period – D = Days – W = Weeks – M = Months • ZZ indicates the number of days, weeks or months <ul style="list-style-type: none"> – 00 to 99 |
| 8–10 | 3 | <p>Transaction Currency Code. Must be same value as provided in DE 49 (Currency Code, Transaction).</p> <p>This is the local currency of the acquirer or source location of the transaction. It specifies the currency used in Amount Transaction DE 4.</p> <ul style="list-style-type: none"> • 978 = Euro (EUR) |

Subelement 008—Installment Payment Response Data

DE 112, Greece, subelement 008 (Installment Payment Response Data) is used in the Authorization Platform for Greece payment transactions in the Authorization Request Response/0110.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 008 |
| Data Representation: | ans...23 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–23 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Greece payment transactions in the Authorization Request Response/0110

| Positions | Length | Description |
|-----------|--------|-------------|
| | | |

| | | |
|-------|----|---|
| 1–12 | 12 | Installment amount (with two decimal places) including any issuer-calculated interest, insurance, or other charges. |
| 13–18 | 6 | Due date of first installment (in DDMMYY format). |
| 19–21 | 3 | <p>Financing Currency Code. This is the currency in which the issuer will finance the transaction.</p> <p>It specifies the currency using in Installment Amount above.</p> <ul style="list-style-type: none"> • 978 = Euro (EUR) |
| 22–23 | 2 | Payment Plan. Reserved for future use. Insert all zeros. |

Japan—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Japan National Data payment transactions within Japan.

Subelement 030—Japan Domestic POS Data

Subelement 030 (Japan Domestic POS Data) is used in the Authorization System to provide data required by acquirers and issuers in Japan for intracountry processing.

Attributes

| | |
|----------------------|-----------------------------|
| Subelement ID: | 030 |
| Data Representation: | ans-138 |
| Length Field: | 3 |
| Data Field: | Contents of Positions 1–138 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

Following is the usage of subelement 030 (whether it is mandatory, conditional, optional, or system provided) in applicable messages:

| | Org | Sys | Dst |
|-------------------------------------|-----|-----|-----|
| Authorization Request/0100 | O | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Reversal Request/0400 | O | • | C |
| Reversal Request Response/0410 | CE | • | C |

| Values | Positions | Format |
|-------------|-----------|--------|
| Terminal ID | 01–13 | ans-13 |

| | | |
|---------------------------------|--------|--|
| JIS II/ISO | 14–82 | ans-69 If ISO track data is populated here it must be padded with trailing spaces. |
| Product Code | 83–89 | ans-7 |
| Reserved for future use | 90 | ans-1 space filled |
| Acquirer Company Code | 91–97 | an-7 |
| Issuer Company Code | 98–104 | an-7 |
| Authorization Transmission Mode | 105 | n-1 <ul style="list-style-type: none"> • 0 = Online • 1 = Memory |
| Entry Indicator | 106 | n-1 <ul style="list-style-type: none"> • 1 = Back Stripe ISO • 2 = Front Stripe JIS II • 3 = Manual • 4 = N/A (Domestic Private Label) • 5 = IC Chip Data ISO • 6 = IC Chip Data JIS II For Reversal Request/0400 messages, if the card is read using the ISO Track (Entry Mode 1), then the track data must be placed in the field JIS II/ISO instead of DE 35 (Track 2 Data) as DE 35 is not present in reversal messages. Note that the ISO track data must be padded with trailing spaces when using the field JIS II/ISO due to its reduced length. |
| Authorization Type | 107 | n-1 <ul style="list-style-type: none"> • 1 = Normal • 2 = Authorization Reservations • 3 = Post-Approval Authorization • 4 = Card Validity Check • 5 = Reversal • 6 = Refund • 7 = Reversal of Authorization Reservation • 8 = Reversal of Post-Approval Authorization |

| | | |
|---|---------|--|
| Approval Number for Post-Approval Authorization | 108–113 | n-6 |
| Sales Slip Number | 114–118 | n-5 |
| Sales Slip Number for Reversal/ Refund | 119–123 | n-5 Sales Slip Number for Reversal/ Refund is not required when DE 03 (Processing Code), subfield 1 (Cardholder Transaction Type Code) does not equal 20 (Refund/Correction) in an authorization request message. When required, and must be all zeros when a meaningful value is not available. |
| Tax Amount | 124–130 | n-7 Format: nnnnnnn |
| Local Transaction Date | 131–138 | n-8 Format: YYYYMMDD |

Application Notes

Because DE 112, subelement 030 contains unique data specific to acquirers and issuers in Japan, Mastercard does not enforce the use of DE 112, subelement 030.

Mastercard does not validate the contents of DE 112, subelement 030 if provided.

Subelement 031—Japan Domestic Response Code

Subelement 031 (Japan Domestic Response Code) is used in the Authorization System to provide data required by acquirers and issuers in Japan for intracountry processing.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 031 |
| Data Representation: | ans-3 |
| Length Field: | 3 |
| Data Field: | Contents of Positions 1–3 |
| Subfields: | N/A |
| Justification: | Right with leading zeros |

Usage

| Following is the usage of subelement 031 (whether it is mandatory, conditional, optional, or system provided) in applicable messages: | Org | Sys | Dst |
|---|-----------|-----|--------|
| Authorization Request Response/0110 | O | • | C |
| Reversal Request Response/0410 | O | • | C |
| Values | Positions | | Format |
| Error Code | 01–03 | | ans-3 |

Subelement 032—Japan Payment Options

Subelement 032 (Japan Payment Options) is used in the Authorization System to provide data for domestic Japan installment payments. The term bonus used in this subelement and related subfields refers to a salary bonus. In Japan, there can be one or two salary bonuses paid per year.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 032 |
| Data Representation: | n-36 |
| Length Field: | 3 |
| Data Field: | Contents of subfields 1–8 |
| Subfields: | 8 |
| Justification: | See “Subfields” |

Usage

| | | | |
|---|-----|-----|-----|
| Following is the usage of subelement 032 (whether it is mandatory, conditional, optional, or system provided) in applicable messages: | Org | Sys | Dst |
| Authorization Request/0100 | O | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Reversal Request/0400 | O | • | C |
| Reversal Request Response/0410 | CE | • | C |

Values

See “Subfields”

Application Notes

If subelement 032 is present then all subfields must also be present.

Mastercard provides subelement 032 to facilitate communication of data between the acquirer and issuer. Mastercard does not enforce edits to check the presence of any data. Transactions that do not include DE 112, subelement 032 data will not be rejected. Subelement 032 should not be included on a cross-border transaction as non-Japan issuers may decline the transaction.

Subfield 1—Payment Option Code

DE 112, subelement 032, subfield 1 (Payment Option Code) indicates how the cardholder wants to pay for the transaction.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 1–2 |
| Justification | Left |

Values

| | |
|----|---|
| 10 | Single Payment |
| 21 | Bonus Pay |
| 22 | Bonus Pay (with number of bonuses) |
| 23 | Bonus Pay (with bonus month) |
| 24 | Bonus Pay (with number of bonuses and bonus month) |
| 31 | Bonus Pay with Installments |
| 32 | Bonus Pay with Installments (with bonus amount) |
| 33 | Bonus Pay with Installments (with number of bonuses, bonus month) |
| 34 | Bonus Pay with Installments (with number of bonuses, bonus month, bonus amount) |
| 61 | Installments (Twice Pay/Three or More) |
| 80 | Revolving |

Application Notes

This field is required and must contain one of the listed values.

Subfield 2—Bonuses Per Year

DE 112, subelement 032, subfield 2 (Bonuses Per Year) indicates if the cardholder receives one or two bonuses per year.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 3–4 |
| Justification | Right with leading zeros |

Values

| | |
|----|----------------------|
| 01 | One bonus per year |
| 02 | Two bonuses per year |
| 00 | Not Applicable |

Application Notes

This field must contain values 01 or 02 for Payment Option Codes 22, 24, 33, or 34; otherwise zero filled.

Subfield 3—First Bonus Month

DE 112, subelement 032, subfield 3 (First Bonus Month) identifies month of the next bonus payment received by the cardholder following the purchase date.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 5–6 |
| Justification | Right with leading zeros |

Values

| | |
|-------|----------------|
| 01–12 | Month |
| 00 | Not Applicable |

Application Notes

This field must contain a value 01 to 12 for Payment Option Codes 23, 24, 33, or 34; otherwise zero filled.

Subfield 4—First Bonus Amount

DE 112, subelement 032, subfield 4 (First Bonus Amount) indicates the amount of first bonus payment. The currency is the same as the transaction currency.

Attributes

| | |
|---------------------|----------------------------|
| Data Representation | n-12 |
| Data Field | Contents of positions 7–18 |

| | |
|---|--|
| Justification | Right with leading zeros |
| Values | |
| 000000000000–999999999999 | Amount of first bonus payment. The currency is the same as the transaction currency. Default is all zeros. |
| Application Notes | |
| This field must contain a Bonus Amount for Payment Option Codes 32 and 34; otherwise zero filled. | |

Subfield 5—Second Bonus Month

DE 112, subelement 032, subfield 5 (Second Bonus Month) identifies the month of the second bonus payment received by the cardholder following the purchase date.

| | |
|--|-----------------------------|
| Attributes | |
| Data Representation | n-2 |
| Data Field | Contents of positions 19–20 |
| Justification | Right with leading zeros |
| Values | |
| 01–12 | Month |
| 00 | Not Applicable |
| Application Notes | |
| This field must contain a value of 01 to 12 when Payment Option Code is 24, 33, or 34 and subfield 2 (Bonuses Per Year) indicates 2; otherwise it should be zero filled. | |

Subfield 6—Second Bonus Amount

DE 112, subelement 032, subfield 6 (Second Bonus Amount) indicates the amount of second bonus payment. The currency is the same as the transaction currency.

| | |
|---------------------------|---|
| Attributes | |
| Data Representation | n-12 |
| Data Field | Contents of positions 21–32 |
| Justification | Right with leading zeros |
| Values | |
| 000000000000–999999999999 | Amount of second bonus payment. The currency is the same as the transaction currency. Default is all zeros. |
| Application Notes | |

This field should contain a Bonus Amount when Payment Option Code is 34 and subfield 2 (Bonuses Per Year) indicates 2; otherwise it should be zero filled.

Subfield 7—Total Number of Installments

DE 112, subelement 032, subfield 7 (Total Number of Installments) indicates the number of installments.

Attributes

| | |
|---------------------|-----------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 33–34 |
| Justification | Right with leading zeros |

Values

| | |
|-------|------------------------|
| 01–99 | Number of installments |
| 00 | Not Applicable |

Application Notes

This field must contain a value of 01 to 99 when Payment Option Code is 31, 32, 33, 34, or 61; otherwise zero filled.

Subfield 8—First Installment Month

DE 112, subelement 032, subfield 8 (First Installment Month) indicates the month in which the first installment will be paid.

Attributes

| | |
|---------------------|-----------------------------|
| Data Representation | n-2 |
| Data Field | Contents of positions 35–36 |
| Justification | Right with leading zeros |

Values

| | |
|-------|----------------|
| 01–12 | Month |
| 00 | Not Applicable |

Application Notes

This field must contain a value of 01 to 12 when Payment Option Code is 31, 32, 33, 34, or 61; otherwise zero filled.

Mexcta—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Mexcta payment transactions within Mexico.

Subelement 004—Credit Line Usage Fee (CLUF)

DE 112, Mexta, subelement 004 (Credit Line Usage Fee [CLUF]) contains the currency code and fee amount associated with the CLUF for domestic credit card cash advance (CCCA) ATM transactions in Authorization Request Response/0110 and Authorization Reversal Request/0400 Messages.

| Attributes | |
|---------------------------------------|----------------------------|
| Subelement ID: | 004 |
| Data Representation: | n-11 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–11 |
| Subfields: | N/A |
| Justification: | Right-justified |
| Values | |
| Numeric currency code (positions 1–3) | |
| Fee amount (positions 4–11) | |

Subelement 005—Issuing Bank Name (AKA Doing Business As [DBA])

DE 112, Mexta, subelement 005 (Issuing Bank Name [AKA Doing Business As (DBA)]) contains the issuing bank name (DBA) for ATM transactions where the Credit Line Usage Fee (CLUF) applies in Authorization Request Response/0110 and Authorization Reversal Request/0400 Messages.

| Attributes | |
|----------------------|---------------------------------|
| Subelement ID: | 005 |
| Data Representation: | ans-20 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–20 |
| Subfields: | N/A |
| Justification: | Left-justified, trailing spaces |

Subelement 006—Financial Institution ID (FIID)

DE 112, Mexcta, subelement 006 (Financial Institution ID [FIID]) is used in Credit Line Usage Fee (CLUF) transactions on domestic ATM credit card cash advance transactions in the Authorization platform in Authorization Request Response/0110 and Authorization Reversal Request/0400 Messages.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 006 |
| Data Representation: | ans-4 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Valid FIID

Subelement 007—Installment Payment Data

DE 112, Mexcta, subelement 007 (Installment Payment Data) is used in the Authorization Platform for Mexcta payment transactions.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 007 |
| Data Representation: | ans-9 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–9 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Mexcta Payment Transactions in the Authorization Request/0100

- XX Installment pay plan types (positions 1–2). Valid values include:
- 00 (No promotion)
 - 03 (Without interest for the cardholder)
 - 05 (With interest for the cardholder)
 - 07 (Buy today, pay later)

-
- YY The total number of installments (positions 3-4). Valid value is 01-99.
-

| | |
|-----|--|
| ZZ | Grace period before first payment (positions 5–6). Valid values is 00–99. |
| NNN | Transaction Currency Code (positions 7–9). Same value as DE 49 (Currency Code, Transaction) This is the local currency of the acquirer or source location of the transaction. It specifies the currency used in DE 4 (Amount, Transaction). 484 = Mexican Peso |

Mexcta Payment Transactions in the Authorization Request Response/0110

| | |
|-----|--|
| XX | Installment pay plan types (positions 1–2). Valid values include: <ul style="list-style-type: none">• 00 (No promotion)• 03 (Without interest for the cardholder)• 05 (With interest for the cardholder)• 07 (Buy today, pay later) |
| YY | The total number of installments (positions 3–4). Valid value is 01–99. |
| ZZ | Grace period before first payment (positions 5–6). Valid value is 00–99. |
| NNN | Transaction Currency Code (positions 7–9). Same value as DE 49 (Currency Code, Transaction) This is the local currency of the acquirer or source location of the transaction. It specifies the currency used in DE 4 (Amount, Transaction). 484 = Mexican Peso |

Subelement 008—Installment Payment Response Data

DE 112, Mexcta, subelement 008 (Installment Payment Response Data) is used in the Authorization Platform and Mexcta payment transactions in the Authorization Request Response/0110.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 008 |
| Data Representation: | ans-23 |
| Length Field: | 023 |
| Data Field: | Contents of positions 1–23 |
| Subfields: | N/A |
| Justification: | N/A |

Values

| | |
|--|--|
| Installment amount (positions 1–12) | Installment amount (with two decimal places) including any issuer-calculated interest, insurance, or other charges. |
| Due Date of First Installment (positions 13–18) | Due Date of First Installment (in binary format: ddmmyyyy) |
| Finance currency code (positions 19–21) | This is the currency in which the issuer will finance the transaction. This specifies the currency used in installment amount, above 484 (Mexican Peso) |
| Payment Plan (positions 22–23) | Reserved for future use. Insert all zeros. |

Parcelas—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Parcelas payment transactions within Brazil.

Subelement 001—Installment Payment Data

DE 112, Parcelas, subelement 001 (Installment Payment Data) is used in the Authorization Platform for Parcelas payment transactions.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 001 |
| Data Representation: | ans-4 |
| Length Field | 3 |
| Data Field: | Contents of positions 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Parcelas Payment Transactions in the Authorization Request/0100

Used for both issuer- or merchant-financed Parcelas transactions: From acquirer to issuer requiring approval; use the following format:

XX Parcelas plan type:

20 = Issuer-financed

21 = Merchant-financed

YY The total number of Parcelas

Parcelas Payment Transactions in the Authorization Request Response/0110

Used for both issuer- or merchant-financed Parcelas transactions: From acquirer to issuer requiring approval. Echoing this subelement in the Authorization Request Response is unique to Brazil processing. Use the following format:

| | |
|----|------------------------------|
| XX | Parcelas plan type: |
| 20 | = Issuer-financed |
| 21 | = Merchant-financed |
| YY | The total number of Parcelas |

Subelement 002—Installment Payment Response Data

DE 112, Parcelas, subelement 002 (Installment Payment Response Data) is used in the Authorization Platform and Parcelas payment transactions.

Attributes

| | |
|----------------------|---|
| Subelement ID: | 002 |
| Data Representation: | ans...32 if format 1 used; ans...4 if format 2 used |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–32 or 1–4 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Format 1: Issuer-Financed Parcelas transactions in the Authorization Request Response/0110:

Issuer acknowledgement format 1, from issuer to acquirer, upon transaction approval; all amounts are express in transaction currency; contents are as follows:

| | |
|-----------------|--|
| Positions 1–4 | Parcelas information, same as subelement 001. |
| Positions 5–16 | Parcelas (or installment) amount issuer calculates, including calculated interest; two decimal places. |
| Positions 17–28 | Transaction total amount issuer calculates, including calculated interest; two decimal places. |
| Positions 29–32 | Monthly interest rate issuer calculates; two decimal places. |

Format 2: Merchant-Financed Parcelas transactions in the Authorization Request Response/0110

Issuer acknowledgement format 2, from issuer to acquirer, upon transaction approval; Parcelas information copied from subelement 001 as follows:

| | |
|----|--------------------------------|
| 21 | = Merchant-financed |
| YY | = The total number of Parcelas |

Subelement 016—Additional Installment Payment Response Data

DE 112, Parcelas, subelement 016 (Additional Installment Payment Response Data) is used in the Authorization Platform and Parcelas payment transactions.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 016 |
| Data Representation: | ans-74 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–74 |
| Subfields: | N/A |
| Justification: | N/A |

Values

All Authorization Request Response/0110 messages in response to Parcelas Authorization Request/0100 messages must include additional information to identify the total effective cost of installment transactions.

| | |
|-----------------|---|
| Positions 1–12 | Total Effective Cost (TEC) (N12) |
| Positions 13–19 | Taxes (N7) |
| Positions 20–23 | % Taxes of Total Amount (N4) |
| Positions 24–30 | Fee (N7) |
| Positions 31–34 | % Fee of Total Amount (N4) |
| Positions 35–41 | Insurance (N7) |
| Positions 42–45 | % Insurance of Total Amount (N4) |
| Positions 46–52 | Other (N7) |
| Positions 53–56 | % Other of Total Amount (N4) |
| Positions 57–63 | Total Amount to Merchant (N7) |
| Positions 64–67 | % Amount to Merchant of Total Amount (N4) |
| Positions 68–74 | % Total Effect Cost (N7) |

Percta—Payment Transactions

Following are the technical specifications for Authorization/01xx messages for Percta payment transactions within Peru.

Subelement 007—Installment Payment Data

DE 112, Percta, Subelement 007 (Installment Payment Data) is used in the Authorization Platform for Percta payment transactions.

Attributes

| | |
|----------------------|---------------------------|
| Subelement ID: | 007 |
| Data Representation: | ans-8 |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–8 |
| Subfields: | N/A |
| Justification: | N/A |

Values

Percta Payment Transactions in the Authorization Request/0100

| | |
|-----|--|
| XX | Type of credit (positions 1–2). Valid value is 20 (Issuer-financed) In the case of Peru, issuer finance is the only finance model. |
| YY | The total number of installments (positions 3–4). Valid value is 01–99. |
| Z | Grace period before first payment (position 5). Valid values are: <ul style="list-style-type: none">• 0 = No grace period• 1 = One month• 2 = Two months |
| NNN | Transaction Currency Code (positions 6–8). Echo of DE 49 (Currency Code, Transaction) This is the local currency of the acquirer or source location of the transaction. It specifies the currency used in DE 4 (Amount, Transaction). 604 = Peru Nuevo Sol 840 = United States dollar |

Percta Payment Transactions in the Authorization Request Response/0110

| | |
|----|--|
| XX | Type of credit (positions 1–2). Valid value is 20 (Issuer-financed) In the case of Peru, issuer finance is the only finance model. |
| YY | The total number of installments (positions 3–4). Valid value is 01–99. |
| Z | Grace period before first payment (position 5). Valid values are: <ul style="list-style-type: none">• 0 = No grace period• 1 = One month• 2 = Two months |

| | |
|-----|--|
| NNN | Transaction Currency Code (positions 6–8). Echo of DE 49 (Currency Code, Transaction) This is the local currency of the acquirer or source location of the transaction. It specifies the currency used in DE 4 (Amount, Transaction). 604 = Peru Nuevo Sol 840 = United States dollar |
|-----|--|

Subelement 008—Installment Payment Response Data

DE 112, Percta, subelement 008 (Installment Payment Response Data) is used in the Authorization Platform and Percta payment transactions.

Attributes

| | |
|----------------------|----------------------------|
| Subelement ID: | 008 |
| Data Representation: | ans–23 |
| Length Field: | 023 |
| Data Field: | Contents of positions 1–23 |
| Subfields: | N/A |
| Justification: | N/A |

Values

| | |
|--|--|
| Installment amount (positions 1–12) | Installment amount (with two decimal places) including any issuer-calculated interest, insurance, or other charges. |
| Due Date of First Installment (positions 13–18) | Due Date of First Installment (in binary format: ddmmmyyy) |
| Finance currency code (positions 19–21) | This is the currency in which the issuer will finance the transaction. This specifies the currency used in installment amount, above 604 (Peru Nuevo Sol) or 840 (United States dollar) |
| Payment Plan (positions 22–23) | Reserved for future use. Insert all zeros. |

Private Label—Cross-Border Commodities Trade Program Transactions

Following are the technical specifications for Authorization/01xx messages for private label Cross-Border Commodities Trade Program transactions that contain additional information for the private label Cross-border Commodities Trade Program and may only be used by customers registered for this program.

Subelement 034—Trade Payment Information

DE 112, subelement 034 (Trade Payment Information) contains additional information about a trade payment in authorization messages.

| Attribute | Value |
|---------------------|-------------------|
| Subelement ID | n-3 |
| Subelement Length | 034 |
| Data Representation | 003 or 015 |
| Data Field | ans...040, LLLVAR |
| Number of Subfields | 2 |

Usage

Following is the usage of subelement 034 (whether it is mandatory, conditional, optional, or system provided) in applicable messages.

| Message | Org | Sys | Dst |
|-------------------------------------|------------|------------|------------|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | CE | • | C |
| Reversal Request/0400 | C | • | C |
| Reversal Request Response/0410 | CE | • | C |

Application Notes

Subelement 34 must be present in Cross-border Commodities Trade Program transactions.

Subfield 1—Trade Payment Option

DE 112, subelement 034, subfield 1 (Trade Payment Option) contains payment option values used for trading provided by acquirer.

Attributes

| | |
|---------------------|---------------------------|
| Data Representation | ans-3 |
| Data Field | Contents of positions 1-3 |
| Justification | Left |

Subfield 2—Intra-day Credit Amount

DE 112, subelement 034, subfield 2 (Intra-day Credit Amount) contains the intra-day amount that is transferred in the trade.

Attributes

| | |
|---|----------------------------|
| Data Representation | n-12 |
| Data Field | Contents of positions 4–15 |
| Justification | Right |
| Values | Description |
| This amount in the same currency as the transaction amount and zero filled if not applicable. | |

Spain—Domestic ATM Transactions

Following are the technical specifications for Authorization/01xx messages for domestic ATM transactions within Spain.

Subelement 017—ATM Domestic Fee

DE 112, subelement 017 (ATM Domestic Fee) contains fees charged for ATM domestic transactions in Spain.

| Attributes | |
|----------------------|---------------------------|
| Subelement ID: | 017 |
| Data Representation: | n...48; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of subfields 1–3 |
| Subfields: | 3 |
| Justification: | See subfields. |

Usage

Following is the usage of subelement 017 (whether it is mandatory, conditional, optional, or system provided) in applicable messages.

| Message | Org | Sys | Dst |
|-------------------------------------|------------|------------|------------|
| Authorization Request/0100 | O | • | O |
| Authorization Request Response/0110 | O | • | O |
| Reversal Request/0400 | O | • | O |

Values

See subfields.

Subfield 1—ATM Service Fee

DE 112, subelement 017, subfield 1 (ATM Service Fee) contains fee amount in the currency of DE 49 (Currency Code, Transaction) charged to the issuer to compensate the ATM acquirer for the ATM cost incurred for ATM domestic transactions in Spain.

Attributes

| | |
|---------------------|--------------------------|
| Subfield ID | 01 |
| Data Representation | n-12 |
| Length Field | 2 |
| Justification | Right with leading zeros |

Values

ATM Service Fee amount in transaction currency.

Subfield 2—ATM Disloyalty Fee

DE 112, subelement 017, subfield 2 (ATM Disloyalty Fee) contains fee amount in the currency of DE 51 (Currency Code, Cardholder Billing), charged by the issuer to the cardholder for using another bank's ATM for ATM domestic transactions in Spain.

Attributes

| | |
|---------------------|--------------------------|
| Subfield ID | 02 |
| Data Representation | n-12 |
| Length Field | 2 |
| Justification | Right with leading zeros |

Values

ATM Disloyalty Fee amount in Cardholder Billing currency.

Subfield 3—Credit Card Fee

DE 112, subelement 017, subfield 3 (Credit Card Fee) contains fee amount in the currency of DE 51 (Currency Code, Cardholder Billing) charged by the issuer to the cardholder for the grant of credit for ATM domestic transactions in Spain.

Attributes

| | |
|---------------------|--------------------------|
| Subfield ID | 03 |
| Data Representation | n-12 |
| Length Field | 2 |
| Justification | Right with leading zeros |

Values

Credit Card Fee amount in Cardholder Billing currency.

United Kingdom—Debt Repayment Transactions

Following are the technical specifications for Authorization/01xx messages for United Kingdom debt repayment transactions within the U.K.

Subelement 033—UK Recipient Details

DE 112, subelement 033 (UK Recipient Details) supports the transmission of recipient details in an authorization request from acquirer to issuer.

| Attribute | Value |
|---------------------|---------------------------|
| Subelement ID | n-3 |
| Subelement Length | n-3 |
| Data Representation | ans...89; LLLVAR |
| Data Field | Contents of subfields 1–4 |
| Number of Subfields | N/A |
| Justification | See subfields |
| Values | See subfields |

Usage

Following is the usage of subelement 033 (whether it is mandatory, conditional, optional, or system provided) in applicable messages.

| Message | Org | Sys | Dst |
|----------------------------|------------|------------|------------|
| Authorization Request/0100 | C | • | C |

Subfield 1—Recipient Last Name

DE 112, subelement 033 (UK Recipient Details), subfield 1 (Recipient Last Name) contains the last name of the recipient.

| Attribute | Value |
|---------------------|-----------------|
| Subfield ID | n-2 |
| Subfield Length | 2 |
| Data Representation | ans...35; LLVAR |
| Justification | N/A |

Values

Contains valid last name of the recipient (only the first six letters of the last name are required).

Subfield 2—Recipient Postal Code

DE 112, subelement 033 (UK Recipient Details), subfield 2 (Recipient Postal Code) contains the postal code of the recipient.

| Attribute | Value |
|--|-------------------------------------|
| Subfield ID | n-2 |
| Subfield Length | 2 |
| Data Representation | ans-10 |
| Justification | left-justified with trailing spaces |
| Values | |
| Contains valid location postal code of the recipient. First part represents the district, then space-filled. | |

Subfield 3—Recipient Date of Birth

DE 112, subelement 033 (UK Recipient Details), subfield 3 (Recipient Date of Birth) contains the date of birth of the recipient.

| Attribute | Value |
|---|--------------|
| Subfield ID | n-2 |
| Subfield Length | 2 |
| Data Representation | n-8 |
| Justification | N/A |
| Values | |
| Contains valid date of birth of the recipient in the format YYYYMMDD. | |

Subfield 4—Recipient Account Number

DE 112, subelement 033 (UK Recipient Details), subfield 4 (Recipient Account Number) contains valid account number of the recipient.

| Attribute | Value |
|---------------------|----------------|
| Subfield ID | n-2 |
| Subfield Length | 2 |
| Data Representation | ns...20; LLVAR |
| Justification | N/A |
| Values | |

Contains the recipient account number.

DE 113—Reserved for National Use

Mastercard recommends that DE 113 contain Application Generic Data and Application Banking Data. This data element is typically present for consumer and business application requests, counteroffer replies, and pre-approved offer inquiries.

Attributes

Data Element ID: 113

Data Representation: ans...999; LLLVAR

Length Field: 3

Data Field: Contents of positions 1–999

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 113 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-----------------------------|---|---|---|
| Administrative Request/0600 | C | • | C |
|-----------------------------|---|---|---|

| | | | |
|--------------------------------------|---|---|---|
| Administrative Request Response/0610 | C | • | C |
|--------------------------------------|---|---|---|

Application Notes

Mastercard edits DE 113 for valid attributes but does not edit or log data contents.

At least one of DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

113LLL<field_name>data<field_name>data...<field_name>data

113 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Generic Data, Administrative Request/0600 Message

DE 113, Generic Data, may contain the following fields.

| Field Name | Max Length | Description |
|----------------------|-------------------|--|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| credit_unit | 5 | Credit unit designation |
| appl_source_type | 3 | Origin of application |
| source_code | 19 | Application source code |
| appl_source_empid | 11 | Employee ID that obtained application request |
| appl_type | 1 | <ul style="list-style-type: none"> • C = Consumer • B = Business |
| account_type | 1 | <p>For Business applications use:</p> <ul style="list-style-type: none"> • R = Revolving • N = Non-revolving • I = Installment • P = Invoice/Net Pay • M = Co-Brand <p>For Consumer applications use:</p> <ul style="list-style-type: none"> • 1 = Individual • 2 = Joint • 3 = Authorized Buyer |
| language_pref | 3 | <ul style="list-style-type: none"> • ENG = English • SPA = Spanish • FRE = French • and other supported ISO 639 codes |
| sale_pending_amt | 12 | Amount of initial sale |
| credit_limit_req_amt | 12 | Amount of requested credit limit |
| single_purch_limit | 12 | Amount limit per purchase |
| bill_addr1 | 25 | Billing address line 1 |
| bill_addr2 | 25 | Billing address line 2 |
| bill_city | 20 | Billing city |
| bill_sub_ctry | 2 | Billing subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bill_post_code | 10 | Billing postal code |
| bill_ctry | 3 | Billing country alpha abbreviation |

| Field Name | Max Length | Description |
|-------------------|-------------------|--|
| bill_phone_nbr | 15 | Billing phone number |
| bill_email_addr | 54 | Billing e-mail address |
| membership_nbr | 16 | Unique identifier of member or customer |
| correlation_id | 16 | Correlation identifier may be assigned when response to application response is status O |
| reference_nbr | 13 | Reference number assigned to original application |
| offer_accept_ind | 1 | Y or N indicates acceptance of counteroffer |
| temp_pass_days | 2 | Number of days requested for a temporary charge pass |
| pre_approval_nbr | 13 | Preapproval reference number |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Application Generic Data recommended usage when:

- DE 60 = 6500080 (Consumer Application Request)
- DE 60 = 6500085 (Consumer Counteroffer Reply)
- DE 60 = 6500090 (Business Application Request)
- DE 60 = 6500095 (Business Counteroffer Reply)

Banking Data, Administrative Request/0600 Message

DE 113, Banking Data, may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|---|
| bank_name | 35 | Name of bank |
| bank_addr1 | 25 | Bank address line 1 |
| bank_addr2 | 25 | Bank address line 2 |
| bank_city | 20 | Bank city |
| bank_sub_ctry | 2 | Bank subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bank_post_code | 10 | Bank postal code |
| bank_ctry | 3 | Bank country alpha abbreviation |
| bank_phone_nbr | 15 | Bank phone number |
| checking_acct_nbr | 17 | Checking account number |

| Field Name | Max Length | Description |
|------------------|------------|------------------------|
| savings_acct_nbr | 17 | Savings account number |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Application Banking Data recommended usage when:

- DE 60 = 6500080 (Consumer Application Request)
- DE 60 = 6500090 (Business Application Request)

DE 114—Reserved for National Use

Mastercard recommends that DE 114 contain Consumer Application Data or Consumer Maintenance Data. This data element is typically present for consumer application requests, application status inquiries, preapproved offer inquiries, or consumer maintenance requests as well as consumer application or consumer maintenance responses. DE 114 also may be present for business application requests that require a personal guarantee.

Attributes

| | |
|----------------------|-----------------------------|
| Data Element ID: | 114 |
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–999 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 114 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages.

| | Org | Sys | Dst |
|--------------------------------------|-----|-----|-----|
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | C | • | C |

Application Notes

Mastercard edits DE 114 for valid attributes but does not edit or log data contents.

At least one of DE 113-119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

114LLL<field_name>data<field_name>data...<field_name>data

114 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Consumer Application Request Data Administrative Request/0600 Message

DE 114, Consumer Application Request Data, may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|--|
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| cons_suffix | 6 | Consumer's suffix; SR, JR, III, PHD |
| birth_date | 10 | Consumer's date of birth; CCYY/MM/DD |
| national_id | 20 | Consumer's national identification number United States—use Social Security number |
| local_id_type | 1 | Consumer's local ID type D = Driver's license I = Identification card O = Other |
| local_id_location | 2 | Consumer's local ID location United States—use alpha state codes |
| local_id_nbr | 24 | Consumer's local ID number |
| home_addr1 | 25 | Consumer's home address line 1 |
| home_addr2 | 25 | Consumer's home address line 2 |
| home_city | 20 | Consumer's home city |
| home_sub_ctry | 2 | Consumer's home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| home_post_code | 10 | Consumer's home postal code |
| home_ctry | 3 | Consumer's home country alpha abbreviation |

| Field Name | Max Length | Description |
|---------------------|-------------------|---|
| home_phone_nbr | 15 | Consumer's home phone number |
| rent_own_ind | 1 | Consumer's home status |
| | B | = Board or other |
| | M | = Military |
| | O | = Own |
| | P | = Live with parents or other relatives |
| | R | = Rent |
| residence_time | 2 | Number of years lived in current residence |
| prev_residence_time | 2 | Number of years lived in previous residence |
| prev home_addr1 | 25 | Consumer's previous home address line 1 |
| prev home_addr2 | 25 | Consumer's previous home address line 2 |
| prev_home_city | 20 | Consumer's previous home city |
| prev_home_sub_ctry | 2 | Consumer's previous home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| prev_home_post_code | 10 | Consumer's previous home postal code |
| prev_home_ctry | 3 | Consumer's previous home country alpha abbreviation |
| employment_time | 2 | Number of years employed by current employer |
| work_phone_nbr | 15 | Consumer's work phone number |
| annual_income_amt | 12 | Consumer's total annual income amount |
| credit_ins_ind | 1 | Y or N—Consumer's acceptance of credit insurance |
| card_qty | 3 | Quantity of cards requested |
| client_employee | 1 | Y or N—Is applicant an employee of client |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Consumer Application Request Data recommended usage when:

- DE 60 = 6500080 (Consumer Application Request)
 - DE 60 = 6500090 (Business Application Request)
-

Consumer Status Inquiry or Preapproved Offer Inquiry Data Administrative Request/0600 Message

DE 114, Consumer Status Inquiry or Preapproved Offer Inquiry Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|---|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| reference_nbr | 13 | Application reference number provided if available |
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| cons_suffix | 6 | Consumer's suffix; SR, JR, III, PHD |
| birth_date | 10 | Consumer's date of birth; CCYY/MM/DD |
| national_id | 20 | Consumer's national identification number United States—use Social Security number |
| local_id_nbr | 24 | Consumer's local ID number United States—use driver's license or other ID |
| home_phone_nbr | 15 | Consumer's home phone number |
| pre_approval_nbr | 13 | Preapproved reference number |
| temp_pass_days | 2 | Number of days requested for a temporary charge pass |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Consumer Application Inquiry Data recommended usage when:

- DE 60 = 6500081 (Consumer Application Status Inquiry)
- DE 60 = 6500086 (Consumer Preapproved Offer Inquiry)

Consumer Account Maintenance Data Administrative Request/0600 Message

DE 114, Consumer Account Maintenance Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|-------------------|---|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| account_nbr | 19 | Consumer account number |
| account_status | 1 | Update account status only to I = Inactive |
| cons_first_name | 15 | Update consumer's first name |
| cons_middle_initial | 1 | Update consumer's middle initial |
| cons_last_name | 20 | Update consumer's last name |
| cons_suffix | 6 | Update consumer's suffix; SR, JR, III, PHD |
| local_id_type | 1 | Update consumer's local ID type D = Driver's license I = Identification card O = Other |
| local_id_location | 2 | Update consumer's local ID location United States—use alpha State codes |
| local_id_nbr | 24 | Update consumer's local ID number |
| home_addr1 | 25 | Update consumer's home address line 1 |
| home_addr2 | 25 | Update consumer's home address line 2 |
| home_city | 20 | Update consumer's home city |
| home_sub_ctry | 2 | Update consumer's home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| home_post_code | 10 | Update consumer's home postal code |
| home_ctry | 3 | Update consumer's home country alpha abbreviation |
| home_phone_nbr | 15 | Update consumer's home phone number |
| bill_addr1 | 25 | Update billing address line 1 |
| bill_addr2 | 25 | Update billing address line 2 |
| bill_city | 20 | Update billing city |
| bill_sub_ctry | 2 | Update billing subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bill_post_code | 10 | Update billing postal code |

| Field Name | Max Length | Description |
|--|-------------------|--|
| bill_ctry | 3 | Update billing country alpha abbreviation |
| bill_phone_nbr | 15 | Update billing phone number |
| bill_email_addr | 54 | Update billing e-mail address |
| work_phone_nbr | 15 | Update consumer's work phone number |
| bank_name | 35 | Update name of bank |
| bank_addr1 | 25 | Update bank address line 1 |
| bank_addr2 | 25 | Update bank address line 2 |
| bank_city | 20 | Update bank city |
| bank_sub_ctry | 2 | Update bank subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bank_post_code | 10 | Update bank postal code |
| bank_ctry | 3 | Update bank country alpha abbreviation |
| Consumer Account Maintenance Data recommended usage when: DE 60 = 6500084 (Consumer Account Maintenance Request) | 17 | Update checking account number |
| savings_acct_nbr | 17 | Update savings account number |
| credit_ins_ind | 1 | Update Y or N consumer's acceptance of credit insurance |
| annual_income_amt | 12 | Update consumer's total annual income amount |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |
| Repeat following User information as necessary for multiple users. | | |
| user_function | 1 | A = Add, D = Delete |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |
| The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length. | | |
| Usage | 15 | Update bank phone number |
| reference_nbr | 13 | Reference number assigned to each application |

| Field Name | Max Length | Description |
|---------------------|-------------------|--|
| appl_source_type | 3 | Origin of application |
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| cons_suffix | 6 | Consumer's suffix; SR, JR, III, PHD |
| home_addr1 | 25 | Consumer's home address line 1 |
| home_addr2 | 25 | Consumer's home address line 2 |
| home_city | 20 | Consumer's home city |
| home_sub_ctry | 2 | Consumer's home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| home_post_code | 10 | Consumer's home postal code |
| home_ctry | 3 | Consumer's home country alpha abbreviation |
| home_phone_nbr | 15 | Consumer's home phone number |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |
| temp_pass_exp_date | 10 | Expiration date of the temporary charge pass; format CCYY/MM/DD |
| appl_status | 1 | A = Approved D = Declined C = Call O = Counteroffer P = Pending M = Mail-based Offer Approved |
| account_nbr | 19 | Account number present if status = A |
| credit_limit_amt | 12 | Credit limit amount present if status = A or O |

Consumer Application Response Data Administrative Request Response/0610 Message

DE 114, Consumer Application Response Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|---|
| reference_nbr | 13 | Reference number assigned to each application |

| Field Name | Max Length | Description | | | |
|---------------------|-------------------|---|---|---------------------------|--|
| appl_source_type | 3 | Origin of application | | | |
| cons_first_name | 15 | Consumer's first name | | | |
| cons_middle_initial | 1 | Consumer's middle initial | | | |
| cons_last_name | 20 | Consumer's last name | | | |
| cons_suffix | 6 | Consumer's suffix; SR, JR, III, PHD | | | |
| home_addr1 | 25 | Consumer's home address line 1 | | | |
| home_addr2 | 25 | Consumer's home address line 2 | | | |
| home_city | 20 | Consumer's home city | | | |
| home_sub_ctry | 2 | Consumer's home subnational entity alpha abbreviation; for example U.S. state code abbreviations | | | |
| home_post_code | 10 | Consumer's home postal code | | | |
| home_ctry | 3 | Consumer's home country alpha abbreviation | | | |
| home_phone_nbr | 15 | Consumer's home phone number | | | |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes | | | |
| temp_pass_exp_date | 10 | Expiration date of the temporary charge pass;format CCYY/MM/DD | | | |
| appl_status | 1 | A | = | Approved | |
| | | D | = | Declined | |
| | | C | = | Call | |
| | | O | = | Counteroffer | |
| | | P | = | Pending | |
| | | M | = | Mail-based Offer Approved | |
| account_nbr | 19 | Account number present if status = A | | | |
| credit_limit_amt | 12 | Credit limit amount present if status = A or O | | | |
| card_expiry_date | 4 | Card expiration date may be present if status = A; format YYMM | | | |
| credit_phone_nbr | 15 | Phone number may be present for application inquiries by customer or store | | | |
| credit_terms | 256 | Credit terms may be present if applicable. Credit terms may include relevant information such as for revolving, non-revolving, or installment credit account. | | | |

| Field Name | Max Length | Description |
|-------------------|-------------------|---|
| correlation_id | 16 | Correlation identifier may be assigned when response to application request is status O |
| pre_approval_nbr | 13 | Preapproval reference number |
| pre_appr_end_date | 10 | Expiration date of the pre approval offer; format CCYY/MM/DD |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Consumer Application Response Data recommended usage when:

- DE 60 = 6500080 (Consumer Application Request)
 - DE 60 = 6500081 (Consumer Application Status Inquiry)
 - DE 60 = 6500085 (Consumer Counteroffer Reply)
 - DE 60 = 6500086 (Consumer Preapproved Offer Inquiry)
-

Consumer Account Maintenance Data Administrative Request Response/0610 Message

DE 114, Consumer Account Maintenance Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------------|-------------------|--|
| account_nbr | 19 | Consumer account number |
| account_status_maint | 1 | S = successful, U = unsuccessful |
| account_status | 1 | Update account status only to I = Inactive |
| cons_first_name_maint | 1 | S = successful, U = unsuccessful |
| cons_first_name | 15 | Update consumer's first name |
| cons_middle_initial_maint | 1 | S = successful, U = unsuccessful |
| cons_middle_initial | 1 | Update consumer's middle initial |
| cons_last_name_maint | 1 | S = successful, U = unsuccessful |
| cons_last_name | 20 | Update consumer's last name |
| cons_suffix_maint | 1 | S = successful, U = unsuccessful |
| cons_suffix | 6 | Update consumer's suffix; SR, JR, III, PHD |
| local_id_type_maint | 1 | S = successful, U = unsuccessful |
| local_id_type | 1 | Update consumer's local ID type |
| local_id_location_maint | 1 | S = successful, U = unsuccessful |

| Field Name | Max Length | Description |
|----------------------|-------------------|---|
| local_id_location | 2 | Update consumer's local ID location |
| local_id_nbr_maint | 1 | S = successful, U = unsuccessful |
| local_id_nbr | 24 | Update consumer's local ID number |
| home_addr1_maint | 1 | S = successful, U = unsuccessful |
| home_addr1 | 25 | Update consumer's home address line 1 |
| home_addr2_maint | 1 | S = successful, U = unsuccessful |
| home_addr2 | 25 | Update consumer's home address line 2 |
| home_city_maint | 1 | S = successful, U = unsuccessful |
| home_city | 20 | Update consumer's home city |
| home_sub_ctry_maint | 1 | S = successful, U = unsuccessful |
| home_sub_ctry | 2 | Update home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| home_post_code_maint | 1 | S = successful, U = unsuccessful |
| home_post_code | 10 | Update consumer's home postal code |
| home_ctry_maint | 1 | S = successful, U = unsuccessful |
| home_ctry | 3 | Update consumer's home country alpha abbreviation |
| home_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| home_phone_nbr | 15 | Update consumer's home phone number |
| bill_addr1_maint | 1 | S = successful, U = unsuccessful |
| bill_addr1 | 25 | Update billing address line 1 |
| bill_addr2_maint | 1 | S = successful, U = unsuccessful |
| bill_addr2 | 25 | Update billing address line 2 |
| bill_city_maint | 1 | S = successful, U = unsuccessful |
| bill_city | 20 | Update billing city |
| bill_sub_ctry_maint | 1 | S = successful, U = unsuccessful |
| bill_sub_ctry | 2 | Update billing subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bill_post_code_maint | 1 | S = successful, U = unsuccessful |
| bill_post_code | 10 | Update billing postal code |
| bill_ctry_maint | 1 | S = successful, U = unsuccessful |

| Field Name | Max Length | Description |
|-------------------------|-------------------|--|
| bill_ctry | 3 | Update billing country alpha abbreviation |
| bill_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| bill_phone_nbr | 15 | Update billing phone number |
| bill_email_addr_maint | 1 | S = successful, U = unsuccessful |
| bill_email_addr | 54 | Update billing e-mail address |
| work_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| work_phone_nbr | 15 | Update consumer's work phone number |
| bank_name_maint | 1 | S = successful, U = unsuccessful |
| bank_name | 35 | Update name of bank |
| bank_addr1_maint | 1 | S = successful, U = unsuccessful |
| bank_addr1 | 25 | Update bank address line 1 |
| bank_addr2_maint | 1 | S = successful, U = unsuccessful |
| bank_addr2 | 25 | Update bank address line 2 |
| bank_city_maint | 1 | S = successful, U = unsuccessful |
| bank_city | 20 | Update bank city |
| bank_sub_ctry_maint | 1 | S = successful, U = unsuccessful |
| bank_sub_ctry | 2 | Update bank subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bank_post_code_maint | 1 | S = successful, U = unsuccessful |
| bank_post_code | 10 | Update bank postal code |
| bank_ctry_maint | 1 | S = successful, U = unsuccessful |
| bank_ctry | 3 | Update bank country alpha abbreviation |
| bank_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| bank_phone_nbr | 15 | Update bank phone number |
| checking_acct_nbr_maint | 1 | S = successful, U = unsuccessful |
| checking_acct_nbr | 17 | Update checking account number |
| savings_acct_nbr_maint | 1 | S = successful, U = unsuccessful |
| savings_acct_nbr | 17 | Update savings account number |
| credit_ins_ind_maint | 1 | S = successful, U = unsuccessful |
| credit_ins_ind | 1 | Update Y or N consumer's acceptance of credit insurance |

| Field Name | Max Length | Description |
|-------------------------|-------------------|---|
| annual_income_amt_maint | 1 | S = successful, U = unsuccessful |
| annual_income_amt | 12 | Update consumer's total annual income amount |
| language_pref_maint | 1 | S = successful, U = unsuccessful |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |

Repeat following User information as necessary for multiple users.

| | | |
|---------------------|----|----------------------------------|
| user_function_maint | 1 | S = successful, U = unsuccessful |
| user_function | 1 | A=Add, D=Delete |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Consumer Account Maintenance Data recommended usage when:

DE 60 = 6500084 (Consumer Account Maintenance Request)

DE 115—Reserved for National Use

Mastercard recommends that DE 115 contain Business Application Data or Business Maintenance Data. This data element is typically present for business application requests, application status inquiries, preapproved offer inquiries, or business maintenance requests as well as business application or business maintenance responses.

Attributes

| | |
|----------------------|-----------------------------|
| Data Element ID: | 115 |
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–999 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 115 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--------------------------------------|-----|-----|-----|
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | C | • | C |

Application Notes

Mastercard edits DE 115 for valid attributes but does not edit or log data contents. At least one DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

115LLL<field_name>data<field_name>data...<field_name>data

115 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Business Application Request Data Administrative Request/0600 Message

DE 115, Business Application Request Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|------------|---|
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| bus_addr1 | 25 | Business address line 1 |
| bus_addr2 | 25 | Business address line 2 |
| bus_city | 20 | Business city |
| bus_sub_ctry | 2 | Business subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bus_post_code | 10 | Business postal code |
| bus_ctry | 3 | Business country alpha abbreviation |
| bus_phone_nbr | 15 | Business phone number |
| bill_contact_name | 19 | Business billing contact name such as Accounts Payable or individual name |
| annual_rev_amt | 12 | Business total annual revenue amount |

| Field Name | Max Length | Description | | |
|-----------------------|-------------------|--|---|---------------------------------|
| employee_qty | 6 | Number of business employees | | |
| sic | 8 | Standard Industry Code | | |
| lgl_structure | 1 | C | = | Corporation |
| | | P | = | Partnership |
| | | S | = | Sole Proprietorship |
| | | L | = | Limited Liability Corp |
| | | D | = | Limited Partnership |
| | | blank | = | Unknown or all other |
| corp_structure | 1 | F | = | Fortune 1000 |
| | | G | = | Government (national and local) |
| | | P | = | Professional |
| | | N | = | Non-profit |
| | | R | = | Religious |
| | | blank | = | Unknown or all other |
| bus_structure | 1 | B | = | Branch of parent organization |
| | | P | = | Parent organization |
| | | I | = | Independent organization |
| in_business_since | 4 | Year that business started | | |
| tax_exempt | 1 | Y if exempt from local taxes; N if not exempt | | |
| tax_id | 30 | National government tax identifier | | |
| po_req | 1 | Y if purchase order required; N if not required | | |
| card_qty | 3 | Quantity of cards requested | | |
| purchase_instructions | 40 | Contains special instructions applicable to purchases | | |
| signature_first_name | 15 | First name of person submitting business application | | |
| signature_mid_initial | 1 | Middle initial of person submitting business application | | |
| signature_last_name | 20 | Last name of person submitting business application | | |
| signature_title | 15 | Title of person submitting business application | | |
| signature_present | 1 | Y or N—Signature of person submitting business application present on physical application | | |

| Field Name | Max Length | Description |
|---------------------|-------------------|---|
| guar_signature_ind | 1 | Y or N—Personal guarantor signature present |
| guar_signature_date | 10 | Expiration date of the temporary charge pass; format CCYY/MM/DD |
| fax_info_sent | 1 | Y or N—Additional information sent via fax, such as list of authorized buyers, financial statement |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Application Data recommended usage when:

DE 60 = 6500090 (Business Application Request)

Business Application Status Inquiry Data or Business Preapproved Offer Inquiry Data Administrative Request/0600 Message

DE 115, Business Application Status Inquiry Data or Business Preapproved Offer Inquiry Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|---|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| reference_nbr | 13 | Application reference number if available |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| tax_id | 30 | National government tax identifier |
| bus_phone_nbr | 15 | Business phone number |
| pre_approval_nbr | 13 | Preapproval reference number |
| temp_pass_days | 2 | Number of days requested for a temporary charge pass |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Application Inquiry Data recommended usage when DE 60 = 6500091 (Business Application Status Inquiry)

DE 60 = 6500096 (Business Preapproved Offer Inquiry)

Business Account Maintenance Data Administrative Request/0600 Message

DE 115, Business Account Maintenance Data may contain the following fields.

| Field Name | Max Length | Description | | |
|-------------------|-------------------|--|---|---------------------------------|
| client_id | 16 | Unique identifier of credit client | | |
| store_code | 16 | Unique identifier of each store location | | |
| account_nbr | 19 | Business account number | | |
| account_status | 1 | Update account status only to C closed or canceled | | |
| bus_lgl_name | 24 | Update business legal name | | |
| doing_bus_as_name | 40 | Update doing business as name | | |
| bus_addr1 | 25 | Update business address line 1 | | |
| bus_addr2 | 25 | Update business address line 2 | | |
| bus_city | 20 | Update business city | | |
| bus_sub_ctry | 2 | Update business subnational entity alpha abbreviation; for example U.S. state code abbreviations | | |
| bus_post_code | 10 | Update business postal code | | |
| bus_ctry | 3 | Update business country alpha abbreviation | | |
| bus_phone_nbr | 15 | Update business phone number | | |
| annual_rev_amt | 12 | Update business total annual revenue amount | | |
| sic | 8 | Update standard industry code | | |
| lgl_structure | 1 | C | = | Corporation |
| | | P | = | Partnership |
| | | L | = | Limited Liability Corp |
| | | D | = | Limited Partnership |
| | | S | = | Sole Proprietorship |
| | | blank | = | Unknown or all other |
| corp_structure | 1 | F | = | Fortune 1000 |
| | | G | = | Government (national and local) |
| | | P | = | Professional |
| | | N | = | Non-profit |
| | | R | = | Religious |

| Field Name | Max Length | Description | | |
|-------------------|-------------------|---|---|-------------------------------|
| | | blank | = | Unknown or all other |
| bus_structure | 1 | B | = | Branch of parent organization |
| | | P | = | Parent organization |
| | | I | = | Independent organization |
| tax_exempt | 1 | Update—Y if exempt from local taxes; N if not exempt | | |
| tax_id | 30 | Update national government tax identifier | | |
| po_req | 1 | Update—Y if purchase order required; N if not required | | |
| card_qty | 3 | Update quantity of cards requested (additional cards) | | |
| bill_addr1 | 25 | Update billing address line 1 | | |
| bill_addr2 | 25 | Update billing address line 2 | | |
| bill_city | 20 | Update billing city | | |
| bill_sub_ctry | 2 | Update billing subnational entity alpha abbreviation; for example U.S. state code abbreviations | | |
| bill_post_code | 10 | Update billing postal code | | |
| bill_ctry | 3 | Update billing country alpha abbreviation | | |
| bill_phone_nbr | 15 | Update billing phone number | | |
| bill_contact_name | 19 | Update billing contact name such as Accounts Payable or individual name | | |
| bill_email_addr | 54 | Update billing e-mail address | | |
| bank_name | 35 | Update name of bank | | |
| bank_addr1 | 25 | Update bank address line 1 | | |
| bank_addr2 | 25 | Update bank address line 2 | | |
| bank_city | 20 | Update bank city | | |
| bank_sub_ctry | 2 | Update bank subnational entity alpha abbreviation; for example U.S. state code abbreviations | | |
| bank_post_code | 10 | Update bank postal code | | |
| bank_ctry | 3 | Update bank country alpha abbreviation | | |
| bank_phone_nbr | 15 | Update bank phone number | | |

| Field Name | Max Length | Description |
|--|-------------------|---|
| checking_acct_nbr | 17 | Update checking account number |
| savings_acct_nbr | 17 | Update savings account number |
| credit_ins_ind | 1 | Update Y or N business's acceptance of credit insurance |
| annual_income_amt | 12 | Update business's total annual income amount |
| single_purch_limit | 12 | Update amount limit per purchase |
| purchase_instructions | 40 | Update special instructions applicable to purchases |
| Repeat following User information as necessary for multiple users. | | |
| user_function | 1 | A=Add, D=Delete |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |
| The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length. | | |

Usage

Business Account Maintenance Data recommended usage when:

DE 60 = 6500094 (Business Account Maintenance Request)

Business Application Response Data Administrative Request Response/0610 Message

DE 115, Business Application Response Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|--|
| reference_nbr | 13 | Reference number assigned to each application |
| appl_source_type | 3 | Origin of application |
| account_type | 1 | R = Revolving, N = Non-revolving, I = Installment, P = Invoice/Net Pay, M = Co-Brand |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| bus_addr1 | 25 | Business address line 1 |

| Field Name | Max Length | Description |
|-----------------------|-------------------|---|
| bus_addr2 | 25 | Business address line 2 |
| bus_city | 20 | Business city |
| bus_sub_ctry | 2 | Business subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bus_post_code | 10 | Business postal code |
| bus_ctry | 3 | Business country alpha abbreviation |
| bus_phone_nbr | 15 | Business phone number |
| bill_contact_name | 19 | Business billing contact name such as Accounts Payable or individual name |
| po_req | 1 | Y if purchase order required; N if not required |
| purchase_instructions | 40 | Contains special instructions applicable to purchases |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |
| temp_pass_exp_date | 10 | Expiration date of the temporary charge pass; format CCYY/MM/DD |
| fax_info_sent | 1 | Y or N—Additional information sent via fax, such as list of authorized buyers, financial statement |
| fax_info_rcvd | 1 | Y or N—Additional information received via fax, such as list of authorized buyers, financial statement |
| appl_status | 1 | A = Approved D = Declined C = Call O = Counteroffer P = Pending |
| account_nbr | 19 | Account number present if status = A |
| credit_limit_amt | 12 | Credit limit amount present if status = A or O |
| card_expiry_date | 4 | Card expiration date may be present if status = A; format YYMM |
| credit_phone_nbr | 15 | Phone number may be present for application inquiries by customer or store. |
| credit_terms | 256 | Credit terms may be present if applicable. Credit terms may include relevant information such as for revolving, non-revolving, or installment credit account. |

| Field Name | Max Length | Description |
|-------------------|-------------------|---|
| correlation_id | 16 | Correlation identifier may be assigned when response to application request is status O |
| pre_approval_nbr | 13 | Preapproval reference number |
| pre_appr_end_date | 10 | Expiration date of the pre approval offer; format CCYY/MM/DD |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Application Response Data recommended usage when:

- DE 60 = 6500090 (Business Application Request)
 - DE 60 = 6500091 (Business Application Status Inquiry)
 - DE 60 = 6500095 (Business Counteroffer Reply)
 - DE 60 = 6500096 (Business Preapproved Offer Inquiry)
-

Business Account Maintenance Data Administrative Request Response/0610 Message

DE 115, Business Account Maintenance Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------------|-------------------|--|
| account_nbr | 19 | Consumer account number |
| account_status_maint | 1 | S = successful, U = unsuccessful |
| account_status | 1 | Update account status only to C closed or canceled |
| bus_lgl_name_maint | 1 | S = successful, U = unsuccessful |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name_maint | 1 | S = successful, U = unsuccessful |
| doing_bus_as_name | 40 | Doing business as name |
| bus_addr1_maint | 1 | S = successful, U = unsuccessful |
| bus_addr1 | 25 | Business address line 1 |
| bus_addr2_maint | 1 | S = successful, U = unsuccessful |
| bus_addr2 | 25 | Business address line 2 |
| bus_city_maint | 1 | S = successful, U = unsuccessful |
| bus_city | 20 | Business city |

| Field Name | Max Length | Description | |
|----------------------|-------------------|---|-----------------------------------|
| bus_sub_ctry_maint | 1 | S = successful, U = unsuccessful | |
| bus_sub_ctry | 2 | Business subnational entity alpha abbreviation; for example U.S. state code abbreviations | |
| bus_post_code_maint | 1 | S = successful, U = unsuccessful | |
| bus_post_code | 10 | Business postal code | |
| bus_ctry_maint | 1 | S = successful, U = unsuccessful | |
| bus_ctry | 3 | Business country alpha abbreviation | |
| bus_phone_nbr_maint | 1 | S = successful, U = unsuccessful | |
| bus_phone_nbr | 15 | Business phone number | |
| annual_rev_amt_maint | 1 | S = successful, U = unsuccessful | |
| annual_rev_amt | 12 | Business total annual revenue amount | |
| sic_maint | 1 | S = successful, U = unsuccessful | |
| sic | 8 | Standard Industry Code | |
| lgl_structure_maint | 1 | S = successful, U = unsuccessful | |
| lgl_structure | 1 | C | = Corporation |
| | | P | = Partnership |
| | | L | = Limited Liability Corp |
| | | D | = Limited Partnership |
| | | S | = Sole Proprietorship |
| | | blank | = Unknown or all other |
| corp_structure_maint | 1 | S = successful, U = unsuccessful | |
| corp_structure | 1 | F | = Fortune 1000 |
| | | G | = Government (national and local) |
| | | P | = Professional |
| | | N | = Non-profit |
| | | R | = Religious |
| | | blank | = Unknown or all other |
| bus_structure_maint | 1 | S = successful, U = unsuccessful | |
| bus_structure | 1 | B | = Branch of parent organization |
| | | P | = Parent organization |
| | | I | = Independent organization |

| Field Name | Max Length | Description |
|-------------------------|-------------------|---|
| tax_exempt_maint | 1 | S = successful, U = unsuccessful |
| tax_exempt | 1 | Y if exempt from local taxes; N if not exempt |
| tax_id_maint | 1 | S = successful, U = unsuccessful |
| tax_id | 30 | National government tax identifier |
| po_req_maint | 1 | S = successful, U = unsuccessful |
| po_req | 1 | Y if purchase order required; N if not required |
| card_qty_maint | 1 | S = successful, U = unsuccessful |
| card_qty | 3 | Quantity of cards requested (additional cards) |
| bill_addr1_maint | 1 | S = successful, U = unsuccessful |
| bill_addr1 | 25 | Update billing address line 1 |
| bill_addr2_maint | 1 | S = successful, U = unsuccessful |
| bill_addr2 | 25 | Update billing address line 2 |
| bill_city_maint | 1 | S = successful, U = unsuccessful |
| bill_city | 20 | Update billing city |
| bill_sub_ctry_maint | 1 | S = successful, U = unsuccessful |
| bill_sub_ctry | 2 | Update billing subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bill_post_code_maint | 1 | S = successful, U = unsuccessful |
| bill_post_code | 10 | Update billing postal code |
| bill_ctry_maint | 1 | S = successful, U = unsuccessful |
| bill_ctry | 3 | Update billing country alpha abbreviation |
| bill_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| bill_phone_nbr | 15 | Update billing phone number |
| bill_contact_name_maint | 1 | S = successful, U = unsuccessful |
| bill_contact_name | 19 | Update billing contact name such as Accounts Payable or individual name |
| bill_email_addr_maint | 1 | S = successful, U = unsuccessful |
| bill_email_addr | 54 | Update billing e-mail address |
| bank_name_maint | 1 | S = successful, U = unsuccessful |
| bank_name | 35 | Update name of bank |
| bank_addr1_maint | 1 | S = successful, U = unsuccessful |

| Field Name | Max Length | Description |
|--|-------------------|--|
| bank_addr1 | 25 | Update bank address line 1 |
| bank_addr2_maint | 1 | S = successful, U = unsuccessful |
| bank_addr2 | 25 | Update bank address line 2 |
| bank_city_maint | 1 | S = successful, U = unsuccessful |
| bank_city | 20 | Update bank city |
| bank_sub_ctry_maint | 1 | S = successful, U = unsuccessful |
| bank_sub_ctry | 2 | Update bank subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bank_post_code_maint | 1 | S = successful, U = unsuccessful |
| bank_post_code | 10 | Update bank postal code |
| bank_ctry_maint | 1 | S = successful, U = unsuccessful |
| bank_ctry | 3 | Update bank country alpha abbreviation |
| bank_phone_nbr_maint | 1 | S = successful, U = unsuccessful |
| bank_phone_nbr | 15 | Update bank phone number |
| checking_acct_nbr_maint | 1 | S = successful, U = unsuccessful |
| checking_acct_nbr | 17 | Update checking account number |
| savings_acct_nbr_maint | 1 | S = successful, U = unsuccessful |
| savings_acct_nbr | 17 | Update savings account number |
| credit_ins_ind_maint | 1 | S = successful, U = unsuccessful |
| credit_ins_ind | 1 | Update Y or N business's acceptance of credit insurance |
| annual_income_amt_maint | 1 | S = successful, U = unsuccessful |
| annual_income_amt | 12 | Update business's total annual income amount |
| single_purch_limit_maint | 1 | S = successful, U = unsuccessful |
| single_purch_limit | 12 | Update amount limit per purchase |
| purchase_instructions_maint | 1 | S = successful, U = unsuccessful |
| purchase_instructions | 40 | Contains special instructions applicable to purchases |
| Repeat following User information as necessary for multiple users. | | |
| user_function_maint | 1 | S = successful, U = unsuccessful |
| user_function | 1 | A=Add, D=Delete |

| Field Name | Max Length | Description |
|---------------------|------------|---------------------------------|
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Account Maintenance Data recommended usage when:

DE 60 = 6500094 (Business Account Maintenance Request)

DE 116—Reserved For National Use

Mastercard recommends that DE 116 contain Consumer User Lookup Data and Consumer Account Lookup Data. This data element is typically present to request consumer user and account information and provide consumer user account information.

Attributes

| | |
|----------------------|-----------------------------|
| Data Element ID: | 116 |
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–999 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 116 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--------------------------------------|-----|-----|-----|
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | C | • | C |

Application Notes

Mastercard edits DE 116 for valid attributes but does not edit or log data contents. At least one of DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

116LLL<field_name>data<field_name>data...<field_name>data

116 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Consumer User Lookup Inquiry Data Administrative Request/0600

DE 116, Consumer User Lookup Inquiry may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|--|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| account_nbr | 19 | Account number |
| national_id | 20 | Consumer's national identification number United States—use Social Security number |
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| home_phone_nbr | 15 | Consumer's home phone number |
| user_list | 1 | Y = Request list of consumer account users (The maximum number of users to be provided will depend upon the client system as well as the 0610 maximum message length) |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Customer User Lookup Inquiry Data recommended usage when:

DE 60 = 6500082 (Consumer User Lookup Inquiry)

Note: DE 118 in 0610 response message contains the Authorized Users.

Consumer Account Lookup Inquiry Data Administrative Request/0600 Message

DE 116, Consumer Account Lookup Inquiry Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|-------------------|---|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| account_nbr | 19 | Account number |
| national_id | 20 | Consumer's national identification number United States—use Social Security number |
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| home_phone_nbr | 15 | Consumer's home phone number |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Customer Account Lookup Inquiry Data recommended usage when:

DE 60 = 6500083 (Consumer Account Lookup Inquiry)

Consumer Account Lookup Response Data Administrative Request Response/0610 Message

DE 116, Consumer Account Lookup Response Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|-------------------|--------------------------------|
| account_nbr | 19 | Account number |
| cons_first_name | 15 | Consumer's first name |
| cons_middle_initial | 1 | Consumer's middle initial |
| cons_last_name | 20 | Consumer's last name |
| home_addr1 | 25 | Consumer's home address line 1 |
| home_addr2 | 25 | Consumer's home address line 2 |

| Field Name | Max Length | Description |
|----------------------|-------------------|--|
| home_city | 20 | Consumer's home city |
| home_sub_ctry | 2 | Consumer's home subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| home_post_code | 10 | Consumer's home postal code |
| home_ctry | 3 | Consumer's home country alpha abbreviation |
| home_phone_nbr | 15 | Consumer's home phone number |
| work_phone_nbr | 15 | Consumer's work phone number |
| account_status | 1 | A = Active |
| | | B = Blocked |
| | | I = Inactive |
| credit_limit_amt | 12 | Credit limit amount |
| available_credit_amt | 12 | Available credit amount |
| bal_owe_amt | 12 | Balance owed amount |
| pay_owe_amt | 12 | Next payment owed amount |
| pay_due_date | 10 | Next payment due date; format CCYY/MM/DD |
| last_pay_amt | 12 | Last payment received amount |
| last_pay_date | 10 | Last payment received date CCYY/MM/DD |
| acct_open_date | 10 | Account open date; format CCYY/MM/DD |
| custsvc_phone_nbr | 15 | Customer service phone number may be present for account lookup inquiries by customer or store. |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |
| credit_terms | 256 | Credit terms may be present if applicable. Credit terms may include relevant information such as for revolving, non-revolving, or installment credit account. |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Customer Account Lookup Response Data recommended usage when:

DE 60 = 65–83 (Consumer Account Lookup Inquiry).

DE 117—Reserved for National Use

Mastercard recommends that DE 117 contain Business User Lookup Data and Business Account Lookup Data. This data element is typically present to request business user and account information and provide business user account information.

Attributes

Data Element ID: 117

Data Representation: ans...999; LLLVAR

Length Field: 3

Data Field: Contents of positions 1–999

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 117 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

Administrative Request/0600

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Administrative Request Response/0610

| | | |
|---|---|---|
| C | • | C |
|---|---|---|

Application Notes

Mastercard edits DE 117 for valid attributes but does not edit or log data contents.

At least one of DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

117LLL<field_name>data<field_name>data...<field_name>data

117 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Business User Lookup Inquiry Data Administrative Request/0600 Message

DE 117, Business User Lookup Inquiry Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|--|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| account_nbr | 19 | Account number |
| tax_id | 30 | National government tax identifier |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| bus_phone_nbr | 15 | Business phone number |
| auth_user_id | 5 | ID assigned to authorized user |
| user_list | 1 | Y = Request list of consumer account users(the maximum number of users to be provided will depend upon the client system as well as the 0610 maximum message length) |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business User Lookup Inquiry Data recommended usage when:

DE 60 = 6500092 (Business User Lookup Inquiry)

Note: DE 118 in 0610 response message contains the Authorized Users.

Business Account Lookup Inquiry Data Administrative Request/0600 Message

DE 117, Business Account Lookup Inquiry Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|--|
| client_id | 16 | Unique identifier of credit client |
| store_code | 16 | Unique identifier of each store location |
| account_nbr | 19 | Account number |
| tax_id | 30 | National government tax identifier |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| bus_phone_nbr | 15 | Business phone number |
| auth_user_id | 5 | ID assigned to authorized user |
| user_first_name | 15 | User's first name |

| Field Name | Max Length | Description |
|---------------------|-------------------|--|
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |
| user_list | 1 | Y = Request list of consumer account users (the maximum number of users to be provided will depend upon the client system as well as the 0610 maximum message length) |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Account Lookup Request Data recommended usage when:

DE 60 = 6500093 (Business Account Lookup Inquiry)

Business Account Lookup Response Data Administrative Request Response/0610 Message

DE 117, Business Account Lookup Response Data may contain the following fields.

| Field Name | Max Length | Description |
|-------------------|-------------------|--|
| account_nbr | 19 | Account number |
| tax_id | 30 | National government tax identifier |
| bus_lgl_name | 24 | Business legal name |
| doing_bus_as_name | 40 | Doing business as name |
| bus_addr1 | 25 | Business address line 1 |
| bus_addr2 | 25 | Business address line 2 |
| bus_city | 20 | Business city |
| bus_sub_ctry | 2 | Business subnational entity alpha abbreviation; for example U.S. state code abbreviations |
| bus_post_code | 10 | Business postal code |
| bus_ctry | 3 | Business country alpha abbreviation |
| bus_phone_nbr | 15 | Business phone number |
| account_status | 1 | A = Active B = Blocked |

| Field Name | Max Length | Description |
|-----------------------|------------|---|
| | | I = Inactive |
| credit_limit_amt | 12 | Credit limit amount |
| available_credit_amt | 12 | Available credit amount |
| bal_owe_amt | 12 | Balance owed amount |
| pay_owe_amt | 12 | Next payment owed amount |
| pay_due_date | 10 | Next payment due date; format CCYY/MM/DD |
| last_pay_amt | 12 | Last payment received amount |
| last_pay_date | 10 | Last payment received date CCYY/MM/DD |
| acct_open_date | 10 | Account open date; format CCYY/MM/DD |
| custsvc_phone_nbr | 15 | Customer service phone number may be present for account lookup inquiries by customer or store. |
| language_pref | 3 | ENG = English, SPA = Spanish, FRE = French, and other supported ISO 639 codes |
| credit_terms | 256 | Credit terms may be present if applicable. Credit terms may include relevant information such as for revolving, non-revolving, or installment credit account. |
| po_req | 1 | Y if purchase order required; N if not required |
| tax_exempt | 1 | Y if exempt from local taxes; N if not exempt |
| single_purch_limit | 12 | Amount limit per purchase |
| purchase_instructions | 40 | Contains special instructions applicable to purchases |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length.

Usage

Business Account Lookup Response Data recommended usage when:

DE 60 = 6500093 (Business Account Lookup Inquiry)

DE 118—Reserved for National Use

Mastercard recommends that DE 118 contain Authorized Users. This data element may be present for consumer and business application requests and lookup responses.

Attributes

| | |
|----------------------|-----------------------------|
| Data Element ID: | 118 |
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–999 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 118 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--------------------------------------|-----|-----|-----|
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | C | • | C |

Application Notes

Mastercard edits DE 118 for valid attributes but does not edit or log data contents.

At least one of DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

118LLL<field_name>data<field_name>data...<field_name>data

118 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Authorized User Data Administrative Request/0600 Message

DE 118, Authorized User Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|---|
| auth_user | 0 | The first field for each authorized user occurrence |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |

| Field Name | Max Length | Description |
|--------------|------------|---------------------------------|
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |
| auth_user_id | 5 | ID assigned to authorized user |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length. The above fields may be repeated as necessary within this DE 118.

Usage

Authorized User Data recommended usage when:

DE 60 = 6500080 (Consumer Application Request)

DE 60 = 6500090 (Business Application Request)

The number of users depends upon the client system as well as the 0610 maximum message length.

Field Usage Example

Assume for two authorized users and no assigned auth user id:

```
<auth_user> <user_first_name>John <user_middle_initial> Q <user_last_name> Public  
<user_suffix>Mr <auth_user> <user_first_name> Mary <user_middle_initial>J <user_last_name>  
Public <user_suffix> Mrs
```

Trade Reference Data Administrative Request/0600 Message

DE 118, Trade Reference may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|---|
| trade_ref | 0 | The first field for each trade reference occurrence |
| trade_ref_name | 40 | Trade reference name |
| trade_ref_phone_nbr | 15 | Trade reference phone number |

| Field Name | Max Length | Description |
|--------------------|------------|---|
| trade_ref_acct_nbr | 28 | Applicant's account number with trade reference |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length. The above fields may be repeated as necessary within this DE 118.

Usage

Authorized User Data recommended usage when:

DE 60 = 6500090 (Business Application Request)

The number of users depends upon the client system as well as the 0610 maximum message length.

Field Usage Example

Assume for two trade references:

```
<trade_ref> <trade_ref_name>BigCityHardware <trade_ref_phone_nbr> 18885555555  
<trade_ref_acct_nbr>00000000 <trade_ref> <trade_ref_name> MidCityHardware  
<trade_ref_phone_nbr>18005555555 <trade_ref_acct_nbr> 00000000
```

Authorized User Response Data Administrative Request/0610 Message

DE 118, Authorized User Response Data may contain the following fields.

| Field Name | Max Length | Description |
|---------------------|------------|--------------------------------------|
| auth_user | 0 | The header field for each occurrence |
| user_first_name | 15 | User's first name |
| user_middle_initial | 1 | User's middle initial |
| user_last_name | 20 | User's last name |
| user_suffix | 6 | User's suffix; SR, JR, III, PHD |

| Field Name | Max Length | Description |
|--------------|------------|--------------------------------|
| auth_user_id | 5 | ID assigned to authorized user |

The above fields are not required to be present. Additional fields may be present as needed. Fields need not be in any particular order. Fields may be less than specified maximum length. The above fields may be repeated as necessary within this DE 118.

Usage

Authorized User Data recommended usage when:

- DE 60 = 6500081 (Consumer Application Status Inquiry)
- DE 60 = 6500082 (Consumer User Lookup Inquiry)
- DE 60 = 6500083 (Consumer Account Lookup Inquiry)
- DE 60 = 6500091 (Business Application Status Inquiry)
- DE 60 = 6500092 (Business User Lookup Inquiry)
- DE 60 = 6500093 (Business Account Lookup Inquiry).
- The number of users depends upon the client system, as well as the 0610 maximum message length

Field Usage Example

Assume for two authorized users and no assigned auth user id:

```
<auth_user> <user_first_name>John <user_middle_initial> Q <user_last_name> Public
<user_suffix>Mr <auth_user> <user_first_name> Mary <user_middle_initial>J <user_last_name>
Public <user_suffix> Mrs
```

DE 119—Reserved for National Use

Mastercard is reserving DE 119 for customer-specific data and is not recommending any particular usage.

Attributes

| | |
|----------------------|-----------------------------|
| Data Element ID: | 119 |
| Data Representation: | ans...999; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–999 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

Following is the usage of DE 119 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

Org Sys Dst

| | | | |
|--------------------------------------|---|---|---|
| Administrative Request/0600 | C | • | C |
| Administrative Request Response/0610 | C | • | C |

Application Notes

Mastercard edits DE 119 for valid attributes but does not edit or log data contents. At least one of DE 113–119 is mandatory within Administrative 0600/0610 messages.

Recommended Format Construction

119LLL<field_name>data<field_name>data...<field_name>data

119 is data element number

LLL is total length of all field names, separators and data

< indicates start of field_name

field_name is unique name for each field

> indicates end of field_name

Using DE 113–119 in Administrative 06xx Messages

The following information explains how to use DE 113–119 in Administrative 0600/0610 messages. Mastercard recommends that the contents of DE 113–119 from the 0600 message *not* be returned in the 0610 message to avoid the maximum message length constraint of 8k bytes.

DE 60 = 6500080 Consumer Application Request

| MTI | DE | Presence | Data Description |
|------|-----|-------------|------------------------------------|
| 0600 | 113 | Recommended | Application Generic Data |
| 0600 | 113 | Recommended | Application Banking Data |
| 0600 | 114 | Recommended | Consumer Application Request Data |
| 0600 | 118 | Optional | Authorized User Data |
| 0610 | 114 | Recommended | Consumer Application Response Data |

DE 60 = 6500081 Consumer Application Status Inquiry

| MTI | DE | Presence | Data Description |
|------|-----|-------------|--|
| 0600 | 114 | Recommended | Consumer Application Status Inquiry Data |

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|------------------------------------|
| 0610 | 114 | Recommended | Consumer Application Response Data |
| 0610 | 118 | Optional | Authorized User Response Data |

DE 60 = 6500082 Consumer User Lookup Inquiry

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|-----------------------------------|
| 0600 | 116 | Recommended | Consumer User Lookup Inquiry Data |
| 0610 | 118 | Recommended | Authorized User Response Data |

DE 60 = 6500083 Consumer Account Lookup Inquiry

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|---------------------------------------|
| 0600 | 116 | Recommended | Consumer Account Lookup Inquiry Data |
| 0610 | 116 | Recommended | Consumer Account Lookup Response Data |
| 0610 | 118 | Optional | Authorized User Response Data |

DE 60 = 6500084 Consumer Account Maintenance Request

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|-----------------------------------|
| 0600 | 114 | Recommended | Consumer Account Maintenance Data |
| 0610 | 114 | Recommended | Consumer Account Maintenance Data |

DE 60 = 6500085 Consumer Counteroffer Reply

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|------------------------------------|
| 0600 | 113 | Recommended | Application Generic Data |
| 0610 | 114 | Recommended | Consumer Application Response Data |

DE 60 = 6500086 Consumer Preapproved Offer Inquiry

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|--|
| 0600 | 114 | Recommended | Consumer Application Status Inquiry Data |
| 0610 | 114 | Recommended | Consumer Application Response Data |

DE 60 = 6500090 Business Application Request

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|------------------------------------|
| 0600 | 113 | Recommended | Application Generic Data |
| 0600 | 113 | Recommended | Application Banking Data |
| 0600 | 114 | Optional | Consumer Application Request |
| 0600 | 115 | Recommended | Business Application Request Data |
| 0600 | 118 | Optional | Authorized User Data |
| 0600 | 118 | Optional | Trade Reference Data |
| 0610 | 115 | Recommended | Business Application Response Data |

DE 60 = 6500091 Business Application Status Inquiry

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|--|
| 0600 | 115 | Recommended | Business Application Status Inquiry Data |
| 0610 | 115 | Recommended | Business Application Response Data |
| 0610 | 118 | Optional | Authorized User Response Data |

DE 60 = 6500092 Business User Lookup Inquiry

| MTI | DE | Presence | Data Description |
|------------|-----------|-----------------|-----------------------------------|
| 0600 | 117 | Recommended | Business User Lookup Inquiry Data |
| 0610 | 118 | Recommended | Authorized User Response Data |

DE 60 = 6500093 Business Account Lookup Inquiry

| MTI | DE | Presence | Data Description |
|------|-----|-------------|---------------------------------------|
| 0600 | 117 | Recommended | Business Account Lookup Inquiry Data |
| 0610 | 117 | Recommended | Business Account Lookup Response Data |
| 0610 | 118 | Optional | Authorized User Response Data |

DE 60 = 6500094 Business Account Maintenance Request

| MTI | DE | Presence | Data Description |
|------|-----|-------------|-----------------------------------|
| 0600 | 115 | Recommended | Business Account Maintenance Data |
| 0610 | 115 | Recommended | Business Account Maintenance Data |

DE 60 = 6500095 Business Counteroffer Reply

| MTI | DE | Presence | Data Description |
|------|-----|-------------|------------------------------------|
| 0600 | 113 | Recommended | Application Generic Data |
| 0610 | 115 | Recommended | Business Application Response Data |

DE 60 = 6500096 Business Preapproved Offer Inquiry

| MTI | DE | Presence | Data Description |
|------|-----|-------------|--|
| 0600 | 115 | Recommended | Business Application Status Inquiry Data |
| 0610 | 115 | Recommended | Business Application Response Data |

DE 120—Record Data

DE 120 (Record Data) is a variable-length data element used for transmitting file record data or textual character string data in various message types.

Attributes

Data Representation: ans...999; LLLVAR (supports extended character sets)

| | |
|----------------|---|
| Length Field: | 3 |
| Data Field: | Contents of subfields 1, or 2, or 3, or 4 |
| Subfields: | 4 |
| Justification: | See subfields |

Usage

Following is the usage of DE 120 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|---|-----|-----|-----|
| Authorization Request/0100 | C | X | C |
| Authorization Request Response/0110 | C | X | C |
| Issuer File Update Request/0302 | C | C | • |
| Issuer File Update Request Response/0312 | • | C | C |
| Administrative Advice/0620—System-generated | • | C | C |
| Administrative Advice/0620—Member-generated | C | • | C |

Values

See subfields

Application Notes

The following applies to DE 120:

Authorization Request/0100—AVS messages

When DE 120 is present in Authorization Request/0100 messages, DE 120 contains Address Verification Service data. Only one of the four possible subfields will be present in a message from an acquirer or to an issuer. In Authorization Request Response/0110—AVS messages, DE 120 contains the AVS data originally provided in the Authorization Request/0100 message.

Issuer File Update Request/0302 messages

When DE 120 is present in Issuer File Update Request/0302 messages, DE 120 contains the new, actual file record data used in “add” or “change” file maintenance requests. In Issuer File Update Request Response/0312 messages, DE 120 contains actual record data for file maintenance requests.

Administrative Advice/0620 messages

When DE 120 is present in Administrative Advice/0620 messages, DE 120 contains the following:

- In Administrative Advice/0620 messages, DE 120 includes the new subfields Token Requestor ID, Wallet ID, and Device Type.
- In Administrative Advice/0620—System-generated message where DE 60 is 600, DE 120 contains the first 200 bytes of an indecipherable message.
- In Administrative Advice/0620—Member-generated message where DE 60 is 650, DE 120 contains member-provided free format textual data.

Subfield 01—AVS Service Indicator 1

DE 120, subfield 01 (AVS Service Indicator 1) contains AVS data in this format for an issuer whose AVS Service Indicator status is 1.

Attributes

Subfield ID: 01

Data Representation: ans...29

Length Field: 2

Data Field: Contents of positions 1–29

Justification: Left, blank-filled

Values

Positions 1–9: Postal Code

Postal Code Cardholder postal/ZIP code

Positions 10–29 Address (Mastercard)

Address Cardholder address

Positions 10–29: Address (Visa, American Express)

Address Cardholder address

Application Notes

Some merchants or acquirers are currently limited to supporting only numeric data.

Subfield 02—AVS Service Indicator 2

DE 120, subfield 02 (AVS Service Indicator 2) contains AVS data in this format for an issuer whose AVS Service Indicator status is 2.

Attributes

Subfield ID: 02

Data Representation: an-14

Length Field: 2

Data Field: Contents of positions 1–14

Justification: Left, blank-filled

Values

Positions 1–9: Postal Code

Postal Code Cardholder postal/ZIP code

Positions 10–14: Address (Mastercard)

Address Cardholder address

Application Notes

Issuer receives condensed address data. (This supports the algorithm that uses the first five numeric digits in an address [when scanning the address from left to right].)

Subfield 03—AVS Service Indicator 3

DE 120, subfield 03 (AVS Service Indicator 3) contains AVS data in this format for an issuer whose AVS Service Indicator status is 3.

Attributes

Subfield ID: 03

Data Representation: an-14

Length Field: 2

Data Field: Contents of positions 1–14

Justification: Left, blank-filled

Values

Positions 1–9: Postal Code

Postal Code Cardholder postal/ZIP code

Positions 10–14: Address (Mastercard)

Address Cardholder address

Application Notes

The issuer receives condensed address data. (This subfield supports the algorithm that uses up to the first five numeric digits that appear before the first alphabetic character or space in the address when scanning the address from left to right.)

Subfield 04—AVS Service Indicator 4

DE 120, subfield 04 (AVS Service Indicator 4) contains AVS data in this format for an issuer whose AVS Service Indicator status is 4.

Attributes

Subfield ID: 04

Data Representation: an-14

| | |
|---|----------------------------|
| Length Field: | 2 |
| Data Field: | Contents of positions 1–14 |
| Justification: | Left, blank-filled |
| Values | |
| Positions 1–9: Postal Code | |
| Postal Code | Cardholder postal/ZIP code |
| Positions 10–14: Address (Mastercard) | |
| Address | Cardholder address |
| Application Notes | |
| Issuer supports AVS, receives condensed numeric postal code and condensed numeric address only. (This supports the algorithm that uses only the numeric digits in a postal code and the first five numeric digits in an address [when scanning the address from left to right].) | |

Online File Maintenance

DE 120 (Record Data), contains the record detail for the file type identified in DE 101 (File Name). The record detail contained in DE 120 depends on the value provided in DE 91 (Issuer File Update Code). The following table lists the allowed DE 91 values for each DE 101 file type.

| DE 101 (File Name) | DE 91 (Issuer File Update Code) | | | |
|---|---------------------------------|----------|----------|-----------|
| | 1 Add | 2 Update | 3 Delete | 5 Inquiry |
| MCC102 (Stand-In Account File) | ✓ | ✓ | ✓ | ✓ |
| MCC103 (Electronic Warning Bulletin File) | ✓ | | ✓ | ✓ |
| MCC104 (Local Stoplist File) | ✓ | | ✓ | ✓ |
| MCC105 (Recurring Payment Cancellation Service File) | ✓ | ✓ | ✓ | ✓ |
| MCC106 (PAN Mapping File) | ✓ | ✓ | ✓ | |
| MCC107 (Enhanced Value File) | ✓ | ✓ | ✓ | ✓ |
| MCC108 (Product Graduation File) | ✓ | ✓ | ✓ | ✓ |
| MCC109 (Application Transaction Counter [ATC] File) | ✓ | | | ✓ |
| MCC111 (PAN-PAR [Payment Account Reference] Mapping File) | | ✓ | | |

MCC102—Stand-In Account File

DE 120 (Record Data) contains Stand-In Account file data when DE 101 (File Name) contains MCC102.

