Discover Getting Started Guide

Version: 1.2

10 July 2025

Publication number: DGN-GS-1.2-7/10/2025

For the latest technical documentation, see the Documentation Portal.

Thredd, Kingsbourne House, 229-231 High Holborn, London, WC1V 7DA

Support Email: occ@thredd.com

Support Phone: +44 (0) 203 740 9682

Copyright

About this Guide

This guide is intended as a reference guide, to provide information about connecting to the Discover network through Thredd.

Target audience

This guide is aimed at business analysts, system integrators and project managers who are launching a Discover card programme through Thredd . It provides information for developers who need to integrate to Thredd's systems to support Discover network.

What's changed?

If you want to find out what's changed since the previous release, see the Document History section.

How to use this Guide

Before you start, please speak to your Thredd account manager to discuss your card programme requirements. Your implementation manager will support you during the Discover network integration and launch process.

For an introduction to Discover networks and the current scope of Thredd support, see the Introduction.

For information on supported transaction types, see Transaction Processing.

For frequently asked questions about Discover network projects, see the Discover FAQs.

Other Documentation

Refer to the table below for a list of other relevant documents that should be used together with this guide.

Note: For Phase 1 of the Discover launch (June 2024), the guides listed below have not been updated for Discover Networks. These guides provide generic information on Thredd products and services relevant to all clients.

Document	Description
EHI Guide	Provides details of the Thredd External Host Interface (EHI).
Thredd Portal Guide	Describes how to use the Thredd Portal to manage your cards and transactions.
Smart Client Guide	Describes how to use the legacy Thredd Smart Client desktop application to manage your account.
Payments Dispute Management Guide	Describes the payments dispute management process and how Thredd supports chargeback management.

Tip: For the latest technical documentation, see the Documentation Portal.

Discover Documentation

Refer to the table below for a list of relevant Discover documents that should be used together with this guide.

Document	Description
Discover Xpress Guide to System Use	Provides details of transaction processing on Discover networks. You should read this guide for reference and background information.
Discover Xchange User Guide	Describes how to use the Discover Xchange system for creating and managing chargebacks. You should read this guide for information on tools needed to complete a chargeback, retrieval, EIX message, and other related tasks.

Document	Description
Discover Chargeback Guide	Describes the Discover Network Chargeback processes and procedures. You should read this guide for reference and background information.

1 Introduction

1.1 What is the Discover Network?

The Discover Global Network is dedicated to enabling millions of businesses to expand their customer base through seamless global payments.

The Discover Global Network consists of a group of card networks acquired by Discover that operate in different market segments:

Discover: A credit card with similar operating model to American Express (i.e. a “three party model” where the card network is also the issuer and acquirer) that operates predominantly in the US.	Diners Club International: international card network aimed predominantly at corporate use cases such as Online Travel Agents and expense cards	Pulse: A US domestic PIN network used for debit card processing similar to Star or Accel.

The Discover Global Network stands out by offering benefits rooted in operational efficiency and network reach. It is the third largest payments network globally, expanding its footprint through strategic partnerships with regional card networks like RuPay in India, UnionPay in China, JCB in Japan, BC Card in South Korea, and others.

1.1.1 Key Features and Benefits

- Grow your business and attract new cardholders by becoming an issuer for Diners Club®
- Extend your reach. Accept 305M+ global cardholders. Open your business to more cardholders from more parts of the world ready to spend
- Tap into one of the fastest growing global payments networks with 25+ Network Alliances
- Access to a wider network reach, enhanced commerce experiences, and the ability to leverage Discover's expertise and capabilities.
- This connection allows domestic operators to expand their reach beyond their territories, avoid reinventing the wheel, and quickly implement new services by leveraging Discover's assets and solutions
- Discover's expertise and capabilities, stemming from acquisitions like Diners Club International, offer issuers the foundation for international acceptance footprints, enabling them to grow exponentially through global partnerships
- Discover offers a combined fee structure that is generally lower than other networks.
- Discover's offers cardholders a no annual fee policy, 24/7 customer service, and Cashback Bonus program

1.2 Thredd’s Integration to Discover

Thredd is integrated to the Discover Global Network as an issuer-processor. Phase 1 of the integration provides card issuance with Diners Club International. The rollout will be multi-phased starting with Discover Virtual Cards and Tokenisation (Mobile Wallet) in selected markets.

1.2.1 Current Supported Services

Refer to the section below for details of Thredd products and services currently supported on Discover networks:

Supported for Phase 1

- Virtual cards (from valid Account Ranges: BIN ranges starting with “36” and PAN lengths of 14 digits)
- Diners Club International Network across all platform instances
- Standard transaction processing: Authorisation, Clearing and Chargebacks
- Transaction XML reports
- Fees Module: Authorisation fees (recurring and web-services are not included)

- Disallow MCC list
- Web Services

Note: Only six digit BINs will be used/ validated

Note: Discover will only be tested on Thredd's on-premise environment (PRD0)

Not supported for Phase 1

- Physical Cards
- Tokenisation
- QR Payments via Single Message
- Integration to other parts of the Discover Global Network:

1.2.2 Discover Network Considerations

You must set up a separate commercial agreement with the Discover Card Scheme (Network).

You must obtain a separate Issuer Identification Code (IIC) from Discover for each issuer and issuer settlement currency you support.

You must have a bank account in each settlement currency you support, opened within two months of IIC registration.

Note: Visa and Mastercard BINs are referred to as Cycle Ranges in Discover.

Completing Issuer Documentation

Please contact your Discover representative for further information.

Your Thredd implementation manager will support you when completing the Discover Network documentation.

2 Transaction Processing on Discover Networks

This section provides details of transaction message processing on Discover Networks.

2.1 Discover Network Message Types

Discover Network messages conform to the ISO 8583 message standard. Discover uses the ISO 8583: 1993 version. See Figure 1 below.

Version Number	Message Class	Message Function	Transaction Originator
0 — ISO 8583:1987 1 — ISO 8583:1993 2 – ISO 8583: 2003 8 — reserved for national use 9 — reserved for private use	0 — reserved for ISO use 1 — authorisation 2 — financial 3 — file action 4 — reversal/chargeback* 5 — reconciliation 6 — administrative 7 — fee collection 8 — network management 9 — reserved for ISO use	0 — request 1 — request response 2 — advice 3 — advice response 4 — notification 5 – 9 — reserved for ISO use	0 — acquirer 1 — acquirer repeat 2 — card issuer 3 — card issuer repeat 4 — other 5 — other repeat 6 – 9 — reserved for ISO use

*Reversal if transaction originator is *acquirer* and Chargeback if transaction originator is *issuer*.

Example:

1100	ISO 8583:1987	authorisation	request	acquirer

Figure 1: ISO 8583 Message Types

Thredd maps Discover message type identifiers (MTIs) back to our standard message MTIDs. For example, we map Discover 1100 messages to the Thredd standard 0100 message format.

We support the following message types:

Discover MTI	Mapped to Thredd MTID	Message Type	Description
1100	0100	Authorisation request	Request from the acquirer to authorise a transaction (payment or refund). A response is required to approve or decline the transaction.
1110	0110	Authorisation response	Response from the issuer: approve or decline the transaction.
1120	0120	Authorisation advice	Advice from the acquirer to notify of an authorisation. The issuer responds to acknowledge the message.
1130	0130	Authorisation advice response	Response from the issuer to acknowledge the message.
1420	0420	Authorisation reversal	Advice from the acquirer to notify of an authorisation reversal. The issuer responds to acknowledge the message.
1430	0430	Authorisation reversal response	Response from the issuer to acknowledge the message.
06	1240	Financial Notification (debit, credit, financial)	Advice from the acquirer for a financial transaction such as a presentment, financial reversal or chargeback. The notification is received in the scheme's clearing files. The type of financial message is indicated by the `Txn_Type` field. For more information, see Transaction Types.
36	1240	Chargeback notification	Chargeback message. The type of chargeback message is indicated by the `Txn_Type` field. For more information, see Transaction Types.

Note: There are additional MTIs for Discover which Thredd are not using, and which are out of scope for Phase 1.

Program Managers must use this information to update the card balance details to reflect payments that have been made or any charges on the card.

2.1.1 Transaction Processing

Discover data fields are mapped to Thredd's internal data elements. Thredd performs standard message validation, card usage restrictions and card security checks. The message data is normalised to provide a uniform message format that is sent to Program Managers using the External Host Interface (EHI).

For Program managers using Full Service Processing (mode 3), Thredd performs transaction matching and balance adjustments.

Period for receiving a response to an authorisation requests from Thredd

Thredd will wait up to two seconds for a response to an authorisation request. If no response is received the transaction will be timed out and declined.

3 Transaction Flow Scenarios

This section provides examples of typical transaction flows with Message Transaction IDs (MTIDs) on Discover networks. This provides a flavour of the type of messages you can expect to receive from the Thredd system.

Note: The examples below are for customers connecting to Discover networks. Only flows for transaction types supported in Discover Phase 1 are shown.

3.1 Authorisations

Authorisation is the stage in a transaction life-cycle where a **merchant**[1] requests approval for a card payment amount. If the authorisation is approved, the amount is ring-fenced on the card. Typically the merchant then has 7 days to request the transfer of the authorised funds (although this can be up to 30 days for certain types of transactions/ merchant category codes). For additional information see What are Authorisations and how do they work?

Authorisation with Approve

The following scenario illustrates a typical approve journey for EHI modes 1, 2 and 4 (Gateway and Cooperative Processing).

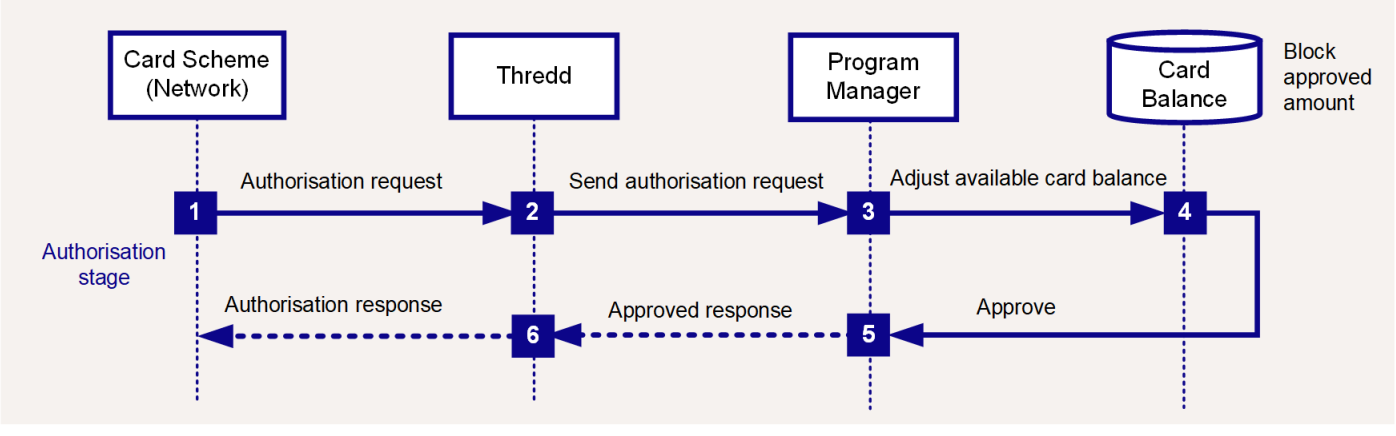


Figure 2: Authorisation Flow - Approve

1. The scheme sends a 1100 authorisation request to Thredd.
2. Thredd carries out validation checks and sends the request (we map this to our 0100 message format) to the external host (Program Manager).
3. The Program Manager approves the request.
4. The Program Manager blocks the approved amount (including fees) on the card and reduces the available balance.
5. The Program Manager returns an approved response:

   <Responsestatus>00</Responsestatus> and *<Acknowledgement>1</Acknowledgement>*.*

   "Responsestatus": "00" and *"Acknowledgement": "1".**
6. Thredd responds to the scheme with an 1110 message (with response status 00 indicating an approval).

* Responsestatus = 00 indicates the request is approved; Acknowledgement = 1 informs Thredd that the message was received and Thredd does not need to resend.

Authorisation Resulting in a Decline

The following scenario illustrates a typical decline journey for EHI modes 1, 2 and 4 (Gateway and Cooperative Processing).

[1]The shop or store providing a product or service that the cardholder is purchasing. A merchant must have a merchant account, provided by their acquirer, in order to trade. Physical stores use a terminal or card reader to request authorisation for transactions. Online sites provide an online shopping basket and use a payment service provider to process their payments.

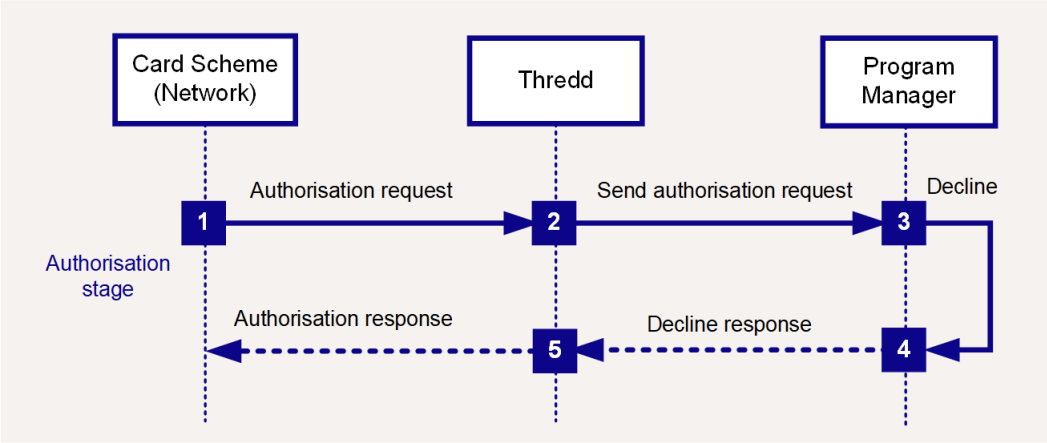


Figure 3: Authorisation Flow - Decline

1. The scheme sends a 1100 authorisation request to Thredd.
2. Thredd carries out validation checks and sends the request (we map this to our 0100 message format) to the external host (Program Manager).
3. The Program Manager declines the request.
4. The Program Manager returns a declined response, for example:

   *<Responsestatus>05</Responsestatus> and <Acknowledgement>1</Acknowledgement>.**

   *"Responsestatus": "05" and "Acknowledgement": "1".**
5. Thredd responds to the scheme with an 1110 message (with an appropriate response status, e.g 100, indicating a decline).

* Responsestatus = 05 indicates Do not honour. You can return any suitable decline response code you use for other Networks. See Response Codes.

Note: The original response code sent to Discover in response is different (Discover supports 3 digits response codes and Thredd maps the response code value you provide to the Discover equivalent. For example, for do not honour (05), Thredd converts it to 100 while sending to Discover.

Acknowledgement = 1 informs Thredd that the message was received and Thredd does not need to resend.

Note: Discover Network does not restrict usage of generic response codes. Thredd still recommend your decline reason code should be as specific as possible, to guide the cardholder and merchant.

Authorisation Reversal (network)

This type of transaction occurs when the merchant, **acquirer**[1] or card scheme requests a reversal of the original authorisation. This should result in the amount previously ring-fenced on the card being unblocked.

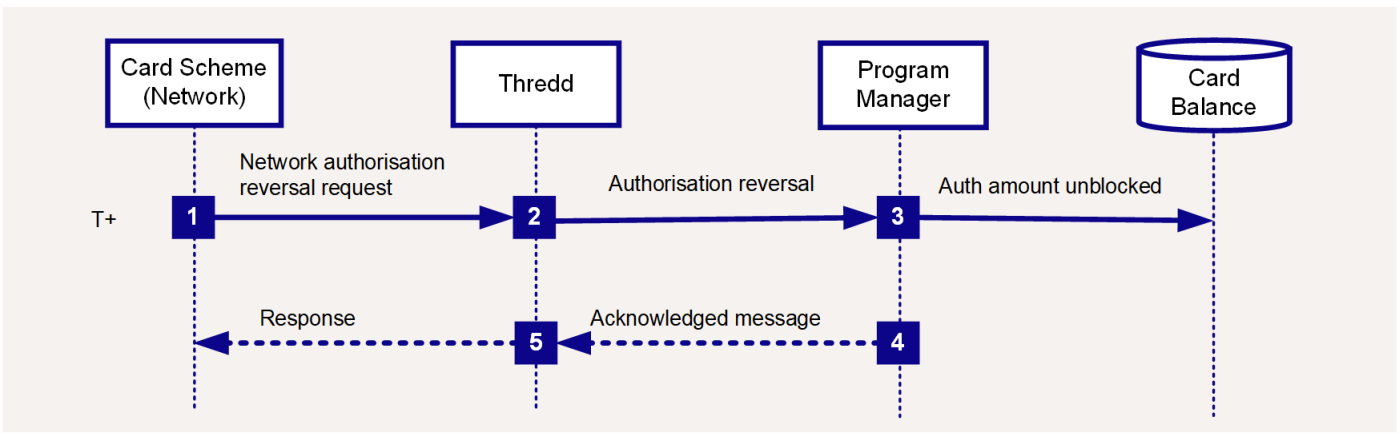


Figure 4: Authorisation Reversal Flow

1. The scheme sends a 1420 authorisation reversal request to Thredd.
2. Thredd sends an 0420 message request to the external host (Program Manager).
3. Thredd responds to the scheme with a 1430 message.

---

[1]The merchant acquirer or bank that offers the merchant a trading account, to enable the merchant to take payments in store or online from cardholders.

4. The Program Manager matches the reversal message to the original authorisation message. See Transaction Matching.
   The Program Manager unblocks the authorised amount and updates the cardholder's available balance.
5. The Program Manager acknowledges the message: *acknowledgement = 1.*

Authorisation Reversal (non-network)

If no presentment (request to settle the amount previously authorised) is received within the Thredd **hanging filter**[1] period, Thredd automatically reverses the authorisation.

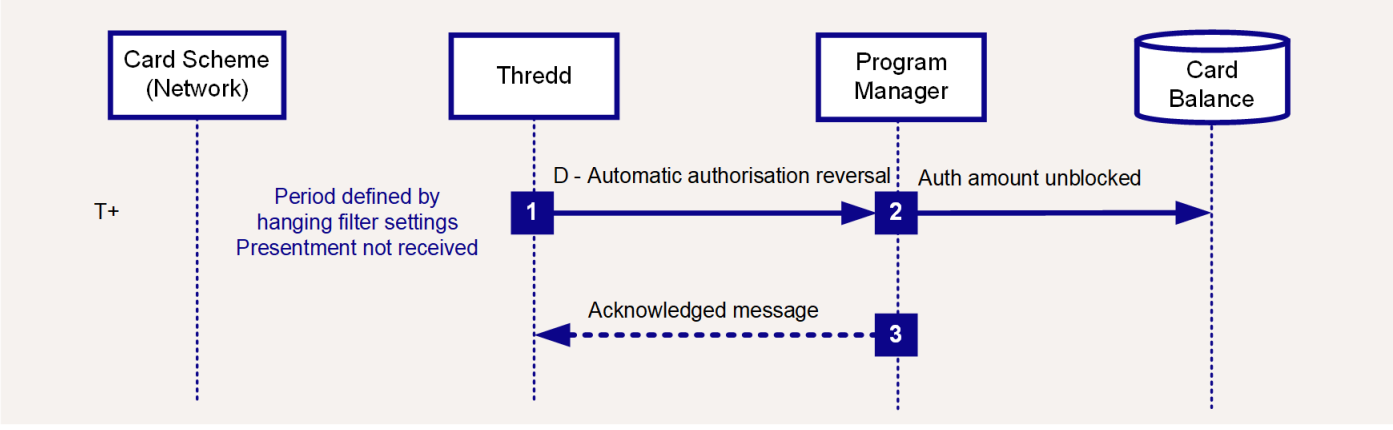


Figure 5: Authorisation Reversal Flow

1. If no presentment is received within the time period set by the **hanging filter**[2], EHI sends a financial reversal message to the external host (Program Manager).
2. The Program Manager matches the reversal message to the original authorisation. See Transaction Matching.
   The Program Manager unblocks the authorised amount and updates the cardholder's available balance.
3. The Program Manager acknowledges the message: *acknowledgement = 1.*

Incremental Authorisation

An incremental authorisation is an additional authorisation, following a previous transaction authorisation, which is used to request an additional amount for the same product or service purchased by the cardholder. See What is an incremental authorisation and how do I identify it?

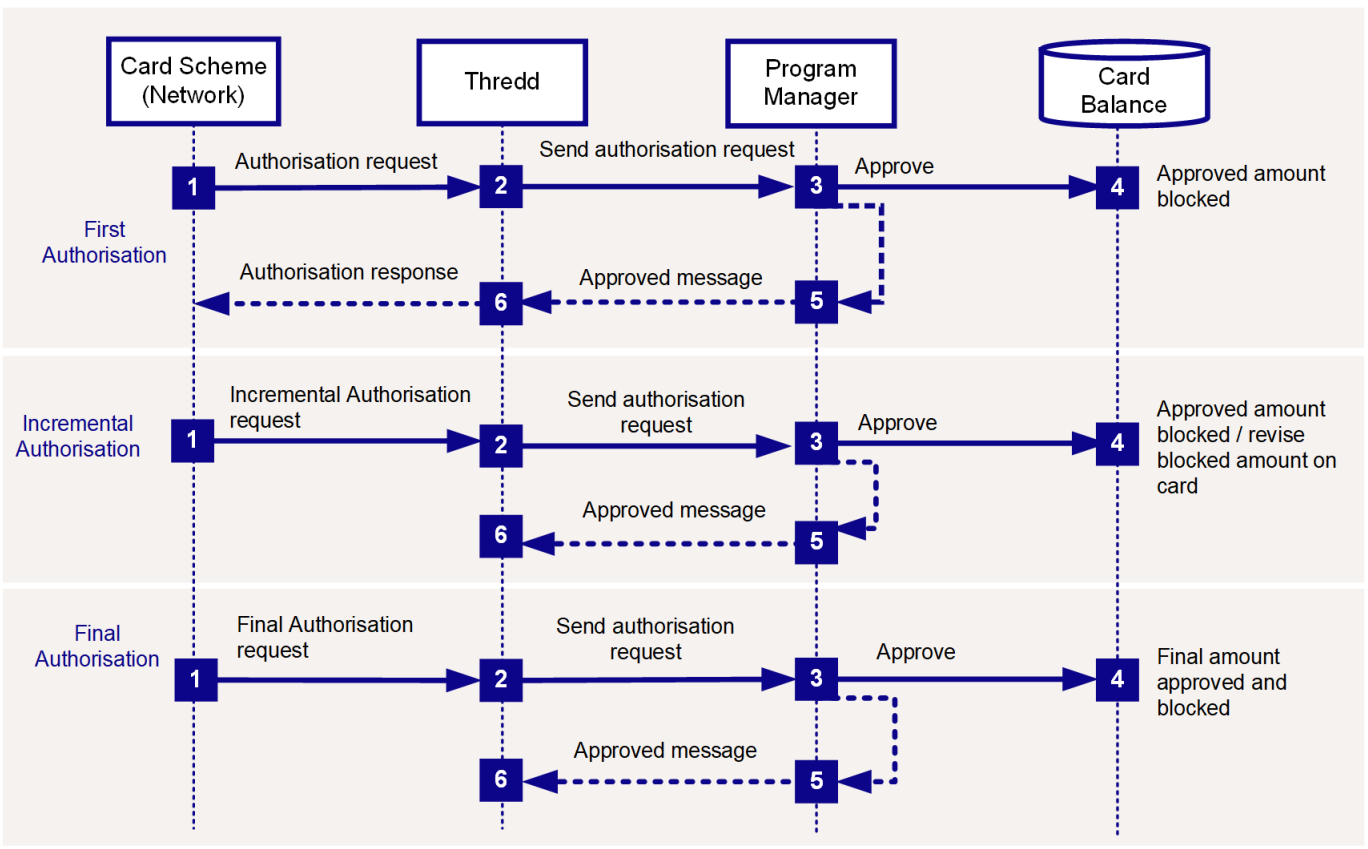


Figure 6: Incremental Authorisation Reversal Flow

---

[1]The period of time during which waits for an approved authorisation amount to be settled. This is defined at a product level. A typical default is 7 days for an auth and 10 days for a pre-auth.
[2]The period of time during which waits for an approved authorisation amount to be settled. This is defined at a product level. A typical default is 7 days for an auth and 10 days for a pre-auth.

- A request for the first authorisation is received, and follows the steps of a normal authorisation. See Authorisation with Approve.
- When you receive the incremental authorisation (`auth_type` = P or 0), where you maintain the card balance and approve, you should block the additional amount.
- If you receive the final authorisation (`auth_type` = F), where you maintain the card balance and approve, you should revise the amount blocked on the card based on the final amount.

You will receive a single financial presentment, which includes the sum of all incremental authorisations.

Refund

A refund transaction occurs when a merchant refunds money to the cardholder, typically relating to a previously processed transaction. The merchant/acquirer submits a request for a *partial* or a *full* refund of a previously paid amount. This is typically processed as an 1100 Authorisation request (we will map this to a 0100 message type) for a positive billed amount, with the DE3 processing code of *20*. This 2-digit code is displayed in the Thredd (`Proc_Code`) transaction field.

Note: It is not recommended to update the available balance until the linked financial notification is received. You must make information about any pending refund transactions available to cardholders.

3.2 Financials

Thredd receives batch [1] files containing financial transactions (presentments) for authorisations that need settlement. Typically the authorisations happened the previous day. Thredd processes the clearing files and sends a separate notification via EHI for each presentment transaction. For additional information see What are Presentments and how do they work?

Note: All Discover files are received between 10 am to 2 pm in no particular order.

Note: Chargebacks and Network fee details are sent as a separate file at 2 pm daily. Thredd will send a separate message for each chargeback event.

First Presentment

First presentment occurs when the merchant sends a request to take either part or all of the amount previously authorised on the card[2]. This can happen at the same time as the authorisation request or in some cases it can be much later. The Program Manager should attempt to match the presentment to the original authorisation request.

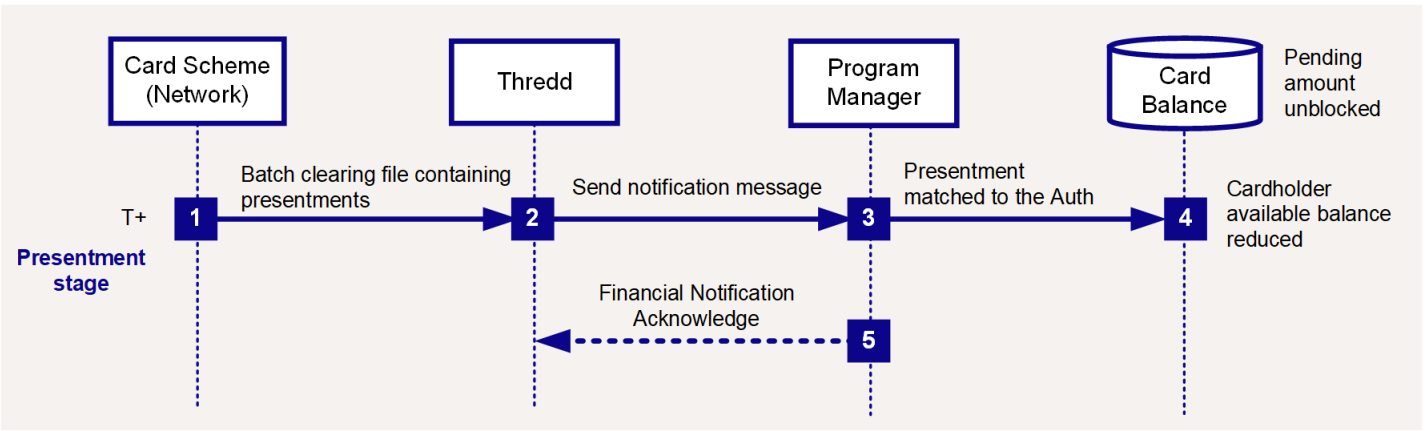


Figure 7: Presentment Flow

1. The scheme sends a batch clearing file to Thredd.
2. Thredd processes the file and sends a notification message per presentment, via EHI, to the external host (Program Manager).
3. The Program Manager matches the presentment to the original authorisation. See Transaction Matching.

---

[1] Receive batch clearing files from the card networks, containing clearing transactions, such as presentments and network fees. The card issuer transfers the requested settlement amount to the acquirer and 'clears' the amount on the card, reducing the available card balance accordingly.

[2] You should be aware that in some cases it is possible for merchants to submit a presentment for more than the authorised amount. This is permitted for certain Merchant Category Codes (MCC), but it may also indicate a fraudulent transaction.

