**ÆON Specialized Bank (Cambodia) Plc.**

MasterCard Issuing-Requirement Definition

Version 0.04

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# OVERVIEW

ÆON Credit Service Cambodia issues credit cards using Visa brand. To further extend the usability of its cards, ASBKH will also introduce MasterCard as one of the options in credit card application.

# ABBREVIATIONS

This section identifies the abbreviations found and used in the document.

| **Abbreviation** | **Description** |
| --- | --- |
| ASBKH | ÆON Specialized Bank (Cambodia) Plc. |
| ACSS | ÆON Credit Service Systems (Philippines) Inc. |
| EDC/POS | Electronic Data Capture/Point-of-Sale |
| FEP | Front-End Processing |
| MIP | MasterCard Interface Processor |

# TERMS AND DEFINITION

| **Abbreviation** | **Description** |
| --- | --- |
| Acquirer | An acquirer (or [acquiring bank](http://en.wikipedia.org/wiki/Acquiring_bank)) is a member of a card scheme(s), for example [MasterCard](http://en.wikipedia.org/wiki/MasterCard) and/or [Visa](http://en.wikipedia.org/wiki/Visa_Inc.), which maintains merchant relationships and receives all bankcard transactions from the merchant. |
| EDC/POS | A terminal that reads the information encoded in the magnetic stripe of Cards. These terminals electronically Authorize and Capture transaction data, eliminating the need for a paper deposit. |
| FEP | It is an automated system communicating with Card Brand Networks (Visa, MasterCard, JCB, Amex, CUP) using ISO 8583 Message Format for Credit Card Transaction. It acts as the bridge between the Network and the Host, HSM, ACE, and other Subsystems to complete the authorization of transaction. |
| HOST | The Credit Card System application that runs on an IBM AS400 or I-series server. It services the core operations of credit cards. The HOST manages database, maintains customer accounts, processes settlement and supports routine credit card operation and maintenance activities. |
| Issuer | The financial institution that establishes an account for a Cardholder and issues the credit card. The issuer guarantees payment for authorized transactions using the payment card in accordance with payment card brand regulations and local legislation. |
| MIP | A mid-range CPU that accesses the member gateway to the MasterCard network. The sending member captures data and transmits it to GCMS at Central Site. |

# PURPOSE

This document defines the business, operational and high-level functional requirements of ÆON Credit Service Cambodia, or known as ASBKH for MasterCard Issuing. It shall be used as the basis for the following activities:

* Customization of solution designs for MasterCard Issuing
* Development of test plans, test scripts, and test cases
* Scope and coverage of the project completion

# SCOPE

## In Scope

This document covers the base functional requirements of the MasterCard Issuing to be implemented in ASBKH.

## Out of Scope

ACSS will be responsible in recommending the server hardware, operating system and configuration needed in the proposed system.

The following are considered as out of scope and be handled by ASBKH:

* Hardware/Server Procurement
* Operating System Installation
* Network Configuration

# SOLUTION

## Overview

The main functionality of the system to be implemented is MasterCard Issuing – Sales Authorization and Settlement.

## Functional Requirements

### FR001 Card Issue

The function that creates the credit card account, register into the Host’s database, produce the plastic card and activate the card’s information to be ready for actual sales transaction.

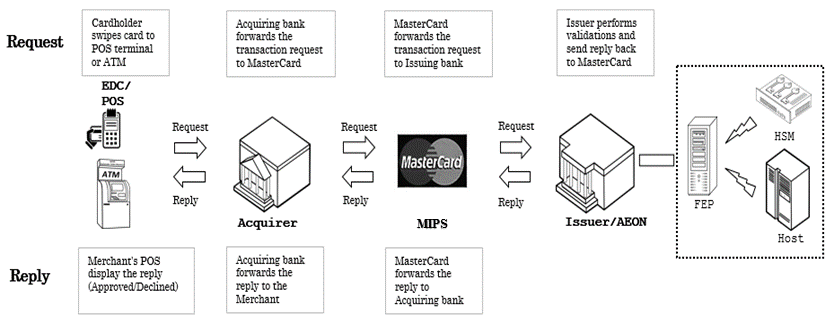
MasterCard will utilize the same functions used by Visa such as:

|  |  |
| --- | --- |
| **Member Closing (Judgment Interface)** | Allows user to validate the Judgment interface record, to create the new credit card account and to populate the customer database. Also to create and update customer demographic and financial information. |
| **Judgment Interface (Re-process)** | Allows user to re-process the Judgment interface record, if previously the user did not confirm processing during Member Closing (Judgment Interface). |
| **Create Emboss Data** | Allows user to trigger embossing or production of card plastics for newly-approved applications or for re-issued cards. |
| **Confirm Card Delivery** | Allows user to set the status of cards as 'delivered' from Card Embossing Company; also to set the card status as 'received' by the customer. |
| **Card Activation** | Allows user to set the card status to 'activated'. This is required before a card can be used for retail purchase or cash advance. |
| **Card Activation Report** | Allows user to provide a summary of all members that have been activated within the specified date range. |
| **Print PIN Letter** | Allows user to generate a checklist of PIN letters to be produced for the day and to manually trigger PIN generation. |
| **PIN Reissue** | Allows user to reissue PIN to cardholders upon their request. |
| **Card Reissue** | Allows user to reissue the card plastic. |

### FR002 Authorization

The process that enables the system to perform validations and authorization of a credit purchase or cash advance transactions. Reply will be sent back to the acquirer regardless if it is Approved or Declined.

*Process Diagram*



**Figure 1 MasterCard Authorization Flow**

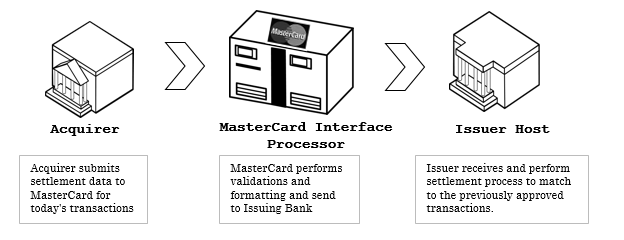
MasterCard will utilize the same functions used by Visa such as:

|  |  |
| --- | --- |
| **MasterCard Issuing Credit Purchase Authorization** | Provides the final approval to a credit purchase authorization for a MasterCard credit card. |
| **MasterCard Issuing Credit Purchase Stand-In Authorization** | Receives and logs a credit purchase approved or declined by MasterCard or by FEP (on a MasterCard) processed in stand-in mode. |
| **MasterCard Issuing Cash Advance Authorization** | Provides the final approval to a cash advance authorization for a MasterCard credit card. |
| **MasterCard Issuing Cash Advance Stand-In Authorization** | Receives and logs a cash advance approved or declined by MasterCard or by FEP (on a MasterCard) processed in stand-in mode. |
| **Manual Authorization for Credit Purchase** | Obtains an authorization for a credit purchase manually (usually for phone-in requests). |

Message format used by Visa will also be utilized for MasterCard.

### FR003 Clearing/Settlement

As a whole, it is the process of exchanging clearing data between acquirer and issuer through MasterCard network. In Host, Settlement involves the processing of presentments to match the previously approved transactions and post to cardholder’s account for Statement Generation.

*Process Diagram*

**Figure 2: MasterCard Settlement Flow**

This function also covers the upload of Chargeback, Retrieval Request and Fee Collection for the processing of settlement of funds.

|  |  |
| --- | --- |
| **MasterCard File Express Interface** | Prepares the settlement file to be uploaded/downloaded to/from MasterCard File Express. |
| **MasterCard Settlement Process** | Involves processing the received MasterCard Incoming File in the previous step, which now has been reformatted into the Credit Card System Sales format. |
| **MasterCard Matching Process** | Involves matching of MasterCard Settlement records with previously received Authorization records. |
| **MasterCard Chargeback Maintenance** | Charges back a MasterCard Settlement transaction to the acquirer after determining that the transaction is invalid. |
| **MasterCard Presentment Inquiry** | Allows to view all MasterCard Incoming Presentment details. |
| **MasterCard Retrieval Request Maintenance** | Allows a user to perform retrieval requests for Sales Drafts for MasterCard transactions. |
| **MasterCard Fee Collection Maintenance** | Fee collection messages are IPM messages used for the collection or disbursement of fees that require funds settlement between various payment parties. These messages include fees generated between pairs of members and fees generated between MasterCard and members. |

### FR004 MasterCard Card Stop

Card Stop also known as File Issuer Update and Negative File is a module in Host that initiates the request to update the negative card status to MasterCard through FEP system. ASBKH will use two MasterCard files to be updated – Electronic Warning Bulletin File(MCC103) and Stand-In Account File(MCC102).