Following are the MCC102 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|--|
| 1 = Add | Use all appropriate fields |
| 2 = Update | Use all appropriate fields |
| 3 = Delete | Use field 1 |
| 5 = Inquiry | Use field 1 |

Following is the DE 120 Layout for MCC102.

| Field ID and Name | Attributes | Comments/Valid Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|-------------------|--|---|---|--------|---|---|-------|---|---|---------------------|---|---|------|---|---|-------|---|---|--------------|---|---|--------|---|---|------------------|---|---|-----------------|---|---|-------------|
| 1 Primary Account Number | an-19 | <p>Number that is embossed or encoded or both on the card. Customers may only input account numbers for BINs assigned to the associated Mastercard-assigned customer ID.</p> <p>Format: Sixteen digit Mastercard account number, followed by three spaces.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Entry Reason | an-1 | <p>Reason for listing this card. Valid values:</p> <table> <tr> <td>C</td> <td>=</td> <td>Credit</td> </tr> <tr> <td>F</td> <td>=</td> <td>Fraud</td> </tr> <tr> <td>G</td> <td>=</td> <td>ATM Premium Listing</td> </tr> <tr> <td>L</td> <td>=</td> <td>Lost</td> </tr> <tr> <td>O</td> <td>=</td> <td>Other</td> </tr> <tr> <td>P</td> <td>=</td> <td>Capture Card</td> </tr> <tr> <td>S</td> <td>=</td> <td>Stolen</td> </tr> <tr> <td>U</td> <td>=</td> <td>Unauthorized Use</td> </tr> <tr> <td>V</td> <td>=</td> <td>Premium Listing</td> </tr> <tr> <td>X</td> <td>=</td> <td>Counterfeit</td> </tr> </table> | C | = | Credit | F | = | Fraud | G | = | ATM Premium Listing | L | = | Lost | O | = | Other | P | = | Capture Card | S | = | Stolen | U | = | Unauthorized Use | V | = | Premium Listing | X | = | Counterfeit |
| C | = | Credit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | = | Fraud | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | = | ATM Premium Listing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | = | Lost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| O | = | Other | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | = | Capture Card | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S | = | Stolen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U | = | Unauthorized Use | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V | = | Premium Listing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | = | Counterfeit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Date-Last-Update Activity | n-6 | <p>Inquiry only and is ignored on add, change, and delete. (This field is returned in the 0312 response message only for inquiry requests.)</p> <p>Date of the last maintenance activity occurring on this account.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Field ID and Name | Attributes | Comments/Valid Values |
|---------------------------------------|-------------------|--|
| | | <p>Format: MMDDYY</p> <p>MM = month</p> <p>DD = day</p> <p>YY = year</p> |
| 4 Time Last Update Activity | n-4 | <p>Inquiry only and is ignored on add, change, and delete. (This field returned in the 0312 response message only for inquiry requests.)</p> <p>Time of the last maintenance activity occurring on this account.</p> |
| | | <p>Format: hhmm</p> <p>hh = hour</p> <p>mm = minute</p> |
| 5 PIN Length | n-2 | No longer applicable. Valid values: zeros. |
| 6 Premium Listing Accumulative Limit | n-12 | Valid only for entry reason V. For other reason codes, use 12 zeros. |
| 7 Premium Listing Limit Currency Code | n-3 | Valid only for Entry Reason V. For other reason codes, use three zeros. |
| 8 Issuer-defined Purge Date | n-8 | The issuer-defined purge date must be at least 180 days after the account list date in YYYYMMDD format. This field is optional. |
| 9 Card Sequence Number | n-3 | The card sequence number of the listed card. Only required for card-level support. |
| 10 Card Expiration Date | n-6 | The expiration date of the listed card in YYYYMM format. Only required for card-level support. |

MCC103—Electronic Warning Bulletin File

DE 120 (Record Data) contains Electronic Warning Bulletin file data when DE 101 (File Name) contains MCC103.

Following are the MCC103 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|--|
| 1 = Add or Update | Use all appropriate fields |
| 3 = Delete | Use field 1 |
| 5 = Inquiry | Use field 1 |

Following is the DE 120 Layout for MCC103.

| Field ID and Name | Attributes | Comments/Valid Values |
|----------------------------------|-------------------|--|
| 1 Primary Account Number | an-19 | Number that is embossed or encoded on the card. Customers can only input account numbers for BINs assigned to the associated Mastercard-assigned customer ID. Format: Sixteen digit Mastercard account number followed by three spaces. |
| 2 Customer ID | n-6 | Mastercard customer ID assigned to the BIN. Format: right-justified, zero-filled |
| 3 Card Program | a-3 | Type of card bearing the account number. Refer to DE 63 (Network Data), for the list of card program values allowed. Card programs not allowed for MCC103 are footnoted in DE 63, subfield 1. |
| 4 Response Code | n-2 | Response Code this account listing should prompt for an authorization request. Valid value: 04 capture card |
| 5 Entry Reason | a-1 | Reason for listing this card. Valid values: C = Credit F = Fraud O = Other X = Counterfeit |
| 6 Filler | an-25 | Reserved for future AMS enhancements. |
| 7 Regional Indicator/ Purge Date | an-7 | Issuer-requested region and purge date(s) associated with this account number listing. Field is non-positional (excludes regions and purge dates that do not apply). Field may occur up to six times for that many regions and purge dates. Must be entered in ascending order (1, A, ..., E). Format: RYYMMDD R = Region |

| Field ID and Name | Attributes | Comments/Valid Values | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|------------|--|---|---|---------------|---|---|--------|---|---|-------------------------|---|---|--------------|---|---|--------|---|---|--------------------|----|---|-----------------|----|---|------------------|----|---|----------------|
| | | <p>Valid region values:</p> <table> <tr><td>1</td><td>=</td><td>United States</td></tr> <tr><td>A</td><td>=</td><td>Canada</td></tr> <tr><td>B</td><td>=</td><td>Latin America/Caribbean</td></tr> <tr><td>C</td><td>=</td><td>Asia/Pacific</td></tr> <tr><td>D</td><td>=</td><td>Europe</td></tr> <tr><td>E</td><td>=</td><td>Middle East/Africa</td></tr> <tr><td>YY</td><td>=</td><td>purge date year</td></tr> <tr><td>MM</td><td>=</td><td>purge date month</td></tr> <tr><td>DD</td><td>=</td><td>purge date day</td></tr> </table> <p>Note: To purge an account on the card expiration date, enter that date as the purge date. For additional information on purge dates, refer to the <i>Account Management System User Manual</i>.</p> | 1 | = | United States | A | = | Canada | B | = | Latin America/Caribbean | C | = | Asia/Pacific | D | = | Europe | E | = | Middle East/Africa | YY | = | purge date year | MM | = | purge date month | DD | = | purge date day |
| 1 | = | United States | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | = | Canada | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | = | Latin America/Caribbean | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | = | Asia/Pacific | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | = | Europe | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | = | Middle East/Africa | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| YY | = | purge date year | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MM | = | purge date month | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DD | = | purge date day | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MCC104—Local Stoplist File

DE 120 (Record Data) contains Local Stoplist file data when DE 101 (File Name) contains MCC104.

Following are the MCC104 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|---|--|
| 1 Add | Use all applicable fields. |
| NOTE: Add will update an existing record if the system finds a match on the master file. | |
| 1 Update | Use all applicable fields that require update. |
| 1 Delete(deletes account from one region) | Use fields one. |
| 1 Delete (deletes account from one country) | Use fields one, seven, eight, and ten. |
| 1 Delete (deletes account from one subcountry) | Use fields one, seven, eight, nine, and ten. |
| 3 Delete (deletes account from all regions, countries, or subcountries) | Use field one. |
| 5 Inquiry | Use field one. |

Following is the DE 120 Layout for MCC104.

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|--|
| 1 Primary Account Number | an-19 | <p>Number that is embossed, encoded, or both on the card. Customers may input only those account numbers that contain their assigned prefixes.</p> <p>Format: 16-digit Mastercard account number followed by three spaces.</p> |
| 2 Customer ID | n-6 | <p>Mastercard-assigned customer ID, a Mastercard customer may input only an account number with a BIN assigned to it.</p> <p>Format: Right-justified, zero-filled</p> |
| 3 Card Program | a-3 | Type of card bearing the account number. Refer to DE 63 (Network Data), for the list of card program values allowed. Card programs not allowed for MCC104 are footnoted in DE 63, subfield 1. |
| 4 Response Code | n-2 | Response Code this account listing should prompt for an authorization request. Valid value: 04 capture card |
| 5 Entry Reason | a-1 | <p>Reason for listing this card.</p> <p>Valid values:</p> <p>C = Credit (Prompts an Authorization response of capture card at regional level)</p> <p>or</p> <p>(Prompts an Authorization response of decline at the country/subcountry level)</p> <p>F = Fraud</p> <p>O = Other</p> <p>X = Counterfeit</p> |
| 6 Filler | an-25 | Reserved for future AMS enhancements. |
| 7 Region | an-1 | <p>The region associated with this account listing. If a country or subcountry listing is entered, this field must contain the issuer's region as follows:</p> <p>Valid region values:</p> <p>1 = United States</p> |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|--|
| | | <p>A = Canada B = Latin America/Caribbean C = Asia/Pacific D = Europe E = Middle East/Africa</p> <p>Region values must be entered in ascending order (1, A, B, C, D, E)</p> |
| 8 Country | an-3 | <p>If applicable, contains the country associated with this account listing. Must be a participating country within the issuer's region; values are three-digit country code or spaces.</p> <p>Refer to the <i>Quick Reference Booklet</i> for participating countries. Enter spaces if no country is specified.</p> |
| 9 Subcountry | an-2 | <p>If applicable, contains the subcountry associated with this account listing. Must be a participating subcountry within the issuer's country; values are two-digit subcountry code or spaces.</p> <p>Refer to the <i>Account Management System User Manual</i>. Enter spaces if no subcountry is specified.</p> |
| 10 Purge Date | n-6 | <p>Purge date (format YYMMDD) associated with this account number listing as follows:</p> <p>YY = purge date year MM = purge date month DD = purge date day</p> |
| 11 Region | an-1 | <p>If applicable, second region associated with this account listing. If a second country or subcountry listing is entered, this field must contain the issuer's region. Region values must be entered in ascending order (1, A, B, C, D, E).</p> |
| 12 Country | an-3 | <p>If applicable, second country associated with this account listing; must be a participating country within the issuer's region.</p> |
| 13 Subcountry | an-2 | <p>If applicable, second subcountry associated with this account listing; must be a participating subcountry within the issuer's country.</p> |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|--|
| 14 Purge Date | n-6 | If applicable, second purge date associated with this account number listing. |
| 15 Region | an-1 | If applicable, third region associated with this account listing; if a third country or subcountry listing is entered, this field must contain the issuer's region; region values must be entered in ascending order (1, A, B, C, D, E). |
| 16 Country | an-3 | If applicable, third country associated with this account listing; must be a participating country within the issuer's region. |
| 17 Subcountry | an-2 | If applicable, third subcountry associated with this account listing; must be a participating subcountry within the issuer's country. |
| 18 Purge Date | n-6 | If applicable, third purge date associated with this account number listing. |
| 19 Region | an-1 | If applicable, fourth region associated with this account listing; if a fourth country or subcountry listing is entered, this field must contain the issuer's region; region values must be entered in ascending order (1, A, B, C, D, E). |
| 20 Country | an-3 | If applicable, fourth country associated with this account listing; must be a participating country within the issuer's region. |
| 21 Subcountry | an-2 | If applicable, fourth subcountry associated with this account listing; must be a participating subcountry within the issuer's country. |
| 22 Purge Date | n-6 | If applicable, fourth purge date associated with this account number listing. |
| 23 Region | an-1 | If applicable, fifth region associated with this account listing; if a fifth country or subcountry listing is entered, this field must contain the issuer's region; region values must be entered in ascending order (1, A, B, C, D, E). |
| 24 Country | an-3 | If applicable, fifth country associated with this account listing; must be a participating country within the issuer's region. |
| 25 Subcountry | an-2 | If applicable, fifth subcountry associated with this account listing; must be a participating subcountry within the issuer's country. |
| 26 Purge Date | n-6 | If applicable, fifth purge date associated with this account number listing. |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|--|
| 27 Region | an-1 | If applicable, sixth region associated with this account listing; if a sixth country or subcountry listing is entered, this field must contain the issuer's region; region values must be entered in ascending order (1, A, B, C, D, E). |
| 28 Country | an-3 | If applicable, sixth country associated with this account listing; must be a participating country within the issuer's region. |
| 29 Subcountry | an-2 | If applicable, sixth subcountry associated with this account listing; must be a participating subcountry within the issuer's country. |
| 30 Purge Date | n-6 | If applicable, sixth purge date associated with this account number listing. |

MCC105—Recurring Payment Cancellation Service File

DE 120 (Record Data) contains Recurring Payment Cancellation Service file data when DE 101 (File Name) contains MCC105.

Following are the MCC105 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|---|
| 1 = Add | Use all applicable fields; fields 1–5 are mandatory, fields 6–13 are optional |
| 2 = Update | Use all applicable fields; fields 1–5 are mandatory, fields 6–7 are optional. Fields 8–13 not applicable. |
| 3 = Delete | Use fields 1, 4, and 5; fields 2 and 3 must be filled with spaces. Fields 6–13 not applicable. |
| 5 = Inquiry | Use fields 1, 4, and 5; fields 2 and 3 must be filled with spaces. Fields 6–13 not applicable. |

Following is the modified DE 120 Layout for MCC105. Amount fields 6 and 7, when provided, must include a minor unit of currency. For example, USD 100.50 entered as 000000010050. Fields 8–9 are sent in the 0312 response message.

| Field ID and Name | Attributes | Comments/Valid Values |
|-----------------------------|------------|--|
| 1 Primary Account Number | an-19 | Number that is embossed, encoded, or both on the card. Customers may only input account numbers for BINs assigned to the associated customer ID that Mastercard assigned |
| | | Format: Left justified, with trailing spaces |
| 2 Entry Reason | an-1 | Reason for listing this card. Valid value: A = Recurring payment cancellation service |
| 3 Issuer-defined Purge Date | n-8 | The issuer-defined purge date must be no more than 15 months beyond the account list date in YYYYMMDD format. |
| 4 Acquirer ID | n-6 | Valid acquirer ICA. |
| 5 Card Acceptor ID Code | ans-15 | Must be unique per acquirer ICA. Must be a value other than spaces. Note: This field is case sensitive. |
| 6 Transaction Amount (low) | n-12 | Optional field. Right justified with leading zeros. Indicates a single transaction amount or the start of a transaction amount range. Transaction amount must be stated in the transaction currency and not the cardholder billing currency. |
| 7 Transaction Amount (high) | n-12 | Optional field. Right justified with leading zeros. Indicates the end of a transaction amount range. Do not use this field if specifying a single amount. If used, must be greater than Transaction Amount (low). Transaction amount must be stated in the transaction currency and not the cardholder billing currency. |
| 8 Activity Date | n-6 | Format is MMDDYY (Month, Day, Year); Provide spaces in request message if fields beyond Field ID 9 are present. System populates data in the response message. |
| 9 Activity Time | n-4 | Format is hhmm (hour, minute); Provide spaces in request message if fields beyond Field ID 9 are present. System populates data in the response message. |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|----------------------------------|
| 10 Card Acceptor ID Code | ans-15 2 | Must be unique per acquirer ICA. |
| 11 Card Acceptor ID Code | ans-15 3 | Must be unique per acquirer ICA. |
| 12 Card Acceptor ID Code | ans-15 4 | Must be unique per acquirer ICA. |
| 13 Card Acceptor ID Code | ans-15 5 | Must be unique per acquirer ICA. |

DE 120 When Blocking Recurring Payments

Following are various uses of DE 120 for MCC105:

- Blocking all recurring payment arrangements with all merchants

A block of all recurring payments arrangements can only be accomplished by setting up blocks for each merchant and acquirer combination.
- Blocking all recurring payment arrangements with one merchant, or blocking a cardholder's only recurring payment with one merchant
 - Fields 1–5 are required for Add
 - Fields 6–7 should not be provided
- Blocking one of many recurring payment arrangements with one merchant

The one recurring payment arrangement can only be blocked if its transaction amount is different than any of the other recurring payment arrangements with a particular merchant.

The recurring payment arrangement to be blocked has a **fixed** (same amount each billing) transaction amount, such as an insurance premium billing

- Fields 1–5 are required for Add
- Field 6 should be provided to specify the fixed transaction amount
- Field 7 should not be provided

The recurring payment arrangement to be blocked has a **variable** (different amount each billing) transaction amount, such as a long distance telephone billing. For example, if the variable billing previous amounts were between USD 15.00 and USD 50.00, field 6 should contain USD 15.00 and field 7 should contain USD 50.00. This results in transactions being blocked within this specified amount range.

- Fields 1–5 are required for Add
- Field 6 is provided to specify the lowest transaction amount billable
- Field 7 is provided to specify the highest transaction amount billable

Usage of the amount range should only be used if the billing amount of the recurring payment to be blocked is unique and does not overlap with other recurring payments from

the same merchant that should not be blocked. If one recurring payment arrangement billing amount was typically between USD 15.00 and USD 50.00 but another recurring payment from the same merchant either had a variable amount that sometimes fell within USD 15.00 to USD 50.00 or had a fixed amount within USD 15.00 to USD 50.00, both recurring payments are blocked.

- The following guidelines apply for the multiple Card Acceptor ID Codes:
 - Issuers will only be able to provide multiple Card Acceptor ID Codes when PAN (field 1) and Acquirer ICA (field 4) are provided in DE 120.
 - The additional Card Acceptor ID Codes must be added in sequence. For example, if codes are entered in Card Acceptor ID Codes fields 5, 10, and 12, skipping field 11, the 0302 RPCS MCC105 add request will be rejected with DE 39 = 27 (Edit Error) and DE 44 will contain field number 120011.
 - If issuers provide transaction amount or transaction amount range in the 0302 RPCS add list request, the transaction amount and transaction amount range will be applicable to all the given Card Acceptor ID Codes in the message.

MCC106—PAN Mapping File

DE 120 (Record Data) contains Token to PAN Mapping File data when DE 101 (File Name) contains MCC106.

Following are the MCC106 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|---|
| 1 = Add | Fields 1–2 mandatory, field 3 optional |
| 2 = Update | Fields 1–2 mandatory, fields 3–5 optional Valid combinations of fields 1–5 are: <ul style="list-style-type: none"> • Fields 1–3 • Fields 1–3 and field 5; field 4 must contain spaces • Fields 1–2 and field 4; field 3 must contain spaces • Fields 1–2 and field 5; fields 3 and 4 must contain spaces |
| 3 = Delete | Use field 1 only. All records associated to contactless account number will be deleted. |

Following is the DE 120 Layout for MCC106 in the Issuer File Update Request/0302 Message.

| Field ID and Name | Attributes | Comments/Valid Values |
|------------------------------|-------------------|--|
| 1 Contactless Account Number | an-19 | Number that is assigned to the contactless card or device and transmitted from the card or device to the X terminal. Format: Left justified, with trailing spaces |

| Field ID and Name | Attributes | Comments/Valid Values |
|--|-------------------|---|
| 2 PAN | an-19 | <p>Number that is embossed, encoded, or both on the card. Customers may only input account numbers for BINs assigned to the associated customer ID that Mastercard assigned.</p> <p>Format: Left justified, with trailing spaces</p> |
| 3 Card Expiration Date (PAN) | n-4 | <p>Expiration date that is embossed, encoded, or both on the card that represents the cardholder primary account number.</p> <p>Format: YYMM</p> |
| 4 Contactless account number (replacement) | an-19 | <p>Replacement account number that is assigned to the contactless card or device and transmitted from card or device to the contactless terminal.</p> <p>Format: Left justified, with trailing spaces</p> |
| 5 PAN (replacement) | an-19 | <p>Number that is embossed, encoded, or both on the replacement card. Customers may only input account numbers for BINs assigned to the associated customer ID that Mastercard assigned</p> <p>Format: Left justified, with trailing spaces</p> |

The following DE 120 layout applies to Issuer File Update Request/0302 Messages requesting the replacement of a PAN associated with an individual Mastercard Digital Enablement Service (MDES) token, or with all tokens associated with current PAN, in the MCC106 PAN Mapping File.

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|---|
| 1 Mapping File Indicator | an-1 | <p>M = Mastercard Digital Enablement Service Tokens excluding Card on File Tokens</p> <p>A = All Mastercard Digital Enablement Service Tokens including Card on File Tokens</p> <p>Best practice for the issuer to use value A</p> |
| 2 Replacement PAN | an-19 | <p>Number replacing the number that is embossed, encoded, or both on the card (the primary account number). Customers may input only account numbers for BINs assigned to the associated customer ID assigned by Mastercard.</p> <p>The issuer has the option to provide a replacement primary account number for association to the token.</p> <p>Format: Left-justified, with trailing spaces</p> |

| Field ID and Name | Attributes | Comments/Valid Values |
|-------------------|--|---|
| 3 | Replacement PAN Expiration Date | <p>n-4</p> <p>Expiration date that is associated with the number replacing the number that is embossed, encoded, or both on the card that represents the cardholder primary account number.</p> <p>If the issuer has provided a replacement primary account number, this field contains the expiration date that is associated with the replacement primary account number.</p> <p>If the issuer has not provided a replacement primary account number, this field contains the expiration date of the existing primary account number.</p> <p>Format: YYMM</p> |
| 4 | Primary Account Card Sequence Number | <p>ans-3</p> <p>If the issuer has provided a replacement primary account number, this field will contain the card sequence number associated with the replacement primary account number.</p> <p>If the issuer has not provided a replacement primary account number, this field will contain the card sequence number associated with the original primary account number.</p> |
| 5 | Notify Wallet Service Provider Indicator | <p>n-1</p> <p>If the issuer has provided a replacement primary account number and replacement primary account number expiration date, this field indicates whether the Wallet Provider should be notified of the change.</p> <p>Values:</p> <p>0 = Update token mapping information and notify the Wallet Provider with the primary account number information</p> <p>1 = Update token mapping information, but do not notify the Wallet Provider with the primary account number information</p> <p>2 = Do not update token mapping information, but do update the Wallet Provider with the primary account number information</p> |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------|-------------------|--|
| 6 Token | an-19 | <p>Surrogate value for a PAN that is consistent with ISO message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check.</p> <p>Format: Left-justified, with trailing spaces If field not present, update shall apply to all token to PAN mappings associated with the PAN as follows:</p> <ul style="list-style-type: none"> • This field is optional. If present, the token to PAN mapping update will only be applied to the specified token. If not present, the token to PAN mapping update will be applied to all tokens associated with the current PAN. |

The following DE 120 layout applies to Issuer File Update Request/0302 Messages requesting the suspension, deactivation, or resumption of an MDES token in the MCC106 PAN Mapping File.

| Field ID and Name | Attributes | Comments/Valid Values |
|--|-------------------|--|
| 1 Mapping File Indicator | an-1 | <p>M = Mastercard Digital Enablement Service Tokens excluding Card on File Tokens</p> <p>A = All Mastercard Digital Enablement Service Tokens including Card on File Tokens</p> <p>Best practice for the issuer to use value A</p> |
| 2 Action Required | an-1 | <p>S = Suspend token</p> <p>D = Deactivate token</p> <p>C = Resume token</p> |
| 3 Notify Wallet Service Provider Indicator | n-1 | <p>This field indicates whether the Wallet Provider should be notified of the change.</p> <p>Values:</p> <p>0 = Update token mapping information and notify the Wallet Provider with the primary account number information.</p> |

| Field ID and Name | Attributes | Comments/Valid Values |
|--------------------------------------|-------------------|---|
| 4 Token—If Updating a Specific Token | an-19 | <p>Surrogate value for a PAN that is consistent with ISO message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check.</p> <p>Format: Left-justified, with trailing spaces.</p> <p>If field not present, update shall apply to all token to PAN mappings associated with the PAN.</p> |

The following DE 120 layout applies to Issuer File Update Request Response/0312 Messages created by Mastercard in response to an MCC106 PAN Mapping File update request.

| Field ID and Name | Attributes | Comments/Valid Values |
|--|-------------------|--|
| 1 Contactless account number | an-19 | <p>Number that is assigned to the contactless card or device and transmitted from the card or device to contactless terminal.</p> <p>Format: Left justified, with trailing spaces</p> |
| 2 PAN | an-19 | <p>Number that is embossed, encoded, or both on the card. Customers may only input account numbers for BINs assigned to the associated customer ID that Mastercard assigned.</p> <p>Format: Left justified, with trailing spaces</p> |
| 3 Card Expiration Date (PAN) | n-4 | <p>Expiration date that is embossed, encoded, or both on the actual card.</p> <p>Format: YYMM</p> |
| 4 Contactless account number (replacement) | an-19 | <p>Replacement number that is assigned to the contactless card or device and transmitted from the card or device to contactless terminal.</p> <p>Format: Left justified, with trailing spaces</p> |
| 5 PAN (replacement) | an-19 | <p>Number that is embossed, encoded, or both on the replacement card. Customers may only input account numbers for BINs assigned to the associated customer ID that Mastercard assigned.</p> <p>Format: Left justified, with trailing spaces</p> |
| 6 Date-Last-Update Activity | n-6 | Format: MMDDYY (Month, Day, Year) |

| Field ID and Name | Attributes | Comments/Valid Values |
|-----------------------------|-------------------|------------------------------|
| 7 Time-Last-Update Activity | n-4 | Format: hhmm (hour, minute) |

MCC107—Enhanced Value File

DE 120 (Record Data) contains Mastercard Enhanced Value (Enhanced Value) file data when DE 101 (File Name) contains MCC107.

Following are the MCC107 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|---|
| 1 = Add | Use fields 1-5, field 2 may contain spaces |
| 2 = Update | Use fields 1-5, field 2 may contain spaces |
| 3 = Delete | Field 1 mandatory, field 2 optional. Fields 3, 4, and 5 not required |
| 5 = Inquiry | Use field 1 only, field 2 optional (but if submitted, must be equal to field 1) |

Following is the DE 120 Layout for MCC107 in the Issuer File Update Request/0302 message.

| Field ID and Name | Attributes | Comments/Valid Values |
|------------------------------------|-------------------|--|
| 1 Primary Account Number (Low PAN) | an-19 | This field is mandatory. Field 1 is used to define a single cardholder account the issuer has qualified as eligible for Enhanced Value. This field must be 19 positions, left-justified, filled with spaces. When the issuer is using MCC107 to define subsets of entire account ranges, the field will contain the first account in the range of accounts; field 2 will contain the last account. |

| Field ID and Name | Attributes | Comments/Valid Values |
|-------------------------------------|-------------------|---|
| 2 Primary Account Number (High PAN) | an-19 | <p>This field must be 19 positions, left-justified, filled with spaces. This field may be used to complement Field 1 as follows:</p> <ul style="list-style-type: none"> • When the issuer's intent is to add, update, or delete a single account, Field 2 must contain either spaces or a value equal to Field 1. • When the issuer's intent is to add, update, or delete a range of accounts, Field 2 must contain a value greater than the value found in Field 1. The total number of cardholder accounts defined with this method must not exceed 100,000. • When the issuer's intent is to inquire, Field 2 is not required; however if present, Field 2 must contain spaces or a value equal to the value in Field 1. Inquiries on ranges of accounts are not permitted. |
| 3 Account Category | an-1 | This field must only contain a value of B (Enhanced Value) or space. |
| 4 Purge Date | n-8 | This field must contain a date in CCYYMMDD format. The date must be no greater than 20 years from the date on which the account is listed. |
| 5 Program ID | an-6 | This field must contain the Program ID assigned to the issuer when the issuer enrolled in Enhanced Value. |

Following is the DE 120 Layout for MCC107 in the Issuer File Update Request Response/0312 message.

| Field ID and Name | Attributes | Comments/Valid Values |
|------------------------------------|-------------------|--|
| 1 Primary Account Number (Low PAN) | an-19 | This field is mandatory. Field 1 is used to define a single cardholder account the issuer has qualified as eligible for Enhanced Value. This field must be 19 positions, left-justified, filled with spaces. When the issuer is using MCC107 to define subsets of entire account ranges, the field will contain the first account in the range of accounts; field 2 will contain the last account. |

| Field ID and Name | Attributes | Comments/Valid Values |
|-------------------------------------|-------------------|---|
| 2 Primary Account Number (High PAN) | an-19 | <p>This field must be 19 positions, left-justified, filled with spaces. This field may be used to complement Field 1 as follows:</p> <ul style="list-style-type: none"> When the issuer's intent is to add, update, or delete a single account, Field 2 must contain either spaces or a value equal to Field 1. When the issuer's intent is to add, update, or delete a range of accounts, Field 2 must contain a value greater than the value found in Field 1. The total number of cardholder accounts defined with this method must not exceed 100,000. When the issuer's intent is to inquire, Field 2 is not required; however if present, Field 2 must contain spaces or a value equal to the value in Field 1. Inquiries on ranges of accounts are not permitted. |
| 3 Account Category | an-1 | This field must only contain a value of B (Enhanced Value), S (Premium High Spend), or a blank. |
| 4 Purge Date | n-8 | This field must contain a date in CCYYMMDD format. The date must be no greater than 20 years from the date on which the account is listed. |
| 5 Program ID | an-6 | This field must contain the Program ID assigned to the issuer when the issuer enrolled in Enhanced Value. |
| 6 Customer ID | n-6 | The unique customer number that is assigned by Mastercard. Format: right-justified, zero-filled. |
| 7 Date-Last-Update Activity | n-6 | Format: MMDDYY |
| 8 Time-Last-Update Activity | n-4 | Format: HHMM |

MCC108—Product Graduation File

DE 120 (Record Data) contains Mastercard Product Graduation (Product Graduation) file data when DE 101 (File Name) contains MCC108.

Following are the MCC108 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|--|
| 1 = Add | Use fields 1–7 |
| 2 = Update | Use fields 1–7 |
| 3 = Delete | Use field 1 only |

| When DE 91 Contains... | Include These Fields in DE 120... |
|-------------------------------|--|
| 5 = Inquiry | Use field 1 only |

Following is the DE 120 Layout for MCC108 in the Issuer File Update Request/0302 message.

| Field ID and Name | Attributes | Comments/Valid Values |
|---------------------------------|-------------------|---|
| 1 Primary Account Number | an-19 | Mandatory. This field must be used to define a single account. The field must be 19 positions, left-justified, filled with spaces. |
| 2 Account Category | an-1 | Conditional. Valid values: B = Enhanced Value Space = Cards registered as Product Graduation only or Product Graduation and Enhanced Value |
| 3 Graduated Product Code | a-3 | Mandatory. This field must contain the product code to which the issuer wants to migrate the account found in Field 1. |
| 4 Purge Date | n-8 | Mandatory. This field must contain a date in CCYYMMDD format. The date must be no greater than 20 years from the date on which the account is listed. |
| 5 Previous Product Code | an-3 | Optional. The field will contain the product code from which the account is migrating. This field must contain spaces if a product code is not provided. |
| 6 Program ID | an-6 | Conditional. This field is required if the issuer is registering the account for Enhanced Value. This field must contain spaces if a program ID is not provided. |
| 7 Customer Specific Index (CSI) | an-7 | Optional. This field will contain the issuer-defined number associated with the CSI to which the issuer is assigning the account found in Field 1. This field must contain spaces if a CSI number is not provided. |

Following is the DE 120 Layout for MCC108 in the Issuer File Update Request Response/0312 message.

| Field ID and Name | Attributes | Comments/Valid Values |
|---------------------------------|-------------------|---|
| 1 Primary Account Number | an-19 | This field must be used to define a single account. The field must be 19 positions, left-justified, filled with spaces. |
| 2 Account Category | an-1 | Mandatory. Valid values: B = Enhanced Value M = Enhanced Value and Product Graduation P = Product Graduation S = High Value T = High Value and Product Graduation |
| 3 Graduated Product Code | an-3 | Mandatory. This field must contain the product code to which the issuer wants to migrate the account found in Field 1. |
| 4 Purge Date | n-8 | Mandatory. This field must contain a date in CCYYMMDD format. The date must be no greater than 20 years from the date on which the account is listed. |
| 5 Previous Product Code | an-3 | This field will contain the previous product code on file for the account regardless of whether the issuer provided a product code value in the Previous Product Code field of the Issuer File Update Request/0302 message. |
| 6 Program ID | an-6 | Conditional. This field will contain spaces if a program ID is not provided. |
| 7 Customer Specific Index (CSI) | an-7 | Optional. This field will contain spaces if a CSI number is not provided. |
| 8 Customer ID | n-6 | Mandatory. The unique custom number that is assigned by Mastercard. Format: right-justified, zero-filled. |
| 9 Date-Last-Update Activity | n-6 | Format: MMDDYY |
| 10 Time-Last-Update Activity | n-4 | Format: HHMM |

MCC109—Application Transaction Counter File

DE 120 (Record Data) contains Application Transaction Counter file data when DE 101 (File Name) contains MCC109.

Following are the MCC109 data fields that should be included in DE 120 depending on the value in DE 91 (Issuer File Update Code).

| When DE 91 Contains... | Include These Fields in DE 120... |
|--|--|
| 1 = Add | Fields 1–4 mandatory |
| 3 = Delete (Note: applicable only when submitting an R311 bulk file deletion request.) | Fields 1–4 mandatory |
| 5 = Inquiry | Fields 1–3 mandatory |

Following is the DE 120 Layout for MCC109 in the Issuer File Update Request/0302 message. Fields 1 through 3 must be considered contiguous to identify if an entry exists when trying to delete a record.

| Field ID and Name | Attributes | Comments/Valid Values |
|---|-------------------|---|
| 1 Contactless Account Number | an-19 | Number that is assigned to the contactless card or device and transmitted from the card or device to the contactless terminal Format: Left justified, with trailing spaces |
| 2 Card Sequence Number | n-1 | May be zero |
| 3 Contactless Account Expiration Date | n-4 | Expiration date Format: YYMM |
| 4 Contactless Application Transaction Counter (ATC) Value | n-5 | Right-justified, leading zeros |

Following is the DE 120 Layout for MCC109 in the Issuer File Update Request Response/0312 message.

| Field ID and Name | Attributes | Comments/Valid Values |
|---|-------------------|---|
| 1 Contactless Account Number | an-19 | Number that is assigned to the contactless card or device and transmitted from the card or device to contactless terminal Format: Left justified, with trailing spaces |
| 2 Card Sequence Number | n-1 | May be zero |
| 3 Contactless Account Expiration Date | n-4 | Expiration date Format: YYMM |
| 4 Contactless Application Transaction Counter (ATC) Value | n-5 | Right-justified, leading zeros |
| 5 Filler | an-1 | |

| Field ID and Name | Attributes | Comments/Valid Values |
|----------------------------------|-------------------|--|
| 6 Issuer Customer ID | n-6 | |
| 7 Date/Time-Last-Update Activity | n-12 | Format: MMDDYYHHMMSS |
| 8 Entry Change Indicator | an-1 | Indicates how the ATC Value was last changed B = batch entry O = online entry T = transaction |
| 9 Creation Date/Time Stamp | n-14 | Format: MMDDCCYYHHMMSS |
| 10 Last Transaction Time | n-4 | Last transaction time for valid ATC. Format: hhmm |

MCC111—PAN-PAR (Payment Account Reference) Mapping File

DE 120 (Record Data) contains PAN to PAR Mapping File data when DE 101 (File Name) contains MCC111.

Only PAN replacement and PAR record deletion actions are allowed. Both are handled as an “update”.

Following are the MCC111 data fields that should be included in DE 120 depending on the combination of values in DE 91 (Issuer File Update Code) and DE 120 subfield 1 (Action Required).

| When DE 91 Contains... | Include These Subfields in DE 120... |
|---|--|
| 2 = Update This is the only valid Issuer File Update Code value for MCC111 | Subfield 1 is mandatory <ul style="list-style-type: none"> • When subfield 1 = U (Update), subfield 2 must contain a replacement PAN • When subfield 1 = D (Delete), all other DE 120 subfields must contain spaces |

The following DE 120 layout applies to Issuer File Update Request/0302 messages requesting the replacement of a PAN associated with a PAR value in the MCC111 PAN-PAR Mapping File. This action should be performed when the issuer is replacing the consumer’s current PAN with a new PAN.

| Subfield ID and Name | Attributes | Comments/Valid Values |
|-----------------------------|-------------------|---------------------------------------|
| 1 Action Required | an-1 | U = Update the PAN-PAR mapping record |

| Subfield ID and Name | Attributes | Comments/Valid Values |
|-----------------------------|-------------------|--|
| 2 Replacement PAN | an-19 | <p>Number that is embossed, encoded, or both on the replacement card. Customers may only input account numbers for BINs assigned to the associated customer ID assigned by Mastercard.</p> <p>Format: Left justified, with trailing spaces</p> |

The following DE 120 layout applies to Issuer File Update Request/0302 messages requesting the deletion of a PAN-PAR mapping record in the MCC111 PAN-PAR Mapping File. This action should be performed only when the issuer has permanently closed/cancelled the consumer's PAN.

| Subfield ID and Name | Attributes | Comments/Valid Values |
|-----------------------------|-------------------|--|
| 1 Action Required | an-1 | D = Delete the PAN-PAR mapping record associated with the PAN in DE 2 (Primary Account Number) |

DE 120 Error Codes

Following are the DE 120 Error Codes.

MCC102 Error Codes

The Authorization Platform returns an Issuer File Update Request Response/0312 message where DE 39 contains the value 27 and DE 44 contains the value 120xxx (xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|-------------------|--|
| 120001 | <p>Primary Account Number (PAN), extended not numeric</p> <p>-Or-</p> <p>BIN in Primary Account Number (PAN), extended not on FIM</p> <p>-Or-</p> <p>Origin of message invalid for BIN in Primary Account Number (PAN), extended</p> <p>-Or-</p> <p>Check digit in Primary Account Number (PAN), extended not correct</p> <p>-Or-</p> <p>Primary Account Number (PAN), extended not on Account File (for delete or inquiry).</p> |
| 120002 | Entry Reason not one of the following: (C, F, G, L, O, P, S, U, V, X). |

| Error Code | Error Message |
|------------|---|
| 120005 | PIN length not numeric or spaces. |
| 120006 | Entry-Reason = V and Premium Listing Accumulative Limit Amount not numeric. |
| 120007 | Invalid Currency Code |
| 120008 | Invalid Issuer-defined Purge Date |
| 120009 | Invalid Card Sequence Number |
| 120010 | Invalid Card Expiration Date |

MCC103 Error Codes

The Authorization Platform returns an Issuer File Update Request Response/0312 message where DE 39 contains the value 25 or 27 and DE 44 contains the value 120xxx (xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|--|--|
| When DE 39 contains the value 25 (Unable to locate record on file [no action taken]), DE 44 contains the following error code: | |
| 120001 | Primary account number not on file. |
| When DE 39 contains the value 27, DE 44 contains one of the following error codes: | |
| 120001 | Primary account number not on file -Or- Primary Account Number (PAN), extended is not numeric -Or- BIN in Primary Account Number (PAN), extended is invalid -Or- Check digit in cardholder number is not correct and product code is not equal to MNS (Non-standard) -Or- Origin of message invalid for BIN in Primary Account Number (PAN), Extended. |
| 120002 | Issuing ICA (customer ID) is not associated with Primary Account Number (PAN), Extended BIN. |
| 120003 | Product code is not equal to a valid card program value. |
| 120004 | Response code not equal to 04 (capture card). |
| 120005 | Entry reason is not C, F, O, or X. |

| Error Code | Error Message |
|------------|--|
| 120006 | <p>Regional indicator is not 1, A, B, C, D, or E.</p> <p>-Or-</p> <p>Regional indicator is not in ascending order.</p> |
| 120007 | <p>Region-requested purge date invalid.</p> <p>-Or-</p> <p>Region-requested purge date not equal to current or future date.</p> <p>-Or-</p> <p>Requested purge date must be at least one day beyond current date if account is not already listed.</p> |

MCC104 Error Codes

The Authorization Platform returns an Issuer File Update Request Response/0312 message where DE 39 contains the value 25, 27, or 30 and DE 44 contains the value 120xxx (xxx indicates the DE 120 field in which the error occurred.)

| Error Code | Error Message |
|--|---|
| When DE 39 contains the value 25, DE 44 contains the following error code: | |
| 120001 | Account not on file. |
| When DE 39 contains the value 27, DE 44 contains one of the following error codes: | |
| 120001 | <p>Primary Account Number (PAN), Extended is not numeric</p> <p>-Or-</p> <p>BIN in Primary Account Number (PAN), Extended is invalid</p> <p>-Or-</p> <p>Check digit in cardholder number is not correct and product code is not equal to PNS (Non-standard)</p> <p>-Or-</p> <p>Origin of message invalid for BIN in Primary Account Number (PAN), Extended.</p> |
| 120002 | Issuing ICA (customer ID) is not associated with Primary Account Number (PAN) |

| Error Code | Error Message |
|------------|---|
| 120003 | Card Program is not equal to a valid value -Or- BIN is not set up for proprietary card program, and card program in the request equals PRO or PNS. |
| 120004 | Response code is not 04. |
| 120005 | Entry reason is not C, F, O, or X. |
| 120006 | Regional indicator is not equal to 1, A, B, C, D, or E -Or- Regional indicator is not in ascending order. |
| 120007 | Country invalid or outside issuer region. |
| 120008 | Subcountry invalid or outside issuer country. |
| 120009 | Purge date invalid -Or- Purge date not equal to current or future date -Or- Requested purge date must be at least one day beyond current date if account is not already listed. |

MCC105 Error Codes

If the Authorization Platform detects an error in the Issuer File Update Request/0302 message, it returns an Issuer File Update Request Response/0312 message containing error codes specific to each file name. DE 39 (Response Code) contains value 27 (Issuer File Update field edit error) and DE 44 (Additional Response Data) contains the value 120xxx (where xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|-------------------|--|
| 120001 | <p>Primary Account Number (PAN) not within account range that is an RPCS participant</p> <p>-Or-</p> <p>Primary Account Number (PAN) not numeric</p> <p>-Or-</p> <p>BIN in Primary Account Number (PAN) not valid</p> <p>-Or-</p> <p>Check digit in Primary Account Number (PAN) not correct</p> <p>-Or-</p> <p>Primary Account Number (PAN) not on RPCS File (for update, delete, or inquiry)</p> |
| 120002 | Entry Reason is not (A) |
| 120003 | <p>Invalid Issuer-defined Purge Date format</p> <p>-Or-</p> <p>Issuer-defined Purge Date not equal to or greater than system date</p> <p>-Or-</p> <p>Issuer-defined Purge Date not greater than system date by 15 months</p> |
| 120004 | Acquirer ICA not numeric |
| 120005 | Card Acceptor ID Code not present |
| 120006 | Transaction Amount (low limit) not numeric |
| 120007 | <p>Transaction Amount (high limit) not numeric</p> <p>-Or-</p> <p>Transaction Amount (high limit) not greater than Transaction Amount (low limit)</p> <p>-Or-</p> <p>Transaction Amount (high limit) is present but Transaction Amount (low limit) is not present</p> |

| Error Code | Error Message |
|---------------|---|
| 120010–120013 | <p>Invalid Card Acceptor ID Code</p> <p>If multiple Card Acceptor ID Code occurrences are not provided in sequence, then Add request will be rejected with edit error on the respective field that has spaces in-between two valid Card Acceptor ID Codes.</p> <p>For example: If fields 5, 10, 12 are provided with valid values and field 11 is provided with spaces, then Add request will be rejected with edit error on field 11, DE44=120011.</p> |

MCC106 Error Codes

DE 39 contains the appropriate value and DE 44 contains value 120xxx (where xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|--|--|
| When DE 39 contains value 25 (Unable to locate record on file), DE 44 contains the following error code: | |
| 120001 | Contactless account number not on MCC106 (PAN Mapping File) (for update or delete) |
| 120002 | PAN not on MCC106 (PAN Mapping File) (for update) |
| When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains one of the following error codes: | |
| 120001 | Contactless account number not numeric -Or- Prefix in contactless account number not valid -Or- Check digit in contactless account number not correct -Or- Contactless account number not within account range that is a Contactless Mapping Service participant |

| Error Code | Error Message |
|--|--|
| 120002 | <p>PAN not numeric</p> <p>-Or-</p> <p>Prefix in PAN not valid</p> <p>-Or-</p> <p>Check digit in PAN not correct</p> <p>-Or-</p> <p>PAN and contactless account number prefixes do not have same country and product</p> <p>-Or-</p> <p>PAN prefix should not be participating in the Contactless Mapping Service</p> |
| 120003 | Invalid PAN card expiration date |
| 120004 | <p>Replacement contactless account number not numeric</p> <p>-Or-</p> <p>Prefix in Replacement contactless account number not valid</p> <p>-Or-</p> <p>Check digit in Replacement contactless account number not correct</p> <p>-Or-</p> <p>Replacement contactless account number not within account range that is a Contactless Mapping Service participant</p> |
| 120005 | <p>Replacement PAN not numeric</p> <p>-Or-</p> <p>Prefix in Replacement PAN not valid</p> <p>-Or-</p> <p>Check digit in Replacement PAN not correct</p> <p>-Or-</p> <p>Replacement PAN and contactless account number prefixes do not have same country and product</p> <p>-Or-</p> <p>Replacement PAN prefix should not be participating in the Contactless Mapping Service</p> |
| When DE 39 contains value 80 (Duplicate add, action not performed), DE 44 contains the following error code: | |
| 120001 | Contactless account number is a duplicate |

| Error Code | Error Message |
|------------|---|
| 120004 | Replacement contactless account number is a duplicate |

MCC107 Error Codes

DE 39 contains the appropriate value and DE 44 contains value 120xxx (where xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|--|---------------|
| When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains the following error code: | |

| Error Code | Error Message |
|------------|--|
| 120001 | <p>Primary Account Number (PAN) is not numeric</p> <p>-Or-</p> <p>Primary Account Number (PAN) is not valid</p> <p>-Or-</p> <p>PAN does not begin with 51-55, 36, or 38</p> <p>-Or-</p> <p>PAN for an account range that is a non-U.S. range (the country code associated with the range is not 840)</p> <p>-Or-</p> <p>DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on MCC107 with Account Category value B</p> <p>-Or-</p> <p>DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on MCC107 with Account Category value M</p> <p>-Or-</p> <p>DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on MCC108 with Account Category value P and is graduated to a product that would result in transactions qualifying for a premium interchange rate (for example, World)</p> <p>-Or-</p> <p>DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on MCC107 with Account Category value S</p> <p>-Or-</p> <p>DE 91 contains a value of 2 (Update), Field 1 contains a PAN that is already listed on MCC107 with Account Category value B, M, or S and the other fields in DE 120 have not changed</p> <p>-Or-</p> <p>DE 91 contains a value of 2 (Update) and the account is not listed on MCC107</p> <p>-Or-</p> <p>The issuer submits a delete request for MCC107 but the Account Category value is P (Mastercard Product Graduation)</p> <p>-Or-</p> <p>The country associated with the PAN is not valid for Account Level Management</p> |

| Error Code | Error Message |
|------------|--|
| 120002 | Primary Account Number (PAN) is not numeric -Or- Primary Account Number (PAN) is not valid -Or- PAN does not begin with 51-56, 36, or 38 |
| 120003 | Account Category is not valid -Or- Account Category is not valid for the product associated with the account range |
| 120004 | Purge Date is not equal to or less than 20 years from the current date -Or- Purge Date is not formatted in CCYYMMDD format |
| 120005 | Program ID is not 6 alphanumeric positions -Or- Program ID is not a valid value, as assigned to the issuer by Mastercard |
| 120999 | Number of accounts generated by the combination of Low PAN (Field 1) and High PAN (Field 2) exceeds a total of 100,000 accounts. |

MCC108 Error Codes

DE 39 contains the appropriate value and DE 44 contains value 120xxx (where xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|------------|--|
| | When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains the following error code: |

| Error Code | Error Message |
|------------|---|
| 120001 | <p>Primary Account Number (PAN) is not numeric</p> <p>-Or-</p> <p>Primary Account Number (PAN) is not valid</p> <p>-Or-</p> <p>PAN does not begin with 51-55, 36, or 38</p> <p>-Or-</p> <p>PAN for an account range that is a non-U.S. range (the country code associated with the range is not 840).</p> <p>-Or-</p> <p>DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on both MCC107 and MCC108 with Account Category value M</p> <p>-Or-</p> <p>DE 91 contains value 1 (Add) and Field 1 contains a PAN that is already listed on MCC108 with Account Category value P</p> <p>-Or-</p> <p>DE 91 contains value 1 (Add) and Field 1 contains a PAN that is already listed on both MCC107 and MCC108 with Account Category value P</p> <p>-Or-</p> <p>The country associated with the PAN is not valid for Account Level Management</p> |
| 120002 | <p>Account Category is not valid</p> <p>-Or-</p> <p>Account Category is not valid for the product associated with the account range.</p> <p>-Or-</p> <p>Field 2 does not contain a valid Account Category value. Valid values are: B or space.</p> <p>-Or-</p> <p>Field 2 contains an Account Category not valid for the product code to which the issuer is graduating the account Valid values are: B or space.</p> |

| Error Code | Error Message |
|------------|--|
| 120003 | <p>Product Code is not valid</p> <p>-Or-</p> <p>Product Code override is not valid for the product currently maintained at the issuer account range.</p> <p>-Or-</p> <p>Field 3 does not contain a valid graduated product code</p> |
| 120004 | <p>Purge Date is not equal to or less than 20 years from the current date.</p> <p>-Or-</p> <p>Purge Date is not formatted in CCYYMMDD format</p> |
| 120005 | The product code is not a valid product code |
| 120006 | <p>Invalid program ID</p> <p>-Or-</p> <p>The Program ID is not an-6</p> <p>-Or-</p> <p>The Program ID is not provided for an account being registered for Mastercard Enhanced Value Platform (Field 2 Account Category value B)</p> <p>-Or-</p> <p>The Program ID contains all zeros or all spaces for an account being registered for Mastercard Enhanced Value Platform (Field 2 Account Category value B)</p> <p>-Or-</p> <p>The Program ID is not a valid Program ID for the ICA associated with the PAN</p> <p>-Or-</p> <p>The Program ID is provided for an account being graduated to a premium product</p> |
| 120007 | <p>Invalid CSI value</p> <p>-Or-</p> <p>The Customer Specific Index (CSI) value provided is not an-7</p> <p>-Or-</p> <p>The CSI value is not valid for the ICA associated with the PAN</p> |

The Authorization Platform returns an Issuer File Update Request Response/0312 message where DE 39 contains value 25, 27, or 80 and DE 44 contains value 120xxx (xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|---|---|
| When DE 39 contains value 25 (Unable to locate record on file), DE 44 contains the following error code: | |
| 120001 | Primary account number not on file. |
| When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains the following error code: | |
| 120001 | <p>One of the following:</p> <ul style="list-style-type: none">• Primary Account Number (PAN) is not numeric.• PAN is not valid.• PAN already listed on MCC108 with a value of P.• PAN already listed with a value of P.• PAN not listed on MCC108.• PAN for an account range that is a non-Moldova range.• Invalid country associated with PAN for Account Level Management. |
| 120002 | Account Category is not valid for the product associated with the account range. |
| 120003 | <p>One of the following:</p> <ul style="list-style-type: none">• Product Code is not valid.• Product Code is not valid for the Category Code defined in Field 2.• Product Code override is not valid for the product currently maintained at the issuers account range. |
| 120004 | <p>One of the following:</p> <ul style="list-style-type: none">• Purge Date is not equal to or less than 20 years from the current date.• Purge Date is not formatted in CCYYMMDD format. |
| 120005 | Product Code is not valid. |
| 120006 | Program ID is not all spaces. |
| 120007 | <p>One of the following:</p> <ul style="list-style-type: none">• CSI value provided is not an-7.• CSI value is not valid for the ICA associated with the PAN. |
| When DE 39 contains value 80 (Duplicate add, action not performed), DE 44 contains the following error code: | |

| Error Code | Error Message |
|------------|--|
| 120001 | Primary account number is a duplicate. |

The Authorization Platform returns an Issuer File Update Request Response/0312 message where DE 39 contains value 25, 27, or 80 and DE 44 contains value 120xxx (xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|---|--|
| When DE 39 contains value 25 (Unable to locate record on file), DE 44 contains the following error code: | |
| 120001 | Primary account number not on file. |
| When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains the following error code: | |
| 120001 | One of the following: <ul style="list-style-type: none">• Primary Account Number (PAN) is not numeric• Primary Account Number (PAN) is not valid• PAN does not begin with 51–55, 36, or 38• PAN for an account range that is a non-U.S. range (the country code associated with the range is not 840)• DE 91 contains a value of 1 (Add) and Field 1 contains a PAN that is already listed on both MCC107 and MCC108 with Account Category value M• DE 91 contains value 1 (Add) and Field 1 contains a PAN that is already listed on MCC108 with Account Category value P• DE 91 contains value 1 (Add) and Field 1 contains a PAN that is already listed on both MCC107 and MCC108 with Account Category value P• The country associated with the PAN is not valid for Account Level Management |
| 120002 | One of the following: <ul style="list-style-type: none">• Account Category is not valid• Account Category is not valid for the product associated with the account range• Field 2 does not contain a valid Account Category value. Valid values are: B or space• Field 2 contains an Account Category not valid for the product code to which the issuer is graduating the account. Valid values are: B or space |

| Error Code | Error Message |
|---|--|
| 120003 | <p>One of the following:</p> <ul style="list-style-type: none"> • Product Code is not valid • Product Code override is not valid for the product currently maintained at the issuers account range • Field 3 does not contain a valid graduated product code |
| 120004 | <p>One of the following:</p> <ul style="list-style-type: none"> • Purge Date is not equal to or less than 20 years from the current date. • Purge Date is not formatted in CCYYMMDD format. |
| 120005 | The product code is not a valid product code |
| 120006 | <p>One of the following:</p> <ul style="list-style-type: none"> • Invalid program ID • The Program ID is not an-6 • The Program ID is not provided for an account being registered for Mastercard Enhanced Value Platform (Field 2 Account Category value B) • The Program ID contains all zeros or all spaces for an account being registered for Mastercard Enhanced Value Platform (Field 2 Account Category value B) • The Program ID is not a valid Program ID for the ICA associated with the PAN • The Program ID is provided for an account being graduated to a premium product |
| 120007 | <p>One of the following:</p> <ul style="list-style-type: none"> • Invalid CSI value • The Customer Specific Index (CSI) value provided is not an-7 • The CSI value is not valid for the ICA associated with the PAN |
| When DE 39 contains value 80 (Duplicate add, action not performed), DE 44 contains the following error code: | |
| 120001 | Primary account number is a duplicate. |

MCC109 Error Codes

DE 39 contains the appropriate value and DE 44 contains value 120xxx (where xxx indicates the DE 120 field in which the error occurred).

| Error Code | Error Message |
|--|---------------|
| When DE 39 contains value 25 (Unable to locate record on file), DE 44 contains the following error code: | |

| Error Code | Error Message |
|--|---|
| 120001 | Contactless Account Number/Card Sequence Number/Contactless Account Expiration Date not on Contactless Application Transaction Counter (ATC) File (MCC109) (for add or inquiry) |
| When DE 39 contains value 27 (Issuer File Update Field Edit Error), DE 44 contains one of the following error codes: | |
| 120001 | Contactless Account Number not numeric -Or- Prefix in contactless account not valid -Or- Check digit in Contactless Account Number not correct |
| 120002 | Card Sequence Number not numeric |
| 120003 | Contactless Account Expiration Date invalid |
| 120004 | ATC not numeric |
| When DE 39 contains value 80 (Duplicate add, action not performed), DE 44 contains the following error code: | |
| 120001 | Contactless Account Number/Card Sequence Number/Contactless Account Expiration Date already exists on file (applies to Add) |

MCC111 Error Codes

DE 39 contains the appropriate value and DE 44 contains value 120xxx (where xxx indicates the DE 120 subfield in which the error occurred).

| Error Code | Error Message |
|--|---|
| When DE 39 contains value 25 (Unable to locate record on file [no action taken]), DE 44 contains the following error code: | |
| 120001 | The PAN in DE 2 is not associated with a PAR value in the MCC111 PAN-PAR Mapping File and therefore the action requested in subfield 1 cannot be performed. |
| When DE 39 contains value 27 (Issuer File Update field edit error), DE 44 contains the following error code: | |

| Error Code | Error Message |
|------------|--|
| 120001 | <p>The Action Required value in DE 120 subfield 1 is not D (Delete) or U (Update). Value is space or other than D or U.</p> <p>-Or-</p> <p>The Action Required value in DE 120 subfield 1 is D (Delete) but the PAN in DE 2 is associated with a token in the MCC106 Token-PAN Mapping File that is in active or suspended status. Therefore the PAN-PAR mapping record cannot be deleted.</p> |
| 120002 | <p>The content of DE 120 subfield 2 is not properly formatted</p> <ul style="list-style-type: none">• Not numeric (alpha, special, or spaces)• Incorrect length• Invalid check digit <p>-Or-</p> <p>The Action Required value in DE 120 subfield 1 is U (Update) but no replacement PAN is present in subfield 2.</p> <p>-Or-</p> <p>The Action Required value in DE 120 subfield 1 is U (Update) but the account range of the replacement PAN in subfield 2 is not eligible for association with a PAR value.</p> <p>-Or-</p> <p>The Action Required value in DE 120 subfield 1 is U (Update) but the replacement PAN in subfield 2 is already associated with another PAR value.</p> |

When DE 39 contains value 80 (Duplicate Add, action not performed), DE 44 contains the following error code:

| | |
|--------|---|
| 120002 | The PAN value in DE 2 is a duplicate of the PAN value in DE 120 subfield 2. The replacement PAN in subfield 2 must be different than the current PAN in DE 2. |
|--------|---|

DE 121—Authorizing Agent ID Code

DE 121 (Authorizing Agent ID Code), when used, must contain the appropriate Mastercard-assigned customer ID number that uniquely identifies the Authorization Platform Stand-In processing facility or alternate routing CPS responsible for performing Stand-In processing on-behalf of the issuer.

Attributes

| | | |
|----------------------|---------------------------|-----------------|
| Data Representation: | ISO: | n...999; LLLVAR |
| | Mastercard: | n...6; LLLVAR |
| Length Field: | 3 | |
| Data Field: | Contents of positions 1–6 | |
| Subfields: | N/A | |
| Justification: | N/A | |

Usage

Following is the usage of DE 121 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—Acquirer-generated | C | • | C |
| Authorization Advice/0120—Issuer-generated | C | C | • |
| Authorization Advice/0120—System-generated | • | C | C |
| Reversal Request Response/0410 | C | • | C |
| Reversal Advice/0420 | • | C | C |

Values

Must contain a valid Mastercard customer ID number. Mastercard reserves values 000000–000999 for Mastercard use.

The following values may be present in DE 121:

- If the 0110 message was responded to by the issuer, the value may contain the issuer's Mastercard ID.
- If the 0110 message was responded to by the MIP X-Code System, the value will be 000000.
- If the 0110 message was responded to by the Stand-In System, the value will be 000001.
- If the 0110 message was responded to by an alternate issuer host route, the value will be 000002.
- If a decline occurred due to an on-behalf service, the value will be 000003.
- If the 0110 message was responded to by the Mastercard Rewards System, the value will be 000004 (Mastercard Rewards System).

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

When Stand-In processing or “alternate authorizer” performs an Authorization Request/0100 on behalf of an issuer, it must insert this data element into the appropriate response message (for example, Authorization Request Response/0110) and into the appropriate Authorization Advice/0120—System-generated message so that the entire transaction audit trail clearly identifies the specific authorizing agent that actually approved the transaction.

The acquirer must insert this value in the Authorization Advice/0120 message when DE 121 is present in the Authorization Request Response/0110 message.

DE 121 is not required in Authorization Request/0100 or Authorization Advice/0120 messages the original issuer or its designated “primary” authorizing agent initiates.

DE 121, value 000002 is applicable only to issuers that use an alternate issuer host route instead of the Stand-In System. The issuer will provide in the Authorization Request Response/0110 message DE 121, value 000002 when an alternate issuer processed the original request.

DE 121 will have the value 000003 when a decline occurred due to an on-behalf service.

DE 121, value 000004 is applicable only to issuers participating in the Mastercard Pay with Rewards service and will only be present in the Authorization Advice/0120—System-generated messages notifying issuers of a declined request. The specific reason for the decline will be specified in DE 60 (Advice Reason Code).

DE 122—Additional Record Data

DE 122 is a free-format, variable-length data element used for transmitting file record data in various message types. When used in Issuer File Update Request Response/0312 messages, this data element contains additional record data for file inquiry requests.

Attributes

Data Representation: ans...999; LLLVAR

Length Field: 3

Data Field: Contents of positions 1–999

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 122 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|--|---|---|---|
| Issuer File Update Request Response/0312 | • | C | C |
|--|---|---|---|

Values

The length field must be in the range 001–999.

DE 122 is a free-format, variable-length data element used for transmitting file record data in various message types.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

When used in Issuer File Update Request Response/0312 messages, this data element contains additional record data for file inquiry requests.

DE 123—Receipt Free Text

DE 123 (Receipt Free Text) only applies to the Swedish Domestic Authorization Switching Service (SASS), Peru, and the Mastercard Installment Payment Service. For SASS, DE 123 contains information to be printed on a receipt (not displayed on the terminal screen) for balance inquiry and ATM transactions (where DE 3 [Processing Code] is value 01 [Withdrawal] or value 30 [Balance Inquiry]). For Peru and Mastercard Installment Payment Service, DE 123 contains a text message to be printed on point-of-sale (POS) sales receipts.

Attributes

Data Representation: ISO: ans...999; LLLVAR
Mastercard: ans...512; LLLVAR

Length Field: 3

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 123 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|-------------------------------------|---|---|---|
| Authorization Request Response/0110 | O | X | C |
|-------------------------------------|---|---|---|

Values

Proprietary receipt free data up to 512 characters.

Application Notes

Issuers may provide DE 123 for balance inquiry transactions, combined authorization response and account balance transactions, and ATM withdrawal transactions.

WHEN...

THEN the Authorization Platform

| | |
|---|---|
| <p>For SASS, DE 123 is present in an Authorization Request Response/0110 message where DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) does not contain value 01 (Withdrawal) or 30 (Balance Inquiry)</p> | <p>Sends the issuer an Authorization Response Negative Acknowledgement/0190 where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 123 |
| <p>WHEN...</p> <p>DE 123 contains a length greater than 512 characters</p> | <p>THEN the Authorization Platform</p> <p>Sends the issuer an Authorization Response Negative Acknowledgement/0190 where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 123 <p>The Authorization Platform will not send DE 123 in an Authorization Request Response/0110 message to an acquirer that is not registered to receive this data.</p> |

DE 124—Member-Defined Data

DE 124 (Member-defined Data) is described for general use, MoneySend only, Brazil Maestro only, Bill Payment at the ATM only, and Mastercard Digital Enablement Service use.

NOTE: For detailed data layout requirements when using DE 124 with the Mastercard Digital Enablement Service, refer to the Mastercard Digital Enablement Service section in the Program and Service Format Requirements chapter of this manual.

DE 124—Member-Defined Data (General Use)

DE 124 (Member-defined Data—General Use) may be used to submit up to 299 bytes of customer-defined data. DE 124 can contain program-specific data as defined by the DE 124 subelements.

Attributes

Data Representation: ans...299; LLLVAR

Length Field: 3

Data Field: Contents of positions 1–299

Subelements: Determined by program

Justification: N/A

Usage

Following is the usage of DE 124 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | C | • | C |
| Authorization Request Response/0110 | C | • | C |
| Authorization Advice/0120—System-generated | • | C | C |
| Authorization Advice/0120—Acquirer-generated | O | • | C |
| Reversal Request/0400 | O | • | C |
| Reversal Request Response/0410 | O | • | C |
| Reversal Advice/0420 | • | C | C |

Application Notes

DE 124 may be required in support of programs to convey information between customers in an authorization message.

Acquirers:

| IF DE 124 is... | THEN... |
|--|--|
| Up to 299 bytes in acquirer-generated authorization messages | The Authorization Platform will not edit the content of DE 124 and will forward the entire length of the data to the issuer. |
| More than 299 bytes of data in acquirer-generated authorization messages | The Authorization Platform will only send the first 299 bytes of data to the issuer. |

Absolute positioning of data in DE 124 subfields is required; padding will be necessary. Customers must select all State, Province, and Country Codes from the *Quick Reference Booklet*. If a country code is used, it must be the ISO 3-character alphabetic (not numeric) Country Code. If used, a State or Province Code should be right-justified in this subfield with one leading blank space. Customers must not use all zeros, all low values, or all high values when formatting DE 124.

Subfields 1–4: are used for MoneySend transactions, DE 124 is mandatory in MoneySend Payment Transactions for acquirers to provide sender identification data. DE 124 is optional in MoneySend Funding Transactions.

Subfields 6–13: are used for Maestro credit usage in Brazil.

Issuers:

| IF DE 124 is... | THEN... |
|---|--|
| Up to 299 bytes in issuer-generated response messages | The Authorization Platform will not edit the content of DE 124 and will forward the entire length of the data to the acquirer. |
| More than 299 bytes of data in issuer-generated response messages | The Authorization Platform will truncate to 299 bytes the length of the data sent to the acquirer. |

The Authorization Request/0100 and Authorization Request Response/0110 messages will be able to contain DE 124 data independently from one another. Therefore, issuers may:

- Send back the same value in DE 124 in the Authorization Request Response/0110 message as was present in DE 124 of the Authorization Request/0100 message.
 - Send a different value in DE 124 in the Authorization Request Response/0110 message as was present in DE 124 of the Authorization Request/0100 message.
 - Not send DE 124 in the Authorization Request Response/0110 message. In this case, the acquirer will not receive DE 124 in the Authorization Request Response/0110 message.
 - Include DE 124 in the Authorization Request Response/0110 message even when the acquirer did not send it in the Authorization Request/0100 message.
-

DE 124—Member-Defined Data (MoneySend Only)

DE 124 (Member-defined Data—MoneySend Only) is used only for Mastercard MoneySend transactions.

Subfields 1–4: are used for MoneySend transactions, DE 124 is mandatory in MoneySend Payment Transactions for acquirers to provide sender identification data. DE 124 is optional for MoneySend Funding Transactions.

DE 124—Member-Defined Data (Brazil Maestro Only)

DE 124 (Member-defined Data—Brazil Maestro Only) is used only for Brazil Maestro transactions.

Subfields 1–8: are used for Maestro credit usage in Brazil.

Subfield 1—Unique Reference Number

DE 124, subfield 1 (Unique Reference Number) contains a unique reference number as it applies to Mastercard MoneySend transactions.

Attributes

Data Representation: ans-19

Data Field: Contents of positions 1–19

Justification: Left-justified with trailing spaces

Values

Valid value string will contain a leading zero (0), followed by:

ICA (n-6)

Year (n-1)

Julian Date (n-3)

Time hhmmss (n-6)

Transaction Sequence number (01-99) (n-2)

Example: 0555555801215305401

Subfield 2—Sender/Payer/User ID

DE 124, subfield 2 (Sender/Payer/User ID) contains sender consumer, business, government, and non-government names, payer name, or user ID data.

Attributes

Data Representation: ans-24

Data Field: Contents of positions 20–43

Justification: Left-justified with trailing spaces

Values

Sender consumer, business, government, and non-government names, payer name, or user ID value up to 24 character spaces. If the consumer name is populated, the format must be (last name, first name).

Application Notes

Subfield 2 is required for MoneySend Payment Transactions and must be properly formatted. Subfield 2 is optional for MoneySend Funding Transactions.

Subfield 3—Sender/Payer Address

DE 124, subfield 3 (Sender/Payer/Address) contains sender/payer address data.

Attributes

Data Representation: ans-91

Data Field: Contents of positions 44–134

Justification: Left-justified with trailing spaces

Values

Street address (ans-50)

City (ans-25)

State/Province Code (ans-3)

Country Code (ans-3)

Postal Code (ans-10)

| Field | Data | Edit |
|----------------|--------|--|
| Street Address | ans-50 | Must be present Must not be all blanks or all zeros |
| State | ans-3 | If country is U.S. or Canada, state must be a valid state code for U.S. or a valid province code for Canada Must not be all blanks or zeros For all other countries, may contain all spaces or an applicable state code |
| Country | ans-3 | Must be present Must not be all blanks or all zeros Must be a valid country code Must not be a blocked country |

City and Postal codes must be present if applicable.

Application Notes

Subfield 3 is required for MoneySend Payment Transactions and must be properly formatted. Subfield 3 is optional for MoneySend Funding Transactions

NOTE: Transaction will be declined if the sender Country is subject to comprehensive geographic sanctions published by the Office of Foreign Assets Control (OFAC), <http://www.treasury.gov/resource-center/sanctions/Pages/default.aspx>. The current list of countries subject to such sanctions is Cuba, Iran, North Korea, Sudan, and Syria; however, this list is subject to change.

Subfield 4—Additional Sender Information

DE 124, subfield 4 (Additional Sender Information) contains telephone number, date of birth, or optional message.

Attributes

Data Representation: ans-65

Data Field: Contents of positions 135-199

Justification: Left-justified with trailing spaces

Values

Additional sender information is formatted as follows:

Telephone number (n-20)

Date of Birth (n-8) (MMDDYYYY)

Optional message (ans-37)

Subfield 6—Discretionary Message on Sales Slip Supported

DE 124, subfield 6 (Discretionary Message on Sales Slip Supported), used in association with Maestro credit in Brazil, is sent by the acquirer in the Authorization Request/0100 message, to indicate whether the POS terminal supports the discretionary message on the sales slip.

Attributes

Data Representation: an-1

Data Field: Contents of position 1–6

Justification: N/A

Values

Valid value will consist of one of the following:

0 = no (Merchant terminal does not support the printing of messages sent by the issuer.)

1 = yes (Merchant terminal supports the printing of messages sent by the issuer.)

Subfield 7—Discretionary Message on Sales Slip Code

DE 124, subfield 7 (Discretionary Message on Sales Slip Code) is sent by the issuer in the Authorization Request Response/0110 message, to indicate the number of the message to be printed on the sales slip

Attributes

Data Representation: an-3

Data Field: Contents of positions 7–9

Justification: Left

Values

Valid value will contain the number of the message to be printed on the sales slip.

Subfield 8—Discretionary Message on Sales Slip Content

DE 124, subfield 8 (Discretionary Message on Sales Slip Content) contains the variable part of the message to be printed on the sales slip.

Attributes

Data Representation: an-10

Data Field: Contents of positions 10–19

Justification: Left

Values

Valid value will consist of the variable part of the message to be printed on the sales slip.

Subfield 9—Phoneshop (Phone Company ID)

DE 124, subfield 9 (Phoneshop [Phone Company ID]) is sent by the acquirer in the Authorization Request/0100 message, to identify the telephone company that provides the service for the Phoneshop product (for example, Telefonica = 01).

Attributes

Data Representation: an-2

Data Field: Contents of positions 20–21

Justification: Left

Values

Valid value will consist of the phone company ID.

Subfield 10—Phoneshop (Cell Phone Number)

DE 124, subfield 10 (Phoneshop [Cell Phone Number]) is sent by the acquirer in the Authorization Request/0100 message, to indicate the cardholder cell phone number for the Phoneshop product.

Attributes

Data Representation: n-10

Data Field: Contents of positions 22–31

Justification: Right

Values

Valid value will consist of the cell phone number.

Subfield 11—Phoneshop (Message Security Code)

DE 124, subfield 11 (Phoneshop [Message Security Code]) is sent by the issuer in the Authorization Request Response/0110 message, to indicate the security code that the merchant sent for validation.

Attributes

Data Representation: an-4

Data Field: Contents of positions 32–35

Justification: Left

Values

Valid value will consist of the message security code.

Subfield 12—Merchant CNPJ Number

DE 124, subfield 12 (Merchant CNPJ Number) is sent by the acquirer in the Authorization Request/0100 message, to indicate the Merchant CNPJ number.

Attributes

Data Representation: n-14

Data Field: Contents of positions 36–49

Justification: Right

Values

Valid value will consist of the Merchant CNPJ Number (a registration number provided by the government to all merchants).

Subfield 13—Total Annual Effective Cost

DE 124, subfield 13 (Total Annual Effective Cost) is sent by the issuer in the Authorization Request Response/0110 message, to indicate the total annual effective cost in a financing transaction. A financing transaction includes purchase or cash withdrawal using a credit card.

Attributes

Data Representation: n-6

| | |
|-------------|-----------------------------|
| Data Field: | Contents of positions 50–55 |
|-------------|-----------------------------|

| | |
|----------------|-------|
| Justification: | Right |
|----------------|-------|

Values

Note: Optionally, issuers may submit spaces preceding the positional start of subfield 13. Data submitted for this subfield should begin in position 50.

Valid value will consist of the total annual effective cost in a financing transaction (including interest amount, taxes, and fees charged to the cardholder). This amount is mandated by local law number 3517 (implemented to ensure the cardholder is enforced about the total effective cost of the transaction.) This applies to purchase or cash withdrawal at an ATM using a credit card.

DE 124—Member-Defined Data (Colombia Domestic Use Only)

DE 124 (Member-defined Data [Colombia Domestic Use Only]) is used only for Colombia domestic activity transactions.

Subfields 1–11: are used for Colombia domestic activity.

Subfield 1—Card Issuer Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 1 (Card Issuer Data) defines the FIID and Logical Network associated with the card issuer.

Attributes

| | |
|----------------------|--------|
| Data Representation: | ans-19 |
|----------------------|--------|

| | |
|-------------|----------------------------|
| Data Field: | Contents of positions 1–19 |
|-------------|----------------------------|

| | |
|----------------|-------------------------------------|
| Justification: | Left-justified with trailing spaces |
|----------------|-------------------------------------|

| | |
|--------|----------|
| Usage: | Optional |
|--------|----------|

Example Values

FIID (1–4)

Logical Network ID (5–8) = Examples are as follow: PRO1, MDS, BNET, ASCR, PRO2

- PRO1 = Redeban Multicolor
- MDS or BNET = Mastercard
- ASCR = AScredibanco
- PRO2 = Credibanco

Constant Value (9–19) = zeros

Subfield 2—Tax (IVA)

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 2 Tax (IVA) defines the tax for Colombia domestic activity.

Attributes

| | |
|----------------------|--|
| Data Representation: | n-12 |
| Data Field: | Contents of positions 20–31 |
| Justification: | Right-justified with leading zeros |
| Usage: | Required. If no value, it should contain zero. |

Example Values

Amount is in Colombian pesos and carries an implied two position decimal.

Subfield 3—Tax Amount Base

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 3 (Tax Amount Base) defines the tax amount base for Colombia domestic activity.

Attributes

| | |
|----------------------|------------------------------------|
| Data Representation: | n-12 |
| Data Field: | Contents of positions 32–43 |
| Justification: | Right-justified with leading zeros |
| Usage: | Required. |

Values

Amount is in Colombian pesos and carries an implied two position decimal.

Subfield 4—Retailer Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 4 (Retailer Data) defines the local merchant ID for Colombia domestic activity.

Attributes

| | |
|----------------------|-------------------------------------|
| Data Representation: | ans-27 |
| Data Field: | Contents of positions 44–70 |
| Justification: | Left-justified with trailing spaces |
| Usage: | Optional |

Example Values

Each acquirer may elect to provide the merchant ID in their original format. Example to follow:

Unique merchant ID (44–53)

Spaces (54–62)

Terminal Group (63–66)

Retailer Region (67–70)

Subfield 5—Terminal Acquirer Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 5 (Terminal Acquirer Data) identifies information about the terminal owner for Colombia domestic activity.

Attributes

Data Representation: ans-16

Data Field: Contents of positions 71–86

Justification: Right-justified

Usage: Optional

Example Values

FID (71–74)

Logical Network (75–78)

Constant Value = zeros

Subfield 6—Acquirer Original Processing Code

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 6 (Original Processing Code) contains the original processing code for Colombia domestic activity.

Attributes

Data Representation: n-6

Data Field: Contents of positions 87–92

Justification: Right-justified

Values

Subfield 7—Bill Payment/Top up Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 7 (Bill Payment/Top up Data) provides information related to bill payment for Colombia domestic activity.

Attributes

Data Representation: ans-36

Data Field: Contents of positions 93–128

Justification: Left-justified with trailing spaces

Values

Service Code (93–96) = Number used to identify the provider company (for example: 0001 = Bogota Power Light Company)

Service Description (97–126) = Service Provider Bill ID (for example: Invoice number, additional billing information)

Originator Device (127) = Alphanumeric (for example, P)

Filler (128) = space

Subfield 8—Local POS Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 8 (Local POS Data) present when transaction is a web payment or recurring payment. This field is optional.

Attributes

Data Representation: n-1

Data Field: Contents of positions 129

Justification: N/A

Usage: Optional

Example Values

6 = Preauthorization/recurring payment

7 = Web payment, Electronic orders

Subfield 9—Local Response Codes

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 9 (Local Response Codes) identifies unique response codes for Colombia domestic activity.

Attributes

Data Representation: ans-2

Data Field: Contents of positions 130–131

Justification: Left-justified with trailing spaces

Usage: Optional

Example Values

M2 = Invalid national customer identifier

Subfield 10—Original Transaction Data

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 10 (Original Transaction Data) is present for reversal messages to help uniquely identify the original message.

Attributes

Data Representation: ans-42

Data Field: Contents of positions 132–173

Justification: Left-justified with trailing spaces

Usage: Optional

Example Values

Original Message Type (132–135) = 0100 or 0200

Sequence Number (136–147)

Original Transaction Date (148–151) = MMDD

Original Transaction Time (152–157) = HHMMSS

Capture Date (158–161) = MMDD

Filler (162–173) = all zeros

Subfield 11—IAC Tax Amount

DE 124, (Member-defined Data [Colombia Domestic Use Only]), subfield 11 (IAC Tax Amount) defines the IAC Tax for Colombia domestic activity.

Attributes

Data Representation: n-12

Data Field: Contents of positions 174–185

Justification: Right-justified with leading zeros

Values

Amount is in Colombian pesos and carries an implied two position decimal.

DE 125—New PIN Data

DE 125 (New PIN Data) consists of a binary block containing a derived encrypted value calculated from the new PIN introduced by the cardholder at the ATM offering the PIN change service.

Attributes

Data Representation: b-8

Length Field: N/A

Data Field: Contents of bit positions 1-64 (8 bytes)

Subfields: N/A

Justification: N/A

Usage

Following is the usage of DE 125 (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages:

| | Org | Sys | Dst |
|--|-----|-----|-----|
|--|-----|-----|-----|

| | | | |
|----------------------------|---|---|---|
| Authorization Request/0100 | C | X | C |
|----------------------------|---|---|---|

Values

DE 125 contains the new PIN, which is formatted into one of the supported PIN block formats and is then encrypted. The PIN block format and encryption method used must be the same as the one used for the existing PIN that is stored in DE 52. DE 125 is only required in Authorization Request/0100—PIN Change messages. Otherwise, it must not be present.

DE 126—Private Data

DE 126 (Private Data) is reserved for future use.

Attributes

Data Representation: ISO: ans...999; LLLVAR

Mastercard: ans...100; LLLVAR

Length Field: 3

Data Field: Contents of positions 1-100

Subfields: N/A

Justification: N/A

Usage

By provision of the ISO 8583–1987 specification, Mastercard defined this data element for use as “Private Data” available for Mastercard’s optional use for additional acquirer data.

The Authorization Platform does not pass data placed in this data element through to the message receiver; rather, the Authorization Platform temporarily stores the data. The Authorization Platform does not return this data to the message originator in any subsequent response to an original Request, Advice, Response, or Acknowledgement message.

Values

The length subelement must be in the range 001–100.

Application Notes

This data element is defined and used identically within all Mastercard programs and services.

DE 127—Private Data

DE 127 (Private Data) may contain any private-use data that the customer may want to include in a message. Any Authorization Platform message originator may use DE 127.

| Attribute | Description |
|----------------------|---|
| Data Representation: | ISO: ans...999; LLLVAR Mastercard: ans...100; LLLVAR |
| Length Field: | 3 |
| Data Field: | Contents of positions 1–100 |
| Subfields: | N/A |
| Justification: | N/A |

Usage

| Following is the usage of DE xx (whether it is mandatory, conditional, optional, system provided, or not required) in applicable messages: | Org | Sys | Dst |
|--|-----|-----|-----|
| Authorization Request/0100 | O | X | • |
| Authorization Request Response/0110 | O | X | CE |
| Authorization Advice/0120—Acquirer-generated | O | X | • |
| Authorization Advice Response/0130—System-generated | • | X | CE |
| Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated 0120) | CE | X | CE |
| Authorization Acknowledgement/0180 | CE | CE | • |
| Authorization Negative Acknowledgement/0190 | • | X | CE |

| | | | |
|--|----|----|----|
| Issuer File Update Request/0302 | O | X | • |
| Issuer File Update Request Response/0312 | • | X | CE |
| Reversal Request Response/0410 | O | X | CE |
| Reversal Advice/0420 | • | X | CE |
| Reversal Advice Response/0430 | CE | CE | • |
| Administrative Request/0600 | O | X | • |
| Administrative Request Response/0610 | • | X | CE |
| Administrative Advice/0620 | • | O | O |
| Administrative Advice Response/0630 | • | X | CE |
| Network Management Request/0800 | O | X | • |
| Network Management Request/0800—PEK Exchange—On Demand | O | X | • |
| Network Management Request Response/0810 | • | X | CE |

Values

The length must be in the range 001–100.

Application Notes

Data placed in DE 127 is not passed through to the message receiver; rather, the Authorization Platform temporarily stores the data and returns it to the message originator in any subsequent response to an original Request, Advice, Response, or Acknowledgement message.

This data element is defined and used identically within all Mastercard programs and services.

Acquirers that provide DE 127 in the Authorization Request/0100 message will receive the first twenty bytes of the value provided in DE 072 (Data Record) of IPM Fee Collection/1740–783 for interregional non-financial ATM transactions.

DE 128—Message Authentication Code

DE 128 (Message Authentication Code [MAC]) validates the source and the text of the message between the sender and the receiver.

Attributes

| | |
|----------------------|--|
| Data Representation: | b-8 |
| Length Field: | 2 |
| Data Field: | Contents of bit positions 1–64 (8 bytes) |
| Subfields: | N/A |

Justification: N/A

Usage

May contain message authentication code as defined by ISO standards.

Values

Not applicable.

Application Notes

This data element should not be present in any Authorization Platform message.

The last bit position within any bit map is reserved for DE 128. If authentication is to be used on a message, the MAC information is indicated by the final bit of the final bit map of that message. The final bit of all preceding bit maps shall contain zero; for example, there shall be only one DE 128 per message and that DE 128 must be the last data element of the message.

Chapter 5 Program and Service Format Requirements

This section provides program specific message information.

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Product Value Constraints

Product value constraints list types of transactions permitted by card program, and the interrelated value constraints for certain data elements carried in the Authorization Platform messages.

The business rules related to the card programs Mastercard supports differentiate between the nature of the transactions permitted for:

- Mastercard (MCC)
- Debit Mastercard (DMC)
- Maestro (MSI)
- Cirrus (CIR)
- Mastercard Electronic (MCE)
- Private Label (PVL)

Permitted Transactions by Card Program

Following are the types of transactions permitted by card program and the interrelated value constraints for certain data elements in Authorization Platform messages.

The interrelated data elements are:

- DE 3 (Processing Code)
- DE 22 (Point-of-Service [POS] Entry Mode)
- DE 52 (Personal ID Number [PIN] Data)
- DE 61 (Point-of-Service [POS] Data)

Permitted Transactions by Card Program

Use the reference number in the Ref column in the following table with the specific value constraints in Table 5.2.

| Ref | Transaction Type | PAN Entry Mode | CVM | MCC | DMC | MSI | CIR | MCE | PVL |
|-----------------------|-------------------|-----------------|------------|----------------|----------------|----------------|-----|-----|-----|
| ATM Withdrawal | | | | | | | | | |
| 1.1 | ATM ²⁸ | Magnetic Stripe | Online PIN | X ^a | X ^a | X | X | | |
| 1.2 | ATM ²⁸ | Chip | Online PIN | X ^a | X ^a | X ^a | X | | |
| Cash Advance | | | | | | | | | |

²⁸ For this message, DE 18 must contain value 6011 (Automated Cash Disbursements)

| Ref | Transaction Type | PAN Entry Mode | CVM | MCC | DMC | MSI | CIR | MCE | PVL |
|---------------------------------------|--|-----------------------|-------------|----------------|----------------|-----------------|------------|-----------------|------------|
| 2.1 | Cash Advance ²⁹ | Manual | Signature | X | X | | | | |
| 2.2 | Cash Advance ²⁹ | Magnetic Stripe | Signature | X ^a | X ^a | | | X ^a | |
| 2.3 | Cash Advance ²⁹ | Magnetic Stripe | Online PIN | X ^a | X ^a | | | X ^a | |
| 2.4 | Cash Advance ²⁹ | Chip | Offline PIN | X | X | | | X | |
| 2.5 | Cash Advance ²⁹ | Chip | Online PIN | X ^a | X ^a | | | X ^a | |
| 2.6 | Cash Advance ²⁹ | Chip | Signature | X ^a | X ^a | | | X ^a | |
| 2.7 | Electronic Cash Advance ²⁹ | Magnetic Stripe | Online PIN | | | X | X | | |
| 2.8 | Electronic Cash Advance ^{29b} | Chip | Offline PIN | | | X | X | | |
| 2.9 | Electronic Cash Advance ²⁹ | Chip | Online PIN | | | X | X | | |
| Purchase of Goods and Services | | | | | | | | | |
| 3.1 | Purchase | Manual | Signature | X | X | | | X | |
| 3.2 | Purchase | Magnetic Stripe | Signature | X ^a | X ^a | X ^c | | X ^a | X |
| 3.3 | Purchase | Magnetic Stripe | Online PIN | X ^a | X ^a | X ^{ac} | | X ^{ac} | |
| 3.4 | Purchase | Chip | Offline PIN | X ^a | X ^a | X ^{ac} | | X ^a | |
| 3.5 | Purchase | Chip | Signature | X ^a | X ^a | | | X ^a | X |
| 3.6 | Purchase | Chip | Online PIN | X ^a | X ^a | X ^{ac} | | X ^a | |
| 3.7 | Purchase | Chip | No CVM | | | X ^a | | | |
| 3.8 | CAT Level 1 | Magnetic Stripe | Online PIN | X ^a | X ^a | | | | |

²⁹ For this message, DE 18 must contain value 6010 (Manual Cash Disbursements)

| Ref | Transaction Type | PAN Entry Mode | CVM | MCC | DMC | MSI | CIR | MCE | PVL |
|------------------------------|-------------------------------|-----------------------|------------------|----------------|------------|----------------|------------|----------------|------------|
| 3.9 | CAT Level 1 | Chip | Online PIN | X ^a | | X ^a | | | |
| | CAT Level 1 | Chip | Offline PIN | | | | | | |
| 3.10 | CAT Level 1 | Chip | Offline PIN | | | | | | |
| 3.11 | CAT Level 2 | Magnetic Stripe | No CVM | X ^a | | X ^a | | | X |
| 3.12 | CAT Level 2 | Chip | No CVM | X ^a | | X ^a | | | X |
| 3.13 | CAT Level 3 | Magnetic Stripe | No CVM | X ^a | | X ^a | | | X |
| | CAT Level 3 | Chip | Offline PIN | | | | | | |
| 3.14 | CAT Level 3 | Chip | No CVM | X ^a | | X ^a | | | X |
| 3.15 | CAT Level 4 | Magnetic Stripe | No CVM | X ^a | | X ^a | | | X |
| 3.16 | CAT Level 4 | Chip | No CVM | X ^a | | X ^a | | | X |
| 3.17 | MO/TO | Manual | No CVM | X | | X | | | X |
| 3.18 | CAT Level 6 | Electronic Commerce | No CVM | X | | X | | X ^d | X |
| 3.19 | CAT Level 6 | Electronic Commerce | Offline PIN | X | | X | | | |
| 3.20 | CAT Level 6 | Electronic Commerce | Online PIN | X | | X | | | |
| 3.21 | CAT Level 7 | N/A ^e | N/A ^e | X | | X | | | X |
| Payments | | | | | | | | | |
| 4.1 | Payment Transactions | N/A ^e | No CVM | X ^a | | X ^a | | X | X |
| PIN Change Management | | | | | | | | | |
| 5.1 | ATM PIN unblock ²⁸ | Chip | Online PIN | X | | X | | X | X |
| 5.2 | ATM PIN change ²⁸ | Chip | Online PIN | X | | X | | X | X |
| 5.3 | ATM PIN change ²⁸ | Magnetic Stripe | Online PIN | X | | X | | X | X |
| Balance Inquiry | | | | | | | | | |

| Ref | Transaction Type | PAN Entry Mode | CVM | MCC | DMC | MSI | CIR | MCE | PVL |
|---------------------------------------|------------------------------------|-----------------------|-------------|----------------|----------------|----------------|------------|----------------|------------|
| 6.1 | ATM Balance Inquiry ^{28g} | Magnetic Stripe | Online PIN | X ^a | X ^a | X ^a | X | X ^a | |
| 6.2 | ATM Balance Inquiry ^{28g} | Chip | Online PIN | X ^a | X ^a | X ^a | X | X ^a | |
| 6.3 | POS Balance Inquiry | Magnetic Stripe | Signature | X ^a | X ^a | X ^a | | X ^a | X |
| 6.4 | POS Balance Inquiry | Magnetic Stripe | Online PIN | X ^a | X ^a | X | X | X ^a | X |
| 6.5 | POS Balance Inquiry | Chip | Offline PIN | X | X | X | | X | X |
| 6.6 | POS Balance Inquiry | Chip | Signature | X ^a | X ^a | | | X ^a | X |
| 6.7 | POS Balance Inquiry | Chip | Online PIN | X ^a | X ^a | | | X ^a | X |
| 6.8 | SMS Balance Inquiry | eCommerce | No CVM | X | X | | | | |
| Purchase with Cash Back (PWCB) | | | | | | | | | |
| 7.1 | PWCB | Magnetic Stripe | Signature | | X ^h | X ^a | | | |
| 7.2 | PWCB | Magnetic Stripe | Online PIN | | X ^h | X | | | |
| 7.3 | PWCB | Chip | Offline PIN | | X ^h | X | | | |
| 7.4 | PWCB | Chip | Online PIN | | X ^a | X ^a | | | |
| 7.5 | PWCB | Manual | Signature | | | X | | | |
| Refund | | | | | | | | | |
| 8.1 | Refund | Manual | Signature | X | X | | | X | |
| 8.2 | Refund | Magnetic Stripe | Signature | X ^a | X ^a | X | | X | |
| 8.3 | Refund | Magnetic Stripe | Online PIN | | | X | | | |
| 8.4 | Refund | Chip | Signature | X ^a | X ^a | | | | |
| 8.5 | Refund | Chip | Online PIN | | | X ^a | | | |
| 8.6 | Refund | Chip | Offline PIN | X | X | | | | |

| Ref | Transaction Type | PAN Entry Mode | CVM | MCC | DMC | MSI | CIR | MCE | PVL |
|-----|------------------|----------------|--------|-----|-----|-----|----------------|-----|-----|
| 8.7 | Refund | Chip | No CVM | | | | X ^a | | |

Table Key:

^a Contactless transactions permitted. No CVM is required for non-ATM transactions under contactless CVM limits.