4. The Program Manager unblocks the pending amount and reduces the cardholder's available balance.
5. The Program Manager acknowledges the message: *acknowledgement= 1.*

First Presentment for an Offline Transaction

In an **offline transaction**[1], Thredd has not received a previous authorisation transaction, so when a financial presentment message is received from the card schemes, we are unable to match to an 0100 authorisation transaction. In this case, Thredd creates a new authorisation transaction and sends this to the Program Manager, followed by the linked presentment message.

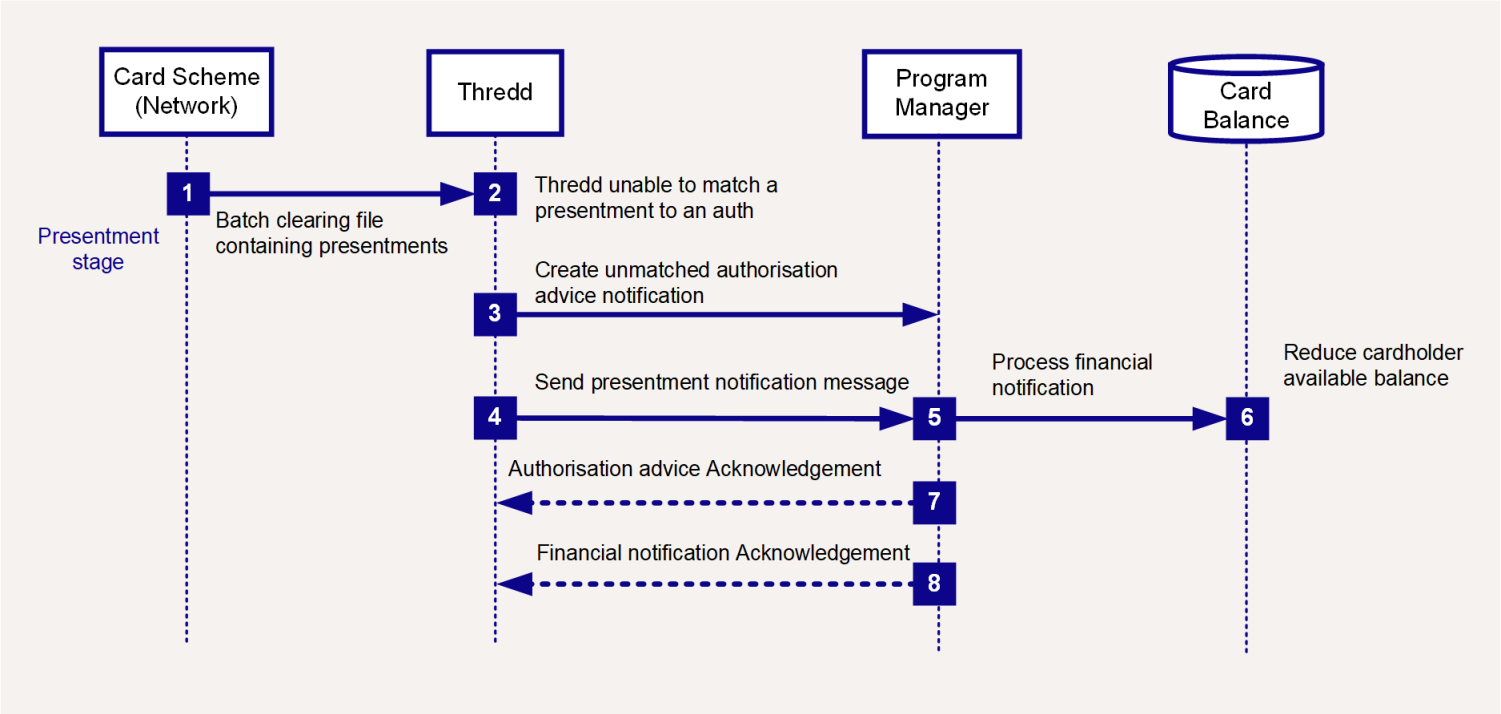


Figure 8: Offline Transaction - Presentment Flow

1. The scheme sends a batch clearing file to Thredd.
2. Thredd carries out validation checks. Since this is an offline transaction, Thredd will not be able to match to an existing 0100 authorisation.
3. Thredd creates an Unmatched Authorisation Advice Notification and sends it the external host (Program Manager).
4. Thredd sends a presentment notification to the Program Manager.
5. The Program Manager processes the financial notification (matching it to the Unmatched Authorisation Advice Notification).
6. The Program Manager reduces the cardholder's available balance by the amount of the presentment.
7. The Program Manager acknowledges the authorisation message: *acknowledgement= 1.*
8. The Program Manager returns a financial notification acknowledgement:*acknowledgement= 1.*

Incremental Presentment

An incremental presentment may occur when a merchant requests an authorisation for a specific amount, but then submits multiple presentments for different partial amounts. An incremental presentment has one authorisation and multiple presentment files. The final presentment total usually equals the total of the original authorised amount. For more information, see What are incremental presentments and how do I handle them?

Financial Reversal

A financial reversal occurs when the acquirer cancels all or part of a prior transaction (which may be a purchase, refund, cashback, cash, PIN change, or any other transaction type).

---

[1]This is often used in scenarios where the merchant terminal is not required to request authorisation from the card issuer (for example for certain low risk, small value transactions used by vending machines, commuting and transport networks). The card chip and terminal determine if the offline transaction is permitted under EMV/Scheme rules; if not supported, the terminal declines the transaction. Note: Since the balance on the card balance is not authorised in real-time, there is a risk that the card may not have the amount required to cover the transaction.

For example, if the acquirer has already taken the funds and are aware of a processing error (e.g., double charging), they can submit an 06 (Thredd 1240) Financial Reversal. You must return any deducted amounts back to the card.

Note: For a financial reversal, if the card has subsequently been lost, stolen or replaced, then the card record will be in a blocked and inactive/archived status, and you will not be able to update the card status or process transactions on the card. You should have a process in place to provide the reversed funds to your customer (e.g., move money to another account belonging to your customer).

3.3 Chargebacks

A **chargeback**[1] is a mechanism available to cardholders who dispute a transaction on the card and want part or all of a card payment returned. The chargeback is always issued by the card issuer or Program Manager. You can create a chargeback using the Discover Xchange Platform. For more information, refer to the *Discover Chargeback Guide* and the *Discover Xchange User Guide*.

Chargeback and Second Presentment

A chargeback can only be created for a transaction that has a linked presentment. The Program Manager or card issuer creates the chargeback request, which is sent to Discover. This triggers the process described below.

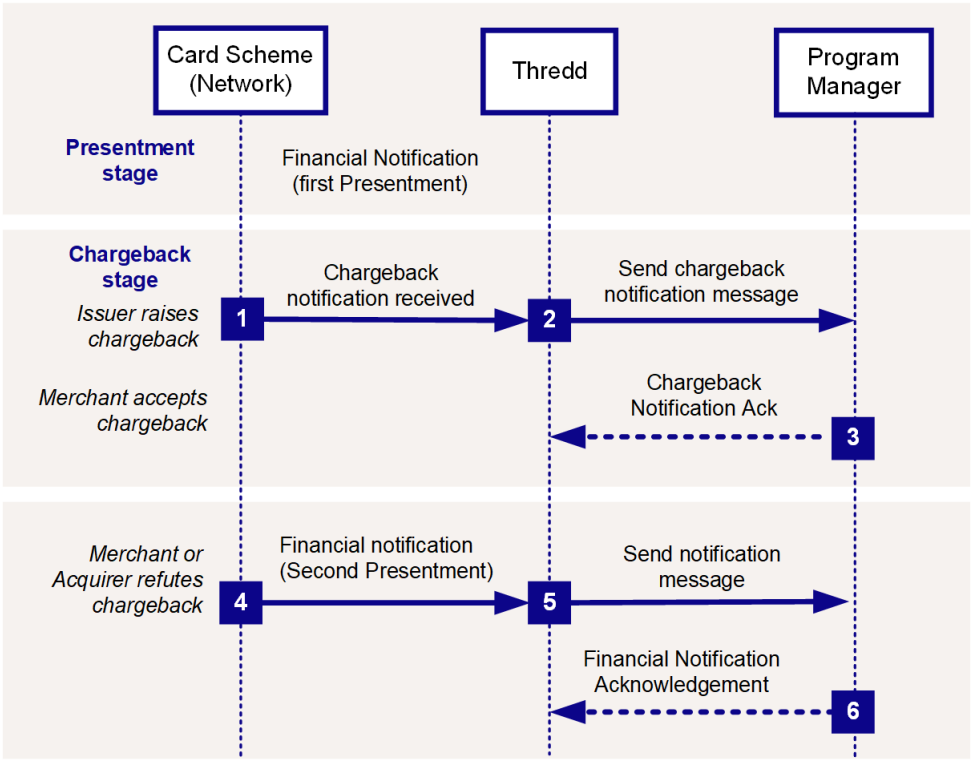


Figure 9: Chargeback Transaction Flow

1. Thredd receives a chargeback notification from Discover.
2. Thredd sends the chargeback notification message to the external host (Program Manager).
3. The Program Manager returns a chargeback notification acknowledgement.
4. If the merchant or acquirer accepts the chargeback, no further EHI messages are sent. (The Program Manager receives additional transaction notifications on the Discover XChange Platform.)
5. If the merchant or acquirer does not accept the chargeback, Thredd receives a second presentment notification from Discover.
6. Thredd sends the second presentment notification message to the Program Manager.
7. The Program Manager returns a notification acknowledgement.

Note: When a chargeback is raised, you should always return the disputed amount to the cardholder within the time period prescribed by Discover and issuer regulations relevant to your region.

---

[1]Where a cardholder disputes a transaction on their account and is unable to resolve directly with the merchant, they can raise a chargeback with their card issuer. The chargeback must be for a legitimate reason, such as goods and services not received, faulty goods, or a fraudulent transaction.

4 Transaction Matching

A typical card payment transaction generates multiple messages during its life cycle. The GetTransaction message types you receive for a transaction must be linked to the previous messages for that transaction. This matching enables you to track the history of the transaction, compare the financial effect of a new messages with previous messages and re-calculate card balances.

Note: In Full Service Processing (mode 3) and Cooperative Processing (mode 2), Thredd manages transaction matching.

Note: The matching examples below are for customers connecting to Discover networks. Only transaction types supported in Discover Phase 1 are shown.

4.1 Matching Overview

Your systems should match new to previous transactions as follows:

New Message	..match to..	Previous Message
Authorization Reversal (D)	→	Authorization Request (A)
Authorization Advice (J)	→	Authorization Request (A)
Financial Notification (P)	→	Authorization Request (A) or Authorization Advice (J)
Financial Reversal (E)	→	Financial Notification (P, N)
Chargeback (C, H)	→	Financial Notification (P, N)
Chargeback Reversal (K)	→	Chargeback (C, H)
Financial Notification (N)	→	Chargeback (C, H)

Figure 10: Transaction Matching Criteria for Discover Networks

For further details, see the Transaction Matching Criteria below.

Where 3D Secure authentication applies, additional transaction matching should be performed to match details in the authorisation to the 3D Secure authentication details. For detail see External Host Interface (EHI) Guide > Transaction Matching - Authentications and Authorisations.

Matching Criteria and Accuracy

Note: Matching a transaction to its original (e.g., *Presentment* to matching *Authorisation*, or *Authorisation Reversal* to matching *Authorisation*) is based on the information received. In most cases transactions match. However, acquirers do not always send accurate information, so mistakes can occur.[3]

You can use the following options to find a match:

- The matching criteria recommended in the section Transaction Matching Criteria
- Your own matching criteria
- A combination of both the above.

As a general rule, the more matching fields that correctly match, the more reliable the match. If some fields match and some do not, this indicates an 'unreliable' match.

Transaction Matching Criteria

The table below provides best-practise guidelines on how to match transactions.

Match Criteria:

- If "*Match to*" is "-", this means there is nothing to match against.
- "THIS" = this transaction (i.e., the one with MTID + Txn_Type from the same row) is the transaction you have just received in the EHI message

---

[3]Discover Network does not verify whether acquirer information matches, so data from the acquirer may be inaccurate.

- “OTHER” = the other transaction (in the “Match to” column) that is being found by matching (to match to THIS)
- Syntax: *OTHER.other_field_name = THIS.this_field_name* where the field names refer to the GetTransaction Message Fields.

MTID	Txn_Type	Description	Match to?	Match Criteria
0100	A	Authorisation Request	- (For an **incremental authorisation**[1], match to Authorisation Request)	OTHER.token=THIS.token AND OTHER.traceid_lifecycle = THIS.traceid_lifecycle
-	D	Automatic Authorisation Reversal	Authorisation Request	OTHER.token=THIS.token AND OTHER.trans_link = THIS.trans_link
0120	J	Authorisation Advice	Authorisation Request (Auth request may not exist)	OTHER.token=THIS.token AND (if THIS.traceid_lifecycle exists) OTHER.traceid_lifecycle = THIS.traceid_lifecycle AND (if THIS.Auth_Code_DE38 exists) OTHER. Auth_Code_DE38 = THIS.Auth_Code_DE38 AND (if THIS.trans_link exists) OTHER.trans_link = THIS.trans_link **Note**: If neither THIS.traceid_lifecycle or THIS.trans_link is present, then there is no match. Normally traceid_lifecycle will always be present if an authorisation exists. For most authorisation advices, Auth_Code_DE38 and trans_link will probably be missing.
0120	D	Authorisation reversal due to a 0120 Automated Fuel Dispenser Advice	Authorisation Request	OTHER.token=THIS.token AND (if THIS.traceid_lifecycle exists) OTHER.traceid_lifecycle = THIS.traceid_lifecycle AND (if THIS.Auth_Code_DE38 exists) OTHER. Auth_Code_DE38 = THIS.Auth_Code_DE38 AND (if THIS.trans_link exists) OTHER.trans_link = THIS.trans_link **Note**: If neither THIS.traceid_lifecycle or THIS.trans_link is present, then there is no match. Normally traceid_lifecycle will always be present if an authorisation exists.
0420	D	Authorisation Reversal Advice	Authorisation Request	OTHER.token=THIS.token AND (if THIS.traceid_lifecycle exists) OTHER.traceid_lifecycle = THIS.traceid_lifecycle AND (if THIS.Auth_Code_DE38 exists)

[1]A request for an additional amount on a prior authorisation. An incremental authorisation is used when the final amount for a transaction is greater than the amount of the original authorisation. For example, a hotel guest might register for one night, but then decide to extend the reservation for additional night. In that case, an incremental authorisation might be performed in order to get approval for additional charges pertaining to the second night.

MTID	Txn_Type	Description	Match to?	Match Criteria
				OTHER. Auth_Code_DE38 = THIS.Auth_ Code_DE38 AND (if THIS.trans_link exists) OTHER.trans_link = THIS.trans_link **Note**: If neither THIS.traceid_lifecycle or THIS.trans_link is present, then there is no match. If the reversal is due to a timeout at the acquirer, THIS.traceid_lifecycle may not exist.
1240	A	Authorisation Advice Notification (New dummy authorisation created if a financial notification has no matching authorisation.)	-	This message should be ignored. It indicates an offline transaction where Thredd has not received a previous authorisation request. You will receive the financial notification corresponding to authorisation advice, which has all the information required.
1240	E	Financial Reversal	Financial Notification	OTHER.Acquirer_Reference_Data_031 = THIS.Acquirer_Reference_Data_031 AND OTHER.token=THIS.token AND OTHER.Txn_Amt=THIS.Txn_Amt AND OTHER.Txn_CCy=THIS.Txn_CCy AND OTHER. Auth_Code_DE38 = THIS.Auth_ Code_DE38 AND OTHER.POS_Time_DE12=THIS.POS_Time_ DE12 AND OTHER.Ret_Ref_No_DE37=THIS. Ret_Ref_ No_DE37 **Note**: In some cases both OTHER.Auth_ Code_DE38 and THIS.Auth_Code_DE38 are not present.
1240	C	Chargeback Notification	Financial Notification	OTHER.Acquirer_Reference_Data_031 = THIS.Acquirer_Reference_Data_031 AND OTHER.token=THIS.token AND OTHER. Auth_Code_DE38 = THIS.Auth_ Code_DE38 AND OTHER.trans_link = THIS.trans_link **Note**: In some cases both OTHER.Auth_ Code_DE38 and THIS.Auth_Code_DE38 are not present.

MTID	Txn_Type	Description	Match to?	Match Criteria
1240	H	Chargeback Notification (Non-Credit)	Financial Notification	As above (see MTID=1240, Txn_Type='C')
1240	K	Chargeback Reversal	Chargeback	As above (see MTID=1240, Txn_Type='C'), except that OTHER (the original to match) will have Txn_Type of 'C' or 'H')
1240	N	Financial Notification (Second Presentment)	Financial Notification and/or Chargeback Notification (Txn_Type H or N)	As above (see MTID=1240, Txn_Type='C')
1240	P	Financial Notification (First Presentment)	Authorisation (0100 or 0120)	<u>Rule 1: (reliable match if found, Thredd and acquirer matching data)</u> OTHER.token=THIS.token AND (if THIS.traceid_lifecycle exists) OTHER.traceid_lifecycle = THIS.traceid_lifecycle AND (if THIS.Auth_Code_DE38 exists) OTHER.Auth_Code_DE38 = THIS.Auth_Code_DE38 AND OTHER.trans_link = THIS.trans_link AND OTHER.TXn_ID = THIS.Matching_Txn_ID AND OTHER.Txn_CCy = THIS.Txn_CCy (see notes below) <u>Rule 2: (run if no match on rule 1, AND THIS.traceid_lifecycle exists. Uses Acquirer matching data only)</u> OTHER.token=THIS.token AND OTHER.traceid_lifecycle = THIS.traceid_lifecycle AND (if THIS.Auth_Code_DE38 exists) OTHER. Auth_Code_DE38 = THIS.Auth_Code_DE38 AND OTHER.Txn_CCy = THIS.Txn_CCy (see notes below too) <u>Rule 3: (run if no match on rule 1. Uses Thredd matching data only)</u> <u>OTHER.token=THIS.token</u> AND (if THIS.Auth_Code_DE38 exists) OTHER.Auth_Code_DE38 = THIS.Auth_Code_DE38 AND OTHER.trans_link = THIS.trans_link AND OTHER.TXn_ID = THIS.Matching_Txn_ID AND OTHER.Txn_CCy = THIS.Txn_CCy (see notes below) **NOTES**

MTID	Txn_Type	Description	Match to?	Match Criteria
				1. The above rules are best advice, but there may be some instances where the authorisation and presentment do not match (due to acquirer inconsistencies). 2. OTHER.trans_link may not exist if matching to a MTID=0120. So rule 2 is useful here. 3. Other fields that should normally match include: • Txn_Amt (except for tips, partial approval, many-auths to 1 Presentment) • Proc_Code (but not a 1-to-1 match) • Merch_ID_DE42 • POS_Termnl_DE41 3. If rule 2 matches and rule 3 does not, (or vice-versa), this indicates an unreliable match. It is up to you if you use the found match or not. 4. Normally traceid_lifecycle will always be present if an authorisation exists. However, if this is a refund, then there will not be an authorisation with a matching traceid_lifecycle.
-	L	Load	-	-
-	U	Unload	-	-
-	G	Payment	-	-
-	B	Balance Adjustment	-	-
-	Y	Card Expiry	-	-
-	F	Fee	-	-

5 Implementing a Discover Network Programme

This section provides details of the steps involved in implementing a Discover Network card programme.

5.1 Stages in a Discover Network Project

Note: Discover provides resources and support to help issuers and their processors integrate. This includes access to the Discover EASI Portal for onboarding, testing, and ongoing communication. For more information, see the Discover EASI Portal.

The figure below provides a high-level overview of the typical stages in a Discover Network project.

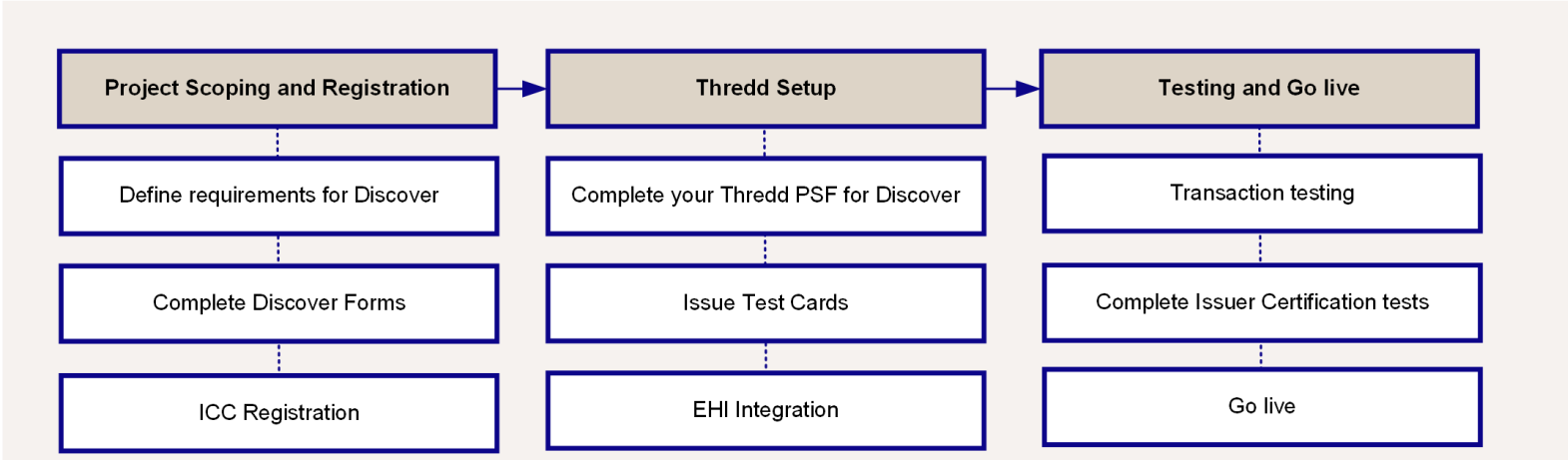


Figure 11: Stages in a Discover Network Project

The typical steps in a project are described in further detail below.

Project Scoping and Registration

1. Define your Discover Network Card Programme requirements, including implementation options and scope. See Discover Project Requirements.
2. Complete Discover card programme setup and configuration options. See Issuer Documentation and Certification.
3. Register your Issuer Identification Code (IIC) for each settlement currency you are supporting. Talk to your Discover representative.

   Note: Each time you add a new Settlement Currency, you must complete a new request for a separate Issuer Identification Code (IIC).

Thredd Setup

4. Complete your Thredd Product Setup Form (PSF). Your implementation Manager will provide guidance and ensure your account and card product configuration options are set up on the Thredd Platform. For more information, see Thredd Setup and Configuration.
5. Create/issue test cards using your existing Thredd API (SOAP Web Services or REST-based Cards API), with your Discover card product. (For existing Thredd Program Managers, all API details, such as your credentials, will be the same). For more information, see Card Management.
6. Complete your External Host Interface (EHI) integration. Existing Thredd Program Managers can either use the same EHI endpoint or request a separate external host endpoint for Discover.

   Note: You can use your existing integration to EHI. There are some changes to field values you can expect to receive for Discover Network transactions.

Testing and Go live

7. Use the Thredd **Card Transaction System (CTS)**[1] to test Discover Network transactions. For more information, see Testing Transactions.
8. View your transactions on **Thredd Portal**[2] or **Smart Client**[3]. For more information, see Viewing Transactions.

---

[1]The Card Transaction System (CTS) enables you to test the integration of your card processing systems and validate the setup of your External Host Interface (EHI).
[2]Thredd Portal is Thredd's new web application for managing your cards and transactions on the Thredd Platform.
[3]Smart Client is Thredd's legacy desktop application for managing your cards and transactions on the Thredd Platform.

9. Complete Discover certification testing.
10. Complete pavement testing. This involves using some live Discover BINs to make payments and process transactions.
11. Go live.

6 Discover Project Requirements

Delete this text and replace it with your own content.

6.1 Card Issuing on Discover

6.1.1 Issuer Documentation and Certification

You must work with a certified Issuer-Processor, such as Thredd, to access the Discover Network.

Issuers or their processors must complete a certification process with Discover to enable acceptance of Discover cards and products. This requires integrating with Discover's Deliver product and completing the necessary testing and validation.

The Xpress Participant Information Document (PID) should be completed by your Thredd Implementation Manager with your support.

6.1.2 Issuing BINs

The Bank Identification Number (BIN) is the first 6-8 digits of the card number.

Note: For Thredd Program Managers, the BIN ranges provided start with “36” and PAN length of 14 digits.

Discover provides resources and testing kits to help partners integrate and enable support for the full range of Discover BINs, ensuring a seamless payment experience for all Discover cardholders.

Note: Discover acts as the network provider, facilitating the acceptance and processing of transactions across a diverse set of BIN ranges.

For more information, see discoverglobalnetwork.com: bin-ranges

6.1.3 Scheme Stand-In Processing (STIP)

Thredd can support Discover Scheme Stand-in Processing (STIP) if required. If enabled, the Discover Network will handle transaction authorisation requests if Thredd or your systems are unavailable or unable to respond to a transaction authorisation request within the required time.

For information on how the Discover Xpress system handles STIP authorisations and the circumstances which can result in a decline and a *Do Not Honour* response, refer to the *Discover Xpress Guide to System Use > Section 4, Xpress Network Stand-in Authorization Processing*.

For further details, please contact your Thredd account manager.

6.1.4 Issuer Identification Code

The Issuer Identification Number (IIN) identifies the Issuer Settlement Currencies and can be 11 digits long, also known as the BIN. The Issuer Identification Code (IIC) identifies the card issuing institution and is the first 6-8 digits of the card number.

This information is crucial for routing the transaction to the correct payment network and initiating the necessary communication between the various parties involved. The structured format of the IIC/IIN facilitates efficient routing, settlement, and reconciliation of transactions across the payment ecosystem.

The IIC identifies issuer and the IIN (BIN) identifies card allows payment processors and merchants to quickly verify the authenticity of a card and detect potential fraudulent activities.

By identifying the issuing institution, the IIC/IIN enables real-time monitoring of card usage patterns and triggers alerts for any unauthorised transactions.

6.2 Working with Issuers

For Program Managers who are not self-issuing on Discover Networks, your issuer will need to have completed Discover Network certification and IIC registration.

Your issuer will also need to approve your account setup on Thredd and the Discover Network, and provide you with access to relevant Discover Network tools, Portals and documentation.

6.3 Thredd Setup and Configuration

6.3.1 Completing the Product Setup Form (PSF)

Your Thredd Implementation Manager will guide you through fields and settings that are relevant to Discover.

6.3.2 EHI Setup and Integration

The Thredd External Host Interface (EHI) is a system which coordinates payment authorisation and financial messages, processed on the Thredd Platform, and communicates with your external systems in real-time, to support the payment authentication process.

For details of setup options for receiving your Discover transaction messages through EHI, see the External Host Interface (EHI) Guide > EHI Configuration Options.

Already Integrated to EHI?

For Program Managers with an existing EHI integration:

- You can use the same EHI endpoint for receiving your EHI messages or you can set up a separate external host endpoint to receive authorisation and financial messages.
- The message fields are the same as used with other Card Scheme networks (e.g., Visa and Mastercard). Your systems will need to process some new field values. There are new fields you will need to support. For details, see GetTransaction Message Fields in this guide.
- Please check the sample data and example messages provided in this guide, for a flavour of the type of data your systems will receive from Discover Networks. See Discover Message Examples.

Not Integrated to EHI?

For Program Managers who do not have an existing EHI integration, please refer to the External Host Interface Guide.

Notes

- Thredd support both XML and JSON formats of EHI messages.
- There are no restrictions on usage of EHI mode with Discover. For details of available modes, see the External Host Interface (EHI) Guide > EHI Operating Modes.

7 Managing your Programme

This section explores some of the options available for managing cards and servicing your cardholders on Discover networks.

7.1 Card Management

Discover network card creation and management on the Thredd Platform works in the same manner as with other Card Scheme networks. You can use Thredd API to create and manage your cards.

> **Note:** Phase 1 is restricted to virtual cards only.

For details of card creation and management using the Thredd REST-based API, see the Cards API Website.

For details of card creation and management using the Thredd Web Services (SOAP API), see the Web Services Guide.

7.2 Viewing Transactions

You can use **Smart Client**[1] to view your Discover card transactions. See Viewing Transactions.

You can view daily transaction records in your Transaction XML reports. See Viewing Transaction XML Reports.

7.3 Dispute Management

You will need to use the Discover Xchange system to create and manage chargebacks. The chargeback stages and life-cycle is similar to the process adopted by other Card Schemes (such as Mastercard and Visa).

Thredd receive chargeback information via clearing files. You can view chargeback records in the Chargebacks screen in Smart Client and in your Transaction XML reports.

For more information, see Managing Chargebacks.

7.4 Release Management and Change Control System Changes

Discover issues Compliance and Scheme Change Notifications on a 6-month release cycle.

