L2 and L3 Enhanced Scheme Data Reporting Guide (Commmercial Cards)

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For the latest technical documentation, see the Documentation Portal.

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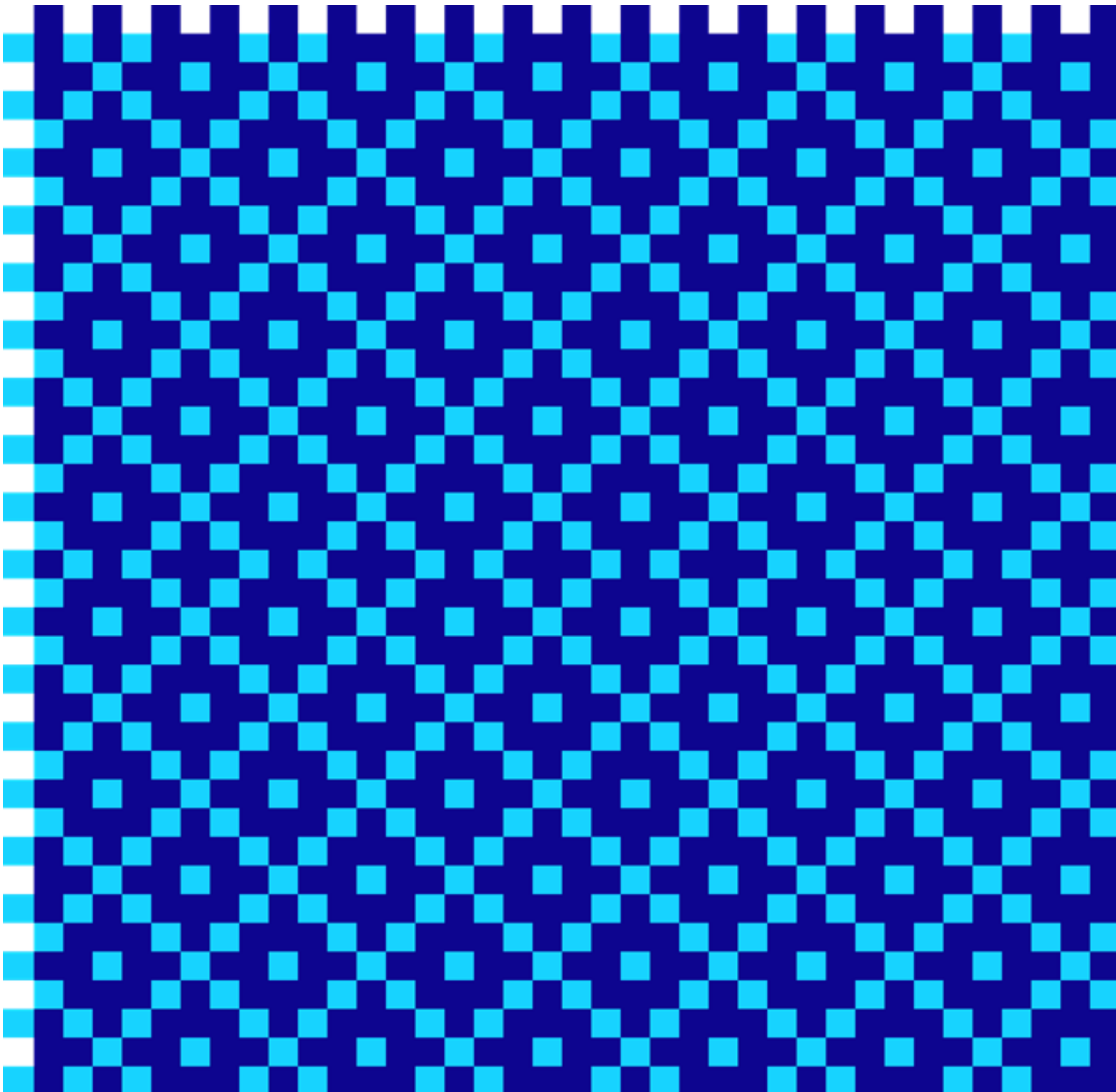

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About this Guide

This guide is intended as a reference guide, to provide information on L2 (Level 2) & L3 (Level 3) enhanced scheme data reporting for commercial cards.

Target audience

The target audience is technical team(s) that handle the processing of the transaction report files. They should have reasonable knowledge of XML/XSD and of the Cards industry.

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, read through the Getting Started sections and refer to the reference section to understand the schema, an example report and the individual elements.

Other Documentation

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

Document	Description
EHI Guide	Provides details of the ThreddExternal Host Interface (EHI).
Smart Client Guide	Describes how to use the ThreddSmart Client to manage your account.
Transaction XML Reporting Guide	Describes the structure and contents of the ThreddTransaction XML reports.

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

Section 1: Getting Started

You should read this section if you are new to Thredd XML reports and want to understand what types of reports are available how they are provided.