^b A waiver is required for this item. Issuers must register.

^c Country restrictions apply.

^d Only allowed for Mastercard Electronic Card transactions when SecureCode UCAF data is present.

^e No specific constraints defined.

^f By domestic agreement only.

^g Applies to prepaid cards only.

^h Approved domestic countries, as indicated in *Mastercard Rules*.

Value Constraints by Transaction Type

Following are value constraints by transaction type.

Value Constraints by Transaction Type

| Ref | Transaction Type, PAN Entry Mode, and Cardholder Verification Method | DE 3 values | DE 22 values | CVM Method | DE 61, SF 10 values |
|-----------------------|--|-------------|---------------------|------------|---------------------|
| ATM Withdrawal | | | | | |
| 1.1 | ATM, Magnetic Stripe, Online PIN ³⁰ | 010000 | 901 or 91x (or 801) | P | 0 or 1 |
| 1.2 | ATM, Chip, Online PIN ³⁰ | 010000 | 051 or 071 | P | 0 or 1 |
| Cash Advance | | | | | |
| 2.1 | Cash Advance, Manual, Signature ³¹ | 170000 | 00x, 01x (or 79x) | S | 0 |
| 2.2 | Cash Advance, Magnetic Stripe, Signature ³¹ | 170000 | 90x or 91x (or 80x) | S | 0 |

³⁰ For this message, DE 18 must contain value 6011 (Automated Cash Disbursements)

³¹ For this message, DE 18 must contain value 6010 (Manual Cash Disbursements)

| Ref | Transaction Type, PAN Entry Mode, and Cardholder Verification Method | DE 3 values | DE 22 values | CVM Method | DE 61, SF 10 values |
|---------------------------------------|---|--------------------|---------------------|-------------------|----------------------------|
| 2.3 | Cash Advance, Magnetic Strip, Online PIN ³¹ | 170000 | 90x or 91x (or 80x) | P | 0 |
| 2.4 | Cash Advance, Chip, Offline PIN ³¹ | 170000 | 051 | S | 0 |
| 2.5 | Cash Advance, Chip Online PIN ³¹ | 170000 | 051 or 071 | P | 0 |
| 2.6 | Cash Advance, Chip, Signature ³¹ | 170000 | 05x or 07x | S | 0 |
| 2.7 | Electronic Cash Advance, Magnetic Stripe, Online PIN ³¹ | 010000 | 901 | P | 0 |
| 2.8 | Electronic Cash Advance, Chip, Offline PIN ³¹ | 010000 | 051 | S | 0 |
| 2.9 | Electronic Cash Advance, Chip Online PIN ³¹ | 010000 | 051 | P | 0 |
| Purchase of Goods and Services | | | | | |
| 3.1 | Purchase, Manual, Signature | 00xx00 | 00x, 01x (or 79x) | S | 0 |
| 3.2 | Purchase, Magnetic Stripe, Signature | 00xx00 | 90x or 91x (or 80x) | S | 0 |
| 3.3 | Purchase, Magnetic Stripe, Online PIN | 00xx00 | 901 or 911 (or 80x) | P | 0 |
| 3.4 | Purchase, Chip, Offline PIN | 00xx00 | 051 | S | 0 |
| 3.5 | Purchase, Chip, Signature | 00xx00 | 05x or 07x | S | 0 |
| 3.6 | Purchase, Chip, Online PIN | 00xx00 | 051 or 071 | P | 0 |
| 3.7 | Purchase, Chip, No CVM | 00xx00 | 05x or 07x | S | 0 |
| 3.8 | CAT Level 1, Magnetic Stripe, Online PIN | 00xx00 | 901 or 911 (or 801) | P | 1 |
| 3.9 | CAT Level 1, Chip, Online PIN | 00xx00 | 051 or 071 | P | 1 |
| 3.10 | CAT Level 1, Chip, Offline PIN | 00xx00 | 051 | S | 1 |
| 3.11 | CAT Level 2, Magnetic Stripe, No CVM | 00xx00 | 90x or 91x (or 80x) | S | 2 |
| 3.12 | CAT Level 2, Chip, No CVM | 00xx00 | 05x or 07x | S | 2 |
| 3.13 | CAT Level 3, Magnetic Stripe, No CVM | 00xx00 | 90x or 91x (or 80x) | S | 3 |
| 3.14 | CAT Level 3, Chip, No CVM | 00xx00 | 05x or 07x | S | 3 |
| 3.15 | CAT Level 4, Magnetic Stripe, No CVM | 00xx00 | 90x (or 80x) | S | 4 |

| Ref | Transaction Type, PAN Entry Mode, and Cardholder Verification Method | DE 3 values | DE 22 values | CVM Method | DE 61, SF 10 values |
|------------------------------|---|------------------------|------------------------|-------------------|----------------------------|
| 3.16 | CAT Level 4, Chip, No CVM | 00xx00 | 05x | S | 4 |
| 3.17 | MO/TO, Manual, No CVM | 00xx00 | 01x | S | 0 |
| 3.18 | CAT Level 6, Electronic Commerce, No CVM | 00xx00 | 81x or 82x | S | 6 |
| 3.19 | CAT Level 6, Electronic Commerce, Offline PIN | 00xx00 | 81x | S | 6 |
| 3.20 | CAT Level 6, Electronic Commerce, Online PIN | 00xx00 | 81x or 82x | P | 6 |
| 3.21 | CAT Level 7 | 00xx00 | No constraints | Any constraints | 7 |
| Payments | | | | | |
| 4.1 | Payment Transactions, No CVM | 280000 | No constraints | S | No constraints |
| PIN Change Management | | | | | |
| 5.1 | ATM PIN unblock, Chip, Online PIN ³⁰ | 910000 | 051 | P | 0 or 1 |
| 5.2 | ATM PIN change, Chip, Online PIN ³⁰ | 920000 | 051 | P | 0 or 1 |
| 5.3 | ATM PIN change Magnetic Stripe, Online PIN | 920000 | 021 or 901 | P | 0 or 1 |
| Balance Inquiry | | | | | |
| 6.1 | ATM Balance Inquiry, Magnetic Stripe, Online PIN ³⁰ | 30xx00 | 901 or 911 | P | 0 or 1 |
| 6.2 | ATM Balance Inquiry, Chip, Online PIN | 30xx00 | 051 or 071 | P | 0 or 1 |
| 6.3 | POS Balance Inquiry, Magnetic Stripe, Signature | 300000 or 303000 | 90x or 91x (or 80x) | S | 0 |
| 6.4 | POS Balance Inquiry, Magnetic Stripe, Online PIN | 300000 or 303000 | 901 or 911 (or 801) | P | 0 |
| 6.5 | POS Balance Inquiry, Chip, Offline PIN | 300000 or 303000 | 051 | S | 0 |

| Ref | Transaction Type, PAN Entry Mode, and Cardholder Verification Method | DE 3 values | DE 22 values | CVM Method | DE 61, SF 10 values |
|---------------------------------------|---|--------------------|---------------------|-------------------|----------------------------|
| 6.6 | POS Balance Inquiry, Chip, Signature | 300000 | 05x or 07x | S | 0 |
| | | or | | | |
| | | 303000 | | | |
| 6.7 | POS Balance Inquiry, Chip, Online PIN | 300000 | 051 or 071 | P | 0 |
| | | or | | | |
| | | 303000 | | | |
| 6.8 | SMS Balance Inquiry | | | | |
| Purchase with Cash Back (PWCB) | | | | | |
| 7.1 | PWCB, Magnetic Stripe, Signature | 09xx00 | 90x (or 80x) | S | 0 |
| 7.2 | PWCB, Magnetic Stripe, Online PIN | 09xx00 | 901 (or 801) | P | 0 |
| 7.3 | PWCB, Chip Offline PIN | 09xx00 | 051 | S | 0 |
| 7.4 | PWCB, Chip Online PIN | 09xx00 | 051 | P | 0 |
| 7.5 | PWCB, Manual, Signature | 09xx00 | 01x | S | 0 |
| Refund | | | | | |
| 8.1 | Refund, Manual, Signature | 20xx00 | 00x or 01x | S | 0 |
| 8.2 | Refund, Magnetic Stripe, Signature | 20xx00 | 90x or 91x (or 80x) | S | 0 |
| 8.3 | Refund, Magnetic Stripe, Online PIN | 20xx00 | 901 (or 801) | P | 0 |
| 8.4 | Refund, Chip, Signature | 20xx00 | 05x or 07x | S | 0 |
| 8.5 | Refund, Chip, Online PIN | 20xx00 | 051 | P | 0 |
| 8.6 | Refund, Chip, Offline PIN | 20xx00 | 051 | S | 0 |

Account Status Inquiry Service

Account Status Inquiry Service allows acquirers to send Account Status Inquiry transactions to validate aspects of a cardholder account.

The Account Status Inquiry Service supports purchase account status inquiry transactions and payment account status inquiry transactions for Mastercard® credit, Debit Mastercard®, and Maestro® acceptance brands.

In addition to Mastercard products, Account Status Inquiry Service transaction processing supports the following types of acceptance brands:

- American Express
- Diners
- Discover
- JCB
- Private label cards
- Visa

The Account Status Inquiry Service does not provide any chargeback rights in the event of a dispute.

Purchase Account Status Inquiry / Recurring Payment Account Status Inquiry

A Purchase Account Status Inquiry (ASI) or a Recurring Payment ASI is an optional service that allows merchants to validate that a cardholder account is open and the account is not listed in the Electronic Warning Bulletin—without negatively affecting a cardholder's funds availability when establishing a recurring or bill payment relationship, validating a card-not-present purchase before fulfillment, or before submitting an authorization request for the full amount of a recurring payment. A Recurring Payment ASI must comply with all existing recurring payment transaction identification requirements.

Account Status Inquiry Transaction Process

1. The acquirer submits an Account Status Inquiry transaction request in the Authorization Request/0100 message containing:
 - DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), value 00 (Purchase)
 - DE 4 (Amount, Transaction) with a transaction amount of zero
 - DE 48 (Additional Data—Private Use), subelement 82 (Address Verification Service Request), value 52 (AVS and Authorization Request/0100) for AVS requests (optional)
 - DE 48, subelement 92 (CVC 2 Value), CVC 2 value (optional)
 - DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI])

If Recurring Payment ASI:

- DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence), value 4 (Standing order/recurring transactions)
2. The issuer, at its discretion, sends the acquirer an Authorization Request Response/0110 message where DE 39 (Response Code) may contain either value 00 (Approved or completed successfully), 05 (Do not honor), 85 (Not declined), or other valid business decline responses. Invalid business declines include values 03 (Invalid merchant), 12 (Invalid transaction), 13 (Invalid amount), 30 (Format error) on DE 4 (Amount, Transaction), 51 (Insufficient funds/over credit limit), 57 (Transaction not permitted to issuer/cardholder), and 58 (Transaction not permitted to acquirer/terminal).

If the issuer is unable to reply, the acquirer will receive a response code of 91 (Authorization System or issuer system inoperative).

NOTE: The acquirer should consider any DE 39 value, other than 00 or 85, a decline response.

3. If applicable, the issuer provides the applicable AVS response in DE 48, subelement 83 (Address Verification Service Response), and provides a valid CVC 2 response in DE 48, subelement 87 (Card Validation Code Result) in the Authorization Request Response/0110 message.

NOTE: Product Inquiry messages do not include address verification and/or CVC 2 validation requests. See separate description of Product Inquiry Service.

Acquirers are prohibited from placing a value of one major unit of currency or any other nominal test amount (including equivalent units of local currency such as EUR 1 or JPY 1) that does not represent an actual purchase amount in DE 4 of the Authorization Request/0100 message.

Transactions occurring at an automated fuel dispenser in the U.S. region identified with MCC 5542 may continue to submit USD 1 (or local currency equivalent) authorization requests.

Contactless transit aggregated transactions generated by the transit authority and held for a period of time before being cleared may continue to submit an authorization request for USD 1 or an amount up to the cardholder verification method (CVM) limit amount published in the *Chargeback Guide* on the day of the transaction (or local currency equivalent) authorization requests.

Payment Account Status Inquiry

A Payment Account Status Inquiry (Payment ASI) enables payers to verify that issuers will accept a Payment Transaction on behalf of a payee (recipient) for the actual transaction amount for a particular recipient card account before collecting funds from the sender and initiating the Payment Transaction authorization to credit an account.

Benefits

Issuers can provide a response to an inquiry sent by the payer, indicating whether the issuer will accept a subsequent Payment Transaction authorization for a particular recipient account and amount. Obtaining a successful Payment ASI helps to eliminate the need for a payer to return funds to the sender and can be useful in cases where returning funds to the sender is impractical or difficult.

The Payment ASI helps improve the payer's experience when confirming a recipient's card account for future use. Issuers can clearly identify:

- The difference between a Payment ASI transaction and a Payment Transaction authorization, so that they can respond and act accordingly.
- The difference between a Payment ASI transaction and a Purchase ASI transaction.

How It Works

Acquirers can submit an ASI transaction for a payment to determine whether an issuer will post the specified amount to a particular card account before collecting funds from the sender.

Payment ASI transactions are non-financial transactions. Issuers must not credit the receiving cardholder account based on the amount provided in the Payment ASI request.

- When an issuer receives a Payment ASI transaction of zero, the issuer should confirm that the recipient's card account exists and can be used in the future for receiving funds.
- When an issuer receives a Payment ASI transaction for greater than zero, the issuer should confirm that the amount specified does not exceed a prepaid load limit or other types of limits they may have for Payment Transactions.
- When the issuer provides an approval response to the Payment ASI for the receiving account, the issuer is indicating that it is expecting to approve a subsequent Payment Transaction request message when it is received for the account.

NOTE: The receiving issuer may reject the subsequent Payment Transaction if circumstances for the account have changed.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| A Payment ASI qualifies for a Mastercard® MoneySend™ Payment Transaction | Applies regular MoneySend Payment edits. |
| A Payment ASI request response from the issuer is either not provided or the issuer is not available | Sends the acquirer an Authorization Request Response/0110 message where DE 39 = 91 (Authorization System or issuer system inoperative). |
| An acquirer advice Payment ASI is initiated | Sends the acquirer an Authorization Advice/0130 message where DE 39 = 12 (Invalid transaction). |
| An acquirer reversal of a Payment ASI is initiated | Sends the acquirer a Reversal Request Response/0410 message where DE 39 = 12 (Invalid transaction). |

Payment Account Status Inquiry Transaction Messages

Following is a list of the data elements and values applicable to Payment ASI Authorization Request/0100 messages.

| Data Element | Value | Comment |
|--|-------|---------|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | 28 | Payment |

| Data Element | Value | Comment |
|---|-----------------------------------|--------------------------------------|
| DE 4 (Amount, Transaction) | Equal to or greater than 0 | Equal to or greater than zero |
| DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator) | C01, C02, C03, C04, C05, C06, C09 | |
| DE 48 (Additional Data—Private Use), subelement 82 (Address Verification Service Request) | 52 | Optional AVS |
| DE 48 (Additional Data—Private Use), subelement 92 (CVC 2) | CVC 2 | Optional CVC 2 |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | 8 | Account Status Inquiry Service (ASI) |

MoneySend Payment ASI Transaction Messages

Following is a list of the data elements and values applicable to MoneySend Payment ASI Authorization Request/0100 messages.

| Data Element | Value | Comment |
|---|----------------------------|--------------------------------------|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | 28 | Payment |
| DE 4 (Amount, Transaction) | Equal to or greater than 0 | Equal to or greater than zero |
| DE 18 (Merchant Type) | MCC 6536, MCC 6537 | Intracountry and Intercountry MCC |
| DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator) | C07, C52–C56, C67 | MoneySend |
| DE 48 (Additional Data—Private Use), subelement 82 (Address Verification Service Request) | 52 | Optional AVS |
| DE 48 (Additional Data—Private Use), subelement 92 (CVC 2) | CVC 2 | Optional CVC 2 |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | 8 | Account Status Inquiry Service (ASI) |

| Data Element | Value | Comment |
|---|-------|-----------|
| DE 61 (Point-of-Service [POS] Data), subfield 0 10 (Cardholder-Activated Terminal Level) | | |
| DE 124, subfields 1–4 | | Mandatory |

Authorization Platform Edits

The Authorization Platform performs the following edits on Account Status Inquiry transactions.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 8 (Account Status Inquiry Service [ASI]) and DE 4 (Amount, Transaction) contains a value other than zero | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 004 (indicating the data element in error) |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) contains value 8 (Account Status Inquiry Service [ASI]) and DE 4 (Amount, Transaction) contains a value equal to zero and DE 3 (Processing Code) contains a value other than 00 (Purchase) | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 003 |
| The acquirer sends an Authorization Advice/ 0120 or acquirer-generated Reversal Request/ 0400 message with the value combinations above | Sends the acquirer an Authorization Advice/0130 or Reversal Request Response/0410 message where DE 39 = 12 (Invalid transaction). |

Address Verification Service

Address Verification Service (AVS) is a fraud deterrent service that provides greater security to merchants and cardholders. It helps to protect against fraudulent use of cards by verifying the cardholder's billing address.

How AVS Works

The acquirer requests the cardholder billing address verification as part of the Authorization Request/0100. The issuer performs the verification and returns the appropriate information to the acquirer in the Authorization Request Response/0110.

Alternate Processing

The Stand-In and X-Code systems do not perform AVS. Transactions that contain an AVS request in an Account Status Inquiry Service request will receive a response indicating the service is not available. Transactions that contain an authorization request and an AVS request will receive the appropriate authorization response in addition to a response indicating the AVS service is not available.

NOTE:

- For more information about issuer and acquirer participation in AVS, requirements, and service options, refer to the *Customer Interface Specification and Authorization Manual*.
- The Global Safety and Security Standards mandate that issuers, acquirers, and processors must code for the Authorization security fields that are required to support the Address Verification service. The service themselves are not mandate, but issuers, acquirers, and processors must code for the authorization message field that support this service.

Authorization Request/0100—AVS and Authorization Request

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

NOTE: The AVS Only request was discontinued 28 June 2011.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 4 (Amount, Transaction) | M | • | M | Must be a valid amount for authorization request with AVS requests. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Must be a valid TCC. |
| DE 48, subelement 82 (Address Verification Request) | M | • | M | 52 = AVS and Authorization Request |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 120 (Record Data) | | | | <p>The acquirer must provide the non-condensed cardholder billing address.</p> <p>Note: Some merchant/acquirers are currently limited to supporting only numeric data.</p> <p>The issuer will receive only one occurrence of DE 120 subfields depending on the AVS Service Indicator identified in DE 94 of the Network Management Request/0800 message. The AVS Service Indicator identifies how the issuer expects to receive address data.</p> |
| DE 120, subfield 1 (AVS Service Indicator 1) | M | • | C | <p>Postal code (an-9)</p> <p>Address (ans...20 Mastercard)</p> <p>Address (ans...20 Visa)</p> <p>Note: At a minimum the Postal Code must be provided and cannot be less than nine bytes long (Postal code left justified and blank filled if necessary up to nine bytes).</p> |
| DE 120, subfield 2 (AVS Service Indicator 2) | • | X | C | <p>Postal Code (an-9)</p> <p>Address (an-5)</p> |
| DE 120, subfield 3 (AVS Service Indicator 3) | • | X | C | <p>Postal Code (an-9)</p> <p>Address (an-5)</p> |
| DE 120, subfield 4 (AVS Service Indicator 4) | • | X | C | <p>Postal Code (an-9)</p> <p>Address (an-5)</p> |

Authorization Request Response/0110—AVS and Authorization Request

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

NOTE: The AVS Only response was discontinued 28 June 2011.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 4 (Transaction Amount) | ME | • | ME | Must be the same value as in the original Authorization Request/0100 message. |
| DE 39 (Response Code) | M | • | M | Contains one of the response codes listed for this data element in the Data Element Definitions chapter of this manual. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | ME | • | ME | Must be the same value as in the original Authorization Request/0100 message. |
| DE 48, subelement 82 (Address Verification Request) | ME | • | ME | Must be the same value as in the original Authorization Request/0100 message. |
| DE 48, subelement 83 (Address Verification Response) | M | • | M | Contains one of the response codes listed for this data element in the Data Element Definitions chapter of this manual. |
| DE 120 (Record Data) | ME | • | ME | Must be the same value as in the original Authorization Request/0100 message. |

NOTE: Acquirers always receive the original information in DE 120 of the Authorization Request Response/0110 (the non-condensed subfield 01 contents) that they provided in the Authorization Request/0100.

Network Management Request/0800—AVS Sign-on

Following is a list of the data elements and values applicable to this message type. All mandatory Network Management Request/0800—AVS Sign-on data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 94 (Service Indicator), position 3 (Address Data Indicator) | M | • | M | 0 = AVS not supported 1 = Issuer supports AVS, receives all the address data (non-condensed) 2 = Issuer supports AVS, receives condensed address data 3 = Issuer supports AVS, receives condensed address data 4 = Issuer supports AVS, receives condensed numeric postal code and condensed numeric address data only. |

Alternate Processing

When the issuer is unavailable the transaction is processed by Stand-In or X-Code as follows.

NOTE: The AVS Only request was discontinued 28 June 2011.

Authorization Request/0100—Request and Address Verification Service

| WHEN... | THEN the Authorization Platform.... |
|---|---|
| The Authorization Request/0100 contains DE 48, subelement 82 value 52 | <p>Sends an Authorization Request Response/0110 message containing DE 39, value (based on the decision for the authorization request portion of the transaction).</p> <p>If the issuer supports AVS then DE 48, subelement 83 contains value R</p> <p>If the issuer does not support AVS then DE 48, subelement 83 contains value S</p> |

DE 48 and DE 120 Structure in AVS Transactions

Following is the structure of DE 48 and DE 120 in AVS transactions.

The following table illustrates DE 48, subelements 82 (Address Verification Service Request) option code and subelement 83 (Address Verification Service Response) result code in an AVS transaction.

| VAR—999 maximum bytes (TCC + AVS Data) | | | | | | | |
|--|--------|-------------------------|--------------|------------------|----------|--------------------------|-----------------|
| 3 bytes | 1 byte | 2 bytes | 2 bytes | 2 bytes | 2 bytes | 2 bytes | 1 byte |
| Total Data | TCC | AVS Request Data | | | | AVS Response Data | |
| Element Length | | SE ID 82 | SE Length 02 | AVS Request Code | SE ID 83 | SE Length 01 | AVS Result Code |
| mandatory | | | | | | | |
| 1002 maximum bytes (LLL + TCC + AVS Data) | | | | | | | |

The following table illustrates DE 120 contents for subfield 01 (AVS Service Indicator 1).

| VAR—33 maximum bytes (Mastercard) – VAR—53 maximum bytes (Visa) | | | | |
|--|---------|---------|---------|--|
| 3 bytes | 2 bytes | 2 bytes | 9 bytes | 1-20 bytes (Mastercard) 1-40 bytes (Visa) |

| | | | | |
|---------------------------|----------------|--------------------------|----------------------------|--------------------|
| Total Data Element Length | Subfield ID 01 | Subfield Length Variable | Cardholder postal/ZIP code | Cardholder Address |
|---------------------------|----------------|--------------------------|----------------------------|--------------------|

The following table illustrates DE 120 contents for subfield 02–04 (AVS Service Indicator 2–4).

| | | | | |
|---------------------------|------------------------------|-----------------|----------------------------|--------------------|
| LLL | Fixed 18 bytes | | | |
| 3 bytes | 2 bytes | 2 bytes | 9 bytes | 5 bytes |
| Total Data Element Length | Subfield ID 02, or 03, or 04 | Subfield Length | Cardholder postal/ZIP code | Cardholder Address |

Authorization Platform Edits

The Authorization Platform performs the following edits for an AVS-only transaction.

NOTE: The AVS Only request was discontinued 28 June 2011.

| WHEN the acquirer... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 82 (AVS Request Data) = 51 (AVS-Only) | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 12 (Invalid Transaction) |

The Authorization Platform performs the following edit for AVS and Authorization Request/0100 messages.

| WHEN the acquirer... | THEN the Authorization Platform... |
|--|--|
| Sends an Authorization Request/0100 message with DE 48, subelement 82 (AVS Request Data) = 52 (AVS and Authorization Request) and DE 120 (Record Data), subfield 01 (AVS Service Indicator 1) is less than nine bytes long | Sends the acquirer an Authorization Request Response/0110 message with: <ul style="list-style-type: none"> • DE 39 = 30 (Format Error) • DE 44 = 120 |

The Authorization Platform performs the following edit for AVS and Authorization Request Response/0110 messages.

| WHEN the issuer... | THEN the Authorization Platform... |
|--|---|
| Sends an Authorization Request Response/0110 message where DE 39 is 00 (Approved) or 08 (Honor with ID) or 85 (Not declined) and DE 48 subelement 82 is 52 (AVS Request) DE 48, subelement 83 (AVS Response) is present with a value not equal to X, Y, A, W, Z, N, U, R, S. | Sends the issuer an Authorization Response Negative Acknowledgement/0190 message where: <ul style="list-style-type: none">• DE 39 = 30 (Format Error)• DE 44 = 048 |

Automated Fuel Dispenser Completion

Acquirers use the Automated Fuel Dispenser Completion messages to advise the issuer of the total amount of the Automated Fuel Dispenser (AFD) transaction within 60 minutes after the transaction is completed.

The acquirer sends an Authorization Request/0100 message to verify a minimum availability of funds in the cardholder's account for an Automated Fuel Dispenser (AFD) transaction. If the request is not declined, the acquirer sends an Authorization Advice/0120—Acquirer-generated message to the issuer, specifying the total amount of the AFD transaction. The value in DE 60, subfield 1 (Advice Reason Code) is 191 (Acquirer Processing System [APS] Completed Authorization Transaction).

The Authorization Platform forwards all Authorization Advice/0120—Acquirer-generated messages directly to the issuer. The issuer must respond with an Authorization Advice Response/0130 (Responding to an Acquirer-generated 0120) message acknowledging receipt of the Authorization Advice/0120—Acquirer-generated message. If the issuer is not available or does not respond within timer limits, the Authorization Advice/0120—Acquirer-generated message will be sent to the Stand-In System. The Stand-In System responds with an Authorization Advice Response/0130—System-generated message to the acquirer to acknowledge receipt of the Authorization Advice/0120—Acquirer-generated message. The advice message will be added to the SAF for later distribution to the issuer.

For information about requesting a pre-authorization on Maestro Petrol transactions, see [Maestro Pre-authorized Transactions](#).

NOTE: The Data Integrity Automated Fuel Dispenser (AFD) edit for acquirers of AFD merchants that are located in the U.S. region is described in the *Data Integrity Monitoring Program* manual.

AFD Message Scenarios

Mastercard is supporting the following usage scenarios for AFD authorization messages.

| WHEN the AFD Authorization Request Response/0110 contains... | THEN the AFD acquirer... |
|---|---|
| DE 39 (Response Code), value 00 (Approved or completed successfully) | Submits the Authorization Advice/0120—Acquirer-generated message for the pumped amount. |
| DE 39, value 10 (Partial Approval) | Submits the Authorization Advice/0120—Acquirer-generated message for the pumped amount that is less than or equal to the partial approval amount. |
| DE 39, value 00 (Approved or completed successfully) or value 10 (Partial Approval) and the transaction is canceled at the pump | Submits a Reversal Request/0400 message, or an Authorization Advice/0120 message with a DE 04 zero amount, to cancel the AFD transaction. |

NOTE: The AFD Authorization Advice/0120—Acquirer-generated message is not a replacement for the First Presentment/1240 message to the clearing system on a credit transaction.

Authorization Request/0100—Automated Fuel Dispenser Pre-authorization

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 4 (Amount, Transaction) | M | • | M | Must be at least an amount no less than the equivalent of USD 1. |
| DE 18 (Merchant Type) | M | • | M | 5542 = Fuel Dispenser, Automated |
| DE 61 (Point of Service Data), subfield 7 (POS Transaction Status) | M | • | M | May contain one of the following values: 0 = Normal request (original presentment) 4 = Preauthorized request |
| DE 61, subfield 10 (Cardholder Activated Terminal Level) | M | • | M | 2 = Authorized Level 2 CAT: Self-service terminal, or 1 = Authorized Level 1 CAT if PIN used |

Authorization Advice/0120—Acquirer-Generated (Automated Fuel Dispenser Completion)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|----------------------------|------------|------------|------------|---|
| DE 4 (Amount, Transaction) | M | • | M | Contains the completed transaction amount and not the requested amount. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 18 (Merchant Type) | M | • | M | 5542 = Fuel Dispenser, Automated |
| DE 39 (Response Code) | M | • | M | Valid values: 00 = Approved or completed successfully 10 = Partial Approval |
| DE 48 (Additional Data—Private Use), subelement 15 (Authorization Platform Advice Date and Time), subfield 1 (Date) | • | X | M | Contains the valid date of the Authorization Advice/0120—Acquirer-generated inserted by the Authorization Platform in MMDD format. |
| DE 48, subelement 15, subfield 2 (Time) | • | X | M | Contains the valid time of the Authorization Advice/0120—Acquirer-generated inserted by the Authorization Platform in hhmmss format. |
| DE 48, subelement 20 (Cardholder Verification Method) | M | X | • | |
| DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) | M | • | M | 191 = Acquirer Processing System (APS) Completed Authorization Transaction |

NOTE: Acquirers must not submit DE 48, subelement 82 (Address Verification Service Request) or subelement 92 (CVC 2) as these services are not performed on the Authorization Advice/0120—Acquirer-generated message and will cause the 0120 message to be rejected by the Dual Message System.

Authorization Advice/0120—Acquirer-Generated (Automated Fuel Dispenser Completion)

Acquirers of Automated Fuel Dispenser (AFD) merchants located in the U.S. and Canada regions must send an Authorization Advice/0120 message to the issuer providing the actual transaction amount for each approved AFD transaction no more than 60 minutes after the original Authorization Request/0100 message was submitted. Global acquirers may optionally support this message for Mastercard and Debit Mastercard AFD transactions.

Customers should be aware of the critical requirements for proper processing of card acceptor business code (MCC) 5542 (Fuel Dispenser, Automated) transactions.

Critical AFD Advice Message Data

The following information provides a summary of the critical acquirer requirements for processing AFD transactions:

- Authorization Advice/0120 (Automated Fuel Dispenser Completion) messages must contain DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), value 191 (completed authorization) for AFD transactions with an original Authorization Request/0100 message.

- The following Authorization Advice/0120 message data elements must match the value submitted within the original Authorization Request/0100 message for issuer transaction matching purposes:
 - DE 2 (Primary Account Number)
 - DE 7 (Transmission Date and Time)
 - DE 11 (System Trace Audit Number [STAN])
 - DE 32 (Acquiring Institution ID Code)
 - DE 33 (Forwarding Institution ID Code), if present in the Authorization Request/0100 message
 - DE 38 (Authorization ID Response) and DE 39 (Response Code) with the same value as received in the original Authorization Request Response/0110 message
 - DE 48 (Additional Data), subelement 63 (Trace ID) to further assist issuers in matching an AFD completion advice to the original preauthorization
 - DE 48 (Additional Data), subelement 98 (Mastercard Corporate Fleet Card® ID/Driver Number) and/or subelement 99 (Mastercard Corporate Fleet Card® Vehicle Number), with the same values as submitted in the original Authorization Request/0100 message, if present
 - DE 121 (Authorizing Agent ID Code), with same value as was received in the original Authorization Request Response/0110 message, if present

Track Data in AFD Advice Message—Acquirers

The Authorization Advice/0120 message layout shows DE 35 (Track 2 Data) and DE 45 (Track 1 Data) as optional. Acquirers of AFD merchants are reminded that presence of track data in the card-present Authorization Request/0100 message does not necessitate inclusion within the AFD Advice message. This data is not needed by issuers for matching an AFD advice to an original authorization, and storage of track data for submission of the AFD Advice may not be PCI compliant.

Track Data in AFD Advice Message—Issuers

Issuers are reminded that Authorization Advice/0120—Acquirer-generated messages are not card-activated and may not contain card-present data, regardless of a card-present Point-of-Service (POS) entry mode value in DE 22. The AFD advice message contains the completion amount and other reference data from the original Authorization Request/0100 message data. The inclusion of card-present DE 35 and DE 45 track data is optional. As such, the absence or presence of track data in the AFD Advice message should not result in a format error from issuers for card-present fuel purchases.

For details about data requirements, refer to the Data Element Definitions chapter of the *Customer Interface Specification* manual.

Authorization Advice Response/0130—Issuer-Generated (Responding to an Acquirer-Generated)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice Response/0130—Issuer-generated (Responding to an Acquirer-generated) data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48, (Additional Data—Private Use), subelement 15 (Authorization Platform Advice Date and Time), subfield 1 (Date) | • | X | M | The Authorization Platform provides this data element, if required. |
| DE 48, (Additional Data—Private Use), subelement 15 (Authorization Platform Advice Date and Time), subfield 2 (Time) | • | X | M | The Authorization Platform provides this data element, if required. |

Alternate Processing

Alternate processing is provided if an issuer does not respond or is unable or unavailable to receive the Authorization Advice/0120—Acquirer-generated AFD completion messages.

The Authorization Platform responds to the acquirer with an Authorization Advice Response/0130 message containing DE 39 (Response Code), value 00 (Approved or completed successfully) and sends the Authorization Advice/0120—Acquirer-generated message to SAF. SAF messages will be sent to the issuer when the issuer is available. DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) keeps value 191 (Acquirer Processing System [APS] Completed Authorization Transaction) when delivered from SAF.

Clearing AFD Transactions

Mastercard recommends that the Trace ID (DE 15 [Settlement Date] and DE 63 [Network Data]) of the completion advice response be used within the clearing presentment.

As an alternative, if the Trace ID of the original preauthorization is used for clearing presentment, that same Trace ID must be included in the AFD completion advice message within DE 48, subelement 63 (Additional Data, Trace ID).

Account Level Management

Mastercard Account Level Management is a platform that enables specialized processing so that Mastercard can manage capabilities at the individual card account level.

Mastercard Account Level Management provides issuers the flexibility of qualifying cardholder accounts for competitive interchange as well as upgrading cardholder accounts to a different card product. The following are the key capabilities of Account Level Management functionality. Availability of, and distinctions of, are based on location:

- Enhanced Value (United States, Canada, and select countries in the Europe region)
- Product Graduation (United States, Australia, and select countries in the Europe region)
- High Value (United States)
- Spend Shortfall (World Mastercard and World Elite Mastercard) (United States)
- Small Business Spend Processing (United States)

Refer to the *Account Level Management User Manual* for detailed information.

Alternate Processing

Both the Stand-In System and the X-Code System will verify that DE 38, position 6 in the Authorization Request Response/0110 message contains the value provided by the Authorization Platform in DE 48, subelement 38 of the Authorization Request/0100 message.

Stand-In Support for Product Graduation

Stand-In processing supports Product Graduation. For product graduated accounts, Stand-In processing will use the product code in DE 63, subfield 1 instead of the product code associated with the authorization account range when applying Stand-In limits at the product code level.

Mastercard offers issuers two options for defining Stand-In parameters for graduated accounts:

- **Graduated Product Code Limits**

Issuers can establish limits at the authorization account range level for each product code supported for Product Graduation. These limits will apply specifically to accounts within that account range that are graduated to that product and can be different from the limits that the issuer establishes for an account range that is associated to the same product code. If the issuer takes no action to establish limits for product codes supported for Product Graduation, the Mastercard default limits for the graduated product will apply. Mastercard provides the Stand-In Processing Worksheet (Form 041) available on Mastercard Connect™ for issuers to define limits.

- **Customer-Specific Index (CSI)**

A CSI allows issuers to establish and associate a unique set of Stand-In limits directly to specific product graduated accounts and not the authorization account range or product. Assignment of a CSI is flexible—a single CSI can be used for one account, or it can be assigned to multiple accounts, across multiple ICAs and account ranges for an issuer's given parent ICA. If an issuer identifies a condition that is not addressed by an existing CSI, the issuer can request a new CSI to meet that condition and assign it to the applicable accounts.

Issuers have the option to associate CSI limits with one or more product codes. If the issuer does not choose to associate CSI limits with a product code, the CSI limits will be applied to all accounts assigned to that CSI, regardless of product code.

If an issuer chooses to associate CSI limits with a product code, the issuer must ensure that the accounts assigned to that CSI during Mastercard Product Graduation account registration are graduated to the same product code. If an account assigned to a given CSI

is not graduated to the same product code associated with the CSI's limits, Stand-In will not apply CSIs limits. Stand-In will apply limits as defined on the issuer's Stand-In Processing Worksheet, which could include account range limits for the graduated product or ICA level limits. If the issuer has not established these other limits, the Stand-In System will apply the Mastercard default limits for the graduated product.

Issuers can establish CSIs only for product-graduated accounts. To apply a CSI set of Stand-In limits, the transaction must be identified as eligible for Product Graduation and have an assigned CSI.

Mastercard provides the Stand-In Processing Worksheet (Form 041) available on Mastercard Connect for issuers to define limits.

Issuers will be able to define their own unique identifier (an-7) for each CSI they establish in DE 120 (Record Data) for MCC108. This field is optional. Issuers will populate this field with the unique identifier they have associated with a specific CSI to assign the CSI to the cardholder account in the file maintenance request. If issuers do not populate this field with a CSI value, it must be populated with spaces.

The following examples demonstrate how the Stand-In System determines the appropriate limits for a product graduated account:

- If the issuer has registered the graduated account with a CSI, the Stand-In System will use the unique Stand-In limits defined by the issuer for the given CSI.
- If the issuer has not registered the graduated account with a CSI, and the product associated with the primary account number (PAN) does not match the product associated with the authorization account range, Stand-In will apply limits as defined on the issuer's Stand-In Processing Worksheet, which could include account range limits for the graduated product or ICA level limits. If the issuer has not established these other limits, Stand-In will apply the Mastercard default limits for the graduated product.

X-Code Processing

If the product code in DE 63, subfield 1 is different than the product code assigned to the authorization account range, the X-Code System will apply product code limits using the product code in DE 63, subfield 1.

ATM Bill Payment Service

Bill payment transactions at the ATM help increase the acquirer's transaction volume by providing a convenient method for cardholders to initiate bill pay request transactions.

ATM Bill Payment service supports:

- Europe acquired ATM Bill Payment transactions
- Non-Europe acquired ATM Bill Payment transactions

Authorization Request/0100—ATM Bill Payment, Europe Acquired

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 00 = Purchase |
| DE 18 (Merchant Type) | M | • | M | Contains value 6050 = Quasi Cash—Member Financial Institution or a more precise MCC related to the nature of the bill that is being paid, for example, MCC 4900 (Utilities—Electric, Gas, Heating Oil, Sanitary, Water) for utilities bills. MCC 6011 (Member Financial Institution—Automated Cash Disbursements) must not be used. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | U = Unique |
| DE 61 (Point-of-Service [POS] Data), subfield 10 (Cardholder-Activated Terminal Level Indicator) | M | • | M | 0 = Not a CAT transaction 1 = Authorized Level 1 CAT: automated dispensing machine with PIN |
| DE 124 (Member-defined Data) | O | • | C | Contains details relating to the bill being paid. |

Authorization Request/0100—ATM Bill Payment, Non-Europe Acquired

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 00 = Purchase |
| DE 18 (Merchant Type) | M | • | M | Must contain value 6539 = Funding Transaction, Excluding MoneySend |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | U = Unique |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 61 (Point-of-Service [POS] Data), M subfield 10 (Cardholder-Activated Terminal Level Indicator) | | • | M | <p>One of the following values:</p> <p>1 = Authorized Level 1 CAT: automated dispensing machine with PIN</p> <p>2 = Authorized Level 1 CAT: self service terminal</p> |
| DE 124 (Member-defined Data) | O | • | C | Contains details relating to the bill being paid. |

Authorization Platform Edits

The Authorization Platform applies the following edits on ATM Bill Payment Service transactions.

| WHEN the acquirer... | THEN the Authorization Platform... |
|--|---|
| Sends an Authorization Request/0100, Authorization Advice/0120, or Reversal Request/0400 message containing DE 18 (Merchant Type), value 6539 (Funding Transaction, Excluding MoneySend) | Sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 message with DE 39 (Response Code), value 58 (Transaction not permitted to acquirer/terminal). |

ATM Credit Card Cash Advance in Installments

This service allows cardholders to initiate an inquiry at the ATM requesting a credit card cash advance to be repaid in monthly installments (for example, 6, 12, or 18 months).

With this enhancement, a cardholder can initiate an inquiry at the ATM requesting a credit card cash advance to be repaid in monthly installments (for example, 6, 12, or 18 months). The issuer can accept the installment terms requested by the cardholder, decline the request, or decline the request and offer an alternate installment schedule. The cardholder has the option to accept or reject the issuer's terms and conditions for the installment payments. If the cardholder accepts the issuer's terms and conditions for repayment, the issuer will then approve or decline the cash advance transaction. If approved, the cardholder will receive the funds, along with the installment payment details printed on the ATM receipt. The issuer will bill the cardholder for the amount of the transaction in the agreed-upon installments.

Acquirers entering this market must be able to:

- Provide ATM screens that offer an installment payment option.
- Provide the ability to print the issuer's installment payment details on the ATM receipt.

The ATM Credit Card Cash Advance in Installments service is currently available to single message transactions (Single Message System-acquired activity).

The ATM Credit Card Cash Advance in Installments service is not available to ATM acquirers in the Europe region.

Authorization Request/0100—ATM Installment Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 01 (Withdrawal) |
| DE 4 (Amount, Transaction) | M | • | M | Contains the amount of the cash advance |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | M | • | M | Identifies that the cardholder has initiated an ATM installment inquiry transaction 3 = ATM Installment Inquiry |
| DE 112 (Additional Data [National Use]), subelement 001 (Installment Payment Data) | C | • | C | Identifies the transaction type. 80xx = ATM Installment Inquiry, Number of Installments 81xx = ATM Installment Withdrawal, Number of Installments |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 1 (Transaction Type) | C | • | C | 80 = ATM Installment Inquiry |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 2 (Requested Number of Installments) | C | | C | 01–99 = the number of installments requested by the cardholder |

Authorization Request Response/0110—ATM Installment Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | ME | • | ME | 01 (Withdrawal) |
| DE 4 (Amount, Transaction) | CE | X | CE | Contains the amount of the cash advance |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 112 (Additional Data [National Use]), subelement 001 (Installment Payment Data) | C | • | C | Identifies the transaction type. 80xx = ATM Installment Inquiry, Number of Installments 81xx = ATM Installment Withdrawal, Number of Installments |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 1 (Transaction Type) | C | • | C | 80 = ATM Installment Inquiry |
| DE 112, subelement 027, subfield 2 (Requested Number of Installments) | C | • | C | 01–99 = the number of installments requested by the cardholder |
| DE 112, subelement 027, subfield 3 (Approved Number of Installments) | C | • | C | The number of installment payments approved by the issuer |
| DE 112, subelement 027, subfield 4 (Installment Amount) | C | • | C | The monthly payment amount |
| DE 112, subelement 027, subfield 5 (Total Transaction Amount) | C | • | C | The amount of the cash advance and the interest for the transaction |
| DE 112, subelement 027, subfield 6 (Yearly Interest Rate) | C | • | C | The interest rate that will be charged to the cardholder by the issuer |
| DE 112, subelement 027, subfield 7 (Currency Code) | C | • | C | The currency code the issuer is charging the cardholder for repayment |
| DE 112, subelement 027, subfields 8–11 (Member-defined Data) | C | • | C | Member-defined data |

Authorization Request/0100—ATM Installment Withdrawal

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 01 = Withdrawal |
| DE 4 (Amount, Transaction) | M | • | M | Contains the amount of the cash advance. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | M | • | M | Identifies that the cardholder has initiated an ATM installment inquiry transaction. 0 = Normal request (original presentment) |
| DE 112 (Additional Data [National Use]), subelement 001 (Installment Payment Data) | C | • | C | Identifies the transaction type. 81xx = ATM Installment Withdrawal, Number of Installments |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 1 (Transaction Type) | C | • | C | 81 = ATM Installment Withdrawal |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 2 (Requested Number of Installments) | C | • | C | 01–99 = The number of installments requested by the cardholder |

Authorization Request Response/0110—ATM Installment Withdrawal

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | ME | • | ME | 01 = Withdrawal |
| DE 4 (Amount, Transaction) | CE | X | CE | Contains the amount of the cash advance. |
| DE 112 (Additional Data [National Use]), subelement 001 (Installment Payment Data) | C | • | C | Identifies the transaction type. 81xx = ATM Installment Withdrawal, Number of Installments |
| DE 112, subelement 027 (ATM Credit Card Cash Advance Installments), subfield 1 (Transaction Type) | C | • | C | 81 = ATM Installment Withdrawal |
| DE 112, subelement 027, subfield 2 (Requested Number of Installments) | C | • | C | 01–99 = The number of installments requested by the cardholder. |
| DE 112, subelement 027, subfield 3 (Approved Number of Installments) | C | • | C | 01–99 = The number of installment payments approved by the issuer. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 112, subelement 027, subfield 4 (Installment Amount) | C | • | C | The cardholder's monthly payment amount. |
| DE 112, subelement 027, subfield 5 (Total Transaction Amount) | C | • | C | The amount of the cash advance and the interest for the transaction. |
| DE 112, subelement 027, subfield 6 (Yearly Interest Rate) | C | • | C | The interest rate that will be charged to the cardholder by the issuer. |
| DE 112, subelement 027, subfield 7 (Currency Code) | C | • | C | The currency code the issuer is charging the cardholder for repayment. |
| DE 112, subelement 027, subfields 8–11 | C | • | C | Member-defined data. |

Authorization and Preauthorization Processing Standards

The following standards are in effect for authorizations initiated by card acceptors in all regions, unless stated otherwise. Preauthorization volumes are expected to continue to grow at steady rates in the near future, fueled by continued growth of international travel and e-commerce.

NOTE: All authorizations initiated by card acceptors in the Europe and Middle East/Africa regions must clearly be distinguished as a final authorization or a preauthorization.

Authorizations initiated by card acceptors in all other regions must be distinguished as a preauthorization, final authorization, or undefined authorization.

For additional detail on Authorization and Preauthorization Processing Standards refer to the *Authorization Manual*.

Rule Improvements

The following six rule improvements for authorization and preauthorization processing are currently in effect:

- Authorizations must be reversed within 24 hours of a transaction cancellation or of a finalization of the transaction for an amount lower than the authorized amount.
- Merchants must inform the cardholder of the amount to be authorized when the Mastercard authorization request is for an estimated amount and must obtain the cardholder's consent before processing the preauthorization request.
- Transactions no longer benefit from the 15/20 percent tolerance between authorization and clearing (except for card-not-present based tipping in the U.S. region for MCC 5812 Eating Places, Restaurants and MCC 5814 Fast Food Restaurants; and signature-based tipping, where the 20 percent tolerance remains applicable).
- The issuer chargeback protection period is redefined, and its duration is limited to a maximum. The period now starts counting as of the authorization date. Its duration is

limited to a maximum of 30 calendar days for Mastercard and Debit Mastercard authorizations properly identified as preauthorizations, and seven calendar days for all other Mastercard and Debit Mastercard authorizations.

- Financial authorizations may be coded as preauthorizations, final authorizations, or undefined authorizations, except in Europe and Middle East/Africa where financial authorizations must be coded as final authorizations or preauthorizations.
- Use of incremental preauthorizations is applicable for all merchant types.

For details on Incremental Preauthorization, refer to the separate section Incremental Preauthorization Standards in this chapter of this manual.

Final Authorization Message Processing Standard

The process for evaluating Dual Message System (Authorization) acquirer compliance with the processing standards for final authorizations has been modified to support allowing final authorizations to be cleared within seven calendar days of the authorization date.

Modification to this processing standard impacts compliance analysis for final authorizations acquired globally and undefined authorizations acquired in the Europe and Middle East/Africa regions.

Final authorizations not meeting the seven calendar day clearing requirement will be flagged as non-compliant. Non-compliant transactions are included in the Authorization Processing Integrity Acquirer Detail Report (AB605010-AA). A fee for non-compliance may be assessed in regions where non-compliance assessments are already in effect.

Undefined authorizations not meeting the seven calendar day clearing requirement will be flagged as non-compliant. Non-compliant transactions are included in the Authorization Processing Integrity Acquirer Detail Report. A fee for non-compliance may be assessed in regions where non-compliance assessments are already in effect.

Authorization Processing Integrity Acquirer Detail Reporting

The Authorization Processing Integrity Acquirer Detail Report for Dual Message System (Authorization) acquirers enables enhanced merchant reporting of the processing integrity fees. The report provides acquirers with detailed transaction activity for each customer ID/ICA number identifying authorizations that were assessed a processing integrity fee. Acquirers may optionally choose to receive this report.

Mastercard generates the report weekly. The report is delivered each Monday at 18:30 (St. Louis, Missouri, USA time).

The report is available via bulk file in data or image file format. The image file is also available via Mastercard Connect™ eService Online Reporting.

NOTE: There is a size restriction applicable to any eService report; therefore, if it is likely to be large (in excess of 350,000 lines), delivery via bulk is recommended.

- Report ID: AB605010-AA—Authorization Processing Integrity Acquirer Detail Report (image file format)

- Bulk ID: T852
- eService

NOTE: If a subscribing acquirer has no non-compliant authorizations to report within a billing period, the image format report (AB605010-AA) is not generated.

- Report ID: AB605010-FF—Authorization Processing Integrity Acquirer Detail Data File (data file format)
 - Bulk ID: TKR8

NOTE: If a subscribing acquirer has no non-compliant authorizations to report on a given day, the data file format report (AB605010-FF) will be generated and include a trailer record with a record count of zero.

Acquirers can request to receive the report by contacting Global Customer Service.

For more information about the Authorization Processing Integrity Acquirer Detail Report and Data File refer to the *Authorization Manual*.

Reversal Requirements

Acquirers must ensure that their merchants submit a reversal message to the issuer within 24 hours of the cancellation of a previously authorized transaction or of the finalization of a transaction with a lower amount than previously approved. The reversal may be a full or partial reversal, as appropriate. In the case of finalization of a transaction with a lower amount, a partial reversal is not required if the clearing message is submitted within 24 hours of the finalization of the transaction. Any authorized amount not reversed must correspond to the Transaction Amount of DE 4 (Amount, Transaction). This requirement does not apply to card acceptor business code (MCC) 5542 (Fuel Dispenser, Automated) transactions, Mastercard contactless (formerly Mastercard® PayPass™) transit aggregated or transit debt recovery transactions, or to preauthorizations or authorizations with an expired chargeback protection period.

Cancellation of a previously authorized transaction or finalization of the Transaction Amount should occur within no more than seven calendar days of the authorization date for undefined authorizations and within no more than 30 calendar days of the authorization date for preauthorization messages.

Requirement to Inform Cardholder of Preauthorization Amount

For Mastercard transactions, merchants must inform the cardholder of the estimated amount for which preauthorization will be requested and must obtain the cardholder's consent before processing the preauthorization request. This requirement enables cardholders to more effectively manage their open-to-buy and addresses cardholders' and regulators' concerns with current preauthorization practices.

The information requirement is automatically met when the terminal displays the amount to be authorized or when the amount to be authorized corresponds to an amount otherwise approved by the cardholder as the final transaction amount.

The merchant may also use any appropriate and effective manner of its choice to inform the cardholder (for example, verbal communication, or appropriate and visible written signage near the terminal). The amount may be communicated as a precise currency amount (for example, EUR 250). Alternatively, the merchant can explain how the amount is calculated, using a simple-to-understand formula.

This requirement does not apply to preauthorizations of MCC 5542 transactions or to Post-Authorized Aggregated Mastercard Contactless Transactions.

Authorization Amount Tolerances

Mastercard lodging, vehicle rental, and cruise lines transactions no longer benefit from the 15 percent tolerance between the authorized amount and the clearing amount for Mastercard transactions.

In addition, certain Mastercard transactions no longer benefit from the 20 percent tolerance between authorization and clearing for gratuities. Details follow.

Where these tolerances are eliminated, issuers must ensure that they no longer block the cardholder's account for any amount in excess of the approved amount. These rules changes enable a more accurate management of the card account's open-to-buy.

In certain scenarios, described as follows, the practice of including the gratuity or an estimated provision for incidentals directly into the amount to be authorized continues to be supported. Mastercard reminds acquirers of the prohibition on including amounts to cover loss, theft, or damage in the provision for incidentals.

The rule for amount tolerance between the authorization amount and clearing amount with respect to gratuities is applied as follows.

The transaction amount must not exceed the authorized amount for the purpose of adding a gratuity, and any gratuity must be included in the authorization request if:

- The transaction is a card-not-present transaction or a contactless transaction; or
- The transaction is a Chip/PIN transaction.

NOTE: An exception to this rule is allowed for card-not-present transactions when the merchant is located in the United States region identified with MCC 5812 (Eating Places, Restaurants) or MCC 5814 (Fast Food Restaurants).

When a preauthorization or, where permitted, an undefined authorization is obtained, the transaction amount may exceed the authorized amount by 20 percent for the purpose of adding a gratuity if:

- The transaction is a key-entered or magnetic stripe transaction; or
- The transaction is a Chip transaction completed with signature or no cardholder verification method (CVM).

Time Limit for Payment Guarantee Related to Authorization

The issuer payment guarantee period is redefined and its duration is limited to a maximum period counting from the authorization or preauthorization date. This maximum period is 30 calendar days for Mastercard authorizations properly coded as preauthorizations and is seven calendar days for all other Mastercard authorizations and for all Maestro and Cirrus authorizations and preauthorizations. This rule does not require issuers to hold the approved amount on the cardholder's account for seven or 30 calendar days; only limits the maximum duration of any such hold to a maximum duration of seven or 30 calendar days.

Transactions presented for clearing after the payment guarantee period has expired can be charged back by the issuer under reason code 4808 (Authorization-Related Chargeback) if the card account is permanently closed (Europe region issuers) or statused (issuers in all other regions). This chargeback right is available to issuers in all regions.

At the latest when the payment guarantee period expires, issuers must release any block they may have placed on the cardholder's account in relation to the authorization.

This rule change clearly defines the issuer payment guarantee exposure period for all transaction scenarios and limits the maximum period of issuer exposure.

The expiry of the payment guarantee does not affect other types of chargeback rights. For example, a transaction cannot be charged back under reason codes 4837 (No Cardholder Authorization) or 4863 (Cardholder Does Not Recognize—Potential Fraud) just because the transaction presentment was made after the payment guarantee has expired. Acquirer-financed installment billing transactions are exempt from the Mastercard rules providing for expiry of the payment guarantee. When the full transaction amount has been authorized, the merchant must be able to submit the corresponding installments according to the agreed payment schedule, which may be longer than 30 calendar days.

Authorization Chargeback Protection Period Extension Request

In support of the time limit for chargeback protection related to Dual Message System authorizations, Mastercard offers an Authorization Chargeback Protection Period Extension Request for use by Dual Message System acquirers, which is a non-financial (zero amount) incremental preauthorization request/0100 message.

For details on Authorization Chargeback Protection Period Extension Request, including Authorization Platform edits, refer to the separate section on Incremental Preauthorization Standards in this chapter of this manual, or to the *Authorization Manual*.

Data Integrity

To support the gradual transition of Asia/Pacific, Canada, Latin America and the Caribbean, and United States region merchants and acquirers to the new message coding standards, Mastercard has implemented two new data integrity monitoring edits to support the transition of message coding of authorizations from undefined to preauthorization or final authorization for authorization transactions processed on the Mastercard Network. Support of the new message coding standards provides issuers the opportunity to apply different processing or cardholder messaging to different types of authorizations. Data integrity

monitoring and reporting will begin on 1 June 2017 while standard data integrity non-compliance assessments will begin on 1 November 2017. Customers wanting to receive non-compliance notifications and view reporting must be registered for Data Integrity Online through Mastercard Connect™. Refer to the *Data Integrity Program* manual for additional information.

NOTE: Acquirers in the Europe and Middle East/Africa regions are not impacted by the new data integrity programs and non-compliance assessments.

Preauthorization Message Data Integrity

The first data integrity edit will help ensure that not more than 25 percent of an acquirer's total approved financial authorizations, per child ICA, per month are coded as preauthorization unless there is a particular merchant or market need to do so. This program will help ensure that an acquirer does not start coding all authorizations as preauthorization in order to take advantage of the extended chargeback protection period.

The following types of transactions are excluded from the compliance validation process.

- Private Label transactions and transactions of card brands other than Mastercard (including Debit Mastercard), Maestro, and Cirrus
- Transactions that are approved offline
- Installment transactions
- Incremental authorizations
- Cross-border transactions
- e-commerce (POS PAN Entry, DE 22 subfield 1 = 81)
- Merchant Category exclusions (MCC, DE 18): 5542 (AFD), 3000–3350 (Airlines), 3351–3500 (Rental Car), 3501–3999 (Hotels), 7512 (Generic Car Rental), 4511 (Generic Airline), 7011 (Generic Hotels), MCCs 5812, 5813, 5814, 7230 (Gratuity categories)

Undefined Authorization Data Integrity

The second data integrity edit will help ensure that for acquirers that process at least 100,000 approved financial domestic transactions on the Mastercard Network that not more than 50 percent of an acquirer's total domestic transaction authorizations, per ICA, per month remain coded as undefined. This program will help ensure that acquirers make the overall transition of coding authorizations as either preauthorization or final authorization for their domestic transaction activity. This edit will be updated as of 1 June 2018 to ensure that not more than 20 percent of an acquirer's total domestic transaction authorizations, per child ICA, per month remain coded as undefined.

The focus on domestic transactions in this edit is due to the fact that these transactions, unlike cross-border transactions, do not require currency conversion, which may result in a difference between the authorized and cleared cardholder billing amount that an issuer may use to manage cardholder balances.

The following types of transactions are excluded from the compliance validation process.

- Private Label transactions and transactions of card brands other than Mastercard (including Debit Mastercard), Maestro, and Cirrus

- Transactions that are approved offline
- Installment transactions
- Cross-border transactions

Assessments for Not Reversed or Cleared Undefined Authorization and Preauthorization Processing Integrity Programs in the Asia/Pacific, Canada, Latin America and the Caribbean, and United States Regions

Effective May 2017, acquirers in the Asia/Pacific, Canada, Latin America and the Caribbean, and United States regions will be subject to a new processing integrity fee under the new processing integrity programs and non-compliance assessments for Not Reversed or Cleared Undefined Authorization and Preauthorization, starting with the billing invoice dated 28 May 2017. The new fee will be applied for each approved authorization that is not cleared or fully reversed by an acquirer within 30 calendar days of the authorization date for preauthorizations and within seven calendar days of the authorization date for undefined financial authorizations.

Acquirers in the Europe region are not impacted by the new processing integrity programs and non-compliance assessments for Not Reversed or Cleared Undefined Authorization and Preauthorization.

Assessments for Preauthorization Transaction Fee and Final Authorization, Undefined Authorization, and Preauthorization Processing Integrity Programs in the Middle East/Africa Region

Effective May 2017, acquirers in the Middle East/Africa region will be subject to new processing integrity fee assessments for non-compliant final authorizations, undefined authorizations, and preauthorizations.

Starting with the billing invoice dated 8 January 2017, acquirers in the Middle East/Africa region will be impacted by a new preauthorization transaction fee. Starting with the billing invoice dated 28 May 2017, acquirers will be impacted by assessments for three processing integrity programs: Final Authorizations Not Meeting Requirement, Undefined Authorizations With and Without Final Authorization Characteristics, and not reversed or cleared preauthorizations.

Frequently Asked Questions on Authorization and Preauthorization Rules

Question: How should installment payment authorization messages be coded?

Answer:

Issuer-financed installment transactions:

Acquirers submitting issuer-financed installment transactions should consider coding authorizations as **Final** if the authorization can be presented for clearing within seven calendar days of the authorization date and for the amount and currency authorized.

Merchant-financed and Acquirer-financed installment transactions:

Acquirers submitting merchant-financed or acquirer-financed installment transactions should consider coding authorizations as ***Undefined*** if the total installment amount is known and the first installment can be presented for clearing within seven calendar days of the authorization date.

Acquirers submitting merchant-financed or acquirer-financed installment transactions should consider coding authorizations as ***Preauthorization*** if the installment amount is an estimate, or the first installment requires more than seven calendar days from the authorization date to present for clearing.

Balance Inquiry—ATM

The ATM Balance Inquiry service provided through the Mastercard/Cirrus ATM Network, allows Mastercard cardholders to inquire upon their account balance at Cirrus ATM terminals. Issuers that participate in this service must request certification from the Global Customer Service team. Cirrus is the controlling gateway. It forwards Balance Inquiry requests only to issuers who are certified for receipt. Issuers must then reply with a Balance Inquiry response.

Authorization Request/0100—ATM Balance Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|-----------------------------------|------------|------------|------------|---|
| DE 3 (Processing Code) | M | • | M | Must be 30xx00 |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero unless an acquirer applied an ATM transaction fee for an ATM transaction in a country where application of an ATM transaction fee is allowed. |
| DE 18 (Merchant Type) | M | • | M | MCC must be one of the following values: 6010 (Member Financial Institution—Manual Cash Disbursements) 6011 (Member Financial Institution—Automated Cash Disbursements) |
| DE 28 (Amount, Transaction Fee) | C | • | C | May contain an ATM transaction fee, if applicable for transactions in a country where application of an ATM transaction fee is allowed. |
| DE 35 (Track 2 Data) | C | • | C | Must omit if DE 45 present |
| DE 41 (Card Acceptor Terminal ID) | M | • | M | |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|----------------------------|
| DE 43 (Card Acceptor Name and Location) | M | • | M | |
| DE 45 (Track 1 Data) | C | • | C | Must omit if DE 35 present |
| DE 52 (Personal ID Number [PIN] Data) | M | • | M | |

Authorization Request/0100—ATM Balance Inquiry Edits

In addition to the standard Authorization Platform edits on Authorization Request/0100 messages, the Authorization Platform will apply the following edits on an Authorization Request/0100—ATM balance inquiry message.

| IF... | THEN the Authorization Platform... |
|---|---|
| The issuer does not participate in ATM balance inquiry | Returns the Authorization Request Response/0110 message containing: DE 39 = 57 (Transaction not permitted to issuer/cardholder). |
| DE 18 (Merchant Type) is not 6010 or 6011 | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 018 |
| If neither DE 45 (Track 1 Data) nor DE 35 (Track 2 Data) is present in the Authorization Request/0100 message | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 035 |
| DE 54 (Additional Amounts) is present | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 054 |

Authorization Request Response/0110—ATM Balance Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 28 (Amount, Transaction Fee) | CE | X | CE | Must be the same value as in the original Authorization Request/0100 message, if present. |
| DE 39 (Response Code) | M | • | M | 00 = Approved or completed successfully or 85 = Not declined |
| DE 54 (Additional Amounts), subfield 1 (Account Type) | M | • | M | Must be the same value as DE 3, subfield 2 in the original Authorization Request/0100 message |
| DE 54, subfield 2 (Amount Type) | M | • | M | 02 = Available Balance Issuers in the United Kingdom may provide the ledger balance (01) in addition to the available balance (02) for intracountry ATM balance inquiry needs. |
| DE 54, subfield 3 (Currency Code) | M | • | M | Must be a valid three-digit currency code that matches the issuer's currency code. |
| DE 54, subfield 4 (Amount) | M | • | M | C = Credit amount plus 12 digits or D = Debit amount plus 12 digits |

Authorization Request Response/0110—ATM Balance Inquiry Edits

In addition to the standard Authorization Platform edits on Authorization Request Response/0110 messages, the Authorization Platform will apply the following edits on an Authorization Request Response (ATM balance inquiry)/0110 message.

| IF... | THEN... |
|---|--|
| DE 39 (Response Code) contains the value 00 or 85 and DE 54 (Additional Amounts) is not present | The Authorization Platform will send to the issuer an Authorization Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |

| IF... | THEN... |
|--|---|
| DE 54, subfield 3 (Currency Code) is not a valid currency code | The Authorization Platform will generate an Authorization Response Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |
| DE 54, subfield 4 (Amount) is not C plus 12 digits or D plus 12 digits | The Authorization Platform will generate an Authorization Response Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |

Authorization Advice/0120—Acquirer-Generated—ATM Balance Inquiry Edits

The Authorization Platform will perform the following edit on Authorization Advice/0120—Acquirer-generated messages for ATM Balance Inquiry transactions.

| IF... | THEN... |
|--|--|
| The acquirer submits an Authorization Advice/0120—Acquirer-generated message containing DE 3 (Processing Code), value 30 (Balance Inquiry) | The Authorization Platform will reject the message and forward the acquirer an Authorization Advice Response/0130 message containing: DE 39 = 30 DE 44 = 003 |

Alternate Processing

ATM Balance inquiry transactions are not eligible for alternate (Stand-In or alternate issuer host routing) or X-Code processing.

If the primary issuer is not available to the ATM balance inquiry request, an Authorization Request Response/0110 is returned to the acquirer with DE 39 (Response Code) value 91 (Authorization System or issuer system inoperative).

Balance Inquiry—Point-of-Sale

When attempting to make a purchase at the point of sale, cardholders uncertain of the remaining balance on a Mastercard prepaid card or a private label card can initiate a balance inquiry at the point of sale to make a more fully informed decision about how to use the card's funds for the purchase. POS balance inquiry helps the cardholder to completely redeem the funds on the prepaid card, reduces the potential of a declined authorization request when

the purchase amount exceeds the funds available on the card, and helps to avoid extended checkout times and lost sales.

The acquirer will receive the cardholder account balance in both the issuer's currency and the transaction currency. The acquirer has the option to provide the merchant with the cardholder account balance in the issuer's currency, transaction currency, or both. The merchant will then display the appropriate account balance on the customer's printed receipt.

Acquirer participation in POS balance inquiry is optional. To request a POS balance inquiry, the acquirer provides the appropriate data elements as defined below.

Acquirers in the U.S. region must support POS balance inquiry transaction type and functionality for all prepaid Mastercard credit and Debit Mastercard card account ranges.

Prepaid card issuers in the U.S. region must support online POS balance inquiries for all prepaid Mastercard credit and Debit Mastercard account ranges.

Issuer participation in POS balance inquiry is optional. To request participation, issuers must submit the *Point-of-Sale (POS) Balance Inquiry Participation Request Form* (Form 771) to Global Customer Service.

Authorization Request/0100—POS Balance Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 30 (Balance Inquiry) |
| DE 3, subfield 2 (Cardholder "From Account" Type Code) | M | • | M | 00 (Default Account) or 30 (Credit Card Account) |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | 00 (Default Account) |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero. |
| DE 18 (Merchant Type) | M | • | M | For POS balance inquiries, the MCC must be a value other than: 6010 = Member Financial Institution—Manual Cash Disbursements or 6011 = Member Financial Institution—Automated Cash Disbursements |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | Must contain one of the following values: 02 = PAN auto-entry via magnetic stripe 05 = PAN auto-entry via chip 07 = PAN auto-entry via contactless M/Chip 80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip; therefore, the terminal defaulted to the magnetic stripe-read PAN. 90 = PAN auto-entry via magnetic stripe 91 = PAN auto-entry via contactless magnetic stripe |
| DE 35 (Track 2 Data) | C | • | C | Track information encoded on the magnetic stripe must be presented from either Track 2 or Track 1. |
| DE 41 (Card Acceptor Terminal ID) | M | • | M | Must contain terminal ID at the card acceptor location. |
| DE 43 (Card Acceptor Name/Location) | M | • | M | Must contain name and location of the card acceptor as known by the cardholder. |
| DE 45 (Track 1 Data) | C | • | C | Track information encoded on the magnetic stripe must be presented from either Track 1 or Track 2. |

Authorization Request Response/0110—POS Balance Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

Issuers participating in POS balance inquiry and responding to an Authorization Request/0100—POS Balance Inquiry message must send an Authorization Request Response/0110 message containing balance information in DE 54 (Additional Amounts) when DE 39 contains the value 00 (Approved or completed successfully) or 85 (Not declined).

| Data Element | Org | Sys | Dst | Values/Comments |
|-----------------------|------------|------------|------------|--|
| DE 39 (Response Code) | M | • | M | 00 = Approved or completed successfully or 85 = Not declined |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 54 (Additional Amounts), subfield 1 (Account Type) | M | • | M | Must be the same value as DE 3, subfield 2 in the original Authorization Request/0100 message 00 = Default Account or 30 = Credit Card Account |
| DE 54, subfield 2 (Amount Type) | M | • | M | 02 = Available Balance |
| DE 54 , subfield 3 (Currency Code) | M | • | M | Must be a valid three-digit currency code that matches the issuer's currency code. |
| DE 54 , subfield 4 (Amount) | M | • | M | C = Credit amount plus 12 digits or D = Debit amount plus 12 digits |

Authorization Request/0100—POS Balance Inquiry Edits

In addition to the standard Authorization Platform edits on Authorization Request/0100 messages, the Authorization Platform will apply the following edits on an Authorization Request/0100—POS balance inquiry message.

| IF... | THEN the Authorization Platform... |
|--|---|
| The issuer participates in POS balance inquiry | Forward the POS balance inquiry to the issuer. |
| The issuer does not participate in POS balance inquiry | Returns the Authorization Request Response/0110 message containing: DE 39 = 57 (Transaction not permitted to issuer/cardholder). |
| DE 4 (Transaction Amount) is not zero | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 004 |
| DE 18 (Merchant Type) is 6010 or 6011 | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 018 |

| IF... | THEN the Authorization Platform... |
|--|--|
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) is not 02, 05, 07, 80, 90, or 91 | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 022 |
| DE 41 (Card Acceptor Terminal ID) is not present | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 041 |
| DE 43 (Card Acceptor Name/Location) is not present | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 043 |
| If neither DE 45 (Track 1 Data) nor DE 35 (Track 2 Data) is present in the Authorization Request/0100 message | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 035 |
| DE 54 (Additional Amounts) is present | Returns the Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 054 |

Authorization Request/0110—POS Balance Inquiry Edits

In addition to the standard Authorization Platform edits on Authorization Request Response/0110 messages, the Authorization Platform will apply the following edits on an Authorization Request Response (POS balance inquiry)/0110 message.

| IF... | THEN... |
|---|--|
| DE 39 (Response Code) contains the value 00 or 85 and DE 54 (Additional Amounts) is not present | The Authorization Platform will send to the issuer an Authorization Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |

| IF... | THEN... |
|--|---|
| DE 39 contains a value other than 00 or 85 and DE 54 is present | The Authorization Platform will remove DE 54 from the Authorization Request Response/0110 message before sending the message to the acquirer |
| DE 54, subfield 2 (Amount Type) is not 02 (Available Balance) | The Authorization Platform will generate an Authorization Response Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |
| DE 54, subfield 3 (Currency Code) is not a valid currency code | The Authorization Platform will generate an Authorization Response Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |
| DE 54, subfield 4 (Amount) is not C plus 12 digits or D plus 12 digits | The Authorization Platform will generate an Authorization Response Negative Acknowledgement/0190 message containing: DE 39 = 30 DE 44 = 054 |

Authorization Advice/0120—Acquirer-Generated—POS Balance Inquiry Edits

The Authorization Platform will perform the following edit on Authorization Advice/0120—Acquirer-generated messages for POS Balance Inquiry transactions.

| IF... | THEN... |
|--|--|
| The acquirer submits an Authorization Advice/0120—Acquirer-generated message containing DE 3 (Processing Code), value 30 (Balance Inquiry) | The Authorization Platform will reject the message and forward the acquirer an Authorization Advice Response/0130 message containing: DE 39 = 30 DE 44 = 003 |

Alternate Processing

POS Balance inquiry transactions are not eligible for alternate (Stand-In or alternate issuer host routing) or X-Code processing.

If the primary issuer is not available to the POS balance inquiry request, an Authorization Request Response/0110 is returned to the acquirer with DE 39 (Response Code) value 91 (Authorization System or issuer system inoperative).

Balance Inquiry—Short Message Service

The Balance Inquiry Short Message Service (SMS) provides cardholders with real-time access to their account balance information via their mobile devices.

Issuers that want to participate in the SMS Balance Service Program must complete a contract and Issuer SMS Balance Inquiry Service information form.

Issuers participating in the new SMS Balance Inquiry service will receive these balance inquiries with DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode), value 81 (PAN entry via electronic commerce, including chip).

Authorization Request/0100—Short Message Service Balance Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 30 = Balance Inquiry |
| DE 18 (Merchant Type) | M | • | M | 5969 = Mail Order/Telephone Order Providers |
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 81 = PAN entry via electronic commerce, including chip |
| DE 48 (Additional Data—Private Use), subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator) | M | • | M | zero |

Balance Inquiry—Mobile Remote Payments Program

The Balance Inquiry—Mobile Remote Payments Program provides cardholders participating in the program with access to their account balance information by an application on their mobile device.

Issuers participating in the Mobile Remote Payments Program will receive these balance inquiries with DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode), value 82 (PAN auto entry via server).

Authorization Request/0100—Mobile Remote Payments Program Balance Inquiry

Following is a list of data elements and value applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), Subfield 1 (Cardholder Transaction Type Code) | M | • | M | Must be 30xx00 |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero |
| DE 18 (Merchant Type) | M | • | M | Must be a value other than 6010 (Member Financial Institution— Manual Cash Disbursements) 6011 (Member Financial Institution— Automated Cash Disbursements) |
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | Must be 82 (PAN Auto Entry via Server [issuer, acquirer, or third party vendor system]) |
| DE 41 (Card Acceptor Terminal ID) | M | • | M | Must contain terminal ID at the card acceptor location |
| DE 43 (Card Acceptor Name/Location) by the cardholder | M | • | M | Must contain name and location of the card acceptor as known |
| DE 48 (Additional Data—Private Use), subelement 48 (Mobile Remote Payments Program Indicators), subfield 1 (Remote Payments Program Type Identifier) | M | • | M | Must be 1 (Issuer domain) or 2 (Acquirer Domain) |
| DE 48 (Additional Data—Private Use), subelement 48 (Mobile Remote Payments Program Indicators), subfield 2 (Mastercard Mobile Remote Payment Transaction Types) | M | • | M | Must be valid value 1–9. |

Chip-Specific Value Constraints

The Authorization Platform supports the authorization of chip transactions—transactions generated using an integrated circuit card (ICC).

Acquirers may choose to acquire chip-related data in one of the two modes

- Chip Partial Grade mode
- Chip Full Grade mode

The content of chip-related Authorization Request/0100 messages will vary, depending on the mode used. Issuers of ICCs must be able to accept authorization requests in either mode.

Chip Partial Grade Value Constraints

Following is a list of specific data elements and data element values required in the Authorization Request/0100 message for a chip partial grade transaction.

| DE 22, subfield 1 | DE 22, subfield 1 value | DE 35 | DE 52 and DE 23 |
|--------------------------|--------------------------------|--|------------------------|
| Offline PIN | 05 | ICC data as EMV tag 57 (Track 2 Equivalent Data) | Not provided |
| Online PIN | | | Must be provided |
| Signature | | | Not provided |
| No CVM | | | Not provided |

| Data Element | Requirements |
|---------------------|---|
| DE 22 | <p>For chip transactions, acquirers must provide value 05x.</p> <p>For a chip transaction where the magnetic stripe was used as a fallback technology, acquirers must provide the value 80x. In this case, acquirers must provide the full, unaltered track data.</p> <p>For a chip transaction where manual PAN entry was used as a fallback technology, acquirers may provide the value 79x.</p> |
| DE 23 | <p>The card sequence number may now be provided in chip partial grade transactions where DE 55 is not present. DE 23 must be provided if EMV tag 5F34 (Application PAN Sequence Number) is present on the ICC.</p> |
| DE 35 | <p>The ICC data as EMV tag 57 (Track 2 Equivalent Data). This data corresponds with the data stored in Track 2 of the magnetic stripe.</p> <p>For chip transactions, acquirers must provide DE 35 EMV tag 57 if the data object was present on the ICC.</p> <p>For a chip transaction where the magnetic stripe was used as a fallback technology, DE 35 must contain the actual Track 1 or Track 2 data from the magnetic stripe, or in the case of Maestro the actual Track 2 data because only Track 2 is present on the card.</p> |

| Data Element | Requirements |
|--------------|--|
| DE 52 | DE 52 must be provided if the Cardholder verification method was Online PIN. |

Chip Full Grade Value Constraints

This mode is for acquirers who accept chip transactions and whose infrastructure allows them to provide chip-specific data. Acquirers operating in this mode must comply with all chip partial grade requirements and the chip full grade requirements.

| Data Element | Requirements |
|--------------|---|
| DE 23 | DE 23 must be provided if EMV tag 5F34 is present on the ICC. |
| DE 35 | <p>The ICC data as EMV tag 57 (Track 2 Equivalent Data). This data corresponds with the data stored in Track 2 of the magnetic stripe.</p> <p>For chip transactions, acquirers must provide DE 35 EMV tag 57 if the data object was present on the ICC.</p> <p>For a chip transaction where the magnetic stripe was used as a fallback technology, DE 35 must contain the actual Track 1 or Track 2 data from the magnetic stripe, or in the case of Maestro the actual Track 2 data because only Track 2 is present on the card.</p> |
| DE 37 | DE 37, subfield 2 contains the value of "Transaction Sequence Counter" (EMV Tag 9F41), right-justified, left-padded with zeros. |
| DE 52 | DE 52 must be provided if the CVM is Online PIN. |
| DE 55 | DE 55 must be provided as specified in the Message Layouts. DE 55 must be TLV encoded and must contain the information (mandatory and optional) as specified in the Data Element Definitions. |
| DE 125 | Acquirers must provide DE 125 for PIN change transactions where DE 52 also must be present. |

Contact and Contactless Chip Specific Value Constraints

Following is the usage of DE 61, subfield 11 in conjunction with DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PIN Entry Mode). DE 22, subfield 1 values indicate the method by which the PAN was entered into the interchange system.

| Values | |
|---------------|---|
| 3 | = Contactless M/Chip (Proximity Chip) Value 3 indicates that the terminal supports contactless M/Chip and contactless magnetic stripe transactions. The terminal may also support other card input types, including contact transactions. DE 22, subfield 1 applicable values: <ul style="list-style-type: none">• 07 (PAN auto-entry via contactless M/Chip)• 91 (PAN auto-entry via contactless magnetic stripe) |
| 4 | = Contactless Magnetic Stripe (Proximity Chip) only Value 4 indicates that the terminal supports contactless magnetic stripe transactions. The terminal may also support other card input types, including contact transactions. DE 22, subfield 1 applicable value: <ul style="list-style-type: none">• 91 (PAN auto-entry via contactless magnetic stripe) |
| 5 | = EMV specification (compatible chip reader) and magnetic stripe reader. DE 22, subfield 1 applicable values: <ul style="list-style-type: none">• 05 (PAN auto-entry via chip)• 79 (Hybrid terminal with an online connection to acquirer failed in sending chip to magnetic stripe fallback or reading the chip card)• 80 (Chip card at chip-capable terminal was unable to process transaction; therefore, terminal defaulted to the magstripe-read PAN)• 90 (PAN auto-entry via magnetic stripe-track data is required) |
| 8 | = EMV specification (compatible chip reader), magnetic stripe reader and key entry. DE 22, subfield 1 applicable values: <ul style="list-style-type: none">• 01 (PAN manual entry)• 05 (PAN auto-entry via chip)• 79 (Hybrid terminal with an online connection to acquirer failed in sending chip to magstripe fallback or reading the chip card)• 80 (Chip card at chip-capable terminal was unable to process transaction using data on the chip)• 90 (PAN auto-entry via magnetic stripe-track data is required) |
| 9 | = EMV specification (compatible chip reader) only DE 22, subfield 1 applicable value: <ul style="list-style-type: none">• 05 (PAN auto-entry via chip) |

Canada Region Debit Mastercard Merchant Acceptance

The Dual Message System (Authorization) allows the issuance of the Debit Mastercard® brand by Canada region issuers and allows Canada region merchants to accept domestically issued Debit Mastercard cards.

The Authorization Platform prevents the accidental acceptance of Canada region-issued Debit Mastercard cards and allows issuers to issue Debit Mastercard cards either as stand-alone cards or as cards bearing other acceptance marks.

Acquirers

Canada region acquirers that have established an agreement with their merchants to process Debit Mastercard transactions must support DE 48 (Additional Data—Private Use), subelement 18 (Service Parameters), subfield 01 (Canada Domestic Indicator) and DE 39 (Response Code), value 81 (Domestic Debit Transaction Not Allowed).

For merchants that accept Canada region-issued Debit Mastercard cards, acquirers in Canada must:

- Include DE 48, subelement 18 (Service Parameters) in the Authorization Request/0100 message indicating the merchant has agreed to process Debit Mastercard.
- Support DE 39, response code value 81 (Domestic Debit Transaction Not Allowed) in the Authorization Request Response/0110 message indicating a transaction has been declined.

Issuers

Canada region issuers that choose to issue new Debit Mastercard cards must notify Mastercard Customer Implementation Services (CIS) if the account ranges bear other acceptance marks.

Issuers in Canada must:

- Notify Customer Implementation Services (CIS):
 - When the Debit Mastercard BIN being implemented will bear other acceptance marks.
 - The point-of-interaction (POI) environments (face-to-face or non-face-to-face) in which other acceptance marks will exist.
- Ensure Debit Mastercard cards comply with the Canada Region chapter in *Mastercard Rules*.
- Immediately notify Mastercard through CIS of any change in the account ranges affecting compliance with Mastercard Rules.

Authorization Platform Edits

The Authorization Platform will perform the following edits on transactions that are acquired in Canada and on a card issued in Canada and the acceptance brand of that card is Debit Mastercard.

For transactions with a Canada region-issued Debit Mastercard card that bears other acceptance marks with international only Debit Mastercard routing.

| WHEN... | THEN...the Authorization Platform |
|---|---|
| The country code of the merchant in DE 61 (Point-of-Service [POS] Data), subfield 13 (POS Country Code) is the same as the issuer | Rejects the transaction where DE 39 (Response Code) = 81 (Domestic Debit Tran Not Allowed). |

For transactions with a Canada region-issued Debit Mastercard card bearing other acceptance marks with only domestic face-to-face functionality for the other acceptance marks on the card.

| WHEN... | THEN...the Authorization Platform |
|--|---|
| <ul style="list-style-type: none">The country code of the merchant in DE 61 (Point-of-Service [POS] Data), subfield 13 (POS Country Code) is the same as the issuerDE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) is value 00 (Purchase), 09 (Purchase with Cash Back), or 28 (Payment Transaction)DE 61, subfield 4 (POS Cardholder Presence) is value 0 (Cardholder present) or value 1 (Cardholder not present, unspecified) | Rejects the transaction where DE 39 (Response Code) = 81 (Domestic Debit Tran Not Allowed). |

For transactions with a Canada region-issued Debit Mastercard card bearing other acceptance marks with domestic non-face-to-face functionality for the other acceptance marks on the card.

| WHEN... | THEN...the Authorization Platform |
|--|---|
| <ul style="list-style-type: none"> The country code of the merchant in DE 61 (Point-of-Service [POS] Data), subfield 13 (POS Country Code) is the same as the issuer DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) is value 00 (Purchase), 09 (Purchase with Cash Back), or 28 (Payment Transaction) DE 61, subfield 4 (POS Cardholder Presence) is value 2 (Mail/facsimile order), 3 (Phone/ARU order), 4 (Standing order/recurring transactions), or 5 (Electronic order [home PC, Internet, mobile phone, PDA]) DE 48 (Additional Data—Private Use), subelement 18 (Service Parameters), subfield 1 (Canada Domestic Indicator) is not present or is value other than Y | Rejects the transaction where DE 39 (Response Code) = 81 (Domestic Debit Tran Not Allowed). |

For transactions with a Canada region-issued Debit Mastercard card not containing other acceptance marks.

| WHEN... | THEN...the Authorization Platform |
|--|---|
| <ul style="list-style-type: none"> The country code of the merchant in DE 61 (Point-of-Service [POS] Data), subfield 13 (POS Country Code) is the same as the issuer DE 48 (Additional Data—Private Use), subelement 18 (Service Parameters), subfield 1 (Canada Domestic Indicator) is not present or is a value other than Y | Rejects the transaction where DE 39 (Response Code) = 81 (Domestic Debit Tran Not Allowed). |

Cardholder Authentication Service

Mastercard offers the capability to indicate the result of biometric authentication to global customers. The Cardholder Authentication Service is an optional service for issuers.

Overview

To help reduce identity fraud, Mastercard has expanded the capability to indicate the result of biometric verification to global issuers participating in the Cardholder Authentication Service.

The authentication indicator (in association with Biometric Card solution) indicates that the cardholder:

- Is the user of the card; and
- Was present at the time of the transaction.

The Cardholder Authentication Service is an optional service that helps participating issuers reduce fraud and increase approvals through biometric verification of the cardholder's identity. With the Cardholder Authentication Service, participating issuers are notified when a transaction is successfully authenticated through the verification of a cardholder's biological trait—such as a thumbprint—with a biometric-enabled card.

Data Requirements

Mastercard will populate the indicator in DE 48 (Additional Data—Private Use), subelement 17 (Authentication Indicator) based on the presence of the biometric authentication result values in DE 55 (Integrated Circuit Card [ICC] System-Related Data), subelement 9F10, CVR byte1, bit1 and byte2, bit2.

The biometric authentication result values available for DE 55, subelement 9F10, CVR byte1, bit1 are as follows:

- 0—Not successful
- 1—Successful

Mastercard will forward the biometric verification result indicators to the issuer in the following messages:

- Authorization Request/0100
- Authorization Advice/0120 (Acquirer-generated and System-generated)

Mastercard will only populate DE 48, subelement 17 with an authentication indicator if the biometric authentication is successful.