Where Thredd is notified of a change that impacts on issuer processing, we will endeavour to update our systems to meet these requirements and notify you of changes that may impact on your integration to Thredd.

[1] Smart Client is Thredd's legacy desktop application for managing your cards and transactions on the Thredd Platform.

8 Processing EHI Messages

This page details examples of requests and responses for authorisations on Discover Global Network cards.

- Authorisation Request
- Authorisation Request (Auth Advice)
- Authorisation Reversal

8.1 Authorisation Request

Below is an example of the HTTP POST body data for a Discover Global Network authorisation request.

Some key elements of this request are:

- The MTID value is 0100 and the Txn_Type is A, indicating that this is an Authorisation Request.
- The transaction is for £10. This is indicated by the Bill_Amt having a value of 10.0000 and the Bill_Ccy being set to 826 (for Great British Pounds).
- The SendingAttemptCount field checks to show whether this is a duplicate request. This will be zero for a first attempt.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
    <s:Body>
        <GetTransaction
            xmlns="http://tempuri.org/">
            <Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
            <ActBal>120.0000</ActBal>
            <Auth_Code_DE38>198802</Auth_Code_DE38>
            <Avl_Bal>120.0000</Avl_Bal>
            <Bill_Amt>-10.0000</Bill_Amt>
            <Bill_Ccy>826</Bill_Ccy>
            <BlkAmt>0.0000</BlkAmt>
            <Cust_Ref />
            <Fee_Rate>0.0000</Fee_Rate>
            <MCC_Code>7011</MCC_Code>
            <MCC_Pad>0.0000</MCC_Pad>
            <Merch_ID_DE42>123400000000000</Merch_ID_DE42>
            <Merch_Name_DE43>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Merch_Name_DE43>
            <POS_Data_DE22>100000100001</POS_Data_DE22>
            <POS_Time_DE12>153240</POS_Time_DE12>
            <Proc_Code>000000</Proc_Code>
            <Settle_Amt>10.0000</Settle_Amt>
            <Settle_Ccy>826</Settle_Ccy>
            <Token>275845508</Token>
            <Trans_link>240812573255</Trans_link>
            <Txn_Amt>10.0000</Txn_Amt>
            <Txn_CCy>826</Txn_CCy>
            <Txn_Ctry>GBR</Txn_Ctry>
            <Txn_Desc>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Txn_Desc>
            <Txn_GPS_Date>2024-08-12 03:32:43.481</Txn_GPS_Date>
            <TXn_ID>6150010346</TXn_ID>
            <Txn_Stat_Code>A</Txn_Stat_Code>
            <TXN_Time_DE07>0812153240</TXN_Time_DE07>
            <Txn_Type>A</Txn_Type>
            <InstCode>PMT</InstCode>
            <MTID>0100</MTID>
            <ProductID>45672204</ProductID>
            <SubBIN>0</SubBIN>
            <Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
            <CVV2>319</CVV2>
            <Expiry_Date>2601</Expiry_Date>
            <GPS_POS_Capability>0100000000000000000010000000000000000000000001M</GPS_POS_Capability>
            <GPS_POS_Data>0010000000000Nx000NNNNNU0UU9XXU</GPS_POS_Data>
            <traceid_lifecycle>DGN-20240812-163555103759993</traceid_lifecycle>
            <Merch_Name>DCISC</Merch_Name>
            <Merch_Street>TEST</Merch_Street>
            <Merch_City>POS ZX</Merch_City>
            <Merch_Region>HAM</Merch_Region>
            <Merch_Postcode>GU14 7SR</Merch_Postcode>
```

```
            <Merch_Country>GBR</Merch_Country>
            <POS_Date_DE13>2024-08-12</POS_Date_DE13>
            <Traceid_Message>DGN-20240812-163555103759993</Traceid_Message>
        </GetTransaction>
    </s:Body>
</s:Envelope>
```

8.1.1 Authorisation Response

Below is an example of HTTP response to the above Authorisation request message.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <s:Body>
        <GetTransactionResponse
            xmlns="http://tempuri.org/">
            <GetTransactionResult>
                <Responsestatus>00</Responsestatus>
                <CurBalance>0</CurBalance>
                <AvlBalance>100</AvlBalance>
                <Acknowledgement>1</Acknowledgement>
                <LoadAmount>50</LoadAmount>
                <Bill_Amt_Approved>0</Bill_Amt_Approved>
                <Update_Balance>1</Update_Balance>
                <New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
                <CVV2_Result>M</CVV2_Result>
                <CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
                <AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
            </GetTransactionResult>
        </GetTransactionResponse>
    </s:Body>
</s:Envelope>
```

8.2 Authorisation Advice (Auth Advice)

Below is an example of the HTTP POST body data for an Authorisation advice message.

Some key elements of this request are:

- The MTID value is 0120 and the Txn_Type is J, indicating that this is Authorisation Advice matched to an Authorisation Request.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
    <s:Body>
        <GetTransaction
            xmlns="http://tempuri.org/">
            <Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
            <ActBal>120.0000</ActBal>
            <Auth_Code_DE38>198791</Auth_Code_DE38>
            <Avl_Bal>130.0000</Avl_Bal>
            <Bill_Amt>-10.0000</Bill_Amt>
            <Bill_Ccy>826</Bill_Ccy>
            <BlkAmt>-10.0000</BlkAmt>
            <Cust_Ref />
            <Fee_Rate>0.0000</Fee_Rate>
            <MCC_Code>7011</MCC_Code>
            <MCC_Pad>0.0000</MCC_Pad>
            <Merch_ID_DE42>123400000000000</Merch_ID_DE42>
            <Merch_Name_DE43>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Merch_Name_DE43>
            <Note> Completion For 6150010342</Note>
            <POS_Data_DE22>100000100001</POS_Data_DE22>
            <POS_Time_DE12>144159</POS_Time_DE12>
            <Proc_Code>000000</Proc_Code>
            <Resp_Code_DE39>00</Resp_Code_DE39>
            <Settle_Amt>10.0000</Settle_Amt>
            <Settle_Ccy>826</Settle_Ccy>
            <Token>275845508</Token>
```

```
            <Trans_link>240812768749</Trans_link>
            <Txn_Amt>10.0000</Txn_Amt>
            <Txn_CCy>826</Txn_CCy>
            <Txn_Ctry>GBR</Txn_Ctry>
            <Txn_Desc>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Txn_Desc>
            <Txn_GPS_Date>2024-08-12 02:42:00.398</Txn_GPS_Date>
            <TXn_ID>6150010343</TXn_ID>
            <Txn_Stat_Code>A</Txn_Stat_Code>
            <TXN_Time_DE07>0812144147</TXN_Time_DE07>
            <Txn_Type>J</Txn_Type>
            <InstCode>PMT</InstCode>
            <MTID>0120</MTID>
            <ProductID>45672204</ProductID>
            <SubBIN>0</SubBIN>
            <Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
            <CVV2>319</CVV2>
            <Expiry_Date>2601</Expiry_Date>
            <GPS_POS_Capability>0100000000000000000010000000000000000000000001M</GPS_POS_Capability>
            <GPS_POS_Data>0010000000000Nx000NNNN0U0UU9NNN</GPS_POS_Data>
            <traceid_lifecycle>DGN-20240812-416342176625529</traceid_lifecycle>
            <Merch_Name>DCISC</Merch_Name>
            <Merch_Street>TEST</Merch_Street>
            <Merch_City>POS ZX</Merch_City>
            <Merch_Region>HAM</Merch_Region>
            <Merch_Postcode>GU14 7SR</Merch_Postcode>
            <Merch_Country>GBR</Merch_Country>
            <POS_Date_DE13>2024-08-12</POS_Date_DE13>
            <Traceid_Message>DGN-20240812-416342176625529</Traceid_Message>
        </GetTransaction>
    </s:Body>
</s:Envelope>
```

8.2.1 Authorisation Response (Auth Advice Response)

Below is an example of HTTP response to the above Authorisation advice message.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <s:Body>
        <GetTransactionResponse
            xmlns="http://tempuri.org/">
            <GetTransactionResult>
                <Responsestatus>00</Responsestatus>
                <CurBalance>0</CurBalance>
                <AvlBalance>100</AvlBalance>
                <Acknowledgement>1</Acknowledgement>
                <LoadAmount>50</LoadAmount>
                <Bill_Amt_Approved>0</Bill_Amt_Approved>
                <Update_Balance>1</Update_Balance>
                <New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
                <CVV2_Result>M</CVV2_Result>
                <CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
                <AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
            </GetTransactionResult>
        </GetTransactionResponse>
    </s:Body>
</s:Envelope>
```

8.3 Authorisation Reversal

Below is an example of the HTTP POST body data for an Authorisation Reversal message.

Some key elements of this request are:

- The MTID value is 0420 and the Txn_Type is D, indicating this is a reversal message for a previously approved authorisation request .
- Bill_Amt shows the reversal amount. It will be less than the original authorisation request's billing amount for partial reversal case.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
    <s:Body>
        <GetTransaction
            xmlns="http://tempuri.org/">
            <Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
            <ActBal>250.0000</ActBal>
            <Auth_Code_DE38>198793</Auth_Code_DE38>
            <Avl_Bal>450.0000</Avl_Bal>
            <Bill_Amt>200.0000</Bill_Amt>
            <Bill_Ccy>826</Bill_Ccy>
            <BlkAmt>-200.0000</BlkAmt>
            <Cust_Ref />
            <Fee_Rate>0.0000</Fee_Rate>
            <MCC_Code>7011</MCC_Code>
            <MCC_Pad>0.0000</MCC_Pad>
            <Merch_ID_DE42>123400000000000</Merch_ID_DE42>
            <Merch_Name_DE43>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Merch_Name_DE43>
            <POS_Data_DE22>100000100001</POS_Data_DE22>
            <POS_Time_DE12>144452</POS_Time_DE12>
            <Proc_Code>000000</Proc_Code>
            <Resp_Code_DE39>00</Resp_Code_DE39>
            <Settle_Amt>200.0000</Settle_Amt>
            <Settle_Ccy>826</Settle_Ccy>
            <Token>275845508</Token>
            <Trans_link>240812415462</Trans_link>
            <Txn_Amt>200.0000</Txn_Amt>
            <Txn_CCy>826</Txn_CCy>
            <Txn_Ctry>GBR</Txn_Ctry>
            <Txn_Desc>DCISC\ TEST\ POS ZX\GU14 7SR  HAM826</Txn_Desc>
            <Txn_GPS_Date>2024-08-12 02:44:54.181</Txn_GPS_Date>
            <TXn_ID>6150010345</TXn_ID>
            <Txn_Stat_Code>A</Txn_Stat_Code>
            <TXN_Time_DE07>0812144452</TXN_Time_DE07>
            <Txn_Type>D</Txn_Type>
            <InstCode>PMT</InstCode>
            <MTID>0420</MTID>
            <ProductID>45672204</ProductID>
            <SubBIN>0</SubBIN>
            <Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
            <CVV2>319</CVV2>
            <Expiry_Date>2601</Expiry_Date>
            <GPS_POS_Capability>0100000000000000000010000000000000000000000001M</GPS_POS_Capability>
            <GPS_POS_Data>0010000000000Nx000NNNN0U0UU9NNN</GPS_POS_Data>
            <traceid_lifecycle>DGN-20240812-487450125507429</traceid_lifecycle>
            <Merch_Name>DCISC</Merch_Name>
            <Merch_Street>TEST</Merch_Street>
            <Merch_City>POS ZX</Merch_City>
            <Merch_Region>HAM</Merch_Region>
            <Merch_Postcode>GU14 7SR</Merch_Postcode>
            <Merch_Country>GBR</Merch_Country>
            <POS_Date_DE13>2024-08-12</POS_Date_DE13>
            <Traceid_Message>DGN-20240812-487450125507429</Traceid_Message>
        </GetTransaction>
    </s:Body>
</s:Envelope>
```

8.3.1 Authorisation Response (Auth Reversal Response)

Below is an example of HTTP response to the above authorisation reversal message.

```
<s:Envelope
    xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <s:Body>
        <GetTransactionResponse
            xmlns="http://tempuri.org/">
            <GetTransactionResult>
                <Responsestatus>00</Responsestatus>
                <CurBalance>0</CurBalance>
                <AvlBalance>100</AvlBalance>
                <Acknowledgement>1</Acknowledgement>
                <LoadAmount>50</LoadAmount>
                <Bill_Amt_Approved>0</Bill_Amt_Approved>
                <Update_Balance>1</Update_Balance>
                <New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
                <CVV2_Result>M</CVV2_Result>
                <CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
                <AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
            </GetTransactionResult>
        </GetTransactionResponse>
    </s:Body>
</s:Envelope>
```

9 Managing Chargebacks

You must use the Discover Xchange system to create and manage chargebacks. (Please contact your Discover account manager for login credentials.)

For more information on the Xchange system, refer to the *Xchange User Guide*.

For more information on Diners Club International chargeback procedures and policies, see the *Discover Chargeback Guide*. Please read this guide for information on:

- Chargeback forms and chargeback policy
- Retrieval requests
- Interchange Chargeback Policies

9.1 Processing of Chargeback Records

Discover processes chargeback requests and sends Thredd a daily file containing chargeback records and fees.

Thredd process the file and generates chargeback transaction records, which you can view in the Transaction XML Reports. See Transaction Reports.

9.2 Viewing Chargebacks on Smart Client

You can use the Chargebacks and Chargeback History screens to view chargebacks that you have raised and track their progress.

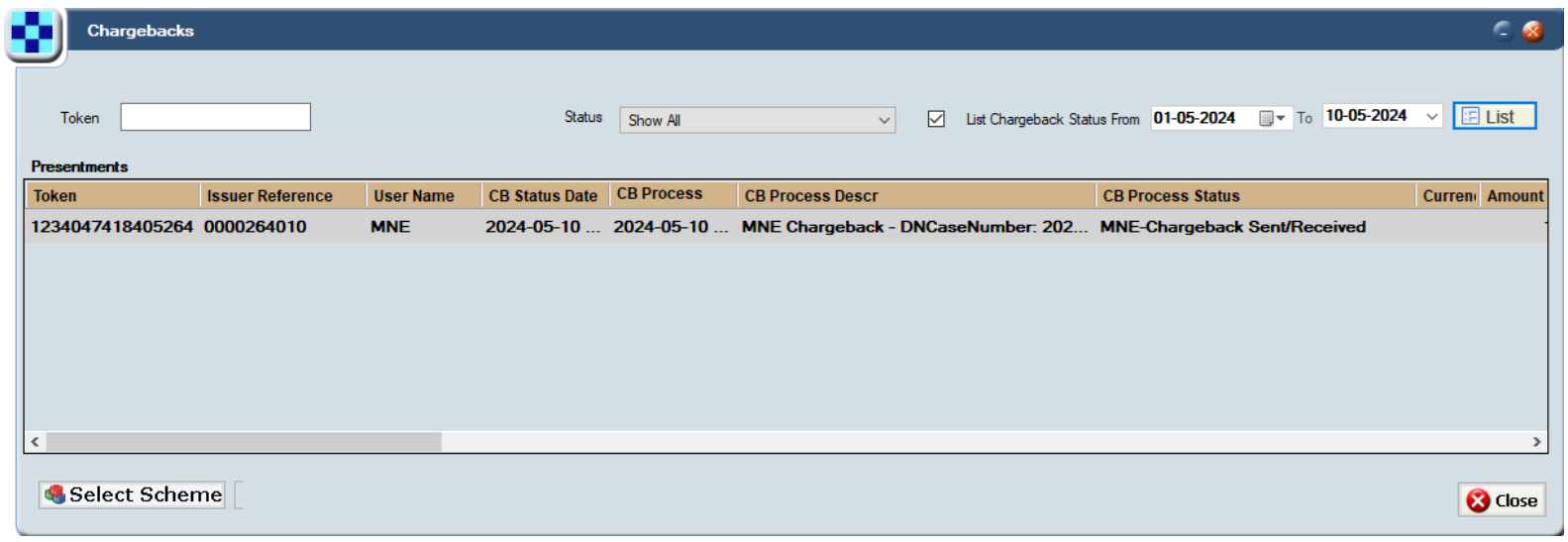


Figure 12: Chargebacks screen

Note: Thredd currently only support functionality to view Chargebacks. You will need to use the Discover XChange system to create chargebacks and manage the chargeback process.

For more information, see the Smart Client Guide.

For an overview of chargebacks and how they work, see the Payments Dispute Management Guide.

9.3 Discover Chargeback Procedures

Discover adopt similar chargeback procedures to other Card Scheme networks (such as Visa and Mastercard). See the figure below.

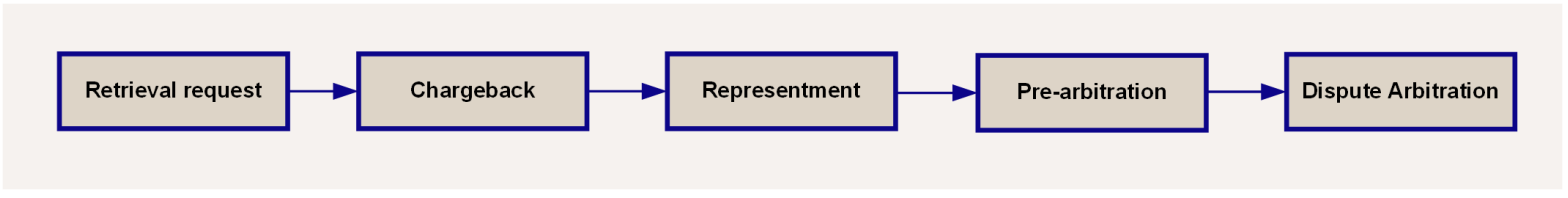


Figure 13: Stages in the Discover Network's Payments Dispute Management Process

Note: The information in this section is provided for reference only, and you should always refer to the Discover or Diners Club International documentation to confirm details.

9.3.1 Retrieval Request

You or your issuer can request a copy of the receipt and/or additional documentation related to a card charge. Issuers have up to 365 days from the transaction date to submit a *Retrieval Request*. The acquirer then has up to 30 days to respond with a *Retrieval Response*, containing the requested receipt and/or documentation.

9.3.2 Chargeback

A Chargeback is a transaction, processed by Discover, that reverses the entire amount or a portion of a card charge.

If you or the cardholder wishes to dispute the transaction, you can raise a Chargeback request. For example, due to an incomplete or lack of response to a Retrieval Request, or a cardholder submitting compelling evidence to support a Chargeback. You have 120 days from the charge date (or 30 days from the Retrieval Request date, if requested), to initiate a Chargeback.

Note: The Chargeback initiation date may be 540 days for certain cases (e.g. if the service is for a future date).

9.3.3 Chargeback Stages (Cycle)

Updates to the chargeback transaction must be processed sequentially through:

Cycle	Dispute Stage	Description and Notes
A	Chargeback	Request for a partial or full charge back to the card. Raised by the issuer. Please check the Discover documentation for timelines, amount restrictions, supporting documentation and requirements, which are specified per Chargeback reason code.
B	Representment	The acquirer responds to the chargeback request with supporting documentation if they wish to challenge the chargeback request (represent the merchant's right to the amount charged).
C1	Arbitration: Pre-arbitration	The issuer can initiate the Arbitration process by submitting a Pre-Arbitration Notice update on the Transaction. This must be submitted within 30 calendar days of the last update in the chargeback submission cycle. Please check the Discover documentation for requirements and supporting documentation.
C2	Arbitration: Dispute arbitration	The acquirer has 30 calendar days to respond, by submitting a Pre-Arbitration Response update. If the Acquirer accepts financial responsibility, the Pre-Arbitration Response generates the appropriate financial transaction. If no response is received within 30 days, the Xchange System generates a financial message reversing the Representment update. This ends the process.
C3	Arbitration of Financial Responsibility	The issuer can initiate Dispute Arbitration within ten (10) days of the deadline for response by the Acquirer to a Pre-Arbitration Inquiry. Either Participant may accept financial responsibility within fifteen (15) days of the Arbitration notice, known as the Arbitration acceptance period.

Note: Issuers will be charged a Chargeback fee for each Cycle A Chargeback initiated. Please check the Discover Chargeback documentation to confirm these details.

9.3.4 Chargeback Reasons

Chargeback reasons are organised into four categories:

- Authorization Related
- Processing Errors
- Fraud Related
- Cardholder Disputes

For more information, refer to the *Discover Chargeback Guide*.

10 Viewing Transactions

You can use either **Thredd Portal**[1] or **Smart Client**[2] to view your card transactions. The **Transaction Details**screen/page displays fields applicable to Discover networks.

Refer to the table below for further details of Discover transaction fields.

Field	Description
Message Type	The type of transaction, such as an authorisation or presentment.
Token	The unique token number associated with the transaction.
Date Expiry	The expiry date provided at the time of the transaction (useful to check in case the cardholder has entered an incorrect expiry date).
POS entry mode (DE022)	How the transaction was created, for example, contactless at a machine, ecommerce, online, ATM. ICC indicates the card was physically inserted into a machine and the PIN entered.
Network Reference ID (DE123)	The Network Reference ID (NRID) is a numeric ID generated by DCI and remains unchanged for the life of the Card Transaction.
Transaction Date	The date of the transaction. Format YYYY-MM-DD HH:MM:SS:MS.
Message Reason Code	The Message Reason Code data element provides the receiver of a request, advice or notification message with the reason, or purpose, of that message.
Response status (DE039)	The status sent back to the merchant, for example, 05 - do not honour. Click the arrow next to this field to see more information.
STAN (DE011)	System Trace Audit Number. This links the authorisation and presentment (note this number is not unique).
Processing code	Indicates the type of transaction, for example, a debit.
Additional Amounts (DE054)	Contains additional amount information for the transaction, if relevant. For example, for purchase with cashback transactions, the additional amounts field will be present with the cashback amount.
Card Acceptor Identification Code (DE042)	Code relating to the specific Point of Sale (POS) terminal.
Card Acceptor Name Location (DE043)	Merchant's details.
Additional Response Data (DE044)	Visa's Additional Response Data, exactly as provided from Visa to Thredd. This will only be present for transactions received by Thredd from Visa Base1, if DE44 was present. It provides information on Visa's validation checks of data in the message. This will only be set for Visa online authorisation transactions.
Till Time	Time provided by the merchant (can be incorrect but matches what is on the receipt).
Card Acceptor Terminal Identification (DE041)	Uniquely identifies the terminal which accepted the card. Always present if the card data was read by a terminal.
Response Source	Indicates which system sent the 0110 or 0210 response to the terminal. Normally present only for some

[1]Thredd Portal is Thredd's new web application for managing your cards and transactions on the Thredd Platform.
[2]Smart Client is Thredd's legacy desktop application for managing your cards and transactions on the Thredd Platform.

Field	Description
	Authorisation advices and Authorisation reversals.
Response Reason	Indicates the reason why the Response Source sent a response to the terminal. Normally present only for some Authorisation advices and Authorisation reversals.
Transaction ID	Identifier for tracing a specific transaction and narrowing a search. This a unique identifier generated by Thredd to help identify and search for transaction in the Thredd platform.
Transaction Amount (DE004)	Transaction amount and currency.
Settlement Amount (DE005)	Settlement amount and currency.
Billing Amount (DE006)	Amount applied to the account in the currency of the card.
Merchant Category Code (MCC)	Code that describes a merchant's primary business activities.
Retrieval Reference Number (DE037)	A unique reference to the transaction assigned by the acquirer. All messages related to the same transaction (reversals, presentments, chargebacks) should have the same RRN; however, this may not be enforced.
Acquirer Reference Data (DE031)	Acquirer Reference Number/Data. ISO 8583 field 31. The acquirer reference number exists for clearing messages only (Financial advices/notifications, and Chargeback advices/notifications (and reversals of)).
Acquirer ID in ARN (DE31)	Acquirer ID found in the Acquirer Reference Number (ARN). Provided for financial messages only.
Acquirer ID	Acquiring Bank ID as assigned by the network. Note that the format differs depending on whether this is an Authorisation or a Financial type message. For Authorisation messages: • 2 digits length of Acquirer ID (01 to 09) • Acquirer ID For Financial messages: • 6 digit Acquirer ID (possibly with leading zeros)
FID (DE033)	Identifies the acquiring institution forwarding a Request or Advice message.
Authorisation Code	Authorisation code generated by Thredd for approved and declined authorisation requests.
Network	The network that processed the transaction.
Request Time	The time when Thredd receives this authorisation, in the local time zone of the Thredd servers.
Response Time	The time when Thredd sends the response (the difference between the request and response times is shown below in milliseconds), in the local time zone of the Thredd servers. Note that the response time in milliseconds is the time for the *entire* transaction to complete across all parties.
Difference (in milliseconds)	The difference, in milliseconds, between the request time and the response time of the transaction.
ICC Data (DE055 - 0100)	Data from the card's chip. Click the arrow next to this field to see more information, for example, you can check whether the online and offline PINs were verified when making a transaction.

Field	Description
Additional data (DE048)	Information about 3D Secure (payer authentication) for online transactions. Click the arrow next to this field to see more information.
Fees Detail Note	Shows any fees applied to this transaction.
Function Code	The Function Code data element is the code indicating the specific purpose of the message within the message class.
Surcharge Fee	This field contains the data to support transaction-level information when a Service Establishment assesses a surcharge on a Card Sale.
Additional Authorization Data DGN	This data element contains multiple tags with unique functions. Please refer to the table for details.
Transaction Destination IIC	The Transaction Destination Institution Identification Code (IIC) data element is the code identifying the institution that is the transaction destination.
Transaction Originator IIC	The Transaction Originator Institution Identification Code (IIC) data element is the code identifying the institution that is the transaction originator.

For more information, see the Thredd Portal Guide or the Smart Client Guide.

11 Viewing Transaction XML Reports

When processing on Discover Global Network, the transaction XML file we send to you are based on the new Global Transaction Reporting format.

In this section we only list data elements relevant to Discover Global Network. See Transaction Report Primary Elements.

Note: For more information about the Global Transaction Reporting Format, refer to the Global Transaction Reporting Guide (available on request from your Implementation Manager).

11.1 Transaction Report Primary Elements

Primary Elements are listed within a <Transactions> parent element, which defines the top-level entities of the message. See the table below for details of elements relevant to Discover Global Network.

Note: For Discover Global Network reporting, Thredd use the new Global Transaction reporting format, which separates primary element into two separate reports:

- **Non-clearing report** – containing authorisation and other real-time messages
- **Clearing report** – containing financial messages based on the card scheme's release cycles (Discover implement one release cycle per day).

Element Name	Description	Data Type	Occurs
Non-Clearing Report Primary Elements			
CardAuthorisation	Describes an Authorisation or Reversal.	<CardAuthorisation>	0 - n
Clearing Report Primary Elements			
CardFinancial	Describes a Financial Advice or Financial Reversal.	<CardFinancial>	0 - n
CardChrgBackRepRes	Describes a Chargeback, Chargeback Reversal, Representment or Representment Reversal.	<CardChrgBackRepRes>	0 - n
MasterCardFee	Describes a MasterCard fee.	<MasterCardFee>	0 - n

Note: The presence of primary elements within an XML message depends on the card activity for the period being reported. For example, <CardChrgBackRepRes> elements are only present when a chargeback (or reversal) or Representment (or reversal) is reported.

Non Clearing Report XML Example

This example shows the Primary Elements in a Non Clearing Report.

```
<?xmlversion="1.0"encoding="utf-8"?>
<Transactions>
<CardAuthorisation>…detail ommitted…</CardAuthorisation>
</Transactions>
```

Clearing Report XML Example

This example shows the Primary Elements in a Clearing Report.

