# Code Connect





# **GRP - TRANSACTION HISTORY - V3**

Version: 3.0.0

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#### GRP - TRANSACTION HISTORY - V3 API

The Transaction History API allows a digital channel to search for transactions for a card along with getting the details for the transaction based on Primary Key. Use this API to:

- Search Transactions
- Get Transaction Details

There are multiple endpoints available for this API, and this document describes them in detail:

- /transactions/search
- /transactions/detail

#### Platform Supported:

Debit

#### API Base Path:

https://payments-api-uat.fisglobal.com/api/cardmgmt/transaction-history/v3/transactions/search

https://payments-api-uat.fisglobal.com/api/cardmgmt/transaction-history/v3/transactions/detail

#### **API** Details

Functionality	Get transaction history for the specified Card
Context/Resource	/transactions/search
Http Method	POST



Scope	This operation returns the transactions history for the
	card.

Functionality	Get transaction details of a transaction				
Context/Resource	/transactions/detail				
Http Method	POST				
Scope	This operation returns the transaction details of the transaction requested. Not applicable for credit transaction.				

## Header/Query Parameters for API

Input Param	REQ*	Description
uuid	R	Unique identifier for the request. This will be echoed back in response.
Authorization	R	OAuth token

REQ\* = Required Fields: {R - Value is required, O - Value is optional, C - Conditionally Required}

### Request Parameters for /transactions/search

Input Param	Data Type	REQ*	Description
pan	object	R	Primary account number aka Card number aka Card account number. Refer: <u>PAN</u>
maxRows	integer	0	Maximum number of results expected. Maximum 50.
startDate	string	0	Start date of the date range for which the transactions need to be retrieved. Expected format - YYYYMMDD
endDate	string	0	End date of the date range for which the transactions need to be retrieved. Expected format - YYYYMMDD
primaryKey	string	0	This field will be used in the request to fetch the next set of transactions. Use the last primaryKey value from previous response into next request.

REQ\* = Required Fields: {R - Value is required, O - Value is optional, C - Conditionally Required}



```
Sample Request:
{
    "pan": {
        "plainText": "1616100920009010",
        "cipherText": "",
        "alias": ""
        },
        "maxRows": 10,
        "startDate": "20190101",
        "endDate": "20190131",
        "primaryKey": "2020041005595373:499"
    }
}
```

#### Response Parameters for /transactions/search

On submitting the input parameters, transactions matching the search criteria for the card are returned.

Output Param	Data Type	Description
entity	object	Refer: TransactionSearchEntity
metadata	object	Refer: Metadata

#### Pagination in /transactions/search

Some search query cannot return complete set of transactions for the search criteria in a single query. In such case use the pagination functionality in this API. If there are more transaction records than currently fetched, the API will return a return code as 1 and return text as "success-maximum rows returned ". Can fetch next set of transaction records by initiating another query using the last primary key from the previous response as primary Key in the next request. If the query returned all the transaction records, the return code and return text will be 0 and "successful end of result set" respectively.

### Sample Responses



```
"currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"primaryKey": "2020060307380282:1",
"transactionDateTime": "2020060307380282",
"accountNumber": "1616100920009040",
"transactionAmount": {
 "amount": "140.00",
 "currency": {
  "description": "Euro",
  "hostDescription": "EUR",
  "hostValue": "978"
"issuerImpact": "1",
"transactionDisposition": "2",
"retrievalReferenceNumber": "720022414834",
"issuerInstitution": "840254029",
"merchantCategoryCode": "6011",
"acquirerTerminal": "IN1661",
"surcharge": {
 "amount": "0.00",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
 "hostValue": "840"
"posCardReadingMethod": "2",
"posCardReadingCapability": "2",
```



```
"serviceCode": "101",
"systemTraceAuditNumber": "008270",
"authorizedBy": "N",
"CVV": "N",
"acquirerAmount": {
 "amount": "0.00",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"acquirerCountryCode": "724",
"cardAcceptorID": "CRD ACCEPTOR ID",
"issuerAccountTypes": "2000",
"issuerAmount": {
 "amount": "0.00",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"merchantAddress": "11900 WEST STREET",
"merchantCity": "MILWUAKEE",
"merchantCountryCode": "ESP",
"merchantName": "GSAT",
"merchantPostalCode": "53222",
"merchantType": "6011",
"posCardCaptureCapability": "0",
"posCardholderAuthenticationEntity": "0",
"posCardholderPresent": "0",
"posCardholderVerificationCapability": "1",
```



```
"posCardholderVerificationMethod": "0",
"posCardPresent": "1",
"posEnvironment": "2",
"posMagneticStripeRewriteCapability": "0",\\
"posPinInputLengthCapability": "C",
"posTerminalOutputCapability": "0"
"localDateTime": "20200603180814",
"transactionType": "0020002000",
"actionCode": "005",
"reconciliationAmount": {
 "amount": "76.0",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"primaryKey": "2020060307381474:1",
"transactionDateTime": "2020060307381474",
"accountNumber": "1616100920009040",
"transactionAmount": {
 "amount": "10.00",
 "currency": {
  "description": "Indian Rupee",
  "hostDescription": "INR",
 "hostValue": "356"
"issuerImpact": "1",
"transactionDisposition": "1",
"retrievalReferenceNumber": "720022414833",
```



```
"issuerInstitution": "840254029",
"merchantCategoryCode": "5211",
"acquirerTerminal": "IN1661",
"surcharge": {
 "amount": "6.00",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"posCardReadingMethod": "2",
"posCardReadingCapability": "2",
"authCode": "000128",
"account1": "5467000162159",
"serviceCode": "101",
"systemTraceAuditNumber": "008271",
"authorizedBy": "S",
"CVV": "N",
"acquirerAmount": {
 "amount": "70.00",
 "currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
  "hostValue": "840"
"acquirerCountryCode": "356",
"cardAcceptorID": "CRD ACCEPTOR ID",
"issuerAccountTypes": "2000",
"issuerAmount": {
 "amount": "70.00",
 "currency": {
```



```
"description": "US Dollar",
     "hostDescription": "USD",
     "hostValue": "840"
   "merchantAddress": "2000 NORTH DRIVE",
   "merchantCity": "MUMBAI",
   "merchantCountryCode": "IND",
   "merchantName": "TATA",
   "merchantType": "5211",
   "posCardCaptureCapability": "0",
   "posCardholderAuthenticationEntity": "0",
   "posCardholderPresent": "0",
   "posCardholderVerificationCapability": "1",\\
   "posCardholderVerificationMethod": "0",
   "posCardPresent": "1",
   "posEnvironment": "1",
   "posMagneticStripeRewriteCapability": "0",
   "posPinInputLengthCapability": "1",
   "posTerminalOutputCapability": "0"
"transactionsCount": 2,
"returnCode": "1",
"returnText": "success-maximum rows returned"
"metadata": {
"msgLst": [
   "code": "00",
  "text": "SUCCESS"
```



```
}
}
```

```
Http Status - 400

{
   "metadata": {
    "msgLst": [
    {
        "code": "10",
        "text": "Invalid card number"
    }
    }
}
```



