Balance XML Reporting Guide

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For the latest technical documentation, see the Documentation Portal.

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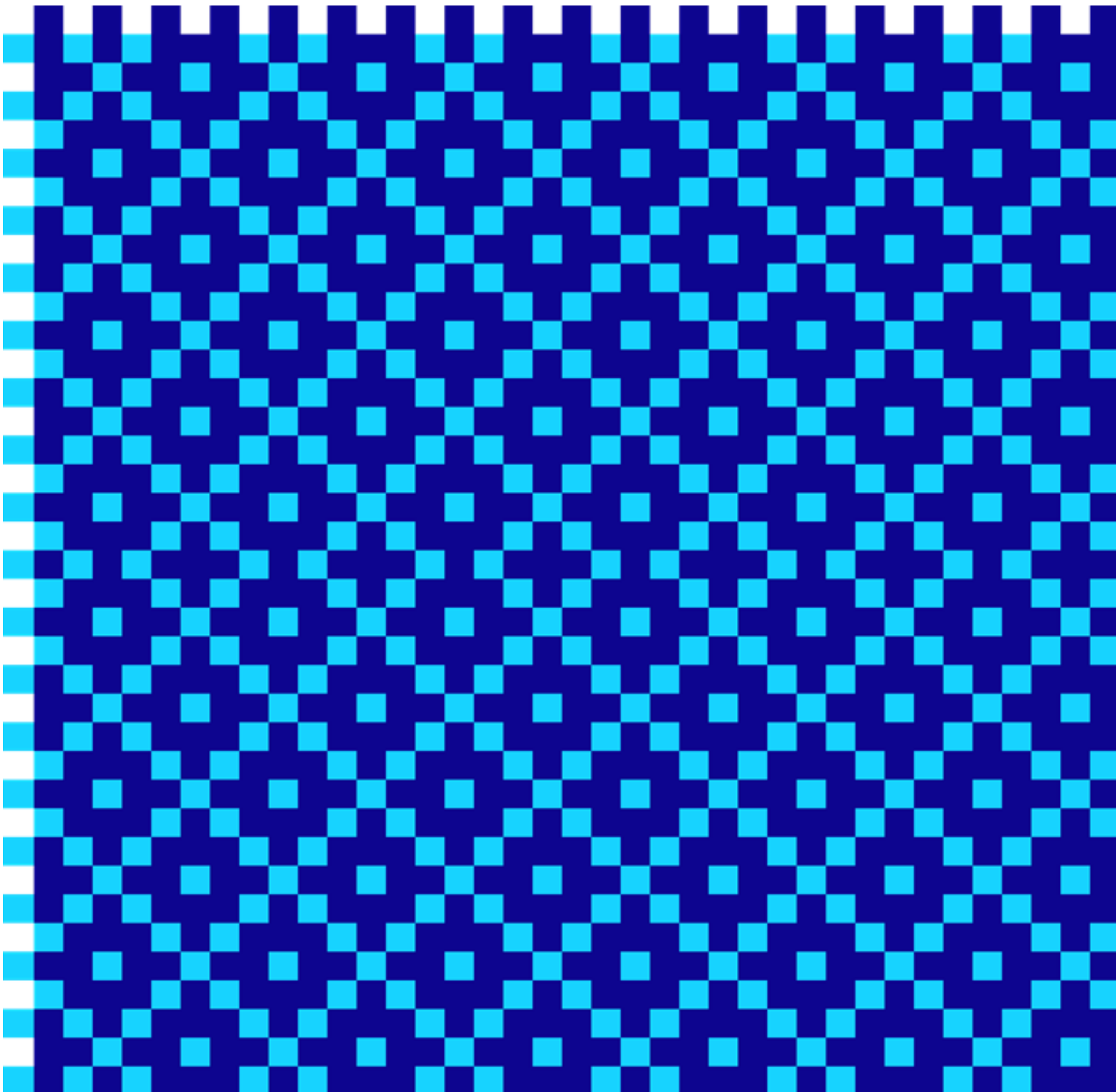

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About this Guide

This guide is intended as a reference guide, to provide information on the available Thredd reports.

It describes the Balance Report Data Schema elements, sub-elements and attributes.

Target Audience

Technical teams responsible for the handling and processing of the Thredd balance report files.