```
<?xmlversion="1.0"encoding="utf-8"?>
<Transactions>
<CardChrgBackRepRes>…detail ommitted…</CardChrgBackRepres>
<CardFinancial>…detail ommitted…</CardFinancial>
<MasterCardFee>…detail ommitted…</MasterCardFee>
</Transactions>
```

11.2 CardAuthorisation

CardAuthorisation provide details of payment authorisation advices. There are two types of CardAuthorisation records:

- Authorisation Advice
- Authorisation Reversal

You can use the RecType element to determine the type of record.

You can use the AuthId element to uniquely identify the record and distinguish it from all other CardAuthorisation records.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
RecType	Record type, indicates *Advice* or *Reversal*.	<RecType>	Yes	See the RecType sub-element
AuthId	Unique identifier for this CardAuthorisation record.	xs:unsignedLong	Yes	0 to 2^64
AuthTxnId	Alternative unique identifier of a CardAuthorisation record.	xs:unsignedInt	Yes	0 to 2^32
LocalDate	The date and time the record was generated by the terminal (POS or ATM) or acquirer.	<LocalDate>	Yes	See the LocalDate sub-element
LocalDateUTC	The transaction date and Time in **UTC**[1] as received from Discover.	Numeric	Yes	Format: MMDDHHMMSS 10 digits
SettlementDate	Not applicable to Discover. Provides the Thredd transaction date.	<SettlementDate>	Yes	See the SettlementDate sub-element
Card	Details of the card used in the transaction.	<Card>	Yes	See the Card sub-element
Account	Details of the cardholder account.	<Account>	Yes	See the Account sub-element
TxnCode	Indicates the type of transaction.	<TxnCode>	Yes	See the TxnCode sub-element
TxnAmt	Indicates the value of the transaction requested by the cardholder.	<BasicAmount>	Yes	See the TxnAmt sub-element
CashbackAmt	Not applicable to Discover.	<BasicAmount>	Yes	See the CashbackAmt sub-element
BillAmt	The amount posted to the cardholder account. Note that the amount does not include interchange.	<RateAmount>	Yes	See the BillAmt sub-element
ApprCode	The Approval Code generated by the issuer and printed on the receipt.	<ApprCode>	Yes	See the ApprCode sub-element
Trace	Information used to uniquely identify the transaction.	<Trace>	Yes	See the Trace sub-element

[1]The external system to which sends real-time transaction-related data. The URL to this system is configured within per programme or product. The Program Manager uses their external host system to hold details of the balance on the cards in their programme and perform transaction-related services, such as payment authorisation, transaction matching and reconciliation.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
MerchCode	A unique code identifying the merchant (also known as the *Card Acceptor Identifier*).	<MerchCode>	Yes	See the MerchCode sub-element
Term	Describes the terminal used for the transaction.	<Term>	Yes	See the Term sub-element
Schema	Indicates the name of the card scheme.	<Schema>	Yes	See the Schema sub-element
Txn	Describes the validation and authentication properties used in a transaction.	<Txn>	Yes	See the Txn sub-element
MsgSource	Describes the derivative source of the record.	<MsgSource CardAuthorisation>	Yes	See the MsgSource sub-element
PaddingAmt	The amount of padding applied to the authorisation, which is the amount by which the authorisation is Greater than the corresponding financial transaction.	<BasicAmount>	Yes	See the PaddingAmt sub-element
Rate_Fee	The amount of any rate-based POS or ATM fee that was charged.	xs:decimal	Yes	
Fixed_Fee	The amount of any fixed POS or ATM fee that was charged.	xs:decimal	Yes	
CommissionAmt	The amount of commission applied to the authorisation, which is the indication of the charges applicable to the corresponding Financial Transaction.	<BasicAmount>	Yes	See the CommissionAmt sub-element
Classification	Merchant classification.	<Classification>	Yes	See the Classification sub-element
Response	Indicates transaction approval.	<Response>	Yes	See the Response sub-element
OrigTxnAmt	The value of the original transaction amount requested by the cardholder (only used in CardAuthorisation reversals).	<PartialAmount>	If Applicable	Only applicable if the RecType is “REV”, See the OrigTxnAmt sub-element
ReversalReason	The reason for the reversal (only used in CardAuthorisation reversals).	<ReversalReason>	If Applicable	Only applicable if the RecType is “REV”. See the ReversalReason sub-element
PaymentToken	This element is populated from Payment Token data when a Payment Token was used for the transaction. If no Payment Token was used, then the *PaymentToken* element is omitted. Not applicable to Discover phase 1	<PaymentToken>	If Applicable	See the PaymentToken sub-element

Child Element	Description	Data Type	Required	Constraints / Permitted Values
Sender	Not applicable to Discover.	<Sender>	If Applicable	See the Sender sub-element
Receiver	Not applicable to Discover.	<Receiver>	If Applicable	See the Receiver sub-element

Example

```
<CardAuthorisation>
    <RecType>ADV</RecType>
    <AuthId>13964964720</AuthId>
    <AuthTxnID>6109323477</AuthTxnID>
    <LocalDate>20240213210623</LocalDate>
    <LocalDateUTC>0213210622</LocalDateUTC>
    <SettlementDate>20240213</SettlementDate>
    <Card PAN="57928830200321" product="DGN" programid="PPCITY" productid="1463" branchcode="" />
    <Account no="288302003" type="07" />
    <TxnCode direction="debit" Type="pos" Group="pos" ProcCode="000000" Partial="NA" FeeWaivedOff="0" />
    <TxnAmt value="8.99" currency="826" />
    <CashbackAmt value="0.00" currency="826" />
    <BillAmt value="8.99" currency="826" rate="1.000000" clientfxrate="0.00000000" />
    <ApprCode>183785</ApprCode>
    <Trace auditno="383521" origauditno="383521" Retrefno="404451383521" />
    <MerchCode>057181000156182</MerchCode>
    <Term code="00057181" location="CORNERSTONE\123 KING STREET\LONDON\WC1B 4DA     826" street="123 KING STREET " city=" LONDON
" country="GB" inputcapability="6" authcapability="12" />
    <Schema>DGN</Schema>
    <Txn cardholderpresent="4" cardpresent="0" cardinputmethod="F" cardauthmethod="8" cardauthentity="8" />
    <MsgSource value="70" domesticMaestro="no" />
    <PaddingAmt value="0.00" currency="826" />
    <Rate_Fee value="0.00" />
    <Fixed_Fee value="0.00" />
    <CommissionAmt value="0.00" currency="826" />
    <Classification MCC="5968" />
    <Response approved="no" actioncode="4" responsecode="51" additionaldesc="DR: Auth
Amount        :8.9900  Total                    :8.9900    Available Amount :0.0000       ==          Decline! CORNERSTONE\123
KING STREET\LONDON\WC1B 4DA     826" />
    <OrigTxnAmt value="8.99" currency="826" />
    <ReversalReason />
    <PaymentToken id="" creator=" " expdate="" type=" " status="" creatorstatus="" wallet="" devicetype="" lang="  " activ-
ationexpiry="" activationmethod="" />
    <Sender/>
    <Receiver/>
</CardAuthorisation>
```

11.3 CardFinancial

The CardFinancial primary element is used to describe the following records:

- Financial Advice, or
- Financial Reversal

You can use the `RecordType` element to determine the type of record.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
RecordType	Record type, indicates *Advice* or *Reversal*.	xs:string	Yes	Valid values are: ADV, REV
FinId	Unique identitifier	xs:unsignedLong	Yes	0 to 2^64

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	for this CardFinancial record.			
AuthId	The AuthId of the related CardAuthorisation record for this CardFinancial Record (primary key). Only present if there was a card authorisation.	xs:unsignedLong	If Applicable	0 to 2^64
PresentmentId	Alternative unique identitifier for this CardFinancial Record, primary key in Thredd.	xs:unsignedLong	Yes	0 to 2^32
LocalDate	The local date/time of the transaction (where the transaction was done).	<LocalDate>	Yes	See the LocalDate sub-element
LocalDateUTC	The transaction date and Time in **UTC**[1] as received from Mastercard, Visa, and MNE. Not applicable to Discover.	Numeric	Yes	Format: MMDDHHMMSS 10 digits
SettlementDate	The settlement date for the transaction (UK date or as supplied by the card scheme).	<SettlementDate>	Yes	See the SettlementDate sub-element
SchemeSettlementDate	Settlement date value for the transaction by the card scheme or Thredd.	<SchemeSettlementDate>	Yes	See the SchemeSettlementDate sub-element
SchemeReconciliationDate	The card scheme reconciliation date for the transaction.	<SettlementDate>	Yes	See the SettlementDate sub-element
CycleNumber	Reconciliation cycle number (relevant to Mastercard only), for other card networks this	<CycleNumber>	Yes	See the CycleNumber sub-element

[1]The external system to which sends real-time transaction-related data. The URL to this system is configured within per programme or product. The Program Manager uses their external host system to hold details of the balance on the cards in their programme and perform transaction-related services, such as payment authorisation, transaction matching and reconciliation.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	defaults to "01".			
Card	Provides details of the card used in the transaction.	<Card>	Yes	See the Card sub-element
Account	Provides details of the cardholder account.	<Account>	Yes	See the Account sub-element
TxnCode	Indicates the type of transaction.	<TxnCode>	Yes	See the TxnCode sub-element
TxnAmt	The transaction amount.	<BasicAmount>	Yes	See the TxnAmt sub-element
CashbackAmt	The Cashback amount (if applicable). Not applicable to Discover.	<BasicAmount>	Yes	See the CashbackAmt sub-element
BillAmt	The amount posted to the cardholder account. This does not include interchange.	<RateAmount>	Yes	See the BillAmt sub-element
ApprCode	The *Approval Code* generated by the issuer and printed on the receipt.	<ApprCode>	Yes	See the ApprCode sub-element
Trace	Information used to uniquely identify the transaction. (Mastercard only; Visa will be empty) Not applicable to Discover.	<Trace>	Yes	See the Trace sub-element
MerchCode	A unique code identifying the merchant (also know as the *Card Acceptor Identifier*)	<MerchCode>	Yes	See the MerchCode sub-element
Term	Details of the terminal on which the transaction was actioned.	<Term>	Yes	See the Term sub-element
Schema	Indicates the name of the card scheme.	<Schema>	Yes	See the Schema sub-element

Child Element	Description	Data Type	Required	Constraints / Permitted Values
Txn	Describes the validation / authentication properties used in a transaction.	<Txn>	Yes	See the Txn sub-element
MsgSource	Describes the derivative source of the record.	<MsgSource>	Yes	See the MsgSource sub-element
Fee	The interchange fee.	<DirectionAmount>	Yes	See the Fee sub-element
FeeAmt	The fee amount. This is the sum total of any rate fee and fixed fee applied to the transaction (see `Rate_Fee` and `Fixed_Fee` in the CardAuthorisation record).	< DirectionAmount>	Yes	See the FeeAmt sub-element
FeeClass	Describes the derivation and nature of the fee.	<FeeClass>	Yes	See the FeeClass sub-element
SettlementAmt	The settlement amount (Mastercard only).	<SettlementAmt>	Yes	See the Settlement sub-element
ARN	The Acquirer Reference Number.	<ARN>	Yes	See the ARN sub-element
FIID	Forward Institution Identification code.	<FIID>	Yes	See the FIID sub-element
RIID	Receiving Institution Identification code.	<RIID>	Yes	See the RIID sub-element
ReasonCode	Message reason code.	xs:string	Yes	See Message Reason Codes
Classification	Merchant classification for the transaction.	<Classification>	Yes	See the Classification sub-element
Response	Indicates whether transaction was approved or not.	<Response>	Yes	See the Response sub-element
OrigTxnAmt	Original Transaction Amount. The value of the original transaction	<PartialAmount>	If Applicable	See the OrigTxnAmt sub-element

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	requested by the cardholder. This is used in the case of the transaction being a reversal.			
CCAAmount	The Currency Conversion Assessment amount (Mastercard only; Visa will always be zero). Not applicable to Discover.	<CCAAmount>	Yes	See the CCAAmount sub-element
SettlementIndicator	Indicator for Domestic or International settlement.	<SettlementIndicator>	If Applicable	See the SettlementIndicator sub-element
Additional_Amt_DE54	Additional amounts field where additional fees like transport fees are held. Not applicable to Discover.	<Additional_Amt_DE54>	If applicable	See the Additional_Amt_DE54 sub-element
BSA	Business Service Arrangement type code (Mastercard only; Visa will always be empty). Not applicable to Discover.	<BSA>	If applicable	See the BSA sub-element
PaymentToken	This element is populated from Payment Token data when a Payment Token was used for the transaction. If no Payment Token was used, then the *PaymentToken* element is omitted. Not applicable to Discover.	<PaymentToken>	If applicable	See the PaymentToken sub-element
UniqueTransactionReference	Unique transaction reference. Not applicable to Visa.	<UniqueTransactionReference>	If applicable	See UniqueTransactionReference sub-element

Child Element	Description	Data Type	Required	Constraints / Permitted Values
SettlementRecapID	Settlement Recap ID is a Discover Global Network specific data element. Discover members send financial transaction data grouped under recaps separately for each member. Settlement Recap ID defines the recap breakdown to help members for their reconciliation with Discover.	<SettlementRecapID>	If applicable	See SettlementRecapID sub-element

Example (Advice)

```
CardFinancial>
    <RecordType>ADV</RecordType>
    <FinId>13961572160</FinId>
    <AuthId>13960479573</AuthId>
    <PresentmentID>4762187967</PresentmentID>
    <LocalDate>20240212185514</LocalDate>
    <LocalDateUTC>0212185517</LocalDateUTC>
    <SettlementDate>20240213</SettlementDate>
    <SchemeSettlementDate>20240213</SchemeSettlementDate>
    <SchemeReconciliationDate>20240213</SchemeReconciliationDate>
    <CycleNumber>01</CycleNumber>
    <Card PAN="57928830200321" product="DGN" programid="PPCITY" productid="1463" branchcode="" />
    <Account no="236277561" type="07" />
    <TxnCode direction="debit" Type="pos" Group="pos" ProcCode="000000" />
    <TxnAmt value="1.70" currency="826" />
    <CashbackAmt value="0.00" currency="826" />
    <BillAmt value="1.70" currency="826" rate="1.000000000" />
    <ApprCode>186022</ApprCode>
    <Trace auditno="" origauditno="" Retrefno="" />
    <MerchCode>35918643</MerchCode>
    <Term code="45928071" location="AIR MALTA\25 SOUTH STREET\VALLETTA\VL1 8DQ      470" street="25 SOUTH STREET" city="
VALLETTA" country="MT" inputcapability="0" authcapability="1" />
    <Schema>DGN</Schema>
    <Txn cardholderpresent="0" cardpresent="1" cardinputmethod="7" cardauthmethod="0" cardauthentity="0" TTI="" />
    <MsgSource value="70" domesticMaestro="no" />
    <Fee value="0.0034" value2="0.00" currency="826" direction="credit" />
    <FeeAmt value="0.00" currency="826" direction="debit" />
    <FeeClass interchangeTransaction="no" type="1" code="1" />
    <SettlementAmt value="1.70" currency="826" rate="1.000000000" />
    <ARN>14076881</ARN>
    <FIID />
    <RIID>00000361603</RIID>
    <ReasonCode />
    <Classification MCC="5411" />
    <Response approved="yes" />
    <OrigTxnAmt value="1.70" currency="826" />
    <CCAAmount value="0.00" currency="826" included="no" />
    <SettlementIndicator>0</SettlementIndicator>
    <Additional_Amt_DE54 />
    <BSA / >
    <PaymentToken id="" creator=" " expdate="" type="" status="" creatorstatus="" wallet="" devicetype="" lang="  " activ-
ationexpiry="" activationmethod="" />
   <UniqueTransactionReference> 073679876543210 </ UniqueTransactionReference >
    <SettlementRecapId
RecapDate="20240531" RecapNumber="092" SendingIIC="00000361641" ReceivingIIC="00000361603" CurrencyCode="826" />
```

```
</CardFinancial>
```

11.4 MasterCardFee

MasterCardFee records are used to describe non-card Mastercard Fees. They only appear in the transaction XML if the Mastercard **ICA**[1] is not shared between clients.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
RecordType	Record type, used to distinguish between data types.	xs:string	Yes	See the RecordType sub-element.
MastercardFeeId	Unique identifier for this fee record.	xs:unsignedint	Yes	0 to 2^32.
MTID	Message Type Identifier. Takes values as supplied by Mastercard in the Chargeback Fee or Fee collection data.	xs:unsignedint	Yes	Examples: 1442, 1644 and 1740. See Message Reason Codes
Function_Code_024	Function Code for the fee record. Not applicable to Discover.	<FunctionCode>	Yes	See the FunctionCode sub-element.
Conversion_Rate_Reconciliation	Factor used in converting transaction amount to a reconciliation amount. Not applicable to Discover.	xs:unsignedint	Yes	0 to 2^32.
Additional_Data_048	The additional data received from Mastercard. Not applicable to Discover.	xs:string	Yes	String. Refer to the *Mastercard IPM Clearing Formats manual*.
LocalDate	The local date and time of the transaction.	<LocalDate>	Yes	See the LocalDate sub-element.
SettlementDate	The settlement date and time for the transaction.	<Settlement Date>	Optional	See the SettlementDate sub-element.
FeeClass	Describes the derivation and nature of the fee.	<MasterCard FeeClass>	Yes	For MasterCardFee records the FeeClass type=”0”, code=”0” and interchangeTransaction=”no”.
Desc	Fee description. This field may be empty.	<Desc>	Optional	See the Desc sub-element.
FeeAmt	The fee amount as received from Mastercard.	<Direction Amount>	Yes	See the FeeAmt sub-element.

[1]Visa Dispute Resolution Online system, provided by Visa for managing transaction disputes.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	Note: For a chargeback, this field provides details of any chargeback fees. For details of the chargeback amount, see <BillAmt> in the CardChrgBackRepRes record.			
Amt	The net transaction amount expressed in the original transaction currency, as advised by Mastercard.	<Direction Amount>	Yes	See the Amt sub-element.
ReasonCode	Message reason code.	xs:string	Yes	See Message Reason Codes.
Data_Record_072	Free form text for Mastercard fee messages. Not applicable to Discover.	xs:string	Optional	String, Refer to Mastercard IPM Clearing Formats Manual.
DE93_Txn_Dest_ID	Identifies the transaction destination institution.	xs:string	Yes	Length 6 - 11 digits.
DE94_Txn_Orig_ID	Identifies the transaction originator institution.	xs:string	Optional	Length 6 - 16 digits.
File_ID_PDS0105	Identifies the logical data file exchanged between Thredd and the clearing system.	xs:string	Yes	See the PDS0105 sub-element.
FileProcessDate	Date the Fee collection file was processed.	xs:string	Yes	In the format: YYYYMMDD HHMMSS.
Recon	Details of the reconciliation.	<Recon>	Optional	See the Recon sub-element.
Settlement	Details of the settlement.	<Settlement>	Optional	See the Settlement sub-element.
SettlementRecapID	Settlement Group identifier for Discover.	<SettlementRecapID>	If applicable	See SettlementRecapID sub-element.

Example

```
<MasterCardFee>
    <RecordType>DGN</RecordType>
    <MastercardFeeId>30230566</MastercardFeeId>
    <MTID>1740</MTID>
    <Function_Code_024 />
    <Conversion_Rate_Reconciliation_009 />
    <Additional_Data_048 / >
    <LocalDate>20240531</LocalDate>
    <SettlementDate>20240531</SettlementDate>
    <FeeClass interchangeTransaction="no" type="0" code="0" memberID="00000361662" />
    <Desc>Disputes Processing Fee</Desc>
    <FeeAmt value="10.00" currency="840" direction="debit" />
```

```
    <Amt value="10.98" currency="978" direction=" debit" />
    <ReasonCode>FV</ReasonCode>
    <Data_Record_072> />
    <DE93_Txn_Dest_ID>00000361662</DE93_Txn_Dest_ID>
    <DE94_Txn_Orig_ID>00000361641</DE94_Txn_Orig_ID>
    <File_ID_PDS0105> I7.EXCHQ.20240531.N000001</File_ID_PDS0105>
    <FileProcessDate>20240531010716</FileProcessDate>
    <Recon date="20240531" cycle="01" />
    <Settlement date="20240531" cycle="01" />
    <SettlementRecapId
RecapDate="20240531" RecapNumber="093" SendingIIC="00000361641" ReceivingIIC="00000361603" CurrencyCode="826" />
</MasterCardFee>
```

11.5 CardChrgBackRepRes

CardChrgBackRepRes describes the following record types:

- Chargeback Advice
- Chargeback Reversal
- Representment Advice
- Representment Reversal

You can use the AdjustId element to uniquely identify the record and distinguish it from all other CardChrgBackRepRes records.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
RecordType	Indicates the type of CardChrgBackRepRes record.	xs:string	Yes	Valid values are: CB = Chargeback Advice CBREV = Chargeback Reversal REPRES = Representment Advice REPRESREV =Representment Reversal
ChgbackRepresId	Unique identitifier for this CardChrgBackRepRes record.	xs:unsignedLong	Yes	0 to 2^64
LocalDate	The date and time the record was generated by the terminal (POS or ATM) or acquirer.	<LocalDate>	Yes	See the LocalDate sub-element
SettlementDate	The date the transaction has been processed.	<SettlementDate>	Yes	See the SettlementDate sub-element
Card	Details of the card used in the transaction.	<Card>	Yes	See the Card sub-element
Account	Details of the cardholder account.	<Account>	Yes	See the Account sub-element
TxnCode	Indicates the type of transaction.	<TxnCode>	Yes	See the TxnCode sub-element
TxnAmt	Indicates the value of the transaction requested by the cardholder.	<BasicAmount>	Yes	See the TxnAmt sub-element
CashbackAmt	Details of any cashback	<BasicAmount>	Yes	See the CashbackAmt

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	amount requested by cardholder. If no cashback is requested then populate with a zero value and the transaction currency code. Not applicable to Discover.			sub-element
BillAmt	The amount posted to the cardholder account. This does not include interchange.	<RateAmount>	Yes	See the BillAmt sub-element
ApprCode	The *approval code* generated by the issuer and printed on the receipt.	<ApprCode>	Yes	See the ApprCode sub-element
Trace	Information used to uniquely identify the transaction. Not applicable to Discover.	<Trace>	Yes	See the Trace sub-element
MerchCode	A unique code identifying the Merchant (also known as the *Card Acceptor Identifier*).	<Merch Code>	Yes	See the MerchCode sub-element
Term	Describes the terminal used for the transaction.	<Term>	Yes	See the Term sub-element
Schema	Indicates the name of the card scheme.	<Schema>	Yes	See the Schema sub-element
Txn	Describes the validation/authentication properties used in a transaction.	<Txn>	Yes	See the Txn sub-element
MsgSource	Describes the derivative source of the record.	<MsgSource>	Yes	See the MsgSource sub-element
Repeat	Information to show the number of the chargeback/representment. The Second Chargeback is not applicable to Discover.	xs:unsigned Byte	Yes	Valid values are: 1 = First chargeback / representment 2 = Second Chargeback / representment
SettlementAmt	The amount posted to the settlement account.	<SettlementAmt>	Yes	See the Settlement sub-element
Fee	Interchange or service fee amount posted to the settlement account.	<DirectionAmount>	Yes	See the Fee sub-element
ARN	Acquirer Reference Number.	<ARN>	Yes	See the ARN sub-element
FIID	Forward Institution Identification code.	<FIID>	Yes	See the FIID sub-element

Child Element	Description	Data Type	Required	Constraints / Permitted Values
RIID	Receiving Institution Identification code.	<RIID>	Yes	See the RIID sub-element
ReasonCode	Message reason code.	xs:string	Yes	See Message_Reason Codes
Classification	Merchant classification for the transaction.	<Classification>	Yes	See the Classification sub-element
OrigTxnAmt	Original transaction amount. The value of the original transaction requested by the cardholder. This is used in the case of the transaction being a partial chargeback/representment, chargeback reversals or representment reversals.	<PartialAmount>	If applicable	See the OrigTxnAmt sub-element
PartialReversal	Indicates if the amount reversed is a partial amount of the original chargeback.	Xs:boolean	If applicable	Valid values are: true = Partial Reversal; false = Full Reversal If not supplied, assumes "false".
SettlementCycle	Shows the settlement cycle for the chargeback.	<SettlementCycle>	Yes	See the SettlementCycle sub-element
ReconciliationDate	Shows the reconciliation date for the chargeback.	<ReconciliationDate>	Yes	See the ReconciliationDate sub-element
ReconciliationCycle	Shows the reconciliation cycle for the chargeback.	<ReconciliationCycle>	Yes	See the ReconciliationCycle sub-element
Usage	Indicates whether the chargeback is manually credited to the card.	<Usage>	Yes	See the Usage sub-element
Pending_Billing_ Amount	Value of the chargeback billing amount.	< Pending_Billing_ Amount>	Yes	See the Pending_ Billing_Amount sub-element
SettlementIndicator	Indicator for *Domestic* or *International* settlement.	SettlementIndicator	If applicable	See the SettlementIndicator sub-element
Additional_Amt_DE54	Additional amounts field where additional fees such as card network fees are held. Not applicable to Discover.	<Additional_Amt_DE54>	If applicable	See the Additional_ Amt_DE54 sub-element
ChargebackRefNum	Chargeback reference number, as displayed in **Smart Client**[1].	<ChargebackRefNum>	If applicable	See the ChargebackRefNum

[1]Smart Client is Thredd's legacy desktop application for managing your cards and transactions on the Thredd Platform.

Child Element	Description	Data Type	Required	Constraints / Permitted Values
	Not applicable to Discover.			sub-element

Example

```
<CardChrgBackRepRes>
    <RecordType>CB</RecordType>
    <ChgbackRepresId>13961291974</ChgbackRepresId>
    <LocalDate>20240531011034</LocalDate>
    <SettlementDate>20240531</SettlementDate>
    <Card PAN="57928830200321" product="DGN" programid="PPCITY" productid="1463" branchcode="" />
    <Account no="304826674" type="07" />
    <TxnCode direction="credit" Type="pos" Group="pos" ProcCode="000000" />
    <TxnAmt value="0.00" currency="826" />
    <CashbackAmt value="0.00" currency="826" />
    <BillAmt value="0.00" currency="826" rate="1.000000000" />
    <ApprCode>192625</ApprCode>
    <Trace auditno="483714" origauditno="483714" Retrefno="            " />
    <MerchCode>5ZUIIHJWQRTRO6H</MerchCode>
    <Term code="45928071" location="AIR MALTA\25 SOUTH STREET\VALLETTA\VL1 8DQ      470" street="25 SOUTH STREET" city="
VALLETTA" country="MT" inputcapability="0" authcapability="1" />
    <Schema>DGN</Schema>
    <Txn cardholderpresent="" cardpresent="" cardinputmethod="0" cardauthmethod="" cardauthentity="" TVR="0" TTI="" />
    <MsgSource value="70" domesticMaestro="no" />
    <Repeat>1</Repeat>
    <SettlementAmt value="0.00" currency="826" rate="1.000000000" date="20240531" />
    <Fee value="0.00" currency="826" direction="debit" />
    <ARN>92374186</ARN>
    <FIID / >
    <RIID>00000361603</RIID>
    <ReasonCode>C06</ReasonCode>
    <Classification MCC="5977" />
    <OrigTxnAmt value="38.53" currency="826" />
    <PartialReversal>false</PartialReversal>
    <SettlementCycle xsi:nil="true" />
    <ReconciliationDate xsi:nil="true" />
    <ReconciliationCycle xsi:nil="true" />
    <Usage>0</Usage>
    <Pending_Billing_Amount>38.53</Pending_Billing_Amount>
    <Additional_Amt_DE54 xsi:nil="true" />
    <ChargebackRefNum />
    <SettlementRecapId
RecapDate="20240531" RecapNumber="094" SendingIIC="00000361641" ReceivingIIC="00000361603" CurrencyCode="826" />
 </CardChrgBackRepRes>
```

11.6 Transaction Report Sub-elements and Attributes

This section describes the message sub-elements and attributes.

11.6.1 Sub-elements

Sub-elements are listed below in alphabetical order.

Account Additional_Amt_DE54 AdjustType AgencyAccount Amount Amt ApprCode ARN BasicAmount BillAmt BookingType BookingStatus	BSA Card CashAmt CashbackAmt CashCode CCAAmount ChargebackRefNum Classification CommissionAmt CycleNumber DeclineReason Desc	Destination External Event Fee FeeAmt FeeClass FIID File FunctionCode LoadSource LoadType	LocalDate MastercardFeeClass MerchCode MsgSource OperationType OrigTxnAmt Other PaddingAmt Pending_Billing_Amount Recon Receiver ReconciliationDate	ReconciliationCycle RecordType RecType Response ReversalReason RIID Schema Sender Settlement SettlementAmt (Mastercard only) SettlementCycle SettlementDate	SettlementIndicator SettlementRecapID SchemeSettlementDate Source Term Trace Txn TxnAmt TxnCode UniqueTransactionReference Usage

Account

The Account element describes a card account.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
no	The 9 digit Thredd public token linked to the card Primary Account Number (PAN).	xs:string	Yes	Alphanumeric, maximum 28 characters.
type	Card type	xs:string	Yes	Numeric string, maximum 2 characters. Valid values are: 00 – Domestic Maestro 01 – MasterCard 02 – VisaCard 07 – Discover Global Network

Example

```
<Account no="123456789"type="07"></Account>
```

Additional_Amt_DE54

The Additional_Amt_DE54 element contains additional amount information about the transaction, if relevant. For example, for purchase with cashback transactions, the additional amounts field displays the cashback amount.

Description	Base Data Type	Constraints / Permitted Values
Additional fees data	xs:string	Alphanumeric, maximum 123 characters.

Example

```
<Additional_Amt_DE54>0040985D000000020000</Additional_Amt_DE54>
```

AdjustType

The AdjustType element shows the type of balance adjustment – either *Actual* (the money was deducted) or *Blocked* (the amount on the card has been blocked).

Description	Base Data Type	Constraints / Permitted Values
Type of balance adjustment	xs:string	Maximum length 6 characters.

Example

```
<AdjustType>Actual</AdjustType>
```

AgencyAccount

The AgencyAccount element describes a card account and the related agency bank account.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
no	Cardholder Account Number	xs:string	Yes	Alphanumeric, maximum 28 characters.
type	Account type	xs:string	Yes	Numeric string, maximum 2 characters Valid values are: 00 = Domestic Maestro; 01 = MasterCard
sortcode	Agency sort code	xs:string		Alphanumeric, maximum 6 characters.
bankacc	Allocated agency bank account	xs:string		Alphanumeric, maximum 8 characters.
name	Cardholder name	xs:string		Alphanumeric, maximum 28 characters.

Example

```
<AgencyAccount no="123456789" type="01" sortcode="123456" bankacc="12345678" name="John Smith"></AgencyAccount>
```

Amount

The Amount element describes a monetary amount.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the cash movement.	<Direction>	Yes	See direction.
value	The monetary amount.	xs:decimal	Yes	Decimal value.
currency	The 3 character ISO currency code.	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<Amount direction="debit"value="0.95"currency="826"></Amount>
```

Amt

The Amt element describes the net transaction amount of the original transaction, as reported by Mastercard.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the cash movement.	<Direction>	Yes	See direction.
value	The net transaction value.	xs:decimal	Yes	Decimal value.
currency	The 3-character ISO currency code.	xs:unsigned short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<Amt direction="debit"value="0.95"currency="826"></Amt>
```

ApprCode

The ApprCode element describes the approval or authorisation code from the Issuer. This is the 6 digit number printed on the customer's receipt to indicate a successful payment.

Description	Base Data Type	Constraints / Permitted Values
Approval Code	xs:string	Alphanumeric, maximum 6 characters.

Example

```
<ApprCode>123456</ApprCode>
```

ARN

The ARN element indicates the Acquirer Reference Number as generated by the **acquirer**[1].

Description	Base Data Type	Constraints / Permitted Values
Acquirer Reference Number	xs:string	Alphanumeric, maximum 23 characters.

Example

```
<ARN>12345678901234567890123</ARN>
```

BasicAmount

The BasicAmount data type describes a monetary amount loaded or unloaded from a card.

[1]The merchant acquirer or bank that offers the merchant a trading account, to enable the merchant to take payments in store or online from cardholders.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The monetary value.	xs:decimal	Yes	Decimal value (6 decimal places).
value2	The 4-decimal place version of the value. (optional)	xs:decimal	Yes	Decimal value (4 decimal places)
currency	The ISO 3-character currency code.	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<BasicAmount value="0.95"currency="826"></BasicAmount>
```

BillAmt

The BillAmt element describes the amount billed. Not that the BillAmt element does not include interchange.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the billing amount.	xs:decimal	Yes	Decimal value.
currency	The currency of the transaction (3 digit ISO currency code).	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.
rate	The conversion rate used to calculate the billing amount value.	<RateAmount>	Yes	Decimal value, maximum 9 decimal places, using conventional rounding down (1-4) and up (5-9).