#### Request Parameters for /transactions/detail

Input Param	Data Type	REQ*	Description
pan	object	R	Primary account number aka Card number aka Card account number. Refer: <u>PAN</u>
primaryKey	string	R	Unique identifier associated with the transaction for which the details are requested.

REQ\* = Required Fields: {R - Value is required, O - Value is optional, C - Conditionally Required}

```
Sample Request:
{
   "pan": {
     "plainText": "1616100920009010",
     "cipherText": "",
     "alias": ""
   },
   "primaryKey": "2020040606355795:1"
}
```

#### Response Parameters for /transaction/detail

On submitting the input parameters, all fields for the transaction that are populated in Data Navigator are returned.

Output Param	Data Type	Description
entity	object	Refer: TransactionDetailEntity
metadata	object	Refer: Metadata

## Sample Responses

```
Http Status - 200

{
    "entity": {
        "transactionDetail": {
            "localDateTime": "20200406170557",
            "transactionType": "0900002000",
            "cardAcceptorTerminal": "TERM4141",
            "acquirerBank": "000000518",
```



```
"actionCode": "000",
"functionCode": "200",
"reconciliationAmount": {
"amount": "25.00",
"currency": {
 "description": "US Dollar",
  "hostDescription": "USD",
 "hostValue": "840"
"primaryKey": "2020040606355795:1",
"transactionDateTime": "2020040606355795",
"acquirerBusiness": "01016610",
"accountNumber": "1616100920009040",
"financialType": "010",
"transactionAmount": {
"amount": "25.00",
"currency": {
 "description": "US Dollar",
 "hostDescription": "USD",
 "hostValue": "840"
"issuerImpact": "1",
"transactionDisposition": "1",
"retrievalReferenceNumber": "328212339837",
"acquirerEntity": "930110934",
"issuerBank": "VERRENCY RO",
"merchantCategoryCode": "5541",
"acquirerTerminal": "IN1661",
"posCardReadingMethod": "2",
"dateSettlement": "20200406",
"posCardReadingCapability": "2",
```



```
"authCode": "300075",
"account1": "5467000162159",
"account2": "51040002659",
"pinResult": "0",
"serviceCode": "101",
"originalTransactionAmount": {
"amount": "0.00",
"currency": {
 "description": "US Dollar",
 "hostDescription": "USD",
 "hostValue": "840"
"systemTraceAuditNumber": "007988",
"terminalClass": "02",
"authorizedBy": "I",
"availableBalance": {
"amount": "1825.02",
"currency": {
 "description": "US Dollar",
 "hostDescription": "USD",
 "hostValue": "840"
"CVV": "N",
"acquirerProcessor": "INT166",
"issuerProcessor": "PRC005",
"accountNumberPrefix": "161610",
"accountNumberSuffix": "9040",
"acquirerAmount": {
"amount": "25.00",
"currency": {
  "description": "US Dollar",
```



```
"hostDescription": "USD",
 "hostValue": "840"
"acquirerCountryCode": "840",
"acquirerDate": "20200406",
"acquirerGroup": "FISB",
"acquirerImpact": "2",
"acquirerLink": "INT166",
"authorizationLifeCycleCode": "0",
"cardAcceptorID": "CRD ACCEPTOR ID",
"cardholderBillingAmount": {
"amount": "25.00",
"currency": {
 "description": "US Dollar",
 "hostDescription": "USD",
 "hostValue": "840"
"cardOwner": "01",
"cardType": "1",
"cashbackAmount": {
"amount": "-10.00",
"currency": {
 "description": "US Dollar",
 "hostDescription": "USD",
 "hostValue": "840"
"conversionRateAcquirer": "1",
"conversionRateCardholderBilling": "1",
"conversionRateIssuer": "1",
"conversionRateNet": "1",
```



```
"dateAction": "20",
"deviceTypeChannel": "02",
"issuerAccountTypes": "1000",
"issuerAmount": {
"amount": "25.00",
"currency": {
  "description": "US Dollar",
  "hostDescription": "USD",
 "hostValue": "840"
"issuerDate": "20200406",
"issuerEntity": "840254029",
"issuerGroup": "FISB",
"issuerLink": "PRC005",
"ledgerBalance": "182502",
"merchantAddress": "11900 WEST STREET",
"merchantCity": "MILWUAKEE",
"merchantCountryCode": "USA",
"merchantCountrySubEntityCode": "Y",
"merchantName": "DELUXE ISO INSTITUTION",
"merchantPostalCode": "53222",
"merchantType": "5541",
"originalReconciliationAmount": "0",
"physicalMID": "01016610",
"physicalTID": "TERM4141",
"pinBypassFlag": "N",
"platform": "A",
"posCardCaptureCapability": "0",
"posCardholderAuthenticationEntity": "4",
"posCardholderPresent": "0",
"posCardholder Verification Capability": "6",\\
"posCardholderVerificationMethod": "6",
```



```
"posCardPresent": "0",
  "posEnvironment": "2",
  "posMagneticStripeRewriteCapability": "0",
  "posPinInputLengthCapability": "C",
  "posTerminalOutputCapability": "0",
  "processBillingFlag1": "BILLFLAG1",
  "processBillingFlag2": "BILLFLAG2",
  "processBillingFlag3": "BILLFLAG3",
  "processBillingFlag4": "BILLFLAG4",
  "processFlag1": "PROCESSFLAG1",
  "processFlag2": "PROCESSFLAG2",
  "processFlag3": "PROCESSFLAG3",
  "processFlag4": "PROCESSFLAG4",
  "role": "N",
  "CPPCardAcceptorID": "CRD ACCEPTOR ID",
  "CPPCardAcceptorTerminal": "TERM4141",
 "ATM": "TERM4141",
 "MTI": "1210"
"returnCode": "0",
"returnText": "success-end of result set"
"metadata": {
"msgLst": [
  "code": "00",
  "text": "SUCCESS"
```



## Common Schemas for API Request/Response

#### PAN

Input Param	Data Type	REQ*	Description
plainText	string	0	Plain-text PAN.
cipherText	string	0	Compact-serialzed JWE Object.
alias	string	0	Proxy for PAN. This property is only valid in certain cases.