Topics covered in this section:

- About this Guide
- Introduction
- Data Files

Tip: To find out what has changed, see the Document History.

1.1 Introduction

Thredd's L2 and L3 enhanced data reporting for commercial card customers includes specific product and services data that are associated with day-to-day transactions. The reports enable Thredd to share product and services data from the card schemes under the following categories:

Category	Example Data
Passenger Transport	Ticket information, covering trip leg details, passenger ticket numbers, travel agency information, routing information, and service class
Hotels and lodging	Check-in and room dates
Vehicle Rental	Rental duration, vehicle class, and additional charges
Fuel	Fuel type, quantity, price per unit
Electric cars charging	Miscellaneous data for reports. Note that this is only available from Visa

L2 and L3 reports provide the following benefits:

- Allows card programmes to expand their card portfolios.
- Provides data on a transaction for analytics and reporting.
- Delivers better accountability and transparency in financial operations.

1.1.1 Reporting Architecture

The reporting architecture include messages from the relevant Card Schemes (Payment Networks) that enter the Thredd Platform. Thredd then parses the relevant clearing messages that contain L2 and L3 data, where other clearing messages are ignored in the parsing process. Thredd then creates daily reports for sending to the Program Manager.

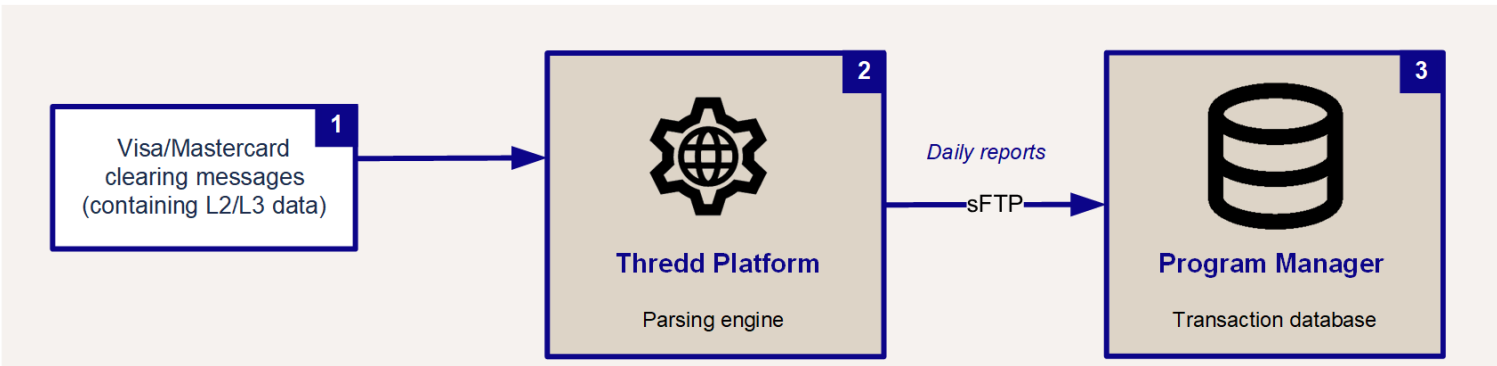

Figure 1: Enhanced Reporting for Commercial Cards

1.1.2 Report Structure

The daily L2 and L3 XML file consists of individual transactions containing data:

- that is specific to Thredd. This includes details of the transaction that the L2 and L3 data can link to.
- from the scheme containing L2 and L3 reporting data.

The basic structure of the dataset is similar across schemes. However, each individual scheme includes different data within the elements.

```
<?xml version="1.0" encoding="UTF-8" ?>
<transactions>
    <transaction>
        <network>Mastercard</network>
        <transactionType>Offline</transactionType>
        <transactionId>6150132738</transactionId>
        <transactionLinkId>2147488665</transactionLinkId>
        <datasets>
            <dataset>
                <name>Corporate detail, Corporate card common data requirements</name>
                <elements>
                    <element>
                        <name>Transaction Description</name>
                        <code>0501</code>
                        <subElement>
                            <name>Usage Code</name>
                            <data>98</data>
                        </subElement>
                        <subElement>
                            <name>Industry Record Number</name>
                            <data>000</data>
                        </subElement>
                        <subElement>
                            <name>Occurence Indicator</name>
                            <data>001</data>
                        </subElement>
                        <subElement>
                            <name>Associated First Presentment Number</name>
                            <data>00000140</data>
                        </subElement>
                    </subElements>
                </element>
            </elements>
        </dataset>
    </transaction>
</transactions>
</xml>
```

Thredd data

Enhanced reporting data from the card scheme

Note: For complete examples from the different schemes, refer to L2 and L3 Report Examples.