Acquirers

Acquirers globally must support receiving DE 48, subelement 17 in the following authorization response messages:

- Authorization Request Response/0110
- Authorization Advice Response/0130—Issuer-generated (Responding to Acquirer-generated 0120)

Issuers

In addition to the standard chip data validation processing for chip transactions, issuers that have registered for or are already participating in the Cardholder Authentication Service must verify DE 55, subelement 9F10, CVR byte1, bit1 and byte2, bit2 to use the final cardholder authentication result in DE 48, subelement 17 in the following messages:

- Authorization Request/0100
- Authorization Advice/0120 (Acquirer-generated and System-generated)

Authorization Platform Edits—Cardholder Authentication Service

The Authorization Platform will perform the following system edits related to the Cardholder Authentication Service.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Request/0100 message contains: <ul style="list-style-type: none">• DE 2 (Primary Account Number [PAN]) setup for Type 1 Authentication Service, and• DE 4 (Amount, Transaction) has a value of zero, and• DE 23 (Card Sequence Number) contains a value of 01X, and• DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and• DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10:<ul style="list-style-type: none">– CVR byte1, bit1 is present with a value other than 1 (successful), or– CVR byte2, bit2 is present with a value other than 1 (biometric). | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none">• DE 39 (Response Code) = 05 (Do not honor), and Sends the issuer an Authorization Advice/0120 message with DE 60 (Advice Reason Code): <ul style="list-style-type: none">• Subfield 1 (Advice Reason Code) value 160 (Authentication Advice to Issuer), and• Subfield 2 (Advice Detail Code) value 0078 (M/ Chip Biometric Data not present) |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Advice/0120—Acquirer-generated message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 1 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 23 (Card Sequence Number) contains a value of 01X (X can be any number from 0 to 9 inclusive), and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Advice Response/0130 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format Error), and • DE 44 (Additional Response Data) = 055 (indicating the data element in error) |
| <p>An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Request/0100 message contains:</p> <ul style="list-style-type: none"> • DE 2 (Primary Account Number [PAN]) setup for Type 2 Authentication Service, and • DE 4 (Amount, Transaction) has a value of zero, and • DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and • DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10: <ul style="list-style-type: none"> – CVR byte1, bit1 is present with a value other than 1 (successful), or – CVR byte2, bit2 is present with a value other than 1 (biometric). | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 05 (Do not honor), and <p>Sends the issuer an Authorization Advice/0120 message with DE 60 (Advice Reason Code):</p> <ul style="list-style-type: none"> • Subfield 1 (Advice Reason Code) value 160 (Authentication Advice to Issuer), and • Subfield 2 (Advice Detail Code) value 0078 (M/ Chip Biometric Data not present) |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| An Account Status Inquiry Transaction for account ranges participating in the Cardholder Authentication Service - the Authorization Advice/0120—Acquirer-generated message contains: <ul style="list-style-type: none">• DE 2 (Primary Account Number [PAN]) setup for Type 2 Authentication Service, and• DE 4 (Amount, Transaction) has a value of zero, and• DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]), and• DE 55 (Integrated Circuit Card [ICC] System-Related Data) is present and tag 9F10:<ul style="list-style-type: none">– CVR byte1, bit1 is present with a value other than 1 (successful), or– CVR byte2, bit2 is present with a value other than 1 (biometric). | Sends the acquirer an Authorization Advice Response/0130 message where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format Error), and• DE 44 (Additional Response Data) = 055 (indicating the data element in error) |

Card Validation Code 2

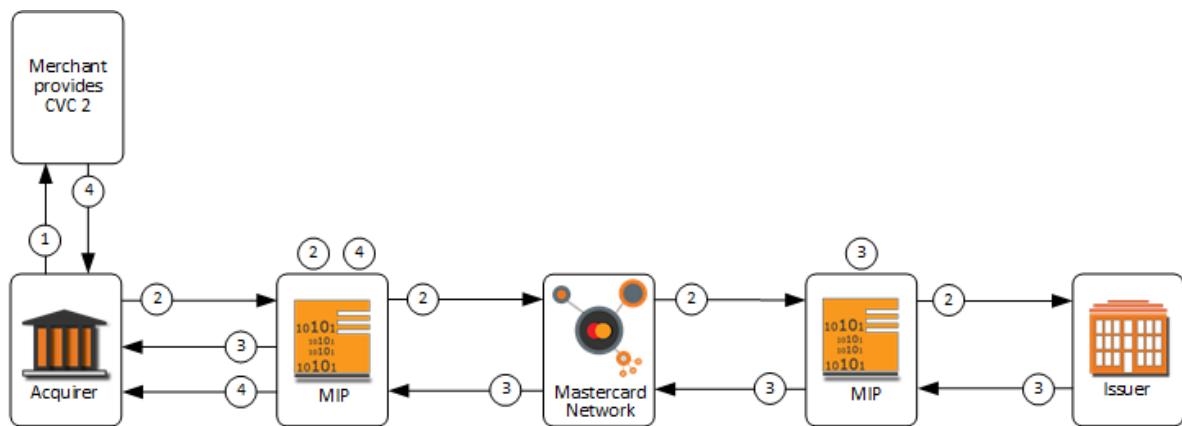
To comply with card validation code 2 (CVC 2) requirements, acquirers and issuers must process transactions according to the guidelines in this topic.

The following message flows describe authorization message processing for CVC 2 verification transaction in these scenarios:

- When the CVC 2 is verified
- When the CVC 2 is unverified (because the issuer was temporarily unable to receive the CVC 2 value)
- When the CVC 2 is processed by Stand-In
- When the CVC 2 is processed by X-Code

Authorization Request/0100—CVC 2 Verified

Following are the stages of an Authorization Request/0100—CVC2 transaction when the value is verified.

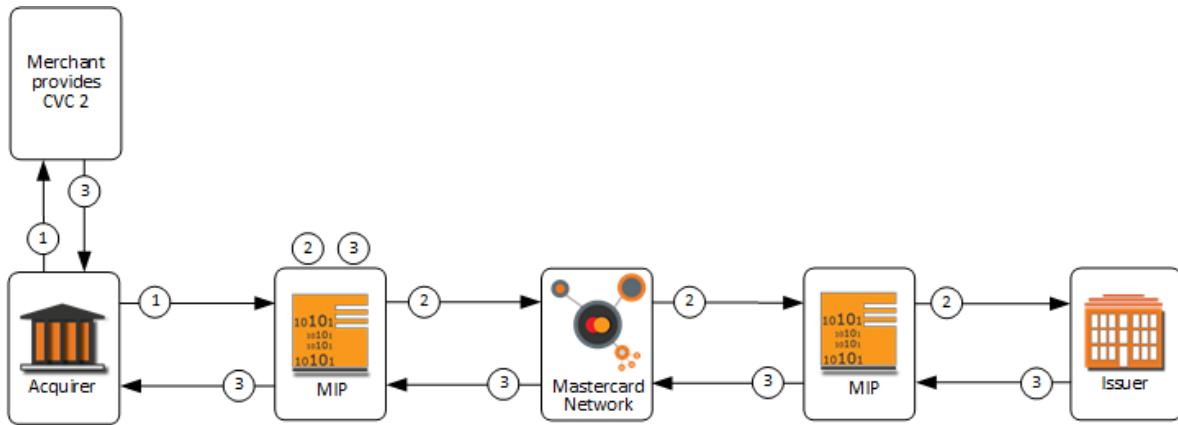


1. The merchant provides the CVC 2 value, and the acquirer generates an Authorization Request/0100 message with the CVC 2 value in DE 48, subelement 92.
2. The acquirer MIP forwards the Authorization Request/0100 message to the issuer.
3. After the issuer transmits the Authorization Request Response/0110 message, the issuer MIP verifies that one of the following values appears in DE 48, subelement 87:
 - M (Valid CVC 2—match)
 - N (Invalid CVC 2—non-match)
 - P (CVC 2 not processed—issuer temporarily unavailable)

| IF DE 48, subelement 87 contains... | transaction was... | THEN... | AND THEN... |
|--|---------------------------|--|--|
| No response or an invalid response | Not approved | The acquirer MIP forwards the Authorization Request Response/0110 message to the acquirer with DE 48, subelement 87 = P | The issuer will not receive an Authorization Response Negative Acknowledgement/0190 message. |
| No response or an invalid response | Approved | The acquirer MIP forwards the Authorization Request/0100 message to the alternate authorization service provider for processing. | The issuer will receive an Authorization Response Negative Acknowledgement/0190 message. |

Authorization Request/0100—CVC 2 Unverified

Following are the stages of an Authorization Request/0100—CVC 2 unverified transaction (issuer temporarily unable to receive the CVC 2 value).

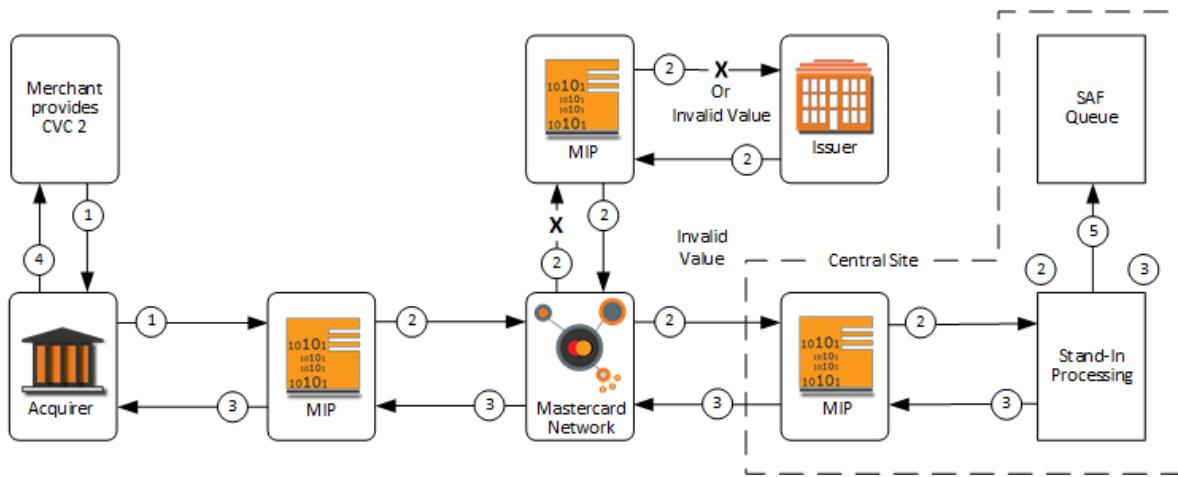


1. The merchant provides the CVC 2 value, and the acquirer generates an Authorization Request/0100 message with the CVC 2 value in DE 48, subelement 92.
2. The acquirer MIP forwards the Authorization Request/0100 message to the issuer, but the issuer is temporarily unable to receive the CVC value. The MIP forwards the Authorization Request/0100 message to the issuer without DE 48, subelement 92.
3. After the issuer transmits the Authorization Request Response/0110 message, the acquirer MIP places value U (CVC 2 unverified—Mastercard use only) in DE 48, subelement 87 and forwards it to the acquirer.

The acquirer transmits the CVC 2 response code, provided by Mastercard in DE 48, subelement 87 of the Authorization Request Response/0110 message, to the merchant. The acquirer is responsible for ensuring that the merchant receives the CVC 2 response code.

Authorization Request/0100—CVC 2 Processed by Stand-In

Following are the stages of an Authorization Request/0100—CVC 2 transaction processed by the Stand-In System.



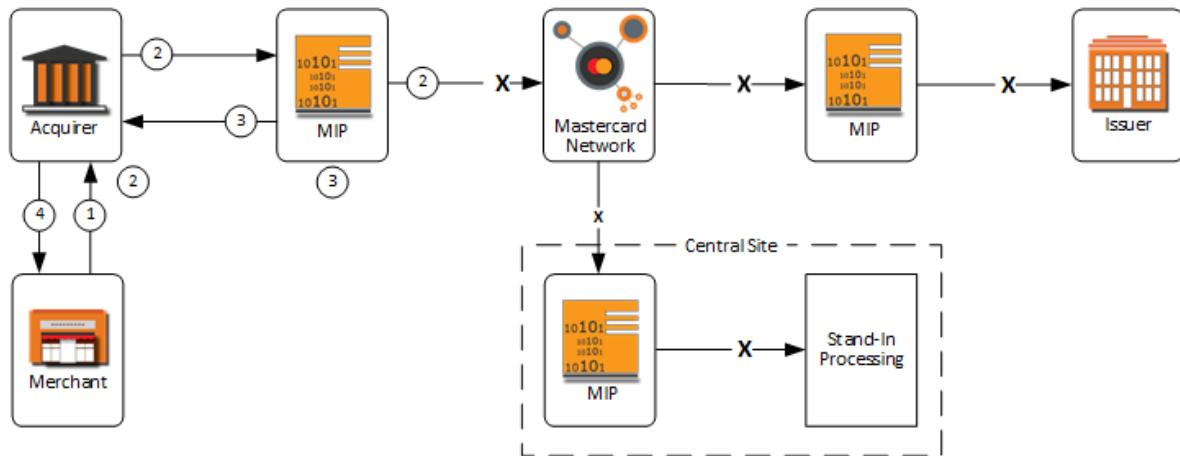
1. The merchant provides the CVC 2 value, and the acquirer generates an Authorization Request/0100 message with the CVC 2 value in DE 48, subelement 92.
2. Stand-In processing responds in the following conditions:
 - The issuer is not signed in.
 - The transaction cannot be delivered to the issuer.
 - The issuer is not responding.
 - The issuer's Authorization Request Response/0110 message fails an edit check and is rejected.
3. The Stand-In System generates the Authorization Request Response/0110 message.

| WHEN the issuer is... | THEN the Authorization Platform... |
|---|---|
| Temporarily unable to receive the CVC 2 value | Places value U (CVC 2 unverified—Mastercard use only) in DE 48, subelement 87 and forwards the Authorization Request Response/0110 message to the acquirer. |
| Temporarily unable to process the CVC 2 value | Places a P (CVC 2 not processed—issuer temporarily unavailable) in DE 48, subelement 87 and forwards the Authorization Request Response/0110 message to the acquirer. |

4. The acquirer transmits the CVC 2 response code, provided by the issuer or Mastercard in DE 48, subelement 87 of the Authorization Request Response/0110 message, to the merchant. The acquirer is responsible for ensuring that the merchant receives the CVC 2 response code.
5. The Stand-In System also generates Authorization Advice/0120 messages as appropriate and stores the advice in the Store-and-Forward (SAF) queue. The Stand-In System will include value U or P in DE 48, subelement 87 for issuers that are temporarily unavailable or otherwise unable to process the transaction.

Authorization Request/0100—CVC 2 Processed by X-Code

Following are the stages of an Authorization Request/0100—CVC 2 transaction processed by the X-Code System.



1. The merchant supplies the CVC 2 value to acquirer.
2. The acquirer creates an Authorization Request/0100 message with the CVC 2 value, but the transmission is not successful.
3. The X-Code System by the acquirer's MIP responds based on current X-Code processing rules.

| WHEN the issuer is... | THEN the Authorization Platform... |
|---|---|
| Temporarily unable to receive the CVC 2 value | Places value U (CVC 2 unverified—Mastercard use only) in DE 48, subelement 87 and forwards the Authorization Request Response/0110 message to the acquirer. |
| Temporarily unable to process the CVC 2 value | Places a P (CVC 2 not processed—issuer temporarily unavailable) in DE 48, subelement 87 and forwards the Authorization Request Response/0110 message to the acquirer. |

4. The acquirer transmits the CVC 2 response code, provided by Mastercard in DE 48, subelement 87 of the Authorization Request Response/0110 message, to the merchant. The acquirer is responsible for ensuring that the merchant receives the CVC 2 response code.
5. The Authorization Platform sends an Authorization Advice/0120 message to the issuer.

CVC 2 DE 48 Structure

The following diagram illustrates DE 48 subelements related to CVC 2 transactions.

| | | | | | | | |
|---------------------------|--------|----------|-----------------|---------|----------|--------------|-----------------------------|
| LLL | "VAR" | | | | | | |
| 3 bytes | 1 byte | 2 bytes | 2 bytes | 3 bytes | 2 bytes | 2 bytes | 1 byte |
| Total Data Element Length | TCC 92 | SE ID 03 | SE Length Value | CVC 2 | SE ID 87 | SE Length 01 | Card Validation Code Result |

Authorization Request/0100—CVC 2

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 14 (Date, Expiration) | C | • | C | Required for issuers to validate CVC 2 value |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Must contain the appropriate TCC code. |
| DE 48, subelement 87 (Card Validation Code Result) | • | X | C | If an issuer's BIN is temporarily unable to receive the CVC 2 value, the Authorization Platform inserts the following value: U = CVC 2 unverified (Mastercard use only) |
| DE 48, subelement 92 (CVC 2) | C | • | C | Must be the three-digit CVC 2 value sent by the merchant to the acquirer. |

Authorization Request Response/0110—CVC 2

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | ME | • | ME | Must be present for registered CVC 2 issuers. Must also be present for unregistered CVC 2 issuers if the issuer is providing additional subelements (such as AVS response.) Must be present for all issuers. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 48, subelement 87 (Card Validation Code Result), CVC 1 and CVC 2 | M | • | M | <p>Contains one of the following CVC 2 response codes:</p> <p>M = Valid CVC 2 (match)</p> <p>N = Invalid CVC 2 (non-match)</p> <p>P = CVC 2 not processed (issuer temporarily unavailable)</p> <p>U = Issuer unregistered to process CVC 2 unverified (Mastercard use only)</p> <p>Y = Invalid CVC 1 (only if track data is present)</p> |
| DE 48, subelement 92 (CVC 2) | CE | X | CE | Contains the CVC 2 code provided by the merchant to the acquirer. |

Card Validation Code 3

Mastercard supports card validation code 3 (CVC 3) result data in Authorization Request Response/0110 messages using DE 48, subelement 87 (Card Validation Code Result). Issuers performing CVC 3 validation in-house on contactless transactions may use these CVC 3 values. When the CVC 3 is valid, the Authorization Request Response/0110 message should not contain DE 48, subelement 87.

Authorization Request Response/0110—CVC 3 Result

Mastercard encourages issuers to include DE 48, subelement 87 when they perform CVC 3 validation and there is an issue with the CVC 3. When the CVC 3 is not valid, the issuer should send the acquirer the Authorization Request Response/0110 message containing CVC 3 result data. Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48 (Additional Data—Private use), subelement 87 (Card Validation Code Result) | C | • | C | <p>E = Length of unpredictable number was not a valid length</p> <p>P = Could not be validated</p> <p>Y = Invalid</p> |

Contactless CVC 3 Processing Service

Mastercard provides contactless processing services to assist issuers processing contactless transactions with the validation of the Card Validation Code 3 (CVC 3) to ensure the values provided by the acquirer match the issuer's expected values.

Mastercard offers the following on-behalf services:

- **Static CVC 3 Pre-validation Service**—The Static CVC 3 Pre-validation service is an optional, stand-alone service for issuers with authorization systems that do not support static CVC 3 validation. The Static CVC 3 Pre-validation Service uses the CVC 1 algorithm and key type. The Contactless Mapping Service may be used with the Static CVC 3 Pre-validation Service.
- **Static CVC 3 Validation in Stand-In Processing Service**—This is an optional service for issuers with contactless-enabled authorization systems that support static CVC 3 validation using the CVC 1 algorithm and key type that would like Mastercard to provide static CVC 3 validation when the issuer is not available and the transaction is processed by the Stand-In System.

Mastercard will perform the static CVC 3 validation on behalf of the issuer before forwarding the Authorization Request/0100 message. If the issuer is unavailable, Mastercard will consider the results of the static CVC 3 validation when the transaction is processed by the Stand-In System.

- **Dynamic CVC 3 Pre-validation Service**—This is an optional stand-alone service for issuers with contactless-enabled authorization systems that do not support dynamic CVC 3 validation. The Contactless Mapping Service may be used with the Dynamic CVC 3 Pre-validation Service.

Mastercard will perform the dynamic CVC 3 validation on behalf of the issuer before forwarding the Authorization Request/0100 message. If the issuer is unavailable, Mastercard will consider the results of the dynamic CVC 3 validation when the transaction is processed by the Stand-In System.

- **Dynamic CVC 3 Validation in Stand-In Processing Service**—This is an optional service for issuers with contactless-enabled authorization systems that support dynamic CVC 3 validation in-house that would like Mastercard to provide dynamic CVC 3 validation when the issuer is not available and the transaction is processed by the Stand-In System.

**NOTE: In conjunction with the revised standards for contactless, effective 1 July 2007
Mastercard no longer offers the Static CVC 3 Pre-validation Service, but continues to support
the Static CVC 3 Validation in Stand-In Service.**

The Contactless Mapping Service is for issuers with non-contactless-enabled authorization systems that are not able to support the processing of a separate contactless account number and the validation of dynamic CVC 3 value.

Participation in any CVC 3 on-behalf service or services is defined by account range. Validation will be facilitated by information the issuer provides to Mastercard. Issuers will be requested to provide confidential key data to Mastercard that will be critical in the validation process (unless

Mastercard arranges for devices to be sent to cardholders on behalf of issuers). For information about the CVC 3 on-behalf services and how to participate, refer to the *Authorization Manual*.

Authorization Request/0100—CVC 3

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

The Authorization Request/0100 message will contain CVC 3 values in DE 45 (Track 1 Data) or DE 35 (Track 2 Data) following the configuration provided by the issuer. The Mastercard contactless account number is entered via contactless magnetic stripe where DE 22 (Point of Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) is 91.

Mastercard will apply the appropriate algorithm to DE 45 or DE 35 using the parameter data provided by the issuer to determine the validity of the CVC 3.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 22 (Point of Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 91 = PAN auto-entry via contactless magnetic stripe—the full track data has been read from the data on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. The Mastercard contactless account number is entered via contactless magnetic stripe. |
| DE 35 (Track 2 Data) | C | • | C | Contains CVC 3 values following the configuration by the issuer. |
| DE 45 (Track 1 Data) | C | • | C | Contains CVC 3 values following the configuration by the issuer. |
| DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 1 (On-behalf [OB] Service) | M | • | M | 13 = Static CVC 3 Validation in Stand-In Processing 15 = Dynamic CVC 3 Pre-validation (with or without Contactless Mapping Service) 16 = Dynamic CVC 3 Validation in Stand-In Processing |
| DE 48, subelement 71, subfield 2 (On-behalf [OB] Result 1) when subfield 1 contains value 12 or 13 | M | • | M | I = Invalid U = Unable to process V = Valid |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48, subelement 71, subfield 2 when subfield 1 contains value 15 or 16 | M | • | M | <p>A = ATC outside allowed range (applicable when ATC value is dynamic [varying value])</p> <p>E = CVC 3 ATC Replay</p> <p>I = Invalid</p> <p>N = Unpredictable Number Mismatch (applicable when the UN is dynamic [varying value]). (Indicates that the number/length in the discretionary data in DE 45 or DE 35 does not match the number/length provided by the issuer during personalization.)</p> <p>U = Unable to process</p> <p>V = Valid</p> |
| DE 48, subelement 71, subfield 3 (On-behalf [OB] Result 2) | M | • | M | This subfield is for Mastercard use only. |

Dynamic CVC 3 Application Transaction Counter (ATC) Processing

The ATC is used in the calculation of the dynamic CVC 3 cryptogram. The ATC counter value is managed by the chip on a contactless card that increments with every authorization request that occurs at a contactless-enabled terminal.

The Authorization Platform supports DE 48, subelement 71 (On-behalf Service), subfield 2 (On-behalf [OB] Result 1), value E (CVC 3 ATC Replay) in the Authorization Request/0100 message to indicate to the issuer that the ATC value has been used in a previous transaction.

When the result of Dynamic CVC 3 validation in DE 48, subelement 71, subfield 2 is V (Valid) or A (ATC outside allowed range), the Authorization Platform compares the transaction's ATC value to the stored list of ATC values for each contactless account number/sequence number/expiration date combination.

If the ATC used in validating the CVC 3 value is not in the stored list of ATC values, the Authorization Platform adds the transaction's five-digit ATC value to the stored list of ATC values.

If the ATC used in validating the CVC 3 value is in the stored list of ATC values, the Authorization Platform replaces DE 48, subelement 71, subfield 2, value V or A with value E in the Authorization Request/0100 message to the issuer. The Authorization Platform does not add the transaction's ATC again to the stored list of ATC values.

Replacing the DE 48, subelement 71, subfield 2 value V or A, with value E does not affect any data contained in the message that supports value V or A. For example, DE 48, subelement 34 supports value A, but remains unchanged if value E replaces DE 48, subelement 71, subfield 2, value A.

The Authorization Platform populates DE 48, subelement 87 (Card Validation Code Result) value Y (Invalid) in the Authorization Request Response/0110 message to the acquirer.

NOTE: The Authorization Platform only adds to the list of stored ATC values for transactions that have been processed online through the Mastercard Authorization Platform. ATC values for transactions processed offline are not available for the Authorization Platform to use in CVC 3 ATC replay processing.

Dynamic CVC 3 Application Transaction Counter (ATC) Information

DE 48, subelement 34 (Dynamic CVC 3 ATC Information) provides issuers with information about the ATC value derived for use in dynamic CVC 3 validation processing.

DE 48, subelement 34 will be conditionally present in Authorization Request/0100 messages and Authorization Advice/0120—System-generated messages when the issuer participates in the Dynamic CVC 3 Pre-validation service or the Dynamic CVC 3 Validation in Stand-In Processing service.

The Authorization Platform will provide DE 48, subelement 34 when the Dynamic CVC Pre-validation service or the Dynamic CVC 3 Validation in Stand-In Processing service is performed and validation results in DE 48, subelement 71 (On-behalf Services), subfield 2 (On-behalf [OB] Result 1) contain the value A (ATC outside allowed range), E (CVC 3 ATC Replay), or V (Valid). DE 48, subelement 34 also may be sent as part of the Contactless Mapping service if implemented with Dynamic CVC 3 Pre-validation.

When responding to the Authorization Request/0100 message, issuers should consider the results of the CVC 3 validation in DE 48, subelement 71, subfield 2 and DE 48, subelement 34 (if present).

MCC109 (Application Transaction Counter File)

The MCC109 (Application Transaction Counter [ATC] file) contains a range of ATC values for a contactless account number/card sequence number/expiration date combination for contactless cards that were personalized using dynamic values in the ATC and unpredictable number (UN). Issuers participating in the Dynamic CVC 3 Pre-validation service or the Dynamic CVC 3 Validation in Stand-In Processing service may provide this file to Mastercard. Issuers may only add to or inquire about this file.

Mastercard supports entry of the ATC data in DE 101 (File Name), value (MCC109) via the following methods:

- Issuer File Update/0302 messages
- Bulk file request (R311)
- Mastercard eService

MCC109 (Application Transaction Counter [ATC] File) maintenance requests submitted via the Issuer File Update Request/0302 message or Mastercard eService are applied immediately.

Maintenance requests submitted by bulk file are applied one time per day at 18:00 St. Louis, MO, USA time.

NOTE: This functionality does not apply to contactless cards and devices that were personalized to send zeros in the ATC and UN.

Authorization Platform Edits

The Authorization Platform performs the following edits on Issuer File Update Request/0302 messages when DE 101 (File Name) contains value MCC109 and DE 120 (Record File Layout) contains the layout for the contactless ATC File.

| Field ID and Name | Authorization Edit |
|---|--|
| 1 Contactless Account Number | <ul style="list-style-type: none">• Contactless account number must be present• Contactless account number is numeric• Contactless account number prefix is valid• Contactless account number check digit is correct• Contactless account number required in the Application Transaction Counter (ATC) File (MCC109) for additions and inquiries |
| 2 Card Sequence Number | <ul style="list-style-type: none">• Card sequence number must be present• Card sequence number is numeric• Value may be zero• Card sequence number is required in the ATC File (MCC109) for additions and inquiries |
| 3 Contactless Account Expiration Date | <ul style="list-style-type: none">• Contactless Account Expiration Date is valid YYMM format• Contactless Account Expiration Date is required in the ATC File (MCC109) for additions and inquiries |
| 4 Contactless Application Transaction Counter (ATC) Value | <ul style="list-style-type: none">• Contactless ATC is numeric (may be zero)• Contactless ATC is required in the ATC File (MCC109) for a additions and inquiries |

NOTE: Fields 1 through 3 are mandatory for an inquiry. Fields 1 through 4 are mandatory for an add.

Card Validation Code Result

The acquirer will receive DE 48, subelement 87 when the CVC 3 validation result was not valid.

Acquirers may receive the following:

- Y = Indicates the ATC was determined to be outside the allowed range specified by the issuer, the ATC was determined to be a replay, or the CVC 3 value was determined to be invalid.
- E = Indicates the length of the unpredictable number was not a valid length resulting in an Unpredictable Number (UN) that was not valid.

- P = Indicates Mastercard was unable to process the CVC 3 validation.

If the CVC 3 data is valid, the Authorization Platform will not include DE 48, subelement 87 in the Authorization Request Response/0110 message to the acquirer.

The issuer will receive the Authorization Advice/0120 message, DE 48, subelement 87 when CVC 3 was invalid in the Authorization Request/0100 message.

Optional Non-valid CVC 3 Processing

Issuers may elect to have the Authorization Platform respond to Authorization Request/0100 messages on their behalf when the CVC 3 value is not valid. The issuer will receive an Authorization Advice/0120—System-generated message when the Authorization Platform responds.

For information about how to participate, refer to the *PayPass On-behalf Services Guide*.

The following table describes the process that occurs when the issuer wants the Authorization Platform to respond to Authorization Request/0100 messages on its behalf during CVC 3 validation.

| WHEN the CVC 3 validation results contain a value of... | THEN the Authorization Platform... |
|---|---|
| A, E, I, N, or U | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 = 05 (Do not honor)• DE 48, subelement 87 = E, P, or Y <p>Generates an Authorization Advice/0120 message to the issuer containing:</p> <ul style="list-style-type: none">• DE 39, value 05 (Do not honor)• DE 48, subelement 34 (if created)• DE 48, subelement 71 with the appropriate values• DE 48, subelement 87, value E, P, or Y• DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), value 115 (Transaction processed via MIP On-behalf Service Decision)• DE 60, subfield 2 (Advice Detail Code), one of the following values:<ul style="list-style-type: none">– 0042 (CVC 3 Unable to process)– 0043 (CVC 3 ATC outside allowed range)– 0044 (CVC 3 Invalid)– 0045 (CVC 3 Unpredictable number mismatch)– 0046 (CVC 3 ATC Replay) |

| WHEN the CVC 3 validation results contain a value of... | THEN the Authorization Platform... |
|--|--|
| V | Forwards the Authorization Request/0100 to the issuer for processing |

ATC Data Extract File

Mastercard provides the ability for issuers participating in the Dynamic CVC 3 On-behalf services to optionally request a file containing all ATCs that Mastercard is currently storing for each contactless account number/card sequence number/expiration date combination within a requested account range(s). Issuers that want to perform their own dynamic CVC 3 validation processing can use this ATC information to provide the foundation for an initial repository of ATCs. Issuers can request the ATC data by individual account range(s) or for all account ranges within an ICA.

Issuers that want to obtain this information must contact their Global Customer Service representative for a one time initial setup for this file. Then, each time the issuer wants to receive the current list of ATCs on file, the issuer must submit an ATC Data File Request for this information using bulk type RH51 (test bulk type RH53). The ATC Data File Outbound delivered to the issuer will be bulk type TM44 (test bulk type TM46).

Reference the *Account Management System User Manual* for the layout of this file.

Alternate Processing

Mastercard supports issuers subscribing to the CVC 3 Pre-validation services (12, 15) that are not available to respond to the Authorization Request/0100 message and issuers subscribing to the CVC 3 Validation in Stand-In Processing service (13, 16) by responding to the authorization message on behalf of the issuer. Mastercard will consider the results of the CVC 3 validation in DE 48, subelement 71 when responding to the Authorization Request/0100.

The values in DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) are dependant upon the values contained in DE 48, subelement 71, subfield 2 (OB Result 1) as described below.

| IF DE 48, subelement 71, subfield 2 contains the value... | THEN DE 60, subfield 2 will contain... |
|--|---|
| U | 0042 (CVC 3 [Unable to process]) |
| A | 0043 (CVC 3 [ATC outside allowed range]) |
| E | 0046 (CVC 3 ATC Replay) |
| I | 0044 (CVC 3 [Invalid]) |
| N | 0045 (CVC 3 [Unpredictable number mismatch]) |

MIP X-Code processing does not perform CVC 3 validation. MIP X-Code processing will respond based on the type of transaction and the MIP X-Code limits defined.

Contactless Mapping Service for Contactless M/Chip and Contact M/Chip Transactions

The Contactless Mapping Service will be performed for participating account ranges when DE 22, subfield 1 contains value 05 (PAN auto-entry via chip) or value 07 (PAN auto-entry via contactless M/Chip). The Contactless Mapping Service will replace values 05 and 07 with values 06 and 08, respectively, before forwarding the message to the issuer.

Issuers that participate in the Contactless Mapping Service and that issue contactless M/Chip or contact M/Chip cards must be prepared to receive transactions containing new values 06 and 08 in DE 22, subfield 1.

Issuers will not return these new values in the corresponding response messages to acquirers.

Contactless Mapping Service Processing of Contactless M/Chip and Contact M/Chip Transactions

The following process describes how the Authorization Platform processes Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, and Reversal Request/0400 messages for Contactless Mapping Service transactions.

| WHEN the message contains... | THEN the Authorization Platform... |
|--|---|
| DE 22, subfield 1, value 05 (PAN auto-entry via chip) and The Contactless Mapping Service was performed on the transaction | Changes the value in DE 22, subfield 1 from 05 to 06, indicating that the Contactless Mapping Service occurred. |
| DE 22, subfield 1, value 07 (PAN auto-entry via contactless M/Chip) and The Contactless Mapping Service was performed on the transaction | Changes the value in DE 22, subfield 1 from 07 to 08, indicating that the Contactless Mapping Service occurred. |

The Contactless Mapping Service occurs on Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, and Reversal Request/0400 messages. The following example describes the Contactless Mapping Service being performed on an Authorization Request/0100 message.

Stages describing the process that occurs when an Authorization Request/0100 transaction is generated from a contactless M/Chip or contact M/Chip card eligible for the Contactless Mapping Service.

1. When a cardholder initiates an eligible contactless M/Chip or contact M/Chip transaction on a contactless M/Chip or contact M/Chip terminal, the contactless M/Chip PAN or contact M/Chip PAN is passed to the terminal.
2. The acquirer sends an Authorization Request/0100 message containing the contactless M/Chip PAN or contact M/Chip account number to the Authorization Platform.
3. The Authorization Platform maps the contactless M/Chip or contact M/Chip account number to the cardholder's PAN (or funding account), and then forwards the authorization message containing the following values to the issuer:
 - DE 2 (Primary Account Number [PAN]) containing the cardholder's PAN
 - DE 14 (Date, Expiration) containing the cardholder's expiry date, if provided
 - DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode), value 08 (Contactless M/Chip Contactless Mapping Service applied) or 06 (PAN auto-entry via chip Contactless Mapping Service applied)
 - DE 23 (Card Sequence Number) containing the contactless M/Chip or contact M/Chip card sequence number, if provided
 - DE 35 (Track 2 Data), if provided, is removed
 - DE 45 (Track 1 Data), if provided, is removed
 - DE 48 (Additional Data—Private Use), subelement 33 (Contactless Mapping Information) containing contactless M/Chip or contact M/Chip PAN information
 - DE 48, subelement 71 (On-behalf Services), identifying the Contactless Mapping Service and any other on-behalf services performed
 - DE 55 (Integrated Circuit Card [ICC] System-related Data), as originally sent by the terminal
4. The issuer responds with an Authorization Request Response/0110 message containing the cardholder's PAN in DE 2.
5. The Authorization Platform maps the PAN back to the contactless M/Chip or contact M/Chip account number and places the cardholder's PAN in DE 48, subelement 33, and then sends the contactless M/Chip or contact M/Chip account number in DE 2 to the acquirer.
6. The acquirer forwards the contactless M/Chip or contact M/Chip account number and other authorization response information to the contactless terminal.

The Contactless Mapping Service for contactless M/Chip and contact M/Chip transactions (DE 22, subfield 1, value 05 or 07) requires participation in the Dynamic CVC 3 Pre-validation Service unless the account range comprises M/Chip cards that have not had the magnetic stripe profile programmed.

For more information about the Mastercard Contactless Mapping Service, refer to the *PayPass On-behalf Services Guide*.

Authorization Platform Edits

The following edit will be performed on Authorization Request/0100, Authorization Advice/0120, and Reversal Request/0400 messages to enforce the current valid expiration date edit that exists for both contactless M/Chip and contact M/Chip transactions that are eligible for the Contactless Mapping Service.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The expiration date in DE 14, DE 35, or DE 45 (whichever data element is first to contain the expiration date) is expired</p> <p>and</p> <p>DE 22, subfield 1 is value 05 or 07</p> <p>and</p> <p>The account is part of an account range that participates in the Contactless Mapping Service</p> | <p>Rejects the transaction and sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 message where DE 39 (Response Code) is 54 (Expired Card).</p> |

Currency Conversion

The Authorization Platform automatically provides a currency conversion service to acquirers and issuers to allow processing of Authorization/01xx and Reversal/04xx messages in the customer's preferred currency.

Acquirers and issuers always will receive amount-related data elements in the acquirer's transaction currency and the issuer's cardholder billing currency even if they use the same currency. Acquirers and issuers have the option to receive amount-related data elements in the settlement currency (always U.S. dollars).

Customers that want to receive the currency conversion settlement amount-related data elements must complete the *Currency Conversion Parameters-Acquirer Issuer Form*. Please contact a Global Customer Service representative.

Amount-Related Data Elements in Authorization and Reversal Messages

The following table lists how acquirers and issuers will send and receive amount-related data elements in authorization and reversal messages.

| DE | Acquirer Sends | Issuer Receives | Issuer Returns | Acquirer Receives |
|-----------|------------------------------------|---|--|---|
| 4 | In acquirer's transaction currency | In acquirer's transaction currency | In acquirer's transaction currency (echo except when responding with partial approval or purchase amount only—no cash back allowed) | In acquirer's transaction currency |
| 5 | N/A | In U.S. dollars if issuer receives settlement amount-related data elements Not present if issuer does not receive settlement amount-related data elements | In U.S. dollars if issuer receives settlement amounts (echo except when responding with partial approval or purchase amount only—no cash back allowed) Not present if issuer does not receive settlement amount-related data elements | In U.S. dollars if acquirer receives settlement amount-related data elements. Not present if acquirer does not receive settlement amount-related data elements |
| 6 | N/A | In issuer's cardholder billing currency | In issuer's cardholder billing currency (echo except when responding with partial approval or purchase amount only—no cash back allowed) | In issuer's cardholder billing currency |
| 9 | N/A | Rate used to convert DE 4 amount from acquirer's transaction currency to U.S. dollars, if issuer receives settlement amount-related data elements Not present if issuer does not receive settlement amount-related data elements | Rate used to convert DE 4 amount from acquirer's transaction currency to U.S. dollars, if issuer receives amount-related data elements (echo) Not present if issuer does not receive settlement amount-related data elements | Rate used to convert DE 4 amount from the acquirer's transaction currency to U.S. dollars, if acquirer receives settlement amount-related data elements Not present if acquirer does not receive settlement amount-related data elements |

| DE | Acquirer Sends | Issuer Receives | Issuer Returns | Acquirer Receives |
|-----------|---|---|--|---|
| 10 | N/A | Rate used to convert DE 4 amount from acquirer's transaction currency to issuer's cardholder billing currency | Rate used to convert DE 4 amount from acquirer's transaction currency to issuer's cardholder billing currency (echo) | Rate used to convert DE 4 amount from acquirer's transaction currency to issuer's cardholder billing currency |
| 16 | N/A | Month and day conversion rate is effective | Month and day conversion rate is effective (echo) | Month and day conversion rate is effective |
| 28 | Acquirer's transaction currency | Acquirer's transaction currency | Acquirer's transaction currency (echo) | Acquirer's transaction currency |
| 49 | Acquirer's transaction currency code. | Acquirer's transaction currency code | Acquirer's transaction currency code (echo) | Acquirer's transaction currency code |
| 50 | N/A | Settlement currency code (840) if issuer receives settlement amount-related data elements Not present if issuer does not receive settlement amount-related data elements | Settlement currency code (840) if issuer receives settlement amount-related data elements (echo) Not present if issuer does not receive settlement amount-related data elements | Settlement currency code (840) if acquirer receives settlement amount-related data elements Not present if acquirer does not receive settlement amount-related data elements |
| 51 | N/A | Issuer's cardholder billing currency code | Issuer's cardholder billing currency code (echo) | Issuer's cardholder billing currency code |
| 54 | If applicable to the transaction, one occurrence of each amount type in acquirer's transaction currency | One occurrence of each amount type in acquirer's transaction currency One occurrence of each amount type in issuer's cardholder billing currency | If applicable to the transaction, one occurrence of each amount type in issuer's cardholder billing currency (not an echo of what the acquirer sent) | One occurrence of each amount type in acquirer's transaction currency One occurrence of each amount type in issuer's cardholder billing currency |

| DE | Acquirer Sends | Issuer Receives | Issuer Returns | Acquirer Receives |
|-----------|--|--|--------------------------------|--|
| 95 | If applicable, DE 95, subfield 1 in acquirer's transaction currency. DE 95, subfields 2–4 contain zeros | DE 95, subfield 1 in acquirer's transaction currency DE 95, subfield 2 in U.S. dollars if issuer receives settlement amount-related data elements DE 95, subfield 2 zero-filled if issuer does not receive settlement amount-related data elements DE 95, subfield 3 in issuer's cardholder billing currency DE 95, subfield 4 zero-filled | Same values as received (echo) | DE 95, subfield 1 in acquirer's transaction currency DE 95, subfield 2 in U.S. dollars if acquirer receives settlement amount-related data elements DE 95, subfield 2 zero-filled if acquirer does not receive settlement amount-related data elements DE 95, subfield 3 in issuer's cardholder billing currency DE 95, subfield 4 zero-filled |

Dual Message System Processing

The following Dual Message System processing notes apply to currency conversion processing.

If the acquirer provides DE 5, DE 6, DE 9, DE 10, DE 16, DE 50, or DE 51, the Authorization Platform will overwrite with the appropriate values in the message sent to the issuer. DE 5, DE 6, DE 9, DE 10, DE 16, DE 50, or DE 51 will be present, as defined, except when the Authorization Platform has declined an Authorization Request/0100 message and was unable to complete currency conversion processing.

If the settlement currency (U.S. dollars) is the same as the acquirer's currency, DE 5 will be the same value as in DE 4 and DE 9 will contain the value 61000000.

If the acquirer and issuer are the same currency, DE 6 will be the same value as in DE 4 and DE 10 will contain the value 61000000.

DE 54 will **not** contain additional occurrences of amount types in the settlement currency. DE 54 will only contain occurrences of amount types in U.S. dollars if it is the currency of the acquirer or issuer.

Acquirer Send MTIs in Authorization and Reversal Messages

Acquirers are required to send and receive the following data elements in authorization and reversal messages.

| DE | Note | 0100 | 0120 | 0400 |
|-----------|--|-------------|-------------|-------------|
| 4 | Acquirer's transaction currency | P | P | P |
| 5 | Always U.S. dollars | | | |
| 6 | Issuer's cardholder billing currency | | | |
| 9 | Factor used in conversion from transaction amount to settlement amount | | | |
| 10 | Factor used in conversion from transaction amount to cardholder billing amount | | | |
| 16 | Always present | | | |
| 28 | Acquirer's transaction currency | P | P | P |
| 49 | Acquirer's transaction currency code | P | P | P |
| 50 | Always 840 | | | |
| 51 | Issuer's cardholder billing currency code | | | |
| 54 | Occurrence of each amount type in acquirer's transaction currency | P | P | P |
| 54 | Occurrence of each amount type in issuer's cardholder billing currency | P | P | P |
| 95, sf 1 | Acquirer's transaction currency | | | P |
| 95, sf 2 | Always U.S. dollars if acquirer chooses to receive settlement amounts, zero fill if not selected | | | Z |
| 95, sf 3 | Issuer's cardholder billing currency | | | Z |
| 95, sf 4 | Zero fill | | | Z |

Table Key:

P under MTI = indicates that the data element will be present in that message.

X under MTI = indicates that the data element will be present if the acquirer chooses to receive settlement amount-related data elements.

Z under 0400 = indicates that if DE 95, subfield 1 is present, subfields 2–4 are zero-filled.

Acquirer Receive MTIs in Authorization and Reversal Messages

Following are the acquirer receive MTS in Authorization and Reversal messages.

| DE | Note | 0110 | 0130 | 0410 |
|-----------|---------------------------------|-------------|-------------|-------------|
| 4 | Acquirer's transaction currency | P | P | P |

| DE | Note | 0110 | 0130 | 0410 |
|-----------|--|-------------|-------------|-------------|
| 5 | Always U.S. dollars | X | X | X |
| 6 | Issuer's cardholder billing currency | P | P | P |
| 9 | Factor used in conversion from transaction amount to settlement amount | X | X | X |
| 10 | Factor used in conversion from transaction amount to cardholder billing amount | P | P | P |
| 16 | Always present | P | P | P |
| 28 | Acquirer's transaction currency | P | P | P |
| 49 | Acquirer's transaction currency code | P | P | P |
| 50 | Always 840 | X | X | X |
| 51 | Issuer's cardholder billing currency code | P | P | P |
| 54 | Occurrence of each amount type in acquirer's transaction currency | P | | |
| 54 | Occurrence of each amount type in issuer's cardholder billing currency | P | | |
| 95, sf 1 | Acquirer's transaction currency | P | P | |
| 95, sf 2 | Always U.S. dollars if acquirer chooses to receive settlement amounts, zero fill if not selected | | | X |
| 95, sf 3 | Issuer's cardholder billing currency | | | P |
| 95, sf 4 | Zero fill | | | P |

Table Key:

P under MTI = indicates that the data element will be present in that message.

X under MTI = indicates that the data element will be present if the acquirer chooses to receive settlement amount-related data elements.

Issuer Receive MTIs in Authorization and Reversal Messages

Issuers are required to receive and send the following data elements in authorization and reversal messages.

| DE | Note | 0100 | 0120 | 0130 | 0400 | 0420 | 0620 |
|-----------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 4 | Acquirer's transaction currency | P | P | P | P | P | P |
| 5 | Always U.S. dollars | X | X | P | X | X | P |
| 6 | Issuer's cardholder billing currency | P | P | P | P | P | P |

| DE | Note | 0100 | 0120 | 0130 | 0400 | 0420 | 0620 |
|-----------|--|-------------|-------------|-------------|-------------|-------------|-------------|
| 9 | Factor used in conversion from transaction amount to settlement amount | X | X | P | X | X | P |
| 10 | Factor used in conversion from transaction amount to cardholder billing amount | P | P | P | P | P | P |
| 16 | Always present | P | P | P | P | P | P |
| 28 | Acquirer's transaction currency | P | P | P | P | P | P |
| 49 | Acquirer's transaction currency code | P | P | P | P | P | P |
| 50 | Always 840 | X | X | P | X | X | P |
| 51 | Issuer's cardholder billing currency code | P | P | P | P | P | P |
| 54 | Occurrence of each amount type in acquirer's transaction currency | P | P | | P | P | P |
| 54 | Occurrence of each amount type in issuer's cardholder billing currency | P | P | | P | P | P |
| 95, sf 1 | Acquirer's transaction currency | | | | P | P | |
| 95, sf 2 | Always U.S. dollars if selected, zero fill if not selected | | | | X | X | |
| 95, sf 3 | Issuer's cardholder billing currency | | | | P | P | |
| 95, sf 4 | Zero fill | | | | P | P | |

Table Key:

P under MTI = indicates that the data element will be present in that message

X under MTI = indicates that the data element will be present if the issuer chooses to receive settlement amount-related data elements

Issuer Send MTIs in Authorization and Reversal Messages

Following are the data elements issuer send in authorization and reversal currency conversion transactions.

| DE | Note | 0110 | 0120 | 0130 | 0410 | 0430 |
|-----------|--|-------------|-------------|-------------|-------------|-------------|
| 4 | Acquirer's transaction currency | P | P | P | P | P |
| 5 | Always U.S. dollars | X | P | X | X | X |
| 6 | Issuer's cardholder billing currency | P | P | P | P | P |
| 9 | Factor used in conversion from transaction amount to settlement amount | X | P | X | X | X |

| DE | Note | 0110 | 0120 | 0130 | 0410 | 0430 |
|-----------|--|-------------|-------------|-------------|-------------|-------------|
| 10 | Factor used in conversion from transaction amount to cardholder billing amount | P | P | P | P | P |
| 16 | Always present | P | P | P | P | P |
| 28 | Acquirer's transaction currency | P | P | P | P | P |
| 49 | Acquirer's transaction currency code | P | P | P | P | P |
| 50 | Always 840 | X | P | X | X | X |
| 51 | Issuer's cardholder billing currency code | P | P | P | P | P |
| 54 | Occurrence of each amount type in acquirer's transaction currency | | P | | | |
| 54 | Occurrence of each amount type in issuer's cardholder billing currency | P | P | | | |
| 95, sf 1 | Acquirer's transaction currency | | | P | P | |
| 95, sf 2 | Always U.S. dollars if selected, zero fill if not selected | | | X | X | |
| 95, sf 3 | Issuer's cardholder billing currency | | | P | P | |
| 95, sf 4 | Zero fill | | | P | P | |

Table Key:

P under MTI = indicates that the data element will be present in that message

I under MTI = indicates that the issuer will return the data element in the response message if the issuer chooses to receive settlement amount-related data elements in the original request or advice message

Alternate Processing

Following are details regarding currency conversion in alternate processing.

Authorization Advice/0120 and Reversal Advice/0420 messages that the issuer receives through Store-and-forward (SAF) processing will always contain amount-related data elements in the acquirer's transaction currency and the issuer's cardholder billing currency.

SAF messages will contain amount-related data elements in the settlement currency (U.S. dollars) according to the issuer's preference for receiving these data elements.

Authorization Platform Edits

The Authorization Platform ensures that amount-related data elements, if present in the following response messages from the issuer, are the same values as provided in the request messages sent to the issuer.

Issuers should echo amount-related data elements in response messages as they were received in the request messages. The exception is when an issuer provides DE 39 (Response Code), value 10 (Partial approval) or 87 (Purchase amount only, no cash back allowed) in an Authorization Request Response/0110 message. When providing either of these responses, the issuer is required to provide DE 6 and DE 51 according to the specifications for partial approvals and purchase of goods or services with cash back.

| IF... | THEN the Authorization Platform... |
|---|---|
| Authorization Request Response/0110 | |
| The value in DE 39 is not 10 (Partial approval) or 87 (Purchase only, no cash back allowed), and the amount-related data elements returned by the issuer are different from the values received by the issuer | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = the data element in error |
| Reversal Request Response/0410 | |
| The amount-related data elements returned by the issuer are different from the values received by the issuer | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 where: DE 39 = 30 DE 44 = the data element in error |
| Authorization Request/0100 or Authorization Advice/0120 | |
| No occurrence of DE 54, subfield 3 (Currency Code) is equal to the currency code in DE 49 | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |
| DE 54 contains more than two occurrences of the DE 54 subfields | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |

| IF... | THEN the Authorization Platform... |
|--|---|
| DE 54 contains more than one occurrence of the DE 54 subfields for a given amount type (subfield 2) | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |
| The combined length of one occurrence of DE 54 subfields 1–4 is not equal to 20 bytes | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |
| DE 54, subfields 1–3 are not numeric | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |
| The first position in DE 54, subfield 4 is not C or D, followed by 12 numeric digits | Generates and forwards to the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 054 |
| Authorization Request Response/0110 | |
| No occurrence of DE 54, subfield 3 (Currency Code) is equal to the currency code in DE 51 | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |
| The value in DE 39 is not 10 or 87 and DE 54 contains more than two occurrences of the DE 54 subfields | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |

| IF... | THEN the Authorization Platform... |
|---|--|
| The value in DE 39 is 10 or 87 and DE 54 contains more than one occurrence of DE 54, subfield 2 (Amount Type) that is not equal to 57 (Original Amount) | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |
| DE 54 contains more than one occurrence of DE 54 subfields for a give amount type (subfield 2) | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |
| The combined length of one occurrence of DE 54 subfields 1–4 is not equal to 20 bytes | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |
| DE 54, subfields 1–3 are not numeric | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |
| The first position in DE 54, subfield 4 is not C or D, followed by 12 numeric digits | Generates and forwards to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 054 |

Electronic Commerce Processing

Electronic commerce transactions are non-face-to-face online transactions using electronic media over any public network, such as the Internet, or private network, such as an extranet. Electronic commerce processing allows transactions to be initiated from a cardholder-controlled device, such as a PC, for purchasing goods and services on the Internet.

All electronic commerce transactions must be uniquely identified by the acquirer in the authorization. This permits the issuer to assess the degree of risk associated with the

transaction and to support any processing requirements associated with interchange compliance.

The Authorization Request/0100 includes the security level indicator (in DE 48, subelement 42) that indicates the following security attributes of electronic commerce transactions:

- Security protocol, which indicates the security protocol that was used to facilitate the transaction (for example, channel encryption).
- Cardholder authentication, which indicates the method of cardholder authentication used to facilitate the transactions.
- UCAF collection indicator, which indicates both merchant UCAF readiness and inclusion of any specific authentication data in the UCAF field (DE 48, subelement 43).

Mastercard messaging requirements regarding the security of electronic commerce transactions may vary depending upon the security protocol involved in the transaction. Methods may include:

- No security protocol
- Channel encryption
- Mastercard® SecureCode™ Transaction using the Universal Cardholder Authentication Field (UCAF™)

Best Practices for E-Commerce Transactions

Mastercard provides best practices for the management of electronic commerce (e-commerce) transactions.

The following sections provide recommended processing for authorization, authorization reversal, and clearing when dealing with estimated amounts and multi-item purchases where all items may or may not be delivered or are not delivered at the same time. These best practices are intended to help guide dual message acquirers, issuers, and processors in the usage of these transactions.

Background

E-commerce authorizations are intended to reserve funds for subsequent clearing presentations once online purchases are dispatched (for example, physical items shipped or electronic content delivered). The following information may also be applied to mail order/telephone order (MOTO) (non-Travel and Entertainment [T&E]) transactions.

Guiding Principles

The following is provided as guidance for e-commerce processing. Note that unless otherwise specified, these are best practices and not mandatory:

- An approved e-commerce authorization will have only one first presentation, unless multi-clearing processing is utilized with the proper message reason codes indicating that the issuer should maintain hold of funds for subsequent presentations.

NOTE: As specified in the *Chargeback Guide*, airline ticket and installment purchases are allowed multiple first presentations against one approved authorization.

- Mastercard recommends that merchants submit reversals as soon as an adjustment to the original authorization amount is known. For additional detail about reversals, refer to the separate sections on Authorization and Preauthorization Processing Standards, Incremental Preauthorization Standards, and Reversal Processing.

NOTE: Merchants and acquirers must submit a full or partial reversal (as applicable) within seven calendar days of an original undefined authorization or final authorization request, and within 30 calendar days of an original preauthorization request. Merchants and acquirers must submit a full or partial reversal within 24 hours of transaction cancellation or of the transaction completing for an amount different from the authorized amount. Refer to Authorization and Preauthorization Processing Standards, and Incremental Preauthorization Standards for more information about revised Standards for authorizations and preauthorizations.

- Issuers must release any hold of funds once a clearing presentation has been matched (using the Trace ID in addition to other data elements) to the original e-commerce authorization, unless multi-clearing processing is utilized.
- If an e-commerce item ships late (beyond the authorization expiration date), merchants may submit a chargeback extension request message to avoid chargeback for message reason code 4808 (Authorization-Related Chargeback). If the issuer approves the extension request, the merchant will be protected from chargeback reason 4808 as long as the item ships prior to the new authorization expiration date.
- If an e-commerce item ships late and the merchant has not requested or did not receive approval of a chargeback period extension request and the authorization chargeback protection period had expired, the merchant must submit a new authorization for the item to be shipped to avoid chargeback message reason code 4808 (Authorization-Related Chargeback). The new authorization will take on the security characteristics of the original authorization within a dispute resolution.

NOTE: The best practice for extending the payment guarantee and avoiding a chargeback is to submit an incremental preauthorization to refresh the authorization date. A zero amount (USD 0) can be used in the incremental preauthorization. Without Universal Cardholder Authentication Field (UCAF™) data present, a re-authorized transaction must be presented within clearing for non-UCAF interchange (as applicable by region).

Specific Scenarios for E-Commerce Transactions

Depending on the merchant's inventory system and the nature of the item being purchased online, an e-commerce transaction may be submitted as either a preauthorization or a final authorization by card acceptors globally.

For more information about preauthorization and final authorization usage requirements, refer to Authorization and Preauthorization Processing Standards, Incremental Preauthorization Standards, and the *Transaction Processing Rules*.

The following describes the recommended processing when dealing with estimated amounts and multi-item purchases where all items may or may not be delivered or are not delivered at the same time.

| If... | Then... |
|---|---|
| The entire e-commerce purchase is canceled (for any reason) | Submit a full reversal. |
| The initial preauthorization is for an estimated amount based on anticipated sales tax, or estimated shipping weight | Submit partial reversal and present clearing if the effective amount is less than the preauthorization, or submit incremental preauthorization and present clearing if the effective amount is greater. (Merchant could also authorize and clear the difference separately, or just present clearing for the greater amount and risk possible issuer chargeback.) |
| One item within a multi-item purchase is canceled (customer cancellation or out-of-stock) | Submit a partial reversal and present clearing when the remaining items ship. Refer to the following section Alternate Processing—Canceling a Single Item. |
| The customer requests split shipment based on inventory availability, or e-commerce aggregator processes order through multiple suppliers | Refer to the following section E-Commerce Split or Partial Shipments. |

Alternate Processing—Canceling a Single Item

Issuers will release any hold of funds once a clearing presentment has been matched (using the Trace ID in addition to other data elements) to the original authorization. Accordingly, a merchant is not required to submit a partial reversal if the lower amount is processed by Mastercard clearing within 24 hours of finalization of the transaction—assuming multi-clearing processing is not utilized.

E-Commerce Split or Partial Shipments

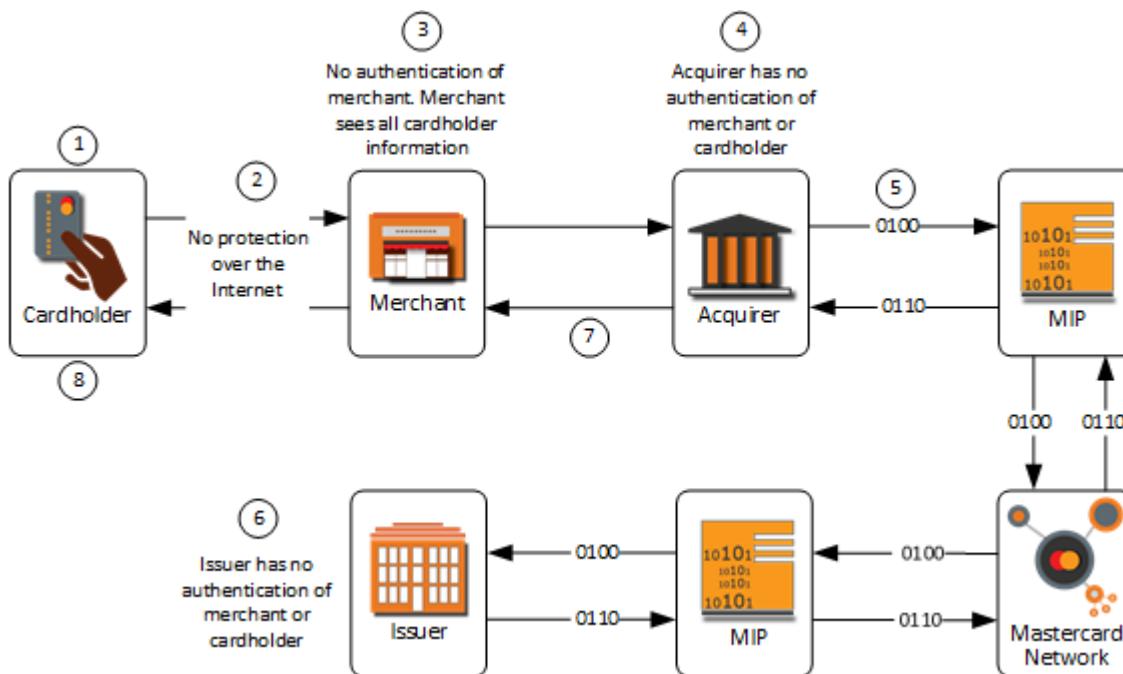
The following are options for managing e-commerce split or partial shipments.

| Available Option | Comments |
|--|--|
| Utilize multi-clearing processing with the proper partial/final presentment message reason code. | This option is the best practice for processing split shipments due to fulfillment delays or multiple suppliers. |

| Available Option | Comments |
|---|--|
| Submit partial reversal for unshipped items. Present clearing for shipped items. Separately re-authorize and clear as late items ship. | Merchant risks decline on re-authorization. (Refer to previous note about UCAF security/interchange for re-authorized transactions.) |
| Do not present clearing on a multi-item purchase until all items ship. | Merchant cash flow may be impacted due to item inventory delays. |
| Secure consumer permission to bill up front, ahead of the order shipment. Present clearing for entire order upon authorization. | Issuer inquiry or chargebacks could result if merchant billing terms and conditions are not understood. |
| Submit separate authorizations and clear as each item ships. | Each item is processed as a separate transaction. |

No Security Protocol

This message flow describes an Authorization Request/0100—Electronic Commerce transaction with no security protocol.

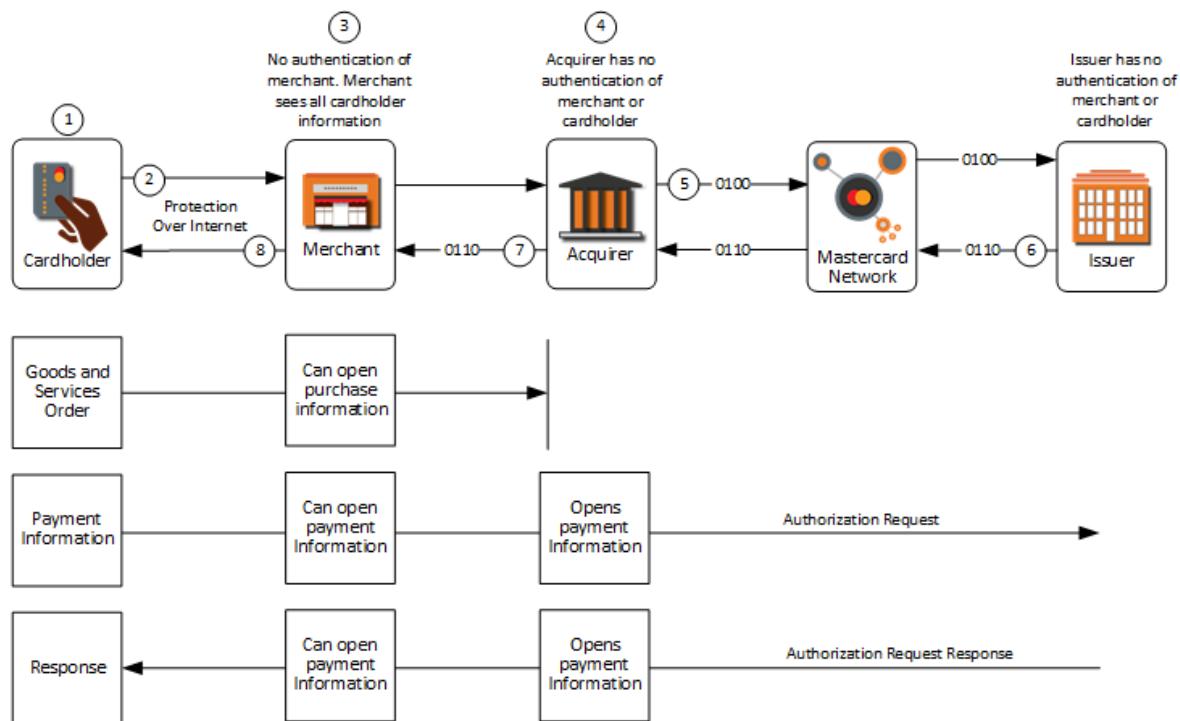


1. The cardholder browses the Internet until the cardholder is ready to make a purchase from a merchant. In this example, the cardholder does not have authentication of the merchant at any time.
2. The cardholder's browser sends the purchase and payment information over the Internet to the merchant. In this example, no security protocol protects the request.

3. The merchant receives the purchase information and has access to all of the cardholder account data that the cardholder provided (including payment information).
4. The merchant requests authorization from the acquirer.
5. The acquirer generates an Authorization Request/0100 message, including both of the following:
 - Cardholder payment data
 - Appropriate data element values that identify this as an e-commerce transaction with no security protocol and no cardholder authentication
6. The issuer receives the authorization request and generates an Authorization Request Response/0110 message.
7. The acquirer receives the Authorization Request Response/0110 message and sends the response back to the merchant.
8. The merchant provides acknowledgement to the cardholder (still unprotected as it travels over the Internet).

Channel Encryption

This message flow describes an Authorization Request/0100—Electronic Commerce transaction that uses channel encryption protocol between the cardholder and the merchant.



1. The cardholder browses the Internet until the cardholder is ready to make a purchase from a merchant.

2. The cardholder's browser, which supports channel encryption (that is, SSL), sends the purchase and payment information to the merchant. Channel encryption protects the information over the Internet.
3. The merchant receives the purchase information and has access to all of the cardholder account data that the cardholder provided.
4. The merchant requests authorization from the acquirer.
5. The acquirer generates an Authorization Request/0100 message, including both of the following:
 - The cardholder payment data
 - The appropriate data element values that identify this as an e-commerce transaction with channel encryption protocol and no cardholder authentication.
6. The issuer receives the authorization request and generates an Authorization Request Response/0110 message.
7. The acquirer receives the Authorization Request Response/0110 and sends the response back to the merchant.
8. The merchant provides acknowledgement to the cardholder (protected by channel encryption as it travels over the Internet).

NOTE: An approved e-commerce authorization must only have one first presentment submitted for clearing unless the authorization is for airline tickets or installment purchases. In the case of airline tickets and installment purchases multiple first presentments against one approve authorization is allowed.

Authorization Request/0100—Electronic Commerce Purchase

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 81 = PAN entry via electronic commerce, including chip |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Contains one of the following values: P = Payment Transaction T = Phone, Mail, or Electronic Commerce Order U = Unique X = Airline and Other Transportation Services (irrespective of the transaction origin is face to face or not) |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 48, subelement 40 (Electronic Commerce Merchant/Cardholder Certificate Serial Number [Visa Only]), subfield 1 (Merchant/Certificate Serial Number) | C | • | C | DE 48 subelement 40 is not required for any Mastercard e-commerce programs. Merchant certificate serial number in binary format |
| DE 48, subelement 40, subfield 2 (Cardholder Certificate Serial Number) | C | • | C | Cardholder certificate serial number in binary format |
| DE 48, subelement 42 (Electronic Commerce Security Level Indicator) | M | • | M | Contains security level in positions 1 and 2 and UCAF collection indicator in position 3. Position 1 = Security Protocol Position 2 = Cardholder Authentication Position 3 = UCAF Collection Indicator |
| DE 48, subelement 43 (Universal Cardholder Authentication) for Mastercard SecureCode issuer or cardholder generated authentication data | C | • | C | Authentication data generated by SecureCode-compliant solution. |
| DE 48, subelement 43 (Universal Cardholder Authentication) for static AAV program. | C | • | C | A static Accountholder Authentication Value (AAV) assigned by Mastercard for use with this Program. |
| DE 48, subelement 43 (Universal Cardholder Authentication) for 3-D Secure Electronic Commerce Verification Service (Visa and American Express) | C | • | C | Position 1 (3-D Secure Electronic Commerce Transaction Indicator) 8 = Indicates Secure Electronic Commerce Transaction Position 2–21 (3-D Secure Electronic Commerce Cardholder Authentication Verification Value [CAVV]) = Cardholder Authentication Verification Value (CAVV) |
| DE 48, subelement 44 (Electronic Commerce Transaction Identifier [XID] [Visa and American Express]) | C | • | C | Contains the 3-D Secure Electronic Commerce Transaction Identifier (XID) value in binary format. |
| DE 61 (Point-of-Service (POS) Data), subfield 3 (POS Terminal Location) | M | • | M | 2 = Off premises of card acceptor facility (cardholder terminal including home PC, mobile phone, PDA) |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 61, subfield 4 (POS Cardholder Presence) | M | • | M | <p>For a recurring payment arrangement in which the first payment is an electronic commerce transaction, use:</p> <p>4 = Standing order/recurring transactions (required for the first transaction and all subsequent transactions in a recurring payment arrangement)</p> <p>For all other e-commerce transactions use:</p> <p>5 = Electronic order (home PC, Internet, mobile phone, PDA)</p> |
| DE 61, subfield 7 (POS Transaction Status) | M | • | M | <p>Must not contain value 2 (<i>SecureCode Phone Order</i>).</p> <p>NOTE: An e-commerce transaction may be submitted as either a preauthorization (DE 61, subfield 7 value 4) or final authorization (DE 61, subfield 7, value 0 and DE 48, subelement 61, subfield 5, value 1) by card acceptors in the Europe region.</p> |
| DE 61, subfield 10 (Cardholder-Activated Terminal Level) | M | • | M | 6 = Authorized Level 6 CAT: Electronic commerce |

Authorization Request Response/0110—Electronic Commerce Purchase

When any response data is present in DE 48 (such as AVS response, CVC 2 response), the issuer uses a normal Authorization Request Response/0110, with all of the subelements present in the original Authorization Request/0100 message echoed back. Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message. |
| DE 48, subelement 40 (Electronic Commerce Merchant/Cardholder Certificate Serial Number [Visa Only]) | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message, if present. |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 48, subelement 42 (Electronic Commerce Security Level Indicator) | ME | • | ME | Must be the same value as in the original Authorization Request/0100 message. |
| DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]) | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message, if present. |
| DE 48, subelement 44 Electronic Commerce Transaction Identifier [XID] [Visa and American Express]) | CE | • | CE | Must be the same value as in the original Authorization Request/0100 message, if present. (Visa and American Express.) |
| DE 48, subelement 45 (Three-Domain (3-D) Secure Electronic Commerce Transaction Response Code [Visa and American Express]) | C | • | C | Contains the Visa 3-D Secure CAVV Results Code, if present. (Visa and American Express). |

Authorization Platform Edits

Mastercard performs the following edits on Authorization Request/0100 messages for Mastercard Electronic Card transactions.

| WHEN... | THEN The Authorization Platform... |
|---|---|
| DE 22, subfield 1 contains value 81 and DE 61, subfield 4 contains value 4 or 5 and DE 61, subfield 10 contains value 6 and DE 48, subelement 42, subfield 1, position 3 does not contain value 2 or 3 | Performs a cross edit (found in DE 61) between DE 48, subelement 42, subfield 1, position 3 and DE 61. |
| This edit passes... | Performs the existing cross-edit between DE 48, subelement 42, subfield 1, position 3 and DE 48, subelement 43 to ensure that the Authorization Request/0100 message contains the UCAF field. |
| This edit fails... | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 048 |

| WHEN... | THEN The Authorization Platform... |
|---|---|
| DE 48, subelement 42, subfield 1, position 3 contains value 1 (UCAF data collection is supported by the merchant, and UCAF data should be available [DE 48, subelement 43 should be present for Mastercard SecureCode]) | Forwards the UCAF™ data in DE 48, subelement 43, if present, to the issuer. |

Mastercard SecureCode

The Mastercard® SecureCode™ program encompasses varying solution-oriented protocols that all build upon the infrastructure requirements for channel encryption with the additional benefit of cardholder authentication. When used in conjunction with components of the Mastercard payment infrastructure, this program provides a mechanism for online merchants to potentially receive an enhanced payment guarantee similar to what retailers (non-Internet) receive with qualifying physical point-of-sale transactions.

When participating in the Mastercard SecureCode program, the UCAF data must be included in the authorization to the issuer when it is available (in DE 48, subelement 43). It is a variable length (maximum 32 characters) field with a flexible data structure that can be tailored to support the needs of issuer security and authentication approaches.

Universal Cardholder Authentication Field

The Universal Cardholder Authentication Field (UCAF) is a standard, globally interoperable method of collecting cardholder authentication data at the point of interaction.

Within the Mastercard authorization networks, UCAF is a universal, multipurpose data transport infrastructure that is used to communicate authentication information between cardholders, merchants, issuers, and acquirers. It is a variable length (maximum 32 characters) field with a flexible data structure that can be tailored to support the needs of issuer security and authentication approaches.

Accountholder Authentication Value

The Accountholder Authentication Value (AAV) is a Mastercard SecureCode-specific implementation of UCAF related to issuer authentication platforms that incorporate the Secure Payment Application (SPA) algorithm. SPA is a Mastercard security method designed to authenticate cardholders when they pay online.

AAV is generated by the issuer and presented to the merchant for placement in the authorization request upon successful authentication of the cardholder.

UCAF is used to transmit the AAV from the merchant to the issuer for authentication purposes during the authorization process.

Issuers that want to use AAV verification may implement the following AAV verification services:

- Mastercard SecureCode AAV Verification

- Mastercard SecureCode Dynamic AAV Verification in Stand-In Processing

Mastercard SecureCode AAV Verification Service

For issuers that want to have Mastercard verify the AAV before providing the Authorization Request/0100 message to the issuer, Mastercard offers AAV verification service on every authorization transaction that contains UCAF data—regardless of whether the issuer's host system is available or unavailable to respond to the Authorization Request/0100 message.

When the issuer's host system is available and after the verification process is complete, Mastercard includes in the Authorization Request/0100 message DE 48, subelement 71 (On-behalf Services) containing:

- Subfield 1 (On-behalf [OB] Service) with the value 05
- Subfield 2 (On-behalf [OB] Result 1) with the value I, U, or V

In the event that the issuer's host system is unavailable, Mastercard processes the Authorization Request/0100 message on behalf of the issuer and Stand-In processing creates an Authorization Advice/0120 (SAF) message where DE 48, subelement 71 contains:

- Subfield 1 (On-behalf [OB] Service) with the value 05
- Subfield 2 (On-behalf [OB] Result 1) with the value U
- Subfield 3 (On-behalf [OB] Result 2) value blank

Mastercard SecureCode AAV Verification service is an optional service.

Mastercard SecureCode Dynamic AAV Verification in Stand-In Processing

For issuers that want to have Mastercard verify AAV in Stand-In processing only, Mastercard offers AAV verification service for authorization transactions processed by Stand-In processing that contain AAV data in DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]) of the Authorization Request/0100 message.

Issuers that want to participate in the Mastercard SecureCode Dynamic AAV verification in Stand-In processing will provide the confidential key data for Mastercard use in the verification process. Mastercard applies an algorithm to the issuer's confidential key data, the AAV, and the issuer's PAN to determine the validity of the AAV data provided by the acquirer.

Mastercard uses DE 48, subelement 71 (On-behalf Services) in the Authorization Advice/0120 message to communicate the results of the AAV verification test to the issuer:

- Subfield 1 (On-behalf [OB] Service) contains value 06 (Mastercard SecureCode Dynamic AAV Verification Service).
- Subfield 2 (On-behalf [OB] Result 1) with the value I, U, or V
- Subfield 3 (On-behalf [OB] Result 2) is blank (space)

Mastercard SecureCode Dynamic AAV Verification in Stand-In Processing is an optional service.

For more information about *SecureCode*, including detailed transaction flows and participation requirements, refer to the *SecureCode Implementation Guides*.

Static AAV

Several Mastercard programs enable enrolled merchants that have met specific qualification criteria, to accept Mastercard or Maestro cards for electronic commerce (e-commerce) transactions without using Mastercard *SecureCode* to authenticate every transaction.

Merchants are required to perform full Mastercard *SecureCode* authentication on the first transaction they perform for any individual cardholder.

These Mastercard programs are as follows:

- Maestro Recurring Payments Program
- Mastercard Utility Payment Program
- Maestro Low Risk Merchant Program

As part of these programs, Mastercard:

- Assigns participating merchants a static Accountholder Authentication Value (AAV) for use with transactions that are processed without Mastercard *SecureCode* authentication.
- Allocates participating merchants a Mastercard Assigned ID.

Mastercard static AAV UCAF data is identified in Authorization Request/0100 messages by DE 48 (Additional Data—Private Use), subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator), value 3 (UCAF data collection is supported by the merchant, and UCAF [Mastercard assigned Static Accountholder Authentication Value] data must be present).

Acquirers must provide the Mastercard assigned merchant ID in DE 48, subelement 32 (Mastercard Assigned ID) of Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages.

The combination of static AAV data submitted in the Universal Cardholder Authentication Field (DE 48, subelement 43) and the Mastercard assigned merchant ID (DE 48, subelement 32) is unique and is verified by the Authorization Platform.

NOTE: The Mastercard *SecureCode* AAV Verification Service and Mastercard *SecureCode* Dynamic AAV Verification in Stand-In Processing will not be performed on Mastercard or Maestro e-commerce transactions that are processed under the Maestro Recurring Payments Program, the Mastercard Utility Payment Program, or the Maestro Low Risk Merchant Program. These on-behalf services will continue to be performed on Mastercard and Maestro e-commerce transactions that are authenticated using Mastercard *SecureCode*.

Forgotten Card at ATM

Forgotten card at ATM service invokes when a cardholder leaves the terminal without taking his or her card or when the cardholder cannot retrieve the card from the terminal for a technical reason. This service is available only to customers that participate in Swedish Domestic Authorization Switching Service (SASS).

Reversal Request/0400—Forgotten Card

Following is a list of the data elements and values applicable to this message type. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | Contains one of the following values: 01 = Withdrawal 30 = Balance Inquiry |
| DE 4 (Amount, Transaction) | M | • | M | Contains value zero |
| DE 48 (Additional Data—Private Use), subelement 58 (ATM Additional Data) | O | X | C | Subfield data may be present for Swedish ATMs |

NOTE: If the issuer does not support DE 48, subelement 58, the Authorization Platform will send the acquirer a Reversal Request Response/0410 message containing DE 39 (Response Code), value 57 (Transaction not permitted to issuer/cardholder).

Mastercard Scoring Services

This section describes the two Mastercard Scoring Services: Expert Monitoring Solutions (EMS) and Decision Intelligence (DI).

NOTE:

- **Issuers can only enroll with one of the Mastercard Scoring Services, EMS or DI.**
- **The same data elements support both services.**

Expert Monitoring for Issuers

This section describes Expert Monitoring for Issuers, one of several Expert Monitoring Solutions (EMS) hosted by Mastercard.

NOTE:

- **Issuers can only enroll with one of the Mastercard Scoring Services, either Expert Monitoring Solutions (EMS) or Decision Intelligence (DI).**
- **The same data elements support both services.**

Expert Monitoring for Issuers provides best-in-class transaction fraud monitoring that enables Mastercard issuers to evaluate and manage the probability of fraud in transactions at the point of interaction. As an integrated, multi-component, transaction fraud monitoring solution, Expert Monitoring for Issuers provides:

- **Network fraud monitoring** that silently scans global authorization activity, monitoring for highly abnormal activity to identify and limit fraud losses from large-scale fraud events.
- **Customized fraud rule management** utilizing individual data elements within the authorization message as well as Mastercard-defined variables to automate precise, highly variable fraud decisions during authorization and enable appropriate actions based on issuer specifications.
- **Finely-tuned fraud detection models** segmented to identify specific fraud pattern behaviors for specific products, geographies, and channels.
- **Predictive, real-time fraud scoring** during authorization that indicates the likelihood that the transaction is fraudulent.

To Participate

Issuers that want to participate in this service must complete a contract and registration form. Issuers interested in registering for this service should contact their Mastercard representative or the Mastercard Risk Solutions Team at risksolutions@Mastercard.com.

For More Information

For more information about this service, refer to the *Authorization Manual*.

Fraud Rule Manager Services for Issuers

The Fraud Rule Manager service is an optional service that allows participating issuers to publish and enact business rules specific to their portfolio of accounts. The outcome of the rules may be to introduce a Rule Adjusted Score, Rule Reason Codes, or both into the authorization message when rule criteria authorized by the issuer are met. This service may operate as a stand-alone service or in partnership with the Expert Monitoring System.

To Participate

Issuers that want to participate in this service must complete a contract and registration form. Issuers interested in registering for this service should contact their Mastercard representative or the Mastercard Risk Solutions Team at risksolutions@Mastercard.com.

For More Information

For more information about this service, refer to the *Authorization Manual*.

Mastercard Decision Intelligence

This section describes Mastercard Decision Intelligence (DI), one of the two Mastercard Scoring Services.

NOTE:

- **Issuers can only enroll with one of the Mastercard Scoring Services, Expert Monitoring Solutions (EMS) or Decision Intelligence (DI).**
- **The same data elements support both services.**

Overview

This section provides an overview of Mastercard Decision Intelligence.

Mastercard Decision Intelligence (DI) is a real-time authorization decisioning solution that applies thousands of data points and sophisticated modeling techniques to each transaction, simplifying these insights into a single transaction decision score that helps issuers to fine-tune their authorization decisions with the goal of approving genuine transactions and declining fraudulent ones.

Decision Intelligence ultimately shifts transaction decisioning from the basis of a risk score to a decision score that is based on both the fraud risk and rewards of approving a transaction. With a more comprehensive analysis of the risk and reward factors, Decision Intelligence assesses both negative and positive data points to calculate a single score that shows where the transaction falls on a scale from decline to approve—thus helping issuers authorize more transactions with confidence, increase their profitability, and improve the cardholder experience.

Decision Intelligence supports all Mastercard brands (Mastercard®, Maestro®, Cirrus®), segments (consumer, commercial), and products (credit, debit, prepaid) for transactions processed via the Mastercard Network.

How it Works

This section briefly describes how Decision Intelligence works.

The value of Decision Intelligence lies in its ability to evaluate multiple factors throughout the shopping experience to decide whether or not a transaction makes sense for a particular consumer. Decision Intelligence evaluates information about consumers, merchants, and issuers during the shopping experience to help issuers decide whether a transaction should be approved or declined.

For each transaction, Decision Intelligence assesses:

- Consumer transaction attributes based on consumer account and device information
- Transaction security based on widespread fraud monitoring, fraud rules, transaction fraud models, and profiles
- Cardholder segmentation based on insights into account spending that help define the value and engagement of the cardholder with their issuer

The resulting decision score shows the transaction on a risk-reward continuum (with a value from 0–999). A lower score signifies an excellent approvability quotient, while a higher score indicates more reasons for declining the transaction. Issuers can easily integrate the decision score into their authorization decision processes and cardholder strategies.

Issuers' Potential Benefit from Decision Intelligence

Decision Intelligence enriches and simplifies the decision management process with insights across multiple key dimensions that can potentially help issuers gain incremental business in revenue by:

- Helping increase approvals of genuine transactions without increasing their risk exposure
- Deepening consumer relationships with a more consistent, satisfying experience across shopping choices

Decision Intelligence potentially helps issuers to save money from:

- Fewer false positive or erroneous declines of genuine transactions
- Less revenue lost from fraud and chargebacks
- Improved productivity and lower costs (operational, IT, customer service, reputational, and so on) of managing fraud
- Decreased customer service costs due to more approved transactions
- Lower operational costs in capital, information technology (IT) development, and customer service by outsourcing decisioning through Mastercard's established, scalable platform

Message Specification Requirements

To limit the development impact on its customers, Decision Intelligence utilizes the pre-existing Expert Monitoring Solutions (EMS) data fields. Because many issuers or their processors already process these fields, there may not be additional development effort required to support the fields for this service.

Issuers participating in the Decision Intelligence service must support the following existing fields.

On-behalf Service (OBS)

DE 48 (Additional Data—Private Use)

- Subelement 71 (On-behalf Services)
 - Subfield 1 (On-behalf Service) with a value of 18C (Fraud Scoring Service was performed successfully)

Fraud Scoring Data

DE 48 (Additional Data—Private Use)

- Subelement 75 (Fraud Scoring Data)
 - Subfield 1 (Fraud Score) with a default value of 001
 - Subfield 2 (Score Reason Code) with a default value of 00
 - Subfield 3 (Rules Score)
 - Subfield 4 (Rules Reason Code 1)
 - Subfield 5 (Rules Reason Code 2)

Security Services Additional Data for Issuers

DE 48 (Additional Data—Private Use)

- Subelement 56 (Security Services Additional Data for Issuers)
 - Subfield 1 (Security Services Indicator)
 - Subfield 2 (Security Services Data)

To Participate

Issuers interested in participating in Decision Intelligence should contact their Mastercard account representative. To participate, issuers must complete a Service Agreement to indicate

the appropriate bank identification numbers (BINs)/account ranges to be configured for the service.

For More Information

For details on Mastercard Assurance IQ and Mastercard Authorization IQ, refer to DE 48 (Additional Data—Private Use), Subelement 56 (Security Services Additional Data for Issuers)—Valid Subfield 1 (Security Services Indicator) and Subfield 2 (Security Services Data) Value Combinations in the Data Element Definitions chapter of this manual.

Expert Monitoring Real-Time Fraud Scoring Service for Merchants

The Expert Monitoring Solutions (EMS) Real-time Fraud Scoring Service for Merchants provides participating acquirers with a real-time fraud score on U.S.-issued, dual message, card-not-present (CNP) authorization transactions.

Benefits

The Expert Monitoring Real-time Fraud Scoring Service for Merchants provides the following benefits:

- Provides CNP merchants with a real-time behavior-based fraud score at the time of transaction authorization
- Delivers a predictive fraud score on Mastercard transactions to merchants within the authorization response message
- Uniquely scores transactions using a targeted fraud model that evaluates the current transaction against a comprehensive view of the cardholder's transaction history
- Enables merchants to use the fraud score as a highly predictive data point in their current fraud detection solution to increase fraud detection while reducing chargebacks, fraud losses, and manual review costs

To Participate

Acquirers that want to participate in the Expert Monitoring Real-time Fraud Scoring Service for Merchants must complete a contract and registration form. Acquirers interested in registering for this service should contact their Mastercard representative or the Mastercard Risk Solutions Team at risksolutions@Mastercard.com.

For More Information

For more information about this service, refer to the *Authorization Manual*.

Authorization Request/0100—Fraud Scoring

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply. This information applies to both Fraud Scoring Services, Expert Monitoring (EMS) and Mastercard Decision Intelligence.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|----------------------------|
| DE 48, subelement 71 (On-behalf Services), subfield 1 (On-behalf [OB] Service) | • | X | C | 18 = Fraud Scoring Service |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 48, subelement 71 (On-behalf Services), subfield 2 (On-behalf Result 1) | • | X | C | <p>Contains one of the following values: C = Fraud Scoring Service was performed successfully U = Fraud Scoring Service was not performed successfully</p> |
| DE 48, subelement 75 (Fraud Scoring Data), subfield 1 (Fraud Score Data) | • | X | C | <p>The Authorization Platform inserts this subelement when the Fraud Scoring Service is performed on the transaction.</p> <p>Fraud Scoring System provides the risk score of 000–999 in subfield 1, where 999 is more likely to be fraudulent than a score of 000.</p> |
| DE 48, subelement 75 (Fraud Scoring Data), subfield 2 (Score Reason Code) | • | X | C | <p>Fraud Scoring System provides the score reason code in subfield 2, which indicates the key factors that influenced the fraud score.</p> <p>Subfield 2 is provided whenever a fraud score is provided in subfield 1 (Fraud Score Data).</p> |

Alternate Processing

The following table indicates the Authorization Advice/0120 content when the transaction is qualified for the Fraud Scoring Service, but the issuer is unavailable and Stand-In processing is invoked. This information applies to both Fraud Scoring Services, Expert Monitoring (EMS) and Mastercard Decision Intelligence.

Stand-In and X-code processing do not consider the fraud assessment score when performing an authorization decision for an issuer.

| IF... | THEN the Authorization Advice/0120—System-generated message will contain... |
|--|--|
| If the original Authorization Request/0100 message was successfully scored | <p>DE 48, subelement 75 and DE 48, subelement 71, subfield 1, value 18 and subfield 2, value C indicating Fraud Scoring Service was performed on the transaction</p> |

| IF... | THEN the Authorization Advice/0120—System-generated message will contain... |
|--|--|
| If the original Authorization Request/0100 message was not successfully scored | DE 48, subelement 71, subfield 1, value 18 and Subfield 2, value U indicating Fraud Scoring Service was not performed on the transaction |

Gaming Payment Transactions

This section describes Gaming Payment Transaction processing in the Europe and Middle East/Africa (MEA) regions and in the United States region.

The Dual Message System (Authorization) supports Gaming Payment Transaction processing for the Mastercard and Maestro card brands in Europe and Mastercard card brands in Middle East/Africa region countries where the crediting of gambling winnings is permitted by law.

The Dual Message System (Authorization) also supports Gaming Payment Transaction processing for the Mastercard and Maestro brands in the United States Region to transfer lottery winnings to a card.

Gaming Payment Transaction Processing in the Europe and Middle East/Africa Regions

The Dual Message System (Authorization) supports Gaming Payment Transactions in Authorization Request/0100 and Reversal Request/0400 messages for the Mastercard® and Maestro® card brands in the Europe and Mastercard card brands in Middle East/Africa (MEA) regions where online gaming and the crediting of gaming winnings on cards is permitted by law.

Acquirers submit their online Gaming Payment Transaction Authorization Request/0100 and Reversal Request/0400 messages with the following values:

- DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type), value 28 (Payment Transaction)
- In the Europe region, DE 4 (Amount, Transaction), maximum EUR 50,000. If an acquirer provides a transaction amount exceeding EUR 50,000 or its currency equivalent, the Authorization Platform will decline the request with DE 39 (Response Code), value 13 (Invalid amount).
- In the Middle East/Africa region, DE 4 (Amount, Transaction), maximum EUR 50,000. If an acquirer provides a transaction amount exceeding EUR 50,000 or its currency equivalent, the Authorization Platform will decline the request with DE 39 (Response Code), value 13 (Invalid amount).
- DE 18 (Merchant Type), MCC 7995 (Gambling Transactions)

- DE 22 (Point-of-Service [POS] Entry Mode), subfield 1, value 81 (PAN entry via electronic commerce)
- DE 48 (Additional Data—Private Use), TCC value P (Payment Transaction)
- DE 48, subelement 77, value C04 (Gaming Re-pay)

If an acquirer has not completed an implementation project to submit Gaming Payment Transactions and sends a Gaming Payment Transaction authorization request, the Authorization Platform declines the request with DE 39 (Response Code), value 58 (Transaction not permitted to acquirer or terminal).