### Card Stop Pick-Up

The Electronic Warning Bulletin File (MCC103) allows issuers to define specific accounts for special handling, such as exception accounts that should be declined when listed in the Electronic Warning Bulletin (EWB). Cards that listed in this file will not be authorized to sales transactions. This file contains list of cards due to lost, stolen, fraudulent accounts, which are distributed daily to all acquirers in MasterCard Account Management System.

See Appendix 7.2 for MasterCard Card Stop Pick-Up Message Format.

### Card Stop Stand-In

The Stand-In Account File (MCC102) provides information about negative accounts, restricted accounts, and preferred (Premium Listing) accounts for Stand-In processing to use when making an authorization decision on behalf of the issuer.

See Appendix 7.3 for MasterCard Card Stop Stand-In Message Format.

### FR006 MasterCard Card Maintenance

This function allows the setting and maintenance of various parameters of the MasterCard Card.

The following are parameters that can be set for MasterCard Issuing:

### MasterCard Card Maintenance

|  |  |
| --- | --- |
| **MasterCard Business Codes** | Enables the system to set different MasterCard card types. (Example: Gold / Classic Cards) |
| **MasterCard Interest Rates** | Enables the system to set Interest Rates per MasterCard Card types. |
| **MasterCard Expiry Date** | Enables the system to set the no. of years before each new, reissued or renewed MasterCard card type expires. |
| **MasterCard Supplementary Card Control** | Enables the system to set the no. of supplementary cards allowed for each Principal MasterCard card type. |
| **MasterCard Over limit Control** | Enables the system to set how the allowable over limit amount for each MasterCard card type is calculated. |
| **MasterCard Credit Limits** | Enables the system to set the credit limit schemes for each MasterCard card type. |
| **MasterCard Fees and Charges Maintenance** | Enables the system to set the allowable fees and charges for each MasterCard card type. This function also defines the order how each fee and charges are paid during Payment Allocation. |

## Non Functional Requirements

### Interface Requirements

**NFR001 User Interface**

The user interface requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR002 Hardware Interface**

The hardware interface requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR003 Software Interface**

The software interface requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR004 Communication Interface**

The Communication Interface requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

### System Performance Interface

**NFR005 Usability**

Minimal training shall be required for the user to familiarize with the system since the system is integrated in the existing Credit Card System that is usable to a user who is familiar with it.

The system shall be user friendly and menus shall be self-explanatory.

**NFR006 Reliability**

The reliability requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR007 Performance**

The performance requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR008 Supportability**

There are no applicable supportability requirements.

**NFR009 Safety Requirement**

There are no applicable supportability requirements.

**NFR010 Security Requirement**

The security requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR011 User Manual**

The System Operation and User Manual (SOUM) shall contain the detailed step by step instruction for executing tasks and, if any, explanation on the dependencies on how a particular action can be successfully completed. Screenshots and annotations are provided for a better understanding by the users.

Soft copies of the System Operation and User Manual (SOUM) shall be made available to the users.

**NFR012 Online Help**

There are no applicable online help requirements.

**NFR013 Installation Guides, Configuration, Readme Files**

Deployment of the new system will be conducted solely by the ACSS team.

Configurations shall be done after the ACSS team deployed the system.

Readme files are not applicable to the MasterCard Issuing, since all documentation are incorporated in the System Operation and User Manual.

**NFR014 Labeling and Packaging**

There are no applicable labeling and packaging requirements.

**NFR015 Purchased Components**

There are no applicable purchased components requirements.

**NFR016 Licensing**

The licensing requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR017 Legal, Copyright and Other Notices**

The legal, copyright and other notices requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR018 Applicable Standards**

There are no applicable standards requirements.

**NFR019 Support and Maintenance**

The support and maintenance requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

**NFR020 Training**

ACSS shall conduct user trainings to Customer Service, Risk Management and MIS department staffs, and other personnel deemed necessary by ASBKH.

**NFR021 Design Constraints**

The design constraints requirements of the Credit Card System shall be applicable to the MasterCard Issuing.

## Assumptions and Dependencies

MasterCard Issuing shall be based on the proposed implementation of ACSS for ASBKH. Layout and user interface objects may be different from the captured screens.

MasterCom will be used by ASBKH to send/receive documentation of disputed transaction.