1.1.3 Other Types of Reports

In addition to L2 and L3 reports, Thredd generates the:

- Clearing Data Transaction Report
- Non-Clearing Data Transaction Report
- Balance Report
- Fee Collection Report
- Quarterly Scheme Report

Clearing Data Transaction Report

The Clearing Data Transaction Report contains details of financials, interchange fees, chargebacks and other presentment data for Issuers (BIN sponsors), Self-Issuers, and Program Managers. This report contains transactions that are linked to the L2 and L3 reports. For more information, see the *Global Transaction Reporting Guide.*

Non-Clearing Data Transaction Report

The Non-Clearing Data Transaction Report contains details of daily authorisations, loads and unloads, Thredd fees and other authorisation data.

Balance Report

The Balance Report is relevant where Thredd maintains details of card balances, such as in EHI modes 2,3,4 and 5 or where EHI is not being used. This report provides details of the balance on each card at the time of your chosen cut-off and generation. You can use this report to confirm how much money is on the card according to Thredd systems (where Thredd maintain the balance). You can compare this to information you hold in your local card database. Like the transaction reports, you can receive reports at the local time you require regardless of your organisation's time-zone.

Fee Collection Report

The Fee Collection Report is a daily summary of Scheme (Mastercard/Visa/MNE/Discover) fees by ICA and currency for reconciling against the Mastercard/Visa/MNE/Discover Settlement summary reports. The report is provided to issuers and self-issuers. It includes transaction categories such as Interregional non-financial ATM transaction fees, and fees for ATM PIN management and ATM Balance Inquiry fees. For more information, contact your Thredd Implementation Manager or Account Manager.

Quarterly Scheme Report

The Quarterly Scheme Report contains quarterly data needed to fill in/submit the quarterly scheme reports:

- **Mastercard** – Quarterly Management Reports
- **VISA** – Global Operation Certificates
- **Discover** – Quarterly Scheme Report

The report include details such as the number of live cards, cards issued, and information on card activity and status. This report is provided to issuers and self-issuers. For more information, contact your Thredd Implementation Manager or Account Manager.

1.2 L2 and L3 Data Files

For L2 and L3 Reporting, Thredd can supply you with daily data reports in the XML file format. This page describes the file contents of the L2 and L3 reports, the file sending schedule, naming convention, and encryption/encoding requirements.

Note: Bear in mind that if you need to keep transaction records over time, you must follow the standard business processes in your organisation for maintaining the records.

1.2.1 XML File Contents

Thredd can supply you with daily XML files that containing clearing data where there are relevant L2 and L3 entries. The schemes provide this clearing data to Thredd in raw message form, where Thredd parses the data to build the XML files. Thredd then delivers the XML files through **sFTP**[1]. The clearing data follows the standard clearing cycles for the schemes (see Card Scheme and Gateway Provider Considerations).

Note: sFTP files are deleted from the Thredd sFTP server after two calendar days. They are stored on our archive server for a limited period.

1.2.2 Sending Schedule

Thredd can send files of generated reports at a time that meets your business requirements. You can choose the InitiationTime, ToTime and FromTime settings. The following table summarises the time settings:

Time	Description
InitiationTime	The time of day you select for Thredd to start the generation of the report.
ToTime	The latest time threshold/end interval during the day for the timestamp transactions to be included in the report. InitiationTime is always >= to the ToTime.
FromTime	The earliest time threshold/start interval during the day for timestamp transactions to be included in the report. By default, FromTime = ToTime over a 24h period.
GenerationTime	The time needed to produce a report, spanning between InitiationTime and the time when the XML file for the report has been created.
TransportationTime	Disk and network time needed to copy a readily available XML file/report to the client sFTP folder.
DeliveryTime	The time when the XML file/report is available in the client's sFTP folder for pick-up.

GenerationTimes and TransportationTimes determine the DeliveryTime of the report. The DeliveryTime depends on the number or volume of transactions in the file that passed from the report InitiationTime. The Initiation, From and ToTimes are selectable (FromTime = ToTime over a 24h period).

Card Scheme and Gateway Provider Considerations

The clearing cycles for the different schemes can influence the XML file sending schedule from Thredd. The clearing cycles are summarised as follows:

- **Mastercard** – There are 6 clearing cycles per day, seven days per week. After each clearing cycle, Mastercard sends Thredd clearing files, which contain the settlement data. Data from cycles 5-6 from the night before and 1-4 from current day form a compete settlement day picture for most regions. These contain all the information you need to reconcile your settlements with Mastercard.

[1]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.

- **Visa** – Visa provide 2 clearing files (Domestic and International) each day. For International visa cycles, different timings exist for some regions (For example, Australia and Hong Kong). There is a maximum file size where, for the largest clients, it is possible that more than one Domestic and/or International file will be received on the same day. Visa domestic cycles start at 9 am, while international cycles start at mid-day. The clearing cycles occur for 7 days a week.