Issuers may receive Gaming Payment Transactions if they are located in Europe and Middle East/Africa region countries where online gaming and crediting of gaming winnings on cards is permitted by law. For a list of these Europe region countries, refer to Rule 8.12.1 in Europe Region Rules of the *Mastercard Rules*. For a list of these Middle East/Africa region countries, refer to Payment Transactions and MoneySend Payment Transactions, MEA Region, of the *Transaction Processing Rules*. If an issuer's country is not one of the listed countries that allows gaming, the Authorization Platform declines the Gaming Payment Transaction request with DE 39 (Response Code), value 57 (Transaction not permitted to issuer/cardholder).

Alternate Processing

Gaming Payment Transactions are routed to an alternate issuer host. Gaming Payment Transactions are not routed to the Stand-In System or X-Code System.

When there is either no alternate issuer host or no response from an alternate issuer host, the Authorization Platform will decline the transaction with DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).

For More Information

For additional details about data requirements, refer to the *Mastercard Rules*.

Authorization Request/0100—Gaming Payment

Following is a list of the data elements and values applicable to this message type for Gaming Payment Transactions in the Europe and Middle East/Africa (MEA) regions. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 28 = Payment Transaction |
| DE 4 (Amount, Transaction) | M | • | M | Maximum amount EUR 50,000 |
| DE 18 (Merchant Type) | M | • | M | Must contain value 7995 = Gambling Transaction |
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 81 = PAN entry via electronic commerce, including chip |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|-------------------------|
| DE 48 (Additional Data—Private Use), TCC | M | • | M | P = Payment Transaction |
| DE 48, subelement 77 (Funding/ Payment Transaction Type Indicator) | M | • | M | C04 = Gaming Re-pay |

Reversal Request/0400—Gaming Payment

Following is a list of the data elements and values applicable to this message type for Gaming Payment Transactions in the Europe and Middle East/Africa (MEA) regions. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 28 = Payment Transaction |
| DE 4 (Amount, Transaction) | M | • | M | Maximum amount EUR 50,000 |
| DE 18 (Merchant Type) | M | • | M | Must contain value 7995 = Gambling Transaction |
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 81 = PAN entry via electronic commerce, including chip |
| DE 48 (Additional Data—Private Use), TCC | M | • | M | P = Payment Transaction |
| DE 48, subelement 77 (Funding/ Payment Transaction Type Indicator) | M | • | M | C04 = Gaming Re-pay |

Authorization Platform Edits

The following edits apply to Gaming Payment Transactions in the Europe and Middle East/Africa (MEA) regions.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 3, subfield 1 = 28 | Sends the acquirer an Authorization Request Response/0110 or a Reversal Request Response/0410 message where: |
| DE 18 = 7995 | |
| DE 48, TCC = P | DE 39 = 58 (Transaction not permitted to acquirer/terminal) |
| and | |
| The acquirer is not a registered gaming participant | |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 3, subfield 1 = 28 DE 18 = 7995 DE 48, TCC = P and The issuer country does not allow gaming payment transactions | Sends the acquirer an Authorization Request Response/0110 or a Reversal Request Response/0410 message where: DE 39 = 57 (Transaction not permitted to issuer/cardholder) |
| DE 3, subfield 1 = 28 DE 18 = 7995 DE 48, TCC = P and The amount in DE 4 exceeds EUR 50,000 | Sends the acquirer an Authorization Request Response/0110 or a Reversal Request Response/0410 message where: DE 39 = 13 (Invalid amount) |

Gaming Payment Transaction Processing in the United States Region

The Authorization Platform supports Gaming Payment Transactions in Authorization Request/0100 and Reversal Request/0400 messages for the Mastercard and Maestro brands in the United States region to transfer lottery winnings to a card.

An acquirer in the United States region submits a Gaming Payment Transaction Authorization Request/0100 and Reversal Request/0400 message with the following values:

- DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type), value 28 (Payment Transaction)
- DE 4 (Amount, Transaction), maximum USD 10,000
- DE 18 (Merchant Type), MCC 7800 (Government-owned Lottery [U.S. Region Only])
- DE 48 (Additional Data—Private Use), TCC value P (Payment Transaction)
- DE 48, subelement 77, value C04 (Gaming Re-pay)

NOTE: The Gaming Payment Transaction must not be processed as electronic commerce (e-commerce).

An issuer in the United States region may receive Gaming Payment Transactions identified as described above.

Alternate Processing

The Gaming Payment Transaction must not be routed to the Stand-In System or X-Code System. When a Gaming Payment Transaction identified using MCC 7800 is routed to:

- The Stand-In System, the Authorization Request/0100 message will be declined with DE 39 (Response Code), value 05 (Do Not Honor); or

- The X-Code System, the Authorization Request/0100 message will be declined with DE 39 (Response Code), value 01 (Refer to Card Issuer).

ICCR Service

Issuers in the Europe region have the option to enroll in the Issuer Currency Conversion Rate (ICCR) service, which charges the cardholder an additional fee for transactions that require currency conversion.

ICCR Service Overview

The Issuer Currency Conversion Rate (ICCR) is a parameter-based system that charges cardholders by applying a mark-up called ICCR in clearing.

Issuers in the Europe region can add this supplemental fee to a transaction amount when the transaction currency is different from the cardholder billing currency. This fee is listed under DE 6 (Amount, Cardholder Billing).

Issuers will be able to set their issuer currency conversion rate by account range, which will apply to First Presentment messages.

Issuers can receive daily audit report files of the clearing transactions where the ICCR was applied. A new bulk file type, Bulk File TN70 (On Request Report Data File Transfer Raw Format), which replaces bulk file type TAV8, supports the daily audit report files.

ICCR applies to POS and ATM transactions acquired worldwide.

In the dual message system, all payment transactions (processing code = 28) will be bypassed for ICCR.

ICCR Enrollment

All issuers in the Europe region that choose to enroll in the ICCR service must submit the correct enrollment form.

The *ICCR Service Enrollment Form*, available on Mastercard Connect™, must be completed and submitted before issuers can participate in the ICCR service.

Forms should be submitted to the issuer's local customer delivery manager.

Incremental Preauthorization Standards

Incremental Preauthorization provides a means to associate incremental preauthorizations to a single clearing presentment. It is a common practice for specific merchant categories (now available to all merchant categories) to submit incremental preauthorizations and settle those through a single clearing presentment. These standards provide a method for issuers, with certainty, to associate incremental preauthorizations to a single presentment providing them the means to more effectively manage cardholder open-to-buy balances.

NOTE: All merchant types (MCCs) may use incremental preauthorizations.

Incremental Preauthorization Transaction Processing

The standards introduced apply to all merchant categories.

Each incremental preauthorization transaction associated with a single cardholder event must reference the original preauthorization. When incremental (additional) Authorization Request/0100 messages are sent for the same transaction, acquirers must include Customer Interface Specification data element (DE) 63 (Network Data) and DE 15 (Date, Settlement) information from the original Authorization Request Response/0110 message in DE 48 (Additional Data—Private Use), subelement 63 (Trace ID) as follows:

- Positions 1–3 = value from DE 63, subfield 1 (Financial Network Code)
- Positions 4–9 = value from DE 63, subfield 2 (Banknet Reference Number)
- Positions 10–13 = value from DE 15 (Date, Settlement)
- Positions 14–15 = blank filled

The First Presentment/1240 message submitted by the acquirer must include information from the original Authorization Request Response/0110 message in Integrated Product Message DE 63 (Transaction Life Cycle ID), subfield 2 (Trace ID). Upon receipt of the clearing record, the issuer must release holds created by all authorizations properly related to the original preauthorization.

For details on increasing the effective duration of the chargeback protection period of authorizations originally coded as a preauthorization, refer to the following section on Authorization Chargeback Protection Period Extension Request.

Guiding Principles

This section provides insight into the intent of the Incremental Preauthorization process. The following are an elaboration of the standards.

- The primary intent of an incremental preauthorization is to increase the amount of an original preauthorization. Issuers may contest the settled amount of the transaction using message reason code 4808 (Authorization-Related Chargeback) if the cleared amount exceeds the amount authorized. The authorized amount is equal to the cumulative amount of all authorizations (plus tolerance if applicable). The allowable tolerances are described in the *Chargeback Guide*. Additional information on message reason code 4808 (Authorization-Related Chargeback) chargebacks can be found in the *Chargeback Guide*.
- The original preauthorization is the reference. All attributes associated with the original are inherited by the incremental preauthorizations. The payment guarantee period of the aggregate transaction is 30 calendar days from the date of the last incremental preauthorization. Transactions that would have incremental preauthorizations will likely be submitted as preauthorizations. Any transaction submitted as a final authorization that has an incremental will be subject to a processing integrity fee.
- The usage of incremental preauthorizations is optional. Acquirers can, as an alternative, submit clearing records (presentments) for each individual authorization.

- Incremental preauthorizations are recognized for all MCCs.
- Transactions that may have incremental preauthorizations are recommended to be submitted as preauthorizations. Incremental preauthorizations must be coded as preauthorizations.

Specific Scenarios

Typical Usage

The following table depicts the flow of a typical incremental preauthorization. The merchant successfully completes an original preauthorization for 100, followed by an incremental preauthorization of 50. This total amount is then processed as a first presentment.

| Message Type | DE 63 (Banknet Reference Number) | DE 15 (Settlement Date) | Trace ID (Authorization—DE 48, subelement 63) | DE 4 (Amount, Transaction) |
|---|---|--------------------------------|--|-----------------------------------|
| Original Preauthorization (0100/0110) ³² | MCC123ABC | 1105 | N/A | 100 |
| Incremental Preauthorization (0100/0110) ³² | MCC456ABC | 1106 | MCC123ABC1105 | 50 |
| First Presentment (1240–200) | N/A | N/A | MCC123ABC1105 | 150 |

Incremental Preauthorization Reversals

Acquirers are encouraged to recognize the original preauthorization and all related incremental preauthorizations in aggregate in the event they need to reverse part or all of the transaction. The recommended method of submitting reversals is illustrated in the following table.

In the following scenario, the merchant successfully completes an original preauthorization for 100, followed by an incremental preauthorization of 50, but then wants to cancel the transaction.

³² The Authorization Request/0100 message to issuer, the Authorization Request Response/0110 message to acquirer.

| Message Type | DE 63 (Banknet Reference Number) | DE 15 (Settlement Date) | Trace ID (Authorization —DE 48, subelement 63) | DE 4 (Amount, Transaction) | DE 95 (Replacement Amount) |
|---|---|--------------------------------|---|-----------------------------------|-----------------------------------|
| Original Preauthorization (0100/0110) ³² | MCC123ABC | 1105 | N/A | 100 | N/A |
| Incremental Preauthorization (0100/0110) ³² | MCC456ABC | 1106 | MCC123ABC11 | 50 | N/A |
| Reversal (0400/0410) ³³ | MCC789ABC | 1106 | MCC123ABC11 | 150 | 0 |

In the next scenario, the merchant successfully completes an original preauthorization for 100, followed by an incremental preauthorization of 50. The merchant then reduces the preauthorization by 10 using a partial reversal.

| Message Type | DE 63 (Banknet Reference Number) | DE 15 (Settlement Date) | Trace ID (Authorization —DE 48, subelement 63) | DE 4 (Amount, Transaction) | DE 95 (Replacement Amount) |
|--|---|--------------------------------|---|-----------------------------------|-----------------------------------|
| Original Preauthorization (0100/0110) ³² | MCC123ABC | 1105 | N/A | 100 | N/A |

³³ In the Reversal transaction, DE 90 (Original Data Elements) will contain DE 11 (System Trace Audit Number [STAN]), DE 7 (Transmission Date and Time), DE 32 (Acquiring Institution ID Code), and DE 33 (Forwarding Institution ID Code) from the Authorization Request Response/0110 message that corresponds to the original preauthorization request. The Transaction Amount (DE 4) is recommended to contain 150, while the Replacement Amount (DE 95) is recommended to contain 0, indicating a full reversal.

| | | | | | |
|---|-----------|------|-------------------|-----|-----|
| Incremental Preauthorization (0100/0110) ³² | MCC456ABC | 1106 | MCC123ABC11 05 | 50 | N/A |
| Reversal (0400/0410) ³³ | MCC789ABC | 1106 | MCC123ABC11 05 | 150 | 140 |
| Clearing (1240– 200) | N/A | N/A | MCC123ABC11 05 | 140 | N/A |

Acquirers are expected to send reversals once they become aware that an adjustment is necessary. An exception to this is if the acquirer will be processing the first presentment within 24 hours of knowing a reversal is necessary.

Guaranteed Reservations

Guaranteed reservations are common in the hotel, motel, vehicle rental, and cruise line industries. Guaranteed reservations are managed uniquely for each of these segments. The recommended practice for each of these is as follows:

- Vehicle Rental—An account status inquiry is issued at the time of the reservation to confirm the account is in good standing. No advance authorization is issued nor is any amount held or liability assumed for no-shows.
- Cruise Lines—Typically, cruise lines charge the entire amount of the cruise at the time of the reservation. Any charges incurred during the cruise are submitted as a new authorization with incremental preauthorizations as needed.
- Hotel Reservations—A hotel, motel, resort, or other lodging merchant participating in the Guaranteed Reservations service has the option of utilizing the rules in regards to the no-show policies. The cardholder is obligated to cancel a confirmed reservation before 18:00 at the hotel, motel, or resort (merchant's local time). If the cardholder fails to cancel the confirmed reservation, the merchant can charge the cardholder a no-show charge equal to one night's lodging. In this case, it is appropriate for the merchant to authorize and clear the amount that would be charged for one night's lodging if they so choose. Any amount above that would be a violation of Mastercard rules and be at risk for a chargeback.

For details on Authorization Chargeback Protection Period Extension Request, refer to the following section.

Authorization Chargeback Protection Period Extension Request

In support of the time limit for chargeback protection related to Dual Message System authorizations, Mastercard provides an Authorization Chargeback Protection Period Extension Request for use by Dual Message System acquirers, which is a non-financial (zero amount) incremental preauthorization request/0100 message.

Authorizations originally coded as a preauthorization may require a longer chargeback protection period. To increase the effective duration of the chargeback protection period, the

merchant may submit incremental preauthorization requests for either an additional amount or zero amount for the same transaction on later dates. Incremental preauthorizations for an additional amount may be used to increase the authorized amount held against the card account and to extend the chargeback protection period associated with the original preauthorization. Incremental preauthorizations for a zero amount may be used to extend only the chargeback protection period associated with the original preauthorization.

If the issuer declines the chargeback extension request and the original preauthorization subsequently expires, the acquirer must request a new authorization.

NOTE: Each approved preauthorization has an extended payment guarantee period of 30 calendar days from the authorization approval date. The issuer payment guarantee period is limited to a maximum period counting from the authorization or preauthorization date. This maximum period is 30 calendar days for Mastercard authorizations properly coded as preauthorizations and is seven calendar days for all other Mastercard authorizations and for all Maestro and Cirrus authorizations and preauthorizations.

Transactions presented for clearing after the chargeback protection period has expired may be charged back by the issuer under message reason code 4808 (Authorization-Related Chargeback) if the card account is permanently closed (the existing Europe region issuer standard) or if the card account is not in good standing (statused, the standard for issuers in all regions, except the Europe region).

Issuers must be prepared to receive and process a chargeback protection period extension request/0100 message.

To increase only the effective duration of the chargeback protection period of an original preauthorization, the merchant may submit an incremental preauthorization request for a zero amount. The acquirer must submit the request as follows.

- Authorization Request/0100 message
- DE 3 (Processing Code), subfield 1 (Transaction Type) = 00 (Purchase)
- DE 4 (Transaction Amount) = 0 (Additional Amount)
- DE 61 (POS Data), subelement 7 (POS Transaction Status) = 4 (Preauthorized)
- DE 61, subelement 4 (POS Cardholder Presence) is not equal to 4 (Standing Order/Recurring)
- DE 48 (Additional Data), subelement 63 (Trace ID) must be present and contain the Trace ID data (DE 15 and DE 63) from the original preauthorization request in positions 1–15

NOTE: Authorization Chargeback Protection Period Extension Requests are applicable to all types of purchase preauthorization transactions, except Mastercard contactless transit aggregated or transit debt recovery transactions nor to merchant-financed or acquirer-financed installment payment transactions properly coded as preauthorizations. If submitted, the message will be declined.

Acquirer-generated Advice/0120 and Reversal Request/0400 messages are not applicable for Authorization Chargeback Protection Period Extension Requests. If submitted, the message will be declined.

The issuer, at its discretion, will send the acquirer an Authorization Request Response/0110 message where DE 39 may contain one of the following values.

- 00 (Approved)
- 05 (Do not honor)
- 85 (Not declined)
- Other valid business declines. Examples of other acceptable business declines include values 41 (Lost Card), 43 (Stolen Card), and 54 (Expired Card).

If the issuer is unable to reply, the acquirer will receive a response code of 91 (Authorization System or issuer system inoperative).

When the chargeback protection period of a preauthorization is extended as a result of an incremental preauthorization, it is extended for 30 calendar days from the date of the latest approved incremental preauthorization. Such requests, if approved by the issuer and when properly coded as an incremental preauthorization, will give rise to an extended chargeback protection period and optionally additional approved amounts that may be cleared under the conditions that would apply to the security parameters when applied to the original authorization. In other words:

- To the extent that interchange levels are determined by the security parameters of the authorization, then the parameters of the original authorization will be taken into account.
- To the extent that chargebacks take into account the security parameters of the authorization, then the parameters of the original authorization will be taken into account.

When the chargeback protection period expires, issuers must release any block they may have placed on the cardholder's account in relation to the authorization.

Several other options may be used when the authorization lifecycle expires before the transaction is finalized:

- Submit a new preauthorization within 30 calendar days of the planned date of the stay. This creates the risk of a declined transaction. If the original preauthorization has not expired, Mastercard recommends that a reversal is sent of the first transaction to instruct the issuer to release the funds in advance of receiving the second transaction.
- Periodically use the Account Status Inquiry Service to confirm that the card is in good standing prior to the stay. An authorization for the anticipated amount may be submitted in advance of the stay (but no earlier than 30 calendar days before).
- Use the Advance Resort Deposit process as described in the *Chargeback Guide* to authorize and clear the transaction at the time of the reservation.

Long Running Transactions

Occasionally, transactions have an extended life. Examples of these scenarios are vehicle rentals for multiple weeks, extended resort stays, or long cruises. Mastercard expects merchants to authorize the estimated amount at the initiation of the service. Incremental preauthorizations would be requested if the permitted tolerance (if applicable) is exceeded. For more information about transactions with permissible tolerances, refer to the *Transaction Processing Rules* manual, Merchant Acceptance section.

With the specific intent of extending the authorization lifecycle, an incremental preauthorization is recommended. As noted earlier, the authorization lifecycle is based on the date of the latest incremental preauthorization.

Extending Security Features

Mastercard® SecureCode™ protocol authentication relates only to the transaction (and any related incremental preauthorizations if applicable) for which they were originally provided. An acquirer may retain these features by submitting an incremental preauthorization transaction with an amount greater than zero.

Authorization Platform Edits

The Authorization Platform will perform the following system edits related to Authorization Chargeback Protection Period Extension requests.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The acquirer sends an Authorization Chargeback Protection Period Extension Authorization Request/0100 message that contains the following:</p> <ul style="list-style-type: none">• DE 3 (Processing Code), subfield 1 (Transaction Type), value 00 (Purchase)• DE 4 (Transaction Amount), value 0• DE 48 (Additional Data), subelement 63 (Trace ID) is present• DE 61, subelement 4 (POS Cardholder Presence) is not equal to value 4 (Standing Order/Recurring)• DE 61 (POS Data), subelement 7 (POS Transaction Status), value 4 (Preauthorized) <p>and the issuer is not available to respond to the request</p> | <p>Rejects the transaction where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 91 (Authorization System or issuer system inoperative) |
| <p>The acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request:</p> <ul style="list-style-type: none">• DE 3, subfield 1, value 00• DE 4, value 0• DE 48, subelement 63 is NOT present• DE 61, subelement 4 is not equal to value 4, and• DE 61, subelement 7, value 4 | <p>Rejects the transaction where:</p> <ul style="list-style-type: none">• DE 39 = 30 (Format Error)• DE 44 (Additional Response Data) = 048 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| If the acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request: <ul style="list-style-type: none">• DE 3, subfield 1, value 00• DE 4, value 0• DE 48, subelement 63 is present• DE 61, subelement 4 is not equal to value 4• DE 61, subelement 7, value 4 <p>And if the values for Contactless Transit Aggregated, Transit Debt Recovery Transactions are present:</p> <ul style="list-style-type: none">• DE 48, subelement 64 (Transit Program), subfield 1 (Transit Transaction Type Individual) = 03 (Post-Authorized Aggregated), 04 (Authorized Aggregated Split Clearing), or 06 (Post-Authorized Aggregated Maestro) | Rejects the transaction where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 061 (Point-of-Service [POS] Data) |
| If the acquirer sends an Authorization Request/0100 message for an Authorization Chargeback Protection Period Extension request: <ul style="list-style-type: none">• DE 3, subfield 1, value 00• DE 4, value 0• DE 48, subelement 63 is present• DE 61, subelement 4 is not equal to value 4• DE 61, subelement 7, value 4 <p>And if the values for Transit Debt Recovery Transactions are present:</p> <ul style="list-style-type: none">• DE 48, subelement 64, subfield 1 = 07 (Debt Recovery) <p>Or if the values for an installment payment transaction are present:</p> <ul style="list-style-type: none">• DE 48, subelement 95 (Promotion Code) | Rejects the transaction where: <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 004 (Transaction Amount) |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The acquirer sends an Acquirer-Generated Authorization Advice/0120 or Acquirer-Generated Reversal Request/0400 message for an Authorization Chargeback Protection Period Extension request where the message contains the following:</p> <ul style="list-style-type: none"> • DE 3, subfield 1, value 00 • DE 4, value 0 • DE 48, subelement 63 is present • DE 61, subelement 4 is not equal to value 4 • DE 61, subelement 7, value 4 | <p>Rejects the transaction where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 004 |

Maestro Pre-authorized Transactions

The Authorization Platform allows acquirers to request pre-authorization on transactions for which the amount is not yet determined. Once the issuer approves the pre-authorization request and after the transaction has taken place and the final amount is determined, the acquirer must then send an Authorization Advice/0120 message to the issuer within 20 minutes of the authorization response message completion. This service is available only for Maestro Petrol transactions.

Authorization Request/0100—Maestro Pre-Authorization

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 4 (Amount, Transaction) | M | • | M | Maximum amount determined by the acquirer or merchant. |
| DE 18 (Merchant Type) | M | • | M | Must contain value 5542 = Fuel Dispenser, Automated |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | M | • | M | Must contain value 4 = Preauthorized request. |
| DE 61, subfield 10 (Card-Activated Terminal Level) | M | • | M | 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN |

Authorization Advice/0120—Maestro Pre-Authorization Completion

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 4 (Amount, Transaction) | M | • | M | Must contain the final transaction amount |
| DE 48 (Additional Data—Private Use), subelement 15 (Authorization Platform Advice Date and Time) | • | X | M | Authorization Platform supplies date and time. |
| DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) | M | • | M | 191 = Acquirer Processing System (APS) completed Note: Issuers must also be prepared to receive value 190 (Acquirer Processing System (APS) approved) |

Matching Request and Advice Messages

To match the original Authorization Request/0100 with the Authorization Advice/0120, the following DEs should be used:

- DE 2 (Primary Account Number [PAN])
- DE 7 (Transmission Date and Time)
- DE 11 (System Trace Audit Number [STAN])
- DE 32 (Acquiring Institution ID Code)
- DE 33 (Forwarding Institution ID Code)

Maestro Recurring Payments Program

The Maestro® Recurring Payments Program enables the Maestro brand to accept recurring payments for electronic commerce (e-commerce) transactions. This program enables Maestro-branded products to provide enhanced value to customers.

Acquirer Requirements

- Acquirers in the Europe region that process Maestro e-commerce transactions may participate in the Maestro Recurring Payments Program.
- Participating acquirers must submit the following values in Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, and Reversal Request/0400—Acquirer-generated messages to identify Maestro e-commerce recurring payment transactions received from enrolled merchants:
 - DE 22 (Point of Service Data Code), subfield 1 (Terminal Data: Card Data Input Capability), value 81 (PAN manual entry via e-commerce)

- DE 48 (Additional Data—Private Use), subelement 32 (Mastercard Assigned ID)
- DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator), value 3 (UCAF data collection is supported by the merchant, and UCAF (Mastercard Assigned Static AAV) data must be present)
- DE 48, subelement 43 (Static AAV)
- DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence), value 4 (Standing order/recurring transactions)
- DE 61 (Point-of-Service [POS] Data), subfield 10 (Cardholder-Activated Terminal Level), value 6 (CAT Level 6: Electronic commerce transaction)

Issuer Requirements

- Maestro issuers must support receipt and processing of recurring payment e-commerce transactions, as identified by the presence of the following data elements in Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, Authorization Advice/0120—System-generated, Reversal Request/0400—Acquirer-generated, and Reversal Request/0400—System-generated messages:
 - DE 22, subfield 1, value 81
 - DE 48, subelement 32
 - DE 48, subelement 42, subfield 1, position 3, value 3
 - DE 48, subelement 43
 - DE 61, subfield 4, value 4
 - DE 61, subfield 10, value 6
- Maestro issuers also must provide the following data elements in Authorization Request Response/0110, Authorization Advice Response/0130—System-generated, and Reversal Request Response/0410 messages:
 - DE 48, subelement 42
 - DE 48, subelement 43

Authorization Request/0100—Maestro Recurring Payment

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|---|
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 81 = PAN entry via electronic commerce, including chip. |
| DE 48 (Additional Data—Private Use), subelement 32 (Mastercard Assigned ID) | C | • | C | The value assigned by Mastercard |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|--|-----|-----|-----|--|
| DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator) | C | • | C | 3 = UCAF data collection is supported by the merchant, and UCAF (Mastercard assigned static Accountholder Authentication Value) data must be present. Note: DE 48, subelements 32 and 43 are required for Static AAV transactions. |
| DE 48, subelement 43 (Static AAV) | C | • | C | Contains the contents of positions 1–28. When DE 48, subelement 43 contains a static AAV, DE 48, subelement 32 is mandatory. |
| DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence) | M | • | M | 4 = Standing order/recurring payment |
| DE 61, subfield 10 (Cardholder-Activated Terminal Level) | M | • | M | 6 = Authorized Level 6 CAT: Electronic Commerce |

Authorization Platform Edits

The following edits are performed on Authorization Request/0100 messages for Maestro Recurring Payment Program transactions.

Mastercard uses the following edit to verify participation in the Maestro Recurring Payments Program. Authorization Platform uses this edit to validate the value in DE 48, subelement 32 for Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages.

NOTE: Note that the same Static AAV value can be used for the Maestro Recurring Payments Program, the Mastercard Utility Payment Program, and the Maestro Low Risk Merchant Program.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| An Authorization Request/0100 or Authorization Advice/0120—System-generated message with DE 48, subelement 42, subfield 1, position 3, value 3 | Validates that DE 48, subelement 32 and subelement 43 are present and contain valid values. |

Existing Edits

The following existing edits will be applied to the Maestro Recurring Payments Program in the Authorization Platform where the value 3 (UCAF data collection is supported by the merchant,

and UCAF [Mastercard assigned Static Accountholder Authentication Value] data must be present) data must be present for Authorization Request/0100 and Authorization Advice/0120—Acquirer-generated messages submitted under the Maestro Recurring Payments Program for e-commerce initiated transactions.

| WHEN... | THEN... |
|---|--|
| DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator) has the following value: <ul style="list-style-type: none">• 3 (UCAF data collection supported by merchant, and UCAF [Mastercard Assigned Static AAV Value] data is present) | DE 48, subelement 43 (Static AAV) must contain the static AAV assigned by Mastercard for the Maestro Recurring Payments Program for e-commerce transactions. |
| DE 48, subelement 43 (Static AAV) contains the static AAV assigned by Mastercard for the Maestro Recurring Payments Program for e-commerce transactions | DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator), position 3 (UCAF Collection Indicator) must contain the value 3 (UCAF data collection supported by merchant, and UCAF [Mastercard-assigned Static AAV Value] data is present). |
| DE 48, subelement 42, subfield 1, position 3 (UCAF Collection Indicator) has the value 3 (UCAF data collection supported by merchant, and UCAF [Mastercard Assigned Static AAV Value] data is present) | For recurring payment e-commerce transactions: <ul style="list-style-type: none">• DE 61 (Point-of-Service Data) subfield 4 (POS Cardholder Presence) must contain a value of 4 (Standing order/recurring transactions) and• DE 61, subfield 10 (Cardholder-Activated Terminal Level) must contain a value of 6 (Authorized Level 6 CAT: Electronic commerce) |

Magnetic Stripe Compliance

The Authorization Platform provides for positive identification of card-read transactions and transactions in which software, hardware, or card failures prevent complete and accurate data capture. A card-read transaction is one in which the entire unaltered track 1 or track 2 is read and captured by the POS device, then transmitted without truncation in an Authorization Request/0100. As a function of this process, the Authorization Platform performs online edits of track data on Mastercard transactions. If the system finds deficiencies, the findings are forwarded to the issuer and acquirer.

Acquirers and issuers must process transactions according to the guidelines in this subsection to comply with the Mastercard magnetic stripe program.

Acquirer Requirements

When the entire unaltered magnetic stripe from track 1 or track 2 encoded on the card is present in DE 45 (Track 1 Data) or DE 35 (Track 2 Data), acquirers must provide DE 22 (Point-of-Service [POS] Entry Mode, subfield 1 (POS Terminal PAN Entry Mode), with the value 80, 90, or 91 in the Authorization Request/0100.

Acquirers also must provide the proper customer ID that Mastercard assigned directly to the entity acting on the acquiring institution's behalf in DE 32 (Acquiring Institution ID Code). However, if the Authorization Request/0100 is routed to the Mastercard Network via a customer processing system (CPS) or intermediate network facility (INF), the proper customer ID that Mastercard assigned directly to the processor entity must be provided in DE 33 (Forwarding Institution ID Code).

The Authorization Platform provides track data validation and point of interaction validation. If the track data, DE 61 (Point-of-Service [POS] Data), or TCC in DE 48 (Additional Data—Private Use) contains an edit error, the Authorization Platform will provide DE 48, subelement 89 (Magnetic Stripe Compliance Error Indicator) in the Authorization Request/0100 and Authorization Request Response/0110 messages.

If a valid acquirer customer ID is not provided in DE 32, the Authorization Platform:

- Changes the value in DE 22, subfield 01 from 80, 90, or 91 to 02.
- Provides DE 48, subelement 88, with a value of Y.

When applicable, this information is provided in the Authorization Request/0100 message sent to the issuer and the Authorization Request Response/0110 message sent to the acquirer to indicate this condition.

Issuer Requirements

Issuers must encode the CVC 1 value on both track 1 and track 2. In addition, issuers must indent print the CVC 2 value into the signature panel after the account number.

Issuers can receive DE 22, subfield 1, value 02 if:

- An acquirer does not comply; therefore, Mastercard changed the 80, 90, or 91 to 02.
- An acquirer did not submit a 80, 90, or 91 but rather a 02. Issuers must be able to process a 80, 90, or 91 in DE 22 and optionally process error codes in DE 48.

Issuers may indicate a CVC 1 error by providing a Y in DE 48, subelement 87.

Use the Authorization Request/0100 for transmitting magnetic stripe-read transactions. Refer to the *Security Rules and Procedures* manual for subelement information for DE 45 (Track 1 Data) and DE 35 (Track 2 Data).

Authorization Request/0100—Magnetic Stripe-read

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | Must be one of the following values: 80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip 90 = PAN auto-entry via magnetic stripe 91 = PAN auto-entry via contactless magnetic stripe |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Contains a valid transaction category code. |
| DE 48, subelement 88 (Magnetic Stripe Compliance Status Indicator) | • | X | C | Y = Authorization Platform replaced DE 22 value 90 or 91 with value 02. |
| DE 48, subelement 89 (Magnetic Stripe Compliance Error Indicator) | • | X | C | Authorization Platform provides this subelement, when applicable. Indicates Track data, POS data, or TCC errors. |

Authorization Request Response/0110—Magnetic Stripe-read

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | CE | • | CE | Must contain the same value as in the Authorization Request/0100. |
| DE 48, subelement 87 (Card Validation Code Result) | C | • | C | Issuer provides this subelement, when applicable. |
| DE 48, subelement 88 (Magnetic Stripe Compliance Status Indicator) | CE | • | CE | Must contain the same value as in the Authorization Request/0100. |
| DE 48, subelement 89 (Magnetic Stripe Compliance Error Indicator) | CE | • | CE | Must contain the same value as in the Authorization Request/0100. |

Mastercard Digital Enablement Service

The Mastercard Digital Enablement Service (MDES) enhances payment security and reduces fraud risk via tokenization. The service generates a token (substitutes primary account number) that can be used in place of a PAN in transactions. Refer to the *MDES Issuer Implementation Guide* (MIIIG) for more information.

Message Layouts—Pre-digitization Payment Network Messages

The following Authorization message layouts support real-time messages for tokenization.

Authorization Request/0100—Tokenization Eligibility

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for Tokenization Eligibility. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 2 (Primary Account Number) | • | X | M | Cardholder's primary account number |
| DE 3 (Processing Code) | • | X | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | • | X | M | Will be zero |
| DE 14 (Date, Expiration) | • | X | C | Cardholder's primary account expiration date |
| DE 22 (POS Entry Mode) | • | X | M | Subfield 1 (POS Terminal PAN Entry Mode) = 01 (PAN manual entry) Subfield 2 (POS Terminal PIN Entry Mode) = 0 (Unspecified or unknown) |
| DE 48 Transaction Category Code | • | X | C | T (Phone, Mail, or Electronic Commerce Order) |
| DE 48 (Additional Data—Private Use), subelement 23 (Payment Initiation Channel) | • | X | C | Value indicating the type of device for which the consumer is requesting tokenization of a primary account number. |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) | • | X | C | Contains the identifier associated with the Wallet Provider |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 1 (Account Number Indicator) | • | X | C | Contains the type of PAN mapping account. <ul style="list-style-type: none"> • C = When MDES Secure Element Device Token • H = When MDES Cloud-based Payments Device Token • F = When MDES Card on File Token |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 2 (Account Number) | • | X | C | Indicates the PAN mapping account |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) | • | X | C | Contains the ID assigned by the Token Service Provider to the Token Requestor. |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 8 (Storage Technology) | • | X | C | Contains a value indicating the Storage Technology of the requested token. |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | • | X | M | 9 = Tokenization Request/Notification |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|------------------------------|-----|-----|-----|------------------------|
| DE 124 (Member-defined Data) | • | X | M | See layout for DE 124. |

DE 124 Subfields in Authorization Request/0100—Tokenization Eligibility

The following subfields are available in DE 124 for Authorization Request/0100—Tokenization Eligibility.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|--|--|---|
| Message Type | an-2 | TE = Tokenization Eligibility Request (TER) |
| Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. |
| Primary Account Number Source | an-1 | <p>Identifies the method by which the cardholder is attempting to tokenize a primary account number.</p> <p>1 = Card on file</p> <p>2 = Card added manually</p> <p>3 = Card added via application</p> |
| Payment Application Instance ID | ans-48, left-justified, padded with spaces | Identifier associated with the payment application instance installed onto a device. |
| Number of Active Tokens for the Primary Account Number | ans-2, leading zeros | Number of existing active tokens for the primary account number, including the current token, but excluding Card on File tokens. |

| Subfield | | |
|---------------------------------------|-------------------|---|
| Name | Attributes | Values/Comments |
| Wallet Provider Account ID Hash | ans-64 | <p>When provided by the Wallet Provider, the issuer may use this hash value to match against known identifiers for the cardholder; for example, their email addresses on file. If the hash values match, this may aid an issuer's digitization decision by providing additional factors to help verify that the Wallet Provider account holder is indeed their cardholder, or to differentiate between primary and secondary cardholders. The Wallet Provider computes the hash over an email address; MDES receives this and includes it in the data sent to the issuer. The issuer computes the hash of the email address on file for the cardholder; if it matches the hash of the one received from the Wallet Provider, the comparison with the hash value received from the Wallet Provider may be used by the issuer to assist determining the digitization decision. Hashing is used to help the issuer verify the cardholder email (or other relevant identifiers that the issuer may have for the cardholder) without the Wallet Provider providing the full email for privacy and security reasons. When the Wallet Provider is Apple Pay, the hash is generated using the PBKDF2 algorithm (PKCS #5). PBKDF2 is performed using 10 iterations, a salt, and the lowercase account ID as the password. The salt is calculated by taking the lower case UTF-8 bytes from the account ID and performing a SHA-256. Hash calculation example:</p> <p>Example: Input (Password): csharp@walletprovider.com</p> <p>Salt: 41404d1bca85ddb59ab21466e277ac1ac5f614 70be120c82a21b1e45b5248123</p> <p>Count: 10</p> <p>Output: 7098014b646d44c6f3b454c5d54f7a32b3b46e 2b0c8e2367f3e5307e3036dfe6</p> |

| Subfield Name | Attributes | Values/Comments |
|----------------------|--|---|
| | | <p>For all other Wallet Providers, the field contains the hash resulting from the following “accountIdHash” algorithm, rightpadded with spaces. “accountId” is the lower case UTF-8 bytes of the account ID:</p> <pre>public String accountIdHash (String accountId) {String random8Bytes = 123CCB2F30BA420B return random8Bytes + lessSignificant24bytes(strongerHash(accountId + random8Bytes))} public String strongerHash(String dataToHash) {String currentHash = dataToHash; for (int i = 0; i < 5000; i++) {currentHash = sha256(currentHash);} return sha256(sha256(dataToHash) + currentHash);}</pre> <p>NOTE: NOTE: String random8Bytes = 123CCB2F30BA420B" is a fixed value for all Wallet Providers.</p> <p>Hash calculation example:</p> <ul style="list-style-type: none"> • email address: cardholdername@walletprovider.com • accountId: 63617264686F6C6465726E61 6D654077616C6C657470726F 7669646 5722E636F6D • random8Bytes: 123CCB2F30BA420B • output: 123CCB2F30BA420B17F837DF 60E2FC9D6965A74476849FC D43A640F 792A2B358 |
| Cardholder Name | ans-27, left-justified, pagged with spaces | <p>This field may be present and contain the name of the cardholder. The format is either LASTNAME/FIRSTNAME with the names delimited by a slash “/” (Example: SMITH/JOE) or the format is FIRSTNAME LASTNAME (Example: JOE SMITH).</p> <p>If the cardholder's name is longer than 27 positions, the data will be truncated to the maximum length of 27.</p> |

| Subfield Name | Attributes | Values/Comments |
|----------------------|-------------------|---|
| Token Type | an-1 | <p>Contains a value indicating the type of requested token.</p> <p>C = Mastercard Cloud-based Payments</p> <p>F = Card on File</p> <p>S = Embedded Secure Element</p> |

Authorization Request Response/0110—Tokenization Eligibility

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for Tokenization Eligibility. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|---|
| DE 3 (Processing Code) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 4 (Amount, Transaction) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 39 (Response Code) | M | • | • | <p>One of the following values indicating how the issuer wants Mastercard to proceed with the tokenization process:</p> <ul style="list-style-type: none"> • 00 = Continue • 05 = Decline • 85 = Continue, but require additional authentication |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|------------------------------|-----|-----|-----|--|
| DE 124 (Member-defined Data) | C | • | • | See layout for DE 124. If the issuer responds with DE 39 = 00 or 85, the issuer may optionally provide DE 124. If the issuer responds with DE 39 = 05, DE 124 must not be present. |

DE 124 Subfields for Authorization Request Response/0110—Tokenization Eligibility

The following subfields are available in DE 124 for Authorization Request Response/0110—Tokenization Eligibility.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values must be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|---|----------------------|---|
| Issuer Product Configuration ID | ans-10 | <p>The unique product configuration identifier provided by the issuer that identifies a particular set of card art, texts and other product related data, provided during the issuer enablement or maintenance process.</p> <p>By specifying the Issuer Product Configuration ID on the Token Eligibility Request Response, an issuer may override the usual Product Configuration assigned as the default at Account Range level. This allows greater control over exactly which card art and related card product data gets applied as part of a specific tokenization process. However, this does not provide a mechanism to override the Issuer Terms and Conditions file which always comes from the default Product Configuration(s) assigned at Account Range level.</p> |
| Primary Account Number Card Sequence Number | ans-3, leading zeros | The card sequence number associated with the primary account number. |

| Subfield Name | Attributes | Values/Comments |
|-------------------------------------|-------------------|--|
| Token Data and Activation Method(s) | ans...186 | When the issuer responds with DE 39 = 85 (Continue, but require additional authentication), the issuer may provide one or more methods by which the consumer can retrieve the activation code. If the issuer responds with DE 39 = 00 (Continue) or 05 (Decline), or if the issuer responds with DE 39 = 85 but uses an issuer-specified default for the activation method, this field will not be present. Each method will consist of: |
| Name | Attributes | Values/ Comments |
| Activation Method Type | n-1 | 1 = Masked mobile phone number 2 = Masked email address 3 = Automated call center phone number 4 = Call center phone number 5 = Website 6 = Mobile application 7 = Masked voice call phone number |
| Activation Method Value | ans...183 | Refer to the following examples. |
| Delimiter | ans...2 | If multiple activation methods are provided by the issuer, the issuer must separate each method with the " " delimiter. |

| Subfield Name | Attributes | Values/Comments |
|---------------|------------|--|
| | | <p>Following the last character of the final method in the field, the issuer should include two “ ” delimiters.</p> <p>Values:</p> <p>“ ” indicates another Activation Method follows.</p> <p>“ ” indicates the last Activation Method.</p> |

Examples

1(###) ### 4567 |

1 = Masked mobile phone number

The 1 will be followed by the masked mobile phone number, then the delimiter.

2a***d@anymail.com |

2 = Masked email address

The 2 will be followed by the consumer's masked email address (the issuer will mask according to their own format), then the delimiter.

3(555) 123 4567 |

3 = Automated call center phone number

The 3 will be followed by the phone number, then the delimiter. This phone number is not masked.

4(555) 123 8901 |

4 = Call center phone number

The 4 will be followed by the phone number, then the delimiter. This phone number is not masked.

5http://www.anybank.com |

5 = Website

The 5 will be followed by the issuer's website URL, then the delimiter.

6com.anybank.mobileapp |

6 = Mobile app

The 6 will be followed by the issuer's mobile app information, the content of which depends upon the mobile device operating system, then the delimiter.

7(###) ### 2345 ||

7 = Masked voice call phone number

The 7 will be followed by the masked voice call phone number. If this were the last Activation Method provided, the value is followed by two delimiters.

Authorization Request/0100—Tokenization Authorization

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for Tokenization Authorization. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|---|
| DE 2 (Primary Account Number) | • | X | M | Cardholder's primary account number |
| DE 3 (Processing Code) | • | X | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | • | X | M | Will be zero |
| DE 14 (Date, Expiration) | • | X | C | Cardholder's primary account expiration date |
| DE 22 (POS Entry Mode) | • | X | M | Subfield 1 (POS Terminal PAN Entry Mode) = 01 (PAN manual entry) |
| | | | | Subfield 2 (POS Terminal PIN Entry Mode) = 0 (Unspecified or unknown) |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 48 Transaction Category Code | • | X | C | T (Phone, Mail, or Electronic Commerce Order) |
| DE 48 (Additional Data—Private Use), subelement 23 (Payment Initiation Channel) | • | X | C | Value indicating the type of device for which the consumer is requesting tokenization of a primary account number. |
| DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) | • | X | C | Contains the identifier associated with the Wallet Provider. |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 1 (Account Number Indicator) | • | X | C | <p>Contains the type of PAN mapping account. Possible values:</p> <ul style="list-style-type: none"> • C = when MDES Secure Element Device Token • H = when MDES Cloud-based Payments Device Token • F = when MDES Card on File Token |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 2 (Account Number) | • | X | C | Indicates the PAN mapping account. |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) | • | X | C | Contains the ID assigned by the Token Service Provider to the Token Requestor. |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 8 (Storage Technology) | • | X | C | Contains a value indicating the storage technology of the requested token. |
| DE 48 (Additional Data—Private Use), subelement 82 (Address Verification Service) | • | X | C | 52 = AVS and Authorization Request/0100 |
| DE 48 (Additional Data—Private Use), subelement 92 (CVC 2) | • | X | C | CVC 2 value from the signature panel of the card when applicable |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | • | X | M | 9 = Tokenization Request/Notification |
| DE 120 (Record Data) | • | X | C | AVS postal code and address data in the format specified by the issuer |
| DE 124 (Member-defined Data) | • | X | M | See layout for DE 124. |

DE 124 Subfields in Authorization Request/0100—Tokenization Authorization

These are the subfields available in DE 124 in an Authorization Request/0100 message for Tokenization Authorization.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|----------------------|-------------------|---|
| Message Type | an-2 | TA = Tokenization Authorization Request (TAR) |

| Subfield | | | |
|---|--|--|--|
| Name | Attributes | Values/Comments | |
| Correlation ID | an-14 | Identifier assigned by Mastercard that can be used by the issuer to associate related tokenization request/notification messages. | |
| Primary Account Number Source | an-1 | Identifies the method which the cardholder is attempting to tokenize a primary account number. 1 = Card on file 2 = Card added manually 3 = Card added via application | |
| Payment Application Instance ID | ans-48, left-justified, padded with spaces | Identifier associated with the payment application instance installed onto a device. | |
| Device Source IP Address | ans-12, left-justified, padded with spaces | Variable length IP address. Each octet of the IP address is converted to hex, and joined into one string, with the order maintained. | |
| Wallet Service Provider Account ID Hash | ans-64 | <p>This field may be present and contain PBKDF2 hash of the consumer's account ID with the Wallet Provider. The Account ID is typically expected to be an email address. PBKDF2 is performed using 10 iterations, a salt, and the lowercase account ID as the password. The salt is calculated by taking the lower case UTF-8 bytes from the account ID and performing a SHA-256.</p> <p>Example: Input (Password): csharp@walletprovider.com</p> <p>Salt: 41404d1bca85ddb59ab21466e277ac1ac5f614 70be120c82a21b1e45b5248123</p> <p>Count: 10</p> <p>Output: 7098014b646d44c6f3b454c5d54f7a32b3b46e 2b0c8e2367f3e5307e3036dfe6</p> | |

| Subfield | | | |
|--|--|---|--|
| Name | Attributes | Values/Comments | |
| Cardholder Name | ans-27, left-justified, trailing spaces | This field may be present and contain the name of the cardholder. The format is either LASTNAME/FIRSTNAME with the names delimited by a slash "/" (Example: SMITH/JOE) or the format is FIRSTNAME LASTNAME (Example: JOE SMITH). If the cardholder's name is longer than 27 positions, the data will be truncated to the maximum length of 27. | |
| Wallet Provider Tokenization Recommendation | an-1 | Tokenization decision suggested by the Wallet Provider. One of the following values: 0 = Decline 1 = Approve 2 = Require additional authentication | |
| Wallet Provider Tokenization Recommendation Standard Version | an-2, left-justified, padded with spaces | The version of the standards the Wallet Provider is using to determine the suggested tokenization recommendation. | |
| Wallet Provider Device Score | n-1 | Score assigned by Wallet Provider for the device. Value between 1 and 5. | |
| Wallet Provider Account Score | n-1 | Score assigned by Wallet Provider for the primary account number. Value between 1 and 5. | |
| Number of Active Tokens for the Primary Account Number | ans-2, leading zeros | Number of active or suspended tokens for the primary account number provisioned to consumer devices (including the token requested). Space-filled when requested token digitized to a server. | |

| Subfield Name | Attributes | Values/Comments |
|--|-------------------|--|
| Wallet Service Provider Tokenization Recommendation Reason Codes | ans-6 | <p>Code indicating the specific reason the Wallet Provider is suggesting the tokenization recommendation.</p> <p>The data of this field is a hex-encoded bitmap, whereby each bit corresponds to a specific Reason Code.</p> <p>The bitmap is big-endian with the least significant bit corresponding to Reason Code 01, with the next least significant bit corresponding to Reason Code 02 and so on. For example, if Reason Codes 01, 05, and 16 were encoded, the bitmap would be 00000001000000000010001 and the hex value of this field would be 008011.</p> <p>If the Wallet Provider has no reason, this field will contain spaces.</p> |
| Device Location | ans-9 | <p>Latitude and longitude where the device the consumer is attempting to tokenize a card onto is located.</p> <p>Device Location Latitude—an-4; hexadecimal encoded degrees with 2 decimal places</p> <p>Device Location Longitude—an-4; hexadecimal encoded degrees with 2 decimal places</p> <p>Device Location Lat/Long Sector—n-1; one of the following values:</p> <ul style="list-style-type: none"> 1 = Latitude = N, Longitude = W 2 = Latitude = N, Longitude = E 3 = Latitude = S, Longitude = W 4 = Latitude = S, Longitude = E <p>This field will contain spaces if the Wallet Provider has not provided this information.</p> |
| Mobile Number Last 4 Digits | ans-4 | <p>Last four digits of the consumer's mobile phone number</p> <p>This field will contain spaces if the Wallet Provider has not provided this information.</p> |

| Subfield Name | Attributes | Values/Comments |
|----------------------|-------------------|---|
| Token Type | an-1 | <p>Contains a value indicating the type of requested token.</p> <p>C = Mastercard Cloud-based Payments</p> <p>F = Card on File</p> <p>S = Embedded Secure Element</p> |

Authorization Request Response/0110—Tokenization Authorization

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for Tokenization Authorization. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 3 (Processing Code) | ME | ME | | <ul style="list-style-type: none"> • Must be the same value as the original Authorization Request/0100 |
| DE 4 (Amount, Transaction) | ME | ME | | <ul style="list-style-type: none"> • Must be the same value as the original Authorization Request/0100 |
| DE 39 (Response Code) | M | | • | <ul style="list-style-type: none"> • One of the following values indicating how the issuer wants Mastercard to proceed with the tokenization process: • 00 = Approve • 05 = Decline • 85 = Approve, but require additional authentication |
| DE 48 Transaction Category Code | CE | CE | | <ul style="list-style-type: none"> • Must be the same value as the original Authorization Request/0100 |
| DE 48 (Additional Data—Private Use), subelement 82 (Address Verification Service) | CE | CE | | <ul style="list-style-type: none"> • 52 = AVS and Authorization Request/0100 |
| DE 48 (Additional Data—Private Use), subelement 83 (Address Verification Service Response) | C | | • | <ul style="list-style-type: none"> • The AVS response code |
| DE 48 (Additional Data—Private Use), subelement 87 (Card Validation Code Result) | C | | • | <ul style="list-style-type: none"> • The CVC 2 result code |
| DE 48 (Additional Data—Private Use), subelement 92 (CVC 2) | CE | CE | | <ul style="list-style-type: none"> • Must be the same value as the original Authorization Request/0100 |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|--|
| DE 56 (Payment Account Data) | C | X | C | PAR value provided by the Issuer when Issuer or its designated service provider is BIN Controller (Mastercard is not BIN Controller). |
| DE 124 (Member-defined Data) | C | • | • | See layout for DE 124. If the issuer responds with DE 39 = 00 or 85, the issuer may optionally provide DE 124. If the issuer responds with DE 39 = 05, DE 124 must not be present. |

DE 124 Subfields in Authorization Request Response/0110—Tokenization Authorization

These are the subfields available in DE 124 in an Authorization Request Response/0110 message to support the Tokenization Authorization for the Mastercard Digital Enablement Service.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values must be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|---|----------------------|--|
| Issuer Product Configuration ID | ans-10 | The unique product configuration identifier provided by the issuer that identifies a particular set of card art, texts and other product related data, provided during the issuer enablement or maintenance process. By specifying the Issuer Product Configuration ID on the Token Eligibility Request Response, an issuer may override the usual Product Configuration assigned as the default at Account Range level. This allows greater control over exactly which card art and related card product data gets applied as part of a specific tokenization process. However, this does not provide a mechanism to override the Issuer Terms and Conditions file which always comes from the default Product Configuration(s) assigned at Account Range level. |
| Primary Account Number Card Sequence Number | ans-3, leading zeros | The card sequence number associated with the primary account number. |

| Subfield Name | Attributes | Values/Comments |
|---|-------------------|--|
| Token Data and Activation Method(s) | ans...286 | <p>The subfield can have zero to multiple groupings of three Token Data and Activation Method Type, Token Data and Activation Method Value, and Delimiter.</p> <p>When the issuer responds with DE 39 = 85 (Approve, but require additional authentication), the issuer may provide one or more activation methods by which the consumer can retrieve the activation code. If the issuer responds with DE 39 = 00 (Approve) or 05 (Decline) activation methods will not be present. If the issuer responds with DE 39 = 85 but uses an issuer-specified default for the activation method, activation methods may not be present.</p> <p>When the issuer responds with DE 39 = 00 (Approve) or DE 39 = 85 (Approved, but require additional authentication), the issuer may provide zero to multiple token personalization data.</p> |
| • Token Data and Activation Method Type | an-1 | <p>1 = Masked mobile phone number (activation method)</p> <p>2 = Masked email address (activation method)</p> <p>3 = Automated call center phone number (activation method)</p> <p>4 = Call center phone number (activation method)</p> <p>5 = Website (activation method)</p> <p>6 = Mobile application (activation method)</p> <p>7 = Masked voice call phone number (activation method)</p> <p>a = Alternate account identifier</p> <p>t = One or multiple token personalization data items</p> |

| Subfield Name | Attributes | Values/Comments |
|--|------------|--|
| • Token Data and Activation Method Value | ans...283 | <p>When the Token Data and Activation Method Type is 1, 2, 3, 4, 5, 6, or 7 the issuer must provide values used to specify an activation method. See Examples 1, 2, 3, and 4 for examples of Token Data and Activation Method(s) containing activation method values.</p> <p>When the Token Data and Activation Method Type is t, the issuer must provide one or multiple proprietary token personalization data items that MDES will include in the token profile. See Example 8 for an example of Token Data and Activation Method(s) containing multiple token personalization data items.</p> <p>Each token personalization data item can have one to multiple instances of couples Token Personalization Data and Separator.</p> <p>Token Personalization Data: Base64 encoded data. Structure and content of data is defined separately per <i>Mastercard Digital Enablement Service (MDES) Issuer Implementation Guide</i>. See Examples 6 and 7.</p> |
| Separator | ans...1 | Each separate token personalization data (including after the last) will be delimited by a “~” character. |

See Example 5 for an example of Token Data and Activation Method(s) containing multiple activation method values and multiple token personalization data items.

| Subfield Name | Attributes | Values/Comments |
|---------------|------------|--|
| • Delimiter | ans-2 | <p>If multiple Token Data and Activation Methods are provided by the issuer, the issuer must separate each method with the " " delimiter.</p> <p>NOTE: When at least another grouping of three Token Data and Activation Method Type, Token Data and Activation Method Value, and Delimiter follows, then the Delimiter has attributes of ans-1.</p> <p>Delimiter Values:</p> <p>" " indicates that another Token Data or Activation Method follows.</p> <p>Following the last character of the final Token Data and Activation Method in the field, the issuer should include two " " delimiters.</p> <p>" " indicates the last Token Data and Activation Method.</p> |

Examples

| Example | Description |
|---------|--|
| 1 | An example of Token Data and Activation Method(s) subfield containing only a masked mobile phone number activation method: 1(###)###4567 |
| 2 | An example of Token Data and Activation Method(s) subfield containing the masked email address activation method and the automated call center phone number activation method: 2a***d@anymail.com 3(555)1234567 |
| 3 | An example of Token Data and Activation Method(s) subfield containing the call center phone number activation method, the website activation method and the masked voice call phone number activation method: 4(555)1238901 5http://www.anybank.com 6com.anybank.mobileapp |
| 4 | An example of Token Data and Activation Method(s) subfield containing only a masked voice call phone number activation method: 7(###)###4567 |
| 5 | An example of Token Data and Activation Method(s) subfield containing mobile application activation method, masked email address activation method and some personalization data for the token profile: 6com.anybank.mobileapp 2a***d@anymail.com tBJ9uCwJQAAEwOQECAwQFX1UCR1I=~CwECAwQFBgc=~ |

| Example | Description |
|----------------|---|
| 6 | An example of Token Personalization Data: "BJ9uCwJQAAEwOQECAwQFX1UCR1I=" that is "049F6E 0B 0250 0001 3039 0102030405 5F55 02 4652" base64 encoded. The purpose of Token Personalization Data is to replace default Third Party Data (9F6E) and add Issuer Country Code (5F55) in Contactless FCI Issuer Discretionary Data. |
| 7 | An example of Token Personalization Data: "CwECAwQFBgc=" that is "0B01020304050607" base64 encoded. The purpose of Token Personalization Data is to create a new tag "9F70" (Protected Data Envelope) readable through GET DATA on both Management and Contactless Payment interfaces. |
| 8 | An example of Token Data and Activation Method(s) subfield containing multiple token personalization data items: tBJ9uCwJQAAEwOQECAwQFX1UCR1I=~CwECAwQFBgc=~ |

Authorization Request/0100—Activation Code Notification

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for Activation Code Notification. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 2 (Primary Account Number) | • | X | M | Cardholder's primary account number |
| DE 3 (Processing Code) | • | X | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | • | X | M | Will be zero |
| DE 14 (Date, Expiration) | • | X | C | Cardholder's primary account expiration date |
| DE 22 (POS Entry Mode) | • | X | M | Subfield 1 (POS Terminal PAN Entry Mode) = 01 (PAN manual entry) Subfield 2 (POS Terminal PIN Entry Mode) = 0 (Unspecified or unknown) |
| DE 48 Transaction Category Code | • | X | C | T (Phone, Mail, or Electronic Commerce Order) |
| DE 48 (Additional Data—Private Use), subelement 23 (Payment Initiation Channel) | • | X | C | Value indicating the type of device for which the consumer is requesting tokenization of a primary account number. |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 48, subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) | • | X | C | Contains the identifier associated with the Wallet Provider |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 1 (Account Number Indicator) | • | X | C | <p>Contains the type of PAN mapping account. Possible values:</p> <ul style="list-style-type: none"> • C = When MDES Secure Element Device Token • H = When MDES Cloud-based Payments Device Token • F = When MDES Card on File Token |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 2 (Account Number) | • | X | C | Indicates the PAN mapping account |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) | • | X | C | Contains the ID assigned by the Token Service Provider to the Token Requestor. |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | • | X | M | 9 = Tokenization Request/Notification |
| DE 124 (Member-defined Data) | • | X | M | See layout for DE 124. |

DE 124 Subfields in Authorization Request/0100—Activation Code Notification

These are the subfields available in DE 124 in the Authorization Request/0100 message for Activation Code Notification for the Mastercard Digital Enablement Service.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|----------------------|-------------------|---|
| Message Type | an-2 | AC = Activation Code Notification (ACN) |

| Subfield Name | Attributes | Values/Comments |
|--|---|---|
| Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. |
| Activation Code | ans-8, left-justified, padded with spaces | Activation code assigned by Mastercard that will be provided to the issuer for delivery to the consumer to complete the tokenization process. |
| Activation Code Expiration Date and Time | n-10 | Date and time that the activation code expires specified in UTC units. Format: YYMMDDhhmm |
| Consumer's Activation Method Preference | ans..165 | This field contains the activation method selected by the consumer, if only one was offered by the issuer, then that activation method. There will be only one method contained within this field. This field will only be present if the cardholder provides a choice. |
| Name | Attributes | Values/Comments |
| Activation Method Type | n-1 | 1 = Masked mobile phone number 2 = Masked email address 3 = Automated call center phone number 4 = Call center phone number 5 = Website 6 = Mobile application 7 = Masked voice call phone number |
| Activation Method Value | ans...164 | Refer to the following examples |

Examples

1(###) ### 4567

1 = Masked mobile phone number

The 1 will be followed by the masked mobile phone number.

2a***d@anymail.com

2 = Masked email address

The 2 will be followed by the consumer's masked email address (the issuer will mask according to their own format).

3(555) 123 4567

3 = Automated call center phone number

The 3 will be followed by the phone number. This phone number is not masked.

4(555) 123 8901

4 = Call center phone number

The 4 will be followed by the phone number. This phone number is not masked.

5http://www.anybank.com

5 = Website

The 5 will be followed by the issuer's website URL.

6com.anybank.mobileapp

6 = Mobile app

The 6 will be followed by the issuer's mobile app information, the content of which depends upon the mobile device operating system.

7(###) ### 2345

7 = Masked voice call phone number

The 7 will be followed by the masked voice call phone number.

Authorization Request Response/0110—Activation Code Notification

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for Activation Code Notification. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|----------------------------|-----|-----|-----|---|
| DE 3 (Processing Code) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 4 (Amount, Transaction) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 39 (Response Code) | M | • | • | 00 = Approved |

NOTE: DE 124 is not present.

Authorization Request/0100—Tokenization Complete Notification

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for Tokenization Complete Notification. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|-----|-----|-----|---|
| DE 2 (Primary Account Number) | • | X | M | Cardholder's primary account number |
| DE 3 (Processing Code) | • | X | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | • | X | M | Will be zero |
| DE 14 (Date, Expiration) | • | X | C | Cardholder's primary account expiration date |
| DE 22 (POS Entry Mode) | • | X | M | Subfield 1 (POS Terminal PAN Entry Mode) = 01 (PIN manual entry) Subfield 2 (POS Terminal PIN Entry Mode) = 0 (Unspecified or unknown) |
| DE 48 Transaction Category Code | • | X | C | T (Phone, Mail, or Electronic Commerce Order) |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48 (Additional Data —Private Use), subelement 23 (Payment Initiation Channel) | • | X | C | Value indicating the type of device for which the consumer is requesting tokenization of a primary account number. |
| DE 48, subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) | • | X | C | Contains the identifier associated with the Wallet Provider. |
| DE 48 (Additional Data —Private Use), subelement 33 (PAN Mapping File Information), subfield 1 (Account Number Indicator), subfield 2 (Account Number), subfield 3 (Expiration Date), subfield 5 (Token Assurance Level), subfield 6 (Token Requestor ID), and subfield 8 (Storage Technology) | • | X | C | Subfield 1 indicates the type of PAN mapping account. Subfield 2 indicates the PAN mapping account number. Subfield 3 indicates the expiration date of the PAN mapping account. Subfield 5 indicates Token Assurance Level Subfield 6 contains the ID assigned by the Token Service Provider to the Token Requestor. Subfield 8 indicates Storage Technology of the token. |
| DE 56 (Payment Account Data) | • | X | C | This is only for MD5 Tokenization Complete Notifications. |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | • | X | M | 9 = Tokenization Request/Notification |
| DE 124 (Member-defined Data) | • | X | M | See layout for DE 124. |

DE 124 Subfields in Authorization Request/0100—Tokenization Complete Notification

These are the subfields available in DE 124 in the Authorization Request/0100 message for Tokenization Complete Notification for the Mastercard Digital Enablement Service.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|--|--|--|
| Message Type | an-2 | TC = Tokenization Complete Notification (TCN) |
| Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. |
| Number of Active Tokens for the Primary Account Number | ans-2, leading zeros | Number of active or suspended tokens for the primary account number digitized to consumer devices. Space-filled when token present in DE 48, subelement 33, subfield 2 (Account Number) in an 0100 Tokenization Complete Notification message is digitized to a server. |
| Issuer Product Configuration ID | ans-10 | The unique product configuration identifier provided by the issuer that identifies a particular set of card art, texts and other product related data, provided during the issuer enablement or maintenance process. |
| Consumer Language | a-2 | Language preference selected by the consumer. |
| Device Name | ans-20, left-justified, padded with spaces | Name that the consumer has associated to the device with the Wallet Provider. |
| Final Tokenization Decision | ans-1 | The final tokenization decision that was used in the tokenization of the card: 1 = Approve 2 = Approve, but require additional authentication |
| Final Tokenization Decision Indicator | ans-1 | The element of the Service that was responsible for determining the final tokenization decision: 1 = Tokenization Eligibility Response 2 = Tokenization Authorization Response 3 = Issuer pre-defined tokenization rules 4 = Mobile Application |

| Subfield Name | Attributes | Values/Comments |
|---|--|--|
| T&C Identifier | ans-32, left-justified, padded with spaces | Identifier associated with the version of terms and conditions accepted by the consumer. |
| T&C Date and Time | ans-10 | Date and time that the consumer accepted the terms and conditions of the Service specified in UTC units. Format: YYMMDDhhmm |
| Number of Activation Attempts | ans-1 | Number of activation code entry attempts by the cardholder. Space-filled when DE 124, subfield 14 (Token Type) value is F. |
| Token Unique Reference | ans-48, left-justified, padded with spaces | Service-allocated unique reference to the token. |
| Primary Account Number Unique Reference | ans-48, left-justified, padded with spaces | Service-allocated unique reference to the Primary Account Number that was tokenized. |
| Token Type | an-1 | <p>Contains a value indicating the type of token present in DE 48, subelement 33, subfield 2 (Account Number) in an 0100 Tokenization Complete Notification message.</p> <p>C = Mastercard Cloud-based Payments</p> <p>F = Card on File</p> <p>S = Embedded Secure Element</p> |

Authorization Request Response/0110—Tokenization Complete Notification
 Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for Tokenization Complete Notification. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--------------------------|-----|-----|-----|--|
| DE 3 (Processing Code) | ME | ME | • | Must be the same value as the original Authorization Request/0100. |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|----------------------------|-----|-----|-----|--|
| DE 4 (Amount, Transaction) | ME | ME | • | Must be the same value as the original Authorization Request/0100. |
| DE 39 (Response Code) | M | • | • | 00 = Approved |

NOTE: DE 124 is not present.

Authorization Request/0100—Tokenization Event Notification

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for Tokenization Event Notification. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 2 (Primary Account Number) | • | X | M | Cardholder's primary account number |
| DE 3 (Processing Code) | • | X | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | • | X | M | Will be zero |
| DE 14 (Date, Expiration) | • | X | C | Cardholder's primary account expiration date |
| DE 22 (POS Entry Mode) | • | X | M | Subfield 1 (POS Terminal PAN Entry Mode) = 01 (PAN manual entry) |
| | | | | Subfield 2 (POS Terminal PIN Entry Mode) = 0 (Unspecified or unknown) |
| DE 48 Transaction Category Code | • | X | C | T (Phone, Mail, or Electronic Commerce Order) |
| DE 48 (Additional Data—Private Use), subelement 23 (Payment Initiation Channel) | • | X | C | Value indicating the type of device for which the consumer is requesting tokenization of a primary account number. |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 48, subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) | • | X | C | Contains the identifier associated with the Wallet Provider. |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information), subfield 1 (Account Number Indicator), subfield 2 (Account Number), subfield 3 (Expiration Date), and subfield 6 (Token Requestor ID) | • | X | C | Subfield 1 indicates the type of PAN mapping account. Subfield 2 indicates the PAN mapping account number. Subfield 3 indicates the expiration date of the PAN mapping account. Subfield 6 contains the ID assigned by the Token Service Provider to the Token Requestor. |
| DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status) | • | X | M | 9 = Tokenization Request/Notification |
| DE 124 (Member-defined Data) | • | X | M | See layout for DE 124. |

DE 124 Subfields in Authorization Request/0100—Tokenization Event Notification

These are the subfields available in DE 124 in an Authorization Request/0100 message to support Tokenization Event Notification.

Absolute positioning of data in DE 124 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value, the subfield(s) will not be present and the total length of DE 124 will be reduced by the subfield length(s).

| Subfield Name | Attributes | Values/Comments |
|----------------|------------|--|
| Message Type | an-2 | TV = Tokenization Event Notification (TVN) |
| Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. |

| Subfield Name | Attributes | Values/Comments |
|--------------------------------|-------------------|--|
| Tokenization Event Indicator | n-1 | <p>Value indicating the event that has occurred on the Mastercard Digital Enablement Service for the token.</p> <hr/> <p>3 = Deactivate</p> <p>4 = Deleted from consumer device</p> <p>6 = Suspend</p> <p>7 = Resume</p> <p>8 = Tokenization Exception Event</p> <p>9 = Replacement</p> |
| Tokenization Event Reason Code | an-2 | <p>If Tokenization Event Indicator contains value 8 (Tokenization Exception Event), this field contains a value indicating the event reason. If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will not be present.</p> <hr/> <p>00 = Activation code retries exceeded</p> <p>01 = Activation code expired or invalidated</p> <p>02 = Activation code entered incorrectly by cardholder</p> |

| Subfield Name | Attributes | Values/Comments |
|----------------------|-------------------|--|
| Event Requestor | ans-1 | <p>If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will contain a value indicating the party that requested the event. If the Tokenization Event Indicator contains a value of 8 (Tokenization Exception Event) this field will be space filled.</p> <p>0 = Indicates the Tokenization Event was requested by the Wallet Provider or Token Requestor</p> <p>1 = Indicates the Tokenization Event was requested by the Funding Account issuer</p> <p>2 = Indicates the Tokenization Event was requested by the Cardholder</p> <p>3 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only)</p> <p>4 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Change Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only)</p> <p>5 = Reserved for future use</p> <p>6 = Reserved for future use</p> <p>7 = Reserved for future use</p> <p>8 = Reserved for future use</p> |

| Subfield Name | Attributes | Values/Comments |
|---------------|------------|-----------------------------|
| | | 9 = Reserved for future use |

Authorization Request Response/0110—Tokenization Event Notification

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for Tokenization Event Notification. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|----------------------------|-----|-----|-----|---|
| DE 3 (Processing Code) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 4 (Amount, Transaction) | ME | ME | • | Must be the same value as the original Authorization Request/0100 |
| DE 39 (Response Code) | M | • | • | 00 = Approved |

NOTE: DE 124 will not be present.

Issuer File Update Request/0302—Maintenance (Token/PAN Update)

Following is a list of the data elements and values applicable to this message type. All mandatory Issuer File Update Request/0302 data elements apply.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|-----|-----|-----|--|
| DE 2 (Primary Account Number) | M | M | • | Contains the cardholder's primary account number |
| DE 91 (Issuer File Update Code) | M | M | • | Contains the Issuer File Update function code. Valid value will be 2 (Update). |
| DE 101 (File Name) | M | M | • | MCC106 (PAN Mapping File) |
| DE 120 (Record Data) | M | M | • | Contains token and PAN information. Refer to the layout of DE 120. |

DE 120 Layout for MCC106 Mastercard Digital Enablement Service (Token Update)

The following table provides the technical details of DE 120 (Record Data) when DE 101 (File Name) contains the value MCC106 (Mastercard Digital Enablement Service Mapping File PAN Update) in the Issuer File Update Request/0302 message.

| Field ID and Name | | Attributes | Values/Comments |
|--------------------------|--------------------------------------|-------------------|---|
| 1 | Mapping File Indicator | an-1 | M = Mastercard Digital Enablement Service Tokens excluding Card on File Tokens A = All Mastercard Digital Enablement Service Tokens including Card on File Tokens Best practice for the issuer to use value A |
| 2 | Replacement PAN | ans-19 | Number replacing the number that is embossed, encoded, or both on the card (the primary account number). Customers may input only account numbers for BINs assigned to the associated customer ID assigned by Mastercard. The issuer has the option to provide a replacement primary account number for association to the token. Format: Left-justified, with trailing spaces |
| 3 | Replacement PAN Expiration Date | n-4 | Expiration date that is associated with the number replacing the number that is embossed, encoded, or both on the card that represents the cardholder primary account number. If the issuer has provided a replacement primary account number, this field contains the expiration date that is associated with the replacement primary account number. If the issuer has not provided a replacement primary account number, this field contains the expiration date of the existing primary account number. Format: YYMM |
| 4 | Primary Account Card Sequence Number | ans-3 | If the issuer has provided a replacement primary account number, this field will contain the card sequence number associated with the replacement primary account number. If the issuer has not provided a replacement primary account number, this field will contain the card sequence number associated with the original primary account number. Format: Left-justified, padded with leading zeros. |

| Field ID and Name | Attributes | Values/Comments | |
|-------------------|--|--|--|
| 5 | Notify Wallet Service Provider Indicator | n-1 | If the issuer has provided a replacement primary account number and replacement primary account number expiration date, this field indicates whether the Wallet Provider should be notified of the change. |
| | | Values: | <ul style="list-style-type: none"> • 0 = Update token mapping information and notify the Wallet Provider with the primary account number information • 1 = Update token mapping information, but do not notify the Wallet Provider with the primary account number information • 2 = Do not update token mapping information, but do update the Wallet Provider with the primary account number information |
| 6 | Token—if replacing a specific token | ans-19 | Surrogate value for a PAN that is consistent with ISO message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check. |
| | | Format: Left-justified, with trailing spaces | If field not present, update shall apply to all token to PAN mappings associated with the PAN |

DE 120 Layout for MCC106 Mastercard Digital Enablement Service (PAN Update—Deactivate/Suspend/Resume Token)

The following table provides the technical details of DE 120 (Record Data) when DE 101 (File Name) contains the value MCC106 (Mastercard Digital Enablement Service Mapping File PAN Update) in the Issuer File Update Request/0302 message.

| Field ID | Name | Attributes | Values/Comments |
|----------|------------------------|------------|---|
| 1 | Mapping File Indicator | an-1 | <p>M = Mastercard Digital Enablement Service tokens excluding Card on File tokens.</p> <p>A = All Mastercard Digital Enablement Service tokens including Card on File tokens.</p> <p>Best practice for the issuer to use value A.</p> |

| Field ID | Name | Attributes | Values/Comments |
|-----------------|--|-------------------|---|
| 2 | Action Required | an-1 | <p>S = Suspend token</p> <p>D = Deactivate token</p> <p>C = Resume token</p> |
| 3 | Notify Wallet Service Provider indicator | n-1 | <p>This field indicates whether the Wallet Provider should be notified of the change.</p> <p>Value:</p> <ul style="list-style-type: none"> • 0 = Update token mapping information and notify the Wallet Provider with the primary account number information. |
| 4 | Token—if updating a specific token | ans-19 | <p>Surrogate value for a PAN that is consistent with ISO message requirements and is a 13–19-digit numeric value that passes basic validation rules of an account number, including the LUHN check.</p> <p>Format: Left-justified, with trailing spaces.</p> <p>If not present, do across the board switch—based on Field 1. If field not present, Update shall apply to all token to PAN mappings associated with the PAN.</p> |

Issuer File Update Request Response/0312—Issuer Token Maintenance Response (Token/PAN Update)

Following is a list of the data elements and values applicable to this message type. All mandatory Issuer File Update Request Response/0312 data elements apply.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|----------------------------------|------------|------------|------------|--|
| DE 2 (Primary Account Number) | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| DE 39 (Response Code) | • | M | M | Indicates disposition of Issuer File Update Request/0302. |
| DE 44 (Additional Response Data) | • | C | C | May contain additional response information, based on DE 39. Error messages should spell out field in error (ex: 120XXX) |
| DE 91 (Issuer File Update Code) | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |
| DE 101 (File Name) | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|------------------------------|------------|------------|------------|--|
| DE 120 (Record Data) | • | ME | ME | Must be the same value as in the original Issuer File Update Request/0302. |

Administrative Advice/0620—Issuer Token Notification Advice

Mastercard will support new layouts for Administrative Advice/0620 messages to communicate activation codes to issuers in support of token issuance and to notify issuers that Mastercard has assigned a token on their behalf. Following is a list of the data elements and values applicable to this message type. All mandatory Administrative Advice/0620—System-generated data elements apply.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| Message Type Identifier (MTI) | • | X | M | Constant—0620 (Administrative Advice) |
| Bit Map, Primary | • | X | M | Mandatory |
| Bit Map, Secondary | • | X | M | Mandatory |
| DE 7 (Transmission Date and Time) | • | X | M | Transaction time stamp; UTC date and time that this transaction was entered into interchange |
| DE 11 (Systems Trace Audit Number [STAN]) | • | X | M | Transaction trace number; must be unique value for transaction initiator within each UTC day |
| DE 33 (Forwarding Institution ID Code) | • | X | M | Identifies the customer, institution, or Authorization Platform facility originating the Administrative Advice/0620 message |
| DE 42 (Card Acceptor Identification Code) | • | X | M | Identifies the card acceptor. |
| DE 56 (Payment Account Data) | • | X | C | This is only for MDES Tokenization Complete Notifications. |

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 60 (Advice Reason Code) | • | X | M | <p>Indicates the specific reason for the transmission of the Advice message</p> <p>Subfield 1 (Advice Reason Code) = 141 (Mastercard Digital Enablement Service Advice to Issuer)</p> <p>Subfield 2 (Advice Detail Code) = one of the following values:</p> <ul style="list-style-type: none"> • 0250 = Activation Code Notification (ACN) • 0251 = Tokenization Complete Notification • 0252 = Tokenization Event Notification |
| DE 63 (Network Data) | • | X | M | Contains the Banknet Reference Number that the Authorization Platform provides as a unique transaction ID. |
| DE 100 (Receiving Institution ID Code) | • | X | M | Identifies the customer, institution, or Authorization Platform facility that will receive this Administrative Advice/0620. |
| DE 120 (Record Data) | • | X | M | Contains activation code information. Refer to the associated DE 120 layout. |

DE 120 Layout for Administrative Advice/0620—Issuer Token Notification Advice for Activation Code Notification

The following table provides the technical details of DE 120 (Record Data) when DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) contains the value 141 (Mastercard Digital Enablement Service Advice to Issuer) and DE 60, subfield 2 (Advice Detail Code) contains the value 0250 (Activation Code Notification) in the Administrative Advice/0620 message.

Absolute positioning of data in DE 120 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value the subfield(s) will not be present and the total length of DE 120 will be reduced by the subfield length(s).

| Field ID and Name | Attributes | Values/Comments |
|--------------------------------------|------------|---|
| 1 Primary Account Number | an-19 | Cardholder's primary account number |
| 2 Primary Account Number Expiry Date | n-4 | Cardholder's primary account number expiration date |

| Field ID and Name | Attributes | Values/Comments | |
|--|---|--|--|
| 3 Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. | |
| 4 Activation Code | ans-8, left-justified, padded with spaces | Activation code assigned by Mastercard that will be provided to the issuer for delivery to the consumer to complete the tokenization process. | |
| 5 Activation Code Expiration Date and Time | n-10 | Date and time that the activation code expires specified in UTC units. Format: YYMMDDhhmm | |
| 6 Customer's Activation Method Preference | ans-165, left-justified, padded with spaces | This field contains the activation method selected by the consumer, if only one was offered by the issuer, then that activation method will be present. There will be only one method contained within this field. This field will only be present if the cardholder made a selection. | |
| Name | Attributes | Values/ Comments | |
| Activation Method Type | n-1 | 1 = Masked mobile phone number 2 = Masked email address 3 = Automated call center phone number 4 = Call center phone number 5 = Website 6 = Mobile application 7 = Masked voice call phone number | |
| Activation Method Value | ans...164 | See examples below. | |
| 7 Token Requestor ID | n-11 | Contains the identifier assigned by the Token Service Provider to the Token Requestor. | |
| 8 Wallet ID | ans-3 | Contains the identifier associated with the Wallet Provider. Presence of this field is conditional. | |

| Field ID and Name | Attributes | Values/Comments |
|--------------------------|-------------------|---|
| 9 Device Type | ans-2 | Indicates the type of device used. Presence of this field is conditional. |

Examples

"1###) ### 4567"

1 = Masked mobile phone number

The "1" will be followed by the masked mobile phone number.

"2a***d@anymail.com"

2 = Masked email address

The "2" will be followed by the consumer's masked email address (the issuer will mask according to their own format).

"3(555) 123 4567"

3 = Automated call center phone number

The "3" will be followed by the phone number. This phone number is not masked.

"4(555) 123 8901"

4 = Call center phone number

The "4" will be followed by the phone number. This phone number is not masked.

"5http://www.anybank.com"

5 = Website

The "5" will be followed by the issuer's website URL.

"6com.anybank.mobileapp"

6 = Mobile app

The "6" will be followed by the issuer's mobile app information, the content of which depends upon the mobile device operating system.

“7(###) ### 2345”

7 = Masked voice call phone number

The “7” will be followed by the masked voice call phone number.

DE 120 Layout for Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Complete Notification

The following table provides the technical details of DE 120 (Record Data) when DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) contains the value 141 (Mastercard Digital Enablement Service Advice to Issuer) and DE 60, subfield 2 (Advice Detail Code) contains the value 0251 (Tokenization Complete Notification) in the Administrative Advice/0620 message.

Absolute positioning of data in DE 120 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value the subfield(s) will not be present and the total length of DE 120 will be reduced by the subfield length(s).

| Field ID and Name | Attributes | Values/Comments |
|---|------------|--|
| 1 Token | an-19 | Surrogate value for a PAN that is consistent with ISO message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check. Format: Left-justified, with trailing spaces |
| 2 Token Expiration Date | n-4 | Expiration date associated with the token. |
| 3 PAN | an-19 | Number that is embossed, encoded, or both on the card (also known as the primary account number). Customers may input only account numbers for BINs assigned to the associated customer ID assigned by Mastercard. Format: Left-justified, with trailing spaces |
| 4 PAN Expiration Date | n-4 | Expiration date that is embossed, encoded, or both on the card that represents the cardholder primary account number (primary account number). Format: YYMM |
| 5 Token Service Provider Identification | a-1 | M = Mastercard Digital Enablement Service |
| 6 Token Assurance Level | n-2 | Assurance level assigned to the token (value between 00 and 99). |

| Field ID and Name | | Attributes | Values/Comments |
|--------------------------|--|----------------------|---|
| 7 | Token Requestor ID | n-11 | The ID assigned by Mastercard to the token requestor. |
| 8 | Contactless Usage | n-1 | <p>Contains value indicating if the token is permitted for use in contactless transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in contactless transactions • 1 = Token is permitted for use in contactless transactions |
| 9 | Card on File Electronic Commerce Usage | n-1 | <p>Contains value indicating if the token is permitted for use in card on file electronic commerce transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in Card on File electronic commerce transactions • 1 = Token is permitted for use in card on file electronic commerce transactions |
| 10 | Mobile/Digital Wallet Electronic Commerce Usage | n-1 | <p>Contains value indicating if the token is permitted for use in mobile/digital wallet electronic commerce transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in mobile/digital wallet electronic commerce transactions • 1 = Token is permitted for use in mobile/digital wallet electronic commerce transactions |
| 11 | Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages. |
| 12 | Number of Active Tokens for the Primary Account Number | ans-2, leading zeros | Number of active or suspended tokens for the primary account number digitized to consumer devices. Space-filled when token present in DE 48, subelement 33, subfield 2 (Account Number) in an 0100 Tokenization Complete Notification message is provisioned to a server. Presence of this field is conditional. |
| 13 | Issuer Product Configuration ID | ans-10 | The unique product configuration identifier applied to the token, as provided by the issuer, identifying a particular set of card art, texts, and other product related data, that were provided during the issuer enablement or maintenance process. Presence of this field is conditional. |
| 14 | Consumer Language | a-2 | Language preference selected by the consumer. Presence of this field is conditional. |

| Field ID and Name | | Attributes | Values/Comments |
|--------------------------|---|---|---|
| 15 | Device Name | ans-20, left- justified, padded with spaces | Name that the consumer has associated to the device with the Wallet Provider. Presence of this field is conditional. |
| 16 | Final Tokenization Decision | ans-1 | <p>The final tokenization decision that was used in the tokenization of the card.</p> <ul style="list-style-type: none"> • 1 = Approve • 2 = Approve but requires additional authentication <p>Presence of this field is conditional.</p> |
| 17 | Final Tokenization Decision Indicator | ans-1 | <p>The element of the Service that was responsible for determining the final tokenization decision:</p> <ul style="list-style-type: none"> • 1 = Tokenization Eligibility Response • 2 = Tokenization Authorization Response • 3 = Issuer pre-defined tokenization rules • 4 = Mobile Application <p>Presence of this field is conditional.</p> |
| 18 | T&C Identifier | ans-32, left justified, padded with spaces | Identifier associated with the version of terms and conditions accepted by the consumer. Presence of this field is conditional. |
| 19 | T&C Date and Time | ans-10 | <p>Date and time that the consumer accepted the terms and conditions of the Service, specified in UTC units.</p> <p>Format: YYMMDDhhmm</p> |
| 20 | Number of Activation Attempts | ans-1 | Number of activation code entry attempts by the cardholder. Space-filled when DE124, SF14 (Token Type) value is F. Presence of this field is conditional. |
| 21 | Token Unique Reference | ans-48, left justified, padded with spaces | Service-allocated unique reference to the token. |
| 22 | Primary Account Number Unique Reference | ans-48, left justified, padded with spaces | Service-allocated unique reference to the token. |

| Field ID and Name | Attributes | Values/Comments |
|--------------------------|-------------------|---|
| 23 Token Type | an-1 | <p>Contains a value indicating the type of token present in DE 120, field 1 (Token) in an 0620 Tokenization Complete Notification message.</p> <ul style="list-style-type: none"> • C = Mastercard Cloud-Based Payments • F = Card on File • S = Embedded Secure Element |
| 24 Wallet ID | ans-3 | Contains the identifier associated with the Wallet Provider. Presence of this field is conditional. |
| 25 Device Type | ans-2 | Indicates the type of device used. Presence of this field is conditional. |
| 26 Storage Technology | an-2 | Contains a value indicating the storage technology of the token. Presence of this field is conditional. |

NOTE: The Token Requestor ID is already being included in DE 120, field ID 7 of the Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Complete Notification message.

DE 120 Layout for Administrative Advice/0620—Issuer Token Notification Advice for Tokenization Event Notification

The following table provides the technical details of DE 120 (Record Data) when DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) contains the value 141 (Mastercard Digital Enablement Service Advice to Issuer) and DE 60, subfield 2 (Advice Detail Code) contains the value 0252 (Tokenization Event Notification) in the Administrative Advice/0620 message.

Absolute positioning of data in DE 120 subfields is required. Subfields not containing values will be populated with spaces when they are followed by subfields that contain values. If one or more subfields at the end of the data element do not contain a value the subfield(s) will not be present and the total length of DE 120 will be reduced by the subfield length(s).

| Field ID | Name | Attributes | Values/Comments |
|-----------------|--|-------------------|--|
| 1 | Primary Account Number | an-19 | Cardholder's primary account number |
| 2 | Primary Account Number Expiry Date | n-4 | Cardholder's primary account expiration date |
| 3 | Token (PAN mapping file information) | an-19 | Token |
| 4 | Token Expiration Date (PAN mapping file information) | an-4 | Token expiration date |

| Field ID | Name | Attributes | Values/Comments |
|-----------------|--|-------------------|---|
| 5 | Token Service Provider Identification | a-1 | M = Mastercard Digital Enablement Service |
| 6 | Correlation ID | an-14 | Identifier assigned by Mastercard to associate related tokenization request/notification messages |
| 7 | Tokenization Event Indicator | n-1 | <p>Value indicating the event that has occurred on the Mastercard Digital Enablement Service for the token</p> <p>3 = Deactivate 4 = Deleted from consumer device 6 = Suspend 7 = Resume 8 = Tokenization Exception Event 9 = Replacement</p> |
| 8 | Tokenization Event Reason Code | an-2 | <p>If the Tokenization Event Indicator contains value 8 (Tokenization Exception Event), this field contains a value indicating the event reason. If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will not be present.</p> <ul style="list-style-type: none"> • 00 = Activation code retries exceeded • 01 = Activation code expired or invalidated • 02 = Activation code entered incorrectly by cardholder |
| 9 | Contactless Usage | n-1 | <p>Contains value indicating if the token is permitted for use in contactless transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in contactless transactions • 1 = Token is permitted for use in contactless transactions |
| 10 | Card on File Electronic Commerce Usage | n-1 | <p>Contains value indicating if the token is permitted for use in card on file electronic commerce transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in Card on File electronic commerce transactions • 1 = Token is permitted for use in card on file electronic commerce transactions |

| Field ID | Name | Attributes | Values/Comments |
|-----------------|---|-------------------|--|
| 11 | Mobile/Digital Wallet Electronic Commerce Usage | n-1 | <p>Contains value indicating if the token is permitted for use in mobile/digital wallet electronic commerce transactions.</p> <p>Values:</p> <ul style="list-style-type: none"> • 0 = Token is not permitted for use in mobile/digital wallet electronic commerce transactions • 1 = Token is permitted for use in mobile/digital wallet electronic commerce transactions |
| 12 | Event Requestor | ans-1 | <p>If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will contain a value indicating the party that requested the event. If the Tokenization Event Indicator contains a value of 8 (Tokenization Exception Event) this field will be space filled.</p> <ul style="list-style-type: none"> • 0 = Indicates the Tokenization Event was requested by the Wallet Provider or Token Requestor • 1 = Indicates the Tokenization Event was requested by the Funding Account issuer • 2 = Indicates the Tokenization Event was requested by the Cardholder • 3 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only) • 4 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Change Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only) • 5 = Reserved for future use • 6 = Reserved for future use • 7 = Reserved for future use • 8 = Reserved for future use • 9 = Reserved for future use |
| 13 | Token Requestor ID | n-11 | Contains the identifier assigned by the Token Service Provider to the Token Requestor. |
| 14 | Wallet ID | ans-3 | Contains the identifier associated with the Wallet Provider. Presence of this field is conditional. |
| 15 | Device Type | ans-2 | Indicates the type of device used. Presence of this field is conditional. |

Administrative Advice Response/0630—Issuer Token Notification Advice Response

Following is a list of the data elements and values applicable to this message type. All mandatory Administrative Advice/0630 data elements apply.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| Message Type Identifier (MTI) | M | M | • | Constant—0630 (Administrative Advice Response) |
| Bit Map, Primary | M | M | • | Mandatory |
| Bit Map, Secondary | M | M | • | Mandatory |
| DE 7 (Transmission Date and Time) | ME | ME | • | Must be the same value as in the original Administrative Advice/0620 |
| DE 11 (Systems Trace Audit Number [STAN]) | ME | ME | • | Must be the same value as in the original Administrative Advice/0620 |
| DE 33 (Forwarding Institution ID Code) | ME | ME | • | Must be the same value as in the original Administrative Advice/0620 |
| DE 39 (Response Code) | M | M | • | Indicates the disposition of the original Administrative Advice/0620 |
| DE 44 (Additional Response Data) | C | C | • | May contain the additional error code information depending on the value in DE 39 |
| DE 63 (Network Data) | ME | ME | • | Must be the same value as in the original Administrative Advice/0620 |
| DE 100 (Receiving Institution ID Code) | ME | ME | • | Must be the same value as in the original Administrative Advice/0620 |

Message Layouts—Card on File Token Requests

The following Authorization message layouts support real-time messages for tokenization.