# APPENDICES

## Authorization Message Format

| **Field Name** | **Field Format (Type, Length)** |
| --- | --- |
| Header Indicator | Character, 3 |
| Message Data Length | Character, 4 |
| Port Indicator | Character, 2 |
| Request/Response Indicator | Character, 1 |
| Source ID | Character, 3 |
| Destination ID | Character, 3 |
| Message Processing Date/Time | Character, 14 |
| Message Processing Number | Character, 7 |
| Original Message Processing Date | Character, 14 |
| Original Message Processing No. | Character, 7 |
| Authorization Judgment Vision | Character, 1 |
| FEP Event Code | Character, 4 |
| Host Result Code | Character, 4 |
| Reserve | Character, 33 |
| Data Indicator | Character, 3 |
| FEP Data Length | Character, 4 |
| Transaction Code | Character, 6 |
| Reversal Advice Flag | Character, 1 |
| Original Transaction Code | Character, 6 |
| Standing Result | Character, 5 |
| ACE Referral Code | Character, 2 |
| ACE Reply Code | Character, 4 |
| ACE Reply Risk Code | Character, 4 |
| Card Member Indicator | Character, 1 |
| Stripe/Manual | Character, 1 |
| Track Indicator | Character, 1 |
| PIN Check Result | Character, 1 |
| CVV/CVC Indicator | Character, 1 |
| CVV/CVC Check Result | Character, 2 |
| IC Indicator | Character, 1 |
| IC Fall Back Indicator | Character, 1 |
| IC Data Check Result | Character, 30 |
| 3D Secure Indicator | Character, 1 |
| 3D Secure Check Result | Character, 1 |
| Partial Reversal Indicator | Character, 1 |
| Reserve | Character, 23 |
| Data Indicator | Character, 3 |
| Common Data Length | Character, 4 |
| PAN | Numeric, 19,0 |
| Processing Code | Character, 6 |
| Transaction Amount | Numeric, 12,2 |
| Settlement Amount | Numeric, 12,2 |
| Cardholder Billing Amount | Numeric, 12,2 |
| Transaction Date | Character, 8 |
| Transaction Time | Character, 6 |
| System Trace Audit Number | Character, 6 |
| Local Transaction Time | Character, 6 |
| Local Transaction Date | Character, 4 |
| Expiration Date | Character, 4 |
| Settlement Date | Character, 4 |
| Merchant Category Code | Character, 4 |
| Acquiring Institution Country Code | Character, 3 |
| Card Sequence Number | Character, 3 |
| POS Condition Code | Character, 2 |
| Acquiring Institution ID Code | Character, 11 |
| Forwarding Institution ID Code | Character, 11 |
| Track 2 Data | Character, 37 |
| Retrieval Ref Number | Character, 12 |
| Authorization ID Response | Character,6 |
| Response Code | Character,2 |
| Card Acceptor Terminal ID | Character,8 |
| Card Acceptor Identification Code | Character,15 |
| Card Acceptor Name and Location | Character,40 |
| Track 1 Data | Character,76 |
| Transaction Currency Code | Character,3 |
| Settlement Currency Code | Character,3 |
| Org. Sys. Trace No | Character,6 |
| PIN Value | Character, 8 |
| Remaining PIN Try | Character, 2 |
| Response Text | Character, 40 |
| Replacement Cardholder Billing Amount | Numeric, 12,2 |
| Replacement Acquirer Amt | Numeric, 12,2 |
| Transaction Fee Acquirer Amount | Numeric, 12,2 |
| Replacement Acquirer Amt | Numeric, 12,2 |
| Reserve | Character, 4 |
| Cardholder ID Number | Character, 20 |
| Cardholder Birth Date | Character, 8 |
| Installment Merchant ID | Character, 15 |
| Installment Transaction Ind | Character, 1 |
| Installment Response Code | Character, 2 |
| Period Number | Character, 2 |
| Downpayment | Character, 8 |
| Installment Payments | Character, 8 |
| Formality Fee | Character, 6 |
| Redemption Merchant ID | Character, 15 |
| Loyalty Transaction Ind | Character, 1 |
| Loyalty Response Code | Character, 2 |
| Points of Redemption | Character, 8 |
| Sign Points of Balance | Character, 1 |
| Points Balance | Character, 8 |
| Paid Credit Amount | Character, 10 |
| Recurring Transaction Flag | Character, 1 |
| Filler | Character, 100 |
| Data Indicator | Character, 3 |
| Original Data Length | Character, 4 |
| Message Type | Character, 4 |
| Transaction Type | Character, 2 |
| Conversion Rate | Character, 8 |
| POS Entry Mode | Character, 3 |
| POS Capture Code | Character, 2 |
| Add Response Data | Character, 2 |
| Payment Tran Type | Character, 3 |
| Member Defined Data | Character, 199 |
| Advice Reason Code | Character, 60 |
| POS Info Data | Character, 26 |
| Network Data | Character, 50 |
| Original Data Elements | Character, 42 |

Please refer to *Customer Interface Specification July 2017.pdf* manual for the detailed explanation of each field.