#### Data

Input Param	Data Type	REQ*	Description
description	string	0	normalized value of the object



Input Param	Data Type	REQ*	Description
hostValue	string	0	
hostDescription	string	0	

## AmountAttribute

Input Param	Data Type	REQ*	Description
amount	string	0	The amount in digits
currency	object	0	Normalized object which contains the hostValue stored in the database and the normalized description.  Refer: Data

### TransactionDetail

Input Param	Data Type	REQ *	Description
account1	string	0	Specifies the account type used for debits and inquiries and the From account used for transfers and payments.
account1Branch	string	0	Account 1 branch details.
account2	string	0	Identify a customer account or relationship. For example, the To account.
account2Branch	string	0	Account 2 branch details.
account3	string	0	Identify a third customer account or relationship for the transaction. This account does not belong to the cardholder. For example, a parent fleet card account.
accountNumber	string	0	account number or PAN number.
accountNumberIndicator	string	0	



Input Param	Data Type	REQ *	Description
accountNumberPrefix	string	0	First 6 digits of account number.
accountNumberSuffix	string	0	Last 4 digits of account number.
accountToken	string	0	Account token.
accptBrandID	string	0	Card Acceptor Brand.
acquirerAmount	object	0	Refer: AmountAttribute
acquirerBank	string	0	Financial institution which accepts and processes cards transactions on behalf of merchants.
acquirerBID	string	0	indicates the specific branch of the institution identified by the Acquirer Institution Identification Code.
acquirerBusiness	string	0	Indicates the type of business performed by the acquirer for this transaction.
acquirerCountryCode	string	0	Indicates the country location for the acquiring institution.
acquirerDate	string	0	Date defines the year, month, and day that financial totals are reconciled between the acquirer and the Connex.
acquirerDateConversion	string	0	Date that the conversion rate is effective to convert the transaction amount from the original currency to the acquirer's reconciliation currency.
acquirerEntity	string	0	Acquirer Institution ID in the Original Data Elements
acquirerFee	string	0	Acquirer Reconciliation Fee Amount indicates the fee transferred between the acquirer and the card issuer.
acquirerGroup	string	0	Acquirer group.
acquirerImpact	string	0	Acquirer impact.



Input Param	Data Type	REQ *	Description
acquirerInstitution	string	0	Acquirer Institution Identification Code indicates the original acquirer for the transaction.
acquirerLink	string	0	Acquirer link.
acquirerMessageReasonC ode	string	0	The original authorizations and financial transactions identify the reason the message was sent. For example, the reason for an advice versus the reason for a request.
acquirerNetwork	string	0	Acquirer Network ID identifies the EFT network that acquired the transaction.
acquirerProcessor	string	0	Acquirer Process Identification includes the name of the Connex process that acquired the transaction.
acquirerRoutingNumber	string	0	Acquirer routing number.
acquirerTerminal	string	0	Acquirer terminal.
actionCode	string	0	Action Code indicates any procedures performed for the cardholder's institution.
activationVerificationRes ults	string	0	Result Code indicates the results of the verification service.
additionalDataAcquirer	string	0	Indicate check data from the acquirer and issuer.
additionalDataIssuer	string	0	Issuer Additional Data indicates the unique network application data transferred from the issuer to the acquirer.
additionalDataNational	string	0	Additional National Data indicates unique processing information used in applications in a specific country.
additionalResponseData	string	0	Additional Response Data indicates other data required for the authorization. For example, telephone number.



Input Param	Data Type	REQ *	Description
addressVerificationResult Code	string	0	The Address indicates the portion of the cardholder's address used by the Address Verification Service (AVS) for mail and telephone order transactions
adjustmentAmount	string	0	Adjustment amount for transaction.
approvedBy	string	0	Indicates the type of association that approved or denied the transaction.
ARN	string	0	Unique Id identifying a transaction
AS2805POSConditionCode	string	0	POS Condition Code.
AS2805POSEntry	string	0	POS Entry Mode.
AS2805ProcessCode	string	0	Process Code.
AS2805ResponseCode	string	0	Response Code.
ATM	string	0	ATM.
ATMAlias	string	0	ATM Alias.
authCharFlg	string	0	Auth Characteristics Flag.
authCode	string	0	Message/code describing the authorization request.
authorizationLifeCycleCo de	string	0	Authorization Life Cycle indicates the period of time that the acquirer requires to guarantee funds for a financial transaction authorization request.
authorizedBy	string	0	The Authorized By indicates the type of association that approved or denied the transaction.
availableBalance	object	0	Refer: AmountAttribute



Input Param	Data Type	REQ *	Description
avsResult	string	0	Result Code indicates the results of the verification service offered by VISA for mail and telephone order transactions.
avs	string	0	Address verification service.
BBLCardOwner	string	0	Card owner.
businessServiceCode	string	0	Business performed by the card acceptor for this transaction.
businessServiceLevelInd	string	0	Business Service Level Indicator.
cardAcceptorID	string	0	The Card Acceptor Identification Code indicates the card acceptor and is set by a field in the CEDLOPT file.
cardAcceptorSponsor	string	0	Institution that sponsored the card acceptor for the card issuer program.
cardAcceptorTerminal	string	0	A unique code used to indicate the terminal used for the transaction at the card acceptor location.
cardBrand	string	0	Identifies the network of the transaction (STAR, NYCE, MasterCard)
cardholderBillingAmount	object	0	Refer: AmountAttribute
cardLocation	string	0	Card location.
cardOwner	string	0	Card owner.
cardOwnerBranch	string	0	Card owner branch.
cardScheme	string	0	Card schema.
cardSequenceNumber	string	0	Card Sequence Number indicates the difference between separate cards with the same primary account number or extended primary account number.