You 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

If you are new to Thredd and want to understand when and how report files are provided to you, the types of files available and how they can be used,

see the Introduction and Balance Data Files topics.

To view an example of a Balance report file, see Balance Report Example.

To view the current XML data schema, see Balance Report XML Schema.

Note: For upcoming/future versions of the Balance XML schema, see the XSD Schemas section on the Documentation Portal.

For information about the record types and fields in the Balance report file, see Primary Elements.

Related Documentation

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

Document	Description
Transaction XML Reporting Guide	Describes the structure and content of the Transaction XML report.
EHI Guide	Provides details of the Thredd External Host Interface (EHI).
Smart Client Guide	Describes how to use the legacy Thredd Smart Client to manage your account.
Thredd Portal Guide	Describes how to use the Thredd Portal to manage your cards and transactions.
Web Services Guide (SOAP)	Describes how to use the Thredd SOAP web services API to manage your cards.
Cards API website (REST)	Describes how to use the Thredd REST-based Cards API to manage your cards.

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 reports in Global Balance Reporting. This will enable you to understand what types of reports are available and how they are provided.

Topics covered in this section:

- About this Guide
- Introduction
- Transactional Data Files
- Transactional Data Schema

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

1.1 Introduction

A balance report contains details of card balances on the system in the past 24 hours. This guide explains about how the Balance XML Report works including descriptions of the schema. Thredd sends UTC reports of card balances according to preset UTC (Coordinated Universal Time) times in the past 24 hours, rather than at any time that you require. You can use the Balance report to confirm how much money is on a card according to Thredd systems (where Thredd maintain the balance), allowing you to compare the information you hold in your local card database.

Balance reports use Thredd's XML reporting system, which employs the Secure File Transfer Protocol (sFTP). In the reporting system, Thredd processes incoming requests from the Card Schemes (payment networks) using its real-time authorisation engine.

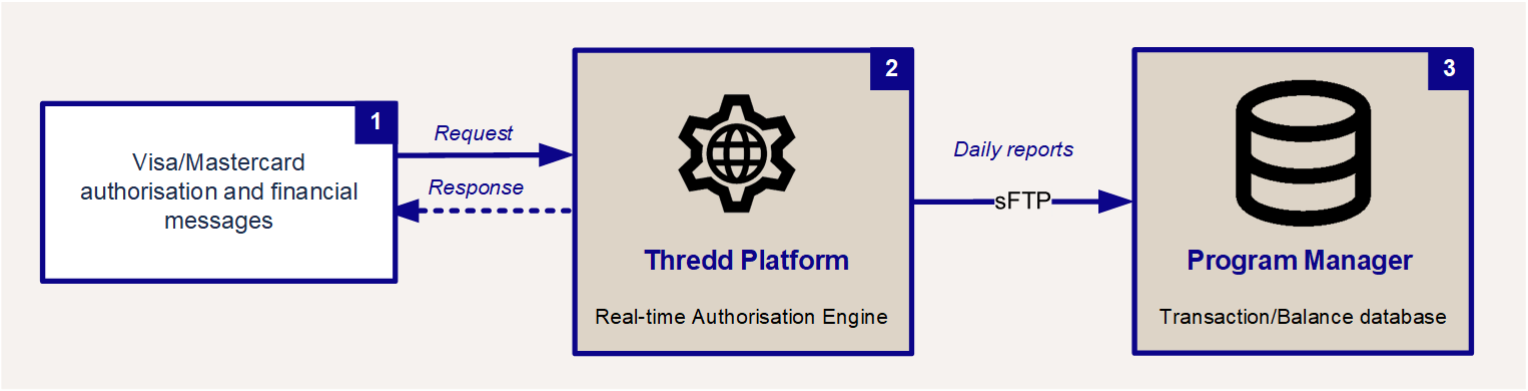

Figure 1: XML Reporting

Note: There is a new version of balance reports that allows you to receive reports at any point you require. For more details, refer to the *New Balance XML Reporting Guide*.

1.1.1 Balance Report Details

Clients in the following EHI modes use these reports where Thredd maintains details of card balances. These include:

- Cooperative Processing (mode 2)
- Full Service Processing (mode 3)
- Gateway Processing with STIP (mode 4)

Note: You can also use reports for balances where EHI is not being used.