1.2.3 File Naming Convention

The L2 and L3 report files that you receive from Thredd use the following naming convention: THRD-PPPP-L2L3-YYYYMMDDHHMM-YYYYMMDDHHMM.PX.xml

Where:

- **THRD** – Abbreviation for Thredd.
- **PPPP** – Programme manager code or name.
- **L2L3** – The report code for L2 and L3 reports.
- **YYYYMMDDHHMM** – FromTime, first occurrence after report code. This includes YYYY for year (4 digits), MM for month (2 digits) and DD for day (2 digits).
- **YYYYMMDDHHMM** – ToTime, second occurrence after report code). This includes YYYY for year (4 digits), MM for month (2 digits) and DD for day (2 digits).
- **PX** - Thredd production environment used to generate the report, value of X indicating the exact environment.

Example

The following shows an example of files for an L2 and L3 report: THRD-ABC-L2L3-202501250000-202501260000.P1.xml

This file includes a snapshot of transactions recorded for the example ABC program manager, available on the Thredd platform. The file includes the respective statuses at the report InitiationTime with a timestamp between the 25th of January 2025, 00:00 and the 26th of January 2025, 00:00 on Thredd's Production 1 environment.

Note: For details on which production environment applies to your programme, check with your Thredd implementation manager or account manager.

Regenerated Reports

Thredd includes _REG in the filename of the report for regeneration. The filenames include the following naming conventions: THRD-ABC-L2L3-YYYYMMDDHHMM-YYYYMMDDHHMM_REG.PX.xml

The following shows an example of files for an L2 and L3 report: THRD-ABC-L2L3-202501250000-202501260000_REG.P1.xml

The regenerated report includes the same timestamp as the original report recorded for the example ABC program manager. In this case, the timestamp of the original report is between the 25th of January 2025, 00:00 and the 26th of January 2025, 00:00. The report is regenerated in the P1 production environment.

Note: Thredd increments a number for multiple regenerations. For example, the filename is as follows for a second regeneration of the report: THRD-ABC-L2L3-202401250000-202401260000_REG.P1(1).xml.

1.2.4 Encryption and Encoding

XML files are encrypted using **PGP**[1], which requires the sharing of keys. For details, contact your implementation manager.

All of the XML data files are well-formed XML (UTF-8 encoded).

Note: As XML is case-sensitive, you should ensure that you follow the correct casing for all XML elements and attribute names when processing the message.

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

Section 2: Reference

You should read this section to understand in detail the report schema and the individual fields.

Topics covered in this section:

- Thredd Elements
- Scheme Elements
- Examples of an L2 and L3 Report
- The schema of an L2 and L3 Report

Tip: To find out what has changed, see the Document History.

2.1 Thredd Elements

The following are Thredd elements within the L2 & L3 schema.

Attribute	Description	Data Type	Required	Constraints/Permitted Values
network	The Card Payment network.	xs:string	Yes	Visa and Mastercard
transactionType	The type of transaction as offline or online. Offline transaction data is received in presentments, whereas Online transaction data is received in authorisations.	xs:string	Yes	Offline and Online
transactionId	The ID of the clearing transaction that has the enhanced data.	xs:unsignedLong	Yes	Must be a number
transactionLinkId	The ID of the link to the authorisation of the transaction if available.	xs:unsignedLong	Yes	If the transaction type is offline, this is the unique identification number of the corresponding online transaction. If the transaction type is online, the transactionlinkId and transactionId are the same.

2.2 Card Scheme Elements Under </dataset>

Scheme-specific elements in the L2 and L3 report exist within the </dataset> element. This element contains specific codes that are used in the different schemes that have information about the L2 and L3 data. You can look up the codes in the latest scheme documentation to find out information. There are specific examples below for looking up codes for clearing data in Mastercard and Visa.

Attribute	Description	Data Type	Required
name	This is the name of the dataset as provided by the scheme.	xs:string	Yes
code	This is the code of the dataset. **Note**: The code attribute under dataset is applicable to Visa only.	xs:string	No
element	The name of the element for the dataset that describe a category of information.	<element>	Yes

2.2.1 Element

Attribute	Description	Data Type	Required
name	This is the name of the element as provided by the scheme.	xs:string	Yes
code	This is the code for the transaction used by the different schemes, and determines the data that appears in the sub-elements. **Note**: The code attribute under element is applicable to Mastercard only.	xs:string	No
data	The hexadecimal digits that hold the data for the element.	xs:string	No
subelement	The subelement under the element, which contain more L2 and L3 information.	<subelement>	No

Sub-Element

Attribute	Description	Data Type
name	The name of the subelement for the code in the element.	xs:string
data	The hexadecimal digits that hold the data for the element.	xs:string

2.2.2 Looking Up Codes in Mastercard Documentation

The following section shows you how to look up data in the Mastercard documentation for an example element and subelement structure. This example code contains 0501 for Transaction Description. You need to refer to the latest documentation from Mastercard with the title of *IPM Clearing Formats*. See Lookup Codes in the Mastercard documentation for the steps.