Example

The BillAmt shown below represents 10 GBP at an exchange rate of 1:1.

```
<BillAmt value="10.00"currency="826"rate="1.000000000"></BillAmt>
```

BookingType

The BookingType element shows the transaction type that triggered the FX conversion, such as an authorisation or presentment.

Code	Description
A	A normal Authorisation has triggered this
C	Credit to cardholder (refund or Payment Out)
E	Auth Expiry Reversal
M	Manual, back office foreign exchange (for future use)
P	Unauthorised Presentment
R	Triggered by an Auth Reversal
Q	Presentment Reversal

Code	Description
S	Surplus, returned funds after a presentment
T	Topup, additional funds required after a presentment
U	Partial Authorisation Reversal
W	Inter-Wallet transfer

Example

The BookingType shown below represents a normal authorisation.

```
<BookingType>A</BookingType>
```

BookingStatus

The BookingStatus element shows the status of the booking.

Code	Description
B	Booked
R	Reversed
X	Retries exceeded
E	Error other than a timeout

Example

The BookingStatus shown below represents a booked transaction.

```
<BookingStatus>B</BookingStatus>
```

BSA

The BSA element describes the Business Service Arrangement (BSA) type code, which is provided by Mastercard. This field can have values of:

1 = Inter-regional

2 = Intra-regional

3 = Inter-country* (also called subregional)

4 = Intra-country (also called domestic)

8 = Member-to-member (also called bilateral)

Description	Base Data Type	Constraints / Permitted Values
Business Service Arrangement type code.	xs:string	Numeric, maximum 1 character.

Example

```
<BSA>4</BSA>
```

Card

The Card element describes the key attributes of a payment card.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
PAN	Primary Account Number if PCI DSS Compliant. Alternatively, this number is the Thredd 16-digit public token.	<PAN>	Yes	See PAN.
product	The Card Scheme associated with the card. For example: MCRD - Mastercard; VISA - Visa; MAES - Maestro	xs:string	Optional	Alphanumeric, maximum 4 characters.
programid	Program identifier, which is the co-brand (i.e. Thredd Sub-Scheme) that the Program Manager operates.	xs:string	Optional	Alphanumeric, maximum 50 characters.
branchcode	The branch code (or Agent Code) associated with the card.	xs:string	Optional	Alphanumeric, maximum 8 characters.
productID	The Thredd product ID associated with the card.	numeric	Optional	Numeric, maximum 5 characters.

Example

```
<Card PAN="12345678123456"product=""programid=""branchcode=""productID=""></Card>
```

CashAmt

The CashAmt element describes the cash amount of the receipt or payment before any bank charges are deducted.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the cash amount.	xs:decimal	Yes	Decimal value.
currency	The currency of the transaction (3 digit ISO currency code).	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<CashAmt value="10.00" currency="826"></CashAmt>
```

CashbackAmt

The CashbackAmt element describes the cashback amount requested by the cardholder. If no cashback has been requested, then the element is presented with the *value* attribute set at zero and the *currency* attribute value defaulted to the transaction currency.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The transaction value.	xs:decimal	Yes	Decimal value.
currency	The currency of the transaction (3 digit ISO currency code).	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<CashbackAmt value="10.00"currency="826"></CashbackAmt>
```

CashCode

The CashCode element describes transaction type and direction.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the transaction.	<Direction>	Yes	See direction.
CashType	The type of transaction.	xs:string	Yes	Accepts one of the following values: CashType: Description bac: BACS CHAPS: CHAPS fpy: Faster Payment (Receipt or payment) ddp: Direct Debit Payment setup, authorisation and initiation cbt: Cardholder initiated balance transfer between own accounts ipp: Inter program payment between two customers within same agency sort code p2p: Peer-to-peer payment between two cardholders FasterPaymentReject: Faster Payment which is rejected by the Card Scheme. (In this case, an inbound payment will be created to move money from the customer's account to holding account.) ModulrReturn: An outbound return received from Modulr which is processed as inbound payment. SEPAIn: Inbound SEPA (Single European Payment Area) payment SEPAOut: Outbound SEPA payment SEPAPaymentReturn: SEPA payment which is rejected by the Card Scheme. DirectDebitOutNotification: Direct Debit payment notification, indicating that a direct debit transaction has been initiated.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
				CashType: DirectDebitOutPayout — Direct debit payout, indicating that the actual transfer of funds to the payee's account has occurred. CashType: (empty) — Space or an empty value
CashGroup	The summary group type of the transaction.	xs:string	Yes	Takes one of the following values: rcp — Receipt pay — Payment

Example

```
<CashCode direction="debit" CashType="fpy" CashGroup="pay"></CashCode>
```

CCAAmount (Mastercard only)

The CCAAmount element describes the Currency Conversion Assessment (CCA) amount as calculated by the network (Mastercard only). The currency attribute value defaults to the CardFinancial (Presentment) billing currency.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The Currency Conversion Assessment value.	xs:decimal	Yes	Decimal value.
currency	The Currency transaction described in ISO Standard Currency code.	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes
included	Clarifies whether the CCA amount has been included in the FX fee, which is a product-level configuration option.	<YesNoString>	Yes	Valid values are: • yes • no

Example

```
<CCAAmount value="0.01"currency="826" included="no"></CCAAmount>
```

ChargebackRefNum

The ChargebackRefNum element holds the chargeback CycleID value and is shown as *Chargeback Ref Num* in Smart Client.

Description	Base Data Type	Constraints / Permitted Values
Unique for a Chargeback record. Normally 10 characters long.	xs:string	Numeric. Maximum 50 characters.

Example

```
<ChargebackRefNum>9034102149</ChargebackRefNum>
```

Classification

The Classification element describes the Merchant Category Code (MCC), which is used to classify the type of business service provided by the merchant.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
MCC	Merchant Category Code	<MCC>	Yes	See MCC.

Example

```
<Classification MCC="5659"></Classification>
```

CommissionAmt

The CommissionAmt element describes the value of the commission applied to a Card Authorisation only. The *commission* is the fees that Thredd applies to the card, based on the Fee configuration for the card (combination of the rate fee and fixed fee). For more information, see the *Thredd Fees Guide.*

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the commission amount.	xs:decimal	Yes	Decimal value.
currency	The three-digit ISO currency code.	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<CommissionAmt value="0.95"currency="826"></CommissionAmt>
```

CycleNumber

The CycleNumber element is the sub-group for daily reconciliation/settlement activities based on timing.

Note: For Discover, CycleNumberwill be always 01 as there will be no division in daily reconciliation/settlement.

Note: The CycleNumber is not applicable to Visa transactions, as Visa do not have the concept of settlement or reconciliation cycles.

Permitted Value	Description	Data Type
01	Cycle number 01	xs:string
02	Cycle number 02	xs:string
03	Cycle number 03	xs:string
04	Cycle number 04	xs:string
05	Cycle number 05	xs:string
06	Cycle number 06	xs:string

Example

```
<CycleNumber>03</CycleNumber>
```

DeclineReason

The DeclineReason element describes the reason a receipt was rejected and returned to source, or a payment request was declined and not processed.

Description	Data Type	Constraints / Permitted Values
The reason a receipt or payment was declined.	xs:string	Maximum length two chararacters: Value / Description 00 Not specified 01 Insufficient funds 02 Maximum number of transactions exceeded 03 Transaction exceeds maximum permitted value 04 Maximum account balance exceeded 05 Black listed destination 06 Not a valid account 07 Account closed 08 Cardholder deceased 09 No valid Direct Debit instruction

Example

```
<DeclineReason>01</DeclineReason>
```

Desc

The Desc element provides descriptive text to provide a comment on a transaction. You can supply this value when initiating a card load or unload via web services. Alternatively, Thredd provides the description when the load occurs as a result of a balance transfer between primary and secondary cards.

Note: For Agency banking transactions, this element can be empty.

Description	Base Data Type	Constraints / Permitted Values
Descriptive text or reference	xs:string	Maximum length 127 characters.

Example

```
<Desc>Some Descriptive Text</Desc>
```

Destination

The Destination element provides details of the destination wallet account to which funds are transferred in a Multi-FX wallet transaction.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
walletid	ID of the destination wallet account.	bigint	Yes	0 to 2^64
balancechange	Change in destination wallet account balance	decimal (19,4)	Yes	Precision = 19

Attribute	Description	Data Type	Required	Constraints / Permitted Values
	amount.			digits, scale = 4 digits.
blockchange	Change in destination wallet account blocked amount.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.
newbalance	New destination wallet account balance.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.
newblock	New destination wallet account blocked amount.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.

Example

```
<Destination walletid="1253" balancechange="15.5000" blockchange="5.5000" newbalance="10.0000" newblock="20.0000"/>
```

External

The `External` element describes the other bank account in a payment transfer transaction.

Attribute	Description	Data Type	Constraints / Permitted Values
sortcode	Source or destination sort code.	xs:string	Numeric 6 characters.
bankacc	Source or destination bank account.	xs:string	Numeric 8 characters.
name	Sender or recipient's name.	xs:string	Alphanumeric, maximum 28 characters.

Example

```
<External sortcode="123456" bankacc="12345678" name="John Bloggs"></External>
```

Event

The `Event` element describes an event that has changed a card's status.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
Type	The type of event.	xs:string	Yes	Valid values are: • Upgraded • Renewed • Lost • Stolen • Cancelled • PINTriesExceeded • Voided • Expired, • Activation

Attribute	Description	Data Type	Required	Constraints / Permitted Values
				• UnBlocked • StatusChange • ReportedToSAFE
Source	The item source (ItemSrc) of a card activation. Only applies to card activations.	xs:unsignedbyte	If applicable	See ItemSrc in the *Web Services Guide*. Defaults to 0.
ActivationDate	The date of activation. Only applies to card activations.	xs:string	If applicable	
ConvertedDate	The date of conversion from a virtual to a physical card.	xs:string	If applicable	
StatCode	Status code of the card after the event.	xs:string	Yes	See *Status Codes* in the *Web Services Guide*.
OldStatCode	Status code of the card before the event.	xs:string	Yes	See *Status Codes* in the *Web Services Guide*.
Date	Date and time of the event (UK daylight savings time).	xs:string	Yes	Format: YYYYMMDDHHMMSS
transactionid	The unique transaction ID for a *ReportedToSafe* event. This event can be used to track Mastercard **SAFE reporting**[1] transactions.	xs:string	If applicable	Numeric. Only applicable if the event Type is *ReportedToSAFE*.

Example - StatusChange

```
<Event Type="StatusChange" Source="0" StatCode="62" OldStatCode="00" Date="20210307153523" transactionid="" ></Event>
```

Example - ReportedToSafe

```
<Event Type="ReportedToSAFE" Source="0" StatCode="" OldStatCode="" Date="20210307153523" transactionid="1234567890" ></Event>
```

Fee

The Fee element describes a fee amount.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the fee.	<Direction>	Yes	See direction.
value	The value of the fee amount(PDS0147).	xs:decimal	Yes	Decimal value.
currency	The 3 digit ISO standard currency code.	xs:unsigned short	Yes	See EHI Guide > ISO Country Codes.
value2	The value of the fee amount(PDS0146). Only for Mastercard records.	xs:decimal	Optional	Decimal value.

[1]The period of time during which waits for an approved authorisation amount to be settled. This is defined at a product level. A typical default is 7 days for an auth and 10 days for a pre-auth.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
	Not applicable to Visa or Discover.			

Example

```
<Fee direction="debit" value="3.330000" currency="826" value2="3.3300" ></Fee>
```

FeeAmt

The FeeAmt element describes the fee amount as received from Mastercard.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the fee.	<Direction>	Yes	See direction.
value	The value of the fee. For Programme Manager fees, this is the sum total of any rate fee, fixed fee or other fee applied to the transaction (see Rate_Fee and Fixed_Fee in the CardAuthorisation record). For Scheme fees, it is the fee amount as received from the Scheme.	xs:decimal	Yes	Decimal value.
currency	The 3-digit ISO standard currency code.	xs:unsigned short	Yes	See EHI Guide > ISO Country Codes.

Example

```
<FeeAmt direction="debit"value="0.95"currency="826"></FeeAmt>
```

FeeClass

The FeeClass element describes the nature of a fee.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
interchangeTransaction	Valid values are *yes* and *no* Note: The value is yes when the FeeClass type is 4 or 5	<YesNoString>	Yes	Valid values are: • yes • no
type	Describes the type of the fee.	xs:string	Yes	Valid values are: Value / Description / Fee Type 1 / Cardholder fee: In this case the account number in the fee message refers to the cardholder's account. / Cardholder Fee 2 / MasterCard funds transfer settlement fee / Settlement Fee 4 / MasterCard interchange received fee / Settlement Fee 5 / MasterCard interchange fee to be paid / Settlement Fee For a CardFinancial, FeeClass element record, the type attribute always has a value of 1.
code	Specifies the type of cardholder fee.	xs:string	Yes	The value specified below depends upon the message code (fee identifier). Where the FeeClass type attribute is 0,2,4 or 5, then the code attribute is 0. For a card Financial, FeeClass element record, the codeattribute always has a value of 1.
memberID	Specifies the ICA[1]	xs:string	No	Only applicable to MastercardFee.

Example

```
<FeeClass interchangeTransaction="no"type="1"code="1"></FeeClass>
```

FIID

The FIID element describes the Forwarding Institution Identification Code (FIID).

[1]Visa Dispute Resolution Online system, provided by Visa for managing transaction disputes.

Description	Base Data Type	Constraints / Permitted Values
A code identifying the forwarding institution	xs:string	Alphanumeric, maximum 11 characters.

Example

```
<FIID>0123456</FIID>
```

File

The File element describes the file in which the receipt was notified or the outbound payment was submitted for processing. This element is used for outbound file-based processing with Agency banking.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
filedate	Date and time of file containing receipt or date the payment file is generated.	xs:string	Yes	Maximum 14 characters, date and time in the format: YYYYMMDDHHMMSS
filename	Name of file containing receipt or payment.	xs:string	Yes	Alphanumeric, maximum 100 characters.

Example

```
<File filedate="20100824155111" filename="ABC123xyz"></File>
```

FunctionCode

The FunctionCode element is used by Mastercard to describe the transaction functions the clearing system performs.

Permitted Value	Description	Data Type
400	Denotes ‘Full’. Used for Mastercom Chargebacks.	integer
451	Denotes ‘Partial’. Used for Mastercom Chargebacks.	integer
603	Retrieval Request.	integer
605	Retrieval Request Acknowledgement.	integer
685	Financial Position Detail (Chargeback -Mastercom).	integer
700	Fee Collection (Member-generated) / For Mastercom pre-arbitration or arbitration case filing.	integer
780	Fee Collection Return (Member-generated).	integer
781	Fee Collection Resubmission (Member-generated).	integer
782	Fee Collection Arbitration Return (Member-generated).	integer
783	Fee Collection (Clearing System-generated).	integer
790	Fee Collection (Funds Transfer) – applies only in the IPM Pre-edit system to UK Domestic Maestro transactions.	integer

LoadSource

The LoadSource element describes the source of the Card Load or Unload.

Attribute	Description	Data Type	Constraints / Permitted Values
Source	The source of the Load / Unload request.	xs:string	Maximum length 3 characters. For more information, see EHI Guide > Load Sources.
Type	The type of the Load/Unload request. Payment method of funds for the load.	xs:string	0 = Unknown 1 = Cash 2 = Debit card 3 = Credit card 4 = e-Wallet 5 = Bank account
FixedFee	The amount of any Fixed Fee that was applied.	xs:decimal	
Rate_Fee	The amount of any Rate Fee that was applied.	xs:decimal	

Example

```
<LoadSource source="9"Type="1"FixedFee="0.00"Rate_Fee="0.00"/></LoadSource
```

LoadType

The LoadType element describes the type of funds used in a Card Load or Unload transaction.

Description	Data Type	Constraints / Permitted Values
The type of fund used in the Card Load or Unload.	xs:string	Maximum length 2 characters. 0 = Not Specified 1 = Cash 2 = Debit card 3 = Credit Card 4 = Import 5 = Savings Stamps 6 = Cheque 7 = Standing Order 8 = Export 9 = Transfer 10 = Funding Card 11 = From/To Offline Balance

Example

```
<LoadType>6</LoadType>
```

LocalDate

The LocalDate element describes the date and time when the message was received from the card network in local UK time.

Description	BaseType	Constraints / Permitted Values
Date and time.	xs:string	Maximum 14 characters, date and time in the format: YYYYMMDDHHMMSS

Example

The example below shows a date/time of 2:20.33pm on 25th Jan 2021.

```
<LocalDate>20210125142033</LocalDate>
```

MastercardFeeClass

The MastercardFeeClass data type describes the type of Mastercard fee.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
interchangeTransaction	Valid values are *yes* and *no* Note: The value is yes when the FeeClass type is 4 or 5	<YesNoString>	Yes	Valid values are: • yes • no
type	Describes the type of the fee.	xs:string	Yes	Valid values are: Value / Description / Fee Type 0 / Network fee: These are fees generated by Thredd or MasterCard clearing. In this case the account number in the fee message refers to the fee account for Thredd. / Settlement Fee 2 / MasterCard funds transfer settlement fee / Settlement Fee 4 / MasterCard interchange received fee / Settlement Fee 5 / MasterCard interchange fee to be paid / Settlement Fee
code	Specifies the type of cardholder fee.	xs:string	Yes	0
memberid	Specifies the Mastercard Member ID (i.e.	xs:string	Yes	Maximum 6 characters. **Note**: This element is only present when

Attribute	Description	Data Type	Required	Constraints / Permitted Values
	ICA[1])			the container element of FeeClass is “MastercardFee”.

Example

```
<MastercardFeeClass interchangeTransaction="no"type="0"code="0"memberid="012345"></MastercardFeeClass>
```

MerchCode

The MerchCode element is the Card Acceptor Merchant Identifier supplied by the acquirer. This a unique number that is used to identify the merchant or originator of the transaction.

Expected Value	BaseType	Constraints / Permitted Values
Merchant Code / Card Acceptor Identifier.	xs:string	Alphanumeric, maximum 15 characters.

Example

```
<MerchCode>ABCD12345678</MerchCode>
```

MsgSource

The MsgSource element describes the source from which the message is derived.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The source from which this message is derived.	xs:decimal	Yes	Maximum length two; must be one of the following values: 12 – Outgoing fees to Visa. 17 – Outgoing fees to Mastercard. This must be applied to all outgoing settlement fees. 62 – This value is applicable on CardAuthorisation records only. 66 – ECCEDD or GCMS using the ECCF file format (Mastercard International). 67 – GCMS using IPM file format (Mastercard International). 74 – UK Domestic Maestro using the IPM file format. 54 – Visa International. 70 – Discover Global Network
domesticMaestro	Indicates Domestic Maestro.	<domestic Maestro>	Yes	See domesticMaestro.

[1]Visa Dispute Resolution Online system, provided by Visa for managing transaction disputes.

Example

```
<MsgSource value="67"domesticMaestro="no"></MsgSource>
```

OperationType

The OperationType sub-element describes the type of wallet transaction.

ID	Name	Description
1	Authorisation	Authorisation transaction (Point of Sale, e-commerce or ATM).
2	Financial	Financial transaction type (e.g., presentment).
3	Fees	All kinds of non-transaction based fees, such as recurring fees and card usage fees.
4	Loads	Funds loaded to the wallet account using a Thredd web service.
5	Unloads	Funds unloaded from the wallet account using a Thredd web service.
6	Wallet Transfer	Funds transferred between wallet accounts.
7	Balance Recalculation	Balance recalculation. Certain operations will cause the balance to be recalculated without otherwise affecting the balance.
8	Closure Requested	Request to close the wallet account.
9	Closure Complete	The wallet account is closed after all pending authorisations have been dealt with.
10	Wallet Opening	Used to record the (re-)opening of a wallet account.
11	Authorisation Expiry	Indicates either a forced or automatic authorisation expiry.

Example

```
<OperationType>1</OperationType>
```

OrigTxnAmt

This OrigTxnAmt element describes the original transaction amount requested by the cardholder.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the original transaction.	xs:decimal	Yes	Decimal value.
currency	The currency code of the original transaction.	xs:unsignedShort	Yes	See EHI Guide > ISO Country Codes.
partial	Indicates a partial amount.	<YesNoString>	If applicable	Valid values are: • yes • no If not supplied, assumes “no”.
origItemId	The system trace audit number of the original authorisation, as assigned by the message originator. This can be used to	xs:unsignedInt	If applicable	0 to 4,294,967,295

Attribute	Description	Data Type	Required	Constraints / Permitted Values
	link an authorisation reversal to the original authorisation.			

Example

```
<OrigTxnAmt value="0.95"currency="826" partial="yes"origItemId="123456"></OrigTxnAmt>
```

Other

The Other element describes the Non-wallet amount and currency (e.g., for loads and unloads)..

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the amount.	decimal (19,8)	Yes	Decimal value: Precision = 19 digits, scale = 8 digits.
currency	The 3 digit ISO standard currency code.	xs:unsignedShort	Yes	Currency in ISO 3-digit number format. See EHI Guide > ISO Country Codes.

Example

```
<Other amount="15.5000" currency="AUD"/>
```

PaddingAmt

The PaddingAmt element describes the value of any padding amount applied to an authorisation. This is typically used to mitigate against FX rate fluctuations between the authorisation and the settlement.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the padding amount.	xs:decimal	Yes	Decimal value.
currency	The 3 digit ISO standard currency code.	xs:unsignedShort	Yes	Short value.

Example

```
<PaddingAmt value="0.95"currency="826"></PaddingAmt>
```

PaymentToken

The PaymentToken element is populated from payment token data when a payment token was used for the transaction. If no payment token was used, then the PaymentToken element is omitted.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
id	Unique Thredd ID of the payment token. Only present if transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	
creator	Identifies which system created the payment token. Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	MDES or VDEP

Attribute	Description	Data Type	Required	Constraints / Permitted Values
expdate	Expiry date of the payment token. Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	Format YYYY-MM-DD
type	The type of system the payment token is encoded onto (defines how the payment token PAN is held). Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	See type.
status	Current status of the payment token as set by Thredd. Only present if transaction relates to a payment token (for example, Apple Pay). Please note this can differ from the status of the PAN.	xs:string	Yes	00 = authorised.
creatorstatus	Current status of the payment token as set by the creator of the payment token. Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	See creatorstatus .
wallet	Wallet that the payment token belongs to. Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	See wallet.
devicetype	Indicates the type of the device in which the payment token is held. Only present if the transaction relates to a payment token (for example, Apple Pay).	xs:string	Yes	See devicetype.
lang	The ISO 639-1 2 character alpha language code reported by the payment token device at digitisation time. Only present if the transaction relates to a payment token (for example, Apple Pay). For a list of ISO 639-1 language codes, see http://www.iso.org **Note**: The code may not be known, in which case the field will be empty.	xs:string	Yes	
activationexpiry	The Date and Time in UTC (GMT) when the activation code in the field PaymentToken activationCode expires. Only present if the first two characters of ProcCode="34" (payment token activation notification). **Note**: Milliseconds are present, but will always be zero. For Mastercard, seconds will always be zero.	xs:string	Yes	

Attribute	Description	Data Type	Required	Constraints / Permitted Values
activationmethod	The method by which the cardholder should obtain the Activation Code (in the field PaymentToken_activationCode) They must enter the activation code into the device holding the payment token in order to activate it. Only present if first two characters of ProcCode="34" (payment token activation notification).	xs:string	Yes	See activationmethod

Example

```
<PaymentToken id="26025313" creator="MC-MDES" expdate="2024-04-30" type="SE" status="00" creatorstatus="A" wallet="APPLE" device-type="M" lang="" activationexpiry="2021-03-02 11:52:00" activationmethod="1" />
```

Pending_Billing_Amount

The Pending_Billing_Amount element shows the value of the pending Chargeback amount.

Description	Data Type	Constraints / Permitted Values
Chargeback amount.	xs:decimal	Decimal value.

Example

```
<Pending_Billing_Amount>10.25</Pending_Billing_Amount>
```

Recon

The Recon element provides details of the **reconciliation date**[1] and clearing cycle.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
date	Date the original transaction was reconciled.	xs:string	Optional	Maximum 8 characters. Date in the format: YYYYMMDD
cycle	Indicates which of the Mastercard clearing cycles the transaction was processed in.	xs:string	Optional	Values 01 - 06.

Example

An example of a settlement which occurred in cycle 1 on 11th September 2021 is shown below.