To deliver flexibility on when to run reports, the Balance XML report can provide details of the balance on each card as at midnight UK time[1] or at a specific time when the XML is run.

1.1.2 Other Types of Reports

In addition to reports for balances, Thredd provides these other types of reports:

- **Transaction XML Report: –** provides details of authorisation and financial advices and other non-scheme transactions that take place. Non-scheme transactions include card loads/unloads, balance adjustments through web services, cardholder fees generated by Thredd (that you have set up in your fee groups) and network scheme fees. You can use this report to reconcile against Mastercard or Visa settlement advices and reconcile it with data received from EHI. For more information, see the Transaction XML Reporting Guide.
- **Fee Collection Report:** – gives a summary of Scheme (VISA/Mastercard) Fees by ICA and currency. You can use this report to reconcile against Mastercard/Visa Settlement summary reports. The Fee Collection Report includes transaction categories such as Interregional non-financial ATM transaction fees, fees for ATM PIN management and ATM Balance Inquiry fees. For more information, contact your Thredd Implementation Manager or Account Manager.
- **Quarterly Scheme Report:** – contains information to complete your scheme regulatory reporting for Mastercard's Quarterly Management Reports and Visa's Global Operating Certificates. Thredd provides this report to Issuers and Self-Issuers. Sent on a quarterly basis, this report includes details such as the number of live cards, cards issued, and information on card activity and status. For more information, contact your Implementation Manager or Account Manager.

[1] Local UK time, which is either Greenwich Mean Time (GMT) or British Summer Time (BST); For details, see: https://www.gov.uk/when-do-the-clocks-change.

1.2 Balance Data Files

Thredd can supply you with daily Balance XML Report files at preset times. The balance is the amount on the card at the point when the report is generated daily (usually shortly after midday), and includes non-working days and holidays. The generation job can take up to two hours. Balance data arrives around 5pm UK time, but this can be configured to align with your chosen cut-off time. Thredd sends Balance XML Report files through sFTP.

> **Note:** Thredd deletes the sFTP files from the sFTP server after two calendar days. The files are stored on Thredd's archive server for a limited period. Bear in mind that if you need to keep transaction records over time, you must follow the right business processes for maintaining the records.

For an example of a Balance XML Report file, see Balance XML Example.

1.2.1 File Contents

Thredd provides one Balance Report XML file per Program Manager daily.

The Balance XML file contains a snapshot of balances from the previous day, which is either the:

- Cut off of card balance up to midnight UK time from the previous day or the equivalent local midnight cut-off time in your country (if your program has the balance xml at midnight setting enabled in Smart Client).[1]
- Balance at the moment the XML is generated, usually around 3:30pm to 6pm UK time, depending on the import of presentment data.

Example 1: Midnight Setting Turned Off

On the Saturday 2nd Jan 2023, a file named *GPS-PPPPbalexp20230101.P1.xml* is generated at 5pm, which contains a snapshot of balances as at the report creation time of 5pm on Saturday.

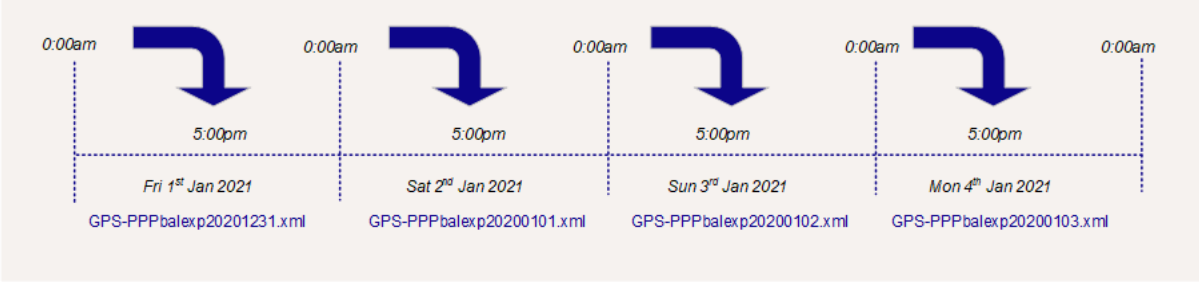

Figure 2: Balance File Reporting Schedule and Filename

Example 2: Midnight Setting Turned On

On the Saturday 2nd Jan 2023, a file named *GPS-PPPPbalexp20230101.P1.xml* is generated at 5pm, which contains a snapshot of balances as at midnight on Friday.