Input Param	Data Type	REQ *	Description
cardType	string	0	Card type.
cashbackAmount	object	0	Refer: AmountAttribute
chargebackRights	string	0	A chargeback initiated by the issuer that partially or completely voids a previous financial transaction.
clerk	string	0	Indicates that a specific employee for the card acceptor logged on to the POS terminal to initiate the transaction.
conversionRateAcquirer	string	0	Acquirer Reconciliation Conversion Rate indicates the factor used to convert the transaction amount to the acquirer reconciliation amount.
conversionRateCardholde rBilling	string	0	Indicates the conversion rate used for cardholder billing.
conversionRateIssuer	string	0	Issuer Reconciliation Conversion Rate indicates the factor used in the conversion of the transaction amount to an issuer reconciliation amount.
conversionRateNet	string	0	Network Reconciliation Conversion Rate indicates the conversion rate used for Network Reconciliation.
CPD	string	0	Central Processing Date.
CPPCardAcceptorID	string	0	CPP Card Acceptor ID.
CPPCardAcceptorTerminal	string	0	Unique code used to indicate the terminal used for the transaction at the card acceptor location.
crossBorderCurrency	string	0	Cross border currency.
crossBorderInd	string	0	Cross border indicator.
crossBorderTransaction	string	0	Cross border transaction.
CVV	string	0	Card Verification Value



Input Param	Data Type	REQ *	Description
CVV2	string	0	Card Verification Value
currencyName	string	0	Currency name.
dateAction	string	0	Action Date indicates the information date for a future action or as a birth or anniversary date. MMDDYYYY format
dateCapture	string	0	Date the transaction request was processed by the acquirer. MMDD format.
dateEffective	string	0	Indicates the year and month the card becomes effective.
dateExpiration	string	0	The Expiration Date indicates the year and month that the card expires
dateSettlement	string	0	Date the transaction posted to the account.
destinationRoutingNumbe r	string	0	Destination Routing Number.
deviceTypeChannel	string	0	Device Type Channel.
electronicCommerceIndic ator	string	0	Electronic Commerce Indicator.
extendedPaymentData	string	0	Extended Payment Data indicates the number of months the cardholder has selected to take to pay for this item.
feeProgramInd	string	0	Fee Program Indicator.
financialType	string	0	Financial Type.
floorLimit	string	0	This value is predetermined by the institution and represents the maximum amount that the acquirer accepts during stand-in.
functionCode	string	0	Indicator if the transaction is authorized or posted



Input Param	Data Type	REQ *	Description
invoiceNumber	string	0	Invoice Number.
IRCounter	string	0	IR Counter.
IRD	string	0	IRD.
IRFlag	string	0	IR Flag.
issuerAccountTypes	string	0	Issuer Account Types.
issuerAmount	object	0	Refer: AmountAttribute
issuerBank	string	0	Issuer Bank.
issuerCountryCode	string	0	Issuer Country Code.
issuerDate	string	0	Issuer Date.
issuerDateConversion	string	0	Indicates if the conversion rate is effective for converting the transaction amount from the original currency to the issuer's reconciliation currency. Using the MMDD format.
issuerEntity	string	0	Issuer Entity.
issuerFee	string	0	Issuer Reconciliation Fee Amount indicates the fee transferred between the acquirer and the card issuer in the currency of the reconciliation used by the issuer.
issuerGroup	string	0	Issuer Group.
issuerImpact	string	0	Issuer Impact.
issuerInstitution	string	0	Issuer Institution identification code indicates the card issuer.



Input Param	Data Type	REQ *	Description
issuerLink	string	0	Issuer Link.
issuerMessageReasonCod e	string	0	This subfield indicates the reason the Connex system performed stand-in for the primary issuer host or routed the transaction to the alternate issuer host.
issuerNetwork	string	0	The Issuer Network Identification Code is the third subfield of the Primary Route field. This subfield indicates the EFT network that authorized the transaction if the primary route was available.
issuerProcessor	string	0	Indicates the association responsible for routing to the institution identified in the corresponding Issuer Reporting Institution Identification Code field.
issuerReferenceData	string	0	The Format field indicates the code for the specific issuing process that authorized the transaction and the format of the special trace and/or reference data included in the INFO field of Issuer Reference Data.
issuerRoutingNumber	string	0	Indicates the institution responsible for the card issuer or the primary route to the card issuer.
ledgerBalance	string	0	Ledger balance in the cardholder account.
lifecycleTraceID	string	0	The Authorization Life Cycle indicates the period of time that the acquirer requires to guarantee funds for a financial transaction authorization request.
localDateTime	string	0	The local date/time at which the transaction takes place at the point of the card acceptor location. YYMMDDHHMNSS format.
MASAccount	string	0	MAS Account.
MASAdditionalData	string	0	MAS Additional Data.
MASBank	string	0	MAS Bank.
MASBankName	string	0	MAS Bank Name.



Input Param	Data Type	REQ *	Description
MASBankReference	string	0	MasterCard assigns the Banknet reference number to an approved transaction included in the Interchange Compliance program
MASBatch	string	0	MAS Batch.
MASFeeAmount1	string	0	MAS Fee Amount 1.
MASFeeFlat1	string	0	MAS Fee Flat 1.
MASFeeRate1	string	0	MAS Fee Rate 1.
MASFeeType1	string	0	MAS Fee Type 1.
MASFeeAmount2	string	0	MAS Fee Amount 2.
MASFeeFlat2	string	0	MAS Fee Flat 2.
MASFeeRate2	string	0	MAS Fee Rate 2.
MASFeeType2	string	0	MAS Fee Type 2.
MASFeeAmount3	string	0	MAS Fee Amount 3.
MASFeeFlat3	string	0	MAS Fee Flat 3.
MASFeeRate3	string	0	MAS Fee Rate 3.
MASFeeType3	string	0	MAS Fee Type 3.
MASFeeAmount4	string	0	MAS Fee Amount 4.
MASFeeFlat4	string	0	MAS Fee Flat 4.
MASFeeRate4	string	0	MAS Fee Rate 4.