NOTE: These messages and message layouts will be decommissioned in a future release.

The following messages will be decommissioned in a future release:

- Authorization Request/0100—Token Request
- Authorization Request Response/0110—Token Request Response
- Authorization Request/0100—Token Requestor Card on File Token Maintenance/ Inquiry
- Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/ Inquiry

In conjunction with the decommissioning of the preceding Card on File token maintenance and inquiry messages, the following associated DE 124 formats will also be eliminated:

- DE 124 Layout—Card on File Token Maintenance/Inquiry Request
- DE 124 Layout—Card on File Token Maintenance Inquiry Response

Card on File tokens can be requested and maintained only through an API available to participating token requestors as part of their token services implementation. Token requestors and acquirers that process for merchants implementing a PAN tokenization strategy should contact their Mastercard representative for further information.

Authorization Request/0100—Token Request

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for tokenization requests. All mandatory Authorization Request/0100 data elements apply except where noted.

NOTE: Authorization Request/0100—Token Request messages will be decommissioned in a future release.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 2 (Primary Account Number) | M | • | M | Contains the cardholder's primary account number for which the Token Requestor is requesting a token to be issued |
| DE 3 (Processing Code) | M | • | M | Subfield 1 = 93 (Token Request) |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero |
| DE 14 (Date, Expiration) | M | • | M | Contains the expiration date associated with the cardholder's primary account number |
| DE 22 (Point-of-Service [POS] Entry Mode) | M | • | M | Contains POS entry mode value of 01 |
| DE 48 (Additional Data—Private Use), Transaction Category Code | M | • | M | TCC = U |
| DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data) | C | • | C | Contains the subfield that will identify transactions submitted using wallets |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information) | M | • | M | <p>The acquirer will provide the Token Requestor's ID and requested assurance level in the Token Request.</p> <p>This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present.</p> <ul style="list-style-type: none"> • Subfield 1 (Account Number Indicator) = Not present • Subfield 2 (Account Number) = Not present • Subfield 3 (Expiration Date) = Not present • Subfield 5 (Token Assurance Level) optional = Value between 00 and 99 representing the requested assurance level • Subfield 6 (Token Requestor ID) = The ID assigned by the Token Service Provider to the Token Requestor |

Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for the Token Requestor Card on File Token Maintenance/Inquiry. All mandatory Authorization Request/0100 data elements apply except where noted.

NOTE: Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry messages will be decommissioned in a future release.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|---|
| DE 2 (Primary Account Number) | M | • | M | Contains the card on file token for this update request/inquiry |
| DE 3 (Processing Code) | M | • | M | Subfield 1 = 93 (Token Request) |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 14 (Date, Expiration) | M | • | M | Contains the expiration date associated with the cardholder's card on file token |
| DE 22 (Point-of-Service [POS] Entry Mode) | M | • | M | Contains POS entry mode value of 01 |
| DE 48 (Additional Data—Private Use), Transaction Category Code | M | • | M | TCC = U |
| DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data) | C | • | C | Contains the subfield that will identify transactions submitted using wallets |
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information) | M | • | M | <p>The acquirer will provide the Token Requestor's ID and requested assurance level in the Token Request.</p> <p>This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present.</p> <ul style="list-style-type: none"> • Subfield 1 (Account Number Indicator) = Not present • Subfield 2 (Account Number) = Not present • Subfield 3 (Expiration Date) = Not present • Subfield 5 (Token Assurance Level) = Value between 00 and 99 representing the requested assurance level • Subfield 6 (Token Requestor ID) = The ID assigned by the Token Service Provider to the Token Requestor |
| DE 124 (Member-defined Data) | M | • | M | Contains token and PAN update/inquiry information. Refer to the DE 124 layout. |

Authorization Request Response/0110—Token Request Response

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for tokenization request responses. All mandatory Authorization Request Response/0110 data elements apply except where noted.

NOTE: Authorization Request Response/0110—Token Request Response messages will be decommissioned in a future release.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|-------------------------------|------------|------------|------------|--|
| DE 2 (Primary Account Number) | ME | • | ME | Contains the cardholder's primary account number for which the Token Requestor requested a token assignment. |
| DE 3 (Processing Code) | ME | • | ME | Subfield 1 = 93 (Token Request) |
| DE 4 (Amount, Transaction) | ME | • | ME | Must be zero. |
| DE 39 (Response Code) | M | • | M | Contains one of the following values: 00 = Approved or completed successfully 05 = Do not honor 58 = Transaction not permitted to acquirer/terminal 62 = Restricted card 85 = Not declined 96 = System Error |

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information) | C | • | C | <p>For tokens that reside in the Mastercard Token Service Provider, Mastercard will provide the token on the issuer's behalf in the response message to the acquirer.</p> <p>For tokens that reside at the issuer location, the participating issuer will send the token in this subelement and forward the response message to Mastercard. Mastercard will forward the token in the response message to the acquirer.</p> <p>This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present.</p> <ul style="list-style-type: none"> • Subfield 1 (Account Number Indicator) = F (Card on File Token Account Number) • Subfield 2 (Account Number) = Token • Subfield 3 (Expiration Date) = Token Expiration Date • Subfield 5 (Token Assurance Level) = Value between 00 and 99 indicating the assigned Token Assurance Level. • Subfield 6 (Token Requestor ID) = Same value as in the original Authorization Request/0100 message |

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) | M | • | M | <p>Subfield 1 (Merchant On-behalf [OB] Service) = 53 (Mastercard Digital Enablement Service Card on File PAN Mapping)</p> <p>Subfield 2 (Merchant On-behalf [OB] Result 1) contains one of the following values:</p> <ul style="list-style-type: none"> • C = Conversion of token to PAN completed successfully. • F = Format error; Incorrect POS Entry Mode (not equal to 81 or 82) applicable to Authorization Request/0100, Authorization Advice/0120 Acquirer-generated, and Reversal Request/0400 messages. • F = Format error; Token Requestor ID required (based on Token Requestor ID validation bypass parameter), not present (DE 48, subelement 33 not present), or not formatted correctly (DE 48, subelement 33 not formatted correctly). • I = Invalid; Token suspended or deactivated. • I = Invalid; Token not found on mapping table. • T = Invalid; Token Requestor ID/Token combination invalid. • U = Unable to process—Mapping Table unreachable/unavailable. • U = Unable to process—Token expired. |

DE 124 Layout—Card on File Token Maintenance/Inquiry Request

Mastercard will update the following DE 124 message layout for Authorization Request/0100 messages to support this release item.

NOTE: This message layout will be eliminated in a future release.

| Field ID and Name | Attributes | Values/Comments |
|--------------------------------------|-------------------|---|
| 1 Action Indicator | an-1 | <p>Indicates the action to be taken on the token provided in DE 2.</p> <ul style="list-style-type: none"> • 0 = Inquiry • 1 = Suspend token • 2 = Deactivate token • 3 = Resume token • 4 = Update PAN expiration date |
| 2 Replacement PAN Expiration Date | n-4 | <p>Expiration date that is replacing the number that is embossed, encoded, or both on the card that represents the cardholder's primary account number (primary account number).</p> <p>Format: YYMM</p> |

NOTE: The content of DE 124 is positional so the Field IDs are not part of the DE 124 content.

Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message type for the Token Requestor Card on File Token Maintenance/Inquiry. All mandatory Authorization Request Response/0110 data elements apply except where noted.

NOTE: Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry messages will be decommissioned in a future release.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|---|
| DE 2 (Primary Account Number) | ME | • | ME | Contains the card on file token for this update request/inquiry |
| DE 3 (Processing Code) | ME | • | ME | Subfield 1 = 93 (Token Request) |
| DE 4 (Amount, Transaction) | ME | • | ME | Must be zero |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 39 (Response Code) | M | • | M | <p>Contains one of the following values:</p> <p>00 = Approved or completed successfully</p> <p>58 = Transaction not permitted to acquirer/terminal</p> <p>85 = Not declined</p> <p>96 = System error</p> |
| DE 48 (Additional Data— Private Use), subelement 33 (PAN Mapping File Information) | C | • | C | <p>This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present.</p> <ul style="list-style-type: none"> • Subfield 1 (Account Number Indicator) = F (Card on File Token Account Number) • Subfield 2 (Account Number) = Token • Subfield 3 (Expiration Date) = Token Expiration Date • Subfield 5 (Token Assurance Level) = Value between 00 and 99 indicating the assigned Token Assurance Level. • Subfield 6 (Token Requestor ID) = Same value as in the original Authorization Request/0100 message |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 48 (Additional Data— Private Use), subelement 51 (Merchant On-behalf Services) | M | • | M | <p>Subfield 1 (Merchant On-behalf [OB] Service) = 56 (Mastercard Digital Enablement Service Card on File Tokenization and Maintenance)</p> <p>Subfield 2 (Merchant On-behalf [OB] Result 1) contains one of the following values:</p> <ul style="list-style-type: none"> • C = Tokenization request completed successfully. • F = Format error; Incorrect POS Entry Mode (not equal to 01) applicable to Authorization Request/0100 —Token Request and Authorization Request/0100 —Token Requestor Card on File Token Maintenance/ Inquiry messages. • F = Format error; Token Requestor ID required (based on Token Requestor ID validation bypass parameter), not present (DE 48, subelement 33 not present), or not formatted correctly (DE 48, subelement 33 not formatted correctly). • I = Invalid; Token Requestor ID invalid. • I = Invalid; Token not found on mapping table. • T = Invalid; Token Requestor ID/Token combination invalid. • U = Unable to process— Mapping Table unreachable/unavailable. • W = PAN listed in Electronic Warning Bulletin (EWB). |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|------------------------------|-----|-----|-----|---|
| DE 124 (Member-defined Data) | M | • | M | Contains token and PAN update inquiry response information. Refer to the DE 124 layout. |

DE 124 Layout—Card on File Token Maintenance Inquiry Response

Mastercard will update the following DE 124 message layout for Authorization Request Response/0110 messages to support this release item.

NOTE: This message layout will be eliminated in a future release.

| Field ID | Name | Attributes | Values/Comments |
|----------|-----------------------|------------|---|
| 1 | Token | n-19 | Token related to returned information |
| 2 | Token Expiration Date | n-4 | Expiration date associated with the card on file token Format: YYMM |
| 3 | Token Status | n-1 | <ul style="list-style-type: none"> • 1 = Active token • 2 = Suspended token • 3 = Deactivated token • 4 = Expired token |

Authorization Platform Edits

The Authorization Platform will perform the following system edits.

Following are Authorization Request/0100 message edits.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Primary Account Number in DE 2 (Primary Account Number) is within an account range participating in the Mastercard Digital Enablement Service, and DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) is a value other than 07, 09, 81, 90, or 91 | <p>Returns to the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 022 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The Authorization Request/0100 message contains a suspended or deactivated device token in DE 2 (Primary Account Number [PAN]) | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 62 (Restricted Card) and sends the issuer an Authorization Advice/0120 message where: <ul style="list-style-type: none"> • DE 39 = 62 • DE 48 (Additional Data—Private Use), subelement 71 (Valid Subfield 1 and Subfield 2 Value Combinations) value 50I (MDES PAN Mapping Service—Invalid Token) • DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code), 141 (MDES Advice to Issuer) • DE 60, subfield 2 (Advice Detail Code), 0202 (Token Suspended) or 0203 (Token Deactivated) |
| The Authorization Request/0100 message contains DE 22, subfield 1, value 90 and neither DE 35 (Track 2 Data) nor DE 45 (Track 1 Data) is present | Returns to the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 022 (indicating the data element in error) |
| The transaction is processed with DE 22, subfield 1 = 07, 09, or 91, but cryptography data are not present | Rejects the transaction according to the following: <ul style="list-style-type: none"> • DE 22, subfield 1 = 07—if DE 55 is not present, rejects with DE 39 = 30 and DE 44 = 022 in the Authorization Request Response/0110 message to the acquirer. • DE 22, subfield 1 = 09—if DE 55 is not present, rejects with DE 39 = 30 and DE 44 = 022 in the Authorization Request Response/0110 message to the acquirer. • DE 22, subfield 1 = 91—if DE 35 or 45 is not present, rejects with DE 39 = 30 and DE 44 = 022 in the Authorization Request Response/0110 message to the acquirer. |
| Mastercard Digital Enablement Service chip pre-validation or dynamic CVC 3 pre-validation is not successful on eligible transactions | Rejects the message with DE 39 (Response Code) = 05 (Do not honor). An advice message will be sent to the issuer. |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| Mastercard Digital Enablement Service PAN mapping is not successful on eligible transactions | Rejects the transaction with DE 39 = 14 (invalid card number). If mapping cannot be performed for technical reasons, rejects message with DE 39 = 96 (System error). An advice message will be sent to the issuer. |
| The Mastercard Digital Enablement Service cannot successfully perform the translation from an online PIN block based on the token to an online PIN block based on the primary account number in Authorization Request/0100 messages | <p>Rejects the transaction and sends the acquirer an Authorization Request Response/0110 message with:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 88 (Cryptographic failure) • DE 48 (Additional Data—Private Use), subelement 80 (PIN Service Code) = TI (The Authorization Platform was unable to translate the PIN.) <p>An advice will not be sent to the issuer.</p> |

Card on File PAN Mapping Service (DE 48, subelement 51, subfield 1 = 53)

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number)</p> <p>and</p> <p>DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) does not contain 81 (PAN entry via electronic commerce, including chip) or 82 (PAN Auto Entry via Server [issuer, acquirer, or third party vendor system])</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 022 • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 53 – subfield 2—Merchant On-behalf [OB] Result 1 = F (Format error) <p>The issuer will not receive an advice message.</p> |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number)</p> <p>and</p> <p>The Token Requestor ID is required but not present (DE 48, subelement 33 not present) or not formatted correctly (DE 48, subelement 33 not formatted correctly)</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 53– subfield 2—Merchant On-behalf [OB] Result 1 = F (Format error) <p>The issuer will not receive an advice message.</p> |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number) and the token is suspended or deactivated | Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where: <ul style="list-style-type: none">• DE 39 (Response Code) = 62 (Restricted Card)• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 53– subfield 2—Merchant On-behalf [OB] Result 1 = I (Token Suspended or Deactivated) <p>If the issuer has chosen to receive Card on File denied advice messages, then the issuer will receive an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none">• DE 2 (Primary Account Number) = FPAN• DE 48 subelement 33 (PAN Mapping File Information)<ul style="list-style-type: none">– subfield 1 (PAN Type) = F (Card on File token)– subfield 2 = Card on File Token• DE 60 (Advice Reason Code)<ul style="list-style-type: none">– subfield 1 = 141 (Mastercard Digital Enablement Service Advice to Issuer)– subfield 2 = 0202 (Token Suspended), 0203 (Token Deactivated) as applicable |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number) and the token is invalid/not found on our mapping tables</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 14 (Invalid Card Number)• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 53– subfield 2—Merchant On-behalf [OB] Result 1 = I (Token Invalid, Not Found on Mapping Table) <p>If the issuer has chosen to receive Card on File denied advice messages, then the issuer will receive an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none">• DE 2 (Primary Account Number) = (Card on File token)• DE 48, subelement 33 not present in advice to issuer (or the authorization response to acquirer) because PAN mapping cannot be performed• DE 60 (Advice Reason Code)<ul style="list-style-type: none">– subfield 1 = 141 (Mastercard Digital Enablement Service Advice to Issuer)– subfield 2 = 0213 (Invalid Token) |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number) and</p> <p>DE 48, subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) is invalid or is not associated with the Card on File token</p> | <p>Will reject the request, sending the acquirer an Authorization Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 58 (Transaction not permitted to acquirer/terminal)• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 53– subfield 2—Merchant On-behalf [OB] Result 1 = T (Token Requestor ID	TokenName Combination is invalid) <p>If the issuer has chosen to receive Card on File denied advice messages, then the issuer will receive an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none">• DE 2 (Primary Account Number) = PAN• DE 48 subelement 33 (PAN Mapping File Information)<ul style="list-style-type: none">– subfield 1 (PAN Type) = F (Card on File token)– subfield 2 = Card on File Token• DE 60 (Advice Reason Code)<ul style="list-style-type: none">– subfield 1 = 141 (Mastercard Digital Enablement Service Advice to Issuer)– subfield 2 = 0201 (Reject: Invalid Token Requestor ID	TokenName Relationship) |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number) and the Card on File service is temporarily unavailable</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 96 (System error) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 53 – subfield 2—Merchant On-behalf [OB] Result 1 = U (Unable to process) <p>The issuer will not receive an advice message.</p> |
| <p>The Authorization Request/0100, Authorization Advice/0120 Acquirer-generated or Reversal Request/0400 message contains a Card on File token in DE 2 (Primary Account Number) and the token is expired</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—Acquirer-generated, or Reversal Request Response/0410 message (as applicable) where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 54 (Expired Card) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 53 – subfield 2—Merchant On-behalf [OB] Result 1 = U (Unable to process) <p>The issuer will not receive an advice message.</p> |

Card on File Tokenization and Maintenance/Inquiry Service (DE 48, subelement 51, subfield 1 = 56)

Acquirer Tokenization Requests

Acquirer Tokenization Requests identified by DE 2 (Primary Account Number) = Primary Account Number and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) = 93 (Card on File Token Processing).

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100—Token Request message contains a DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) value other than 01 (PAN manual entry) | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Request message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 022 • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = F (Format error) <p>The issuer will not receive an advice message.</p> |
| <p>The Authorization Request/0100—Token Request message, Authorization Advice/0120—Acquirer-generated—Token Request message, or Reversal Request/0400—Token Request message contains a Card on File token in DE 2 (Primary Account Number)</p> <p>and</p> <p>The Token Requestor ID is required but not present (DE 48, subelement 33 not present) or not formatted correctly (DE 48, subelement 33 not formatted correctly)</p> | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Request message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 048 • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = F (Token Requestor ID Not Present) <p>The issuer will not receive an advice message.</p> |
| The Authorization Request/0100—Token Request message in DE 48, subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) is invalid or is not associated with the Card on File token | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Request message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 58 (Transaction not permitted to acquirer/terminal) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = I (Token Requestor ID Invalid) <p>The issuer will not receive an advice message.</p> |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Authorization Request/0100—Token Request message in DE 48, subelement 33 (PAN Mapping File Information) cannot be processed because the service is temporarily unavailable | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Request message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 96 (System Error) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = U (Unable to Process—Mapping Table Unreachable/Unavailable or No Response From Token Services) <p>The issuer will not receive an advice message.</p> |
| The Authorization Request/0100—Token Request message contains a PAN in DE 2 (Primary Account Number) that has been listed by the issuer in the Electronic Warning Bulletin (EWB) | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Request message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 62 (Restricted card) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = W (PAN listed in EWB) <p>The issuer will not receive an advice message.</p> |

When acquirer-requested Card on File tokenization is completed successfully, the acquirer will receive an Authorization Request Response/0110—Token Request message containing DE 48, subelement 51 value 56C indicating the service completed successfully and DE 48, subelement 33 containing the Card on File token and expiration date. Additionally, if the issuer has chosen to receive Card on File notification messages, then the issuer will receive an Administrative Advice/0620—Issuer Token Notification Advice message containing DE 60 subfield 1 = 141 and subfield 2 = 0251, indicating a successfully completed acquirer Card on File tokenization request.

Acquirer Maintenance/Inquiry Requests

Acquirer Maintenance/Inquiry Requests identified by DE 2 (Primary Account Number) = Card on File Token and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) = 93 (Card on File Token Processing) and DE 124 (Member-defined Data) present with subfield 1

(Action Indicator) = 0 (token inquiry) or 1–4 (token suspend, deactivate, resume, update expiration date).

| WHEN... | THEN the Authorization Platform... |
|---|---|
| The Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry message contains a DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) value other than 01 (PAN manual entry) | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 022• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 56– subfield 2—Merchant On-behalf [OB] Result 1 = F (Format error) <p>The issuer will not receive an advice message.</p> |
| The Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry message in DE 48, subelement 33 (PAN Mapping File Information), subfield 6 (Token Requestor ID) is invalid or is not associated with the Card on File token | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048• DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services)<ul style="list-style-type: none">– subfield 1—Merchant On-behalf [OB] Service = 56– subfield 2—Merchant On-behalf [OB] Result 1 = F (Token Requestor ID Not Present) <p>The issuer will not receive an advice message.</p> |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry message contains an account number in DE 2 (Primary Account Number) that is not present in the Card on File PAN mapping table | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 14 (Invalid Card Number) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = I (Token Not Found on Mapping Table—Token is Invalid) <p>The issuer will not receive an advice message.</p> |
| The Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry message contains an invalid combination of Token Requestor ID and Card on File token | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 58 (Transaction not permitted to acquirer/terminal) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = T (Token Requestor ID	TokenName Combination Invalid) <p>The issuer will not receive an advice message.</p> |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Authorization Request/0100—Token Requestor Card on File Token Maintenance/Inquiry message in DE 48, subelement 33 (PAN Mapping File Information) cannot be processed because the service is temporarily unavailable | <p>Will reject the request, sending the acquirer an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 96 (System Error) • DE 48 (Additional Data—Private Use), subelement 51 (Merchant On-behalf Services) <ul style="list-style-type: none"> – subfield 1—Merchant On-behalf [OB] Service = 56 – subfield 2—Merchant On-behalf [OB] Result 1 = U (Unable to Process—Mapping Table Unreachable/Unavailable or No Response From Token Services) <p>The issuer will not receive an advice message.</p> |

When acquirer-requested Card on File maintenance or inquiry is completed successfully, the acquirer will receive an Authorization Request Response/0110—Token Requestor Card on File Token Maintenance/Inquiry message containing DE 48, subelement 51 (Merchant On-behalf Services), value 56C indicating the service completed successfully.

Additionally, if the issuer has chosen to receive Card on File notification messages, then the issuer will receive an Administrative Advice/0620—Issuer Token Notification Advice message containing DE 60, subfield 1 (Advice Reason Code) = 141 and subfield 2 (Advice Detail Code) = 0252, indicating a successfully completed acquirer Card on File maintenance request (issuers will not be notified of acquirer Card on File inquiry requests).

PAN Mapping File Issuer File Update Requests

The Authorization Platform will perform the following system edits.

| WHEN the issuer... | THEN the Authorization Platform... |
|---|---|
| Uses DE 120, subfield 2 values other than C, S, or D in Issuer File Update Request/0302—Maintenance (Token/PAN Update) messages for MCC106 PAN Mapping File updates | <p>Receives an error response from the Account Management System (AMS) and forwards the issuer an 0312 response message indicating an error occurred, containing:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 27 (Issuer File Update field edit error) and • DE 44 (Additional Response Data) will = 120002 indicating DE 120 subfield 2 as the issue. |

MDES for Masterpass

This section describes the Mastercard Digital Enablement Service (MDES) for Masterpass options, Dynamic Token Verification Code and Dynamic Expiration Date.

Mastercard offers enhanced MDES processing to allow merchants and acquirers with legacy transaction processing systems that are not yet upgraded to support DSRP with UCAF or full EMV data, to submit transactions containing MDES secure element or cloud-based tokens when initiated from a Masterpass wallet. When submitted to the Mastercard Network these electronic commerce transactions benefit from a level of authentication even in the absence of cryptographic data.

Mastercard offers two new authentication options—a Dynamic Token Verification Code and Dynamic Expiration Date.

The Dynamic Token Verification Code alternative allows merchants that support card validation code 2 (CVC 2) (DE 48 [Additional Data—Private Use], subelement 92 [CVC 2]) capabilities to supply the wallet-provided Dynamic Token Verification Code and Dynamic Expiration Date in the applicable fields of the authorization request. For merchants that do not support CVC 2, the wallet will provide a Dynamic Expiration Date to include in authorization transaction requests.

MDES for Merchants

This section describes enhancements to the Mastercard Digital Enablement Service (MDES) for merchants program that provides a network tokenization service for merchants. The section provides the technical requirements for issuers choosing to participate in the program and for acquirers supporting merchants that are enrolled in the program.

NOTE: The following is effective 13 October 2017 in the U.S. Region, Canada Region, and Asia/Pacific Region. The effective dates for all other regions will be communicated by Mastercard in a future announcement.

Mastercard offers specific values and purpose to existing data elements in the Dual Message (Authorization) System to help issuers and acquirers identify the MDES for merchants program and participants throughout the authorization flow.

The following process explains an authorization transaction request when a token transaction is generated by an MDES for merchants participant.

1. When a merchant initiates the token transaction the tokenized transaction data is transmitted to the acquirer.
2. The acquirer initiates an authorization transaction request containing the following data and sends it to the Mastercard Network for initial purchase:
 - DE 2 (Primary Account Number [PAN]) with the token

- DE 22 (POS Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) value 81 (PAN entry via electronic commerce, including chip)
- DE 48, subelement 42 containing value 246 indicating Merchant Risk Management Decisioning
- DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]) with cryptographic data
- DE 61 (Point of Service [POS] Data), subfield 3 (POS Terminal Location)
 - Value 2 (Off premises), or
 - Value 4 (On premises of card acceptor facility [cardholder terminal including home PC, mobile phone, PDA])

Acquirers submitting recurring payments or partial shipment authorization transaction requests containing the following data:

- DE 2 (Primary Account Number [PAN]) with the token
 - DE 22 (POS Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) value 81 (PAN entry via electronic commerce, including chip)
 - DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 containing values:
 - Position 1, value 2 (Channel)
 - Position 2, value 4 (Digital Secure Remote Payment [DSRP] with UCAF data)
 - Position 3, value 7 (Partial shipment or recurring payment)
 - DE 48, subelement 43 not present
 - DE 61, subfield 3 = 2 (Off premises of card acceptor facility [cardholder terminal including home PC, mobile phone, PDA])
 - DE 61, subfield 4 = 4 (Standing order/recurring transactions) for recurring payment transactions or = 5 (Electronic order [home PC, Internet, mobile phone, PDA]) for partial shipments.
3. The Dual Message System (Authorization) will attempt to identify a PAN mapping relationship between the token sent by the acquirer, and an account PAN in the PAN mapping database. If the mapping or validation fails, MDES will reject the transaction back to the acquirer and merchant with the appropriate response, then generate an Authorization Advice/0120 response message to inform the issuer of the action. If the MDES services are successful, the Authorization Platform then sends the issuer the authorization transaction request containing:
- DE 2 (Primary Account Number [PAN]) with the cardholder's primary account number
 - DE 14 (Date, Expiration) with the primary account number's expiration date
 - DE 22, subfield 1, value 81 (PAN entry via electronic commerce, including chip)
 - DE 48, subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) value = 327
 - DE 48, subelement 30 (Token Transaction Identifier)
 - DE 48, subelement 33 containing:
 - Subfield 1 (Account Number Indicator), value H (Cloud-Based Token)
 - Subfield 2 (Account Number) containing the token
 - Subfield 3 (Expiration Date) containing the token expiration date

- Subfield 5 (Token Assurance Level) static value 00 to 99
- Subfield 6 (Token Requestor ID)
- Subfield 8 (Storage Technology)
- DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 containing value 246 indicating Merchant Risk Management Decisioning
- DE 48, subelement 42 (Electronic Commerce Indicators), subfield 1 containing value 247 for subsequent recurring payment and partial shipment transactions

NOTE: The Authorization Platform will validate or modify to the correct security level indicator (SLI) if needed. See the following for more details.

- DE 48, subelement 43 (Universal Cardholder Authentication Field [UCAF]) may be present if issuer has opted-in to receive cryptographic data
 - DE 48, subelement 71 (On-behalf Services) including:
 - 50C = Mastercard Digital Enablement Service PAN Mapping
 - 61V = Mastercard Digital Enablement Service Cloud-Based Payments Chip (EMV-level) Pre-Validation Service
4. The issuer responds with an authorization transaction response message, and the Authorization Platform provides the response to the acquirer containing the following:
 - DE 2 contains the token
 - DE 22, subfield 1, value 81 (PAN entry via electronic commerce, including chip)
 - DE 48, subelement 33, containing:
 - Subfield 1 (Account Number Indicator), value M (Primary Account Number)
 - Subfield 2 (Account Number)
 - Subfield 3 (Expiration Date) containing the expiration date
 - Subfield 5 (Token Assurance Level) static value 00 to 99
 - Subfield 6 (Token Requestor ID)
 5. The acquirer forwards the token and other authorization transaction response information to the merchant.

Mastercard Hosted Mobile Phone Top-Up ATM Transactions

Mastercard Hosted Mobile Phone Top-up supports Maestro®, Debit Mastercard®, and Mastercard® card transactions performed via ATMs in the Europe region. Mobile phone top-up functionality enables customers to top-up (that is, add credit to) their prepaid mobile phone service. Mobile Phone Top-up enables acquirers to provide cardholders the ability to “pay as you go” at the ATM for additional mobile phone minutes.

Authorization Request/0100—Mastercard Hosted Mobile Phone Top-Up

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 00 = Purchase |
| DE 4 (Amount, Transaction) | M | • | M | The top-up amount. |
| DE 12 (Time, Local Transaction) | C | • | C | The local time at which the transaction takes place at the point of card acceptor location. |
| DE 13 (Date, Local Transaction) | C | • | C | The local month and day on which the transaction takes place at the point of card acceptor location. |
| DE 18 (Merchant Type) | M | • | M | Card acceptor business code (MCC) 4814 (Telecommunication Services including but not limited to prepaid phone services and recurring phone services) |
| DE 43 (Card Acceptor Name/Location for ATM Transactions) | C | • | C | |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Z = ATM Cash Disbursement |
| DE 48, subelement 13 (Mastercard Hosted Mobile Phone Top-up Request Data) | C | • | C | Subfield 1 = Mobile Phone Number (Must be left-justified and cannot contain all spaces or all zeros.) Subfield 2 = Mobile Phone Service Provider Name (Must be left-justified and cannot contain all spaces or all zeros.) |
| DE 52 (Personal ID Number [PIN] Data) | M | X | M | DE 52 is mandatory for all ATM transactions. |
| DE 61 (Point-of-Service [POS] Data), subfield 10 (Cardholder-Activated Terminal Level) | C | • | C | 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN |

NOTE: Alternate processing is not applicable for Mastercard Hosted Mobile Phone Top-up transactions. If the primary issuer is not available or does not provide a timely response, the Authorization Platform will send the acquirer an Authorization Request Response/0110 message with DE 39, value 91 (Authorization System or issuer system inoperative).

Authorization Platform Edits

The following edits are performed on Authorization Request/0100 messages for Mastercard Hosted Mobile Phone Top-up transactions.

Authorization Request/0100 Edits

| WHEN the message contains... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 13 and One of the following data elements is not present: <ul style="list-style-type: none">• DE 12• DE 13• DE 43 | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 (Response Code) = 30 (Format error) DE 44 (Additional Response Data) = the data element in error |
| DE 48, subelement 13 is incorrectly formatted (for example, incorrect length, subfield 1 or 2 is not present, or subfield 1 or 2 contains all zeros or spaces) | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 048 |

Authorization Request Response/0110 Edits

| WHEN.... | THEN the Authorization Platform... |
|---|--|
| The value in DE 48, subelement 13 is different from the original Authorization Request/0100 message | Sends the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 048 |

Authorization Advice/0120—Acquirer-generated Edits

| WHEN the message contains... | THEN the Authorization Platform... |
|------------------------------|---|
| DE 48, subelement 13 | Declines the request with an Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 048 |

Reversal Request/0400 Edits

| WHEN the message contains... | THEN the Authorization Platform... |
|--|--|
| DE 3, subfield 1 (Transaction Type Code) is 00 (Purchase) and DE 48 position 1 (TCC) is Z and DE 48, subelement 13 (Mastercard Hosted Mobile Phone Top-up Request Data) is present | Declines the request with a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 003 |

Mastercard In Control Service

The Mastercard In Control™ platform provides for a number of advanced authorization, transaction routing, and alert controls designed to assist issuers in creating new and enhanced payment products.

Features

The Mastercard In Control platform allows issuers to leverage “off-the-shelf” solutions and to create customized offerings depending on the needs of their customers.

Among the advanced new features issuers can leverage to support their commercial card portfolios are:

- Enhanced authorization controls that direct how, when, and where cards may be used to a greater level of specificity than previously supported
- Robust alert functionality that provides personalized real-time communication about transaction activities
- A limited use number feature that allows authorization, spending limits, and usability controls to be set on a transaction-by-transaction basis, providing enhanced levels of security, control, data capture, and traceability on every purchase

Authorization Request/0100—In Control Purchase Control

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply. This layout applies to participating issuers only.

| Data Element | Org | Sys | Dst | Values/Comments |
|-------------------------------|-----|-----|-----|--|
| DE 2 (Primary Account Number) | M | • | M | Contains the cardholder's real account number |
| DE 14 (Date, Expiration) | C | • | C | The cardholder's real account number expiration date |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 48 (Additional Data—Private Use), subelement 33, (PAN Mapping File Information), subfield 1 (Account Number Indicator) | • | X | C | Indicates Mastercard In Control virtual card number V = Virtual Card Number |
| DE 48, subelement 33, subfield 2 (Account Number) | • | X | C | Virtual card number |
| DE 48, subelement 33, subfield 3 (Expiration Date) | • | X | C | VCN Expiration date |
| DE 48, subelement 71 (On-Behalf Services), subfield 1 (On-Behalf [OB] Service) | • | X | C | 17 = In Control Virtual Card Service |
| DE 48, subelement 71 (On-Behalf Services), subfield 2 (On-Behalf [OB] Result 1) | • | X | C | V = Valid |
| | | | | NOTE: If the Purchase Control service is unsuccessful, refer to Subfield 2—On-behalf Result 1 for a list of other valid values. |

Dual Message System Processing

This message describes Dual Message System processing of a Mastercard In Control Purchase Control transaction.

1. The acquirer sends an Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, or a Reversal Request/0400 message to the Mastercard Network containing the In Control virtual card number in DE 2 (Primary Account Number [PAN]).
2. The Authorization Platform applies unique controls for the In Control virtual card number and performs mapping to the cardholder's primary account number.
3. The Authorization Platform sends an Authorization Request/0100, Authorization Advice/0120—Acquirer-generated, or a Reversal Request/0400 message to the issuer containing:
 - DE 2 (Primary Account Number [PAN]) and DE 14 (Date, Expiration) with the cardholder's real account number and associated expiration date
 - DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information) where subfield 1 (Account Number Indicator) = value V (Virtual Card Number), subfield 2 (Account Number) = VCN (Virtual card number), and subfield 3 (Expiration Date) = VCN expiration date
 - DE 48, subelement 71 (On-Behalf Services) where subfield 1 (On-Behalf Services) = value 17 (In Control Virtual Card Service), subfield 2 (On-Behalf [OB] Result 1)—value V (Valid)
4. The issuer approves or declines the authorization request by sending an Authorization Request Response/0110, Authorization Advice Response/0130—Issuer-generated, or a Reversal Request Response/0410 message.

5. The Authorization Platform maps the cardholder's primary account number back to the In Control virtual card number, places it in DE 2 (Primary Account number [PAN]), and then forwards the Authorization Request Response/0110, Authorization Advice Response/0130, and Reversal Request Response/0410 messages to the acquirer.
6. The acquirer forwards the virtual card number and the authorization response information to the merchant.
7. If In Control processing cannot be completed, the Authorization Platform sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Request Response/0410 containing DE 39 (Response Code), value 96 (System error).

Mastercard In Control Virtual Card Service

The Mastercard In Control Virtual Card Service allows issuers to process partial approvals.

Issuers must opt-in to the Mastercard In Control Virtual Card Service when choosing to process partial approvals by registering with Mastercard.

Mastercard In Control Real Card Spend Control

The Mastercard In Control Real Card Spend Control service provides cardholders the ability to establish spend control rules for their pre-existing payment cards that are enforced during the authorization process.

These rules can be defined for both card-present and card-not-present transaction environments, and depending on the cardholder's pre-defined response rules, may result in an alert notification being generated to the cardholder or the transaction being declined on their behalf.

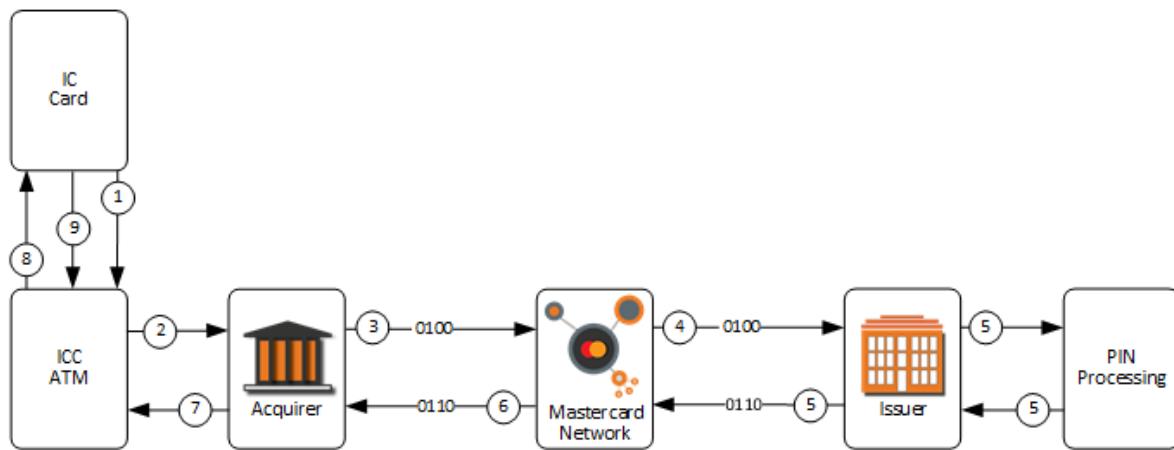
NOTE: Spend control rules can only be applied to transactions that flow through the Mastercard Network. Spend control rules are not applied to Authorization Advice/0120—Acquirer-generated and Reversal Request/0400 messages.

Process of a Mastercard In Control Service Eligible Transaction

This message flow describes the stages of the Dual Message System processing for a Mastercard In Control Service-eligible transaction.

The acquirer sends the Authorization Request/0100 message containing the Mastercard In Control real card number in DE 2 (Primary Account Number [PAN]) to the Mastercard Network.

| WHEN... | THEN In Control... |
|---|---|
| The transaction complies with the control rules established by the cardholder | Sends the issuer the Authorization Request/0100 message where DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 1 (On-behalf [OB] Service) contains value 20 (In Control—RCN Spend Control) and subfield 2 (On-behalf [OB] Result 1) contains value V (Valid). |
| The transaction does not comply with the control rules established by the cardholder and The cardholder has registered an action response of “decline and alert notification” upon rule failure | Declines the transaction and sends the acquirer an Authorization Request Response/0110 message where DE 39 (Response Code) contains a decline response. and Sends the issuer an Authorization Advice/0120—System-generated message where: <ul style="list-style-type: none"> • DE 48, subelement 71: <ul style="list-style-type: none"> – Subfield 1 contains value 20 – Subfield 2 contains the spend control rule that failed • DE 60 (Advice Reason Code): <ul style="list-style-type: none"> – Subfield 1 (Advice Reason Code) contains value 200 (In Control Processing Advice to Issuer) – Subfield 2 (Advice Detail Code) contains a valid advice reason code and Sends the cardholder an alert notification indicating rule failure. |
| The transaction does not comply with the spend control rules established by the cardholder and The cardholder has registered an action response of “alert notification only” upon rule failure, but no decline action | Sends the issuer an Authorization Request/0100 message where DE 48, subelement 71, subfield 1 is value 20 and subfield 2 indicates the spend control rule that failed. and Sends the cardholder an alert notification indicating rule failure. |



NOTE: If the transaction is declined (by the issuer, alternate issuer, Stand-In processing, or X-Code processing), or the issuer/alternate issuer performs a partial approval or purchase amount only approval, then the Authorization Platform sends an Authorization Advice/0120—System-generated message to Mastercard In Control to update the disposition of the transaction.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| Mastercard In Control is unavailable or responds late or The spend control rules have recently been removed | Populates DE 48, subelement 71 with subfield 1, value 20 and subfield 2, value U (Unable to process) and forwards the transaction to issuer. |

Authorization Request/0100—In Control Real Card Spend Control

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 2 (Primary Account Number) | M | • | M | Account range must participate in Mastercard In Control Real Card Spend Control Service; DE 2 contains the Mastercard In Control real card number |
| DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 1 (On-behalf [OB] Service) | • | X | C | 20 = In Control RCN Spend Control Service |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 2 (On-behalf [OB] Result 1) | • | X | C | Indicates the results of the service processing. Valid subfield 2 values: D, E, F, G, H, J, K, L, M, P, U, or V |

Authorization Advice/0120—In Control Real Card Spend Control

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 2 (Primary Account Number) | • | M | M | Account range must participate in Mastercard In Control Real Card Spend Control Service |
| DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 1 (On-behalf [OB] Service) | • | M | M | 20 = In Control RCN Spend Control Service |
| DE 48 (Additional Data—Private Use), subelement 71 (On-behalf Services), subfield 2 (On-behalf [OB] Result 1) | • | M | M | Indicates the results of the service processing. Valid subfield 2 values: D, E, F, G, H, J, K, L, M, P, U, or V |
| DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) | • | M | M | 200 = In Control Processing Advice to Issuer |
| DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) | • | M | M | Reject reason |
| DE 121 (Authorizing Agent ID Code) | • | C | C | 000003 = Applicable only to issuers participating in the In Control services and will only be present in Authorization Advice/0120—System-generated messages notifying issuers of a declined request due to a failed spend control rule defined by the cardholder |

Mastercard In Control Virtual Card Mapping and Spend Control Service

The Mastercard In Control platform leverages the same authorization and clearing data elements for mapping virtual card numbers to their real card account numbers as in the Mastercard In Control Purchase Control service and the Mastercard Contactless Mapping service. Issuers currently supporting the Mastercard Contactless Mapping service need only to

recognize new data values in existing data elements to support the Mastercard In Control Virtual Card Mapping and Spend Control service.

Authorization Request/0100—In Control Virtual Card Mapping and Spend Control Service

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 2 (Primary Account Number [PAN]) | M | • | M | The real card number |
| DE 48 (Additional Data—Private Use), Subelement 33 (PAN Mapping File Information) | • | X | C | The virtual account data |
| DE 48, Subelement 71 | • | X | C | The on-behalf service performed on the transaction |

Exception Processing

This message flow describes the Dual Message System processing for a Mastercard In Control Virtual Card Mapping and Spend Control service authorization transaction that was declined by In Control processing.

1. The acquirer sends an Authorization Request/0100 message to the Mastercard Network containing the In Control virtual card number in DE 2 (Primary Account Number [PAN]).
2. The Authorization Platform applies unique controls for the In Control virtual card number and performs mapping to the cardholder's primary account number.
3. If the transaction fails mapping, the Authorization Platform declines the request and sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130—System-generated, or a Reversal Request Response/0410 message.

If the transaction fails spend controls, the Authorization Platform declines the request and sends the acquirer an Authorization Request Response/0110 message.

4. If the transaction fails spend controls but PAN mapping is successful, the Authorization Platform sends an Authorization Advice/0120—System-generated message to the issuer containing:
 - DE 2 (Primary Account Number [PAN])
 - DE 48 (Additional Data—Private Use), subelement 33 (PAN Mapping File Information)
 - DE 48, subelement 71 (On-Behalf Services), subfield 1 (On-Behalf Services) value 17 (In Control Virtual Card Service) and subfield 2 (On-Behalf [OB] Result 1) containing the appropriate result value
 - DE 60 (Advice Reason code), subfield 1 (Advice Reason Code) = 200 (In Control Processing Advice to Issuer), subfield 2 (Advice Detail Code) = appropriate advice reason code

Mastercard Installment Payment Service

The Mastercard Installment Payment Service is a service offered by Mastercard to Dual Message System-connected issuers to support installment payments for authorization and clearing processing. This service enables cardholders to choose to pay for a purchase in installment payments and select the installment payment terms from choices provided at the time of purchase.

For additional guidance on the Mastercard Installment Payment Service, refer to the *Mastercard Installment Payment Service User Guide*, available on Mastercard Connect™.

Mastercard MoneySend

The Mastercard® MoneySend™ service enables person-to-person transfers, account-to-account transfers, agent cash out, credit card bill payment, business to consumer disbursement, government/non-government organization to consumer disbursement, and business money transfers by allowing consumers to use their Mastercard®, Debit Mastercard®, Mastercard Electronic™, Cirrus®, or Maestro®card to send and access funds. The MoneySend service also allows use of multiple channels to initiate transactions such as an ATM, a bank branch, a stand-alone kiosk, mobile, or over the Internet.

Authorization Request/0100—Mastercard MoneySend Funding Transactions

Originating Financial Institutions (OFI) that are registered for the MoneySend service will be required to send an Authorization Request/0100 and Reversal Request/0400 message with the required data elements in addition to the data elements that are specific to this service.

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 00 = Funding Transaction |
| DE 18 (Merchant Type) | M | • | M | MCC 6538 (MoneySend Funding) |
| DE 48 (Additional Data—Private Use), TCC | M | • | M | R = Face-to-face retail or T = Non-face-to-face retail |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 48, subelement 77 (Payment Transaction Type Indicator) | M | • | M | C07 = MoneySend Person-to-Person C52 = MoneySend Account-to-Account Transfer C53 = MoneySend Agent Cash Out C54 = MoneySend Credit Card Bill Payment C55 = MoneySend Business Disbursement C56 = MoneySend Government/Non-profit Disbursement C57 = MoneySend Acquirer Merchant Settlement C67 = Inter Platform Person-to-Person |
| DE 108, MoneySend Reference Data | O | • | C | Optional for all MoneySend Funding Transactions and required for all MoneySend Payment Transactions. |
| DE 124 (MoneySend, Sender Identification Data) | O | X | C | Acquirers may optionally send DE 124, subfields 1–4 containing sender identification data when the Authorization Request/0100 message is a MoneySend Funding Transaction. In DE 124 of the response message, issuers must echo— unedited —the information sent by the originator/acquirer. DE 124 should not be used for any other purpose if the transaction is a MoneySend transaction. |

Reversal Request/0400—MoneySend Funding Transaction

Following is a list of the data elements and values applicable to this message type. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|------------------------------|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 00 = Funding Transaction |
| DE 18 (Merchant Type) | M | • | M | MCC 6538 (MoneySend Funding) |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), TCC | M | • | M | R = Face-to-face retail or T = Non-face-to-face retail |
| DE 108 (MoneySend Reference Data) | O | • | C | Optional for all MoneySend Payment and Funding Transactions. |
| DE 124 (MoneySend, Sender Identification Data) | O | X | C | <p>Acquirers may optionally send DE 124, subfields 1–4 containing sender identification data when the Authorization Request/0100 message is a MoneySend Funding Transaction.</p> <p>In DE 124 of the response message, issuers must echo—unedited—the information sent by the originator/acquirer.</p> |

Authorization Platform Edits

The Authorization Platform will perform the following edits on the Authorization Request/0100 and Reversal Request/0400 messages for MoneySend Funding Transactions.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>DE 3 (Processing Code), value 00 (Purchase Transaction) is present And DE 18 (Merchant Type), value 6538 (MoneySend Funding) is present And The OFI identified by the ICA provided in DE 32 (Acquiring Institution ID Code) has not registered to process transactions via the MoneySend platform</p> | <p>Rejects the transaction and sends the OFI an Authorization Request Response/0110 or Reversal Request Response/0410 message containing DE 39 (Response Code), value 58 (Transaction not permitted to acquirer/terminal).</p> |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Funding Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 00 • DE 18 contains MCC 6538 • DE 48, subelement 77 does not contain value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 48 (Transaction Category Codes) contains R (Face-to-face retail) or T (Non-face-to-face retail) | <p>Sends the Originating Institution an Authorization Request Response/0110 to include the following:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 048 |
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Funding Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 00 • DE 18 does not contain value 6538 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 48 (Transaction Category Codes) contains R (Face-to-face retail) or T (Non-face-to-face retail) | <p>Sends the Originating Institution an Authorization Request Response/0110 to include the following:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 018 |
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Funding Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 00 • DE 18 contains MCC 6538 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 48 (Transaction Category Codes) does not contain value R (Face-to-face retail) or T (Non-face-to-face retail) | <p>Sends the Originating Institution an Authorization Request Response/0110 to include the following:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 048 |

Authorization Request/0100—MoneySend Payment Transactions

Originating Financial Institutions (OFI) that are registered for the MoneySend service will be required to send an Authorization Request/0100 and Reversal Request/0400 message with the required data elements in addition to the data elements that are specific to this service.

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 28 = Payment Transaction |
| DE 18 (Merchant Type) | M | • | M | Must be one of the following values: MCC 6536 (MoneySend Intracountry) MCC 6537 (MoneySend Intercountry) |
| DE 48 (Additional Data—Private Use), TCC | M | • | M | P = Payment Transaction |
| DE 48, subelement 77 (Funding/ Payment Transaction Type Indicator) | C | • | C | C07 = MoneySend Person-to-Person C52 = MoneySend Account-to-Account Transfer C53 = MoneySend Agent Cash Out C54 = MoneySend Credit Card Bill Payment C55 = MoneySend Business Disbursement C56 = MoneySend Government/Non-profit Disbursement C57 = MoneySend Acquirer Merchant Settlement C67 = Inter Platform Person-to-Person |
| DE 61 (Point-of-Service [POS] Data), subfield 10 (Cardholder-Activated Terminal Level) | M | • | M | The Authorization Platform validates the POI to ensure DE 61, subfield 10 is one of the following values: |
| | | | | IF... THEN... |
| At a bank branch | | | | At a bank branch 0 = Not a CAT transaction |
| At an ATM | | | | At an ATM 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN |
| At an unmanned kiosk | | | | At an unmanned kiosk 2 = Authorized Level 2 CAT: Self-service terminal |
| On the Internet | | | | On the Internet 6 = Authorized Level 6 CAT: Electronic commerce |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 108 (MoneySend Reference Data) | O | X | C | Optional for all MoneySend Funding Transactions and required for all MoneySend Payment Transactions. |
| DE 124 (MoneySend, Sender Identification Data) | M | • | M | <p>Acquirers must send DE 124, subfields 2 and 3 containing sender identification data when the Authorization Request/0100 message is a MoneySend Payment Transaction (subfields 1 and 4 are optional).</p> <p>In DE 124 of the response message, issuers must echo—unedited—the information sent by the originator/acquirer.</p> <p>DE 124 should not be used for any other purpose if the transaction is a MoneySend transaction.</p> |

Reversal Request/0400—MoneySend Payment Transaction

Following is a list of the data elements and values applicable to this message type. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | 28 = Payment Transaction |
| DE 18 (Merchant Type) | M | • | M | <p>Must be one of the following values:</p> <p>MCC 6536 (MoneySend Intracountry)</p> <p>MCC 6537 (MoneySend Intercountry)</p> |
| DE 48 (Additional Data—Private Use), TCC | M | • | M | P = Payment Transaction |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48, subelement 77, (Funding/ Payment Transaction Type Indicator) | C | • | C | C07 = MoneySend Person-to-Person C52 = MoneySend Account-to-Account Transfer C53 = MoneySend Agent Cash Out C54 = MoneySend Credit Card Bill Payment C55 = MoneySend Business Disbursement C56 = MoneySend Government/Non-profit Disbursement C57 = MoneySend Acquirer Merchant Settlement C67 = Inter Platform Person-to-Person |
| DE 61 (Point-of-Service [POS] Data), subfield 10 (Cardholder-Activated Terminal Level) | M | • | M | The Authorization Platform will validate the POI to ensure DE 61, subfield 10 is one of the following values: C07, C52–C57, C67 |
| | | | | IF... THEN... |
| | | | | At a bank branch 0 = Not a CAT transaction |
| | | | | At an ATM 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN |
| | | | | At an unmanned kiosk 2 = Authorized Level 2 CAT: Self-service terminal |
| | | | | On the Internet 6 = Authorized Level 6 CAT: Electronic commerce |
| DE 108 (MoneySend Reference Data) | C | X | C | Conditional for acquirers to send for all MoneySend Payment Transactions and optional for all MoneySend Funding Transactions. Issuers are required to send DE 108 in the response message; issuers must echo— unedited —the information sent by the originator/acquirer. |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 124 (MoneySend, Sender Identification Data) | M | • | M | <p>Acquirers must send DE 124, subfields 2 and 3 containing sender identification data when the Authorization Request/0100 message is a MoneySend Payment Transaction (subfields 1 and 4 are optional).</p> <p>In DE 124 of the response message, issuers must echo—unedited—the information sent by the originator/acquirer.</p> |

NOTE: A MoneySend Payment Transaction may only be reversed by the acquirer for reason of a documented clerical error and upon agreement with the issuer. In such an event, the error must be reversed within 24 hours of the date the MoneySend Payment Transaction was authorized.

Authorization Platform Edits

The Authorization Platform will perform the following edits on the Authorization Request/0100 and Reversal Request/0400 messages for MoneySend Payment Transactions.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| When an OFI identified by the ICA number provided in DE 32 (Acquiring Institution ID Code) attempts to submit a MoneySend Payment Transaction but has not registered for the MoneySend service | Rejects the transactions and sends the OFI an Authorization Request Response/0110 or Reversal Request Response/0410 message containing DE 39 (Response Code), value 58 (Transaction not permitted to acquirer/terminal). |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The OFI is registered for the MoneySend service and is submitting a MoneySend Payment Transaction where: <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 does not contain MCC 6536 or MCC 6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met <ul style="list-style-type: none"> – 0 = Not a CAT transaction – 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN – 2 = Authorized Level 2 CAT: Self-service terminal – 6 = Authorized Level 6 CAT: Electronic commerce • DE 124 is present | Sends the OFI an Authorization Request Response/0110 or Reversal Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 018 (Merchant Type) |
| The OFI is registered for the MoneySend service and is submitting a MoneySend Payment Transaction where: <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains value MCC 6536 or MCC 6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is not met • DE 124 is present | Sends the OFI an Authorization Request Response/0110 or Reversal Request Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 061 (Point-of-Service [POS] Data) |
| The OFI is registered for the MoneySend service and is submitting a MoneySend Payment Transaction where: <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC 6536 or MCC 6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 is not present | Sends the OFI an Authorization Request Response/0110 or Reversal Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 124 (Merchant-defined Data) |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 124, subfield 2 or subfield 3 is not present or contains all zeros or spaces <p>DE 3, subfield 1 contains value 28 and DE 61, subfield 10 contains value 1 and DE 52 and DE 55 are not present</p> | Sends the OFI an Authorization Request Response/0110 or Reversal Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 124 (Merchant-defined Data) Fowards the Authorization Request/0100 message to the issuer. |
| An acquiring country is not supported by the MoneySend platform | Declines the request and sends the OFI an Authorization Request Response/0110 message where DE 39 = 58 (Transaction not permitted to acquirer/terminal) |
| An issuing country, RFI, or RFI's account range is not able to offer the MoneySend service | Declines the request and sends the OFI an Authorization Request Response/0110 message where DE 39 = 57 (Transaction not permitted to issuer/cardholder) |

NOTE: Mastercard Electronic consumer e-commerce MoneySend Payment Transactions do not require UCAF data (DE 48, subelement 43).

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where: <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 124, subfield 3 Street Address or Country code is not present or contains all zeros or spaces. | Sends the OFI an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 (Format Error) • DE 44 = 124 (Merchant-defined Data) |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 124, subfield 3 Country code is present but not a valid ISO recognized alpha Country code (Refer to the <i>Quick Reference Booklet</i> for valid Alpha [3 Characters] Country code) | <p>Sends the OFI an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 124 (Merchant-defined Data) |
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 124, subfield 3 Country code is valid but blocked (part of the MoneySend Blocking Country List) | <p>Sends the OFI an Authorization Request Response/0110 to include the following:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 12 (Invalid Transaction) <p>and</p> <p>Sends the RFI an Authorization Advice Message/0120 where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1, value 33 (MoneySend Blocking Service) • DE 48, subelement 71, subfield 2, value W (MoneySend Mastercard Blocking—Country not allowed for the MoneySend Transaction) • DE 60, subfield 1, value 200 (In Control Processing Advice to Issuer) • DE 60, subfield 2, value 0072 (Reject: Geographic Restriction) |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC value 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 124, subfield 3 country code is USA or CAN• DE 124, subfield 3 State code is not present or contains all zeros or spaces or invalid code for USA and CAN | <p>Sends the OFI an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none">• DE 39 = 30• DE 44 = 124 (Merchant-defined Data) |

DE 108, Subelement 01, Subfield 01 (Receiver/Recipient First Name) and Subfield 03 (Receiver/Recipient Last Name)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a cross-border MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 subfield is present and criteria is met• DE 108, subelement 01, subfield 01 (Receiver First Name) and DE 108, subelement 01, subfield 03 (Receiver Last Name) are present and contain all spaces or all numeric values | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a cross-border MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met for MoneySend: <ul style="list-style-type: none"> – 0 = Not a CAT transaction – 1 = Authorized Level 1 CAT: Automated dispensing machine with PIN – 2 = Authorized Level 2 CAT: Self-service terminal – 6 = Authorized Level 6 CAT: Electronic commerce • DE 124 subfield is present and criteria are met³⁴ • DE 108 is present and all criteria are met except: <ul style="list-style-type: none"> – Subelement 01 (Receiver/Recipient Data) is present and subfield 01 (Receiver First Name), OR subfield 03 (Receiver Last Name) is absent | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 01, Subfield 06 (Receiver/Recipient State/Province Code)—Edit Check

The Authorization Platform will perform the following system edits.

³⁴ DE 124 (Member-defined Data) criteria includes:

- Subfield 2 (Sender/Payer Name/User ID) contains the sender name.
- Subfield 3 (Sender/Payer Address) contains sender address with applicable state and country code.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 subfield is present and criteria is met • DE 108, subelement 01, subfield 07 (Receiver/Recipient Country) is U.S. or Canada. • DE 108, subelement 01, subfield 06 (Receiver State Code) is present and contains all zeros or spaces or invalid state code for U.S. or invalid province code for Canada. | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 01, Subfield 07 (Receiver/Recipient Country Code)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 subfield is present and criteria is met • DE 108, subelement 01, subfield 07 (Receiver/Recipient Country) is present and contains all spaces | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537/6538 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 subfield is present and criteria is met • DE 108, subelement 01, subfield 07 (Receiver/Recipient Country) is present but is an invalid country code (not per ISO standard) | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 subfield is present and criteria is met • DE 108, subelement 01, subfield 07 (Receiver/Recipient Country) is present and is a valid country code but is blocked (Part of the MoneySend Blocking Country List) | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 = 12 (Invalid Transaction) <p>and</p> <p>Sends an Authorization Advice Message/0120 to the issuer where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1, value 33 (MoneySend Blocking Service) • DE 48, subelement 71, subfield 2, value W (MoneySend Mastercard Blocking—Country not allowed for the MoneySend Transaction—Sender/Receiver Data) • DE 60, subfield 1, value 200 (In Control Processing Advice to Issuer) • DE 60, subfield 2, value 0072 (Reject: Geographical Restrictions) |

NOTE: Transaction will be declined if the sender Country is subject to comprehensive geographic sanctions published by the Office of Foreign Assets Control (OFAC), <http://www.treasury.gov/resource-center/sanctions/Pages/default.aspx>. The current list of countries subject to such sanctions is Cuba, Iran, North Korea, Sudan, and Syria; however, this list is subject to change.

DE 108, Subelement 01, Subfield 12 (Receiver Identification Type)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 subfield is present and criteria are met• DE 108 subelement 01, subfield 12 (Receiver Identification Type) is present and does not contain one of the values 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10 | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 02, Subfield 01 (Sender First Name), and Subfield 03 (Sender Last Name)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 is present and valid• DE 108, subelement 02, subfield 01 (Sender First Name) and DE 108, subelement 02, subfield 03 (Sender Last Name) are present and contain all spaces or all numeric values | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 = 30• DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 is present and valid • DE 108, subelement 02 (Sender Data) is present and DE 108, subelement 02, subfield 01 (Sender First Name) OR subfield 03 (Sender Last Name) is absent | <p>Sends an Authorization Request Response/ 0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 02, Subfield 11 (Sender Account Number)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 is present and valid • DE 108, subelement 02, subfield 11 (Sender Account Number) is present and contains all spaces or special characters | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 is present and valid• DE108, subelement 02, subfield 11 (Sender Account Number) is absent | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 02, Subfield 12 (Sender Identification Type)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a cross-border MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 subfield is present and criteria are met• DE 108 subelement 02, subfield 12 (Sender Identification Type) is present and does not contain one of the values 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10 | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

DE 108, Subelement 03, Subfield 03 (Funding Source)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 is present and valid• DE 108, subelement 03, subfield 03 (Funding Source) is present and does not contain one of the values 01, 02, 03, 04, 05, 06, 07 | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) with the DE 108 (MoneySend Reference Data) |
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none">• DE 3, subfield 1 contains value 28• DE 18 contains MCC values 6536/6537• DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67• DE 61, subfield 10 criteria is met• DE 124 is present and valid• DE 108, subelement 03, subfield 03 (Funding Source) is absent | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) with DE 108 (MoneySend Reference Data) |

DE 108, Subelement 03, Subfield 05 (Transaction Purpose)—Edit Check

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07, C52, C53, C54, C55, C56, C57, or C67 • DE 61, subfield 10 criteria is met • DE 124 is present and valid • DE 108, subelement 03, subfield 05 (Transaction Purpose) is present and does not contain one of the values 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15 | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 30 (Format error) • DE 44 (Additional Response Data) with DE 108 (MoneySend Reference Data) |

Other Edits

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>The OFI is registered for the Mastercard MoneySend service and is submitting an Authorization Request/0100 message for a MoneySend Payment Transaction to a credit card (MCC) that is issued in country U.S. (840) where:</p> <ul style="list-style-type: none"> • DE 3, subfield 1 contains value 28 • DE 18 contains MCC values 6536/6537 • DE 48, subelement 77 contains value C07 • DE 61, subfield 10 criteria is met • DE 124 is present and valid | <p>Sends an Authorization Request Response/0110 message to the acquirer where:</p> <ul style="list-style-type: none"> • DE 39 (Response Code) = 12 (Invalid Transactions) |

Mastercard MoneySend Issuer Transaction Controls

The Mastercard MoneySend Issuer Transaction Controls, is an On-behalf Service that Receiving Institutions can use to manage their risk. Monitoring and blocking options include velocity by number of transactions and cumulative dollar amount, and sanction score.

Network Blocking

Mastercard sets single transaction amount and 30 day accumulative amount limits to receiving accounts for MoneySend Payment Transactions. The maximum amount limit for single

transactions and 30 day accumulative amount limits vary by program type. Mastercard will decline transactions over the set limits with DE 39, value 05 (Do not honor).

Sanction Screening

Mastercard provides a Sanction Screening service to assist with meeting Anti-Money Laundering (AML) obligations. The Sanction Screening score is provided to acquirers and issuers and will be available for all cross-border MoneySend Payment transactions and domestic MoneySend Payment transactions in Egypt, Hungary, U.K., Canada, and the U.S. region. This service provides a score based on screening the individual sender name (consumer, business, government, and non-government) in the authorization message to support real-time decision making.

For More Information About Implementing the MoneySend Program

For more information about implementing the MoneySend program, refer to the Mastercard *MoneySend Program Guide* or contact the Global Customer Service team.

Mastercard Safety Net

This section provides a brief overview of the Mastercard Safety Net service, part of the Mastercard Global Safety and Security Standards suite of services.

Summary and Background

Mastercard Safety Net provides issuers with a second line of defense to limit the impact of a large-scale fraud attack on one or more of their payment channels (for example, in ATM or e-commerce) when their payment systems are breached. The service also identifies when large-scale fraud attacks are occurring, utilizing insights from the Mastercard Network, so that appropriate action can be taken by the issuer. It does not replace an issuer's primary fraud prevention system. Issuers may alternatively enroll in the Safety Net Alert Only feature.

In November 2015, all issuers were automatically enrolled in Mastercard Safety Net. Previously issuers were required to submit a request if they wanted to opt out of the service.

Effective 21 April 2017 for all issuers except Ukraine, and effective July 2017 for Ukraine issuers, issuers must participate in the Mastercard Safety Net service except when processing Russian domestic transactions.

As applicable, Mastercard requires issuers to participate in Mastercard Safety Net across their entire consumer and commercial credit and debit portfolios, without the availability of an opt-out.

Issuers may enroll in the Mastercard Safety Net Alert Only option if desired through "Manage My Accounts" in Mastercard Connect™.

Data Requirements

If a transaction is declined by the Safety Net service, issuers will receive an Authorization Advice/0120 message with the following values:

- DE 48, subelement 71, subfield 1 = 18 (Fraud Scoring Service)
- DE 48, subelement 71, subfield 2 = C (Fraud Scoring Service was performed successfully)
- DE 48, subelement 75, subfield 1 = 998 or 000
- DE 48, subelement 75, subfield 2 = NM (Network Monitor)
- DE 60, subfield 1 = 120 (Transaction Blocking)
- DE 121 = 000003 (Decline occurred due to an on-behalf service)

For more information about these data elements and values, refer to the Data Element Definitions chapter of this manual.

Mastercard Global Safety and Security Standards Roadmap

Mastercard Safety Net is part of the Mastercard Global Safety and Security Standards Roadmap introduced to help participants in the Mastercard Network continue to benefit from the industry-leading safety and security practices and solutions provided by Mastercard.

The Mastercard Global Safety and Security Roadmap accommodates new innovations, such as support for next-generation solutions and new fraud tools that address increasingly digital environments.

The roadmap encompasses a series of rules and processing requirements for acquirers and issuers to help ensure the continued safety and security of the Mastercard Network and to protect the Mastercard brand. The requirements include participation in:

- Transaction alerts
- Mastercard Automatic Billing Updater (ABU)
- Mastercard Safety Net
- Security-related fields in the Dual Message System (Authorization)
- Authorization Accountholder Authentication Value (AAV) Validation Service

The ability to support these requirements will ensure that issuers have access to important safety and security services available on the Mastercard Network if needed to support their fraud and authorization strategy. Coding for the fields associated with these services, including the Mastercard Safety Net fields described previously, will allow issuers to benefit from advanced solutions that will address new threats as they emerge.

For More Information

For more information or questions on Mastercard Safety Net or the Mastercard Global Safety and Security Standards Roadmap, contact the Global Customer Service team.

Masterpass QR

This section describes the Masterpass™ QR (Quick Response) service.

Overview

Masterpass QR offers a mobile payment option for person-to-merchant transactions in markets where conventional transactions rely heavily on cash for retail purchases.

Masterpass QR transactions can only be initiated by customers connected to the Single Message System. Receiving institutions (RI/merchant's bank) that are connected either through the Dual Message System or the Single Message System can receive Masterpass QR transactions.

Introduced in Release 17.Q4, Masterpass QR is a consumer-initiated, push payment transaction initiated with a mobile device. Using a smartphone, the consumer makes a cashless payment by scanning a Masterpass QR code at any merchant location that accepts Masterpass QR transactions. This product fulfills the need to make payments instantly to merchants in a direct, convenient, and secure method for both the merchant and cardholder.

This product operates in the four-party business model which enables funds to be transferred from a licensed Mastercard originating institution (OI), the consumer's bank, to a receiving institution (RI), the merchant's bank. The transaction originates at the OI and routes to the merchant after successfully authenticating and authorizing the debit from the consumer's account. The RI will process the payment transaction and notify the merchant that the payment has been successfully received. The RI will credit the merchant account after processing the payment transaction.

For More Information

For more information about Masterpass QR, refer to the *Masterpass QR Program Guide*.

Forms

Forms to support Masterpass QR enrollment are available on the Forms Library through Mastercard Connect™.

Authorization Platform Edits

The Authorization Platform will perform the following system edits.

The Authorization Platform will validate Masterpass QR transactions that are identified as follows:

- DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), value 28 (Payment Transaction)
- DE 48 (Additional Data), subelement 77 (Funding/Payment Transaction Type Indicator), value C67 (Masterpass QR)

Validate Merchant Code

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>DE 18 (Merchant Code) contains any one of the following MCCs:</p> <ul style="list-style-type: none"> • 4829 = Money Transfer • 6010 = Manual Cash • 6011 = ATM • 6532 = Payment Transaction—Customer Financial Institution • 6533 = Payment Transaction—Merchant • 6538 = MoneySend Funding • 6540 = Funding (exclusive of MoneySend) • 6555 = MA Initiated Rewards/Rebate • 6050 = Quasi Cash • 6051= Quasi Cash—merchant | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none"> • DE 39 = 30 (format error) • DE 44 (Additional Response Data) = 018 (indicating the data element in error) |

Validate Presence of Mandatory Data

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>DE 108 (MoneySend Reference Data), subelement 02 (Sender Data), subfield 11 (Sender Account Number) is not present, not numeric, contains all zeros, or exceeds 20 characters</p> | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none"> • DE 39 = 30 (format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

Validate Presence of Mandatory Data

| WHEN... | THEN the Authorization Platform... |
|---|--|
| <p>DE 108 (MoneySend Reference Data), subelement 02 (MoneySend Transaction Data), subfield 3 (Funding Source) is not present or does not contain one of the following values: 01 (Credit), 02 (Debit), 03 (Prepaid), 04 (Deposit Account), 05 (Mobile Money Account), 06 (Cash), or 07 (Reserved)</p> | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none"> • DE 39 = 30 (format error) • DE 44 (Additional Response Data) = 108 (indicating the data element in error) |

Validate Transaction Amount Limit

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The transaction amount limit is exceeded | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none">• DE 39 = 05 (Do not honor) <p>An Authorization Advice/0120 message will be sent to the RI with</p> <ul style="list-style-type: none">• DE 60 (Advice Reason Code), subfield 1 (Values, in Authorization Advice/0120), value 151 (Blocking Processing Advice to Issuer [Masterpass QR]).• DE 60, subfield 2 (Values, in Mastercard In Control Service), code 0064 (Reject: Transaction Amount Limit Check).• DE 48 (Additional Data—Private Use), subelement 71 (Valid Subfield 1 and Subfield 2 Value Combinations), value 37D (Masterpass QR Blocking—Transaction Amount Limit Exceeded). |

Validate Cumulative Transaction Amount Limit

| WHEN... | THEN the Authorization Platform... |
|---|---|
| The cumulative transaction amount limit is exceeded | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none">• DE 39 = 05 (Do not honor) <p>An Authorization Advice/0120 message will be sent to the RI with</p> <ul style="list-style-type: none">• DE 60 (Advice Reason Code), subfield 1 (Values, in Authorization Advice/0120), value 151 (Blocking Processing Advice to Issuer [Masterpass QR]).• DE 60, subfield 2 (Values, in Mastercard In Control Service), code 0065 (Reject: Cumulative Amount Limit Check).• DE 48 (Additional Data—Private Use), subelement 71 (Valid Subfield 1 and Subfield 2 Value Combinations), value 37E (Masterpass QR Blocking—Cumulative Transaction Amount Limit Exceeded). |

Validate the Originating Institution

| WHEN... | THEN the Authorization Platform... |
|---|---|
| The Originating Institution, not registered for participation in the Masterpass QR service, submits a transaction containing DE 48 (Additional Data), subelement 77 (Funding/Payment Transaction Type Indicator), value C67 | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none">• DE 39 = 58 (Transaction not permitted to acquirer/terminal) |

Domestic Activity

| WHEN... | THEN the Authorization Platform... |
|---|---|
| If the Masterpass QR RI has chosen to limit Masterpass QR to domestic activity, then if the PAN country code does not equal the country code value in DE 32 (Acquiring Institution Identification Code) | <p>Will reject the transaction and forward the OI an Authorization Request Response/0110 with</p> <ul style="list-style-type: none"> • DE 39 = 05 (Do not honor) <p>An Authorization Advice/0120 message is sent to the RI with</p> <ul style="list-style-type: none"> • DE 60 (Advice Reason Code), subfield 1 (Values, in Authorization Advice/0120), code 151 (In Control Processing Advice to Issuer [Masterpass QR]). • DE 60, subfield 2 (Values, in Mastercard In Control Service) code 0072 (Reject: Geographic Restriction). • DE 48 (Additional Data—Private Use), subelement 71 (Valid Subfield 1 and Subfield 2 Value Combinations), value 37F (Masterpass QR Blocking—Domestic Activity Only). |

Valid Authorization Messages

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The Originating Institution submits an Authorization Request/0100 message for a valid Masterpass QR transaction | <p>Will forward the Authorization Request/0100 message to the RI with</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1, subfield 2, containing value 37V (Valid). |
| The Originating Institution submits an Authorization Request/0100 message for any other system issue that prevents successful Masterpass QR service processing | <p>Will forward the Authorization Request/0100 message to the RI with</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1, subfield 2, containing value 37U (Unable to process). |

Reject Reversal Messages

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Originating Institution submits a Reversal Request/0400 message for a Masterpass QR transaction | Will reject the transaction and forward the OI a Reversal Request Response/0410 with <ul style="list-style-type: none">• DE 39 = 58 (Transaction not permitted to acquirer/terminal) |

Alternate Processing

If the RI is unable to respond, Masterpass QR transactions will be declined.

In the event that the Masterpass QR Blocking Service is not available:

- The platform which called the service will receive notice that the service is not available and the following information is sent to the RI in the Authorization Request/0100 message for an authorization decision.
 - DE 48 (Additional Data), subelement 71 (On-behalf Service), subfield 1 (On-behalf Service Indicator), value 37 (Masterpass QR Blocking Service)
 - DE 48, subelement 71, subfield 2 (On-behalf Result 1), value U (Unable to process)

For Stand-In processing guidelines, refer to the *Masterpass QR Program Guide*.

X-Code Processing

Masterpass QR transactions will be declined by the Dual Message System (Authorization) in X-Code processing responding to the originator with DE 39 (Response Code), value 91 (Authorization System or issuer system inoperative).

Masterpass Transactions

This section provides a brief overview of the Masterpass™ by Mastercard® service.

Masterpass is a secure and convenient method for consumers to conduct e-commerce wallet transactions or transactions originated from other wallets. Masterpass enables e-commerce merchants to convert browsing customers into buyers by providing a fast, convenient, and secure checkout experience.

How It Works

The following information provides a high-level overview of the Masterpass wallet transaction process:

1. The consumer clicks the **Masterpass** button (or the **BUY WITH Masterpass** button) on a merchant's website to go the Masterpass sign-in page.

2. The consumer chooses the integrated Masterpass digital wallet that he or she wants to use, and then successfully completes authentication.
3. The consumer selects the preferred payment card and shipping address.
4. Masterpass securely transfers the consumer's payment and shipping information to the merchant's website confirmation page, where the merchant completes the checkout process.
5. The consumer's payment information is submitted to the merchant's acquirer for processing.

Authorization Processing

Masterpass transactions submitted to the Masterpass platform for processing are identified by DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) containing a three-digit value.

Masterpass transactions are identified in the following messages:

- Authorization Request/0100
- Authorization Advice/0120—Acquirer-generated
- Authorization Advice/0120—System-generated

NOTE: Acquirers in the Europe region must support the Masterpass identifiers in these authorization messages.

The data values are generated by the Masterpass platform and passed to the merchant along with the consumer's checkout information (for example, card credentials, shipping address, and email address).

There will not be an edit to determine if these values are present; however, if a value exists, it will be validated and rejected if it consists of special characters, all zeros, or spaces.

For More Information

More information on Masterpass can be found at www.masterpass.com.

Authorization Request/0100—Masterpass Online Wallet

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply and all other transaction conditions that identify specific transactions must be provided. For e-commerce transactions, the transaction details and values must be provided.

| Data Element | Org | Sys | Dst | Values/Comments |
|-----------------------------------|------------|------------|------------|--------------------------------------|
| DE 48 Additional Data—Private Use | M | X | M | Contains applicable subelement data. |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48 Additional Data—Private Use, subelement 26 (Wallet Program Data) | C | • | C | Contains the subfield representing the wallet information. Conditional for Masterpass Online transactions. |

Authorization Advice/0120—Acquirer-Generated

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48 Additional Data—Private Use | M | X | M | Contains applicable subelement data. |
| DE 48 Additional Data—Private Use, subelement 26 (Wallet Program Data) | C | • | C | Contains the subfield representing the wallet information. Conditional for Masterpass Online transactions. |

Authorization Advice/0120—System-Generated

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48 Additional Data—Private Use | • | M | M | Contains applicable subelement data. |
| DE 48 Additional Data—Private Use, subelement 26 (Wallet Program Data) | • | C | C | Contains the subfield representing the wallet information. Conditional for Masterpass Online transactions. |

Authorization Platform Edits

The Authorization Platform performs the following edits on Masterpass Transactions.

| WHEN the message contains... | THEN the Authorization Platform... |
|--|---|
| <p>The Authorization Request/0100 or Authorization Advice/0120 message includes DE 48 (Additional Data—Private Use), subelement 26 (Wallet Program Data), subfield 1 (Wallet Identifier) with a value other than the following:</p> <ul style="list-style-type: none">• 0–9• A–Z or a–z <p>Subelement 26 cannot contain all zeros. If all zeros is present, transaction will be rejected.</p> | <p>Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130—System-generated where:</p> <p>DE 39 (Response Code) = 30 (Format error)</p> <p>DE 44 (Additional Response Data) = 048 (indicating the data element in error).</p> |

Merchant Advice Codes

Mastercard supports the use of Merchant Advice codes for issuers to communicate clearly with merchants.

- The reason for approving or declining a transaction
- The actions merchants can take to continue to serve their customers

Issuers can use Merchant Advice codes to provide specific direction to acquirers.

Merchant Advice Codes Used with Response Codes

Issuers can use the Merchant Advice Codes in conjunction or association with Response Codes to indicate to merchants how to respond to various transaction scenarios.

DE 48, Subelement 84 (Merchant Advice Codes)

Issuers can use the following values to indicate Merchant Advice codes in Authorization Request Response/0110 messages, DE 48, subelement 84:

| Value | Description |
|-------|--|
| 01 | New Account Information Available |
| 02 | Try Again Later |
| 03 | Do Not Try Again |
| 04 | Token requirements not fulfilled for this token type |
| 21 | Recurring Payment Cancellation Service |

Authorization Request Response/0110, DE 39 Response Codes

The following table lists the most common DE 39 values that issuers send in conjunction with Merchant Advice codes in DE 48, subelement 84.

| Value | Description |
|--------------|--------------------------------------|
| 00 | Approved |
| 05 | Do not honor |
| 14 | Invalid card number |
| 51 | Insufficient funds/over credit limit |
| 54 | Expired card |

Examples of Combined DE 48, Subelement 84 and DE 39 Values

The following table provides examples of how issuers and acquirers should use the combination of DE 48, subelement 84, and DE 39.

| DE 39 | DE 48, subelement 84 | Merchant Advice Description | Examples of Reason for Decline | Suggested Merchant Action |
|--------------|-------------------------------------|--|---|--|
| 00 | 01 | New account information available | <ul style="list-style-type: none"> • Expired card • Account upgrade • Portfolio sale • Conversion | Obtain new account information before next billing cycle |
| 05 | | | | |
| 14 | | | | |
| 51 | | | | |
| 54 | | | | |
| 51 | 02 | Try again later | <ul style="list-style-type: none"> • Over credit limit • Insufficient funds | Recycle transaction 72 hours later |
| 05 | 03 | Do not try again | <ul style="list-style-type: none"> • Account closed • Fraudulent | Obtain another type of payment from customer |
| 14 | | | | |
| 51 | | | | |
| 54 | | | | |
| 05 | 21 | Recurring Payment Cancellation Service | Cardholder cancelled recurring agreement | Do not resubmit transaction |

M/Chip Processing Services

Mastercard provides M/Chip Processing services to assist issuers that choose to migrate to Mastercard M/Chip technology while minimizing changes to their host systems. The Stand-In System provides chip security features for customers currently using M/Chip technology. The security features provide additional verification for chip transactions when the issuer's host is unavailable.

The Mastercard M/Chip Processing services include:

- Chip to Magnetic Stripe Conversion
- M/Chip Cryptogram Pre-validation
- M/Chip Cryptogram Validation in Stand-In processing
- Combined Service Option

Refer to the *Authorization Manual* for M/Chip Processing service programs and service information.

The Mastercard M/Chip Processing services support issuers using M/Chip technology in their authorization processing by performing all, or part of the M/Chip-related authorization processing on-behalf of the issuer in a designated account range.

The Chip to Magnetic Stripe Conversion and the M/Chip Cryptogram Pre-validation services are provided on a permanent basis. The M/Chip Cryptogram Validation in Stand-In processing service is provided on a dynamic basis if and when the issuer is not able to respond to an authorization request.

Mastercard provides the following DE 48 (Additional Data–Private Use) subelements that support M/Chip Processing services:

- Subelement 71 (On-behalf Services)
- Subelement 72 (Issuer Chip Authentication)
- Subelement 79 (Chip CVR/TVR Bit Error Results)

Program use of M/Chip Processing Service Data Elements

The following table defines the M/Chip Processing Services use of DE 48, subelement 71, subelement 72, subelement 74, and subelement 79.

| DE 48 Subelement: | Description |
|--|--|
| Subelement 71 (On-behalf Services) | <p>Subelement 71 notifies the issuer of the M/Chip Processing service performed on the transaction.</p> <p>Transactions that meet the criteria for the service contain subelement 71 data in DE 48 of the Authorization Request/0100 to notify the issuer of the service performed and the results.</p> <p>Issuers must return subelement 71 in the Authorization Request Response/0110 message when subelement 71 is present in the Authorization Request/0100 message.</p> <p>The acquiring MIP removes subelement 71 before sending the Authorization Request Response/0110 message to the acquirer host.</p> |
| Subelement 72 (Issuer Chip Authentication) | <p>Mastercard uses subelement 72 to carry data used during cryptogram processing.</p> <p>Issuers subscribing to the M/Chip Cryptogram Pre-validation service will have subelement 72 in the Authorization Request/0100 message when the ARQC is valid as determined by Mastercard.</p> <p>Issuers that use the M/Chip Cryptogram Validation in Stand-In processing service or the M/Chip Cryptogram Pre-validation service will have subelement 72 in the Authorization Advice/0120 message. In this situation, subelement 72 contains the ARPC (Authorization Response Cryptogram) present in DE 55, subelement ID 91 (Issuer Authentication Data) in the Authorization Request Response/0110 based on the approval or decline decision.</p> <p>NOTE: Subelement 72 should not be returned in the Authorization Request Response/0110.</p> <p>The Authorization Platform returns subelement 72 in the Authorization Request Response/0110 message when subelement 72 is present in the Authorization Request/0100 message.</p> <p>The acquiring MIP removes subelement 72 before sending the Authorization Request Response/0110 message to the acquirer host.</p> |

| DE 48 Subelement: | Description |
|---|--|
| Subelement 74 (Additional Processing Information) | <p>For M/Chip Processing services, subelement 74 notifies the acquirer that there was an issue with the cryptogram validation.</p> <p>Mastercard provides the acquirer an Authorization Request Response/0110 message containing subelement 74 when there is an issue with cryptogram validation during M/Chip Processing service processing.</p> <p>Issuers may provide the acquirer an Authorization Request Response/0110 message containing subelement 74 when there is an issue with cryptogram validation when they perform their own validation.</p> |
| Subelement 79 (Chip CVR/TVR Bit Error Results) | <p>Issuers that participate in the M/Chip Cryptogram Pre-validation Service or the M/Chip Cryptogram Validation in Stand-In Processing Service receive subelement 79 in the Authorization Request/0100 and the Authorization Advice/0120—System-generated when errors are detected in the CVR/TVR within the Issuer Application data during M/Chip Cryptogram Validation processing. Subelement 79 is present when subelement 71, subfield 2 (OB Result 1) contains the value T (TVR/CVR was invalid).</p> <p>Subelement 79 should not be returned in the Authorization Request Response/0110.</p> |

Chip To Magnetic Stripe Conversion

The Chip to Magnetic Stripe Conversion service is an optional service that removes M/Chip-related data element (DE) 55 (Integrated Circuit Card [ICC] System-related Data), if present and DE 23 (Card Sequence Number), if present and changes the value in DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) before sending the Authorization Request/0100 message to the issuer for processing.

Chip to Magnetic Stripe Conversion affects issuers only. Acquirers are not affected by this service. Issuers subscribing to the Chip to Magnetic Stripe Conversion service must ensure that the cards are not personalized to expect Issuer Authentication Data in DE 55 in the Authorization Request Response/0110 message.

Authorization Advice/0120 messages contain the converted magnetic stripe transaction and include DE 48, subelement 71.

Issuers should be aware that the acquirer submits the original M/Chip transaction into clearing.

The Global Clearing Management System (GCMS) offers the Chip to Magnetic Stripe Conversion service. Issuers should refer to the *GCMS Reference Manual* for information about this optional service.

To request this service, issuers must contact Mastercard and identify the account range that the service supports.

Authorization and Stand-In Processing

The following Dual Message System and Stand-In processing applies for M/Chip Processing Services.

Dual Message System Processing

The issuer receives the Authorization Request/0100 message containing DE 48, subelement 71 with the value 01C, 01M, or 01S indicating that the Chip to Magnetic Stripe Conversion On-behalf service was performed on the transaction.

| IF the transaction is Full-Grade and... | THEN the Authorization Platform will... |
|--|---|
| DE 55 is present, and | Remove DE 55 |
| DE 23 is present, and | Remove DE 23 |
| DE 22, subfield 1 contains: 05 PAN auto-entry via chip | Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe and DE 48, subelement 71, subfield 2, value C (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry]) |
| 07 PAN auto-entry via contactless M/Chip | Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe and DE 48, subelement 71, subfield 2, value S (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 07 [PAN auto-entry via contactless M/Chip]) |

| IF the transaction is Full-Grade and... | THEN the Authorization Platform will... |
|--|---|
| 79 Chip card/PAN entry via manual entry | Change DE 22, subfield 1 to 01 = PAN manual entry and DE 48, subelement 71, subfield 2, value C (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry]) |
| 80 Chip card/PAN via magnetic stripe | Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe and DE 48, subelement 71, subfield 2, value M (Conversion of the M/Chip fallback transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 80 [PAN auto-entry with magnetic stripe]) |

| IF the transaction is Partial-Grade and... | THEN the Authorization Platform will... |
|---|--|
| DE 55 is not present, and DE 23 is present | Remove DE 23 |
| DE 22, subfield 1 contains: | |
| 05 PAN auto-entry via chip | Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe and DE 48, subelement 71, subfield 2, value C (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry]) |

| IF the transaction is Partial-Grade and... | | THEN the Authorization Platform will... |
|---|---|---|
| 07 | PAN auto-entry via contactless M/ Chip | <p>Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe</p> <p>and</p> <p>DE 48, subelement 71, subfield 2, value S (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 07 [PAN auto-entry via contactless M/Chip])</p> |
| 79 | Chip card/PAN entry via manual entry | <p>Change DE 22, subfield 1 to 01 = PAN manual entry</p> <p>and</p> <p>DE 48, subelement 71, subfield 2, value C (Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry])</p> |
| 80 | Chip card/PAN via magnetic stripe | <p>Change DE 22, subfield 1 to 90 = PAN auto-entry via magnetic stripe</p> <p>and</p> <p>DE 48, subelement 71, subfield 2, value M (Conversion of the M/Chip fallback transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 80 [PAN auto-entry with magnetic stripe])</p> |

| IF DE 55 is present and... | THEN the Authorization Platform will... |
|-----------------------------------|--|
| DE 22 is not 05, 07, 79, or 80 | <p>Reject the transaction for a format error:</p> <p>DE 39 = 30</p> <p>DE 44 = 055</p> |

Stand-In and X-Code Processing

Stand-In processes the Authorization Request/0100 message as a magnetic stripe transaction if the issuer is not available. X-Code processes the Authorization Request/0100 message as a magnetic stripe transaction if Stand-In processing is not available.