Example 3: Midnight Setting Turned On (Australia)

On the Saturday 2nd Jan 2023, a file named *GPS-PPPPbalexp20230101.P1.xml* is generated at 3am local Australian time. This file contains a snapshot of balances as at midnight Friday UK time (10am on Saturday Australian time).

Card Scheme Considerations

If you want the Balance XML Reports to include Visa and Mastercard transactions, you need to consider the clearing cycles for these card schemes. The clearing cycles can influence the time of day Thredd sends the balance files.

---

[1] The *XMLCutoffUTCtime* setting allows you to set the equivalent local midnight cut-off time in your country, if this differs from the UK time. This setting only applies if the *BalanceXmlAtMidnight* flag is also turned on.

Scheme	Cycle Description
Mastercard	Mastercard has 6 clearing cycles per day, seven days per week. Mastercard sends Thredd the clearing files, which contain the settlement data. Thredd processes all 8 cycles before generating the Balance XML Report with clearing data. Data from cycles 5-8 from the night before and 1-4 from current day form the aggregate data of a settlement day for most regions. The cycles contain all the information you need to reconcile your settlements with Mastercard. For Asia-Pacific clients, Thredd processes cycles 2-8 for the previous day and cycle 1 from the current day, and includes them in the daily Balance XML Report.
Visa	Visa provides two files, Domestic and International, each day with different timings for some regions (for example, Australia and Hong Kong). There is a maximum filesize where, for the largest clients, it is possible that more than one Domestic and/or International file is received on the same day. [1] After processing the files from the card schemes, Thredd creates the Balance XML Report file and sends it to you.
Discover	Clearing occurs once per day.

1.2.2 File Naming Convention

The uses the following naming convention:

On-Premise Customers (P0)

GPS-PPPPbalexpYYYYMMDD.xml

Thredd Cloud (P1 and P2)

GPS-PPPPbalexpYYYYMMDD.Pn.xml

Where:

- PPP= The 3-10 letter XML file prefix set up for your programme.
- YYYY= Year (4 digits)
- MM = Month (2 digits)
- DD = Day (2 digits)
- Pn = Production environment (2 digits), such as P1and P2

For example:

GPS-NWCtxnexp20230131.P1.xml

Note: The production environment variable applies to customers in one of Thredd's AWS Cloud-based production environments (P1 and P2), and does not apply to existing customers in our UK data centre production environment (P0). For details of which production environment is relevant to your programme, check with your implementation manager or account manager.

1.2.3 Encryption and Encoding

XML files are encrypted using Pretty Good Privacy, where keys are shared. 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 follow the correct casing for all XML elements and attribute names when processing the message.

[1]Visa Domestic cycle starts at 9am and the International cycle begins at mid-day. Both cycles happen 7-days a week.

1.3 Balance Data Schema

The Balance Data Schema describes the structure and possible data values of the Thredd Balance Report file.

You can validate the Balance files you receive against the Schema (XSD file) to check it is in the correct format.

The Balance Data Schema is an evolving standard and is subject to change as the standard evolves. When we make changes to the Balance Data Schema, we will implement a new version and notify you.

1.3.1 Schema Versions

The schema is not publicly available. Thredd sends schema files when a new version of the XML is published. The schema filename indicates the schema version number. The schema file contains a comments section with details of version changes.

For an example of the current Balance Data Schema, see Balance XML Schema.

For a history of changes to the Balance Data Schema, see Schema Changes.

Note: For upcoming/future versions of the Balance XML schema, see the XSD Schemas section on the Documentation Portal.

1.3.2 Schema Elements

An XML file conforming to the schema consists of the following elements:

- Primary elements
- Sub-elements and attributes

SECTION 2:
PRIMARY ELEMENTS

This section describes the primary elements in the Balance XML schema for reports.

2.1 Primary Elements

Primary Elements are listed within a <SCHEME> parent element, which defines the top-level entities of the message.