Input Param	Data Type	REQ *	Description
MASFeeType4	string	0	MAS Fee Type 4.
MASLocalDateTime	string	0	MAS Local Date Time.
MASMerchant	string	0	MAS Merchant.
MASMerchantMobile	string	0	MAS Merchant Mobile.
MASMerchantParent	string	0	MAS Merchant Parent.
MASRetrievalReferenceN umber	string	0	MAS Retrieval Reference Number.
MASSettlementAmount	string	0	MAS Settlement Amount.
MASSettlementCycle	string	0	MAS Settlement Cycle.
MASSettlementTimestam p	string	0	MAS Settlement Timestamp.
MastercardAAVResult	string	0	Mastercard AAV Result.
MASTerminal	string	0	MAS Terminal.
MASTransactionAmount	string	0	MAS Transaction Amount.
MCAssignID	string	0	MC Assign ID.
merchantCategoryCode	string	0	Merchant Category Code (Retail, Gas, Grocery etc.)
merchantAddress	string	0	address of the merchant where the transaction occurred. Optional field.
merchantCity	string	0	City of the merchant where the transaction occurred. Optional field.



Input Param	Data Type	REQ *	Description
merchantCountryCode	string	0	Country code of the merchant where the transaction occurred. Optional field.
merchantCountrySubEntit yCode	string	0	state code of the merchant where the transaction occurred. Optional field.
merchantLocation	string	0	Location of the merchant where transaction occurred.
merchantName	string	0	Name of the merchant where transaction occurred.
merchantPostalCode	string	0	Postal Code provides additional information for merchant location.
merchantSpecialConditio nInd	string	0	
merchantType	string	0	The Merchant Type indicates the type of business product or service performed by the merchant.
мото	string	0	Telephone or mail order.
MTI	string	0	Message Type Identifier from the Original Data Elements (ODE) that indicates message information for processing the message.
networkCardCaptureCapa bility	string	0	Network Card Capture Capability.
networkCardDataInputCa pability	string	0	Network Card Data Input Capability.
networkCardDataInputMo de	string	0	Network Card Data Input Mode.
networkCardDataOutputC apability	string	0	Network Card Data Output Capability.
networkCardholderAuthC apability	string	0	Network Cardholder Auth Capability.



Input Param	Data Type	REQ *	Description
networkCardholderAuthE ntity	string	0	Network Cardholder Auth Entity.
networkCardholderAuthM ethod	string	0	Network Cardholder Auth Method.
networkCardPresentInd	string	0	Network Card Present Indicator.
networkPINCaptureCap	string	0	Network PIN Capture Capability.
networkPosCardholderPre sent	string	0	Network Pos Cardholder Present.
networkPosCardholderVe rificationCapability	string	0	Network Pos Cardholder Verification Capability.
networkProcessCode	string	0	Network Process Code.
networkTerminalOutputC apability	string	0	Network Terminal Output Capability.
networkTraceNumber	string	0	Network Trace Number.
originalCardOwner	string	0	Original Card Owner.
originalLocalDateTime	string	0	Local Transaction Date and Time from the Original Data Elements (ODE) indicates if the original transaction occurred at the card acceptor location. The format is YYMMDDHHMNSS.
originalMTI	string	0	Message Type Identifier (MTI) from the Original Data Elements (ODE) that indicates message information for processing the message.
originalAcquirerInstitutio n	string	0	Acquirer Institution ID in the Original Data Elements (ODE) indicates the institution that acquired the original transaction.
originalReconciliationAm ount	string	0	Original funds transferred between the issuer and the Connex that is equal to the original transaction



Input Param	Data Type	REQ *	Description
			amount in the currency of reconciliation used by the issuer.
originalSystemTraceAudit Number	string	0	System Trace Audit Number from the Original Data Elements (ODE) indicates the number assigned by the transaction originator to the original transaction to identify the transaction.
originalTerminalOwner	string	0	Terminal owner from the Original Data Elements (ODE)
originalTransactionAmou nt	object	0	Refer: <u>AmountAttribute</u>
otherBankUseCounter	string	0	Other Bank Use Counter.
partialReverseAmount	string	0	Partial Reverse Amount.
payee	string	0	Indicates the third party beneficiary in a transaction if the Processing Code identifies a payment transaction.
physicalMID	string	0	Physical MID.
physicalTID	string	0	Physical TID.
pinBypassFlag	string	0	Pin Bypass Flag.
pinResult	string	0	Indicates if the PIN was verified by the terminal or the Connex system, and if the PIN is valid.
platform	string	0	Platform.
posCardCaptureCapability	string	0	Card Capture Capability is the third subfield of the Point of Service Data Code field. This subfield indicates if the terminal is able to capture a card.
posCardholderAuthentica tionEntity	string	0	Cardholder Authentication Entity is the ninth subfield of the Point of Service Data Code field. This subfield indicates the method used to verify the cardholder identity.



Input Param	Data Type	REQ *	Description
posCardholderPresent	string	0	Cardholder Present is the fifth subfield of the Point of Service Data Code field. This subfield indicates if the cardholder is present at the point of service and if not, the reason the cardholder is not present.
posCardholderVerificatio nCapability	string	0	
posCardholderVerificatio nMethod	string	0	Cardholder Authentication Method is the eighth subfield of the Point of Service Data Code field. This subfield indicates the method used to verify the cardholder's identity.
posCardPresent	string	0	Card Present is the sixth subfield of the Point of Service Data Code field. This subfield indicates if the card is present at the time that the service is performed.
posCardReadingCapability	string	0	Card reading capability at the point of sale.
posCardReadingMethod	string	0	Card reading method at the point of sale.
posEntryMode	string	0	Code representing how the merchant entered the transaction at the point of sale.
posEnvironment	string	0	Operating Environment is the fourth subfield of the Point of Service Data Code field. This subfield indicates if the terminal is maintained by the card acceptor at the terminal's location.
posMagneticStripeRewrit eCapability	string	0	Pos Magnetic Stripe Rewrite Capability.
posPinInputLengthCapabil ity	string	0	Pos Pin Input Length Capability.
posTerminalOutputCapabi lity	string	0	Terminal Output Capability is the eleventh subfield of the Point of Service Data Code field. This subfield indicates if the terminal is able to print and/or display messages.
posTerminalType	string	0	Pos Terminal Type.