The Authorization Advice/0120 message contains the converted magnetic stripe transaction and includes DE 48, subelement 71.

Subelement 71 (On-behalf Services)... Contains...

| | | | |
|--------------------------|-------|---|---|
| Subfield 1 (OB Service) | 01 | = | Chip to Magnetic Strip Conversion |
| Subfield 2 (OB Result 1) | C | = | Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 05 [PAN auto-entry via chip] or 79 [Chip card/PAN entry via manual entry]) |
| | M | = | Conversion of the M/Chip fallback transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 80 [PAN auto-entry with magnetic stripe] |
| | S | = | Conversion of the M/Chip transaction to a magnetic stripe transaction was completed from an original POS PAN Entry Mode value of 07 [PAN auto-entry via contactless M/Chip]) |
| Subfield 3 (OB Result 2) | Blank | = | No value present |

M/Chip Cryptogram Pre-validation

The M/Chip Cryptogram Pre-validation service validates the Authorization Request Cryptogram (ARQC) and generates the Authorization Response Cryptogram (ARPC) for issuers subscribing to this service. Mastercard supports cryptogram validation for M/Chip Select 2.0, M/Chip Lite 2.1, M/Chip 4.0 (EMV96 and EMV2000), or Common Core Definition (EMV-CCD) session key derivations.

Transactions that qualify for this service contain the following data elements:

- DE 55 (Integrated Circuit Card [ICC] System Related Data)
- DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) must be one of the following values:
 - 05 = PAN auto-entry via chip
 - 07 = PAN auto-entry via contactless M/Chip
 - 09 = PAN entry via electronic commerce, including remote chip

The Authorization Platform performs the following edits:

| IF... | THEN the Authorization Platform will... |
|--|--|
| DE 55 format is not valid or the required subfields are not present | Reject the transaction for a format error with: DE 39 = 30 DE 44 = 055 |
| DE 48, subelement 71 or subelement 72 are present in the Authorization Request/0100 message from the acquirer host | Reject the transaction for a format error with: DE 39 = 30 DE 44 = 048 |

Decline Option for Issuers

Mastercard has enhanced the M/Chip Cryptogram Pre-validation service with a decline option indicator to decline transactions on-behalf of participating issuers when the Application Request Cryptogram or the chip data validation for the transaction is not successful.

For the decline option indicator, Mastercard will forward the transaction to the issuer or decline the transaction on-behalf of the issuer on the basis of the information included in the decision matrix. For each value of the On-behalf Service (OBS) results, the decision matrix includes which action to take (forward or decline the transaction).

Mastercard supports the following four options for issuers registering to the OBS 02 service.

- Option 1: Do not use the decline option for neither contact nor contactless transactions.
- Option 2: Use the decline option for contact and contactless transactions.
- Option 3: Use the decline option for contact transactions and do not use the decline option for contactless transactions.
- Option 4: Use the decline option for contactless transactions and do not use the decline option for contact transactions.

Validation of the Application Cryptogram

Validation of the ARQC in the Application Cryptogram subfield supports parameters linked to each key, based on the PAN (account range), Floor Expiry date, and DMK index (also known as the Key Derivation Index-KDI).

Issuers must provide Mastercard with the keys and parameters according to the On-behalf key management (OBKM) documentation set. Mastercard generates the ARPC unless there was a technical failure. The session key derivations supported include:

- M/Chip2 (Lite and Select) for the ARQC and the ARPC
- M/Chip4 (EMV96 for Lite and Select) for the ARQC and the ARPC
- M/Chip4 (EMV2000 for Lite and Select) for the ARQC and the ARPC
- Common Core Definition (EMV-CCD) for the ARQC and ARPC

Subelement 71—On-behalf Service notifies the issuer that the M/Chip Cryptogram Pre-validation service was performed on the transaction. This service is indicated in subfield 1 OB Service with the value 02. Subfield 2 OB Result 1 provides information that can be used by the issuer in the authorization decision process.

Several tests are performed on DE 55 during the ARQC validation process. The following identifies the tests and the values in subfield 2 (OB Result 1). If a test produces a negative result, no additional tests are performed.

| IF starting with the application cryptogram validation... | THEN the value in subelement 71, subfield 2 (OB Result 1) is... |
|--|--|
| The Application Cryptogram could not be validated due to a technical error | U |
| A format error is detected in DE 55 | F |
| The Application Cryptogram is invalid | I |
| The cryptogram in the Application Cryptogram is valid but the AC is not an ARQC nor a TC | G |
| The Application Cryptogram was a valid ARQC but the TVR/CVR was invalid | T |
| There is no matching key file for this PAN, PAN expiry date and KDI combination | K |
| The security platform has timed out | X |
| The security platform has experienced a processing error | Z |
| No errors were detected in the previous tests, the ARQC is valid | V |

Issuers will receive additional detail on the specific Card Verification Results (CVR) and Terminal Verification Results (TVR) found to be in error during the cryptogram validation process. Information about the specific bits in error submitted in the transaction is forwarded to the issuer in DE 48, subelement 79 (Chip CVR/TVR Bit Error Results) of the Authorization Request/0100 message and the Authorization Advice/0120—System-generated message.

The Authorization Request Response/0110 message is returned to the acquirer when a format error occurs. The issuer receives the Authorization Request/0100 message in all other transactions.

When DE 48, subelement 71, subfield 2 contains U, F, I, G, or T, Mastercard sends the acquirer an Authorization Request Response/0110 message where DE 48, subelement 74, subfield 1 is value 02 and subfield 2 is subelement 71, subfield 2 value.

Generation of the Issuer Chip Authentication Data

Mastercard generates the ARPC assuming an approval response from the issuer (DE 39 = 00). This ARPC is placed in DE 48, subelement 72 based on key information provided by the issuer. The ARQC is generated when the ARQC is valid.

Mastercard uses subelement 72 to carry data used during cryptogram processing. The issuer must return this data in the Authorization Request Response/0110 message. If the issuer declines the transaction, Mastercard re-generates the ARPC before sending the Authorization Request Response/0110 message to the acquirer host. Mastercard removes subelements 71 and 72 from the Authorization Request Response/0110 message before sending the message to the acquirer host.

If Stand-In responds to the Authorization Request/0100 message, subelement 72 is also present in the Authorization Advice/0120 message sent by Stand-In processing.

Stand-In processing provides authorization support when the issuer is not available. Normal Stand-In processing occurs when the Application Cryptogram is determined to be valid based on the value in subelement 71, subfield 2 (OB Result 1).

Stand-In processing uses the decision matrix values from the OBKM interface when subelement 71, subfield 2 (OB Result 1) contains a value of G, I, T, or U indicating the Application Cryptogram is invalid.

The Authorization Response Cryptogram is generated based on the Stand-In response. The Authorization Request Response/0110 message created includes DE 55, subfield ID 91 Issuer Authentication Data.

The Authorization Advice/0120 message includes:

- DE 48, subelement 71 that identifies the service performed on the transaction
- DE 48, subelement 72 that contains the Authorization Response Cryptogram generated based on the approved or declined response
- DE 48, subelement 79 that identifies the CVR/TVR bits found to be in error
- DE 55 containing the ARQC from the Authorization Request/0100 message

DE 60 (Advice Reason Code)

DE 60, subfield 2 contains values depending on values contained in DE 48, subelement 71, subfield 2 as shown below:

| IF subfield 2 (OB Result 1) contains... | THEN DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) contains... | | |
|--|---|---|---|
| F | 0059 | = | Format Error |
| G | 0039 | = | Application Cryptogram is valid but not an ARQC nor a TC; Status of TVR/CVR unknown |
| I | 0034 | = | Invalid Chip Cryptogram |
| K | 0037 | = | No matching key file for this PAN, PAN expiry date and KDI combination—Validation of ARQC and CVR/TVR not performed, status unknown |

| IF subfield 2 (OB Result 1) contains... | THEN DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) contains... | | |
|--|---|------|------------------------------------|
| T | 0035 | = | TVR/CVR validation failed |
| U | 0032 | = | Reject: Chip Data Processing Error |
| | | -Or- | |
| | | | Another valid advice reason code |
| V | 0000 | = | Accept |
| | | -Or- | |
| | | | Another valid advice reason code |
| X | 0038 | = | Security platform time out |
| Z | 0040 | = | Security platform processing error |

Acquirers and issuers are both affected by M/Chip Cryptogram Pre-validation service.

Acquirers should be aware that Issuer Chip Authentication Data may not be present in the Authorization Request Response/0110 message if the ARPC was not generated. The card may decline the transaction.

The M/Chip Cryptogram Pre-validation service is optional. Issuers must contact Mastercard and identify the account range that the service supports. Issuers are also required to provide the keys and parameters according to the OBKM documentation set.

Mastercard notifies the issuer that the M/Chip Cryptogram Pre-validation service was performed on the transaction by the presence of DE 48, subelement 71.

The Authorization Advice/0120 message provides the ARQC from the Authorization Request/0100 message in DE 55. The ARPC generated based on an approved or declined response is in DE 48, subelement 72.

If Stand-In is not available, the Authorization Request/0100 message is processed by X-Code. No ARQC validation/ARPC generation occurs on X-Code processing.

Issuers should contact their Customer Implementation Services specialist to sign-up and test the M/Chip Processing services.

Registration forms Chip Project Request Workbook (CPRW) and Parameter Worksheet will be updated to include new options for M/Chip Cryptogram Pre-Validation Service processing.

Issuers opting for the M/Chip Cryptogram Pre-Validation Service with the decline option indicator should work with their business and Customer Implementation Services representatives to enable the M/Chip Cryptogram Pre-Validation Service with the decline option indicator by specifying which existing or new account ranges they want to support using the CPRW or *Parameter Worksheet* if issuers are in the Europe region.

Alternate Processing

If a transaction is routed to the Stand-In System, the Stand-In System will respond to the acquirer based on the service results and on the instructions established by the issuer.

The issuer will receive the appropriate values 0037, 0038, and 0040 in DE 60, subfield 2 in the Authorization Advice/0120 message for the M/Chip Cryptogram Pre-Validation Service with the decline option indicator and M/Chip Cryptogram Validation in Stand-In Processing Service, with new values K, X, and Z in DE 48, subelement 71, subfield 2.

Authorization Platform Edits

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| EMV tag values other than 91, 71, and 72 are present and sent in the Authorization Request Response/0110 message or if the Tag Length Value (TLV) structure of DE 55 (Integrated Circuit Card System Related Data) is incorrect | Sends an Authorization Negative Acknowledgement/0190 message to the issuer as a format edit error where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format Error)• DE 44 (Additional Response Data) = 055 (indicating the data element in error) |

Combined Service Option

Issuers can choose an option that combines the Chip to Magnetic Stripe Conversion and M/Chip Cryptogram Pre-validation services.

This option allows two M/Chip processing services to be performed on a single transaction, providing issuers with a bridge to maximize the benefits of chip card processing capabilities while minimizing impacts on their authorization systems. These two services also are available individually.

The Combined Service Option is optional.

M/Chip Cryptogram Validation in Stand-In Processing

The M/Chip Cryptogram Validation in Stand-In processing service supports issuers that process chip transactions on an on-going basis. M/Chip Cryptogram Validation in Stand-In processing supports chip cryptogram validation and generation of the ARPC when the issuer is signed-out, the transaction cannot be delivered to the issuer, or the issuer timed-out.

Mastercard performs the cryptographic support and provides Dual Message System processing for issuers using the M/Chip Select 2.0, M/Chip Lite 2.1, M/Chip 4.0 (EMV 96 and EMV 2000), and Common Core Definition (EMV-CCD) session key derivations.

Transaction Qualifiers

The processing performed by Mastercard for the M/Chip Cryptogram Validation in Stand-In processing service is very similar to the processing performed for the M/Chip Cryptogram Pre-validation service.

Transactions containing the following data elements qualify for this service:

- DE 55 must be present
- DE 22, subfield 1 containing one of the following values:
 - 05 = PAN auto-entry via chip
 - 07 = PAN auto-entry via contactless M/Chip
 - 09 = PAN entry via electronic commerce, including remote chip

For transactions that qualify for this service:

- The ARQC is validated and the TVR/CVR fields are validated according to a default pattern
- Stand-In processing approves or declines the transaction
- The ARPC is generated
- The Authorization Request Response/0110 message is created
- The Authorization Advice/0120 message is created

Authorization Platform Edits

The Authorization Platform performs the following edits:

| IF.... | THEN the Authorization Platform will... |
|--|--|
| DE 55 format is not valid or the required subfields are not present | Reject the transaction with format error in DE 39 = 30 DE 44 = 055 |
| DE 48 subelement 71 or subelement 72 are present in the Authorization Request/0100 from the acquirer | Reject the transaction with format error in DE 39 = 30 DE 44 = 048 |

Validation of the Application Cryptogram

Validation of the ARQC in the Application Cryptogram subfield supports parameters linked to each key, based on the PAN (account range), Floor Expiry date, and DMK index (also known as the Key Derivation Index-KDI).

Mastercard generates the ARPC unless there was a technical failure or the ARQC was invalid.

The session key derivations supported include:

- M/Chip2 (Lite and Select) for the ARQC and the ARPC
- M/Chip4 (EMV 96 for Lite and Select) for the ARQC and the ARPC
- M/Chip4 (EMV 2000 for Lite and Select) for the ARQC and the ARPC
- Common Core Definition (EMV-CCD) for the ARQC and ARPC

Subelement 71 notifies the issuer that the Dynamic M/Chip Stand-In service was performed on the transaction. This is indicated in subfield 1 (OB Service) with the value 03. Subfield 2 (OB Result 1) provides information regarding the results of the ARQC validation.

Several tests are performed on DE 55 during the ARQC validation process. The following identifies the tests and the values in subfield 2. If a test produces a negative result, no additional tests are performed.

| IF starting with the application cryptogram validation... | THEN the value in subelement 71, subfield 2 (OB Result 1) is... |
|--|--|
| The Application Cryptogram could not be validated due to a technical error | U |
| A format error is detected in DE 55 | F (Mastercard Internal only) |
| The Application Cryptogram is invalid | I |
| The cryptogram in the Application Cryptogram is valid but the AC is not an ARQC nor a TC | G |
| The Application Cryptogram was a valid ARQC but the TVR/CVR was invalid | T |
| There is no matching key file for this PAN, PAN expiry date and KDI combination | K |
| The security platform has timed out | X |
| The security platform has experienced a processing error | Z |
| No errors were detected in the previous tests, the ARQC is valid | V |

Issuers will receive additional detail on the specific Card Verification Results (CVR) and Terminal Verification Results (TVR) found to be in error during the cryptogram validation process. Information regarding the specific bits in error submitted in the transaction will be forwarded to the issuer in DE 48, subelement 79 (Chip CVR/TVR Bit Error Results) of the Authorization Request/0100 message and the Authorization Advice/0120—System-generated message.

The Authorization Request Response/0110 message is returned to the acquirer when a format error occurs. Stand-In processing will use the issuer defined values from the OBKM interface in all other transactions.

When DE 48, subelement 71, subfield 2 contains U, F, I, G, or T, Mastercard will return the acquirer an Authorization Request Response/0110 message where DE 48, subelement 74, subfield 1 is value 03 and subfield 2 is subelement 71, subfield 2 value.

Generation of the Issuer Chip Authentication Data

Mastercard generates the ARPC in DE 48, subelement 72 based on key information provided by the issuer.

Mastercard uses subelement 72 to carry data used during cryptogram processing. Subelement 72 will be present in the Authorization Advice/0120 message sent by Stand-In.

Stand-In processing provides the authorization support when the issuer is signed out, the transaction cannot be delivered to the issuer, or the issuer timed out. Normal Stand-In processing occurs when the ARQC was determined to be valid based on the value in subelement 71, subfield 2.

Stand-In uses the decision matrix values from the OBKM interface when subelement 71, subfield 2 contains the value G, I, T, or U.

The Authorization Response Cryptogram is generated based on the Stand-In response. The Authorization Request Response/0110 message created includes DE 55, subfield ID 91 Issuer Authentication Data.

The Authorization Advice/0120 message includes:

- DE 48, subelement 71 that identifies the service performed and results
- DE 48, subelement 72 that contains the Authorization Response Cryptogram generated based on approved or declined response
- DE 48, subelement 79 that identifies the CVR/TVR bits found to be in error
- DE 55 containing the ARQC from the Authorization Request/0100 message

DE 60—Advice Reason Code

DE 60, subfield 2 contains values depending on values contained in DE 48, subelement 71, subfield 2 as shown below:

| IF subfield 2 (OB Result 1) contains... | THEN DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) contains... |
|--|--|
| F | 0059 = Format Error |
| G | 0039 = Application Cryptogram is valid but not an ARQC nor a TC; Status of TVR/CVR unknown |
| I | 0034 = Invalid Chip Cryptogram |
| K | 0037 = No matching key file for this PAN, PAN expiry date and KDI combination—Validation of ARQC and CVR/TVR not performed, status unknown |
| T | 0035 = TVR/CVR validation failed |
| U | 0032 = Reject: Chip Data Processing Error -Or- Another valid advice reason code |
| V | 0000 = Accept |

IF subfield 2 (OB Result 1) contains... THEN DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) contains...

-Or-

Another valid advice reason code

| | | | |
|---|------|---|------------------------------------|
| X | 0038 | = | Security platform time out |
| Z | 0040 | = | Security platform processing error |

Acquirers and issuers are both affected by M/Chip Cryptogram Validation in Stand-In processing service.

Acquirers should be aware that Issuer Chip Authentication Data may not be present in the Authorization Request Response/0110 message if the ARPC was not generated. The card may decline the transaction.

The Authorization Advice/0120 message provides the ARQC from the Authorization Request/0100 in DE 55. The ARPC generated is in DE 48, subelement 72 when the transaction was approved.

If Stand-In processing is not available, the Authorization Request/0100 message is processed by X-Code processing. No ARQC validation/ARPC generation occurs in X-Code processing.

The M/Chip Cryptogram Validation in Stand-In processing service is optional.

Issuers should contact their Customer Implementation Services specialist for information regarding signing up and testing for the M/Chip Processing services.

Issuers must contact Mastercard and identify the account range that the service will support.

Alternate Processing

If a transaction is routed to the Stand-In System, the Stand-In System will respond to the acquirer based on the service results and on the instructions established by the issuer.

The issuer will receive the appropriate values 0037, 0038, and 0040 in DE 60, subfield 2 in the Authorization Advice/0120 message for the M/Chip Cryptogram Pre-Validation Service with the decline option indicator and M/Chip Cryptogram Validation in Stand-In Processing Service, with new values K, X, and Z in DE 48, subelement 71, subfield 2.

Authorization Platform Edits

The Authorization Platform will perform the following system edits.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| EMV tag values other than 91, 71, and 72 are present and sent in the Authorization Request Response/0110 message or if the Tag Length Value (TLV) structure of DE 55 (Integrated Circuit Card System Related Data) is incorrect | Sends an Authorization Negative Acknowledgement/0190 message to the issuer as a format edit error where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format Error)• DE 44 (Additional Response Data) = 055 (indicating the data element in error) |

MIP Transaction Blocking

MIP Transaction Blocking provides issuers with easy-to-manage, flexible controls that supplement their authorization strategy.

MIP Transaction Blocking extends an issuer's authorization capabilities, augmenting their defenses to protect portfolios from fraud attacks, as well as manage specialized payment programs with ease. An issuer's participation in the MIP Transaction Blocking Service is optional.

This service may not have the effect of causing the acquirer to be in noncompliance with any Mastercard Standard, including Rule 6.4, Selective Authorization.

Issuers may want to apply MIP Transaction Blocking to:

- Prevent the authorization of fraudulent transactions for compromised account ranges
- Prevent the authorization of transactions due to operational emergencies (for example, the issuer encounters problems supporting certain processing codes or POS PAN entry modes)
- Decline authorizations for an account range in combination with the point-of-interaction (POI) country in the event of local issues that necessitate preventing transactions from being authorized until those issues are resolved
- Protect assigned BIN ranges before they go into production or account ranges in production that are not actively used

MIP Transaction Blocking provides issuers the ability to decline authorizations in the Dual Message System based upon the issuing ICA number or account range, and one or more of the following transaction parameters:

- DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code)
- DE 18 (Merchant Type)
- DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode)
- DE 32 (Acquiring Institution ID Code)
- DE 61 (Point-of-Service [POS] Data), subfield 10 (Card Activated Terminal Level [CAT])
- DE 61 (Point-of-Service [POS] Data), subfield 13 (POS Country Code [or Sub-Merchant Information, if applicable])

MIP Transaction Blocking can also provide Full BIN Blocking on authorization requests for an entire BIN range or a segment of a BIN range, defined up to 11 digits, and is available globally on both the Dual and Single Message Systems.

MIP Transaction Block Setup

Issuers must provide the following information for each transaction block setup.

The following information is required for each transaction block setup:

- ICA or Routing and Transit Number and account range
- The data elements identifying the type of transaction to be blocked
- Effective date
- The response code that will be returned in the Authorization Request Response/0110 message to the acquirer when the transaction matches the blocking criteria. Issuers may choose a response code from the following list:
 - 03 (Invalid merchant)
 - 04 (Capture card)
 - 05 (Do not honor)
 - 12 (Invalid transaction)
 - 57 (Transaction not permitted to issuer/cardholder)
 - 58 (Transaction not permitted to acquirer/terminal)

NOTE: If issuers do not specify a decline response code, the default response code is 05 (Do not honor).

- Registration for the optional MIP Transaction Blocking ICA Level Block Summary (SI738010-AA) and delivery endpoint.

MIP Transaction Blocking ICA Level Block Summary (SI738010-AA)

The MIP Transaction Blocking ICA Level Block Summary (SI738010-AA) is an optional report showing each ICA level block for the issuer and the account ranges associated to that block. The ICA Blocking Summary report will assist issuers in determining the account ranges that are blocked via ICA level MIP Transaction Blocking records.

To Participate

Issuers may choose to participate in and customize their MIP Transaction Blocking settings by completing the *MIP Transaction Blocking Service Request Form* (Form 810) and submitting the form to the Global Customer Service team.

For questions about participating in MIP Transaction Blocking, contact the Global Customer Service team.

Authorization Platform Edits

The Authorization Platform performs the following edits on Authorization Request/0100—MIP Transaction Blocking transactions.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The acquirer sends an Authorization Request/0100 message and the transaction matches a MIP transaction block record | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <p>DE 39 = The response code identified in the MIP transaction block setup</p> <p>and</p> <p>May send the issuer an Authorization Advice/0120 message where</p> <ul style="list-style-type: none"> • DE 39 = The response code sent in the Authorization Request Response/0110 • DE 60 (Advice Reason Code), Subfield 1 (Advice Detail Code) will contain 120 • DE 121 (Authorizing Agent ID Code) will contain 000003 (Decline occurred due to an on-behalf service) |
| The transaction does not match any MIP transaction block | Forwards the Authorization Request/0100 message to the issuer or to the Stand-In System if the issuer is unavailable. |

Full BIN Block

The Full BIN Block service blocks authorization requests for an entire BIN range or a segment of a BIN range, defined up to 11 digits.

Through this service, issuers can protect assigned BIN ranges before they go into production. Issuers also can protect account ranges in production that are not actively used. The Full BIN Block service will decline any authorization request in the identified account range with response code 14 (Invalid card number).

The Full BIN Block service is available globally on both the Dual and Single Message Systems. This service is recommended when a BIN has been assigned by Mastercard for use by the issuer, but that is not yet supported by the issuer's authorization system.

Participation in the Full BIN Block service is optional.

Benefits

Issuers may want to apply authorization blocking for inactive BINs to:

- Block an entire BIN range or a segment of a BIN range.
- Combat fraud attacks on inactive BIN ranges, defined as "live" on Mastercard systems but not in production on the issuer host system.

To Participate

To sign up for the Full BIN Block service, issuers must complete the *MIP Transaction Blocking Service Request Form* (Form 810).

Authorization Platform Edits

The Authorization Platform performs the following edits on Authorization Request/0100—Full BIN Block transactions.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The acquirer sends an Authorization Request/0100 message and the transaction falls within a Full BIN Block | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 14 (Invalid card number. The transaction is declined.) |

Mobile Remote Payments

Mobile Remote Payments is a payment functionality that is initiated by an enrolled cardholder from the cardholder's mobile device to facilitate a transaction through a service manager.

NOTE: Applies only in countries where Mobile Remote Payments transactions are supported. The applicability in a country to support this functionality will be announced in a regional bulletin, a country-specific bulletin, or both.

A cardholder may choose to enroll in a remote payment service that is accessed using a mobile device, which is a cardholder-controlled mobile phone that has been registered with the cardholder's issuer and which is used for entry of the cardholder's PIN or mobile-specific credentials.

Acquirer and Issuer Domains

The Mobile Remote Payments program is structured into two primary domains, the acquirer domain and the issuer domain. For both domains, the service manager role is central to the delivery of the Mobile Remote Payments program. The following information describes the business functions related to the service manager role.

- Acquirer Domain—In the acquirer domain, the Service Manager acts on behalf of acquirers. The role of Service Manager may be filled by an acquirer or by a third-party registered with Mastercard by the acquirer as its Service Provider. Liability does not shift from merchants to issuers under the acquirer domain as cardholder verification is performed either by the acquirer or by the Service Manager acting on behalf of the acquirer.
- Issuer Domain—In the issuer domain, the Service Manager acts on behalf of issuers. The role of Service Manager may be filled by a third-party registered with Mastercard by the

issuer as its Service Provider. Liability shifts from merchants to issuers under the issuer domain as cardholder verification is performed either by the issuer or by the Service Manager acting on behalf of the issuer.

Customer Requirements

To process Mobile Remote Payments transactions:

- Issuers may use a service manager to provide the Mobile Remote Payments program services.
- Acquirers may use a service manager to provide the Mobile Remote Payments program services.
- All issuers must be able to receive and process all Mobile Remote Payments data present in Authorization Request/0100 messages.
- All acquirers must properly identify Mobile Remote Payments transactions in Authorization Request/0100 messages, and receive and process Mobile Remote Payment transaction Authorization Request Response/0110 messages.
- Mobile Remote Payments transactions have a zero floor limit and must be authorized by the issuer or its agent.

To Participate

Issuers and acquirers must register with Mastercard to participate in the Mobile Remote Payments program, as described in the *Mobile Remote Payments Program Guide*.

For More Information

For more information about:

- Operational processes, security requirements, and guidelines for the Mobile Remote Payments program, refer to the *Mobile Remote Payments Program Guide*.
- Supporting data requirements, refer to the *Customer Interface Specification* manual.

Authorization Platform Edits

The following edits are performed on Authorization Request/0100 and Authorization Advice/0120 messages for Mobile Remote Payment transactions.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 48 (Additional Data—Private Use), subelement 48 (Mobile Program Indicators), subfield 1 (Remote Payments Program Type Identifier) contains a value other than 1 (Issuer domain) or 2 (Acquirer Domain) | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none">• DE 39 (Response Code) = 30 (Format error)• DE 44 (Additional Response Data) = 048 |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| <p>The Authorization Request/0100 or Authorization Request Response/0120—Acquirer-generated message contains:</p> <ul style="list-style-type: none"> • DE 48, subelement 48, subfield 1, value of 1 or 2, and • DE 22 (Point-of-Service [POS] EntryMode), subfield 1 (POS Terminal PAN Entry Mode), is not value 82 (PAN Auto Entry via Server [issuer, acquirer, or third party vendor system]) | <p>Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 022 |

Partial Approvals

The Authorization Platform allows acquirers to indicate whether the merchant terminal supports receipt of partial approvals in an authorization request message.

If the acquirer has indicated that the merchant terminal supports receipt of partial approvals, issuers can approve a portion of the requested transaction amount by responding with the approved amount and a partial approval response code in the authorization message.

All Debit Mastercard® card issuers in the U.S. region must support partial approvals and updates to the cardholder's open-to-buy balance upon receipt of a reversal (full or partial).

Effective 11 April 2014 with Release 14.Q2, the United Kingdom must support partial approvals for debit/prepaid cards and balance responses for prepaid cards. For MCC 5542 only partial approval support is required.

Authorization Request/0100—Partial Approval

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), subelement 61 (POS Data, Extended Condition Codes), subfield 1 (Partial Approval Terminal Indicator) | C | • | C | 1 = Merchant terminal supports receipt of partial approvals |

Authorization Request Response/0110—Partial Approval

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 4 (Amount, Transaction) | • | X | M | Partial approval amount in acquirer transaction currency. |
| DE 5 (Amount, Settlement) | • | X | C | Partial approval amount in the settlement currency. |
| DE 6 (Amount, Cardholder Billing) | M | • | M | <p>Partial approval amount in issuer cardholder billing currency. This amount can be less than or equal to the original amount present in the Authorization Request/0100 message in the amount data element that corresponds to the issuer cardholder billing currency.</p> <p>This amount may be less than, greater than, or equal to the amount present in the Authorization Request/0100 message when the DE 18 (Merchant Type) is value 5542 (Fuel Dispenser, Automated)</p> |
| DE 38 (Authorization ID Response) | M | • | M | Authorization Code. |
| DE 39 (Response Code) | M | • | M | 10 = Partial Approval |
| DE 51 (Currency Code, Cardholder Billing) | M | • | M | Issuer cardholder billing currency code. |
| DE 54 (Additional Amounts), subfield 1 (Account Type) | • | X | M | 00 = Default Account (not specified or not applicable) |
| DE 54 (Additional Amounts), subfield 2 (Amount Type) | • | X | M | 57 = Original Amount |
| DE 54 (Additional Amounts), subfield 3 (Currency Code) | • | X | M | Refer to the <i>Quick Reference Booklet</i> |
| DE 54, subfield 4 (Amount) | • | X | M | C plus 12 digits |

NOTE: Issuers responding with DE 39, value 10 will not be required to echo DE 4 (Amount, Transaction) in the Authorization Request Response/0110 message. Likewise, if DE 5 (Amount, Settlement) was present in the Authorization Request/0100 message to the issuer, the issuer will not be required to echo DE 5 in the Authorization Request Response/0110 message when responding with DE 39, value 10. The issuer will provide the partial approval amount in DE 6 (Amount, Cardholder Billing).

The Authorization Platform additionally provides the partial approval amount to the acquirer in the following data elements of the Authorization Request Response/0110 message:

- DE 4 in acquirer's transaction currency

- DE 5 in U.S. dollars if the acquirer receives settlement amount-related data elements
- DE 6 in the issuer's cardholder billing currency

The Authorization Platform will provide two additional occurrences of the original amount in DE 54 of the Authorization Request Response/0110 message to the acquirer; one in the acquirer's currency and one in the issuer cardholder billing currency.

Reversal Request/0400—Partial Approval

In some cases, the cardholder or merchant may elect not to complete the transaction after receiving the partial approval response from the issuer. Mastercard supports full acquirer-generated reversal messages to allow the merchant to cancel the partial approval.

In addition to all other applicable data elements for the Reversal Request/0400 message, acquirers should submit Reversal Request/0400 messages with the following data elements for a partial approval:

- The partial approval amount in DE 4 that was present in the Authorization Request Response/0110 message to the acquirer, not the original amount present in DE 4 of the Authorization Request/0100 message from the acquirer
- DE 39, value 10

When processing a Reversal Request/0400 message for a partial approval (DE 39, value 10), the issuer should increase the cardholder open-to-buy using the partial approval amount present in the amount data element of the Reversal Request/0400 message that corresponds to the issuer cardholder billing currency.

The Reversal Request/0400 message will not contain DE 48, subelement 61 or DE 54, subelement 2, value 57.

Reversal Advice/0420—Partial Approval

Following are data elements applicable to this message in addition to the required data elements.

If the Authorization Platform generates a Reversal Advice/0420 message after the issuer has responded to the Authorization Request Response/0110 message with DE 39, value 10, the Authorization Platform will provide the following data elements:

- Partial approval amount in DE 4 in the acquirer transaction currency
- Partial approval amount in DE 5 if the issuer has opted to receive amounts in the settlement currency (U.S. dollars)
- Partial approval amount in DE 6 in the issuer cardholder billing currency
- DE 39, value 10
- Original amount in DE 54 in the issuer cardholder billing currency (and acquirer transaction currency if different from issuer cardholder billing currency)

When processing an Reversal Advice/0420 message for a partial approval (DE 39, value 10), the issuer should increase the cardholder open-to-buy using the partial approval amount present in the amount data element of the Reversal Advice/0420 message that corresponds to the issuer's cardholder billing currency.

Authorization Advice/0120—Acquirer-Generated

The following data elements apply to this message in addition to the required data elements.

When an acquirer creates an Authorization Advice/0120—Acquirer-generated message to advise the issuer of an approved authorization performed by the acquirer, it may include DE 48, subelement 61 in the Authorization Advice/0120—Acquirer-generated message if it was present in the original Authorization Request/0100 message.

DE 39, value 10 is not a valid value for Authorization Advice/0120—Acquirer-generated messages. If an Authorization Advice/0120—Acquirer-generated message contains DE 39, value 10 and the advice is not for an Automated Fuel Dispenser Completion (DE 18 = 5542), the Authorization Platform will generate an Authorization Advice Response/0130 message containing DE 39, value 30 and DE 44 (Additional Data), value 039.

If an Authorization Advice/0120—Acquirer-generated message contains DE 39, value 10 and the advice is for an Automated Fuel Dispenser Completion, the Authorization Platform will change the DE 39 value to 00 (Approved or completed successfully) before forwarding the advice to the issuer.

Alternate Processing

The Stand-In System and the X-Code System will not provide a partial approval response to an authorization request because these systems do not maintain card balances.

However, if an Authorization Request/0100 message containing DE 48, subelement 61 is processed by the Stand-In System or the X-Code System, the corresponding Authorization Advice/0120—System-generated message will contain DE 48, subelement 61.

Authorization Platform Edits

The Authorization Platform will perform the following edits.

Authorization Request/0100 Edits

The Authorization Platform performs the following edits on the Authorization Request/0100 message.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 61, subfield 1 contains a value other than 0 or 1 | Generates an Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 048 |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 48, subelement 61, subfields 4–5 contain values other than 0 | Generates an Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 048 |
| DE 54 is present in the Authorization Request/0100 message where DE 54, subfield 2 contains value 57 (Original Amount) | Generates an Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 054 |

Authorization Request Response/0110 Edits

The Authorization Platform performs the following edits on the Authorization Request Response/0110 message when the issuer has provided DE 39 with value 10.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 61 is not present or DE 48, subelement 61, subfield 1 does not contain value 1 or DE 3, subfield 1 is 09 in the Authorization Request/0100 message sent to the issuer | Generates an Authorization Response Negative Acknowledgement/0190 message to the issuer where: DE 39 = 30 DE 44 = 039 |
| DE 38 is not present | Generates an Authorization Response Negative Acknowledgement/0190 message to the issuer where: DE 39 = 30 DE 44 = 038 |
| DE 6 is not present | Generates an Authorization Response Negative Acknowledgement/0190 message to the issuer where: DE 39 = 30 DE 44 = 006 |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The issuer responds with DE 39, value 10 (Partial Approval) and DE 6 is a partial approval amount equal to the original requested amount in the Authorization Request/0100 message | Allows the partial approval amount to be equal to the requested amount. |
| DE 6 (Amount, Cardholder Billing) is an amount greater than or equal to the original amount provided in the Authorization Request/0100 message And DE 39 (Response Code) is 10 (Partial Approval) And DE 18 (Merchant Type) is not 5542 (Fuel Dispenser, Automated) | Rejects the Authorization Request Response/0110 message with an Authorization Response Negative Acknowledgement/0190 where: DE 39 = 30 DE 44 = 006 |
| DE 51 is not present or is not the issuer's correct cardholder billing currency code | Generates an Authorization Response Negative Acknowledgement/0190 message to the issuer where: DE 39 = 30 DE 44 = 051 |

Authorization Advice (Acquirer-generated)/0120 Edits

The Authorization Platform performs the following edit on the Authorization Advice/0120—Acquirer-generated message.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 39 contains value 10 (Partial Approval) and the advice message is not for an Automated Fuel Dispenser Completion message (DE 18 = 5542) | Generates an Authorization Advice Response (System-generated)/0130 message containing: DE 39 = 30 DE 44 = 039 |

Payment Transactions

A Payment Transaction facilitates the movement of funds between two parties—a payer (sender) and a payee (recipient). This transaction can be used to support several business opportunities, such as person-to-person payments, merchant rebates and rewards, loading value to a debit or prepaid account, issuer rebates and rewards.

A Payment Transaction also may be used to initiate a Private Label prepaid card activation request. For card activation requests there is no movement of funds. Refer to the Private Label Processing section in this chapter of this manual for more information.

Issuers must be able to receive and support Payment Transactions unless they have regulatory restrictions that would prevent their participation in Payment Transactions.

Payment Transactions are identified in the following messages:

- Authorization Request/0100
- Authorization Advice/0120—System-generated
- Reversal Request/0400
- Reversal Advice/0420

Authorization Request/0100—Payment Transaction Message

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) (Cardholder account credits) | M | • | M | 28 = Payment Transaction |
| DE 3, subfield 2 (Cardholder "From Account" Type Code) | M | • | M | 00 = Default account (account not specified or not applicable) |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | Any valid value for subfield 3. |
| DE 18 (Merchant Type) | M | • | M | Valid merchant type value for Payment Transaction. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | P = Payment Transaction |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 48, subelement 77 (Funding/ Payment Transaction Type Indicator) | M | • | M | <p>Must be one of the following values:</p> <ul style="list-style-type: none"> • C01 = Person-to-Person • C02 = Mastercard Rebate • C03 = rePower Load Value • C04 = Gaming Re-pay (usage is limited to eligible acquirers and issuers in eligible countries) • C05 = Payment Transaction (for a reason other than those defined in values C01–C04) • C06 = Payment of a credit card balance with cash or check • C07 = MoneySend Person-to-Person • C09 = Card Activation (Currently only applicable for Private Label Prepaid Cards issued in Europe) • C52 = MoneySend Account-to-Account Transfer • C53 = MoneySend Agent Cash Out • C54 = MoneySend Credit Card Bill Payment • C55 = MoneySend Business Disbursement • C56 = MoneySend Government/Non-profit Disbursement • C57 = MoneySend Acquirer Merchant Settlement • C67 = Inter Platform Person-to-Person |

Authorization Request Response/0110—Payment Transaction

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 3 (Processing Code) | ME | • | ME | Processing Code value in the original Authorization Request/0100 message. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | CE | • | CE | P = Payment Transaction |

Authorization Platform Edits

Issuers must process transaction amounts in a Payment Transaction as a credit to the cardholder account. Following are Authorization Request/0100 and Reversal Request/0400 Edits.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 3, subfield 1, value 28 and TCC value P are not both present | Sends the acquirer a response where: DE 39 = 30 (Format error) DE 44 = 048 |
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) does not contain value 28 (Payment Transaction) and DE 48, subelement 77 is present | Removes DE 48, subelement 77 from the following messages: <ul style="list-style-type: none">• Authorization Request/0100• Reversal Request/0400• Reversal Advice/0420 |
| DE 3, subelement 1 is value 28 and DE 48, subelement 77 is not included | Sends the acquirer a response where: DE 39 = 30 (Format error) DE 44 = 048 |
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 28 (Payment Transaction), and DE 48 (Additional Data—Private Use), subelement 77 (Funding/ Payment Transaction Type Indicator), contains value C09 (Card Activation) and DE 61 (Point of Sale [POS] Data) subfields does not contain the following values: <ul style="list-style-type: none">• Subfield 1 (POS Terminal Attendance) = 0 (Attended Terminal)• Subfield 3 (POS Terminal Location) = 0 (On premises of card acceptor facility)• Subfield 4 (POS Cardholder Presence) = 0 (Cardholder present)• Subfield 5 (POS Card Presence) = 0 (Card present)• Subfield 10 (Cardholder-Activated Terminal [CAT] Level) = 0 (Not a CAT transaction) | The Authorization Platform declines the request with a format error response where: DE 39 (Response Code) = 30 DE 44 (Response Data) = 061 |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 28 (Payment Transaction), and DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator), contains value C09 (Card Activation) and DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) does not contain one of the following values: | The Authorization Platform declines the request with a format error response where: DE 39 (Response Code) = 30 DE 44 (Response Data) = 022 |
| <ul style="list-style-type: none"> • 02 = PAN entry mode unknown • 05 = PAN auto-entry via chip • 07 = PAN auto-entry via contactless M/Chip • 80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip; therefore, the terminal defaulted to the magnetic stripe-read PAN. The full track data has been read from the data encoded on the card and transmitted within the Authorization Request/0100 in DE 45 (Track 1 Data) or DE 35 (Track 2 Data) without alteration or truncation. To use this value, the acquirer must be qualified to use value 90. • 90 = PAN auto-entry via magnetic stripe—the full track data has been read from the data encoded on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. • 91 = PAN auto-entry via contactless magnetic stripe—the full track data has been read from the data on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. | |

NOTE: The Authorization Platform will reject the transaction with a format error on DE 3 if the acquirer sends an Authorization Advice/0120—Acquirer-generated message where DE 3, subfield 1 contains value 28.

PIN Management Service

Mastercard supports chip and magnetic stripe PIN management services.

Chip PIN Management Service

The Chip PIN Management Service is an optional service that enables cardholders to perform the transactions at ATMs that support Mastercard®, Maestro®, or Cirrus® chip cards.

Transactions supported are:

- PIN change—Allows cardholders to change the PIN code on their chip card.
- PIN unlock—Allows cardholders to unlock the PIN code on their chip card by resetting the PIN try counter.

The Chip PIN Management Service is available only to full grade acquirers and chip grade issuers. For example, the Chip PIN Management Service is *not* available for:

- Transactions initiated with a chip card using magnetic stripe technology
- Issuers that use the Chip to Magnetic Stripe Conversion on-behalf service
- Issuers that use the M/Chip Cryptogram Pre-validation

Authorization Request/0100—PIN Change or PIN Unblock (Chip Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 2 (Primary Account Number [PAN]) | M | • | M | |
| DE 3 (Processing Code), subfield 1 | M | • | M | 91 = PIN Unblock or 92 = PIN Change |
| DE 3, subfield 2 (Cardholder Transaction Type Code) | M | • | M | 00 = Default Account |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | 00 = Default Account |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero unless an ATM transaction fee has been applied by an acquirer for an ATM transaction in a country where application of an ATM transaction fee is allowed. |
| DE 18 (Merchant Type) | M | • | M | 6011 = Member Financial Institution—Automated Cash Disbursements |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 05 = PAN auto-entry via chip |
| DE 22, subfield 2 (POS Terminal PIN Entry Mode) | M | • | M | 1 = Terminal has PIN entry capability |
| DE 28, (Amount, Transaction Fee) | C | • | C | May contain an ATM transaction fee, if applicable for transactions in a country where application of an ATM transaction fee is allowed. |
| DE 32 (Acquiring Institution ID Code) | M | • | M | |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Space or Z = ATM Cash Disbursement |
| DE 52 (Personal ID Number [PIN] Data) | C | X | C | Required for ATM transactions |
| DE 55 (Integrated Circuit Card (ICC) System-Related Data) | C | • | C | Conditional data for chip-based transactions |
| DE 125 (New PIN Data) | C | X | C | Must be present for all online chip card PIN change transactions; otherwise not present DE 125 contains the new PIN, which is formatted into one of the supported PIN block formats and is then encrypted. The PIN block format and encryption method used must be the same as the one used for the existing PIN that is stored in DE 52. |

Authorization Request Response/0110—PIN Change or PIN Unblock (Chip Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 39 (Response Code) | M | • | M | <p>70 = Contact Card Issuer</p> <p>71 = PIN Not Changed</p> <p>85 = Not Declined (Successful PIN Change or PIN unblock) (recommended for chip cards)</p> <p>89 = Unacceptable PIN—Transaction Declined—Retry</p> |
| DE 55 (Integrated Circuit Card [ICC] System-Related Data) | C | • | C | <p>Contains system-generated Authorization Response Cryptogram (APRC).</p> <p>Depending on the card application, DE 55 may contain an issuer script. The issuer script message contains instructions to the chip card:</p> <ul style="list-style-type: none"> • If the issuer approves the PIN unblock request, the script message instructs the chip card to unblock the PIN on the card. • If the issuer declines the PIN unblock request, the issuer may optionally provide additional instructions to block the chip card (for example, block the card or the card application) using the related issuer script. |

Reversal Request/0400—PIN Change (Chip Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|----------------------|
| DE 2 (Primary Account Number [PAN]) | M | • | M | |
| DE 3 (Processing Code), subfield 1 | M | • | M | 92 = PIN Change |
| DE 3, subfield 2 (Cardholder Transaction Type Code) | M | • | M | 00 = Default Account |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | 00 = Default Account |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 4 (Amount, Transaction) | M | • | M | Must be zero unless an ATM transaction fee has been applied by an acquirer for an ATM transaction in a country where application of an ATM transaction fee is allowed. |
| DE 18 (Merchant Type) | M | • | M | 6011 = Member Financial Institution—Automated Cash Disbursements |
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 05 = PAN auto-entry via chip |
| DE 22, subfield 2 (POS Terminal PIN Entry Mode) | M | • | M | 1 = Terminal has PIN entry capability |
| DE 28, (Amount, Transaction Fee) | C | • | C | May contain an ATM transaction fee, if applicable for transactions in a country where application of an ATM transaction fee is allowed. |
| DE 32 (Acquiring Institution ID Code) | M | • | M | |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | X | M | Space or Z = ATM Cash Disbursement |
| DE 48, subelement 20 (Cardholder Verification Method) | M | X | M | P = Online PIN Verification |

Magnetic Stripe PIN Management Service

Mastercard has expanded the optional Chip PIN Management service to allow cardholders to change the PIN associated with their non-chip (magnetic stripe) Mastercard credit, Debit Mastercard, Maestro, or Cirrus card at any ATM that supports this functionality.

This expansion allows issuers globally to provide their cardholders with additional conveniences for their magnetic stripe cards.

Participating acquirers in the Europe region that process transactions through the Dual Message System can indicate a PIN change transaction performed on a magnetic stripe card in the Authorization Request/0100—PIN Change (Magnetic Stripe Card) message.

Authorization Request/0100—PIN Change (Magnetic Stripe Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 2 (Primary Account Number [PAN]) | M | • | M | |
| DE 3 (Processing Code), subfield 1 | M | • | M | 92 = PIN Change |
| DE 3, subfield 2 (Cardholder Transaction Type Code) | M | • | M | 00 = Default Account |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | 00 = Default Account |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero unless an ATM transaction fee has been applied by an acquirer for an ATM transaction in a country where application of an ATM transaction fee is allowed. |
| DE 18 (Merchant Type) | M | • | M | 6011 = Member Financial Institution—Automated Cash Disbursements |
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 02 = PAN auto-entry via magnetic stripe—track data is not required or 90 = PAN auto-entry via magnetic stripe—the full track data has been read |
| DE 22, subfield 2 (POS Terminal PIN Entry Mode) | M | • | M | 1 = Terminal has PIN entry capability |
| DE 28, (Amount, Transaction Fee) | C | • | C | May contain an ATM transaction fee, if applicable for transactions in a country where application of an ATM transaction fee is allowed. |
| DE 32 (Acquiring Institution ID Code) | M | • | M | |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Space or Z = ATM Cash Disbursement |
| DE 52 (Personal ID Number [PIN] Data) | C | X | C | Required for ATM transactions. |

| Data Element | Org | Sys | Dst | Values/Comments |
|-----------------------|-----|-----|-----|--|
| DE 125 (New PIN Data) | C | X | C | <p>Must be present for all online chip card PIN change transactions; otherwise not present.</p> <p>DE 125 contains the new PIN, which is formatted into one of the supported PIN block formats and is then encrypted. The PIN block format and encryption method used must be the same as the one used for the existing PIN that is stored in DE 52.</p> |

NOTE: In the event of a transaction failure or time out, the acquirer must reverse the PIN change transaction so that the issuer is aware that the PIN change was not completed at the ATM. Consequently, the new PIN should not be considered active.

Authorization Request Response/0110—PIN Change (Magnetic Stripe Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|-----------------------|-----|-----|-----|--|
| DE 39 (Response Code) | M | • | M | <p>00 = Approved or completed successfully (Successful PIN Change)</p> <p>70 = Contact Card Issuer</p> <p>71 = PIN Not Changed</p> <p>85 = Not Declined (Successful PIN Change) (recommended for chip cards)</p> <p>89 = Unacceptable PIN—Transaction Declined—Retry</p> |

Reversal Request/0400—PIN Change (Magnetic Stripe Card)

Following is a list of the data elements and values applicable to this message type. All mandatory Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|------------------------------------|-----|-----|-----|-----------------|
| DE 3 (Processing Code), subfield 1 | M | • | M | 92 = PIN Change |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 3, subfield 2 (Cardholder Transaction Type Code) | M | • | M | 00 = Default Account |
| DE 3, subfield 3 (Cardholder "To Account" Type Code) | M | • | M | 00 = Default Account |
| DE 4 (Amount, Transaction) | M | • | M | Must be zero unless an ATM transaction fee has been applied by an acquirer for an ATM transaction in a country where application of an ATM transaction fee is allowed. |
| DE 18 (Merchant Type) | M | • | M | 6011 = Member Financial Institution—Automated Cash Disbursements |
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | 02 = PAN auto-entry via magnetic stripe —track data is not required or 90 = PAN auto-entry via magnetic stripe —the full track data has been read |
| DE 22, subfield 2 (POS Terminal PIN Entry Mode) | M | • | M | 1 = Terminal has PIN entry capability |
| DE 28, (Amount, Transaction Fee) | C | • | C | May contain an ATM transaction fee, if applicable for transactions in a country where application of an ATM transaction fee is allowed. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | X | M | Space or Z = ATM Cash Disbursement |
| DE 48, subelement 20 (Cardholder Verification Method) | M | X | M | P = Online PIN Verification |

Authorization Request/0100 Edits (Magnetic Stripe Card)

The following edits apply for PIN Management magnetic stripe transactions.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 3, subfield 1 contains value 91 (PIN Unblock) and | Sends the acquirer an Authorization Request Response/0110 message where |
| DE 22, subfield 1 does not contain value 05 (PAN auto-entry via chip) | DE 39 (Response Code) = 57 (Transaction not permitted to issuer/cardholder). |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 3, subfield 1 contains value 92 (PIN Change) and DE 125 is not present | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 (Format error) DE 44 (Additional Response Data) = 125 (indicating the data element in error) |
| DE 3, subfield 1 contains value 92 and DE 22, subfield 1, does not contain one of the following values: <ul style="list-style-type: none">• 02 (PAN auto-entry via magnetic stripe—track data is not required)• 90 (PAN auto-entry via magnetic stripe—the full track data has been read) | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 022 |
| DE 3, subfield 1 contains value 92 and DE 22, subfield 2 does not contain value 1 (Terminal has PIN entry capability) | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 022 |
| DE 3, subfield 1 contains value 92 and DE 52 is not present | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 052 |
| DE 3, subfield 1 contains value 92 and DE 4 does not contain a value of all zeros, indicating a zero-amount transaction and DE 28 is not present | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 004 |
| DE 3, subfield 1 contains value 92 and DE 48, TCC contains a value other than Z (ATM Cash Disbursement) or space | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 30 DE 44 = 048 |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The acquirer does not participate in the PIN Management service | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 58 (Transaction not permitted to acquirer/terminal) |
| The issuer does not participate in the PIN Management service | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 57 (Transaction not permitted to issuer/cardholder) |
| The issuer is not able to respond to the PIN Management transaction on time | Sends the acquirer an Authorization Request Response/0110 message where: DE 39 = 91 (Authorization System or issuer system inoperative) |

Authorization Advice/0120—Acquirer-Generated Edits (Magnetic Stripe Card)

The following edits apply to PIN Management magnetic stripe card transactions.

| WHEN... | THEN the Authorization Platform... |
|------------------------------------|--|
| DE 3, subfield 1 contains value 92 | Sends the acquirer an Authorization Advice Response/0130 message where: DE 39 = 30 DE 44 = 003 |

Reversal Request/0400 Edits (Magnetic Stripe Card)

The following edits apply to PIN Management, magnetic stripe card transactions.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 3, subfield 1 contains value 92 and DE 22, subfield 1, does not contain one of the following values: • 02 • 90 | Sends the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 022 |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 3, subfield 1 contains value 92 and DE 22, subfield 2 does not contain value 1 | Sends the acquirer a Reversal Request Response/ 0410 message where: DE 39 = 30 DE 44 = 022 |
| DE 3, subfield 1 contains value 92 and DE 4 does not contain a value of all zeros, indicating a zero-amount transaction and DE 28 is not present | Sends the acquirer a Reversal Request Response/ 0410 message where: DE 39 = 30 DE 44 = 004 |
| DE 3, subfield 1 contains value 92 and DE 48, TCC contains a value other than Z or space | Sends the acquirer a Reversal Request Response/ 0410 message where: DE 39 = 30 DE 44 = 048 |
| The acquirer does not participate in the PIN Management service | Sends the acquirer a Reversal Request Response/ 0410 message where DE 39 = 58 (Transaction not permitted to acquirer/terminal) |
| The issuer does not participate in the PIN Management service | Sends the acquirer a Reversal Request Response/ 0410 message where DE 39 = 57 (Transaction not permitted to issuer/cardholder) |

Issuer Response Options to a Magnetic Stripe PIN Change Request

For PIN change transactions, the issuer may respond using one of the following methods:

- If the card is a non-chip (magnetic stripe) card or if the card is a chip card **not** supporting offline PIN and the issuer approves, the issuer sends an Authorization Request Response/0110 message containing DE 39 (Response Code), value 00 (Approved or completed successfully) or DE 39, value 85 (Not declined).

NOTE: When approving a PIN change transaction, Mastercard recommends that issuers of chip cards send DE 39, value 85 in the Authorization Request Response/0110 message.

- If the card is a non-chip (magnetic stripe) card or if the card is a chip card **not** supporting offline PIN and the issuer declines, the issuer sends an Authorization Request Response/0110 message containing DE 39, value 70 (Contact Card Issuer), DE 39, value 71 (PIN Not Changed), or DE 39, value 89 (Unacceptable PIN—Transaction Declined—Retry).

- If the card is a chip card supporting offline PIN, the issuer must decline and send an Authorization Request Response/0110 message containing DE 39, value 57 (Transaction not permitted to issuer/cardholder).

Issuers that have chip cards personalized with both online and offline PIN must not approve PIN change transactions when DE 22 (Point of Service [POS] Entry Mode, subfield 1 (POS Terminal PAN Entry Mode) contains value 02 or value 90. If these transactions are approved, the offline PIN will be out-of-sync with the online PIN, and subsequent offline transactions may be declined due to invalid PIN.

If an issuer's account range participates in Chip to Magnetic Stripe Conversion or M/Chip Cryptogram Pre-validation on-behalf services, that account range cannot participate in the Chip PIN Management service, even if the account range also contains magnetic stripe cards.

PIN Processing for Europe Region Customers

Mastercard supports PIN translation for acquirers and issuers and issuer PIN validation for Track 1 and Track 2 on the Mastercard Network for customers in the Europe Region.

PIN Translation

The Authorization Platform performs PIN translation on DE 52 (Personal ID Number [PIN] Data) and DE 125 (New PIN Data) for issuers and acquirers that use the Mastercard Network.

When issuers perform PIN processing in-house or when they participate in the Online PIN Validation in Stand-In service, issuers must specify DE 53, subfield 4 (PIN key index number) in the Network Management Request/0800—Sign-On/Sign-off message, all remaining DE 53, subfields may be zero filled.

Issuers participating in the Online PIN Pre-validation Service are not required to send DE 53 in the Network Management Request/0800—Sign-On/Sign-off message.

Acquirers specify the key used to encrypt the PIN using the Authorization Request/0100 message.

The Key Management Services (KMS) group provides customers a Member Key ID (MKID) for each service. The MKID is used to notify the KMS group of new security keys. Each customer will associate the PIN key index number to identify a specific security key. Customers may define a maximum of 99 security keys for use during PIN translation.

DE 53 (Security-related Control Information)

Acquirers will specify DE 53, subfield 3 (PIN Block Format Code) when sending the Authorization Request/0100 message.

Issuers that use the PIN translation service to translate DE 52 and DE 125 (New PIN Data) will receive DE 53, subfield 4 (PIN Key Index Number) that identifies the PIN key used for translation.

PIN translation also will be performed on DE 125, if present, when the PIN translation was successfully completed for DE 52.

PIN Translation Edits

The following edits apply to Authorization Request/0100 messages (for acquirers only).

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The acquirer uses the Authorization Platform for PIN translation and DE 52 (Personal ID Number [PIN] Data) is present and DE 53 (Security-related Control Information) is not present | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 (Format error) • DE 44 = 053 (DE 53 is the data element in error) |
| The acquirer uses the Authorization Platform for PIN translation and DE 52 is present and DE 53, subfield 3 (PIN Block Format Code) is not valid. (Valid values are 01, 02, 03, 10, 11, and 19.) | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 053 |
| The acquirer uses the Authorization Platform for PIN translation and DE 52 is present and DE 53, subfield 4 (PIN Key Index Number) contains a PIN Key Index Number not known to Mastercard | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 88 (Cryptographic failure) • DE 48 (Additional Data—Private Use), subelement 80 (PIN Service Code) = TI (The Authorization Platform was unable to translate the PIN) |
| The acquirer does not use the Authorization Platform for PIN translation and DE 53 is present | Removes DE 53 and forwards the Authorization Request/0100 message to the Single Message System |
| An Authorization Platform Security Translation Platform fails | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 88 • DE 48, subelement 80 = TI |

The following edits apply to Network Management Request/0800 sign-on messages.

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The issuer uses the Authorization Platform for PIN translation and DE 53, subfield 4 (PIN Key Index Number) contains a PIN Key Index Number not known to Mastercard | Sends the issuer a Network Management Request Response/0810 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 053 |

PIN Validation

The Authorization Platform supports the following PIN validation methods:

- IBM3624 (variable length)
- ABA (Mastercard/VISA PVV)

PIN validation results will be provided in DE 48, subelement 71 (On-behalf Services) in Authorization Request/0100 and Authorization Advice/0120—System-generated messages when PIN validation has been performed on behalf of the issuer. DE 48, subelement 71 will contain the following values related to PIN validation:

- Subfield 1 (On-behalf [OB] Service) will contain the following values:
 - 08 (Online PIN Pre-validation)
 - 09 (PIN Validation in Stand-In)
- Subfield 2 (On-behalf [OB] Result 1) when subfield 1 is value 08 or 09:
 - I (Invalid)
 - P (Mandatory PVV not on file)
 - R (PIN retry exceeded)
 - U (Unable to process)
 - V (Valid)
- Subfield 3 (On-behalf [OB] Result 2) is blank when it is sent to the issuer

The Authorization Platform will manage tracking the number of PIN failed attempts at the card level (for example, PAN, card sequence number from the track and expiration date).

DE 52 (Personal ID Number [PIN] Data) is not included in the Authorization Request/0100 message when PIN validation is performed.

| WHEN the issuer subscribes to the... | THEN the issuer... |
|---|---|
| PIN Validation in Stand-In service | <p>Chooses the PIN Failed Attempts limit, which must be less than or equal to five.</p> <p>The Stand-In System will reset the PIN Failed Attempts counter to zero when a valid PIN is entered and the count has not exceeded the issuer defined maximum.</p> <p>The Stand-In System will reset the PIN Failed Attempts counter to zero after the Stand-In System maintenance.</p> |

| WHEN the issuer subscribes to the... | THEN the issuer... |
|---|--|
| Online PIN Pre-validation | Does not choose the PIN Failed Attempts. Mastercard will allow five PIN Failed Attempts. The Authorization Platform will reset the PIN Failed Attempts counter to zero when a valid PIN is entered and the count has not exceeded five. The Authorization Platform will reset the PIN Failed Attempts counter to zero after 24 hours has passed. |

PIN Validation Edits

The following edits apply to Authorization Request/0100 messages (for issuers only).

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The issuer uses the Authorization Platform for PIN pre-validation and the PIN is valid and the number of PIN failed attempts were not yet exceeded | <p>Fowards the Authorization Request/0100 message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 08 (Online PIN Pre-validation) • DE 48, subelement 71, subfield 2 = V (Valid) |
| The issuer uses the Authorization Platform for PIN pre-validation and the PIN validation cannot be performed | <p>Fowards the Authorization Request/0100 message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 08 • DE 48, subelement 71, subfield 2 = U (Unable to process) |
| The issuer uses the Authorization Platform for PIN pre-validation and the number of PIN retries were exceeded | <p>Fowards the Authorization Request/0100 message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 08 • DE 48, subelement 71, subfield 2 = R (PIN retry exceeded) |
| The issuer uses the Authorization Platform for PIN pre-validation and the PIN validation fails | <p>Fowards the Authorization Request/0100 message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 08 • DE 48, subelement 71, subfield 2 = I (Invalid) |
| The issuer uses the Authorization Platform for PIN pre-validation and has specified Mandatory PVV On File and the PVV was not found | <p>Fowards the Authorization Request/0100 message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 08 • DE 48, subelement 71, subfield 2 = P (Mandatory PVV not on file) |

| WHEN... | THEN the Authorization Platform... |
|--|--|
| The issuer uses the Authorization Platform for PIN Validation in Stand-In, PIN validation fails, and the number of PIN retries were not yet exceeded | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = issuer defined • DE 48, subelement 80 = PI (Authorization Platform unable to process PIN) <p>Sends the issuer an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 (PIN Validation in Stand-In) • DE 48, subelement 71, subfield 2 = I (Invalid) • DE 60, subfield 2 = 0051 (invalid PIN) |
| The issuer uses the Authorization Platform for PIN Validation in Stand-In and the PIN validation fails | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = issuer defined • DE 48, subelement 80 = PI <p>Sends the issuer an Authorization Advice/0120 (System-generated) message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 • DE 48, subelement 71, subfield 2 = U (Unable to process) • DE 60, subfield 2 = 0050 (Unable to process) |
| The issuer uses the Authorization Platform for PIN Validation in Stand-In and the PIN is valid and the number of PIN retries were not yet exceeded | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = determined by remaining Stand-In processing tests • DE 48, subelement 80 = PV (Valid PIN) <p>Sends the issuer an Authorization Advice/0120 (System-generated) message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 • DE 48, subelement 71, subfield 2 = V (Valid) |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The issuer uses the Authorization Platform for PIN Validation in Stand-In and the number of PIN retries were exceeded | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = issuer defined response code • DE 48, subelement 80 = PI <p>Sends the issuer an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 • DE 48, subelement 71, subfield 2 = R (PIN retry exceeded) • DE 60, subfield 2 = 0052 (PIN Retry Exceeded-invalid PIN) |
| The issuer uses the Authorization Platform for PIN Validation in Stand-In and has specified Mandatory PVV On File and the PVV was not found | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = issuer defined value • DE 48, subelement 80 = PI <p>Sends the issuer an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 • DE 48, subelement 71, subfield 2 = P (Mandatory PVV not on file) • DE 60, subfield 2 = 0052 (Mandatory PVV not on file) |
| The issuer uses the Authorization Platform for PIN Validation in Stand-In and the PIN translation fails | <p>Sends the acquirer an Authorization Request Response/0110 message where:</p> <ul style="list-style-type: none"> • DE 39 = 88 • DE 48, subelement 80 = TI <p>Sends the issuer an Authorization Advice/0120—System-generated message where:</p> <ul style="list-style-type: none"> • DE 48, subelement 71, subfield 1 = 09 • DE 48, subelement 71, subfield 2 = U (Unable to process) • DE 60, subfield 2 = 0050 (Unable to process) |

PIN Key Management

The Key Management Services (KMS) group will manage the security keys for customers using the PIN translation and PIN validation services supported by the Authorization Platform on the Mastercard Network.

PIN Verification Value/PIN Offset on File Service

The PIN Verification Value (PVV)/PIN Offset used in PIN validation is usually located on Track 1 or Track 2 of a card's magnetic stripe. Mastercard offers a service by which the issuer may optionally send the PVV/PIN offsets, in a file to Mastercard in order to override the information encoded in the track of a card's magnetic stripe.

Mastercard activates the PVV/PIN Offset data from an issuer upon receipt of the PVV/PIN Offset File. Issuers may send a full file replacements weekly.

Processing Transactions Using PVV/PIN Offset

Issuers that use the optional PVV/PIN Offset on File processing must request participation in the service for each card range and (optionally) expiry date range.

To process a transaction, the Authorization Platform checks that PVV/PIN Offset details are held on file for the relevant card range and expiry date range. If details are on file for the card range and expiry date range, the Authorization Platform checks for the individual card's details within the issuer's stored file.

The Authorization Platform checks the entry in the PVV/PIN Offset file to ensure that the card's PAN, card sequence number, and expiry date match. If they do match, the Authorization Platform can use the PVV value on file. If the PAN, card sequence number, and expiry date do not match, the Authorization Platform processes the transaction according to the processing parameters that the issuer specifies for the relevant card range and expiry date.

Processing Parameters

Mastercard stores the issuer PVV/PIN Offset files for use in the Online PIN Pre-validation and the Online PIN Validation in Stand-In on-behalf services. When the Authorization Platform cannot find a matching entry (with the correct PAN, card sequence number, and expiry date values) in the issuer PVV/PIN Offset file, it needs further instructions to process the transaction properly.

The issuer must select one of the following processing options for each card range and expiry date:

- Optional on file—With this option, if no matching PVV/PIN Offset entry is found in the PVV/PIN Offset file, the Authorization Platform retrieves the PVV value from Track 1 or Track 2 of the relevant card.
- Mandatory on file—With this option, the Authorization Platform, having checked the Track 1 or Track 2 information for the issuer card against the entries held in the issuer PVV/PIN Offset file, performs one of the following actions:
 - For Stand-In services, the Authorization Platform returns an Authorization Request Response/0110 message to the acquirer and an Authorization Advice/0120—System-generated message to the issuer with the appropriate response code, detailing the result of the processing.
 - For Pre-validation services, the Authorization Platform forwards the results of the PIN validation to the issuer in an Authorization Request/0100 message and to the acquirer in an Authorization Request Response/0110 message.

The Global Parameters section of the Authorization Parameter Summary Report provides an indicator to identify issuer participation.

PVV/PIN Offset File Format

Following is the PVV/PIN Offset File format that has a fixed length of 64 characters. Issuers may use Bulk ID RA85 or CONNECT:Direct to send the PVV/PIN Offset file to Mastercard.

PVV/PIN Offset File Header Record

| Field Name | Attribute | Length | Comments/Values |
|-----------------------|------------------|---------------|---|
| Record type ID | Alphanumeric | 3 | HDR—header record |
| File version number | Numeric | 3 | 100 (initial version) |
| Customer ID | Alphanumeric | 11 | First six digits must contain the issuers ICA with leading zeros Seventh digit and beyond contains trailing spaces |
| Transmission code | Alphanumeric | 10 | Member assigned transmission code. May contain all spaces or zeros. |
| Transmission sequence | Numeric | 4 | 0000–9999 Wraps at 9999 |
| Transmission date | Numeric | 6 | YYMMDD in UTC |
| Transmission time | Numeric | 6 | hhmmss in UTC |
| Input file type | Alphanumeric | 1 | F: Full file replace |
| Filler | Alphanumeric | 20 | Spaces |

PVV/PIN Offset File Detail Record

| Field Name | Attribute | Length | Comments/Values |
|-------------------|------------------|---------------|--|
| Record type ID | Alphanumeric | 3 | DTL—detail record |
| Update code | Alphanumeric | 1 | A = Add/Update |
| PAN | Numeric | 19 | With trailing spaces |
| Card expiry date | Numeric | 4 | YYMM (must contain a valid year and month) |

| Field Name | Attribute | Length | Comments/Values |
|----------------------|------------------|---------------|---|
| Card sequence number | Numeric | 1 | Must contain the Sequence Number associated with the PAN or 0. A value of 0 indicates that the card sequence number should not be used as criteria when matching to the PVV file. |
| PVV/PIN Offset | Numeric | 6 | Trailing spaces |
| Filler | Alphanumeric | 30 | Spaces |

PVV/PIN Offset File Trailer Record

| Field Name | Attribute | Length | Comments/Values |
|--------------------------|------------------|---------------|------------------------|
| Record type ID | Alphanumeric | 3 | TRL—trailer record |
| Number of detail records | Numeric | 11 | Detail record count |
| Filler | Alphanumeric | 50 | Spaces |

Alternate Processing

Mastercard will support issuers subscribing to the Online PIN Pre-validation service (OB service code value 08) that are not available to respond to the Authorization Request/0100 message and issuers subscribing to the PIN Validation in Stand-In service (OB service code value 09) by responding to the Authorization Request/0100 message on behalf of the issuer. Mastercard will consider the results of the PIN validation in DE 48, subelement 71 when responding to the Authorization Request/0100 message.

The values contained in DE 60 (Advice Reason Code), subfield 2 (Advice Detail Code) are dependant on the values contained in DE 48, subelement 71, subfield 2 (OB Result 1) as described in the following table.

| WHEN DE 48, subelement 71, subfield 2 contains the value... | THEN DE 60, subfield 2 will contain... |
|--|---|
| U (Unable to Process) | 0050 |
| I (Invalid) | 0051 |
| P (Mandatory PVV not on file) | 0052 |
| R (PIN Retry Exceeded [invalid PIN]) | 0052 |

PIN Processing for Non-Europe Customers

Personal identification number (PIN) is a proven technology that is not easily circumvented. It is secure within actual market conditions. Mastercard permits acquirers to use PIN technology at the point of sale that prompts Mastercard cardholders for a PIN.

This section contains PIN processing procedures for non-Europe customers. For information about PIN processing procedures for Europe region acquirers and issuers that process through the Mastercard Network, refer to the PIN Processing for Europe Region Customers section.

Acquirer Requirements

Acquirers must comply with the following before processing Mastercard purchase transactions that contain a PIN (such as CAT Level 1 transactions) in Authorization/01xx messages:

- Support either static or dynamic PIN Encryption Key (PEK) exchanges
- Comply with the Mastercard Magnetic Stripe Compliance Program
- Correctly format Authorization Request/0100—PIN messages
- Correctly format Authorization Request Response/0110—PIN messages

Support either Static or Dynamic PIN Encryption Key (PEK) Exchanges

The Authorization Platform and customers' system use PEK to encrypt or decrypt PINs. PEKs provide a secure means of passing PIN information in Authorization/01x messages. Acquirers must support **either** static **or** dynamic PEK exchanges.

For increased security, Mastercard strongly recommends using dynamic PEK exchanges.

Following are the differences between the two options:

| PEK | Description |
|--------|---|
| Static | <ul style="list-style-type: none">• Customers and the Authorization Platform establish these keys offline.• Customers and the Authorization Platform must establish a single PEK. This PEK must be associated with the acquirer's customer ID. |

| PEK | Description |
|---------|--|
| Dynamic | <ul style="list-style-type: none"> Customers and the Authorization Platform exchange these keys automatically online every 24 hours or every 2,500 transactions, whichever occurs first. Customers and the Authorization Platform use Key Encryption Keys (KEKs) to encrypt and decrypt the PEKs during PEK exchanges between the acquirer and the Authorization Platform. Each acquirer must establish a KEK with Mastercard to exchange the PEKs dynamically with the Authorization Platform. This KEK must be associated with the acquirer's customer ID. |

Mastercard Magnetic Stripe Compliance Program Compliance

PIN verification requires valid track data, only acquirers that comply with the Mastercard magnetic stripe compliance program and provide complete and unaltered track data in their Authorization Request/0100 messages are able to support PIN processing.

Authorization Request/0100—PIN Transactions

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | <p>Must contain one of the following values:</p> <ul style="list-style-type: none"> 05 = PAN auto entry via chip 07 = PAN auto entry via contactless M/Chip 80 = PAN auto entry via magnetic stripe, unable to process a chip card at chip-capable terminal 90 = PAN auto entry via magnetic stripe |
| DE 26 (POS PIN Capture Code) | C | • | C | Must be present when DE 52 (PIN Data) is present and the maximum PIN characters that the terminal accepts is something other (more or less) than 12 characters. |
| DE 32 (Acquiring Institution ID Code) | M | • | M | If present, must be the same ID as the Member Group ID for the Authorization Platform to translate the PIN data that the acquirer provides. |
| DE 33 (Forwarding Institution ID Code) | C | • | C | If present, must be the same ID as the Member Group ID for the Authorization Platform to translate the PIN data that the acquirer provides |

| Data Element | Org | Sys | Dst | Values/Comments |
|----------------------|-----|-----|-----|--|
| DE 35 (Track-2 Data) | C | • | C | Must be present and represent the information as encoded on the magnetic stripe of the card (or the equivalent data if a chip card and chip-capable terminal are used at the point of interaction) OR |
| DE 45 (Track-1 Data) | C | • | C | Must be present and represent the information as encoded on the magnetic stripe of the card (or the equivalent data if a chip card and chip-capable terminal are used at the point of interaction) |
| DE 52 (PIN Data) | C | X | C | The 16-digit number Data Encryption Standard (DES) hexadecimal number in the ANSI PIN block format (also referred to as "ISO Format-0" or "Eurocheque Format-1") |

Authorization Request Response/0110—PIN Transactions

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 39 (Response Code) | M | • | M | Contains response code indicating the Authorization Platform or the issuer could or could not verify the PIN entered at the point of interaction. Refer to the following table that identifies possible responses based on PIN processing conditions. |
| DE 48 (Additional Data—Private Use), TCC | C | • | C | Must contain the appropriate TCC code. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 48, subelement 80 (PIN Service Code) | C | • | C | <p>Identifies whether the Authorization Platform attempted to verify or translate the PIN. Valid values:</p> <ul style="list-style-type: none"> • PV = The Authorization Platform verified the PIN • TV = The Authorization Platform translated the PIN for issuer verification • PI = The Authorization Platform was unable to verify the PIN • TI = The Authorization Platform was unable to translate the PIN |

Acquirer-related PIN processing errors, indicated by DE 39 (Response Code), value 30 (Format Error) and DE 44 (Additional Response Data) value 052 (DE 52 PIN Data), occur if the Authorization Platform is unable to decrypt the PIN data. Possible causes are:

- The PEK that the Authorization Platform and customer share is not synchronized. It should be the same key.
- The Authorization Platform is unable to determine the proper PEK because DE 32 or DE 33 is incorrect.
- The acquirer is not qualified to be in the Mastercard Magnetic Stripe Compliance Program.
- The acquirer did not correctly establish the static PEK or KEK with Mastercard.
- The DE 22, subfield 1 value is not valid for transactions that contain a PIN.

Following are possible Authorization Request Response/0110 message responses:

| IF... | THEN... |
|---|--|
| The Authorization Platform on behalf of the issuer was unable to verify the PIN. | DE 39 = 55 (Invalid PIN) DE 48, subelement 80 (PIN Service Code) = PI |
| The Authorization Platform translated the PIN, but the issuer was unable to verify the PIN. | DE 39 = 55 DE 48, subelement 80 = TV |
| The Authorization Platform was unable to decrypt the PIN for the acquirer. | DE 39 = 30 (Format Error) DE 44 = 52 DE 48, subelement 80 = TI |
| PIN processing was successful (verification or translation). | DE 39 = any valid code DE 48, subelement 80 = TV or PV |

| IF... | THEN... |
|--|---|
| The Authorization Platform was unable to decrypt the PIN for the issuer. | DE 39 = 91 (Authorization System or issuer system inoperative) DE 48, subelement 80 = TI |

Issuer Requirements

Issuers must comply with the following to process Mastercard transactions that contain a PIN in Authorization Request/0100 messages:

- Receive purchase or ATM transactions that contain a PIN
- Support Static or Dynamic PEK Exchanges
- Process applicable data elements in Authorization Request/0100 Messages
- Process applicable data elements in Authorization Request Response/0110 Messages
- Process applicable data elements in Authorization Advice/0120-System Generated messages
- Process applicable data elements in Reversal Advice/0420-System Generated messages

Receive Purchase Transactions that Contain a PIN

Issuers must be able to receive purchase transactions that contain a PIN using one of the following network options:

- Through a Mastercard Network connection using Authorization Request/0100 messages
- The default method for issuers that currently receive their Mastercard ATM cash disbursement and ATM balance inquiry activity using this interface. Static PEKs that are already active and operational at the Single Message System will be used for each of the issuer's bank identification number (BIN)/card ranges.

Issuers may choose to support dynamic PEK exchanges instead.

- Through a Single Message System connection using Financial Transaction Request/0200 messages

The default method for issuers that currently receive their Debit Mastercard activity, ATM activity, or both using this interface. These transactions will be identified as preauthorization requests with a value 4 in position 7 of DE 61 because they must be cleared through the Mastercard Global Clearing Management System, with all other purchase activity. PEKs that already are active and operational at the Single Message System will be used for each of the issuer's BIN/card ranges.

Support Static or Dynamic PEK Exchanges

For dynamic PEK exchanges, the Authorization Platform and the issuer must establish a new single KEK for all BINs that the issuer will process. This new KEK must be associated with the issuer's Group ID that the issuer uses for sign-on, sign-off and store-and-forward (SAF) sessions for the associated BINs. The issuer must complete the *Customer-Initiated Key Part Exchange Form* (Form 536).

Refer to the *Authorization Manual* for this form. **For increased security, Mastercard strongly recommends using dynamic PEKs.**

Authorization Request/0100—PIN Messages

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 48 (Additional Data—Private Use), TCC | M | • | M | Must contain the appropriate TCC code. |
| DE 48, subelement 80 (PIN Service Code) | | | | This subelement contains the results of PIN processing as follows: |
| | | | | IF the issuer chooses to... THEN the Authorization Platform... |
| | | | | Use the Mastercard PIN Verification Service |
| | | | | <ul style="list-style-type: none">• Omits DE 52 from the Authorization Request/0100 message sent to the issuer.• Sends DE 48, subelement 80, value PV (The Authorization Platform verified the PIN).• If the PIN is invalid, the Authorization Platform sends the acquirer an Authorization Request Response/0110 message where DE 39 contains the value 55. |

| Data Element | Org | Sys | Dst | Values/Comments |
|---------------------------------------|-----|-----|-----|--|
| DE 52 (Personal ID Number (PIN) Data) | C | X | C | <p>Will be present if the Authorization Platform does not perform PIN verification. The issuer verifies the PIN data in DE 52.</p> <p>Either DE 45 or DE 35 will be present in the message to provide the PIN verification value (PVV) or offset, depending on the issuer's verification method.</p> |

| IF... | THEN... |
|----------------------|----------------------------------|
| DE 52 is present | DE 48, subelement 80 is value TV |
| DE 52 is not present | DE 48, subelement 80 is value PV |

Authorization Advice/0120—PIN Messages

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Advice/0120 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments | | |
|--|------------------------------------|-----|-----|--|-----------------------------|------------------------------------|
| DE 48 (Additional Data—Private Use), TCC | • | M | M | Must contain the appropriate TCC code. | | |
| DE 48, subelement 80 (PIN Service Code) | | | | <p>This subelement contains the results of PIN processing as follows:</p> <table> <tr> <td>IF the issuer chooses to...</td> <td>THEN the Authorization Platform...</td> </tr> </table> | IF the issuer chooses to... | THEN the Authorization Platform... |
| IF the issuer chooses to... | THEN the Authorization Platform... | | | | | |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| | | | | Have the Authorization Platform verify the PIN |
| | | | | <ul style="list-style-type: none"> • Omits DE 52 from the Authorization Advice/0120 message sent to the issuer. • Sends DE 48, subelement 80, value TI (The Authorization Platform was unable to translate the PIN). |
| DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) | • | M | M | 107 (PIN Processing Error) |
| DE 60, subfield 2 (Advice Detail Code) | • | M | M | Provides additional details as follows: 0030 = Reject: Unable to verify PIN data 0031 = Reject: Unable to decrypt/encrypt PIN data |

Reversal Advice/0420—PIN Messages

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

The issuer must be able to receive Reversal Advice/0420 messages with DE 60 values in addition to all other applicable data elements.

The Reversal Advice/0420 message identifies the corresponding Authorization Request Response/0110 message being reversed that contained PIN data.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 60 (Advice Reason Code), subfield 1 (Advice Reason Code) | • | M | M | 400 = Banknet advice: APS error; unable to deliver response |
| DE 60, subfield 2 (Advice Detail Code) | • | M | M | 2000 = Reject: PIN data present in Authorization Request/0100 message |

Alternate Processing

The issuer may choose to have the Authorization Platform verify PIN data on their behalf. If the Authorization Platform performs PIN verification, it will perform Stand-In and X-Code

processing using the issuer or Mastercard existing authorization-qualifying criteria, when applicable.

If the Authorization Platform does not verify the PIN data and the issuer is unavailable or unable to process the Authorization Request/0100 message, the Authorization Platform will respond to the acquirer with an Authorization Request Response/0110 message indicating the issuer could not process the Authorization Request/0100 message, except in situations where an issuer chooses to allow transactions with unverified PINs in Stand-In processing.

Support for Both Acquiring and Issuing Processing

Customers that support both acquiring and issuing authorization processing may use the same PEK for all purchase transactions that contain a PIN. To accomplish this, the customer must use the same customer ID as follows:

- As the Group ID for establishing the static PEK or the KEK.
- In DE 32 or DE 33 in all acquired transactions.
- In DE 2 and DE 33 of the Network Management Request/0800—PEK Exchange—On Demand message.
- In DE 2 of the Network Management Request/0800—Group Sign-on message.

Cleartext Use Prohibited

If there is a major problem with security equipment (for example, a faulty TRSM or DES circuit board), the Authorization Platform suspends all transaction processing with that customer. The customer must not send unencrypted (cleartext) PIN data.

NOTE: Mastercard Operating Rules expressly prohibit use of cleartext processing of transactions.

Emergency Static PEK or Emergency KEK Process

Following are the stages of the emergency static PEK or KEK process.

1. Mastercard considers the faulty customer as "down."
2. Authorized Mastercard personnel randomly generate both parts of an emergency static PEK or KEK.
3. Mastercard personnel call the security or operations staff of the customer. Mastercard gives the emergency static PEK or KEK verbally to the customer.
4. Both the Mastercard personnel and the customer insert the new emergency static PEK or KEK in their TRSMs.
5. The Authorization Platform initiates dynamic PEK exchange with a Network Management Request/0800—PEK Exchange, using the new emergency static PEK or KEK.

Mastercard and the customer are to use the emergency static PEK or KEK process only as an interim measure to get the customer up as quickly as possible following a key exchange failure. Mastercard limits the use of the emergency static PEK or KEK in any one occurrence to six business days. The customer must notify their security officers responsible for key management immediately of the security failure situation and must conduct a secure key

exchange at the earliest possible time. For static PEK and KEK setup process refer to the *Authorization Manual*.

Previous PEKs

After exchanging new PEKs statically or dynamically, the Authorization Platform and the customer are responsible for preserving the previous PEK for five minutes. They do this in the event that the current PEK becomes inoperative. If the current PEK has a Sanity Check error during this five-minute interval, the Authorization Platform or the customer should attempt to use the previous PEK. If the previous PEK is also inoperative, then refer to the steps previously discussed to determine action.

PIN Verification Value on File Service

For issuers that use the Single Message System for PIN-processing services and elect to use the PIN Validation in Stand-In service, the Single Message System will perform the PIN validation service using the PVV for a card based on the PVV value provided in a file by the issuer.

Issuers that choose to register for this service must send a PVV/PIN Offset file to the Single Message System to update cardholder PINs and must use Single Message System-managed security keys. A Customer Implementation Services specialist will assist issuers with setting up a file or adding new files for testing and production.

Participating issuers must send a PVV/PIN Offset file to the Single Message System to provide and update cardholder PIN information. This file must be sent using the secure Global File Transfer (GFT) methods approved by Mastercard. The following bulk file IDs have been established for use when submitting PVV/PIN Offset files: RM29 (Production), RM31 (MTF).

Issuers also must ensure that they have exchanged the PIN verification keys (PVKs) with the Single Message System before using this service.

PVV/PIN Offset File Format

The PVV/PIN Offset file has a fixed length of 64 characters. Issuers may use Bulk ID RM29 (Production), RM31 (MTF) or CONNECT:Direct to send the PVV/PIN Offset file to Mastercard. Refer to the following tables for information about the files header, detail, and trailer records.

PVV/PIN Offset File Header Record

| Field Name | Attribute | Length | Comments and Values |
|---------------------|--------------|--------|--|
| Record Type ID | Alphanumeric | 3 | HDR—header record |
| File Version Number | Numeric | 3 | 100 (initial version) |
| Customer ID | Alphanumeric | 11 | The first six digits must contain the issuers ICA with leading zeros. The seventh digit and beyond contains trailing spaces. |
| Transmission code | Alphanumeric | 10 | Member-assigned transmission code. May contain all spaces or zeros. |

| Field Name | Attribute | Length | Comments and Values |
|-----------------------|------------------|---------------|----------------------------|
| Transmission sequence | Numeric | 4 | 0000–9999 Wraps at 9999 |
| Transmission date | Numeric | 6 | YYMMDD in UTC |
| Transmission time | Numeric | 6 | hhmmss in UTC |
| Input file type | Alphanumeric | 1 | F = Full file replacement |
| Filler | Alphanumeric | 20 | Spaces |

PVV/PIN Offset File Detail Record

| Field Name | Attribute | Length | Comments and Values |
|----------------------|------------------|---------------|--|
| Record Type ID | Alphanumeric | 3 | DTL = detail record |
| Update code | Alphanumeric | 1 | A = add/update |
| PAN | Alphanumeric | 19 | With trailing spaces |
| Card expiry date | Numeric | 4 | YYMM (must contain a valid year and month) |
| Card sequence number | Numeric | 1 | Values can be in the range of 0–9 Must contain the Sequence Number associated with the PAN or 0. A value of 0 indicates that the card sequence number should not be used as criteria when matching to the PVV file. |
| PVV/PIN Offset | Numeric | 6 | Trailing spaces |
| Filler | Alphanumeric | 30 | Spaces |

PVV/PIN Offset File Trailer Record

| Field Name | Attribute | Length | Comments and Values |
|--------------------------|------------------|---------------|----------------------------|
| Record type ID | Alphanumeric | 3 | TRL = trailer record |
| Number of detail records | Numeric | 11 | Detail record count |

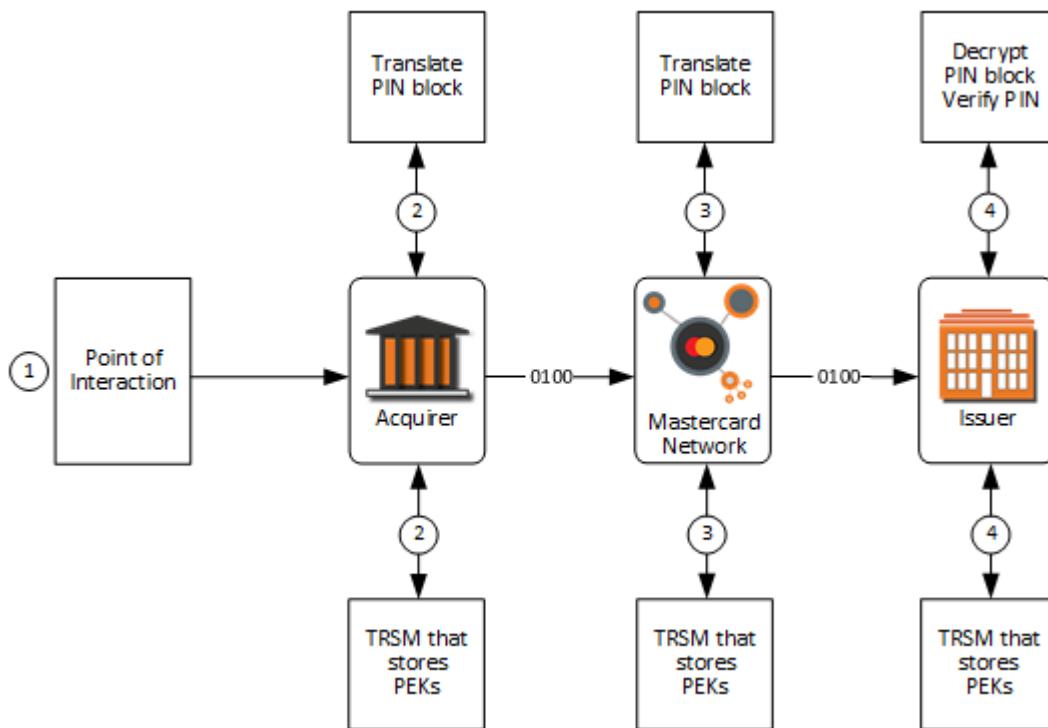
| Field Name | Attribute | Length | Comments and Values |
|------------|--------------|--------|---------------------|
| Filler | Alphanumeric | 50 | Spaces |

Alternate Processing

In instances where Stand-In processing is not accessible, X-Code processing is initiated. X-code processing does not perform PIN verification. Therefore, authorization requests received with an unverified PIN will be declined.