Example

```
<dataset>
<name>Corporate detail, Corporate card common data requirements</name>
<elements>
<element>
<name>Transaction Description</name>
<code>0501</code>
<subElement>
<name>Usage Code</name>
<data>98</data>
</subElement>
<subElement>
<name>Industry Record Number</name>
<data>000</data>
</subElement>
<subElement>
<name>Occurence Indicator</name>
<data>001</data>
</subElement>
<subElement>
<name>Associated First Presentment Number</name>
<data>00000140</data>
</subElement>
</subElements>
</element>
</elements>
</dataset>
```

Look Up Codes in the Mastercard Documentation

1. Look up **0501** under the **PDS:Product Description** section.

PDS 0446 (Transaction Fee Amount, Syntax Error)

PDS 0446 (Transaction Fee Amount, Syntax Error) contains the submitted value from PDS 0146 (Amount, Transaction Fee) that was flagged for a soft syntax error. This element is generated by the clearing platform.

Attributes

Data Representation:	ans-12; TAGLLL
Tag Field:	0446
Length Field:	3 positions, value = 012
Data Field:	Fixed length, 12 positions
Justification:	None

Usage

This element is created when PDS 0146, subfield 5 (Amount, Fee) was flagged for a syntax error.

Values

All currency amounts are expressed in the minor unit of currency without a decimal separator in accordance with ISO standards for currency notation. For example, a transaction amount of USD 212.50 is expressed as 000000021250.

PDS 0501 (Transaction Description)

PDS 0501 (Transaction Description) contains information describing the type of addendum data that is presented.

2. Under the **PDS:0501** section, refer to the **Usage Codes**.
3. Scroll down and observe details for Code **98**
4. Scroll down and observe details for **Occurrence Indicator** with the setting of **001**.
5. Scroll down and observe details for the **Associated First Presentment** number.

0501, prefixed as **PDS:0501** has the description on the transaction. The **Usage Code** contains information on the transaction according to industry. In the above example, **98** indicates new business opportunities for the corporate environment. Other Usage Codes refer to other industries, for example, a Usage Code of 12 is for the travel industry.

The **Occurrence Indicator** with the setting of **001** indicates an event type on Mastercard's processing systems. The **Associated First Presentment Number** is the identifier of the first presentment linked with the message.

Note: Private Data Subelements (PDSs) are for individual program and service requirements. Each PDS is assigned a unique numeric tag number used for identification. The messages are encoded as Tag, Field, and Length.

2.2.3 Looking Up Codes in the Visa Documentation

The following section shows you how to look up data in the Visa Base II documentation for an example element and subelement structure. The example contains the code that contains the code AI for Airline, Passenger Itinery. You need to refer to the Visa's manual which has the title of *BASE II Clearing Interchange Formats, TC 01 to TC 49*. See Lookup Codes in the Visa documentation for the steps.