Input Param	Data Type	REQ *	Description
primaryKey	string	R	Primary Key identifying the transaction.
processBillingFlag1	string	0	This flag indicates the Data Distributor to filter transactions based on the criteria that a particular transaction was eligible to be processed by a particular network but was not seen by the network as either an acquirer or an issuer.
processBillingFlag2	string	0	This flag indicates to use Authorization Processor for PIN validation only.
processBillingFlag3	string	0	This flag indicates whether the card prefix (IBIN) of the current transaction is a network BIN or not.
processBillingFlag4	string	0	This flag is used for offline reporting and fraud scoring.
processFlag1	string	0	Indicate if a transaction set was identified by information from CEDSRCE, CEDDIRR, CEDDSTR, CEDDEFR records or from an on-us relationship.
processFlag2	string	0	Indicates if any large additional private data information was added to the end of the internal financial message by the issuer process.
processFlag3	string	0	This flag indicates if the FINIPC message is from an acquiring processor interface, authorization processor, or terminal handler.
processFlag4	string	0	This flag indicates if the transaction is to be an electronic draft capture.
QPSInd	string	0	QPS Indicator.
reconciliationAmount	object	0	Refer: <u>AmountAttribute</u>
remoteProgramInd	string	0	Remote Program Indicator.
reimbursement	string	0	Reimbursement.



Input Param	Data Type	REQ *	Description
requiredPaymentService	string	0	Required Payment Service.
retrievalReferenceNumbe r	string	0	The reference identification number assigned by the system to retain the original source information for the transaction. This number is used to find a copy or the original source information.
reversedBy	string	0	Reversed By indicates the type of association that generated the reversal.
riskSpecialConditionInd	string	0	Risk Special Condition Indicator.
role	string	0	Role.
ruleName	string	0	Fraud Rule Name
secureCode	string	0	Secure Code.
secureCodeLevel	string	0	Secure Code Level.
serviceCode	string	0	The Service Code includes the service restrictions of the cardholder
standinAction	string	0	Indicates if a transaction is approved or denied using the stand-in logic of the Issuer Processor Interface.
subscriber	string	0	Subscriber.
surcharge	object	0	Refer: <u>AmountAttribute</u>
switchFee	string	0	Switch Fee.
systemTraceAuditNumber	string	0	The System Trace Audit Number from the Original Data Elements (ODE) indicates the number assigned by the transaction originator to the original transaction to identify the transaction.
terminalClass	string	0	Terminal Class indicates the category for the device that initiated the transaction.



Input Param	Data Type	REQ *	Description
terminalOwnerBranch	string	0	Terminal Owner Branch.
terminalProvinceRegional Id	string	0	Terminal Province Regional ID.
terminalState	string	0	Terminal State.
terminalType	string	0	Terminal Type.
tokenAssuranceLevel	string	0	Token Assurance Level.
tokenCardSequenceNumb er	string	0	Token Card Sequence Number.
tokenRequestorID	string	0	Token Requestor ID.
tokenServiceProvider	string	0	Token Service Provider.
tokenStatus	string	0	Token Status.
tokenType	string	0	Token Type.
tokenVersion	string	0	Token Version.
tranldentifier	string	0	Transaction ID.
transactionAmount	object	0	Refer: AmountAttribute
transactionClass	string	0	Transaction Class.
transactionDateTime	string	0	Date/time the transaction request was sent by the message initiator in Coordinated Universal Time (Greenwich Mean Time).
transactionDisposition	string	0	Transaction Disposition.



Input Param	Data Type	REQ *	Description
transactionService	string	0	Transaction Service.
transactionSpecificData	string	0	Transaction Specific Data.
transactionType	string	0	Type of the transaction.
transfereeFee	string	0	Transferee Fee.
transferRoutingNumber	string	0	Transfer Routing Number.

# $\underline{\mathsf{TransactionDetailEntity}}$

Input Param	Data Type	REQ*	Description
transactionDetail	object	0	Detailed information of the transaction. Refer: <u>TransactionDetail</u>
returnCode	string	0	Return code received from Data navigator backend about execution status. Return code ranges from 0 to 5.
returnText	string	0	Return text received from Data navigator backend about execution status 0 - successful (end of result set) - 1 - successful (maximum rows returned) - 2 - no transactions found - 3 - invalid request - 4 - authentication unsuccessful - 5 - query failure

## TransactionHistory

Input Param	Data Type	REQ*	Description
account1	string	0	Specifies the account type used for debits and inquiries and the From account used for transfers and payments.
accountNumber	string	0	account number or PAN number.



Input Param	Data Type	REQ*	Description
acquirerAmount	object	0	Refer: AmountAttribute
acquirerCountryCode	string	0	Indicates the country location for the acquiring institution.
acquirerTerminal	string	0	Terminal that acquired the transaction.
actionCode	string	0	Action Code indicates any procedures performed for the cardholder's institution.
addressVerificationRes ultCode	string	0	The Address indicates the portion of the cardholder's address used by the Address Verification Service (AVS) for mail and telephone order transactions
authCode	string	0	Message/code describing the authorization request.
authorizedBy	string	0	The Authorized By indicates the type of association that approved or denied the transaction.
availableBalance	object	0	Refer: AmountAttribute
cardAcceptorID	string	0	Card Acceptor Identification Code.
cardSequenceNumber	string	0	Card Sequence Number indicates the difference between separate cards with the same primary account number or extended primary account number.
cashbackAmount	object	0	Refer: <u>AmountAttribute</u>
chargebackRights	string	0	A chargeback initiated by the issuer that partially or completely voids a previous financial transaction.
crossBorderCurrency	string	0	Cross boarder currency.
currencyName	string	0	Currency name.
CVV	string	0	Card Verification Value



Input Param	Data Type	REQ*	Description
CVV2	string	0	Card Verification Value
dateExpiration	string	0	The Expiration Date indicates the year and month that the card expires
issuerAmount	object	0	Refer: AmountAttribute
issuerImpact	string	0	Issuer impact.
issuerInstitution	string	0	Issuer Institution identification code indicates the card issuer.
issuerNetwork	string	0	The Issuer Network Identification Code is the third subfield of the Primary Route field. This subfield indicates the EFT network that authorized the transaction if the primary route was available.
lifecycleTraceID	string	0	The Authorization Life Cycle indicates the period of time that the acquirer requires to guarantee funds for a financial transaction authorization request.
localDateTime	string	0	The Local Transaction Date and Time from the Original Data Elements (ODE) indicates. YYMMDDHHMMSS format.
merchantCategoryCod e	string	0	Merchant Category Code (Retail, Gas, Grocery etc.).
merchantAddress	string	0	address of the merchant where the transaction occurred. Optional field.
merchantCity	string	0	City of the merchant where the transaction occurred. Optional field.
merchantCountryCode	string	0	Country code of the merchant where the transaction occurred. Optional field.
merchantCountrySubE ntityCode	string	0	state code of the merchant where the transaction occurred. Optional field.
merchantName	string	0	Name of the merchant where transaction occurred.