- A SCHEME element can contain multiple ACCOUNT elements
- An ACCOUNT element can contain multiple CARD elements

2.1.1 Balance Report Example showing the Primary Elements

```
<?xml version="1.0" encoding="utf-8"?>
<SCHEME ID="ABC">
  <ACCOUNT>
    …detail ommitted…
    <CARD>…detail ommitted…</CARD>
    <CARD>…detail ommitted…</CARD>
  </ACCOUNT>
  <ACCOUNT>…detail ommitted…</ACCOUNT>
  <ACCOUNT>…detail ommitted…</ACCOUNT>
</SCHEME>
```

2.2 SCHEME

SCHEME records are used to identify the name of scheme used within Thredd. This is a container for the accounts element.

Child Element	Description	Data Type	Required	Constraints/ Permitted Values
ID	The ID attribute identifies the Scheme. This is typically absent for most clients.	xs:string	No	Alphanumeric
ACCOUNT	Account elements describe accounts linked to the Scheme.	ACCOUNT	No	See ACCOUNT

Example

```
<SCHEME>
  <ACCOUNT>
    …detail ommitted…
  </ACCOUNT>
</SCHEME>
```

2.3 ACCOUNT

The ACCOUNT element describes an account, balance and currency information. Cards linked to this account are described inside the CARD element.

An account is included in the Balance report if any of the conditions below are met:

- the account has a non-zero balance
- the account has blocked funds
- the account had a non-zero balance or blocked funds within the last two days

Accounts with a zero balance and no blocked funds will be excluded from the Balance report.

Note: Account Number (ACCNO) and Currency Code (CURRCODE) combine to form a unique record key. Only one instance of an ACCNO/CURRCODE combination can appear in the ACCOUNT element in a Balance report file.

For example:

- You can have two accounts with the same account numbers but different currency codes.
- You cannot have the same account number and the same currency code more than once.

Child Element	Description	Occurs	Data Type	Required	Constraints / Permitted Values
ACCNO	Account number.	1	<ACCNO>	Yes	See ACCNO
CURRCODE	Account 3-letter ISO currency code.	1	<CRDCURRCODE>	Yes	See CRDCURRCODE
ACCTYPE	Account type.	1	<ACCTYPE>	Yes	See ACCTYPE
SORTCODE	Agency Banking sort code (if applicable).	0-1	<SORTCODE>	Optional	See SORTCODE
BANKACC	Agency Banking account number assigned to the card account (if applicable).	0-1	<BANKACC>	Optional	See BANKACC
FEEBAND	Agency Banking Auth Fee Group code (if applicable).	0-1	xs:string	Optional	Alpha, maximum. 10 characters
PAYMENT	Additional payment options activated by card account holder.	0-1	<PAYMENT>	Optional	See PAYMENT
FINAMT	Full account balance. (If negative, will be signed, e.g., -7.00) See the following description on FINAMT	1	xs:decimal	Yes	Decimal value
BLKAMT	Pending authorisations amount. (If negative, will be signed) See the following description on BLKAMT	1	xs:decimal	Yes	Decimal value
AMTAVL	Account balance amount available (i.e., *AMTAVL = FINAMT - BLKAMT*). (If negative, will be signed) See the following description on AMTVAL	1	xs:decimal	Yes	Decimal value
LINKEDTOKEN	If the card is linked to another card with a different account, then the field holds the Thredd public token of the linked card.	0-1	<LINKEDTOKEN>	Optional	See LINKEDTOKEN
CARD	A card linked to this account.	0-n	<CARD>	Optional	See CARD

Each of the three Account Balance child elements (FINAMT, BLKAMT and AMTAVL) can be updated by the following transaction types:

Note: For details of the transaction type records below, refer to the *Transaction XML Reporting Guide*.

2.3.1 FINAMT

- CardFinancial transactions (RecordType ADV & REV)
- CardChrgBackRepRes transactions (RecordType CB, CBREV, REPRES & REPRESREV)
- CardLoadUnload transactions (RecordType LOAD, LOADREV, UNLOAD & UNLOADREV)
- CardFee transactions
- CardBalAdjust (RecType ADV & REV)
- Approved AgencyBanking transactions

2.3.2 BLKAMT

The BLKAMT element

- CardAuthorisation transactions (RecType ADV)
- A subsequent matching CardAuthorisation Reversal (RecType REV)

2.3.3 AMTAVL

AMTAVL = sum of FINAMT less BLKAMT

Example

```
<ACCOUNT>
  <ACCNO>1234567891012145</ACCNO>
  <CURRCODE>GBP</CURRCODE>
  <ACCTYPE>00</ACCTYPE>
  <FINAMT>238.76</FINAMT>
  <BLKAMT>10.00</BLKAMT>
  <AMTAVL>228.76</AMTAVL>
  <CARD>…detail ommitted…</CARD>
  <CARD>…detail ommitted…</CARD>
</ACCOUNT>
```

2.4 CARD

The CARD element describes a card linked to an ACCOUNT element.