Example

```
<?xml version="1.0" encoding="UTF-8" ?>
<transactions>
    <transaction>
        <network>Visa</network>
        <transactionType>Offline</transactionType>
        <transactionId>6150991175</transactionId>
        <transactionLinkId>2147505941</transactionLinkId>
        <datasets>
            <dataset>
                <code>AI</code>
                <name>Airline, Passenger Itinerary</name>
                <elements>
                    <element>
                        <name>Transaction Code</name>
                        <data>  </data>
                    </element>
                    <element>
                        <name>Transaction Code Qualifier</name>
                        <data>0</data>
                    </element>
                    <element>
                        <name>Transaction Component Sequence Number</name>
                        <data>3</data>
                    </element>
                    <element>
                        <name>Business Application ID</name>
                        <data>  </data>
                    </element>
                    <element>
                        <name>Business Format Code</name>
                        <data>AI</data>
                    </element>
                    <element>
                        <name>Passenger Name</name>
                        <data>AN/YUGYEONG         </data>
                    </element>
                    <element>
                        <name>Departure Date</name>
                        <data>060719</data>
                    </element>
                    <element>
                        <name>Origination City/Airport Code</name>
                        <data>XAA</data>
                    </element>
                    <element>
                        <name>Trip Leg 1 Information</name>
                        <subElements>
                            <subElement>
                                <name>Carrier Code</name>
```

```
                        <data>WS</data>
                    </subElement>
                    <subElement>
                        <name>Service Class</name>
                        <data>Y</data>
                    </subElement>
                    <subElement>
                        <name>Stop-Over Code</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Destination City/Airport Code</name>
                        <data>XAA</data>
                    </subElement>
                </subElements>
            </element>
            <element>
                <name>Trip Leg 2 Information</name>
                <subElements>
                    <subElement>
                        <name>Carrier Code</name>
                        <data>  </data>
                    </subElement>
                    <subElement>
                        <name>Service Class</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Stop-Over Code</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Destination City/Airport Code</name>
                        <data>   </data>
                    </subElement>
                </subElements>
            </element>
            <element>
                <name>Trip Leg 3 Information</name>
                <subElements>
                    <subElement>
                        <name>Carrier Code</name>
                        <data>  </data>
                    </subElement>
                    <subElement>
                        <name>Service Class</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Stop-Over Code</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Destination City/Airport Code</name>
                        <data>   </data>
                    </subElement>
                </subElements>
            </element>
            <element>
                <name>Trip Leg 4 Information</name>
                <subElements>
                    <subElement>
                        <name>Carrier Code</name>
                        <data>  </data>
                    </subElement>
                    <subElement>
                        <name>Service Class</name>
                        <data> </data>
                    </subElement>
                    <subElement>
                        <name>Stop-Over Code</name>
```

```
                    <data> </data>
                </subElement>
                <subElement>
                    <name>Destination City/Airport Code</name>
                    <data>   </data>
                </subElement>
            </subElements>
        </element>
        <element>
            <name>Travel Agency Code</name>
            <data>        </data>
        </element>
        <element>
            <name>Travel Agency Name</name>
            <data>                          </data>
        </element>
        <element>
            <name>Restricted Ticket Indicator</name>
            <data>0</data>
        </element>
        <element>
            <name>Fare Basis Code - Leg 1</name>
            <data>      </data>
        </element>
        <element>
            <name>Fare Basis Code - Leg 2</name>
            <data>      </data>
        </element>
        <element>
            <name>Fare Basis Code - Leg 3</name>
            <data>      </data>
        </element>
        <element>
            <name>Fare Basis Code - Leg 4</name>
            <data>      </data>
        </element>
        <element>
            <name>Computerized Reservation System</name>
            <data>    </data>
        </element>
        <element>
            <name>Flight Number - Leg 1</name>
            <data>     </data>
        </element>
        <element>
            <name>Flight Number - Leg 2</name>
            <data>     </data>
        </element>
        <element>
            <name>Flight Number - Leg 3</name>
            <data>     </data>
        </element>
        <element>
            <name>Flight Number - Leg 4</name>
            <data>     </data>
        </element>
        <element>
            <name>Credit Reason Indicator</name>
            <data> </data>
        </element>
        <element>
            <name>Ticket Change Indicator</name>
            <data> </data>
        </element>
    </elements>
</dataset>
</datasets>
</transaction>
</transactions>
```

Look Up Codes in the Visa Documentation

1. Search for the words "Passenger Itinery". This takes you to the following chapter: **TC 05 - TCR 3 Passenger-Itinerary Data**.

TC 05 - TCR 3 Passenger-Itinerary Data

These tables contain the Draft Data (TC 05, 06, 15, 16, 25, 26, 35, 36) record layout and edit criteria for TCR 3 - INDUSTRY-SPECIFIC DATA - PASSENGER ITINERARY DATA.

CTF - Outgoing and Incoming Interchange

Passenger-Itinerary Draft Data Record Layout

Position	Field Length	Format	Contents
1–2	2	UN	Transaction Code
3	1	UN	Transaction Code Qualifier
4	1	UN	Transaction Component Sequence Number
5–14	10	AN	Reserved
15–16	2	AN	Business Application ID
17–18	2	AN	Business Format Code (AI)
19–26	8	AN	Reserved
27–46	20	AN	Passenger Name
47–52	6	UN	Departure Date (MMDDYY)

2. Scroll down and observe the preset values for **Transaction Code Qualifier** and **Transaction Code Sequence Number**.
3. Scroll down and observe the **code AI** in **Business Format Code**.
4. Scroll down and observe details for **Passenger Name**, **Departure Date** and **Origination City/Airport Code**.
5. Scroll down and observe details for **Trip Leg Information**, including **Carrier Code**, **Service Class**, and **Destination City, Airport Code**. Carrier Code is the name of the carrier, while Service Class is the type of class that the passenger uses.
6. Scroll down and observe **Restricted Ticket Indicator**.

Carrier Code is the name of the carrier, while **Service Class** is the type of class that the passenger uses. **Restricted Ticket Indicator** indicates whether or not the ticket is refundable. 0 shows that there is no restrictions on refunds.

2.3 L2 and L3 Report Examples

The following are example L2 and L3 reports for Mastercard and Visa.