Input Param	Data Type	REQ*	Description
merchantPostalCode	string	0	postal/zip code of the merchant where the transaction occurred. Optional field.
merchantType	string	0	The Merchant Type indicates the type of business product or service performed by the merchant
МОТО	string	0	Telephone or mail order.
posCardCaptureCapabi lity	string	0	Indicates if the terminal is able to capture a card.
posCardholderAuthent icationEntity	string	0	Indicates the method used to verify the cardholder identity.
posCardholderPresent	string	0	Indicates if the cardholder is present at the point of service and if not, the reason the cardholder is not present.
posCardholderVerifica tionCapability	string	0	Card holder verification capability.
posCardholderVerifica tionMethod	string	0	Card holder verification method.
posCardPresent	string	0	Indicates if the card is present at the time that the service is performed.
posCardReadingCapabi lity	string	0	Card reading capability.
posCardReadingMetho d	string	0	Card reading method.
posEntryMode	string	0	Code representing how the merchant entered the transaction at the point of sale.
posEnvironment	string	0	Indicates if the terminal is maintained by the card acceptor at the terminal's location.
posMagneticStripeRew riteCapability	string	0	Magnetic stripe rewrite capability.



Input Param	Data Type	REQ*	Description
posPinInputLengthCap ability	string	0	Pin input length capability.
posTerminalOutputCap ability	string	0	Indicates if the terminal is able to print and/or display messages.
posTerminalType	string	0	Type of terminal at the point of service.
primaryKey	string	0	Primary Key identifying the transaction.
reconciliationAmount	object	0	Refer: AmountAttribute
retrievalReferenceNu mber	string	0	The reference identification number assigned by the system to retain the original source information for the transaction. This number is used to find a copy or the original source information
ruleName	string	0	Fraud Rule Name
secureCode	string	0	Secure code.
secureCodeLevel	string	0	Secure code level.
serviceCode	string	0	The Service Code includes the service restrictions of the cardholder
standinAction	string	0	Indicates if a transaction is approved or denied using the stand-in logic of the Issuer Processor Interface.
surcharge	object	0	Refer: AmountAttribute
systemTraceAuditNum ber	string	0	The System Trace Audit Number from the Original Data Elements (ODE) indicates the number assigned by the transaction originator to the original transaction to identify the transaction.
tokenAssuranceLevel	string	0	Token assurance level.



Input Param	Data Type	REQ*	Description
tokenCardSequenceNu mber	string	0	Token card sequence number.
tokenRequestorID	string	0	Token requester identification.
tokenServiceProvider	string	0	Token service provider.
tokenStatus	string	0	Token status.
tokenType	string	0	Token type.
tokenVersion	string	0	Token version.
tranIdentifier	string	0	
transactionAmount	object	0	Refer: AmountAttribute
transactionDateTime	string	0	Date/time the transaction request was sent by the message initiator in Coordinated Universal Time (Greenwich Mean Time).
transactionDisposition	string	0	Transaction disposition.
transactionType	string	0	Transaction Type Indicator.

# Transaction Search Entity

Input Param	Data Type	REQ*	Description
transactions	array	0	Refer: TransactionHistory
transactionsCount	integer	0	Total number of transactions in the response.
returnCode	string	0	Return code received from Data navigator backend about execution status. Return code ranges from 0 to 5.



Input Param	Data Type	REQ*	Description
returnText	string	0	Return text received from Data navigator backend about execution status 0 - successful (end of result set) - 1 - successful (maximum rows returned) - 2 - no transactions found - 3 - invalid request - 4 - authentication unsuccessful - 5 - query failure

## Messages

Input Param	Data Type	REQ*	Description
code	string	0	API execution status code
text	string	0	API execution status description
type	string	О	Error response type. Null or Empty for 200 OK response (Enum: [APPLICATION_ERROR, SYSTEM_ERROR, VALIDATION_ERROR])
severity	string	0	API response critical errors. Null or Empty for 200 OK response (Enum: [None, Info, Warning, Fatal, Error])

#### Metadata

Input Param	Data Type	REQ*	Description
msgLst	array	0	Refer: Messages

## Response codes

Category	Response Code	Message	Http Status Code
Success	00	SUCCESS	200
Authorization failure	01	Bad Request	400
Authorization failure	04	Missing JWT token	400



Category	Response Code	Message	Http Status Code
Authorization failure	04	Tampered JWT token	400
Authorization failure	04	Expired JWT token	400
Authorization failure	04	JWT token is not verified	400
Authorization failure	03	Bad encryption key	403
Authorization failure	02	Payload decryption failed	403
Authorization failure	05	Unauthorized BIN	400
Application Error	10	Invalid card number	400
Application Error	11	Multiple values for card number, expected one	400
Application Error	0114	Routing Failure. Card Not found.	400
Application Error	0003	Application/System error	500
Application Error	0176	Connection timed out	500
Application Error	0116	System encountered an Error. Please try again	500
Application Error	0103	Operation cannot be performed	500