```
<Recon date="20210911" cycle="01"/></recon>
```

Receiver

The Receiver element provides details of the receiver of the payment where there is a money transfer. See also Sender.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
firstname	FirstName	xs:string	Optional	Alphanumeric, maximum 99 characters.

[1]Checks to confirm the card is valid, such as CHIP cryptograms, mag-stripe data (if available) and expiry date

Attribute	Description	Data Type	Required	Constraints / Permitted Values
middlename	Middle Name	xs:string	Optional	Alphanumeric, maximum 99 characters.
lastname	Last Name	xs:string	Optional	Alphanumeric, maximum 99 characters.
streetaddress	Street Address	xs:string	Optional	Alphanumeric, maximum 99 characters.
city	City	xs:string	Optional	Alphanumeric, maximum 99 characters.
provincecode	Province code	xs:string	Optional	Alphanumeric, maximum 99 characters.
country	Country	xs:string	Optional	Normally 3-character alpha ISO code
postcode	Postcode	xs:string	Optional	Alphanumeric, maximum 99 characters.
dateofbirth	Date of birth	xs:string	Optional	Format: MMDDYYYY
accountnumber	Account Number	xs:string	Optional	Alphanumeric, maximum 99 characters.
idtype	Id type	xs:string	Optional	<table><tr><th>Value</th><th>Description</th></tr><tr><td>00</td><td>Passport</td></tr><tr><td>01</td><td>National Identification Card</td></tr><tr><td>02</td><td>Driver’s License</td></tr><tr><td>03</td><td>Government Issued</td></tr><tr><td>04</td><td>Other</td></tr><tr><td>05-10</td><td>Reserved</td></tr></table>
idnbr	Id number	xs:string	Optional	Alphanumeric, maximum 99 characters.
idctrycode	ID Country Code	xs:string	Optional	Normally 3-character alpha ISO code
nationality	Nationality	xs:string	Optional	Normally 3-character alpha ISO code
phonenumber	Phone Number	xs:string	Optional	Alphanumeric, maximum 99 characters.
idexpdate	ID expiry Date	xs:string	Optional	Format: MMDDYYYY
acctnbrtype	Account Number Type	xs:string	Optional	<table><tr><th>Values</th><th>Description</th></tr><tr><td>00</td><td>Other</td></tr><tr><td>01</td><td>RTN + Bank Account</td></tr><tr><td>02</td><td>IBAN</td></tr><tr><td>03</td><td>Card Account</td></tr><tr><td>04</td><td>Email</td></tr><tr><td>05</td><td>Phone Number</td></tr><tr><td>06</td><td>Bank account number (BAN) + Bank Identification Code (BIC)</td></tr><tr><td>07</td><td>Wallet ID</td></tr></table>

Attribute	Description	Data Type	Required	Constraints / Permitted Values
				Values: 08 = Social Network ID
birthctry	Birth Country	xs:string	Optional	Normally 3-character alpha ISO code
fundssource	Fund Source	xs:string	Optional	01 = Visa credit 02 = Visa debit 03 = Visa prepaid 04 = Cash 05 = Debit/deposit access accounts other than those linked to a Visacard (includes checking/savings accounts and proprietary debit/ATM cards) 06 = Credit accounts other than those linked to a Visa card (includes credit cards and proprietary credit lines)
claimcode	Claim Code	xs:string	Optional	Alphanumeric, maximum 99 characters.

Example

```
<Receiver firstname="FRST" middlename="M" lastname="LST NME" streetaddress="RM R STREET S STREETI
" city="MAIN" provincecode="MD" country="MDA"
postcode="00000" dateofbirth="07051999" accountnumber="4779300008363000" idtype="04" idnbr="2014011000399" idctrycode="MDA" nation-
ality="MDA"
phonenumber="2811131" idexpdate="102020" acctnbrtype="08" birthctry="MDA" fundssource="04" claimcode="TST"></Receiver>
```

ReconciliationDate

The ReconciliationDate element shows the **reconciliation date**[1] of a Chargeback record.

Description	Data Type	Constraints / Per
Reconciliation date of Chargeback record.	xs:string	Maximum 8 characters, Date in the format: YYYYMMDD

Example

```
<ReconciliationDate>20200325</ReconciliationDate>
```

ReconciliationCycle

The ReconciliationCycle element shows the **reconciliation cycle**[2] of the Chargeback record.

---

[1]Checks to confirm the card is valid, such as CHIP cryptograms, mag-stripe data (if available) and expiry date
[2]The card network (Visa and Mastercard) may perform approve or decline a transaction authorisation request on behalf of the card issuer. Depending on your mode, may also provide STIP on your behalf, where your systems are unavailable.

Description	Data Type	Constraints / Permitted Values
Reconciliation cycle of Chargeback record.	xs:string	Maximum 2 characters, Possible values are 01,02,03,04,05 and 06.

Example

```
<ReconciliationCycle>03</ReconciliationCycle>
```

RecordType

The RecordType element is used to distinguish between different fee types. (Relevant to Mastercard only)

Description	Base Data Type	Constraints / Permitted Values
This can have different values depending on the primary element. For example: For a chargeback, where the value of RecordType is *MCB*. To find out the chargeback fee amount, refer to the fee amount (<FeeAmt>) of the MasterCardFee record. To view the original chargeback amount, refer to the <BillAmt> in the CardChrgBackRepRes record. For case filing where the value of RecordType is *MCF*, refer to the MasterCardFee record for details of pre-aribtration and arbitration case filing fees.	xs:string	Maximum length 3. Value: FC — From FeeCollection. MCB — Mastercom Chargebacks. Raised either via Mastercom UI or Mastercom SmartClient API. MCF — Mastercom pre-arbitration or arbitration case filing. Raised either via Mastercom UI or Mastercom Smartclient API. VFC — Visa Fee Collection. DGN — Discover Group Network

Example

```
<RecordType>DGN</RecordType >
```

RecType

The RecType element describes whether this record is an advice or a reversal.

Permitted Value	Description	DataType
ADV	Advice Record	xs:string
REV	Reversal Record	xs:string

Example

```
<RecType>ADV</RecType>
```

Response

The Response element describes the approval status of a transaction request.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
approved	Approval component.	<approved>	Yes	See approved.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
actioncode	Describes the transaction status, which can be either 4 or 0: 4 = indicates a decline or where the transaction type is an authorisation advice 0 = indicates a transaction status that is not a decline or an authorisation advice For a CardFinancial, ActionCode is always zero.	xs:string	If applicable	Applies to CardAuthorisation and CardFinancial only.
responsecode	Holds the *ResponseStatus* field from the authorisation record in the Thredd database (as sent to the card scheme). This is a 2 digit Response Code which is based on the ISO 8583:1987 standard. It corresponds to the DE39 response code field that Thredd sent in the response message. In most cases, the responsecode field should match the authorisation *ResponseStatus* you provided in your **EHI**[1] response. The exception is for EHI modes where: • Thredd did not receive your EHI response and made a Stand-In Processing (STIP) decision • Thredd received your EHI response, but determined the *ResponseStatus* was not valid • The EHI response you sent was an internal Thredd response code (such as 'C0' or 'C1'). In this case the responsecode field will reflect the response actually sent to the card scheme (after mapping from an internal Thredd EHI ResponseStatus value)	xs:string	If applicable	Applies to CardAuthorisation and CardFinancial only.
additionaldesc	Extra information.	xs:string	If applicable	Maximum 500 characters. Applies to CardAuthorisation only.

Example

```
<Response approved="yes"actioncode="0"responsecode="00"></Response>
```

ReversalReason

The ReversalReason element describes the reason for a reversal.

[1]The Card Transaction System (CTS) enables you to test the integration of your card processing systems and validate the setup of your External Host Interface (EHI).

Permitted Value	Description	Data Type
0	Original authorisation was matched. This is where the original Authorisation value from the BLKAMT field was cancelled. This increases the AMTAVL balance because a settlement transaction has been matched and processed. This code would be used if the CardAuthorisation's AuthId is populated in the matching CardFinancial's Child Element AuthId.	xs:string
1	Original authorisation has expired. This is where the original Authorisation value from the BLKAMT field was cancelled.This increases the AMTAVL balance even though a settlement transaction has not been identified before the expiry of the Authorisation time limit. This code would be used if the CardAuthorisation's AuthId is not present in any CardFinancial's Child Element AuthId.	xs:string
2	Manually deleted, where the erroneously processed authorisation and reversal for a merchant is processed directly into the processor's system.	xs:string
3	Online reversal, where the erroneously processed authorisation and reversal for a merchant is entered via the processor's online portal.	xs:string

Example

```
<ReversalReason>0</ReversalReason>
```

RIID

The RIID element describes the Receiving Institution Identification Code (RIID). This is the Program Manager's **ICA**[1] as provided by Mastercard or the equivalent account code from Visa.

Description	Base Data Type	Constraints / Permitted Values
Receiving Institution Identification Code.	xs:string	Alphanumeric, maximum 11 characters.

Example

```
<RIID>00000000123</RIID>
```

Schema

The Schema element describes the name of the card scheme processing the transaction. For example: Visa (VISA), Mastercard (MCRD).

Permitted Value	Description	Data Type
CIRR	Euro Cirrus	xs:string
ECRD	EuroCard	xs:string
MAES	Maestro	xs:string
CIMA	Cirrus Maestro	xs:string
MCRD	Mastercard	xs:string
VISA	Visa	xs:string
PLUS	PLUS Card	xs:string

[1]Visa Dispute Resolution Online system, provided by Visa for managing transaction disputes.

Permitted Value	Description	Data Type
DGN	Discover Global Network	xs:string

Example

```
<Schema>DGN</Schema>
```

Sender

The Sender element provides details of the sender of the payment, where there is a money transfer. See also Receiver.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
firstname	FirstName	xs:string	Optional	Alphanumeric, maximum 99 characters.
middlename	Middle Name	xs:string	Optional	Alphanumeric, maximum 99 characters.
lastname	Last Name	xs:string	Optional	Alphanumeric, maximum 99 characters.
streetaddress	Street Address	xs:string	Optional	Alphanumeric, maximum 99 characters.
city	City	xs:string	Optional	Alphanumeric, maximum 99 characters.
provincecode	Province code	xs:string	Optional	Alphanumeric, maximum 99 characters.
country	Country	xs:string	Optional	Normally 3-character alpha ISO code.
postcode	Postcode	xs:string	Optional	Alphanumeric, maximum 99 characters..
dateofbirth	Date of birth	xs:string	Optional	Format: MMDDYYYY
accountnumber	Account Number	xs:string	Optional	Alphanumeric, maximum 99 characters.
idtype	The type of identification provided by the user.	xs:string	Optional	Values are: 00 Passport 01 National Identification Card 02 Driver's License 03 Government Issued 04 Other 05–10 Reserved
idnbr	Identification number (e.g. passport or driver license number)	xs:string	Optional	Alphanumeric, maximum 99 characters.
idctrycode	ID country code (e.g. 826)	xs:string	Optional	Normally 3-character alpha ISO code.
nationality	Nationality	xs:string	Optional	Normally 3-character alpha ISO code.
phonenumber	Phone number	xs:string	Optional	Alphanumeric, maximum 99 characters.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
idexpdate	Identification expiry date	xs:string	Optional	Format: MMDDYYYY
acctnbrtype	The type of account number	xs:string	Optional	<table><tr><th>Values</th><th>Description</th></tr><tr><td>00</td><td>Other</td></tr><tr><td>01</td><td>RTN + Bank Account</td></tr><tr><td>02</td><td>IBAN</td></tr><tr><td>03</td><td>Card Account</td></tr><tr><td>04</td><td>Email</td></tr><tr><td>05</td><td>Phone Number</td></tr><tr><td>06</td><td>Bank account number (BAN) + Bank Identification Code (BIC)</td></tr><tr><td>07</td><td>Wallet ID</td></tr><tr><td>08</td><td>Social Network ID</td></tr></table>
birthctry	Country of birth	xs:string	Optional	Normally 3-character alpha ISO code.
fundssource	Source of funds	xs:string	Optional	<table><tr><th>Code</th><th>Meaning</th></tr><tr><td>01</td><td>Visa credit</td></tr><tr><td>02</td><td>Visa debit</td></tr><tr><td>03</td><td>Visa prepaid</td></tr><tr><td>04</td><td>Cash</td></tr><tr><td>05</td><td>Debit/deposit access accounts other than those linked to a Visacard (includes checking/savings accounts and proprietary debit/ATM cards)</td></tr><tr><td>06</td><td>Credit accounts other than those linked to a Visa card (includes credit cards and proprietary credit lines)</td></tr></table>
claimcode	Claim code	xs:string	Optional	Alphanumeric, maximum 99 characters.

Example

```
<Sender firstname="FRST" middlename="M" lastname="LST NME" streetaddress="RM R STREET S STREETI
" city="MAIN" provincecode="MD" country="MDA"
postcode="00000" dateofbirth="07051999" accountnumber="4779300008363000" idtype="04" idnbr="2014011000399" idctrycode="MDA" nation-
ality="MDA"
phonenumber="2811131" idexpdate="102020" acctnbrtype="08" birthctry="MDA" fundssource="04" claimcode="TST"></Sender>
```

Settlement

The Settlement element describes the Settlement details.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
date	Date the original transaction was settled.	xs:string	Optional	Maximum 8 characters, Date in

Attribute	Description	Data Type	Required	Constraints / Permitted Values
				the format: YYYYMMDD
cycle	Indicates which of the Mastercard clearing cycles the transaction was processed in.	xs:string	Optional	Values 01 - 06.

Example

An example of a Settlement which occurred in cycle 1 on 9th September 2017 is shown below.

```
<Settlement date="20170911" cycle="01"/></Settlement>
```

SettlementAmt

The SettlementAmt element describes the settlement amount.

Note: For Visa, the SettlementAmt is set by Thredd to the same as the Cardholder Billing amount (BillAmt).

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the settlement amount.	xs:decimal	Yes	Decimal value.
currency	The 3 digit ISO code of currency that the transaction will be settled in.	xs:unsigned Short	Yes	See EHI Guide > ISO Country Codes.
rate	The conversion rate used to calculate the settlement amount value. Not applicable to Discover.	<Rate>	Yes	Decimal value, maximum 9 decimal places, using conventional rounding down (1-4) and up (5-9).
date	Date the original transaction was settled.	xs:string	If applicable	Maximum 8 characters, Date in the format: YYYYMMDD Only required for chargebacks and representments.

Example

The example below represents 10 GBP at an exchange rate of 1:1.

```
<SettlementAmt value="10.00"currency="826"rate="1.000000000"
date="20100825"></SettlementAmt>
```

SettlementCycle

The SettlementCycle element describes the settlement cycle of the Chargeback record.

Description	Data Type	Constraints / Permitted Values
Settlement cycle of a Chargeback record.	xs:string	Maximum length 2 characters. Possible value: 01.

Example

```
<SettlementCycle>01</SettlementCycle>
```

SettlementDate

The SettlementDate element describes the date when the transaction is settled.

Note: In the CardAuthorisation element, this field only provides the Thredd transaction date.

Description	BaseType	Constraints / Permitted Values
Date (UTC)	xs:string	Maximum 8 characters, date in the format: YYYYMMDD

Example

```
<SettlementDate>20210125</SettlementDate>
```

SettlementIndicator

The SettlementIndicator element describes the type of settlement service, for example whether this is International or clearing-only.

Description	Base Data Type	Constraints / Permitted Values
The type of settlement service.	xs:string	Maximum length 1. Values are: Value: 0 — International settlement service. Value: 3 — Clearing-only (valid only for countries with defined service). Value: 4 — Bilateral settlement. (Mastercard Only) Value: 8 — National Net settlement service (valid only for countries with defined service). Value: 9 — BASEII selects the appropriate settlement service based on routing and country-defined default. (Visa Only)

Example

```
<SettlementIndicator>0</SettlementIndicator>
```

SettlementRecapID

Description	Data Type	Constraints / Permitted Values
Settlement Recap ID is a Discover Global Network specific data element. Discover members send financial transaction data grouped under recaps separately for each member. Settlement Recap ID defines the recap breakdown to help members for their reconciliation with Discover.	xs:string	Possible values are: Value: RecapDate — Settlement group date Value: RecapNumber — Settlement group number Value: SendingIIC — Sending Issuer

Description	Data Type	Constraints / Permitted Values
		Value: (blank) — Description: Identification Code (IIC) Value: ReceivingIIC — Description: Receiving Issuer Identification Code (IIC) Value: CurrencyCode — Description: 3 Digit transaction currency code

Example

```
<SettlementRecapID
RecapDate="20240531" RecapNumber="092" SendingIIC="00000361641" ReceivingIIC="00000361603" CurrencyCode="GBP"/SettlementRecapID>
```

SchemeSettlementDate

The SchemeSettlementDate element describes the scheme first presentment settlement date in a financial advice or reversal. The data contained in this element is taken from the following data sources received from Mastercard and set by Thredd for Visa:

- Mastercard - DE48 PDS0159 subfield 8
- Visa - Thredd settlement date

Description	BaseType	Constraints / Permitted Values
Date (UTC)	xs:string	Maximum 8 characters, date in the format: YYYYMMDD.

Example

```
<SchemeSettlementDate>20240125</SchemeSettlementDate>
```

Source

The Source element provides details of the source wallet account from which funds are taken.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
walletid	ID of the source wallet account.	bigint	Yes	0 to 2^64
basecurrency	Base currency of the source wallet account.	int	Yes	Currency in ISO 3-digit number format. See EHI Guide > ISO Country Codes.
balancechange	Change in source wallet account balance amount.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.
blockchange	Change in source wallet account blocked amount.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.
newbalance	New source wallet account balance.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
newblock	New source wallet account blocked amount.	decimal (19,4)	Yes	Precision = 19 digits, scale = 4 digits.

Example

```
<Source walletid="879" basecurrency="978" balancechange="10.5000" blockchange="5.5000" newbalance="5.0000" newblock="10.0000"/>
```

Term

The Term element provides details of the terminal used in a POS card transaction.

Attribute	Description	Data Type	Required	Constraints/Permitted Values.
code	Card acceptor terminal ID (Mastercard DE 41 field). This is a unique code identifying a terminal at the card acceptor location.	<code>	Yes	See code
location	Defines the site where the terminal is located, either a branch code or a store name.	xs:string	Yes	Maximum 64 characters
street	Description of the terminal street location.	xs:string	Yes	Maximum 64 characters
city	City	xs:string	Yes	Maximum 64 characters
country	Country code - ISO code.	xs:string	Yes	Must be 2 Characters. See EHI Guide > ISO Country Codes.
inputcapability	The primary capability of the terminal for entering card information.	<inputcapability>	Yes	See PDS0105
authcapability	This is the method available to verify the cardholder at this terminal.	<authcapability>	Optional	See authcapability

Example

```
<Term code="N376131"location="A BANK"street="A STREET"city="A CITY"
country="GB"inputcapability="5"authcapability="1"></Term>
```

Trace

The Trace element provides an audit number that can be used in combination with other elements to identify a transaction.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
auditno	Card scheme System Trace Audit Number (STAN). The STAN is a 6 digit acquirer reference number between 000001 and 999999, generated sequentially by each acquirer. After reaching 999999 the acquirer repeats the STAN from 000001. The audit number remains unchanged for	xs:string	Optional	Alphanumeric, maximum 6 characters

Attribute	Description	Data Type	Required	Constraints / Permitted Values
	all messages within the life of the transaction (i.e. original and reversal). For partial reversals, a new Audit Number is required. **Note**: The STAN is typically only unique per Card Scheme network, per Acquirer, per day. Acquirers who process more than 1000000 transactions per day will repeat the STAN. Therefore, auditno cannot be used to provide a unique reference. **Tip**: You can use the AuthId element to uniquely identify a transaction.			
origauditno	This is only populated if the containing record is a reversal, and represents information regarding the original transaction.	xs:string	Optional	Alphanumeric, maximum 6 characters
Retrefno	Retrieval Reference Number. Contains a document reference supplied by the system retaining the original source information (ATM acquirer) and is used to assist in locating that information or its copy	xs:string	Yes	Alphanumeric, maximum 12 characters

Example

```
<Trace auditno="1234"origauditno="345"Retrefno="AN1234"></Trace>
```

Txn

The Txn element describes how a transaction was validated and authenticated.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
cardholderpresent	Indicates whether the cardholder was present during the transaction.	<cardholderpresent>	Yes	See cardholderpresent.
cardpresent	Indicates whether the card was present during the transaction.	<cardpresent>	Yes	See cardpresent.
cardinputmethod	The method used to input the information from the card to the terminal.	<cardinputmethod>	Yes	See cardinputmethod.
cardauthmethod	The cardholder authentication method used in a card transaction.	<cardauthmethod>	Yes	See cardauthmethod.
cardauthentity	The component or person who verified the cardholder identity as reported in the cardauthmethod field.	<cardauthentity>	Yes	See cardauthentity.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
TVR	Terminal Verification Results. This is the 10 hexadecimal characters representing the TVR 5 binary bytes. This field should only be interpreted for EMV transactions (Cardauthentity and Cardinputmethod). Not applicable for Discover phase 1	xs:unsigned Long	If applicable	This field is only present in financial advices if the Acquirer systems provide Chip data Default value is zero.
TTI	Three-digit Transaction Type Identifier (Mastercard DE 048, PDS 0043 field). This is populated whenever it is found in the source presentment data for a CardFinancial record. Not applicable to other record types. Not applicable for Discover phase 1	<TTI>	Optional	This field can be used to support Mastercard QMR Reporting. For details of possible values, see the Mastercard IPM Clearing Formats manual,

Example

```
<Txn cardholderpresent="0"cardpresent="1"cardinputmethod="2"
cardauthmethod="3"cardauthentity="3"TVR="0"TTI="C07"></Txn>
```

TxnAmt

The TxnAmt element describes a transaction amount (value and currency).

Attribute	Description	Data Type	Required	Constraints / Permitted Values
value	The value of the transaction amount.	xs:decimal	Yes	Decimal value.
currency	The transacted currency code.	xs:unsignedShort	Yes	See EHI Guide > ISO Country Codes.

Example

```
<TxnAmt value="10.00"currency="826"></TxnAmt>
```

TxnCode

The TxnCode element describes the transaction type and direction.

Attribute	Description	Data Type	Required	Constraints / Permitted Values
direction	The direction of the transaction.	<Direction>	Yes	See direction
Type	Details of the type of transaction.	xs:string	Yes	Must be one of the following values

<table>
<tr><th>Attribute</th><th>Description</th><th>Data Type</th><th>Required</th><th>Constraints / Permitted Values</th></tr>
<tr><td></td><td></td><td></td><td></td><td>
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>pos</td><td>Point of Sale transaction.</td></tr>
<tr><td>atm</td><td>Automated Teller Machine transaction (Cash Withdrawal/Advance)</td></tr>
<tr><td>pos_cb</td><td>Point of Sale transaction with cashback.</td></tr>
<tr><td>pos_re</td><td>Purchase refund.</td></tr>
<tr><td>fee</td><td>Fee collection.
If direction is a debit the fee is a credit to the transaction originator.
If the direction is a credit then the fee is a debit to the transaction originator.</td></tr>
<tr><td>tfr</td><td>Cardholder funds transfer.</td></tr>
</table>
</td></tr>
<tr><td>Group</td><td>The summary group type of the transaction.</td><td><Group></td><td>Yes</td><td>See Group.</td></tr>
<tr><td>ProcCode</td><td>The first two digits of the Processing Code + the two digits of the AccountType + Two digits of the Destination Account. See Processing Codes.</td><td>xs:string</td><td>If applicable</td><td>For example: "000000", "003000", "010000"
Note: "390000" is used to identify an Account Verification[1] transaction.</td></tr>
<tr><td>Partial</td><td>If a fee was charged, indicates whether the fee was partial.
Note: Not applicable for Discover.</td><td>xs:string</td><td>If applicable</td><td>Default:”NA”</td></tr>
<tr><td>FeeWaivedOff</td><td>If a fee was charged and the fee was partial, shows the amount of the fee that was not charged.
Note: Not applicable for Discover.</td><td>xs:decimal</td><td>If applicable</td><td>Default:0</td></tr>
</table>

Example

```
<TxnCode direction="debit"Type="atm"Group="atm"ProcCode="000000"></TxnCode>
```

[1]A request for an additional amount on a prior authorisation. An incremental authorisation is used when the final amount for a transaction is greater than the amount of the original authorisation. For example, a hotel guest might register for one night, but then decide to extend the reservation for additional night. In that case, an incremental authorisation might be performed in order to get approval for additional charges pertaining to the second night.

UniqueTransactionReference

Description	Data Type	Constraints / Permitted Values
Unique reference for the transaction, from Discover.	xs:string	Alphanumeric, maximum 15 characters, may be null.

Example

```
<UniqueTransactionReference>073679876543210</TxnCode>
```

Usage

The Usage element indicates whether the Chargeback was credited to a card.

Description	Data Type	Constraints / Permitted Values
Indicates whether the Chargeback is manually credited to card.	xs:string	Maximum 1-character. Possible values are: Value / Description 0 — Credit acknowledged, cleared and not credited to a card. 1 — Credit acknowledged, cleared and credited to a card for arbitration Chargeback. M — Mastercard, Credit acknowledged, cleared and credited to a card. S — Related to a Visa card.

Example

```
<Usage>1</Usage>
```

11.6.2 Attributes

Attributes are listed below in alphabetical order.

approved	cardauthentity	cardpresent	domesticMaestro	MCC
authcapability	cardauthmethod	code	Group	PAN
cardholderpresent	cardinputmethod	direction	inputcapability	PDS0105

approved

The approved attribute describes whether a transaction was approved.

Permitted Value	Description	Data Type
yes	Approved	xs:string
no	Not Approved	xs:string

Example

```
approved="yes"
```

authcapability

The authcapability attribute describes the capabilties of the terminal.

Permitted Value	Description	Data Type
0	No electronic authentication	xs:string
1	PIN	xs:string
2	Electronic Signature Analysis	xs:string
3	Biometrics	xs:string
4	Biographs	xs:string
5	Manual signature verification	xs:string
6	Manual other	xs:string
7	Offline PIN	xs:string
8	Online PIN	xs:string
9	3D-Secure	xs:string
10	Account based digital signature	xs:string
11	Public key based digital signature	xs:string
12	Unknown	xs:string
13	RFU	xs:string
14	RFU	xs:string
15	RFU	xs:string
16	RFU	xs:string
17	RFU	xs:string
18	RFU	xs:string
19	RFU	xs:string

Example

```
authcapability="1"
```

cardholderpresent

The cardholderpresent attribute describes whether a cardholder was present during a transaction.

Permitted Value	Description	Data Type
0	Cardholder present	xs:string

Permitted Value	Description	Data Type
1	Not present, unspecified	xs:string
2	Not present, mail order	xs:string
3	Not present, telephone	xs:string
4	Not present, standing authorisation	xs:string
5	Not present, electronic order	xs:string
6	Not present, instalment transaction	xs:string
9	Unknown	xs:string

Example

```
cardholderpresent="3"
```

cardauthentity

The cardauthentity attribute describes the entity that authenticated the cardholder.

Permitted Value	Description	Data Type
0	Not Authenticated	xs:string
1	Integrated Chip Card	xs:string
2	ISO10202 = Terminal	xs:string
3	Authorising Agent	xs:string
4	Merchant	xs:string
5	Other	xs:string
6	Cardholder device	xs:string
7	Wallet Provider / Token Requestor	xs:string
8	Unknown	xs:string

Example

```
cardauthentity="8"
```

cardauthmethod

The cardauthmethod attribute describes the authentication method used in a card transaction.

Permitted Value	Description	Data Type
0	Not authenticated	xs:string

Permitted Value	Description	Data Type
1	PIN	xs:string
2	electronic signature analysis	xs:string
3	Biometrics	xs:string
4	Biographic	xs:string
5	Manual Signature Verification	xs:string
6	Manual Other (e.g. Licence)	xs:string
7	Other	xs:string
8	Unknown	xs:string
9	Passcode/Password (e.g mobile phone unlock code, or One-Time-Passcode sent to cardholder)	xs:string
A	Pattern (e.g. mobile phone device unlock pattern)	xs:string
B	Possession of hardware device (eg phone, number generating keyfob)	xs:string
C	As 'B' but additionally with user verification	xs:string
D	Possession of software application (e.g. passcode generating program)	xs:string
E	As 'D' but additionally with user verification	xs:string
S	3D-secure cardholder authentication	xs:string

Example

```
cardauthmethod="1"
```

cardinputmethod

The cardinputmethod attribute describes the method used to input the card data (e.g.,PAN) into the point of sale terminal.

Permitted Value	Description	Data Type
0	unspecified	xs:string
1	manual, no terminal	xs:string
2	magnetic stripe read	xs:string
3	bar code	xs:string
4	OCR	xs:string
5	integrated circuit card (ICC)	xs:string
6	key entered	xs:string

Permitted Value	Description	Data Type
7	contactless ICC	xs:string
C	E-Commerce with channel encryption and chip cryptogram used	xs:string
E	Contactless magnetic stripe	xs:string
F	Account Data on file	xs:string
G	Key entered by acquirer	xs:string
M	MICR reader	xs:string
P	Mobile banking application	xs:string
Q	QR code	xs:string
V	E-Commerce	xs:string
W	DPAN	xs:string

Example

```
cardinputmethod="5"
```

cardpresent

The `cardpresent` attribute indicates whether a card was present during a transaction.

Permitted Value	Description	Data Type
0	Card not present	xs:string
1	Card present	xs:string
9	Unknown	xs:string

Example

```
cardpresent="1"
```

code

The `Code` attribute describes the card acceptor terminal ID (Mastercard DE 41 field). This is a unique code identifying a terminal at the card acceptor location.

Description	Base Data Type	Constraints / Permitted Values
Terminal Code	xs:string	Maximum 8 Characters

Example

```
code="12345678"
```

direction

The Direction attribute describes the direction of a cash movement.

Permitted Value	Description	Data Type
credit	Describes a credit transaction.	xs:string
debit	Describes a debit transaction.	xs:string

Example

```
direction="debit"
```

domesticMaestro

The domesticMaestro attribute indicates whether a transaction originates from a Domestic Maestro card.

Permitted Value	Description	Data Type
yes	Used to indicate that the transaction originates from a domestic Maestro card.	xs:string
no	Used to indicate that the transaction does not originate from a domestic Maestro card.	xs:string

Example

```
domesticMaestro="yes"
```

Group

The Group attribute describes the high-level transaction type.

Permitted Value	Description	Data Type
pos	Point of Sale Transactions (including reversals).	xs:string
atm	Automated Teller Machine transactions (including reversals).	xs:string
fee	Fees.	xs:string

Example