2.3.1 Mastercard Example

```
<transactions>
    <transaction>
        <network>Mastercard</network>
        <transactionType>Offline</transactionType>
        <transactionId>6150932738</transactionId>
        <transactionLinkId>2147488665</transactionLinkId>
        <datasets>
            <dataset>
                <name>Corporate Detail, Corporate Card Common Data Requirements</name>
                <elements>
                    <element>
                        <name>Transaction Description</name>
                        <code>0501</code>
                        <subElements>
                            <subElement>
                                <name>Usage Code</name>
                                <data>98</data>
                            </subElement>
                            <subElement>
                                <name>Industry Record Number</name>
                                <data>000</data>
                            </subElement>
                            <subElement>
                                <name>Occurrence Indicator </name>
                                <data>001</data>
                            </subElement>
                            <subElement>
                                <name>Associated First Presentment Number</name>
                                <data>00000140</data>
                            </subElement>
                        </subElements>
                    </element>
                    <element>
                        <name>Card Acceptor Type</name>
                        <code>0595</code>
                        <subElements>
                            <subElement>
                                <name>Business Type</name>
                                <data>2</data>
                            </subElement>
                            <subElement>
                                <name>Business Owner Type</name>
                                <data>0</data>
                            </subElement>
                            <subElement>
                                <name>Business Certification Type</name>
                                <data>0</data>
                            </subElement>
                            <subElement>
                                <name>Business Racial/Ethnic Type</name>
                                <data>0</data>
                            </subElement>
                            <subElement>
                                <name>Business Type Provided Code</name>
                                <data>R</data>
                            </subElement>
                            <subElement>
                                <name>Business Owner Type Provided Code</name>
                                <data>N</data>
                            </subElement>
                            <subElement>
                                <name>Business Certification Type Provided Code</name>
```

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</datasets>
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    <transactionLinkId>2147921713</transactionLinkId>
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        <dataset>
            <code>57</code>
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                    </element>
                    <element>
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                        <code>03</code>
                        <data>Francisco Fernandes</data>
                    </element>
                    <element>
                        <name>Sender Address</name>
                        <code>04</code>
                        <data>7 Rua Poca Da Horta</data>
                    </element>
                    <element>
                        <name>Sender City</name>
                        <code>05</code>
                        <data>Cheira</data>
                    </element>
                    <element>
                        <name>Sender Country</name>
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                        <data>00 </data>
                    </element>
                    <element>
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                        <data>005</data>
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```

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            <name>Departure Date</name>
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                    <data>WS</data>
                </subElement>
                <subElement>
                    <name>Service Class</name>
                    <data>Y</data>
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                <subElement>
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                <subElement>
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            </subElements>
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        <element>
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                    <data></data>
                </subElement>
                <subElement>
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                <subElement>
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                    <data></data>
                </subElement>
                <subElement>
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                    <data></data>
                </subElement>
            </subElements>
        </element>
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            <subElements>
                <subElement>
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```

```
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            <element>
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            </element>
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            </element>
            <element>
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            </element>
            <element>
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            </element>
            <element>
                <name>Flight Number - Leg 1</name>
                <data></data>
```

```
                    </element>
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                        <name>Flight Number - Leg 2</name>
                        <data></data>
                    </element>
                    <element>
                        <name>Flight Number - Leg 3</name>
                        <data></data>
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                    </element>
                    <element>
                        <name>Ticket Change Indicator</name>
                        <data></data>
                    </element>
                </elements>
            </dataset>
        </datasets>
    </transaction>
</transactions>
```

2.3.2 Visa Example

```
<?xml version="1.0" encoding="UTF-8" ?>
<transactions>
    <transaction>
        <network>Visa</network>
        <transactionType>Offline</transactionType>
        <transactionId>6150991175</transactionId>
        <transactionLinkId>2147505941</transactionLinkId>
        <datasets>
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                <elements>
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                        <data>  </data>
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                        <data>  </data>
                    </element>
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                    </element>
                    <element>
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                    </element>
                    <element>
```

```
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                <element>
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                        <subElement>
                            <name>Stop-Over Code</name>
                            <data> </data>
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                        <subElement>
                            <name>Destination City/Airport Code</name>
                            <data>   </data>
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                    <subElements>
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```

```
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                    <name>Service Class</name>
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            <data>      </data>
        </element>
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            <data>      </data>
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            <data>      </data>
        </element>
        <element>
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        </element>
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        </element>
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            <name>Flight Number - Leg 2</name>
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        <element>
            <name>Ticket Change Indicator</name>
            <data> </data>
```

```
                    </element>
                </elements>
            </dataset>
        </datasets>
    </transaction>
</transactions>
```

2.4 L2 and L3 Data XML Report Schema

The following is the schema in XML format.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema attributeFormDefault="unqualified" elementFormDefault="qualified" xmlns:xs="http://www.w3.org/2001/XMLSchema">
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      <xs:sequence>
        <xs:element maxOccurs="unbounded" name="transaction">
          <xs:complexType>
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              <xs:element name="network" type="xs:string" minOccurs="1" maxOccurs ="1" />
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              <xs:element name="datasets">
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                  <xs:sequence>
                    <xs:element maxOccurs="unbounded" name="dataset">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element minOccurs="0" name="code" type="xs:string" />
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                              <xs:sequence>
                                <xs:element maxOccurs="unbounded" name="element">
                                  <xs:complexType>
                                    <xs:sequence>
                                      <xs:element name="name" type="xs:string" />
                                      <xs:element minOccurs="0" name="code" type="xs:string" />
                                      <xs:element minOccurs="0" name="data" type="xs:string" />
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                                            <xs:element maxOccurs="unbounded" name="subElement">
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                                                <xs:sequence>
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                                                  <xs:element name="data" type="xs:string" />
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                                              </xs:complexType>
                                            </xs:element>
                                          </xs:sequence>
                                        </xs:complexType>
                                      </xs:element>
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              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
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    </xs:complexType>
  </xs:element>
</xs:schema>
```

2.4.1 Schema Changes

Version	Description
V1.0	First version of the schema.