## Currency codes

Normalized code	Currency name	Currency code
4	Afghani	AF
8	Lek	ALL



12	Algerian Dinar	DZD
20	Andorran Peseta	ADP
31	Azerbaijanian Manat	AZM
32	Argentine Peso	ARS
36	Australian Dollar	AUD
44	Bahamian Dollar	BSD
48	Bahraini Dinar	BHD
50	Taka	BDT
51	Armenian Dram	AMD
52	Barbados Dollar	BBD
60	Bermudian Dollar	BMD
64	Ngultrum	NU
68	Boliviano	ВОВ
72	Pula	BWP
84	Belize Dollar	BZD
90	Solomon Islands Dollar	SBD
96	Brunei Dollar	BND
100	Lev	BGL
104	Kyat	MMK
108	Burundi Franc	BIF
116	Riel	KHR
124	Canadian Dollar	CAD
132	Cape Verde Escudo	CVE
136	Cayman Islands Dollar	KYD
144	Sri Lanka Rupee	LKR
152	Chilean Peso	CLP
156	Chinese Yuan	CNY
157	Chinese Renminbi	CNH
170	Colombian Peso	СОР
174	Comoro Franc	KMF
188	Costa Rican Colon	CRC
191	Kuna	HRK
192	Cuban Peso	CUP
196	Cyprus Pound	СҮР
203	Koruna	CZK



208	Danish Krone	DKK
214	Dominican Peso	DOP
222	El Salvador Colon	SVC
230	Ethiopian Birr	ETB
232	Nakfa	ERN
233	Kroon	EEK
238	Falkland Islands Pound	FKP
242	Fiji Dollar	FJD
262	Djibouti Franc	DJF
270	Dalasi	GMD
288	Cedi	GHC
292	Gibraltar Pound	GIP
320	Quetzal	GTQ
324	Guinea Franc	GNF
328	Guyana Dollar	GYD
332	Gourde	HTG
340	Lempira	HNL
344	Hong Kong Dollar	HKD
348	Forint	HUF
352	Iceland Krona	ISK
356	Indian Rupee	INR
360	Rupiah	IDR
364	Iranian Rial	IRR
368	Iraqi Dinar	IQD
376	Israeli Shekel	ILS
388	Jamaican Dollar	JMD
392	Yen	JPY
398	Tenge	KZT
400	Jordanian Dinar	JOD
404	Kenyan Shilling	KES
408	North Korean Won	KPW
410	Won	WON
414	Kuwaiti Dinar	KWD
417	Som	KGS
418	Kip	LAK



422	Lebanese Pound	LBP
426	Loti	LSL
428	Latvian Lats	LVL
430	Liberian Dollar	LRD
434	Libyan Dinar	LYD
440	Lithuanian Litus	LTL
446	Pataca	MOP
454	Kwacha	MWK
458	Malaysian Ringgit	MYR
462	Rufiyaa	MVR
470	Maltese Lira	MTL
478	Ouguiya	MRO
480	Mauritius Rupee	MUR
484	Mexican Peso	MXN
496	Tugrik	MNT
498	Moldovan Leu	MDL
504	Moroccan Dirham	MAD
508	Metical	MZM
512	Rial Omani	OMR
516	Dollar	NAD
524	Nepalese Rupee	NPR
532	Netherlands Antillian Guilder	ANG
533	Guilder	AWG
548	Vatu	VUV
554	New Zealand Dollar	NZD
558	Cordoba Oro	NIO
566	Naira	NGN
578	Norwegian Krone	NOK
586	Pakistan Rupee	PKR
590	Balboa	PAB
598	Kina	PGK
600	Guarani	PYG
604	Nuevo Sol	PEN
608	Philippine Peso	PHP
624	Guinea-Bissau Peso	GWP



626	Timor Escudo	TPE
634	Qatari Rial	QAR
642	Leu	ROL
643	New Ruble	RUB
646	Rwanda Franc	RWF
654	Saint Helena Pound	SHP
678	Dobra	STD
682	Saudi Riyal	SAR
690	Seychelles Rupee	SCR
694	Leone	SLL
702	Singapore Dollar	SGD
703	Slovak Koruna	SKK
704	Dong	VND
705	Tolar	SIT
706	Somali Shilling	SOS
716	Zimbabwe Dollar	ZWD
728	South Sudanese Pound	SSP
736	Sudanese Dinar	SDD
740	Surinam Guilder	SRG
748	Lilangeni	SZL
752	Swedish Krona	SEK
756	Swiss Franc	CHF
760	Syrian Pound	SYP
764	Baht	THB
776	Paanga	TOP
780	Trinidad and Tobago Dollar	TTD
784	UAE Dirham	AED
788	Tunisian Dinar	TND
792	Turkish Lira	TRL
793	Pseudo-Turkish Lira	BLL
795	Manat	TMM
800	Uganda Shilling	UGX
807	Denar	MKD
818	Egyptian Pound	EGP
826	Pound Sterling	GBP
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834	Tanzanian Shilling	TZS
840	US Dollar	USD
858	Peso Uruguayo	UYU
860	Uzbekistan Sum	UZS
863	Russian Ruble (Intl)	R
882	Tala	WST
886	Yemeni Rial	YER
891	Serbian Dinar	DIN
894	Kwacha	ZMK
901	New Taiwan Dollar	TWD
928	Bolivar Soberano	VES
929	Ouguiya	MRU
930	Dobra	STN
931	Peso Convertible	CUC
933	Belarussian Ruble	BYN
936	Cedi	GHS
937	Bolivar Fuerte	VEF
941	Serbian Dinar	RSD
943	Metical	MZN
944	Azerbaijanian Manat	AZN
946	Romanian Leu	RON
947	WIR Euro (Switzerland)	CHE
948	WIR Franc (Switzerland)	CHW
949	Turkish Lira	TRY
950	CFA Franc BEAC	XAF
951	East Caribbean Dollar	XCD
952	CFA Franc BCEAO	XOF
953	C.F.A. Franc	XPF
967	Kwacha	ZMW
968	Surinam Dollar	SRD
969	Malagasy Ariary	MGA
971	New Afghani	AFN
972	Tajikistan Somoni	YJS
973	Angola Kwanza	AOA
974	Belarussian Ruble	BLL



975	New Bulgarian Lev	BGN
976	Congolese Franc	CDF
977	Convertible Mark	BAM
978	Euro	EUR
979	Mexican Unidad de Inversion	MXV
980	Hryvnia	UAH
981	Lari	GEL
984	Mvdol	BOV
985	Zloty	PLN
986	Brazilian Real	BRL
990	Unidades de Fomento	CLF
997	US Dollar (Next day)	USN
998	U.S. Dollar (Same Day)	USS