```
Group="atm"
```

inputcapability

The inputcapability attribute describes the card input capability.

Permitted Value	Description	Data Type
0	Unknown	xs:string
1	Manual - no Location	xs:string
2	Magnetic Stripe Read	xs:string

Permitted Value	Description	Data Type
3	Bar Code	xs:string
4	OCR	xs:string
5	EMV contact	xs:string
6	Key Entered	xs:string
7	Contactless Magnetic Stripe	xs:string
8	EMV contactless	xs:string
9	Account Data on file	xs:string
10	QR code	xs:string
11	E-Commerce	xs:string
12	E-Commerce with EMV cryptogram	xs:string
13	MICR reader	xs:string
14	Mobile Banking	xs:string
15	RFU	xs:string
16	RFU	xs:string
17	RFU	xs:string
18	RFU	xs:string
19	RFU	xs:string

Example

```
inputcapability="6"
```

MCC

The MCC attribute describes the **Merchant Category Code**[1] (MCC).

Description	Base Data Type	Constraints / Permitted Values
Merchant category code.	xs:string	Maximum 4 characters. Permissible values as per Mastercard Global Rules for Merchant Classification Codes.

Example

```
MCC="5921"
```

[1] A unique identifier of the merchant, to identity the type of account provided to them by their acquirer.

PAN

The PAN attribute contains the Primary Account Number if you are PCI DSS Compliant or otherwise the Thredd 16-digit public token.

Description	Base Data Type	Constraints / Permitted Values
PAN (Primary Account Number).	xs:string	Minimum 12 characters, maximum 19 characters

Example

```
PAN="12345678123456"
```

Thredd 16-digit public token

The format of the 16-digit Thredd public token is as follows:

xxxYYYYYYYYYzzzz

where:

- *xxx* – is the 3 digits derived from the Thredd internal scheme ID
- *YYYYYYYYY* – is the 9-digit Thredd public token
- *zzzz* – is the last 4 digits of the card's PAN

PDS0105

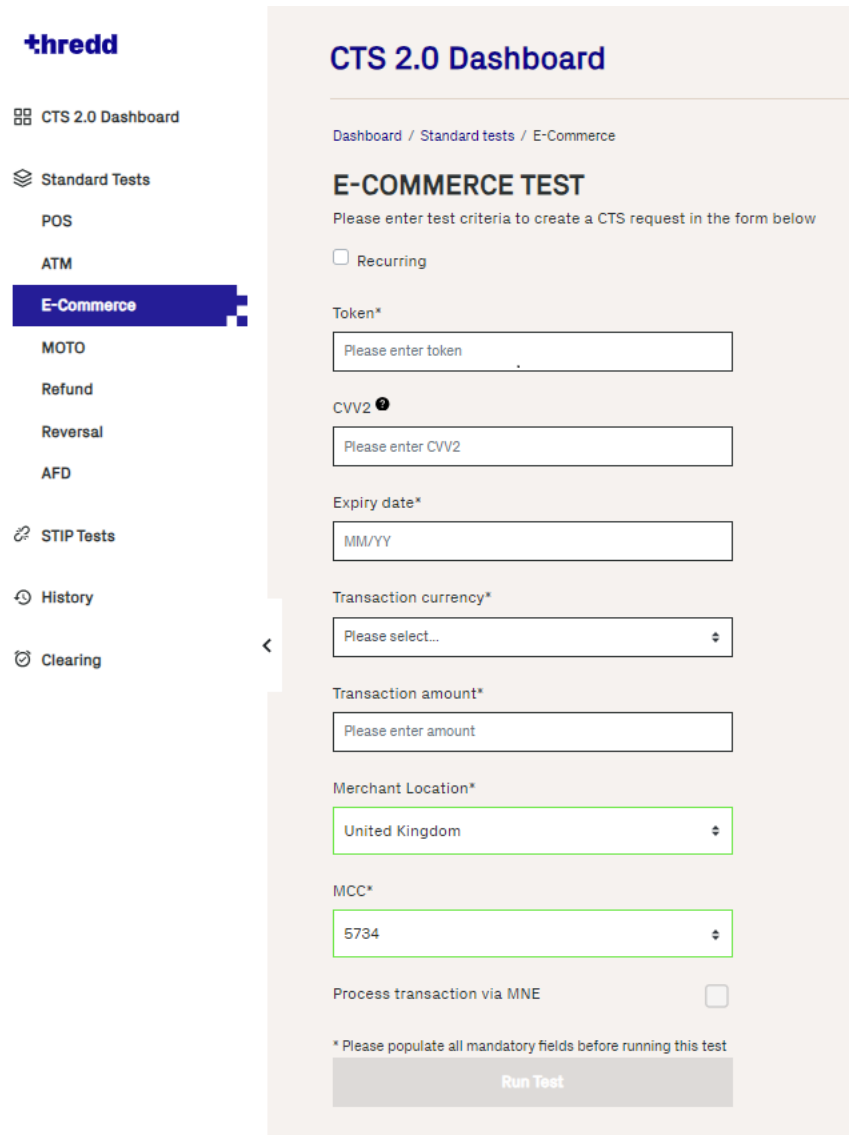
The PDS0105 attribute describes the name of the financial advice file received from Mastercard.

Description	Base Data Type	Constraints / Permitted Values
File_ID_PDS0105	xs:string	Format as follows : “T112.001” + “YYMMDD” + “00000012181” + XXYZZ Where XX = Clearing cycle indicator Y = delivery cycle ZZ = file number in the given clearing cycle

12 Testing Transactions

You can use the Thredd**Card Transaction System (CTS)**[1] to generate simulation Discover Network transactions, to test your connection to the external Host Interface (EHI).

Note: Enter the token of a card issued for Discover Network.



For more information on using CTS, see the Card Transaction System (CTS) Guide.

[1]The Card Transaction System (CTS) enables you to test the integration of your card processing systems and validate the setup of your External Host Interface (EHI).

13 Appendices

Included in this section:

- Processing Codes
- Discover Response Codes
- GPS_POS_Data field
- GPS_POS_Capability field
- Discover Chargeback Reason Codes

13.1 Processing Codes

Refer to the table below for details of supported Discover Network processing codes and how these map to Thredd processing codes.

Field Position	Thredd Value	Description	Supported	Notes
Processing Codes (Positions 1 and 2)	00	Goods and Services	√	
	01	Cash	√	
	39	Card Account Verification Request	√	
	20	Merchandise Return	√	Thredd use the wording Refund
		Adjustment	x	Not in scope for phase 1
		Account Credit Transaction	x	Not in scope for phase 1
	30	Balance Inquiry	x	Not in scope for phase 1. This is for physical cards/ ATM
	98	PIN Change	x	Not in scope for phase 1
	99	PIN Unblock	x	Not in scope for phase 1
“From” Account Types (Positions 3 and 4)	00	Default–unspecified	√	Other types will not be received
	30	Credit Facility	√	Thredd call this credit account
“To” Account Types (Positions 5 and 6)	00	Default–unspecified	√	Other types will not be received
	30	Credit Facility	√	Thredd call this credit account

13.2 GPS_POS_Data field

This is a Thredd field that records POS Data codes, which are specific to this transaction. Each position records a different piece of information. Positions 25 onwards are reserved for future use.

Note: In this section of the guide, we only reference new field position values added for Discover Global Network (highlighted in the table below). For details of all other field positions, refer to the External Host Interface Guide > GPS_POS_Data field.

13.2.1 GPS_POS_Data Positions

Position	Name	Format	Values defined in section
15	3D secure authentication method	AN(1,1)	3D-secure Authentication Method **Note:** New values added for Discover.
28	Merchant Initiated transaction type (or setup of) indicator	AN(1,1)	Merchant Initiated Transaction Type Indicator **Note:** New values added for Discover.

13.2.2 3D Secure Authentication Method

If 3D Secure was used to authenticate the cardholder, then this indicates what type of authentication was used.

This is the authentication method as reported by the network.

Note: This field is only populated with an accurate value if Thredd receive this information from the network. The table below summarises this situation.

Network	3D-secure version	Content of this 3D-secure field on 3D-secure transactions
Visa	1 (all variants)	Limited, only values ‘x’ or ‘0’
Visa	2.0 and up	Provided, any value may be set. (From Base1 field 126.20)
Mastercard	SPA v1	Provided: only values 0,1,2,3 are possible
Mastercard	SPA v2	Provided: only values D, E, F, L, v, x, y, z are possible
Discover	3DS 1.0.2 or prior	Limited, only values x and 0
Discover	2.0 and up	Provided, any value may be set. (From Base1 field 126.20)

Values are as follows:

3D-secure auth method	Discover Meaning
x	Unknown / not applicable
0	No cardholder authentication performed (for SPA v1 only)
1	Password (for SPA v1 only)

3D-secure auth method	Discover Meaning
2	Secret Key (For example, a chip card) (for SPA v1 only)
3	PKI (for SPA v1 only)
4	3DS 2.0 Challenge flow using OTP via app method
5	3DS 2.0 Challenge flow using OTP via any other method
6	3DS 2.0 Challenge flow using KBA (Knowledge-Based Authentication) method
7	3DS 2.0 Challenge flow using OOB (Out of Band) with biometric method
8	3DS 2.0 Challenge flow using OOB with app login method
9	3DS 2.0 Challenge flow using OOB with any other method
A	3DS 2.0 Challenge flow using any other authentication method
B	3DS unrecognized authentication method
C	3DS 2.0 Push Confirmation
D	3DS 2.0 Frictionless flow, RBA (Risk-based authentication) review
E	3DS 2.0 Attempts server responding
F	3DS 2.0 Frictionless flow
G	3DS 2.0 Challenge flow using Decoupled
H	3DS 2.0 Challenge flow using **WebAuthn**[1]
I	3DS 2.0 Challenge flow using **Secure Payment Confirmation (SPC)**[2]
J	3DS 2.0 Challenge flow using Behavioural Biometrics
L	Delegated authentication
y	3DS 2.0 Challenge with Unknown authentication method
v	Authenticated by Mastercard IDCX (‘Identity Check Express’) service
z	AAV refresh transaction successfully authenticated by the ACS (Access Control Server)

13.2.3 Merchant Initiated Transaction Type (or setup of) Indicator

From Banknet DE48.22.05 (introduced in Mastercard announcement AN 5524, live on 07-06-2022) the 4th character (1 to 8) or U=Unknown, so:

[1]WebAuthn is a web standard developed by W3C and FIDO Alliance, allowing the use of biometrics and other authenticators for secure user verification during a 3D Secure Challenge authentication scenario.
[2]SPC allows the issuer to directly authenticate the customer via FIDO (Fast IDentity Online) biometric authentication during a 3D Secure Challenge scenario.

Value	Meaning
1	Credential on file.
2	Standing Order (variable amount, fixed frequency).
3	Subscription (fixed amount, fixed frequency).
4	Instalment (known amount over a specified duration based on a single purchase).
5	Partial Shipment (for when e-commerce ordered goods are not all available at the time of shipment. Each shipment is a separate transaction).
6	Related / Delayed Charge (An additional charge after initial services have been paid for. (For example: mini-bar charge in hotel.)
7	No Show Charge (a penalty charge permitted by the merchant's cancellation policy).
8	Resubmission (previous authorisation was declined, but merchant can try again. (For example: transit debt recovery.)
A	Re-authorize for Full Amount
I	Incremental Authorization
U	Unknown or not applicable.

13.3 GPS_POS_Capability field

This is a Thredd defined field that records POS terminal capabilities for this transaction. It is made up of various subfields.

Note: In this section of the guide, we only reference new field position values added for Discover Global Network (highlighted in the table below). For details of all other field positions, refer to the External Host Interface Guide > GPS_POS_Capability field.

Position	Name	Format	Description / Valid Values
46	Terminal Card Data Output Capability	AN(1,1)	Indicates the ability of the terminal to write to the card 0 = Unknown 1 = None (e.g. if no terminal used) 2 = Magnetic Stripe Write 3 = ICC 9 = Hybrid S = Other

13.4 Discover Chargeback Reason Codes

Refer to the table below for a list of Discover Chargeback reason codes. For more information, see the *Discover Chargeback Guide > Section 3: Chargeback Reason Codes*.

Code	Description
A02	Authorisation Processing Errors
A06	Late Presentation

Code	Description
B24	Unissued Account Number
B25	Duplicate Charge
B26	Alternate Settlement Currency Incorrect Exchange Rates
B27	Incorrect Currency
C41	Fraud - Card Present Transaction
C42	Fraud - Card Not Present Transaction
C46	Multiple Charges at Service Establishment Fraudulent Transaction
C50	Suspect Service Establishment – No Response to the Suspected Fraudulent Service Establishment Report
C51	Suspect Service Establishment-Terminated Service Establishment
C53	Fraud – Chip Card Counterfeit Transaction
C54	Fraud- Lost or Stolen Chip and PIN Card Transaction
D61	Altered Amount
D62	Non-Receipt of Goods or Services, Cycle A
D65	Incorrect Transaction Type
D66	Credit Not Processed
D67	Cardmember Paid by Other Means
D69	Cancelled Recurring Transaction
D70	Cardmember Does Not Recognise
D71	Non-Receipt of Cash (ATM)

13.5 Example Authorisations on Discover Cards

This page details examples of requests and responses for authorisations on Discover Global Network cards.

- Authorisation Request
- Authorisation Advice (Auth Advice)

13.5.1 Authorisation Request

Below is an example of the HTTP POST body data for a Discover Global Network authorisation request.

Some key elements of this request are:

- The MTID value is 0100 and the Txn_Type is A, indicating that this is an Authorisation Request.
- The transaction is for £1. This is indicated by the Bill_Amt having a value of 1.0000 and the Bill_Ccy being set to 826 (for Great British

Pounds).

- The SendingAttemptCount field checks to show whether this is a duplicate request. This will be zero for a first attempt.

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body>
<GetTransaction xmlns="http://tempuri.org/">
<Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
<ActBal>0.0000</ActBal>
<Auth_Code_DE38>185405</Auth_Code_DE38>
<Avl_Bal>0.0000</Avl_Bal>
<Bill_Amt>3.0000</Bill_Amt>
<Bill_Ccy>826</Bill_Ccy>
<BlkAmt>0.0000</BlkAmt>
<Cust_Ref/>
<Fee_Rate>0.0000</Fee_Rate>
<MCC_Code>7011</MCC_Code>
<MCC_Pad>0.0000</MCC_Pad>
<Merch_ID_DE42>MERCHANT 000001</Merch_ID_DE42>
<Merch_Name_DE43>AMAZON MERCHANT\\LONDON\W2 61C 826</Merch_Name_DE43>
<POS_Data_DE22>160090103000</POS_Data_DE22>
<POS_Termnl_DE41>ECOMM001</POS_Termnl_DE41>
<POS_Time_DE12>070725</POS_Time_DE12>
<Proc_Code>000000</Proc_Code>
<Resp_Code_DE39>00</Resp_Code_DE39>
<Settle_Amt>3.0000</Settle_Amt>
<Settle_Ccy>826</Settle_Ccy>
<Token>116551735</Token>
<Trans_link>6161750095</Trans_link>
<Txn_Amt>3.0000</Txn_Amt>
<Txn_CCy>826</Txn_CCy>
<Txn_Ctry>GBR</Txn_Ctry>
<Txn_Desc>AMAZON MERCHANT\\LONDON\W2 61C 826</Txn_Desc>
<Txn_GPS_Date>2024-07-31 08:48:25.940</Txn_GPS_Date>
<TXn_ID>6161750095</TXn_ID>
<Txn_Stat_Code>A</Txn_Stat_Code>
<TXN_Time_DE07>0731074825</TXN_Time_DE07>
<Txn_Type>A</Txn_Type>
<CU_Group>SPD-CU-010</CU_Group>
<InstCode>PMT</InstCode>
<MTID>0100</MTID>
<ProductID>10051</ProductID>
<SubBIN>0</SubBIN>
<VL_Group>GPS-VL-004</VL_Group>
<Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
<Expiry_Date>2410</Expiry_Date>
<GPS_POS_Capability>0100000000010000000010000000000000000000000006</GPS_POS_Capability>
<GPS_POS_Data>50V0000300000Nx000NNNNNU0UU9XXU</GPS_POS_Data>
<traceid_lifecycle>DGN-20240731-014755045402703</traceid_lifecycle>
<Merch_Name>AMAZON MERCHANT</Merch_Name>
<Merch_Street/>
<Merch_City>LONDON</Merch_City>
<Merch_Region/>
<Merch_Postcode>W2 61C</Merch_Postcode>
<Merch_Country>GBR</Merch_Country>
<POS_Date_DE13>2024-07-31</POS_Date_DE13>
<Traceid_Message>DGN-20240731-014755045402703</Traceid_Message>
<Acquirer_Country>GBR</Acquirer_Country>
<FxProviderCardholderRate>0.0</FxProviderCardholderRate>
</GetTransaction>
</s:Body>
</s:Envelope>
```

Authorisation Response

Below is an example of HTTP response to the above Authorisation request message.

```
<?xml version="1.0" encoding="utf-8"?>
 <s:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:s="h-
ttp://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>
 <GetTransactionResponse xmlns="http://tempuri.org/">
 <GetTransactionResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
```

```
<Responsestatus>00</Responsestatus>
<CurBalance>0</CurBalance>
<AvlBalance>100</AvlBalance>
<Acknowledgement>1</Acknowledgement>
<LoadAmount>50</LoadAmount>
<Bill_Amt_Approved>0</Bill_Amt_Approved>
<Update_Balance>1</Update_Balance>
<New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
<CVV2_Result>M</CVV2_Result>
<CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
<AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
</GetTransactionResult>
</GetTransactionResponse>
</s:Body>
</s:Envelope>
```

13.5.2 Authorisation Advice (Auth Advice)

Below is an example of the HTTP POST body data for an Authorisation advice message.

Some key elements of this request are:

- The MTID value is 0120 and the Txn_Type is J, indicating that this is Authorisation Advice matched to an Authorisation Request.
- This type of message is for EHI Mode 3 (Full Service Processing).
- The Message_Source value is set to MC-STIP, indicating that Discover Global Network Stand-In processing

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body>
<GetTransaction xmlns="http://tempuri.org/">
<Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
<ActBal>0.0000</ActBal>
<Auth_Code_DE38>185406</Auth_Code_DE38>
<Avl_Bal>0.0000</Avl_Bal>
<Bill_Amt>3.0000</Bill_Amt>
<Bill_Ccy>826</Bill_Ccy>
<BlkAmt>0.0000</BlkAmt>
<Cust_Ref/>
<Fee_Rate>0.0000</Fee_Rate>
<MCC_Code>7011</MCC_Code>
<MCC_Pad>0.0000</MCC_Pad>
<Merch_ID_DE42>MERCHANT 000001</Merch_ID_DE42>
<Merch_Name_DE43>AMAZON MERCHANT\\LONDON\W2 61C 826</Merch_Name_DE43>
<POS_Data_DE22>160090103000</POS_Data_DE22>
<POS_Termnl_DE41>ECOMM001</POS_Termnl_DE41>
<POS_Time_DE12>070726</POS_Time_DE12>
<Proc_Code>000000</Proc_Code>
<Resp_Code_DE39>00</Resp_Code_DE39>
<Settle_Amt>3.0000</Settle_Amt>
<Settle_Ccy>826</Settle_Ccy>
<Token>116551735</Token>
<Trans_link>6161750096</Trans_link>
<Txn_Amt>3.0000</Txn_Amt>
<Txn_CCy>826</Txn_CCy>
<Txn_Ctry>GBR</Txn_Ctry>
<Txn_Desc>AMAZON MERCHANT\\LONDON\W2 61C 826</Txn_Desc>
<Txn_GPS_Date>2024-07-31 08:48:26.985</Txn_GPS_Date>
<TXn_ID>6161750096</TXn_ID>
<Txn_Stat_Code>A</Txn_Stat_Code>
<TXN_Time_DE07>0731074826</TXN_Time_DE07>
<Txn_Type>J</Txn_Type>
<CU_Group>SPD-CU-010</CU_Group>
<InstCode>PMT</InstCode>
<MTID>0120</MTID>
<ProductID>10051</ProductID>
<SubBIN>0</SubBIN>
<VL_Group>GPS-VL-004</VL_Group>
<Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
<Expiry_Date>2410</Expiry_Date>
<GPS_POS_Capability>0100000000010000000010000000000000000000000006</GPS_POS_Capability>
```

```
<GPS_POS_Data>50V0000300000Nx000NNNN0U0UU9NNN</GPS_POS_Data>
<traceid_lifecycle>DGN-20240731-014755045402703</traceid_lifecycle>
<Merch_Name>AMAZON MERCHANT</Merch_Name>
<Merch_Street/>
<Merch_City>LONDON</Merch_City>
<Merch_Region/>
<Merch_Postcode>W2 61C</Merch_Postcode>
<Merch_Country>GBR</Merch_Country>
<POS_Date_DE13>2024-07-31</POS_Date_DE13>
<Traceid_Message>DGN-20240731-014755045402703</Traceid_Message>
<Acquirer_Country>GBR</Acquirer_Country>
<FxProviderCardholderRate>0.0</FxProviderCardholderRate>
</GetTransaction>
</s:Body>
</s:Envelope>
```

Authorisation Response (Auth Advice Response)

Below is an example of HTTP response to the above Authorisation advice message.

```
<?xml version="1.0" encoding="utf-8"?>
 <s:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:s="h-
ttp://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>
 <GetTransactionResponse xmlns="http://tempuri.org/">
 <GetTransactionResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <Responsestatus>00</Responsestatus>
 <CurBalance>0</CurBalance>
 <AvlBalance>100</AvlBalance>
 <Acknowledgement>1</Acknowledgement>
 <LoadAmount>50</LoadAmount>
 <Bill_Amt_Approved>0</Bill_Amt_Approved>
 <Update_Balance>1</Update_Balance>
 <New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
 <CVV2_Result>M</CVV2_Result>
 <CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
 <AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
 </GetTransactionResult>
 </GetTransactionResponse>
 </s:Body>
 </s:Envelope>
```

13.6 Example Financial Notifications

This page details examples of financial message notifications and financial responses.

- Financial Notification (First Presentment)
- Financial Notification (Second Presentment)
- Financial Notification (Reversal)

13.6.1 Financial Notification (First Presentment)

Below is an example of the HTTP POST body data for a financial notification (first presentment).

Some key elements of this request are:

- The `MTID` value is 1240 and the `Txn_Type` is P, indicating that this is an Financial Notification (First Presentment).
- A presentment (settlement or clearing request) is a financial transaction where Thredd receives a request to settle an amount that was previously authorised on a card. A presentment is typically linked to a previous authorisation transaction - in this case, `traceid_lifecycle` and `trans_link` can be used for you to make your own matching, while `Matching_Txn_ID` has the transaction id for the original transaction.

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body>
<GetTransaction xmlns="http://tempuri.org/">
<Acquirer_id_DE32>00000361603</Acquirer_id_DE32>
<ActBal>0.0000</ActBal>
```

```
<Additional_Amt_DE54/>
<Amt_Tran_Fee_DE28/>
<Auth_Code_DE38>185437</Auth_Code_DE38>
<Avl_Bal>0.0000</Avl_Bal>
<Bill_Amt>-4.0000</Bill_Amt>
<Bill_Ccy>826</Bill_Ccy>
<BlkAmt>0.0000</BlkAmt>
<Cust_Ref/>
<FX_Pad>0.0000</FX_Pad>
<Fee_Fixed>0.0000</Fee_Fixed>
<Fee_Rate>0.0000</Fee_Rate>
<LoadSRC/>
<LoadType/>
<MCC_Code>5734</MCC_Code>
<MCC_Desc>Computer Software Stores</MCC_Desc>
<MCC_Pad>0.0000</MCC_Pad>
<Merch_ID_DE42/>
<Merch_Name_DE43>\MERCHANT\LONDON\ 826</Merch_Name_DE43>
<Note/>
<POS_Data_DE22>100990090000</POS_Data_DE22>
<POS_Data_DE61/>
<POS_Termnl_DE41/>
<POS_Time_DE12/>
<Proc_Code>000000</Proc_Code>
<Resp_Code_DE39/>
<Ret_Ref_No_DE37/>
<Settle_Amt>-4.0000</Settle_Amt>
<Settle_Ccy>826</Settle_Ccy>
<Status_Code>00</Status_Code>
<Token>116551735</Token>
<Trans_link>361603</Trans_link>
<Txn_Amt>4.0000</Txn_Amt>
<Txn_CCy>826</Txn_CCy>
<Txn_Ctry>GBR</Txn_Ctry>
<Txn_Desc>\MERCHANT\LONDON\ 826</Txn_Desc>
<Txn_GPS_Date>2024-07-31 10:21:26.093</Txn_GPS_Date>
<TXn_ID>6161750188</TXn_ID>
<Txn_Stat_Code>S</Txn_Stat_Code>
<TXN_Time_DE07/>
<Txn_Type>P</Txn_Type>
<Additional_Data_DE48/>
<Authorised_by_GPS>N</Authorised_by_GPS>
<AVS_Result/>
<CU_Group>MOP-CU-001</CU_Group>
<InstCode>PMT</InstCode>
<MTID>1420</MTID>
<ProductID>10051</ProductID>
<Record_Data_DE120/>
<SubBIN>99999910</SubBIN>
<TLogIDOrg>0</TLogIDOrg>
<VL_Group>GPS-VL-004</VL_Group>
<Dom_Fee_Fixed>0.00</Dom_Fee_Fixed>
<Non_Dom_Fee_Fixed>0.00</Non_Dom_Fee_Fixed>
<Fx_Fee_Fixed>0.00</Fx_Fee_Fixed>
<Other_Fee_Amt>0.00</Other_Fee_Amt>
<Fx_Fee_Rate>0.00</Fx_Fee_Rate>
<Dom_Fee_Rate>0.00</Dom_Fee_Rate>
<Non_Dom_Fee_Rate>0.00</Non_Dom_Fee_Rate>
<Additional_Data_DE124/>
<CVV2/>
<PIN/>
<PIN_Enc_Algorithm/>
<PIN_Format/>
<PIN_Key_Index/>
<SendingAttemptCount>0</SendingAttemptCount>
<source_bank_ctry/>
<source_bank_account_format/>
<source_bank_account/>
<dest_bank_ctry/>
<dest_bank_account_format/>
```

```
<dest_bank_account/>
<GPS_POS_Capability>00 </GPS_POS_Capability>
<GPS_POS_Data>5000000000000 x000</GPS_POS_Data>
<Acquirer_Reference_Data_031>27039998</Acquirer_Reference_Data_031>
<Response_Source/>
<Response_Source_Why>0</Response_Source_Why>
<Message_Source/>
<Message_Why>0</Message_Why>
<traceid_lifecycle>DGN-20240731-017363682879502</traceid_lifecycle>
<PaymentToken_id>0</PaymentToken_id>
<PaymentToken_creator/>
<PaymentToken_expdate/>
<PaymentToken_type/>
<PaymentToken_status/>
<PaymentToken_creatorStatus/>
<PaymentToken_wallet/>
<PaymentToken_deviceType/>
<PaymentToken_lang/>
<PaymentToken_deviceTelNum/>
<PaymentToken_deviceIp/>
<PaymentToken_deviceId/>
<PaymentToken_deviceName/>
<PaymentToken_activationCode/>
<PaymentToken_activationExpiry/>
<PaymentToken_activationMethodData/>
<PaymentToken_activationMethod>0</PaymentToken_activationMethod>
<ICC_System_Related_Data_DE55/>
<Merch_Name/>
<Merch_Street>MERCHANT</Merch_Street>
<Merch_City>LONDON</Merch_City>
<Merch_Region/>
<Merch_Postcode/>
<Merch_Country>GBR</Merch_Country>
<Merch_Tel/>
<Merch_URL/>
<Merch_Name_Other/>
<Merch_Net_id/>
<Merch_Tax_id>0</Merch_Tax_id>
<Merch_Contact/>
<auth_type>0</auth_type>
<auth_expdate_utc/>
<Matching_Txn_ID>6161750184</Matching_Txn_ID>
<Reason_ID>0</Reason_ID>
<Dispute_Condition/>
<Network_Chargeback_Reference_Id/>
<Acquirer_Forwarder_ID/>
<Currency_Code_Fee/>
<Currency_Code_Fee_Settlement/>
<Interchange_Amount_Fee/>
<Interchange_Amount_Fee_Settlement/>
<Clearing_Process_Date>2024-07-31</Clearing_Process_Date>
<Settlement_Date>2024-07-31</Settlement_Date>
<DCC_Indicator>0</DCC_Indicator>
<multi_part_txn>0</multi_part_txn>
<multi_part_txn_final>0</multi_part_txn_final>
<multi_part_number>0</multi_part_number>
<multi_part_count>0</multi_part_count>
<SettlementIndicator>0</SettlementIndicator>
<Network_TxnAmt_To_BillAmt_Rate>1000000:6</Network_TxnAmt_To_BillAmt_Rate>
<Network_TxnAmt_To_BaseAmt_Rate/>
<Network_BaseAmt_To_BillAmt_Rate/>
<POS_Date_DE13/>
<Traceid_Message>DGN-20240731-017363682879502</Traceid_Message>
<Traceid_Original/>
<Network_Currency_Conversion_Date/>
<Mastercard_AdviceReasonCode_DE60/>
<Network_Original_Data_Elements_DE90/>
<Visa_ResponseInfo_DE44/>
<Visa_STIP_Reason_Code/>
<Network_Issuer_Settle_ID>00000361603</Network_Issuer_Settle_ID>
```

```
<Network_Replacement_Amounts_DE95/>
<Visa_POS_Data_DE60/>
<Network_Transaction_ID>017363682879502</Network_Transaction_ID>
<Misc_TLV_Data/>
<ClearingFileID>20240731092101251 </ClearingFileID>
<FxProviderCardholderRate>0.0</FxProviderCardholderRate>
</GetTransaction>
</s:Body>
</s:Envelope>
```

Financial Response

Below is an example of HTTP response to the above Financial Notification message.

```
<?xml version="1.0" encoding="utf-8"?>
 <s:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:s="h-
ttp://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>
 <GetTransactionResponse xmlns="http://tempuri.org/">
 <GetTransactionResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <Responsestatus>00</Responsestatus>
 <CurBalance>0</CurBalance>
 <AvlBalance>100</AvlBalance>
 <Acknowledgement>1</Acknowledgement>
 <LoadAmount>50</LoadAmount>
 <Bill_Amt_Approved>0</Bill_Amt_Approved>
 <Update_Balance>1</Update_Balance>
 <New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
 <CVV2_Result>M</CVV2_Result>
 <CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
 <AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
 </GetTransactionResult>
 </GetTransactionResponse>
 </s:Body>
 </s:Envelope>
```

13.6.2 Financial Notification (Second Presentment)

Below is an example of the HTTP POST body data for a financial notification (second presentment).