General FAQs

This section provides answers to frequently asked questions.

Types of Reports

What is L2 and L3 report?

An L2 and L3 report includes specific product and services data that are associated with day-to-day transactions. The reports enable commercial card customers to share product and services data from the card schemes. For example, the data can include information on a specific leg of a trip for customers that used their commercial card for their journey.

What type of reports does Thredd provide?

Thredd provides the following reports to Program Managers:

- Clearing Report (transaction data)
- Non-Clearing Report (transaction data)
- Enhanced reports containing L2 and L3 data
- Balance reports

Note:
For Issuers and Self-Issuers, Thredd provides two additional reports:
• Fee Collection Report
• Quarterly Management Report (QMR)
For details, please contact your implementation manager or account manager.

When does Thredd send the reports?

As part of the Global Transaction Reporting capability, Thredd can send the reports at the local time you require.

Can I configure the details provided?

No, you cannot configure the Thredd reports. If you require bespoke reports, please speak to your Account Manager.

Delivery of Reports

How often are reports provided? Can I change this?

By default, Thredd provides the L2 and L3 report once a day. You can configure the sending of the report, where Thredd can send a report up to 6 times a day, following each clearing file Thredd receives from the card schemes.

How are reports provided to customers?

Thredd provide daily reports to customers via **sFTP**[1]. This is on a push only basis.

How often do you change the fields in the report?

Thredd adds new fields to the report in line with updates from the card schemes (Visa and Mastercard), or to reflect other changes relevant to the payments industry or Thredd's service.

When making changes to the reports, Thredd updates the technical documentation and notifies you of the change.

Are reports encrypted?

Yes. Thredd encrypts reports using the PGP standard.

How do I identify the version of the report?

The XML schema version is listed in the comments section of the schema, together with details of what has changed.

---

[1]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.

What determines the L2 and L3 information?

L2 and L3 information is determined by details that Thredd has on those transactions where there is scheme-specific data on products and services

Do you store reports and if so, for how long?

Thredd stores reports for up to 2 calendar days on the sFTP server, after which they are deleted from the server. Thredd archives the historical files for a limited period. For access to historical files, please raise a JIRA request.

Using the Reports

How can I use the reports?

You can use the reports to do the following:

- Update your transactions database.
- Manage the transaction reconciliation.

Glossary

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

A

Account Verification

A type of authorisation transaction which is intended to confirm that the account is genuine and active. Account Verifications are always for a zero amount, so only appear in Authorisation messages and never in clearing messages.

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.

C

Card Scheme

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

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

Thredd 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

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 pre-dominantly 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.

E

External Host Interface (EHI)

The External Host Interface provides a facility to enable exchange of data between Thredd and external systems via our web services. All transaction data processed by Thredd is transferred to the External Host side via EHI in real time. For certain types of transactions, such as Authorisations, the External Host can participate in payment transaction authorisation.

I

ICA

The Interbank Card Association Number (ICA) is a five-digit number assigned by MasterCard to a financial institution, third-party pro-cessor or other member to identify the member in the transaction.

Issuer

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

L

L2 and L3 Data

This is data that provides extra information on a transaction over the basic information that is covered in L1 (Level 1). L2 (Level 2) and L3 (Level 3) can include information on the products and services for that transaction.

M

Mastercard clearing cycle

Mastercard provides 6-8 clearing updates during each day, with details of financial transactions that are due for settlement.

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.

MNE (Mastercard Networks Exchange)

A US PIN debit network provider for opening access to US debit networks.

P

PGP

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

Presentments

Stage in a transaction where the funds authorised on a card are captured (deducted from the cardholder's account). Also known as Clearing.

Programme Manager

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

R

reconciliation cycle

Thredd receive six cycles of settlement data from Mastercard.

reconciliation date

The system processing date associated with the settlement of funds, as provided by Mastercard.

S

SAFE Reporting

You can report fraudulent transactions to Mastercard by creating a new fraud event in Mastercom, using their SAFE reporting facility (now referred to as the Mastercard Fraud and Loss Database).

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 user interface for managing your account on the Thredd Platform. Smart Client is installed as a desktop application and requires a secure connection to Thredd systems in order to be able to access your account.

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.

T

Thredd Portal

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

U

UTC

Coordinated Universal Time or UTC is the primary time standard by which the world regulates clocks and time.

Document History

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

Version	Date	Reason	Revised by
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.

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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.