## MasterCard Card Stop Pick-Up

| **Field Name** | **Field Format (Type, Length)** | **Description** |
| --- | --- | --- |
| Header | Character, 100 | Contains Message length, Port Indicator, Req/Response Indicator, Source ID, Destination ID, Message Processing Date/Time, Process No., Org Message Date, Org Message No, Authorization, FEP Event Code, Host Result Code |
| Transaction Code | Character, 6 | Defines the message’s transaction type  Add = 051301  Change = 051302  Delete = 051303  Inquiry = 051304 |
| Primary Account No. | Character, 19 | Card Number |
| Transmission Date | Character, 10 | Current Date |
| Forwarding Institution Code | Character, 11 | Blank |
| Response Code | Character, 2 | Blank |
| Network Data | Character, 50 | Blank |
| Additional Response Data | Character, 25 | Blank |
| File Update Code | Character, 1 | 1 = Add  2 = Change  3 = Delete  5 = Inquire |
| Message Security Code | Character, 8 | Unique code for ACSKH provided by MasterCard  Value = 00016767 |
| File Name | Character, 6 | MCC103 |
| Record Data | Character, 66 | Consists of card details such as Card No., Reason Code, Date/Time, Accumulative Limit, Limit Currency Code, Purge Date, and Expiration Date |
| Filler | Character, 256 |  |
| Filler | Character, 256 |  |
| Filler | Character, 256 |  |
| Filler | Character, 175 |  |
| End of Data | Character, 3 | String “END” |

## MasterCard Card Stop Stand-In

| **Field Name** | **Field Format (Type, Length)** | **Description** |
| --- | --- | --- |
| Header | Character, 100 | Contains Message length, Port Indicator, Req/Response Indicator, Source ID, Destination ID, Message Processing Date/Time, Process No., Org Message Date, Org Message No, Authorization, FEP Event Code, Host Result Code |
| Transaction Code | Character, 6 | Defines the message’s transaction type  Add = 051301  Change = 051302  Delete = 051303  Inquiry = 051304 |
| Primary Account No. | Character, 19 | Card Number |
| Transmission Date | Character, 10 | Current Date |
| Forwarding Institution Code | Character, 11 | Blank |
| Response Code | Character, 2 | Blank |
| Network Data | Character, 50 | Blank |
| Additional Response Data | Character, 25 | Blank |
| File Update Code | Character, 1 | 1 = Add  2 = Change  3 = Delete  5 = Inquire |
| Message Security Code | Character, 8 | Unique code for ACSKH provided by MasterCard  Value = 00016767 |
| File Name | Character, 6 | MCC102 |
| Record Data | Character, 66 | Consists of card details such as Card No., Reason Code, Date/Time, Accumulative Limit, Limit Currency Code, Purge Date, and Expiration Date |
| Filler | Character, 256 |  |
| Filler | Character, 256 |  |
| Filler | Character, 256 |  |
| Filler | Character, 175 |  |
| End of Data | Character, 3 | String “END” |

# APPROVAL

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| **Prepared by :** | |  | | |  | | |  | | |
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# REVISION HISTORY

|  |  |  |  |
| --- | --- | --- | --- |
| Version No. | Description | Prepared by | Date Effective |
| 0.04 | - Removed functions for Bulk File Maintenance and System Setup for uploading/downloading of settlement files. Added a function for MasterCard File Express interface.  - Added definition for MasterCom  - Changed ACSKH to ASBKH | ACSS-Faylenne Jaurigue | 08/04/2017 |
| 0.03 | -Added FR006 MasterCard Card Maintenance Section  -Added 6.4.1.2 and 6.4.1.3 in 6.4 Assumptions and Dependencies | ACSS | 07/03/2017 |
| 0.01 | Initial Draft | ACSS | 06/14/2017 |