Some key elements of this request are:

- The MTID value is 1240 and the Txn_Type is N, indicating that this is a Financial Notification (Second Presentment)
- A second presentment is used when a merchant resubmits the transaction with evidence to counter the chargeback. More information on this can be found in the Payments Dispute Management Guide.

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>
 <GetTransaction xmlns="http://tempuri.org/">
 <Acquirer_id_DE32>52729540</Acquirer_id_DE32>
 <ActBal>972.9800</ActBal>
 <Additional_Amt_DE54 />
<Amt_Tran_Fee_DE28 />
<Auth_Code_DE38>112897</Auth_Code_DE38>
 <Avl_Bal>938.6600</Avl_Bal>
 <Bill_Amt>-1.0000</Bill_Amt>
 <Bill_Ccy>826</Bill_Ccy>
 <BlkAmt>-34.3200</BlkAmt>
 <Cust_Ref />
<FX_Pad>0.0000</FX_Pad>
 <Fee_Fixed>0.0000</Fee_Fixed>
 <Fee_Rate>0.0000</Fee_Rate>
 <LoadSRC />
<LoadType />
<MCC_Code>4111</MCC_Code>
 <MCC_Desc>Commuter Transport, Ferries</MCC_Desc>
 <MCC_Pad>0.0000</MCC_Pad>
 <Merch_ID_DE42>4111           </Merch_ID_DE42>
 <Merch_Name_DE43>Travel Like A Pro                    GBR</Merch_Name_DE43>
 <Note />
<POS_Data_DE22>090901199001</POS_Data_DE22>
```

<POS_Data_DE61 />
<POS_Termnl_DE41>   </POS_Termnl_DE41>
<POS_Time_DE12>220622135626</POS_Time_DE12>
<Proc_Code>000000</Proc_Code>
<Resp_Code_DE39 />
<Ret_Ref_No_DE37>217308203852</Ret_Ref_No_DE37>
<Settle_Amt>-1.0000</Settle_Amt>
<Settle_Ccy>826</Settle_Ccy>
<Status_Code>00</Status_Code>
<Token>123456789</Token>
<Trans_link>220622201147038521</Trans_link>
<Txn_Amt>1.0000</Txn_Amt>
<Txn_CCy>826</Txn_CCy>
<Txn_Ctry>GBR</Txn_Ctry>
<Txn_Desc>Travel Like A Pro   GBR</Txn_Desc>
<Txn_GPS_Date>2022-06-22 15:12:01.147</Txn_GPS_Date>
<TXn_ID>6152637730</TXn_ID>
<Txn_Stat_Code>S</Txn_Stat_Code>
<TXN_Time_DE07 />
<Txn_Type>N</Txn_Type>
<Additional_Data_DE48>
0002003MRG0003003MRG0023003CT601480048262015803OMCC10106017322062201   NNNNNN0159067   1521544702350   1US000-
00001N220622012206220101650O1M01700165032277600   0177002YY01910012001500721033l2</Additional_Data_DE48>
<Authorised_by_GPS>N</Authorised_by_GPS>
<AVS_Result />
<CU_Group>PMT-CU-001</CU_Group>
<InstCode>PMT</InstCode>
<MTID>1240</MTID>
<ProductID>1697</ProductID>
<Record_Data_DE120 />
<SubBIN>52729540</SubBIN>
<TLogIDOrg>0</TLogIDOrg>
<VL_Group>PMT-VL-100</VL_Group>
<Dom_Fee_Fixed>0.0000</Dom_Fee_Fixed>
<Non_Dom_Fee_Fixed>0.0000</Non_Dom_Fee_Fixed>
<Fx_Fee_Fixed>0.0000</Fx_Fee_Fixed>
<Other_Fee_Amt>0.0000</Other_Fee_Amt>
<Fx_Fee_Rate>0.0000</Fx_Fee_Rate>
<Dom_Fee_Rate>0.0000</Dom_Fee_Rate>
<Non_Dom_Fee_Rate>0.0000</Non_Dom_Fee_Rate>
<Additional_Data_DE124 />
<CVV2 />
<PIN />
<PIN_Enc_Algorithm />
<PIN_Format />
<PIN_Key_Index />
<SendingAttemptCount>0</SendingAttemptCount>
<source_bank_ctry />
<source_bank_account_format />
<source_bank_account />
<dest_bank_ctry />
<dest_bank_account_format />
<dest_bank_account />
<GPS_POS_Capability>00   </GPS_POS_Capability>
<GPS_POS_Data>   00 00 0 x000</GPS_POS_Data>
<Acquirer_Reference_Data_031>17295405123000000038521</Acquirer_Reference_Data_031>
<Response_Source />
<Response_Source_Why>0</Response_Source_Why>
<Message_Source />
<Message_Why>0</Message_Why>
<traceid_lifecycle>BNET-20220622-MC 003852</traceid_lifecycle>
<PaymentToken_id>0</PaymentToken_id>
<PaymentToken_creator />
<PaymentToken_expdate />
<PaymentToken_type />
<PaymentToken_status />
<PaymentToken_creatorStatus />
<PaymentToken_wallet />
<PaymentToken_deviceType />
<PaymentToken_lang />
<PaymentToken_deviceTelNum />

```
<PaymentToken_deviceIp />
<PaymentToken_deviceId />
<PaymentToken_deviceName />
<PaymentToken_activationCode />
<PaymentToken_activationExpiry />
<PaymentToken_activationMethodData />
<PaymentToken_activationMethod>0</PaymentToken_activationMethod>
 <ICC_System_Related_Data_DE55 />
<Merch_Name>Travel Like A Pro</Merch_Name>
 <Merch_Street />
<Merch_City />
<Merch_Region />
<Merch_Postcode />
<Merch_Country>GBR</Merch_Country>
 <Merch_Tel />
<Merch_URL />
<Merch_Name_Other />
<Merch_Net_id />
<Merch_Tax_id>0</Merch_Tax_id>
 <Merch_Contact />
<auth_type>0</auth_type>
 <auth_expdate_utc />
<Matching_Txn_ID>0</Matching_Txn_ID>
 <Reason_ID>0</Reason_ID>
 <Dispute_Condition />
<Network_Chargeback_Reference_Id />
<Acquirer_Forwarder_ID>52729540</Acquirer_Forwarder_ID>
 <Currency_Code_Fee />
<Currency_Code_Fee_Settlement />
<Interchange_Amount_Fee />
<Interchange_Amount_Fee_Settlement />
<Clearing_Process_Date>2022-06-22</Clearing_Process_Date>
 <Settlement_Date>2022-06-22</Settlement_Date>
 <DCC_Indicator>0</DCC_Indicator>
 <multi_part_txn>0</multi_part_txn>
 <multi_part_txn_final>0</multi_part_txn_final>
 <multi_part_number>0</multi_part_number>
 <multi_part_count>0</multi_part_count>
 <SettlementIndicator />
<Network_TxnAmt_To_BillAmt_Rate>1000000:6</Network_TxnAmt_To_BillAmt_Rate>
 <Network_TxnAmt_To_BaseAmt_Rate />
<Network_BaseAmt_To_BillAmt_Rate />
<POS_Date_DE13>20220622</POS_Date_DE13>
 <Traceid_Message>BNET-20220622-MC 003852</Traceid_Message>
 <Traceid_Original />
<Network_Currency_Conversion_Date />
<Mastercard_AdviceReasonCode_DE60 />
<Network_Original_Data_Elements_DE90 />
<Visa_ResponseInfo_DE44 />
<Visa_STIP_Reason_Code />
<Network_Issuer_Settle_ID>52729540</Network_Issuer_Settle_ID>
 <Network_Replacement_Amounts_DE95 />
<Visa_POS_Data_DE60 />
<Network_Transaction_ID> MC 0038520622  </Network_Transaction_ID>
 <Misc_TLV_Data />
<ClearingFileID>T112.00122062200052729540000065     </ClearingFileID>
 <FxProviderCardholderRate>0.0</FxProviderCardholderRate>
 </GetTransaction>
 </s:Body>
 </s:Envelope>
```

Financial Response

Below is an example of HTTP response to the above Financial Notification message.

```
<?xml version="1.0" encoding="utf-8"?>
 <s:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:s="h-
ttp://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>
 <GetTransactionResponse xmlns="http://tempuri.org/">
 <GetTransactionResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <Responsestatus>00</Responsestatus>
```

```
<CurBalance>0</CurBalance>
<AvlBalance>100</AvlBalance>
<Acknowledgement>1</Acknowledgement>
<LoadAmount>50</LoadAmount>
<Bill_Amt_Approved>0</Bill_Amt_Approved>
<Update_Balance>1</Update_Balance>
<New_Balance_Sequence_Exthost>200</New_Balance_Sequence_Exthost>
<CVV2_Result>M</CVV2_Result>
<CurBalance_GPS_STIP>0</CurBalance_GPS_STIP>
<AvlBalance_GPS_STIP>100</AvlBalance_GPS_STIP>
</GetTransactionResult>
</GetTransactionResponse>
</s:Body>
</s:Envelope>
```

13.6.3 Financial Notification (Reversal)

Below is an example of the HTTP POST body data for a financial notification (type E reversal).

Some key elements of this request are:

- The MTID value is 1240 and the Txn_Type is E, indicating that this is a Financial Notification (Reversal)
- A financial reversal occurs when the acquirer cancels all or part of a prior transaction (which may be a purchase, refund, cashback, cash, PIN change, or any other transaction type). For example, if the acquirer has already taken the funds and are aware of a processing error (e.g., double charging), they can submit an 1240 Financial Reversal.

```
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
   <s:Body>
      <GetTransaction xmlns="http://tempuri.org/">
         <Acquirer_id_DE32 />
         <ActBal>306.4400</ActBal>
         <Additional_Amt_DE54 />
         <Amt_Tran_Fee_DE28 />
         <Auth_Code_DE38>160310</Auth_Code_DE38>
         <Avl_Bal>306.4400</Avl_Bal>
         <Bill_Amt>22.0500</Bill_Amt>
         <Bill_Ccy>978</Bill_Ccy>
         <BlkAmt>0.0000</BlkAmt>
         <Cust_Ref />
         <FX_Pad>0.0000</FX_Pad>
         <Fee_Fixed>0.0000</Fee_Fixed>
         <Fee_Rate>0.0000</Fee_Rate>
         <LoadSRC />
         <LoadType />
         <MCC_Code>5200</MCC_Code>
         <MCC_Desc>Home Supply Warehouse Stores</MCC_Desc>
         <MCC_Pad>0.0000</MCC_Pad>
         <Merch_ID_DE42>102642301</Merch_ID_DE42>
         <Merch_Name_DE43>Hornbach Baumarkt AG F\Am Storrenacker 6\Karlsruhe\76139     DEUDEU</Merch_Name_DE43>
         <Note />
         <POS_Data_DE22>M10101C13346</POS_Data_DE22>
         <POS_Data_DE61 />
         <POS_Termnl_DE41>65203001</POS_Termnl_DE41>
         <POS_Time_DE12>231128180200</POS_Time_DE12>
         <Proc_Code>000000</Proc_Code>
         <Resp_Code_DE39 />
         <Ret_Ref_No_DE37>112818154720</Ret_Ref_No_DE37>
         <Settle_Amt>22.0500</Settle_Amt>
         <Settle_Ccy>978</Settle_Ccy>
         <Status_Code>00</Status_Code>
         <Token>497305583</Token>
         <Trans_link>2402018389670541 27</Trans_link>
         <Txn_Amt>22.0500</Txn_Amt>
         <Txn_CCy>978</Txn_CCy>
         <Txn_Ctry>DEU</Txn_Ctry>
         <Txn_Desc>Hornbach Baumarkt AG F\Am Storrenacker 6\Karlsruhe\76139     DEUDEU</Txn_Desc>
         <Txn_GPS_Date>2024-02-01 07:08:38.967</Txn_GPS_Date>
         <TXn_ID>13913456785</TXn_ID>
         <Txn_Stat_Code>S</Txn_Stat_Code>
```

```
        <TXN_Time_DE07 />
        <Txn_Type>E</Txn_Type>
        <Additional_Data_DE48>
0002003MRJ0003003MRJ00150072401310002300 3POI0025007R2311290146036002901978000000000037978000000000037014704800290197800000000000003-
74850978000000000000374850014800497820158031MCC4280001852402010 3
MRJNNNNNNN015906717298      00000526837                1EU00000008N2402010324020101016500 1M0177002N 01910012</Additional_Data_
DE48>
        <Authorised_by_GPS>N</Authorised_by_GPS>
        <AVS_Result />
        <CU_Group>PMT-CU-001</CU_Group>
        <InstCode>PMT</InstCode>
        <MTID>1240</MTID>
        <ProductID>963</ProductID>
        <Record_Data_DE120 />
        <SubBIN>12345678</SubBIN>
        <TLogIDOrg>0</TLogIDOrg>
        <VL_Group>PMT-VL-003</VL_Group>
        <Dom_Fee_Fixed>0.00</Dom_Fee_Fixed>
        <Non_Dom_Fee_Fixed>0.00</Non_Dom_Fee_Fixed>
        <Fx_Fee_Fixed>0.00</Fx_Fee_Fixed>
        <Other_Fee_Amt>0.00</Other_Fee_Amt>
        <Fx_Fee_Rate>0.00</Fx_Fee_Rate>
        <Dom_Fee_Rate>0.00</Dom_Fee_Rate>
        <Non_Dom_Fee_Rate>0.00</Non_Dom_Fee_Rate>
        <Additional_Data_DE124 />
        <CVV2 />
        <PIN />
        <PIN_Enc_Algorithm />
        <PIN_Format />
        <PIN_Key_Index />
        <SendingAttemptCount>0</SendingAttemptCount>
        <source_bank_ctry />
        <source_bank_account_format />
        <source_bank_account />
        <dest_bank_ctry />
        <dest_bank_account_format />
        <dest_bank_account />
        <GPS_POS_Capability>00000000000000000000001000000100000000000012345R</GPS_POS_Capability>
        <GPS_POS_Data>0151000300000Nx000</GPS_POS_Data>
        <Acquirer_Reference_Data_031>02713373332078336054127</Acquirer_Reference_Data_031>
        <Response_Source />
        <Response_Source_Why>0</Response_Source_Why>
        <Message_Source />
        <Message_Why>0</Message_Why>
        <traceid_lifecycle>BNET-20231128-MRJRU72NS</traceid_lifecycle>
        <PaymentToken_id>0</PaymentToken_id>
        <PaymentToken_creator />
        <PaymentToken_expdate />
        <PaymentToken_type />
        <PaymentToken_status />
        <PaymentToken_creatorStatus />
        <PaymentToken_wallet />
        <PaymentToken_deviceType />
        <PaymentToken_lang />
        <PaymentToken_deviceTelNum />
        <PaymentToken_deviceIp />
        <PaymentToken_deviceId />
        <PaymentToken_deviceName />
        <PaymentToken_activationCode />
        <PaymentToken_activationExpiry />
        <PaymentToken_activationMethodData />
        <PaymentToken_activationMethod>0</PaymentToken_activationMethod>
        <ICC_System_Related_Data_DE55 />
        <Merch_Name>Hornbach Baumarkt AG F</Merch_Name>
        <Merch_Street>Am Storrenacker 6</Merch_Street>
        <Merch_City>Karlsruhe</Merch_City>
        <Merch_Region>DEU</Merch_Region>
        <Merch_Postcode>76139</Merch_Postcode>
        <Merch_Country>DEU</Merch_Country>
        <Merch_Tel />
        <Merch_URL />
```

```
         <Merch_Name_Other />
         <Merch_Net_id />
         <Merch_Tax_id>0</Merch_Tax_id>
         <Merch_Contact />
      </GetTransaction>
   </s:Body>
</s:Envelope>
```

Financial Reversal Response

Below is an example of HTTP response to the above Financial Notification message.

```
<?xml version="1.0" encoding="UTF-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
   <soap:Body>
      <GetTransactionResponse xmlns="http://tempuri.org/">
         <GetTransactionResult>
            <Acknowledgement>1</Acknowledgement>
         </GetTransactionResult>
      </GetTransactionResponse>
   </soap:Body>
</soap:Envelope>
```

Discover FAQs

Availability and suitability

Q. Is Discover available to all Thredd Customers?

You must be an existing Thredd customer, integrated to the Thredd Platform. Your Issuer (BIN Sponsor) must be registered with Discover.

Q. Is Discover suitable for all Thredd Customers?

For phase 1, we support virtual cards only. Please contact your account manager to discuss your requirements and suitability for phase 1 release.

Requirements

Q. Are there any pre-requisites/specific requirements that need to be met?

You will need to sign a separate contract with both Thredd and Discover and complete the required documentation.

You must obtain a separate Issuer Identification Code (IIC) for each settlement currency you support.

You must have a bank account in that settlement currency, opened within 2 months of IIC registration.

Q. What is an Issuer Identification Code?

The Issuer Identification Number (IIN) or Issuer Identification Code (IIC) on Discover cards is the first 6-8 digits of the card number, which identify the card issuing institution.

Q. What's the difference between an IIC and a BIN?

The Issuer Identification Code (IIC) or Issuer Identification Number (IIN) is a more specific term that refers to the first 6-8 digits identifying the card-issuing institution, while the Bank Identification Number (BIN) is a broader term that encompasses the first 4-8 digits identifying the bank or financial institution behind the card. Both serve critical functions in the payment ecosystem, but the IIC/IIN is the more precise and standardized identifier of the card issuer.

Integration

Q. Will we need to do an additional integration to support Discover?

You can use your existing EHI integration. We normalise data received from Discover (in the same way as for other card networks, such as Visa and Mastercard) and provide you with a unified message format for all networks. This means that you do not need to implement a separate integration for each additional network you want to connect to. There are new data elements and field values which your systems may need to able to receive and process (depending on your EHI Mode). For Program managers using Full Service Processing (mode 3), Thredd performs transaction matching and balance adjustments.

For more information, see Transaction Processing on Discover Networks.

Q. Are there any EHI mode considerations?

There are no restrictions.

Q. What is the default authorisation timeout period on Discover networks?

The default authorisation timeout period is 2 seconds (from Discover sending an authorisation message to receiving Thredd's response.

Document History

This section provides details of what has changed since the previous document release.

Version	Date	Reason	Who
1.2	12/02/2025	Added references to Thredd Portal, our new web application for managing your cards and transactions.	WS
	05/09/2024	Added Processing EHI Messages and Example Financial Notifications	PC
	25/06/2024	Updated the company address.	PC
1.1	14/06/2024	Changed PAN length from 16-digits to 14-digits	PC
1.0	25/04/2021	First version	WS

Contact Us

Please contact us if you have queries relating to this document. Our contact details are provided below.

Thredd UK Ltd.

Company registration number 09926803

Support Email: occ@thredd.com

Telephone: +44 (0) 203 740 9682

Our Head Office

Kingsbourne House

229-231 High Holborn

London

WC1V 7DA

Technical Publications

If you want to contact our technical publications team directly, for queries or feedback related to this guide, you can email us at: docs@thredd.com.

Glossary

This page provides a list of glossary terms used in this guide.

#

3D Secure

3D Secure (3-domain structure), also known as a payer authentication, is a security protocol that helps to prevent fraud in online credit and debit card transactions. This security feature is supported by Visa and Mastercard and is branded as ‘Verified by Visa’ and ‘Master-card SecureCode’ respectively.

A

Acquirer

The merchant acquirer or bank that offers the merchant a trading account, to enable the merchant to take payments in store or online from cardholders.

Authentication

This includes checks to confirm the cardholder identity, such as PIN, CVV2 and CAVV.

Authorisation

Stage where a merchant requests approval for a card payment by sending a request to the card issuer to check that the card is valid, and that the requested authorisation amount is available on the card. At this stage the funds are not deducted from the card.

Automated Fuel Dispenser (AFD)

Automatic fuel dispensers (AFDs) are used at petrol or gas stations for customer self-service fuel payments. Typically the customer inserts their card and enters a PIN number and the AFD authorises a fixed amount (e.g. £99). Once the final payment amount is known, the AFD may reverse the authorisation and/or request a second authorisation.

C

Card Scheme (network)

Card network, such as MasterCard, Visa or Discover, responsible for managing transactions over the network and for arbitration of any disputes.

Card Transaction System (CTS)

The Card Transaction System (CTS) enables you to test the integration of your card processing systems and validate the setup of your External Host Interface (EHI).

Cards API

The Thredd Cards API is a new REST-based API which can be used to connect to the Thredd system in place of using the traditional Thredd SOAP-based Web Services. The REST API provides messages in JSON format. If you are interested in the Cards API, please contact your Account Manager.

Chargeback

Where a cardholder disputes a transaction on their account and is unable to resolve directly with the merchant, they can raise a chargeback with their card issuer. The chargeback must be for a legitimate reason, such as goods and services not received, faulty goods, or a fraudulent transaction.

Clearing File/Clearing Transaction

receive batch clearing files from the card networks, containing clearing transactions, such as presentments and network fees. The card issuer transfers the requested settlement amount to the acquirer and 'clears' the amount on the card, reducing the available card balance accordingly.

D

Discover Global Network (DGN)

The Discover Global Network consists of a group of card networks acquired by Discover. This includes: Discover, Diners Club International and Pulse.

E

EMV

EMV originally stood for "Europay, Mastercard, and Visa", the three companies which created the standard. EMV cards are smart cards, also called chip cards, integrated circuit cards, or IC cards which store their data on integrated circuit chips, in addition to magnetic stripes for backward compatibility.

EMV 3D Secure

EMV 3-D Secure (3DS) is a new 3D Secure specification that supports app-based authentication and integration with digital wallets, as well as traditional browser-based e-commerce transactions. See: https://www.emvco.com/emv-technologies/3d-secure/

External Host

The external system to which sends real-time transaction-related data. The URL to this system is configured within per programme or product. The Program Manager uses their external host system to hold details of the balance on the cards in their programme and perform transaction-related services, such as payment authorisation, transaction matching and reconciliation.

F

Fee Groups

Groups which control the card transaction authorisation fees, and other fees, such as recurring fees and web service API fees.

Form Factor

A payment device's physical design features which define the size, shape and other physical specifications of the device.

H

Hanging Filter

The period of time during which waits for an approved authorisation amount to be settled. This is defined at a product level. A typical default is 7 days for an auth and 10 days for a pre-auth.

I

IIC

Issuer/Aquirer Institution Identification Code (IIC). A unique 11-digit code to designate a specific Institution.

IIN

Issuer Identification Number, a field in the ISO/IEC 7812 specification for ID cards. The first six or eight digits, including the major industry identifier, compose the issuer identifier number (IIN) which identifies the issuing organization. The IIN is sometimes referred to as a "bank identification number" (BIN). The IIN's use is much broader than identification of a bank. IINs are used by companies other than banks.

Incremental Authorisation

A request for an additional amount on a prior authorisation. An incremental authorisation is used when the final amount for a transaction is greater than the amount of the original authorisation. For example, a hotel guest might register for one night, but then decide to extend the reservation for additional night. In that case, an incremental authorisation might be performed in order to get approval for additional charges pertaining to the second night.

Issuer (BIN Sponsor)

The card issuer, typically a financial organisation authorised to issue cards. The issuer has a direct relationship with the relevant card scheme.

M

Merchant

The shop or store providing a product or service that the cardholder is purchasing. A merchant must have a merchant account, provided by their acquirer, in order to trade. Physical stores use a terminal or card reader to request authorisation for transactions. Online sites provide an online shopping basket and use a payment service provider to process their payments.

Merchant Category Code (MCC)

A unique identifier of the merchant, to identity the type of account provided to them by their acquirer.

MIP

Mastercard Interface Processor (MIP) The processing hardware and software system that interfaces with Mastercard's Global Payment System communications network.

N

Network Reference ID

The Network Reference ID is a numeric ID generated by DCI and remains unchanged for the life of the Card Transaction.

Network Reference ID (NRID)

The Network Reference ID is a numeric ID generated by DCI and remains unchanged for the life of the Card Transaction.

O

Offline Transaction

This is often used in scenarios where the merchant terminal is not required to request authorisation from the card issuer (for example for certain low risk, small value transactions used by vending machines, commuting and transport networks). The card chip and terminal determine if the offline transaction is permitted under EMV/Scheme rules; if not supported, the terminal declines the transaction. Note: Since the balance on the card balance is not authorised in real-time, there is a risk that the card may not have the amount required to cover the transaction.

P

Partial Amount Approval

Some acquirers support a partial amount approval for Debit or Prepaid payment authorisation requests. The issuer can respond with an approval amount less than the requested amount. The cardholder then needs to pay the remainder using another form of tender.

Payments Service Directive Two (PSD2)

PSD2 is a European regulation for payment services that has the purpose of making payments more secure in Europe. It introduces legislation to improve the payment service authentication process.

PGP

Pretty Good Privacy (PGP) is an encryption system used for both sending encrypted emails and encrypting sensitive files.

Presentment

Stage in a transaction where the funds authorised on a card are captured (deducted from the cardholder’s account). See also Clearing. Also referred to as the First presentment.

Program Manager

A customer who manages a card program. The program manager can create branded cards, load funds and provide other card or banking services to their end customers.

S

Secure Payment Confirmation (SPC)

SPC allows the issuer to directly authenticate the customer via FIDO (Fast IDentity Online) biometric authentication during a 3D Secure Challenge scenario.

sFTP

Secure File Transfer Protocol. File Transfer Protocol FTP) is a popular unencrypted method of transferring files between two remote systems. SFTP (SSH File Transfer Protocol, or Secure File Transfer Protocol) is a separate protocol packaged with SSH that works in a similar way but over a secure connection.

Smart Client

Smart Client is Thredd's legacy desktop application for managing your cards and transactions on the Thredd Platform.

SSL Certification

An SSL certificate displays important information for verifying the owner of a website and encrypting web traffic with SSL/TLS, including the public key, the issuer of the certificate, and the associated subdomains.

Stand In Processing (STIP)

The card network (Visa and Mastercard) may perform approve or decline a transaction authorisation request on behalf of the card issuer. Depending on your mode, may also provide STIP on your behalf, where your systems are unavailable.

T

Tag-Length-Value (TLV)

TLV is an encoding scheme. A TLV-encoded record contains the record type (tag), followed by record Length, and finally the Value itself. Example: 0104John where: tag type = 01 (first name) tag length = 4 digits tag value = John

Thredd Portal

Thredd Portal is Thredd's new web application for managing your cards and transactions on the Thredd Platform.

Triple DES

Triple DES (3DES or TDES), is a symmetric-key block cipher, which applies the DES cipher algorithm three times to each data block to produce a more secure encryption.

V

Validation

Checks to confirm the card is valid, such as CHIP cryptograms, mag-stripe data (if available) and expiry date

VROL System

Visa Dispute Resolution Online system, provided by Visa for managing transaction disputes.

W

WebAuthn

WebAuthn is a web standard developed by W3C and FIDO Alliance, allowing the use of biometrics and other authenticators for secure user verification during a 3D Secure Challenge authentication scenario.