PIN Translation and Verification Process

This message flow describes the key exchanges during the PIN translation and verification process.



1. The cardholder enters the PIN at the point of interaction. The PIN is encrypted by the terminal's hardware under a PIN encryption key and is then sent to the acquirer.
2. The acquirer receives the encrypted PIN, which the acquirer then decrypts using the terminal PEK stored in a TRSM. The acquirer then creates the ANSI PIN block and encrypts it using the DES algorithm as follows:

First Block—PIN Data: The first digit of this block contains the control character 0, followed by a number representing the PIN length (maximum 12), and then the PIN itself. The acquirer then fills the remaining digits of the block on the right with hexadecimal F's to complete the 16-digit account number.

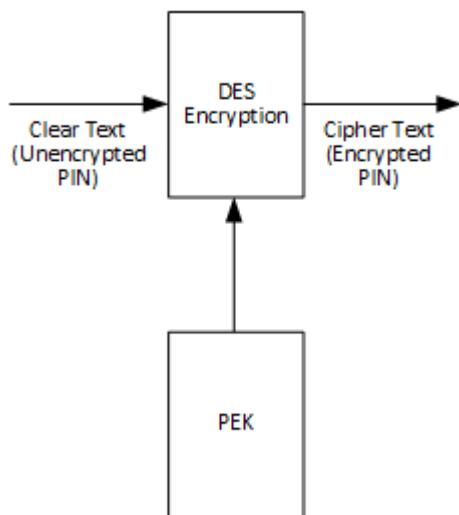
Second Block—PAN Data: The first four digits of the second block contain 0000, followed by the 12 right-most digits of the PAN, excluding the check digit. The acquirer then pads zeros to the left to complete the 16-digit data element.

In formatting an ANSI block, the acquirer performs an XOR function on the two 16-digit blocks.

After creating the PIN block, the acquirer sends it through the DES algorithm along with the 16-digit PEK that the acquirer and the Authorization Platform share, producing the translated PIN block as follows. The acquirer may encrypt the PIN using:

- a. Single DES algorithm

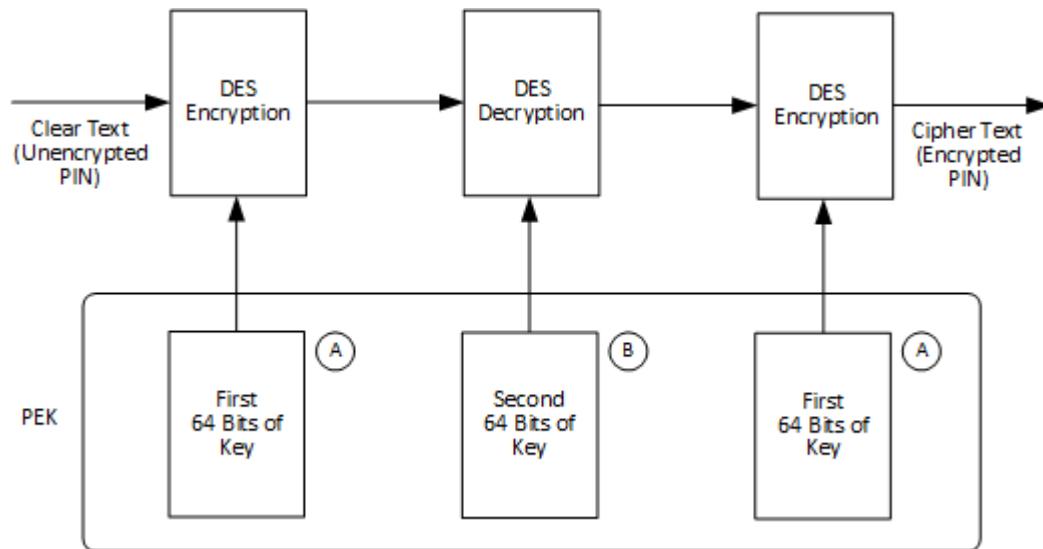
Encrypt PIN information using a single DES key algorithm with single-length PEKs as follows:



- b. Triple DES algorithm with double length PEKs³⁵

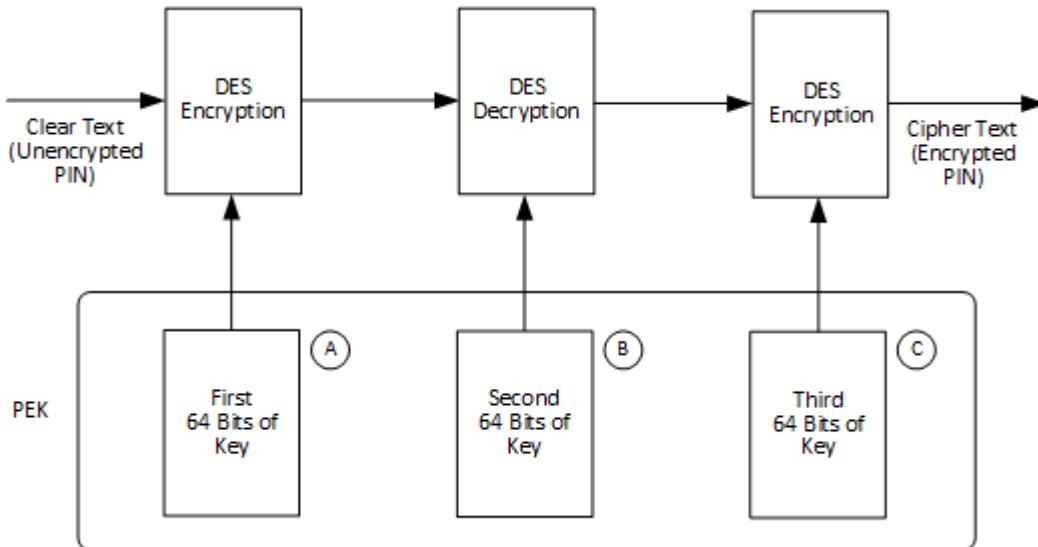
Encrypt PIN information using a triple DES key algorithm with double-length PEKs as follows:

³⁵ When a customer chooses to support triple DES, the customer must support both sending and receiving double-length (16-byte) PEKs.



- c. Triple DES algorithm with triple length PEKs³⁵

Encrypt PIN information using a triple DES key algorithm with triple-length PEKs as follows:



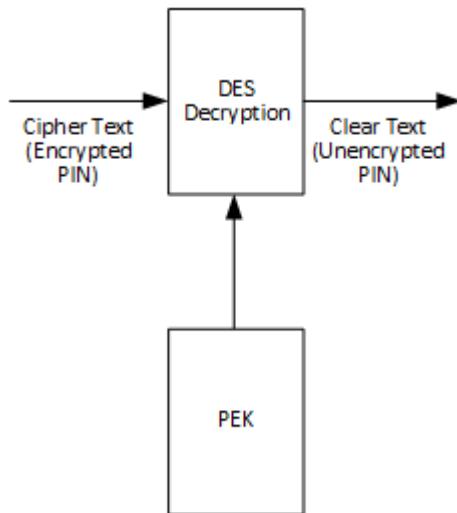
3. The acquirer sends the translated PIN block to the Authorization Platform. The Authorization Platform translates it from the acquirer PEK to the issuer PEK using the procedures described in step 2. The Authorization Platform then sends the translated PIN block to the issuer for verification.³⁶

³⁶ DE 52 (PIN Data) is not in the Authorization Request/0100 message going to the issuer if the Authorization Platform is performing PIN verification on the issuer's behalf.

4. The issuer then translates the PIN block and verifies the PIN using:

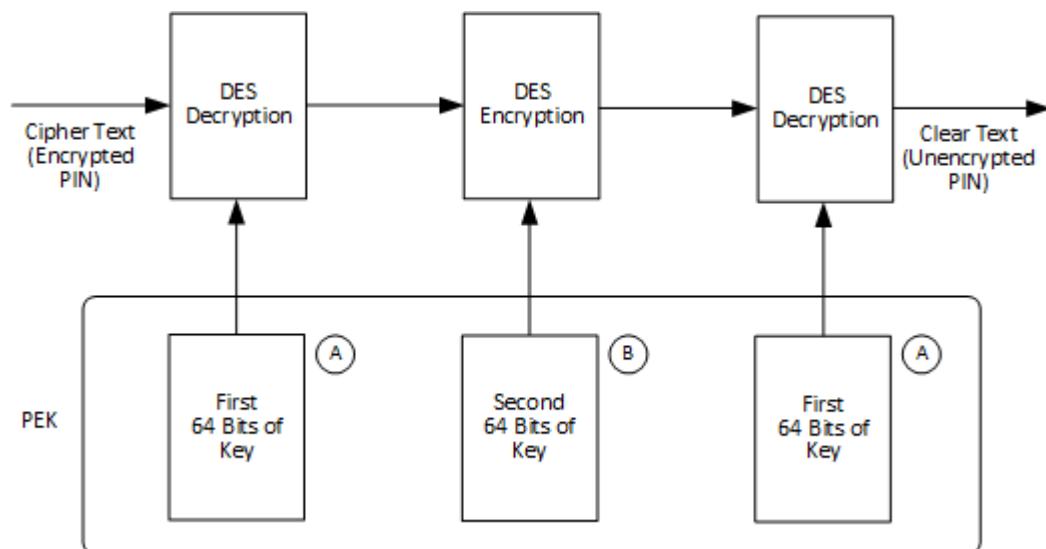
- a. Single DES algorithm

Decrypt PIN information using a single DES key algorithm with single-length PEKs as follows:



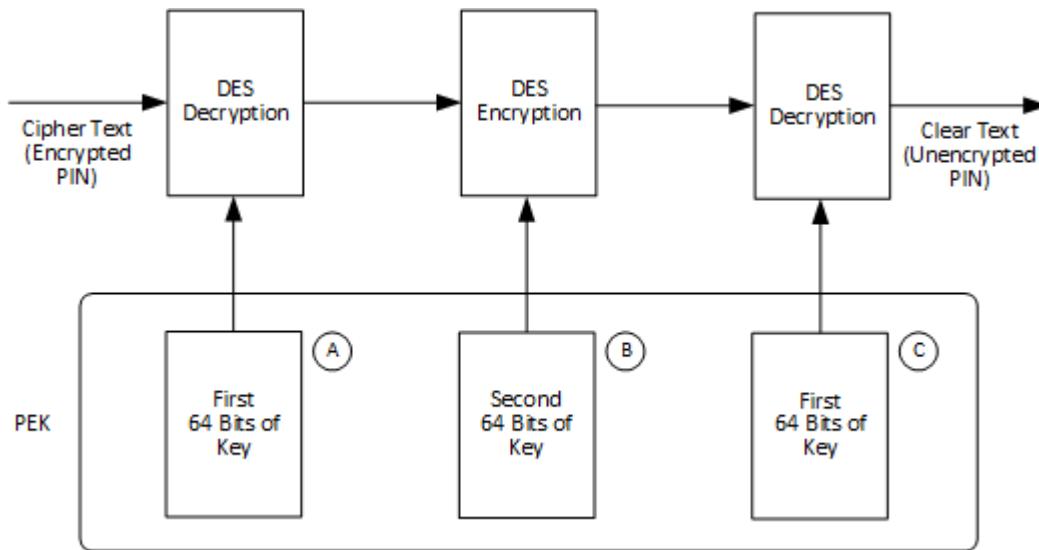
- b. Triple DES algorithm with double length PEKs

Decrypt PIN information using a triple DES key algorithm with double- or triple-length PEKs as follows:



- c. Triple DES algorithm with triple length PEKs

Decrypt PIN information using a triple DES key algorithm with triple-length PEKs as follows:



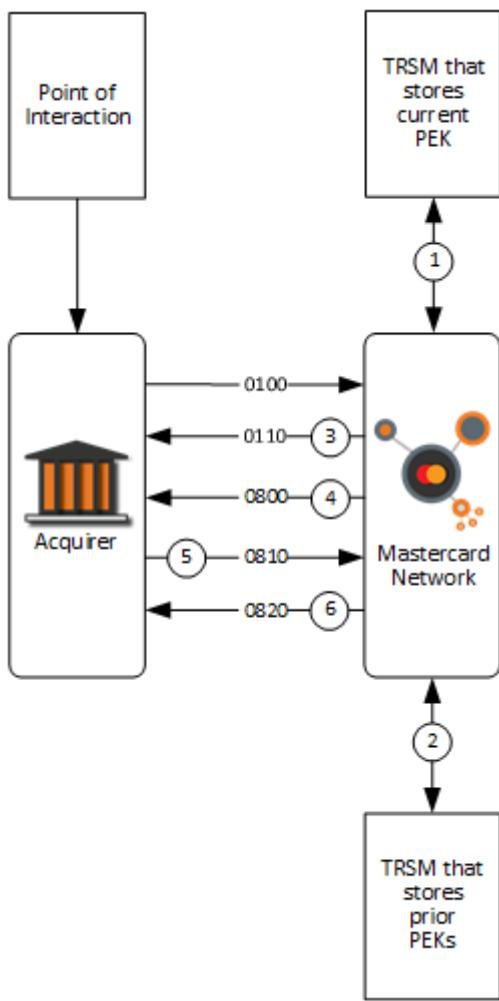
Detection of PEK Corruption Using Sanity Checks

Issuers and the Authorization Platform perform Sanity Checks on PIN blocks as part of the PIN encryption/decryption process. This subsection describes Sanity Check errors that indicate PEK out-of-synchronization conditions that may occur during PIN decryption. It also explains ensuing steps that the Authorization Platform and customer take.

All Tamper Resistant Security Modules (TRSMs) must be able to detect possible corruption of PEKs by performing Sanity Checks on the PIN block as part of decryption. When Sanity Check errors occur, customers should use the following procedures to resolve the problem.

Authorization Platform Sanity Check Error

This flow describes the process when the Authorization Platform TRSM discovers a PEK or KEK error.

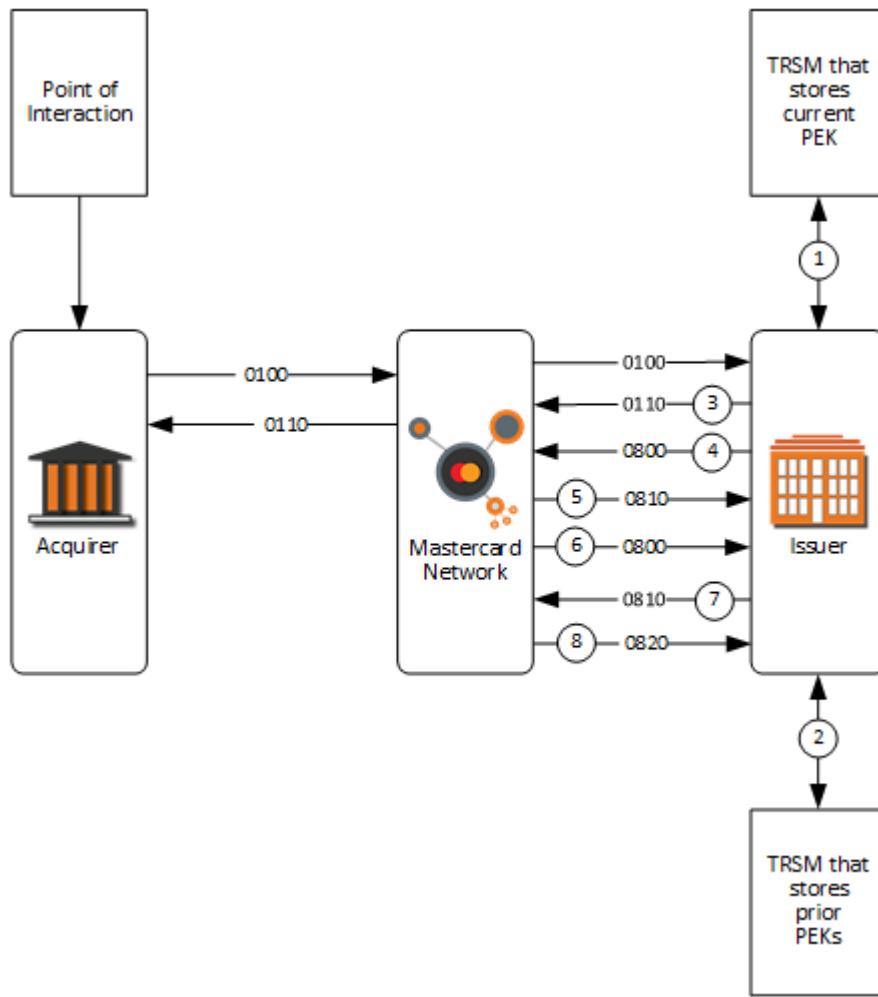


1. The Authorization Platform's Sanity Check reveals an out-of-synchronization condition with the PEK that it shares with the acquirer.
 2. If five consecutive transactions fail the Sanity Check, and the Authorization Platform has performed steps 1–3 with each of the previous five transactions from the acquirer, the Authorization Platform takes the following action:
 - For a **static PEK**, Mastercard starts emergency procedures to create a new static PEK.
 - For a **dynamic PEK**, the Authorization Platform sends the acquirer a Network Management Request/0800—PEK Exchange message with a new PEK. If there are problems with the new PEK, the Authorization Platform will initiate procedures to establish a new KEK.
 3. For a **dynamic PEK**, the acquirer sends a Network Management Request Response/0810—PEK Exchange to the Authorization Platform acknowledging receipt of the Network Management Request/0800—PEK Exchange message exchanging the PEK. If the message does not contain a DE 39 value of 00—completed successfully—the Authorization Platform sends another Network Management Request/0800—PEK Exchange message.

4. For a **dynamic PEK**, the Authorization Platform sends a Network Management Advice/0820—PEK Exchange message to the acquirer that notifies the customer that the new PEK is active and operational. Subsequent Authorization Request/0100 messages must use the new PEK to encrypt the PIN in DE 52.

Issuer Sanity Check Error

The Issuer TRSMs must be able to detect possible corruption of PEKs. This process flow describes the process when the issuer TRSM discovers a PEK error using a Sanity Check.



1. The issuer's Sanity Check reveals an out-of-synchronization condition with the PEK that it shares with the Authorization Platform.
2. The issuer attempts to decrypt the PIN block using the **prior** PEK, if available.
3. If the Sanity Check fails using the **prior** PEK, the issuer sends an Authorization Request Response/0110 message.
4. If five consecutive transactions fail the Sanity Check, and the issuer has performed steps 1–3 with each of the five transactions, the issuer takes the following appropriate action:

- For a **static PEK**, the issuer contacts Mastercard to start emergency procedures to create a new static PEK.
 - For a **dynamic PEK**, the issuer sends the Authorization Platform a Network Management Request/0800—PEK Exchange—On Demand message to create a new PEK. If there are problems with the new PEK, the issuer contacts Mastercard to start emergency procedures to establish a new KEK.
5. For a **dynamic PEK**, the Authorization Platform acknowledges receipt of the request by sending a Network Management Request Response/0810—PEK Exchange message.
 6. For a **dynamic PEK**, the Authorization Platform sends to the issuer a Network Management Request/0800—PEK Exchange message with a new PEK.
 7. For a **dynamic PEK**, the issuer sends a Network Management Request Response/0810—PEK Exchange message to the Authorization Platform acknowledging receipt of the Network Management Request/0800—PEK Exchange message exchanging the PEK. If the message does not contain a DE 39 value of 00—completed successfully—the Authorization Platform sends another Network Management Request/0800—PEK Exchange message.
 8. For a **dynamic PEK**, the issuer receives a Network Management Advice/0820—PEK Exchange message from the Authorization Platform that notifies the customer that the new PEK is active and operational. Subsequent Authorization Request/0100 messages must use the new PEK to encrypt the PIN in DE 52.

Private Label Processing

Under the Mastercard Private Label Program, private label issuers use Mastercard account ranges. The use of a Mastercard account range on an approved private label program facilitates the seamless switching of private label transactions via the four-party model (issuer, acquirer, merchant, Mastercard).

Mastercard Private Label card programs will use Mastercard or Maestro BIN ranges.

In addition to the following information, refer to the *Private Label Rules* manual for more details.

Authorization Request/0100—Private Label Processing

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 63 (Network Data), subfield 1 (Financial Network Code) | • | X | M | A valid private label financial network code. |

Card Activation for Private Label Processing

Private Label enables issuers to allow consumers buying their Private Label prepaid card to activate them when purchased at the merchant location. This limits risks for the merchants as their Private Label cards (on display for sale and already loaded with a predefined amount) will be activated only when purchased.

Authorization Request/0100 and Reversal Request/0400—Card Activation at Point of Sale

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 and Reversal Request/0400 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 3 (Processing Code, subfield 1 (Transaction Type) | M | • | M | Must be value 28 (Payment Transaction) |
| DE 4, (Amount, Transaction) | M | • | M | Must be zero |
| DE 18 (Merchant Type) | M | • | M | Must contain a value other than 6010 (Member Financial Institution—Manual Cash Disbursements) or 6011 (Member Financial Institution—Automated Cash Disbursements) |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) | M | • | M | <p>Must contain one of the following values:</p> <ul style="list-style-type: none"> • 02 = PAN entry mode unknown • 05 = PAN auto-entry via chip • 07 = PAN auto-entry via contactless M/Chip • 80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip; therefore, the terminal defaulted to the magnetic stripe-read PAN. The full track data has been read from the data encoded on the card and transmitted within the Authorization Request/0100 in DE 45 (Track 1 Data) or DE 35 (Track 2 Data) without alteration or truncation. To use this value, the acquirer must be qualified to use value 90. • 90 = PAN auto-entry via magnetic stripe—The full track data has been read from the data encoded on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. • 91 = PAN auto-entry via contactless magnetic stripe—The full track data has been read from the data on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. |
| DE 48 (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | Must contain value P |
| DE 48 (Additional Data—Private Use), subelement 77 (Funding/ Payment Transaction Type Indicator) | C | • | C | Must contain value C09 (Card Activation) |
| DE 61 (Point of Sale [POS] Data), subfield 1 (POS Terminal Attendance) | M | • | M | Must contain value 0 (Attended Terminal) |
| DE 61 (Point of Sale [POS] Data), subfield 3 (POS Terminal Location) | M | • | M | Must contain value 0 (On premises of card acceptor facility) |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|--|
| DE 61 (Point of Sale [POS] Data), subfield 4 (POS Cardholder Presence) | M | • | M | Must contain value 0 (Cardholder present) |
| DE 61 (Point of Sale [POS] Data), subfield 5 (POS Card Presence) | M | • | M | Must contain value 0 (Card present) |
| DE 61 (Point of Sale [POS] Data), subfield 10 (Cardholder-Activated Terminal [CAT] Level) | M | • | M | Must contain value 0 (Not a CAT transaction) |

Alternate Processing

Private Label prepaid card activation transactions are not eligible for alternate (Stand-In or alternate issuer host routing) or X-Code processing. If the primary issuer is not available to respond to a card activation request, an Authorization Request Response/0110 is returned to the acquirer with DE 39 (Response Code) value 91 (Authorization System or issuer system inoperative).

If the issuer is not available to respond to a reversal of a card activation request, a Reversal Request Response/0410 is returned to the acquirer with DE 39 (Response Code) value 00 (Approval) and the issuer receives notification of the response the Authorization Platform provided on their behalf in a Reversal Advice/0420 message.

Authorization Platform Edits

The Authorization Platform will perform the following edits for Authorization Request/0100 and Reversal Request/0400 messages.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 28 (Payment Transaction), and DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator), contains value C09 (Card Activation) and DE 61 (Point of Sale [POS] Data) subfields does not contain the following values: <ul style="list-style-type: none">• Subfield 1 (POS Terminal Attendance) = 0 (Attended Terminal)• Subfield 3 (POS Terminal Location) = 0 (On premises of card acceptor facility)• Subfield 4 (POS Cardholder Presence) = 0 (Cardholder present)• Subfield 5 (POS Card Presence) = 0 (Card present)• Subfield 10 (Cardholder-Activated Terminal [CAT] Level) = 0 (Not a CAT transaction) | The Authorization Platform declines the request with a format error response where: DE 39 (Response Code) = 30 DE 44 (Response Data) = 061 |

| WHEN... | THEN the Authorization Platform... |
|---|---|
| <p>DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 28 (Payment Transaction), and DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator), contains value C09 (Card Activation) and DE 22 (Point-of-Service [POS] Entry Mode), subfield 1 (POS Terminal PAN Entry Mode) does not contain one of the following values:</p> <ul style="list-style-type: none">• 02 = PAN entry mode unknown• 05 = PAN auto-entry via chip• 07 = PAN auto-entry via contactless M/Chip• 80 = Chip card at chip-capable terminal was unable to process transaction using data on the chip; therefore, the terminal defaulted to the magnetic stripe-read PAN. The full track data has been read from the data encoded on the card and transmitted within the Authorization Request/0100 in DE 45 (Track 1 Data) or DE 35 (Track 2 Data) without alteration or truncation. To use this value, the acquirer must be qualified to use value 90.• 90 = PAN auto-entry via magnetic stripe—the full track data has been read from the data encoded on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation.• 91 = PAN auto-entry via contactless magnetic stripe—the full track data has been read from the data on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. | <p>The Authorization Platform declines the request with a format error response where: DE 39 (Response Code) = 30 DE 44 (Response Data) = 022</p> |

Card Activation Plus Initial Load for Private Label Processing

Private label acquirer and issuers can use the Card Activation Plus Initial Load service to provide their cardholders the ability to set the amount to load on their private label prepaid card at the moment of purchase and activation at the point-of-sale (POS) terminal.

For private label prepaid cards, the Authorization Platform can process one transaction for both activating and initially loading a card.

The Authorization Platform will allow a valid amount in DE 4 (Transaction Amount) for private label prepaid card activation authorization messages.

Acquirer Processing

- Acquirers that want to offer the private label card activation plus initial load functionality must support Authorization Request/0100 and Reversal Request/0400 messages containing DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator), value C09 (Card Activation).
- Acquirers already supporting private label card activation at POS functionality and wanting to offer card activation plus initial load must send Authorization Request/0100 and Reversal Request/0400 messages containing DE 4 (Amount, Transaction) with a valid amount and DE 48, subelement 77, value C09.
- Acquirers must submit Reversal Request/0400 messages for the full amount when reversing card activation plus initial load messages. Acquirers must ensure that DE 95 (Replacement Amounts) is not present in Reversal Request/0400 messages or, if present, that DE 95, subfield 1 (Actual Amount, Transaction) contains an amount equal to zero.

Issuer Processing

- Issuers that want to offer the private label card activation plus initial load functionality must support Authorization Request/0100 and Reversal Request/0400 messages containing DE 48 (Additional Data—Private Use), subelement 77 (Funding/Payment Transaction Type Indicator), value C09 (Card Activation).
- Private label card issuers already supporting private label card activation at POS requests and wanting to offer card activation plus initial load must be able to accept Authorization Request/0100 and Reversal Request/0400 messages where DE 4 contains a valid amount, DE 6 (Amount, Cardholder Billing), and optionally DE 5 (Amount, Settlement), and DE 48, subelement 77 is C09.

Product Inquiry Service

The Product Inquiry Service allows an acquirer to send a product inquiry authorization request message to Mastercard.

NOTE: Applies only to the U.S. region.

As part of the authorization response to an acquirer, Mastercard will provide an acquirer with the product code associated with the particular Mastercard card number. Additionally, because product codes for Mastercard® Standard Card, Gold Mastercard® Card, Platinum Mastercard® Card, or World Mastercard® Card programs potentially fall under different interchange rate structures, Mastercard will also populate the authorization response message with the applicable account category code as defined by the Account Level Management Service.

The information received by the acquirer through a Product Inquiry Service request, along with the published Mastercard interchange rate schedule and rate criteria, can be used by an acquirer and merchant to determine the product and associated interchange rate that may be applied to a purchase transaction for that particular card. The issuer Authorization Request Response/0110—Product Inquiry Service message follows the same requirements as the Account Status Inquiry Service.

Acquirers

Acquirers that choose to support Product Inquiry Service transactions must send Authorization Request/0100 messages containing DE 61 (Point-of-Service [POS] Data), subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]) and DE 4 (Amount, Transaction) with a transaction amount of zero when submitting Product Inquiry Service transaction requests.

NOTE: Product Inquiry Service messages that include address verification and/or CVC 2 validation requests will be deemed to be an attempt to mitigate fraud. As such, they will be designated as an Account Status Inquiry Service transaction and billed accordingly.

Issuers

Issuers will receive Authorization Request/0100 messages containing DE 61, subfield 7, value 8, and DE 4 with a transaction amount of zero. Issuers must respond to these transactions with value 00 (Approved or completed successfully), 85 (Not Declined), 05 (Do Not Honor) or other valid business decline responses in DE 39 (Response Code). Invalid business declines include values 03 (Invalid merchant), 12 (Invalid transaction), 13 (Invalid amount), 30 (Format error), 51 (Insufficient funds/over credit limit), 57 (Transaction not permitted to issuer/cardholder), and 58 (Transaction not permitted to acquirer/terminal).

For More Information

For more information about the Product Inquiry Service, contact the Global Customer Service team.

Authorization Request/0100—Product Inquiry Service

Following is the list of the data elements applicable to this message. All mandatory Authorization Request/0100 data elements apply.

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---------------------------------|------------|------------|------------|--|
| 4 Amount, Transaction | M | • | M | Transaction amount of zero, in the acquirer's currency, at the point of interaction. |

| Data Element ID and Name | Org | Sys | Dst | Comments |
|---|------------|------------|------------|-----------------|
| 61 Point-of-Service (POS) Data, subfield 7 (POS Transaction Status), value 8 (Account Status Inquiry Service [ASI]) | M | • | M | |

Proximity Payments

The Mastercard Proximity Payments solution, which includes Mastercard contactless magnetic stripe and Mastercard contactless M/Chip, is part of the global Proximity Payments Program and is designed to enrich the traditional card with a new contactless interface.

The contactless interface provides cardholder and merchant benefits that are particularly relevant in environments such as:

- Unattended point-of-service (POS) devices (for example, gas pumps and vending machines)
- High-traffic environments (for example, quick service and drive-through restaurants)

Proximity payments do not require cardholders holding a contactless Mastercard chip card to swipe or insert the card into a card reader or terminal. Instead, cardholders place the contactless card in proximity of a specially equipped merchant terminal to make a payment.

Authorization Request/0100—Proximity Payments

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|--|
| DE 22 (Point-of-Service (POS) Entry Mode), subfield 1 POS Terminal PAN Entry Mode) | M | • | M | <p>Contains one of the following values:</p> <ul style="list-style-type: none"> • 07 = PAN auto-entry via contactless M/Chip • 91 = PAN auto-entry via contactless magnetic stripe—the full track data has been read from the data on the card and transmitted within the Authorization Request/0100 message in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation. |
| DE 61 (Point-of-Service (POS) Data), subfield 11 (POS Card Data Terminal Input) | M | • | M | <p>Contains one of the following values:</p> <ul style="list-style-type: none"> • 3 = Contactless M/Chip • 4 = Contactless Magnetic Stripe |

Purchase of Goods or Services with Cash Back

Mastercard allows the use of Purchase of Goods or Services with Cash Back in Authorization/01xx and Reversal/04xx messages for Debit Mastercard and Maestro cards.

Participation Mandate

All issuers of Debit Mastercard and Maestro cards are required to support the receipt of authorization and reversal requests for Purchase of Goods or Services with Cash Back transactions. The Purchase of Goods or Services with Cash Back service is automatically associated with all Debit Mastercard and Maestro account ranges.

Issuers will continue to approve or decline Purchase of Goods or Services with Cash Back transactions at their discretion.

Terminal Support Indicator

The Authorization Platform allows acquirers to indicate whether the merchant terminal supports receipt of the purchase amount only approval response code in an authorization message.

The Authorization Request/0100 message must contain DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), value 09 (Purchase with Cash Back) and DE 48 (Additional Data—Private Use), subelement 61 (POS Data, Extended Condition Codes), subfield 2 (Purchase Amount Only Terminal Support Indicator), value 1 (Merchant terminal supports receipt of purchase-only approval).

Authorization Request/0100—Purchase of Goods or Services with Cash Back

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) | M | • | M | Must contain value 09 = Purchase of Goods or Services with Cash Back |
| DE 4 (Amount, Transaction) | M | • | M | Must contain the transaction amount, inclusive of the amount cash back. |
| DE 48, (Additional Data—Private Use), TCC (Transaction Category Code) | M | • | M | |
| DE 48, subelement 61 (POS Data, Extended Condition Codes), subfield 2 (Purchase Amount Only Terminal Support Indicator) | C | • | C | 1 = Merchant terminal supports receipt of purchase only approvals |

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 54 (Additional Amounts), subfield 1 (Account Type) | M | X | M | <p>The Authorization Platform provides a second occurrence of DE 54 to the issuer if billing currency is different than transaction currency.</p> <p>Must contain one of the following values:</p> <p>00 = Default account (not specified or not applicable)</p> <p>10 = Savings Account</p> <p>20 = Checking Account</p> |
| DE 54, subfield 2 (Amount Type) | M | X | M | 40 = Amount Cash Back |
| DE 54, subfield 3 (Currency Code) | M | X | M | Must contain the valid three-digit numeric value present in DE 49 (Currency Code, Transaction) |
| DE 54, subfield 4 (Amount) | M | X | M | D = (Debit amount) plus 12 digits right justified with leading zeros |

Issuer Response Options

Issuers have several options in how they respond to a Purchase of Goods or Services with Cash Back request.

When the issuer receives an Authorization Request 0100/message containing DE 48 (Additional Data—Private Use), subelement 61 (POS Data, Extended Condition Codes), subfield 2 (Purchase Amount Only Terminal Support Indicator), value 1 (Merchant terminal supports receipt of purchase only approvals), the issuer has the option to:

- Approve the entire transaction amount,
- Decline the entire transaction amount, or
- Respond with a purchase amount only approval. The issuer must approve the entire purchase amount, partial approval (DE 39, value 10) of the purchase amount is not allowed.

The following table describes the information that the issuer must provide in the Authorization Request Response/0110 message when responding with a purchase-only approval and the information that the acquirer will receive for a purchase-only approval.

| The Issuer must provide... | The Acquirer will receive... |
|--|--|
| <p>The approved amount (purchase amount) in DE 6 (Amount, Cardholder Billing) in the issuer's cardholder billing currency. This amount must be the purchase amount as calculated by subtracting the DE 54 (Additional Amounts) cash back amount and, if applicable, the DE 28 (Amount, Transaction Fee) from the DE 6 amount present in the Authorization Request/0100 message in the amount data element that corresponds to the issuer's cardholder billing currency.</p> <p>DE 38 (Authorization ID Response)</p> <p>DE 39 value 87 (Purchase only, no cash back allowed)</p> <p>DE 51 (Currency Code, Cardholder Billing) with the issuer's cardholder billing currency code</p> | <p>The purchase-only approval amount in the acquirer's transaction currency in DE 4</p> <p>DE 38</p> <p>DE 39, value 87</p> <p>An occurrence of the original amount of the transaction in DE 54 (Additional Amounts) in the acquirer's transaction currency. The original amount is identified by DE 54, subfield 2 (Amount Type), value 57 (Original Amount), and subfield 4 (Amount), value C plus 12-digit original amount.</p> <p>An occurrence of the original amount of the transaction in DE 54 in the issuer's cardholder billing currency. The original amount is identified by DE 54, subfield 2, value 57, and subfield 4, value C plus 12-digit original amount.</p> |

NOTE: Issuers responding with DE 39, value 87 will not be required to echo DE 4 (Amount, Transaction) in the Authorization Request Response/0110. Likewise, if DE 5 (Amount, Settlement) was present in the Authorization Request/0100 message to the issuer, the issuer will not be required to echo DE 5 in the Authorization Request Response/0110 when responding with DE 39, value 87. The issuer will provide the purchase-only approval amount in DE 6 and the issuer currency code in DE 51.

Reversal Request/0400

In some cases, the cardholder or merchant may elect not to complete the transaction after receiving the purchase-only approval response from the issuer. Mastercard supports full reversal messages to allow the merchant to cancel the transaction.

In addition to all other applicable data elements for the Reversal Request/0400 message, acquirers should submit Reversal Request/0400 messages with the following data elements for a reversal of a purchase-only approval:

- Purchase-only approval amount in DE 4 that was present in the Authorization Request Response/0110 message to the acquirer, not the original amount present in DE 4 of the Authorization Request/0100 message from the acquirer
- DE 39, value 87

The Authorization Platform will perform currency conversion if appropriate and will provide the following data elements in the Reversal Request/0400 message to the issuer:

- Purchase-only approval amount in DE 4 in the acquirer's transaction currency

- Purchase-only approval amount in DE 5 in U.S. dollars if the issuer has opted to receive this data element in the message
- Purchase-only approval amount in DE 6 in the issuer's cardholder billing currency
- DE 39, value 87

When processing a Reversal Request/0400 for a purchase-only approval (DE 39, value 87), the issuer should increase the cardholder's open-to-buy.

Reversal Advice/0420

If the Authorization Platform generates a Reversal Advice/0420 message after the issuer has responded to the Authorization Request Response/0110 message with DE 39, value 87, the Authorization Platform will provide the following data elements.

- Purchase-only approval amount in the acquirer's transaction currency in DE 4
- Purchase-only approval amount in DE 5 in U.S. dollars, if the issuer has opted to receive this data element in the message
- Purchase-only approval amount in DE 6 in the issuer's cardholder billing currency
- DE 39, value 87
- Original amount in DE 54 in the issuer's cardholder billing currency and acquirer's transaction currency

When processing a Reversal Advice/0420 for a purchase-only approval (DE 39, value 87), the issuer should increase the cardholder's open-to-buy.

Authorization Advice/0120

In addition to the standard data elements that are part of the issuer and system-generated Authorization Advice/0120 message, these messages should include the following data elements for purchase-only approvals.

- Purchase-only approval amount in DE 4 in the acquirer's transaction currency
- Purchase-only approval amount in DE 5 in the settlement currency (US dollars)
- Purchase only-approval amount in DE 6 in the issuer's cardholder billing currency
- DE 39, value 87 as provided by the issuer or Stand-In in the Authorization Request Response/0110
- Original amount in DE 54 in the issuer's cardholder billing currency and acquirer's transaction currency

Authorization Advice/0120—Acquirer-Generated

DE 39, value 87 is not a valid value for Authorization Advice/0120—Acquirer-generated messages. If an Authorization Advice/0120—Acquirer-generated message contains DE 39, value 87, the Authorization Platform will generate an Authorization Advice Response/0130 message where DE 39 contains value 30 and DE 44 contains value 039.

Alternate Processing

Mastercard provides issuers with parameters to define whether or not a Purchase With Cash Back transaction should be forwarded to the Stand-In System for processing. For a transaction

to qualify for the PIN-based category, DE 52 PIN Data will have to be present in the Authorization Request/0100 message. If DE 52 PIN Data was not present in the incoming message, the transactions will be categorized as a signature-based transaction.

If the issuer chooses to have PIN, Signature or both PIN and Signature Purchase With Cash Back transactions excluded from Stand-In processing, the Authorization Platform will provide the acquire with an Authorization Request Response/0110 message with a DE 39 Response of 91 if the issuer is not able to respond to the Authorization Request/0100 message.

If the issuer chooses to process PIN, Signature or both PIN and Signature Purchase with Cash Back transactions in Stand-In, the Stand-In System may provide the purchase-only amount response DE 39, value 87 when the Authorization Request/0100 message contains DE 3, subfield 1, value 09, and DE 48, subelement 61, subfield 2 contains value 1 and the cash back transaction limit or the cash accumulation limits have been exceeded but the purchase limits have not.

Purchase with Cash Back transactions will not be processed with the X-Code System.

Authorization Platform Edits

The Authorization Platform will perform the following edits on Purchase of Goods or Services with Cash Back transactions.

Authorization Request/0100

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 3, subfield 1 with the value 09 and DE 54 is not present | DE 39 (Response Code) = 30 DE 44 (Additional Response Data) = 003 |
| DE 3, subfield 1 with the value 09 and DE 54, subfield 1 is not a valid two-digit numeric value | DE 39 = 30 DE 44 = 054 |
| DE 3, subfield 1 with the value 09 and DE 54, subfield 2 is not 40 | DE 39 = 30 DE 44 = 003 |
| DE 3, subfield 1 with the value 09 and DE 54, subfield 3 is not the same value as in DE 49 | DE 39 = 30 DE 44 = 054 |
| DE 3, subfield 1 with the value 09 and DE 54, subfield 4 is not D followed by 12 numeric digits | DE 39 = 30 DE 44 = 054 |
| DE 3, subfield 1 with the value 09 and the cash back amount in DE 54 is greater than the amount in DE 4 (Amount, Transaction) | DE 39 = 30 DE 44 = 054 |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 3, subfield 1 with the value 09 and the Primary Account Number (PAN) is not within an account range that supports Purchase With Cash Back | DE 39 = 57 |
| DE 48, subelement 61, subfield 2 contains a value other than 0 or 1 | Generates an Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 048 |
| DE 54 is present in the Authorization Request/0100 message where DE 54, subfield 2 contains value 57 (Original Amount) | Generates an Authorization Request Response/0110 message containing: DE 39 = 30 DE 44 = 054 |
| DE 54, subfield 2 with the value 40 and DE 3, subfield 1 is not 09 | DE 39 = 30 DE 44 = 003 |

If the Authorization Request/0100 message passes all Authorization Platform edits, the Authorization Platform will forward the Authorization Request/0100 message to the issuer.

NOTE: Acquirers should send only one occurrence of DE 54, subfields 1–4 in Authorization Request/0100 and Reversal Request/0400 messages.

Authorization Request Response/0110

The Authorization Platform will perform the following edits on the Authorization Request Response/0110 message when the issuer has provided DE 39 with value 87.

The Authorization Platform will provide two additional occurrence of DE 54, subfields 1–4 in the Authorization Request/0100 message to the issuer; one in the acquirer's transaction currency and one in the issuer's cardholder billing currency. This additional occurrence will be appended to the end of DE 54 before sending to the issuer.

If the issuer provides DE 54, subfield 2 with the value 40 in the Authorization Request Response/0110 message, Mastercard will not forward the cash back amount to the acquirer in the Authorization Request Response/0110 message.

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 48, subelement 61 is not present or DE 48, subelement 61, subfield 2 does not contain value 1 or DE 3, subfield 1 is not 09 in the Authorization Request/0100 message sent to the issuer | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 039 |
| DE 38 is not present | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 038 |
| DE 6 is not present | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 006 |
| The amount in DE 6 of the Authorization Request Response/0110 message does not equal the purchase amount based on the original amounts present in the Authorization Request/0100 message. | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 039 |
| The amount in DE 6 of the Authorization Request Response/0110 message is greater than the original amount in the Authorization Request/0100 message. | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 006 |
| DE 51 is not present or is not the issuer's correct cardholder billing currency code | Sends to the issuer an Authorization Response Negative Acknowledgement/0190 message where: DE 39 = 30 DE 44 = 051 |

Authorization Advice/0120—Acquirer-generated

| WHEN... | THEN the Authorization Platform... |
|-------------------------|---|
| DE 39 contains value 87 | Creates an Authorization Advice Response/0130—System-generated message containing: DE 39 = 30 DE 44 = 039 |

Reversal/0400 messages

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 54 is not formatted correctly in relation to alphanumeric specifications for the subfields | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 054 |
| DE 3, subfield 1, contains value 09 and DE 54, subfield 2, value 40 is not present and DE 39 does not contain value 87 | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 003 |
| DE 3, subfield 1 does not contain value 09 and DE 54, subfield 2, value 40 is present | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 003 |

Real-Time Substantiation

The Real-time Substantiation (formerly referred to as Auto Substantiation) service supports substantiation at the point of sale (POS) for qualified expenses incurred on a Flexible Spending Account (FSA) and Healthcare Reimbursement Arrangement (HRA) cards when used at a merchant with a qualifying Inventory Information Approval System (IIAS).

Participation in Real-Time Substantiation

Issuers must notify Mastercard if they want to support real-time substantiation processing by completing the *Real-time Substantiation Participation Request Form* and providing the form to their Global Customer Service representative.

Participation authorizes Mastercard to provide the issuer with real-time substantiation information in the Authorization Request/0100 or the Authorization Advice/0120 message. The Authorization Platform will remove healthcare related amounts from the Authorization Request/0100 or the Authorization Advice/0120 message for non-participating issuers.

Mastercard supports the issuance of Mastercard Assigned IDs for merchants.

To indicate an IIAS-compliant merchant, acquirers must provide DE 48 (Additional Data—Private Use), subelement 32 (Mastercard Assigned ID) in Authorization Request/0100, Authorization Advice/0120, and Reversal Request/0400 messages when the transaction is indicated as real-time substantiated (DE 48, subelement 61 (POS Data Extended Condition Codes), subfield 3 (Real-time Substantiation Indicator), value 1 (Merchant terminal verified the purchased items against an Inventory Information Approval System [IIAS])).

To obtain Mastercard Assigned IDs for IIAS merchant validation, acquirers should send an e-mail message to sigis_merchant_setup@mastercard.com. The request should specify whether it is an addition or an update of the Mastercard Assigned ID, and at a minimum should include the acquirer name, telephone number, e-mail address, acquirer ID, processor ID, merchant parent/owner name (if applicable), Mastercard Assigned ID (if the request is for an update to the existing Mastercard Assigned ID), and merchant contact information.

Acquirers with existing Mastercard Assigned IDs for their merchants should continue to use those values but must notify Mastercard that those merchants are Special Interest Group for IIAS Standards (SIGIS)-compliant.

NOTE: Acquirers with health care IIAS merchant that have received a Visa-assigned Merchant Verification Value from Visa, should include it in DE 48, subelement 36 (Visa Defined Data) for gateway mapping to Visa Field 62.20.

Merchant Terminal Verification

Following are the details on how a merchant terminal is IIAS-compliant.

Acquirers must provide DE 48 (Additional Data—Private Use), subelement 32 (Mastercard Assigned ID) in Authorization Request/0100, Authorization Advice/0120, and Reversal Request/0400 messages when the transaction is indicated as real-time substantiated (DE 48, subelement 61 (POS Data Extended Condition Codes), subfield 3 (Real-time Substantiation Indicator), value 1 (Merchant terminal verified the purchased items against an Inventory Information Approval System [IIAS])).

When the merchant terminal has verified the purchased items against an IIAS, the acquirer should populate the Authorization Request/0100 message with DE 48, subelement 61 and the following subfield values:

- Subfield 1 (Partial Approval Terminal Support Indicator) and subfield 2 (Purchase Amount Only Terminal Support Indicator) must contain values of zero or 1

- Subfield 3 must contain a value of 1 (Merchant terminal verified the purchased items against the IIAS).
 - If the issuer is not participating in real-time substantiation, this value will be changed by the Authorization Platform to 0 (Merchant terminal did not verify the purchased items against the IIAS).
 - To indicate to issuers participating in real-time substantiation that the transaction was submitted as IIAS but from a non-IIAS compliant merchant, Mastercard will populate subfield 3 with the value 4 (Transaction was submitted as real-time substantiated, but from a non-IIAS certified merchant).
- Subfields 4 and 5 are reserved for future use and must contain values of zero.

Acquirers will not receive DE 48, subelement 61 in the Authorization Request Response/0110 message.

When an acquirer creates an Authorization Advice/0120 message to advise the issuer of an approved authorization performed by the acquirer, DE 48, subelement 61 should be present if it was present in the original Authorization Request/0100 message.

Real-Time Substantiation Amounts

Mastercard defines DE 54 (Additional Amounts), subfield 2 (Amount Type) with a redefined value of 10 (Healthcare Eligibility Amount). When the acquirer is providing the real-time substantiation indicator in DE 48, subelement 61, subfield 3, this redefined amount type allows the acquirer to indicate the portion of DE 4 (Amount, Transaction) that is eligible for real-time substantiation.

In addition to the Healthcare Eligibility Amount, Mastercard supports amount type, DE 54, subfield 2, value 11 (Prescription Eligibility Amount), which allows the acquirer to indicate the portion of the healthcare eligibility amount that includes the amount spent for prescriptions.

Subfield 2, value 11 must only be present when the acquirer provides subfield 2, value 10 in the Authorization Request/0100 or the Authorization Advice/0120 message. In addition, the amount in subfield 2, value 11 must be less than or equal to the amount of subfield 2, value 10.

Values 10 and 11 will not be returned to the acquirer in the Authorization Request Response/0110 or the Authorization Advice Response/0130 message.

Transaction Processing Examples

Following are examples of Real-time Substantiation transaction processing. The examples only show one occurrence of DE 54 amounts in USD. However, standard currency conversion rules will apply. Therefore, acquirers and issuers will always receive amount-related data elements in the acquirer's transaction currency and the issuer's cardholder billing currency for DE 54.

Because Real-time Substantiation transactions can be used in combination with partial approvals, when the issuer receives an Authorization Request/0100 message containing DE 48, subelement 61, subfield 1, value 1, the issuer has the option to:

- Approve the entire transaction amount.
- Decline the entire transaction amount.

- Respond with a partial approval.

For the issuer to respond with a partial approval, DE 48, subelement 61, subfield 1 must contain a value of 1; otherwise, the issuer must approve or decline the entire transaction amount.

Partial approvals are not valid for Authorization Advice/0120 messages and will be rejected with a format error.

Example 1—Partial Approval: Entire Healthcare Eligibility Amount

This example illustrates that the issuer approved the entire Healthcare Eligibility Amount, which in this case is a partial approval of the total transaction amount. In this scenario, the merchant would ask the cardholder to use another form of payment for the remaining USD 60 or remove some items from the purchase.

| Authorization Request/0100 | Authorization Request Response/0110 |
|--|---|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 10100 (indicates terminal can handle partial approvals and has verified against IIAS) • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 40 | <ul style="list-style-type: none"> • DE 6 = USD 40 • DE 39 = 10 • DE 4 = USD 40 100 • DE 54, subfield 2, value 57 (Original Amount) = USD • DE 39 = 10 |

Example 2—Partial Approval: Partial Healthcare Eligibility Amount

This example illustrates that the issuer approved only a portion of the Healthcare Eligibility Amount, which in this case is a partial approval of the total transaction amount. In this scenario, the merchant would ask the cardholder to use another form of payment for the remaining USD 80 or remove some items from the purchase.

| Authorization Request/0100 | Authorization Request Response/0110 |
|--|---|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 10100 • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 40 | <ul style="list-style-type: none"> • DE 6 = USD 20 • DE 39 = 10 • DE 4 = USD 20 • DE 54, subfield 2, value 57 = USD 100 • DE 39 = 10 |

Example 3—Full Approval: Entire Healthcare Eligibility Amount

In this example, the merchant terminal is indicating that they do not support partial approvals; therefore, a full approval or decline is required. The issuer approves the full transaction; thereby approving the entire Healthcare Eligibility Amount.

| Authorization Request/0100 | Authorization Request Response/0110 |
|---|--|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 00100 • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 100 | <ul style="list-style-type: none"> • DE 4 = USD 100 • DE 39 = 00 • No DE 54, subfield 2, value 57 (Original Amount) is provided in this scenario because the issuer responded with DE 39 = 00 |

Example 4—Partial Approval: Entire Healthcare Eligibility Amount, including Prescriptions

This example illustrates that the issuer approved the entire Healthcare Eligibility Amount and Prescription Eligibility Amount (the prescription amount is a portion of the healthcare amount), which is a partial approval of the total transaction amount. In this scenario, the merchant would ask the cardholder use another form of payment for the remaining USD 60 or remove some items from the purchase.

| Authorization Request/0100 | Authorization Request Response/0110 |
|--|---|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 10100 • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 40 • DE 54, subfield 2, value 11 = USD 30 | <ul style="list-style-type: none"> • DE 6 = USD 40 • DE 39 = 10 • DE 4 = USD 40 • DE 54, subfield 2, value 57 = USD 100 • DE 39 = 10 |

Example 5—Partial Approval: Partial Healthcare Eligibility Amount, including Prescriptions

This example illustrates that the issuer approved only a portion of the Healthcare and Prescription Eligibility amounts. In this scenario, the merchant would ask the cardholder use another form of payment for the remaining USD 80 or remove some items from the purchase.

| Authorization Request/0100 | Authorization Request Response/0110 |
|--|---|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 10100 • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 40 • DE 54, subfield 2, value 11 = USD 30 | <ul style="list-style-type: none"> • DE 6 = USD 20 • DE 39 = 10 • DE 4 = USD 20 • DE 54, subfield 2, value 57 = USD 100 • DE 39 = 10 |

Example 6—Full Approval: Entire Healthcare Eligibility Amount, including Prescriptions

In this example, the merchant terminal is indicating that they do not support partial approvals; therefore, a full approval or decline is required. The issuer approves the full transaction; thereby approving the entire Healthcare Eligibility Amount, including the Prescription Eligibility Amount.

| Authorization Request/0100 | Authorization Request Response/0110 |
|---|--|
| From Issuer | To Acquirer |
| <ul style="list-style-type: none"> • DE 48, subelement 61 = 00100 • DE 4 = USD 100 • DE 54, subfield 2, value 10 = USD 100 • DE 54, subfield 2, value 11 = USD 60 | <ul style="list-style-type: none"> • DE 4 = USD 100 • DE 39 = 00 • DE 4 = USD 100 • DE 39 = 00 • No DE 54, subfield 2, value 57 (Original Amount) is provided in this scenario since the issuer responded with DE 39=00 |

Authorization Platform Edits

The Authorization Platform performs the following edits on Real-time Substantiation transactions.

Authorization Request/0100 and Authorization Advice/0120

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 54, subfield 2, value 10 or 11 is present and DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) is not 00 (Purchase of goods or services) | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 = 30 (Format error) • DE 44 = 054 |
| DE 54, subfield 2, value 10 is greater than the transaction amount in DE 4 | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |
| DE 54 subfield 2, value 10 or 11 is present and the issuer does not support healthcare substantiation transaction processing | Removes DE 54 subfield 2, value 10 and 11 occurrences from the Authorization Request/0100 or Authorization Advice/0120 message to the issuer. |
| DE 54, subfield 2, value 11 is present and DE 54, subfield 2, value 10 is not present | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |
| The amount in DE 54, subfield 2 value 11 is greater than the amount in DE 54, subfield 2, value 10 | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |
| DE 54 contains more than one occurrence of subfield 2, value 10 or DE 54 contains subfield 2, value 10 and the second occurrence is not DE 54, subfield 2, value 11 | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |

| WHEN... | THEN the Authorization Platform... |
|---|--|
| DE 54 contains more than one occurrence of subfield 2, value 11 | Sends the acquirer an Authorization Request Response/0110 or Authorization Advice Response/0130 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 054 |
| WHEN DE 48, Subelement 32 is present and... THEN the Authorization Platform... | |
| The length of the Mastercard Assigned ID is less than six digits in the Authorization Request/0100, Authorization Advice/0120—System-generated, and Reversal Request/0400 message | Sends the acquirer an Authorization Request Response/0110, Authorization Advice Response/0130, or Reversal Response/0410 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 048 |
| WHEN DE 48, subelement 61, subfield 3 is... THEN the Authorization Platform... | |
| 1 (Merchant terminal verified the purchase items against an Inventory Information Approval System [IIAS]) | Validates that DE 48, subelement 32 (if present) contains a valid Mastercard Assigned ID for IIAS. |
| If the Mastercard Assigned ID is valid | Forwards the Authorization Request/0100 message to the issuer. |
| If the Mastercard Assigned ID is not valid or not present in the Authorization Request/0100 message | Updates the value in DE 48, subelement 61, subfield 3 as follows: <ul style="list-style-type: none"> • If the issuer participates in real-time substantiation, sends DE 48, subelement 61, subfield 3, value 4 (Transaction was submitted as real-time substantiated but from a non-IIAS certified merchant). • If the issuer does not participate in real-time substantiation sends DE 48, subelement 61, subfield 3, value 0 (Merchant terminal did not verify the purchased items against an Inventory Information Approval System [IIAS]). |
| WHEN DE 48, subelement 61, subfield 3 is... THEN the Authorization Platform... | |
| 4 (Transaction was submitted as real-time substantiated but from a non-IIAS certified merchant) in the Authorization Request/0100 message | Sends the acquirer an Authorization Request Response/0110 message where: <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = 048 |

Reversal Request/0400

| WHEN... | THEN the Authorization Platform... |
|---|---|
| DE 54, subfield 2, value 10 or 11 is present in the Reversal Request/0400 message | Removes DE 54, subfield 2, values 10 and 11 from the Reversal Request/0400 message to the issuer. |

Recurring Payment Test Transactions

The recurring payment test transaction allows acquirers to send an Authorization Request/0100 message to an issuer containing a transaction amount of zero.

Before submitting an authorization request for the full amount of a recurring payment, the card acceptor may use a recurring payment test transaction to determine the status of the cardholder account.

Recurring payment test transactions must comply with all existing recurring payment transaction identification requirements.

A recurring payment Authorization Request/0100 message test transaction is identified by the following criteria:

- DE 61 subfield 7 = 4
- DE 61 subfield 4 = 4
 - and
- DE 4 = 0

Reversal Processing

Mastercard supports the reversal of a full transaction amount or a partial transaction amount using reversal processing.

Best Practices for Authorization Reversal Processing

Mastercard provides the following update to its best practices for the management of authorization reversals. These best practices are intended to guide dual message acquirers, issuers, and processors in the usage of these transactions.

NOTE: These best practices are in effect for current processing or 14 October 2016, as noted.

Background

Merchant-initiated authorization reversal messages are intended to assist issuers in managing "open-to-buy." This processing function is especially critical to debit and prepaid card issuers. Merchants and acquirers submit authorization reversal messages when:

- The final transaction amount was less than the authorized amount
- The cardholder cancels or chooses not to complete all or part of the transaction
- All or a portion of the goods or services could not be provided (for example, out-of-stock items)
- The authorization was submitted in error (for example, duplicate request or technical failures)

Guiding Principles

The following is provided as guidance for reversal processing. Note that unless otherwise specified, these are best practices and are not mandatory:

- Authorization reversal messages are intended to fully or partially release a hold of funds prior to clearing the transaction.
- Purchase returns (or refunds) are managed offline after the first presentment has been processed, and are presented to clearing as a credit.
- Mastercard recommends that merchants submit reversals as soon as an adjustment to the original authorization amount is known. Only approved authorization requests or transactions that have timed out are required to be reversed.
 - Effective 14 October 2016, merchants and acquirers must submit a full or partial reversal (as applicable) within seven calendar days of an original undefined authorization or final authorization request and within 30 calendar days of an original preauthorization request.
 - Effective 14 October 2016, merchants and acquirers must submit a full or partial reversal within 24 hours of transaction cancellation or of the transaction completing for an amount different from the authorized amount.

NOTE: Refer to the Incremental Preauthorization Standards section in this chapter of this manual for more information about revised Standards for authorizations and preauthorizations.

- Reversals must contain the mandatory matching data elements from the original authorization in order for an issuer to release the appropriate funds, subject to the issuer's risk or fraud control policies.

Specific Scenarios

Specific Scenarios are described as follows:

- If an incremental authorization has been submitted, a reversal should reference original transaction data, including the original Trace ID, and data element (DE) 4 (Amount, Transaction) should be the sum of the original authorized amount plus any incremental amounts.
- Issuers will release any hold of funds once a clearing presentment has been matched (using the Trace ID in addition to other data elements) to the original authorization. Accordingly, a merchant is not required to submit a partial reversal if the lower amount is processed by Mastercard clearing within 24 hours of finalization of the transaction—assuming multi-clearing processing is not utilized.

- Partial reversals must be used when multi-clearing processing is utilized, since issuers will maintain a hold of funds for subsequent presentments.

Reversal Message Data Element Details

As follows are details about reversal messaging data elements:

- Mandatory Reversal Request/0400 data elements used for issuer matching, which must contain the same value from the original Authorization 0100/0110 message:
 - DE 2 (Primary Account Number [PAN])
 - DE 3 (Processing Code)
 - DE 4 (Amount, Transaction)
 - DE 38 (Authorization ID Response)
 - DE 48, subelement 63 (Trace ID) (from original DE 15 [Date, Settlement] and DE 63 [Network Data])
 - DE 49 (Currency Code, Transaction)
 - DE 90 (Original Data Elements) (from original DE 7 [Transmission Date and Time], DE 11 [System Trace Audit Number (STAN)], and DE 32 [Acquiring Institution ID Code] and DE 33 [Forwarding Institution ID Code])

NOTE:

Reversals submitted for technical failures (DE 39 reversal reason code 06—Error) will not contain DE 38 (Authorization ID) or DE 48, subelement 63 (Trace ID), because no Authorization Request Response/0110 message was received. If Trace ID data from the original authorization is not available due to technical failures, DE 48, subelement 63 in the reversal must contain zeros.

DE 90, subfield 1 must contain the Message Type Identifier (MTI) of the original authorization message. The remaining subfields may contain valid matching values from the original authorization or may be zero-filled if they are not available.

- Mandatory Reversal Request/0400 message data elements that may use default values consistent with the merchant initiating the reversal, unless supplied directly from the merchant point-of-interaction (POI) (for example, merchants with multiple card acceptor business codes [MCCs]):
 - DE 18 (Merchant Type)
 - DE 22 (Point-of-Service [POS] Entry Mode)
 - DE 32 (Acquiring Institution ID Code) and DE 33 (Forwarding Institution ID Code) by using default values consistent with the merchant, DE 32 and DE 33 will be the same values as in the original 0100 message
 - DE 39 (Response Code)
 - DE 41 (Card Acceptor Terminal ID)
 - DE 42 (Card Acceptor ID Code)
 - DE 43 (Card Acceptor Name/Location for All Transactions)
 - DE 61 (Point-of-Service [POS] Data)

Mastercard recommends that DE 39 (Response Code) be populated with one of the following Reversal Request/0400 reason codes:

- 06—Error
- 17—Customer Cancellation
- 32—Partial Reversal
- 34—Suspect Fraud
- 68—Response Received Late
- Minimum list of original Authorization 0100/0110 data elements to be saved for submitting a Reversal Request/0400 message:
 - DE 2 (Primary Account Number [PAN])
 - DE 3 (Processing Code)
 - DE 4 (Amount, Transaction)
 - DE 7 (Transmission Date and Time)
 - DE 11 (System Trace Audit Number [STAN])
 - DE 15 (Date, Settlement)
 - DE 38 (Authorization ID Response)
 - DE 49 (Currency Code, Transaction)
 - DE 63 (Network Data)

NOTE:

DE 15, DE 38, and DE 63 will only be available if an approved authorization response was received.

If DE 7 and DE 11 from the original authorization cannot be saved, DE 90, subelements 2 and 3 may be zero-filled within the Reversal Request/0400 message.

- Optional/Conditional data elements that must contain the same value from the original Authorization 0100 if included in the Reversal Request/0400 message:
 - DE 12 (Time, Local Transaction)
 - DE 13 (Date, Local Transaction)
 - DE 14 (Date, Expiration)
 - DE 23 (Card Sequence Number)
 - DE 28 (Amount, Transaction Fee)
 - DE 37 (Retrieval Reference Number)
 - DE 54 (Additional Amounts)

Full Reversals

The Authorization Platform supports full reversal functionality using the Reversal 04xx messages.

Full reversal functionality may be used for, but is not limited to, the following scenarios:

- Acquirer cannot deliver a response message 0110 or 0410 to the merchant
- Acquirer cannot match the response message 0110 or 0410 to the original request

- The authorization response message received contains errors
- The authorization response message was received too late

Partial Reversals

The Authorization Platform supports partial reversal functionality using the Reversal/04xx messages.

Partial reversal functionality is useful in adjusting a portion of the original authorization amount in the following scenarios:

- A merchant ships only a portion of merchandise.
- A cardholder returns a rental vehicle earlier than originally reserved.
- A cardholder checks out of a hotel earlier than originally reserved.
- A cardholder cancels a portion of the transaction.

Mastercard supports Reversal Request/0400 and Reversal Advice/0420 messages where DE 95 (Replacement Amounts), subfield 1 (Actual Amount, Transaction) contains a value other than all zeros. DE 95, subfield 1, in the originating reversal, must be a lesser amount than the amount in DE 4 (Amount, Transaction).

Refer to the *Chargeback Guide* for rules related to partial reversal functionality.

Reversals of Balance Inquiry Transactions

Following are the details of the reversal of a Balance Inquiry transaction.

Mastercard supports Reversal Request/0400 and Reversal Advice/0420 messages containing DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code), value 30 (Balance Inquiry). In inquiry transactions, DE 4 must contain a value of all zeros unless an ATM transaction fee DE 28 (Amount, Transaction Fee) has been applied by an acquirer for an ATM transaction in a country where an ATM transaction fee is allowed.

Reversals of Purchase of Goods or Services with Cash Back Transactions

Following are the details of the reversal of a Purchase of Goods or Services with Cash Back transaction.

Mastercard provides DE 54 (Additional Amounts), subfield 2 (Amount Type), value 40 (Amount Cash Back) to issuers in the Reversal Request/0400 message if DE 54, subfield 2, value 40 was contained in the Reversal Request/0400 message from the acquirer. Acquirers provide DE 4 (Amount, Transaction) in the Reversal Request/0400 message for the full, original amount of the Authorization Request/0100 message. With Purchase of Goods and Services with Cash Back transactions, DE 4 contains the cash back amount, as defined in DE 54.

As with Authorization Request/0100 message processing, the Authorization Platform edits Reversal Request/0400 messages when DE 54, subfield 2, value 40 is present. In this case, the Authorization Platform checks to ensure that DE 3 (Processing Code), subfield 1 (Cardholder Transaction Type Code) contains value 09 (Purchase with Cash Back).

If DE 54, subfield 2, value 40 is not present, the Authorization Platform performs an additional check to ensure that the Reversal Request/0400 message contains DE 39 (Response Code), value 87 (Purchase only, no cash back allowed).

When an acquirer submits a full or partial reversal for a Purchase Amount Only approval where DE 39 (Response Code) of the Authorization Request Response/0110 message contains value 87, Mastercard recommends that the acquirer not send DE 54 in the reversal message. If the acquirer intends the Reversal Request/0400 message as a partial reversal, DE 95 (Replacement Amounts) will also be present, containing the adjusted amount of the original authorization.

DE 54, subfield 2, value 40 is the only instance of DE 54 that Mastercard will forward to issuers in a Reversal Request/0400 message. All other instances of DE 54 will be removed from the Reversal Request/0400 message before forwarding the message to the issuer.

DE 54, subfield 2, value 40 also may be included in the Reversal Advice/0420 message.

Alternate Processing

While no Stand-In System processing tests will be applied to the Reversal Request/0400 message, the Authorization Platform supports alternate processing of Reversal Request/0400 and Reversal Request Response/0410 messages when the issuer is unable or unavailable to respond to the Reversal Request/0400 message.

The Authorization Platform will perform the following processing when an issuer is unable or is unavailable to respond to the Reversal Request/0400 message:

| WHEN... | THEN the Authorization Platform... |
|---|--|
| The Authorization Platform times out or | Sends the acquirer a Reversal Request Response/0410 message where: DE 39 = 00 (Approved or Completed successfully) |
| The issuer is signed-out or | Sends a Reversal Advice/0420 message to SAF for immediate availability to the issuer where: |
| The issuer responded with a Reversal Request Response/0410 message with an error or | <ul style="list-style-type: none">• DE 39 is The value from the acquirer's Reversal Request/0400 message• DE 60 contains one of the following values as applicable:<ul style="list-style-type: none">– 402 = Issuer Time-out– 403 = Issuer Sign-out– 409 = Issuer Response Error– 413 = Issuer Undelivered |
| The Authorization Platform cannot deliver the Reversal Request/0400 message to the issuer | |

| WHEN... | THEN the Authorization Platform... |
|--|---|
| The issuer responds with an error in the Reversal Request Response/0410 message | <p>Responds to the issuer with a Negative Acknowledgement/0190 message where:</p> <ul style="list-style-type: none"> • DE 39 = 30 • DE 44 = Data element in error <p>Provides a Reversal Advice/0420 message to the issuer from SAF for immediate availability to the issuer (as defined above)</p> |
| The Authorization Platform cannot deliver the Reversal Request Response/0410 message to the acquirer | <p>Will not send a Reversal Advice/0420 message to the issuer.</p> <p>In this case, acquirers have the responsibility to resend the reversal to the issuer.</p> |

NOTE: Customers in the Europe region that route to an alternate issuer host for alternate processing instead of Stand-In, will still receive an Authorization Advice/0120—Acquirer-generated as described here. Alternate issuer host processing does not send Reversal Request/0400 or Authorization Advice/0120 messages to the alternate host.

Authorization Platform Edits

The Authorization Platform performs the following edits on reversal transaction processing.

Reversal Request/0400

The Authorization Platform will perform the following edits on the Reversal Request/0400 message as it relates to DE 95 (Replacement Amounts) and partial reversals.

| WHEN... | THEN the Authorization Platform... |
|--|--|
| DE 95 (Replacement Amounts) is equal to or greater than DE 4 (Amount, Transaction) | <p>Sends the acquirer a Reversal Request Response/0410 message where:</p> <p>DE 39 = 30</p> <p>DE 44 = 095</p> |
| DE 95 (Replacement Amounts) is equal to zero | Removes DE 95 from the Reversal Request/0400 message before providing the Reversal Request/0400 message to the issuer. |

The Authorization Platform will perform the following edits on the Reversal Request/0400 message as it relates to DE 54 (Additional Amounts) and reversals of Purchase of Goods or Services with Cash Back transactions.

| WHEN... | THEN the Authorization Platform... |
|--|---|
| DE 54 is not formatted correctly in relation to alphanumeric specifications for the subfields | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 054 |
| DE 3, subfield 1, contains value 09 and DE 54, subfield 2, value 40 is not present and DE 39 does not contain value 87 | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 003 |
| DE 3, subfield 1 does not contain value 09 and DE 54, subfield 2, value 40 is present | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 003 |

The Authorization Platform will perform the following edits on the Reversal Request/0400 message as it relates to reversals of Balance Inquiry transactions.

| WHEN the Reversal Request/0400 message... | THEN the Authorization Platform... |
|---|---|
| Contains a value of all zeros in DE 4 (Amount, Transaction) and DE 3, subfield 1, does not contain a value of 30 (Balance Inquiry) | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 004 |
| Contains a value of 30 (Balance Inquiry) in DE 3, subfield 1 then DE 4 (Amount, Transaction) must contain a value of all zeros unless the transaction contains DE 28 (Amount, Transaction Fee), otherwise | Returns the acquirer a Reversal Request Response/0410 message where: DE 39 = 30 DE 44 = 004 |

Visa Transaction Processing

Mastercard supports Visa transaction processing as described in this section.

Visa Custom Payment Service

Mastercard supports Visa Custom Payment Service Authorization Request/0100 messages to accommodate customers. Mastercard accepts and forwards all Visa Authorization Request/0100 messages containing Visa Custom Payment Service information to the Visa network. If the Visa network is unavailable to authorize a transaction through the Mastercard gateway, Mastercard processes the authorization through X-code and will decline the Visa transaction.

NOTE: This topic applies only to Dual Message System processing of Visa authorization transactions.

Authorization Request/0100—Visa Custom Payment Service

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|--|
| DE 2 (Primary Account Number [PAN]) | M | • | M | PAN begins with 4 indicating a Visa card. |
| DE 14 (Date, Expiration) | C | • | C | Must be present for magnetic stripe transactions and contain same expiration date as in DE 35 or DE 45. |
| DE 18 (Merchant Type) | M | • | M | Must contain a valid Custom Payment Service MCC. |
| DE 22 (Point-of-Service (POS) Entry Mode, subfield 1, POS Terminal PAN Entry Mode) | M | • | M | Must contain 90 to indicate that the track 1 or track 2 data is unaltered; where card presence is not required or the transaction is key entered, 01 is valid. |
| DE 35 (Track 2 Data) | C | • | C | Track 2 or Track 1 must be present and passed unaltered if the DE 22 value is 90. |
| DE 37 (Retrieval Reference Number) | C | • | C | Must be present for Custom Payment Service incremental authorizations and reversals. |
| DE 42 (Card Acceptor ID Code) | M | • | M | Must be present for Custom Payment Service transactions. |
| DE 43 (Card Acceptor Name and Location) | M | • | M | Must be present for Custom Payment Service transactions. |
| DE 45 (Track 1 Data) | C | • | C | Track 1 or Track 2 must be present and passed unaltered if the DE 22 value is 90. |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| DE 48, subelement 90 (Custom Payment Service Request [Visa field 62.1]) | M | • | M | <p>Indicates a request for a Visa Custom Payment Service qualified transaction and must contain one of the following values:</p> <p>I = Incremental authorization</p> <p>P = Preferred customer</p> <p>R = Recurring payment</p> <p>Y = Custom Payment Service participation request. Refer to Visa Base I Technical Specifications manual for a list of all CPS request values in Visa field 62.1.</p> |
| DE 48, subelement 91 (Visa Custom Payment Service Request/ Transaction ID, [Visa field 62.2 and 62.3]) | C | • | C | Must be present for incremental authorization and reversal transactions and contain the Transaction ID and/or the CPS validation code of the original transaction. |
| DE 48, subelement 96 (Visa Market-Specific Data [Visa field 62.4]) | C | • | C | <p>Must be present for hotel or automobile transactions and contain one of the following values:</p> <p>A = Automobile rental</p> <p>B = Bill payment transaction</p> <p>E = Electronic commerce transaction aggregation</p> <p>H = Hotel rental</p> <p>J = B2B invoice payments</p> <p>M = Healthcare—Medical</p> <p>N = Failed market-specific data edit</p> <p>T = Transit (in healthcare transactions only)</p> |
| DE 48, subelement 97 (Visa Prestigious Property Indicator [Visa field 62.6]) | C | • | C | <p>May be present for participants in the Visa Prestigious Lodging program and contains one of the following values:</p> <p>D = Visa established limits</p> <p>B = Visa established limits</p> <p>S = Visa established limits</p> |
| DE 61, (Point-of-Service [POS] Data, subfield 12 (POS Authorization Life Cycle) | M | • | M | Must contain the authorization life cycle if DE 48, subelement 96 (Market-specific Data) is present. |

Authorization Request Response/0110—Visa Custom Payment Service

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48, subelement 85 (Account Status [Visa Only]) | C | • | C | <p>Identifies the account range as regulated or non-regulated interchange. Must be one of the following values:</p> <p>R = Account is regulated</p> <p>N = Account is non-regulated</p> |
| DE 48, subelement 90 (Custom Payment Service Request [Visa field 62.1]) | M | • | M | <p>If the request qualifies for Visa CPS and is approved, refer to the Visa Base I Technical Specifications manual for a complete list of CPS-qualified codes in Visa field 62.1.</p> <p>If the original request does not qualify for CPS, Visa returns an "N" or "T" in the response.</p> |
| DE 48, subelement 91 (Visa Custom Payment Service Request/Transaction ID) | C | • | C | <p>Must be present if DE 48 subelement 90 is present. Contains one of the following response lengths:</p> <p>When length field is 04: Subelement 91 contains the Visa CPS validation code (Visa field 62.3, four bytes alphanumeric). Refer to the Visa Base I Technical Specifications manual for more information on Visa CPS validation codes.</p> <p>When length field is 15: Subelement 91 contains the transaction ID (Visa field 62.2, 15 bytes numeric).</p> <p>When length field is 19: Subelement 91 contains the transaction ID (Visa field 62.2, 15 byte numeric) and CPS validation code (Visa field 62.3, four bytes alphanumeric).</p> |

| Data Element | Org | Sys | Dst | Values/Comments |
|--|-----|-----|-----|---|
| DE 48, subelement 96 (Visa Market-Specific Data [Visa field 62.4]) | C | • | C | <p>Must be present if present in the original Authorization Request/0100 message.</p> <p>Contains response data for Visa market-specific data and must be one of the following values:</p> <p>A = Automobile rental</p> <p>H = Hotel rental</p> <p>N = Failed market-specific data edit</p> |

DE 48 Structure in a Visa Custom Payment Service Transaction

Following is the structure of DE 48 (Additional Data—Private Use) in a Visa Custom Payment Service transaction.

| LLL "VAR"—999 maximum bytes (TCC + Subelement (SE) data)... | | | | | | | |
|---|--------|------------------------------|--------------|---|----------|-------------------------------|---|
| 3 bytes | 1 byte | 2 bytes | 2 bytes | 1 byte | 2 bytes | 2 bytes | Variable |
| Total Data Element Length | TCC | First Subelement Data | | | | Second Subelement Data | |
| | | SE ID 90 | SE 90 Length | Authorization Characteristics Indicator | SE ID 91 | SE 91 Length | Transaction ID and/or CPS Validation Code |
| mandatory | | | | | | | |
| 1002 maximum bytes (LLL +TCC + Subelement Data)... | | | | | | | |

... "VAR"—999 maximum bytes (TCC + Subelement (SE) data)

| 2 bytes | 2 bytes | 1 byte | 2 bytes | 2 bytes | 1 byte |
|---|--------------|-------------------------|-------------------------------|--------------|--------------------------------|
| Third Subelement Data | | | Fourth Subelement Data | | |
| SE ID 96 | SE 96 Length | Market-specific Data ID | SE ID 97 | SE 97 Length | Prestigious Property Indicator |
| ...1002 maximum bytes (LLL +TCC + Subelement Data) | | | | | |

Visa Programs

Mastercard supports Visa transactions as described in this section.

Visa CVV2

Following are Visa CVV2 Authorization/01xx message layouts.

Authorization Request/0100—Visa CVV2

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 2 (Primary Account Number) | M | • | M | PAN begins with 4 indicating a Visa card. |
| DE 48, subelement 92 (CVV2 Data), subfield 1 (CVV2 Presence ID) | C | • | C | 0 = Merchant did not provide CVV2 or it was deliberately bypassed 1 = CVV2 value present 2 = CVV2 is on card, but not legible 9 = Cardholder states no CVV2 is on card |
| DE 48, subelement 92, subfield 2 (CVV2 Response Code) | C | • | C | 0 = Only the normal response code in DE 39 should be returned by the issuer 1 = The normal response code and CVV2 response code should be returned by the issuer |
| DE 48, subelement 92, subfield 3 (CVV2 Value) | C | • | C | CVV2 value; right-justified and blank-filled |

Authorization Request Response/0110—Visa CVV2

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|--------------------------------------|------------|------------|------------|---|
| DE 48, subelement 87 (CVV2 Response) | C | • | C | Contains one of the following CVV2 response codes: M = CVV2 match N = CVV2 no match P = Not processed S = CVV2 is on the card, but the Merchant has indicated that CVV2 is not present U = Issuer is not Visa-certified for CVV2, has not provided Visa encryption keys, or both |
| DE 48, subelement 92 (CVV2 Data) | CE | • | CE | Must be the same value as in the original Authorization/0100 message. |

Visa Fleet Card ID

Following are Visa Fleet Card ID Authorization/01xx message layouts.

Authorization Request/0100—Visa Fleet Card ID

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|--|
| DE 2 (Primary Account Number [PAN]) | M | • | M | PAN begins with 4 indicating a Visa card. |
| DE 48 (Additional Data—Private Use), subelement 93 (Fleet Card ID Request Data), subfield 1 (Fleet Card ID Request Indicator) | C | • | C | Contains request indicator value "\$" for Fleet Card. |
| DE 48, subelement 93, subfield 2 (Optional Free-form Informational Text) | C | • | C | Contains free-form information text. Additional Point-of-Service (POS) information. |

NOTE: The Authorization Platform does not forward DE 48, subelement 93 back to the acquirer in Authorization Request Response/0110 messages.

Visa Commercial Card Inquiry

Following are Visa Commercial Card Inquiry Authorization/01xx message layouts.

Authorization Request/0100—Visa Commercial Card Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request/0100 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|-----|-----|-----|---|
| DE 2 (Primary Account Number [PAN]) | M | • | M | PAN begins with 4 indicating a Visa card. |
| DE 48 (Additional Data—Private Use), subelement 94 (Commercial Card Inquiry Request), subfield 1 (Card Request Indicator) | C | • | C | !01 = Request indicator for Commercial Card |
| DE 48, subelement 94, subfield 2 (Merchant Request for Commercial Card Type) | C | • | C | 0 = Merchant request for Commercial Card type |

Authorization Request Response/0110—Visa Commercial Card Inquiry

Following is a list of the data elements and values applicable to this message type. All mandatory Authorization Request Response/0110 data elements apply.

| Data Element | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| DE 48 (Additional Data—Private Use), subelement 94 (Commercial Card Inquiry Request), subfield 1 (Card Request Indicator) | C | • | C | !01 = Request indicator for Commercial Card |
| DE 48, subelement 94, subfield 2 (Merchant Request for Commercial Card Type) | C | • | C | Contains one of the following values: 0 = Decline or not a Commercial Card B = Business Card R = Corporate Card S = Purchase Card |

Visa Token Processing

Mastercard has expanded the functionality of the Visa Gateway to support tokenization processing for partial shipments, recurring payments, and e-commerce mobile transactions for Visa-branded, dual-message authorization transactions submitted to the Mastercard Network.

These enhancements affect acquirers that use the Mastercard Network to submit Visa-branded dual-message authorization transactions.

Tokenized Recurring Payment Messages

Acquirers must be prepared to identify tokenized recurring payment transactions in Authorization Request/0100 and Reversal Request/0400 messages.

- Existing value 4 (Standing order/recurring transactions) in DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence)
- Presence of DE 48 (Additional Data—Private Use), subelement 43 (Secure Electronic Commerce Verification Service) containing the partial shipment verbiage as follows: PARTIALbSHIPMENTbbbbbbbbbbb or PARTIALSHIPMENT00000000000000 where b represents a space. This field contains 28 positions.
- Existing values 2 (Channel) in position 1 (Security Protocol), 1 (Cardholder certificate not used) in position 2 (Cardholder Authentication), and 0 (UCAF data collection is not supported by the merchant or a SecureCode merchant has chosen not to undertake SecureCode on this transaction) in position 3 (UCAF Collection Indicator) in DE 48 (Additional Data—Private Use), subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator)
- Existing value 81 (PAN manual entry via e-commerce) in DE 22 (Point-of-Service Entry Mode), subfield 1 (POS Terminal PAN Entry Mode)

Tokenized Partial Shipment Messages

Acquirers must be prepared to identify tokenized partial shipment transactions in Authorization Request/0100 and Reversal Request/0400 messages whose original transaction was token-based with a valid cryptogram. Cryptographic data from the original transaction must be resent in Authorization Request/0100 messages for partial shipments, but is not required in Reversal Request/0400 messages.

- Existing value 5 (Electronic order [home PC, Internet, mobile phone, PDA]) in DE 61 (Point-of-Service [POS] Data), subfield 4 (POS Cardholder Presence)
- Presence of DE 48, subelement 43 containing the cryptographic data from the original transaction
- Existing values 2 (Channel) in position 1 (Security Protocol), 1 (Cardholder certificate not used) in position 2 (Cardholder Authentication), and 2 (UCAF data collection is supported by the merchant, and UCAF data must be present [DE 48, subelement 43 must contain a fully authenticated AAV]) in position 3 (UCAF Collection Indicator) in DE 48 (Additional Data—Private Use), subelement 42 (Electronic Commerce Indicators), subfield 1 (Electronic Commerce Security Level Indicator and UCAF Collection Indicator)
- Existing value 81 (PAN manual entry via e-commerce) in DE 22 (Point-of-Service Entry Mode), subfield 1 (POS Terminal PAN Entry Mode)

NOTE: DE 48, subelement 43 is not required in Reversal Request/0400 messages for partial shipments.

Tokenized E-Commerce with Mobile Device Messages

Acquirers must be prepared to receive the tokenized e-commerce with mobile device transaction identifier in Authorization Request Response/0110 and Reversal Request Response/0410 messages.

- Value B (Tokenized e-commerce with mobile device) in DE 48, subelement 90 (Custom Payment Service Request Response [Visa Only])

Authorization Request/0100—Visa Token Request

Following is a list of the data elements and values applicable to the Authorization Request/0100 message type for token requests for Visa primary account numbers. All mandatory Authorization Request/0100 data elements apply except where noted.

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---------------------------------|------------|------------|------------|--|
| 2 Primary Account Number | M | • | M | Cardholder's primary account number |
| 3 Processing Code | M | • | M | 00 = Purchase |
| 4 Amount, Transaction) | M | • | M | Must be zero |
| 14 Date, Expiration | M | • | M | Cardholder's primary account expiration date |

| Data Element ID and Name | Org | Sys | Dst | Values/Comments |
|---|------------|------------|------------|---|
| 48 Transaction Category Code | M | • | M | Contains the appropriate Transaction Category Code (TCC). |
| 48 Additional Data—Private Use, subelement 33 (PAN Mapping File Information) | M | • | M | This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present. Only subfield 6 is required. Subfield 6 (Token Requestor ID) = The ID assigned by the Visa Token Vault to the Token Requestor. |
| 48 Additional Data—Private Use, subelement 42 (Electronic Commerce Indicators) | C | • | C | Contains the electronic commerce security level indicator and UCAF collection indicator data in subfield 1 that consists of a valid combination of positions 1, 2, and 3. |
| 48 Additional Data—Private Use, subelement 43—3-D Secure Electronic Commerce Verification Service | C | • | C | Position 1 = 8 (Non-Mastercard 3-D Secure Electronic Commerce transaction [Visa, JCB, Diners Club, or American Express]) Position 2-21 (3-D Secure Electronic Commerce Cardholder Authentication Verification Value [CAVV]) |
| 48 Additional Data—Private Use, subelement 82 (Address Verification Service Request) | M | • | M | 52 = AVS and Authorization Request/0100 |
| 48 Additional Data—Private Use, subelement 92 (CVV2 Data [Visa Only]) | C | • | C | CVV2 value from the signature panel of the card when applicable. |
| 61 Point-of-Service [POS] Data, subfield 7 (POS Transaction Status) | M | • | M | 8 = Account Status Inquiry |
| 120 Record Data | M | • | M | The cardholder's billing address |

Authorization Request Response/0110—Visa Token Request Response

Following is a list of the data elements and values applicable to the Authorization Request Response/0110 message for responses to Visa token requests. All mandatory Authorization Request Response/0110 data elements apply except where noted.

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| 2 Primary Account Number | ME | • | ME | Cardholder's primary account number. |
| 3 Processing Code | ME | • | ME | 00 = Purchase |
| 4 Amount, Transaction | CE | X | M | Must be zero. |
| 39 Response Code | M | • | M | Contains the applicable response code. |
| 48 Additional Data—Private Use, subelement 33 (PAN Mapping File Information) | C | • | C | <p>This is a Tag-Length-Value field. The tags in the subelement will indicate which subfields are present.</p> <ul style="list-style-type: none"> • Subfield 1 (Account Number Indicator) = C (Mastercard Digital Enablement Service Device Account Number) • Subfield 2 (Account Number) = Token • Subfield 5 (Token Assurance Level) = Value between 00 and 99 indicating the Token Assurance Level assigned by the Visa Token Vault. • Subfield 6 (Token Requestor ID) |
| NOTE: The Visa token expiration date will be the same as the expiration date of the primary account number. | | | | |
| 48 Additional Data—Private Use, subelement 45—3-D Secure Electronic Commerce Transactions Response Code | C | • | C | The Visa Cardholder Authentication Verification Value (CAVV) results code. |
| 48 Additional Data—Private Use, subelement 82 (Address Verification Service) | CE | • | CE | 52 = AVS and Authorization Request/0100 |
| 48 (Additional Data—Private Use), subelement 83 (Address Verification Service Response) | C | • | C | The AVS verification response code. |
| 48 Additional Data—Private Use, subelement 87 (CVV2 Response [Visa Only]) | C | • | C | The CVV2 response. |

| Data Element and Name | Org | Sys | Dst | Values/Comments |
|--|------------|------------|------------|---|
| 120 Record Data, subfield 01 (AVS Service Indicator 1) | C | X | C | Must be the same value as in the original Authorization Request/0100 message, if present. |

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