Example

Child Element	Description	Occurs	Data Type	Required	Constraints / Values
PAN	Primary Account Number.	1	<PAN>	Yes	See PAN
VIRTUAL	Indicates if the card is a physical or virtual card.	1	<VIRTUAL>	Yes	See VIRTUAL
PRIMARY	Indicates whether or not this is the primary card for the account.	1	<PRIMARY>	Yes	See PRIMARY
CRDPRODUCT	The Card Scheme (payment network), which is either Visa (VISA) or Mastercard (MCRD).Mastercard (MCRD), Visa (VISA), or Discover (DGN).	1	<CRDPRODUCT>	Yes	See CRDPRODUCT
PROGRAMID	The Co-Brand (i.e. Sub-Scheme) that the Program Manager operates.	0-1	<PROGRAMID>	Optional	See PROGRAMID
CUSTCODE	This may be left blank or populated with the last 8 digits of the PAN.	1	<CUSTCODE>	Yes	See CUSTCODE
STATCODE	The status of the card.	1	<STATCODE>	Yes	See STATCODE
EXPDATE	The expiry date assigned when the card is created. This is either the date you specified when creating the card, or, if a date was not specified, it is based on the default Card Scheme (payment network) validity period in months (i.e., 36 months from the date of card creation). This date is embossed on the card.	1	<EXPDATE>	Yes	See EXPDATE
GPSEXPDATE	The expiry date you specified on activation of the card or on card activation and load. If no expiry date is specified, this date is based on the Thredd validity period in days configured at product level (e.g., 1095 days from the date of card activation).	1	<GPSEXPDATE>	Yes	See GPSEXPDATE
CRDACCNO	Account number of the card. This will be the same as the PAN.	1	<CRDACCNO>	Yes	See CRDACCNO
PRIMARYTOKEN	If you are able to receive full PAN details for your cards, then this field provides the full Primary Account Number (PAN) of the card, as follows: • If the card is a primary card, then this field will display the PAN of the primary card • If the card is a secondary card, then this field will display the PAN of the linked primary card **Note**: This field will not be displayed if you do not receive full PAN or this is a Multi-FX card.	1	<PRIMARYTOKEN>	Optional	See PRIMARYTOKEN
CRDCURRCODE	The 3-digit ISO currency code linked to the card.	1	<CRDCURRCODE>	Yes	See CRDCURRCODE
LINKEDTOKEN	If the card is linked to another card with a different account, then this field holds the Thredd public token of the linked card.	0-1	<LINKEDTOKEN>	Optional	See LINKEDTOKEN
PRODUCTID	Indicates the ID (unique numeric identifier) of the Thredd product associated with the card.	1	xs:string	Yes	See PRODUCTID
LASTUPDATED	Timestamp indicating at what point the reported balance was in effect. This is also the date and	1	xs:string	Yes	Maximum 14 characters, DateTime in

Child Element	Description	Occurs	Data Type	Required	Constraints / Values
	time of the last transaction for the current card before the balance report was generated.				the format: *YYYYMMDDHHMMSS*

```
<ACCOUNT>
  …detail ommitted…
  <CARD>
    <PAN>1234567812345678</PAN>
    <VIRTUAL>N</VIRTUAL>
    <PRIMARY>Y</PRIMARY>
    <CRDPRODUCT>ABCD</CRDPRODUCT>
    <PROGRAMID>FEDCBA</PROGRAMID>
    <CUSTCODE></CUSTCODE>
    <STATCODE>00</STATCODE>
    <EXPDATE>2022-01-31</EXPDATE>
    <GPSEXPDATE>2021-01-31</GPSEXPDATE>
    <CRDACCNO>DEF123</CRDACCNO>
    <PRIMARYTOKEN>234321042355666</PRIMARYTOKEN>
    <CRDCURRCODE>GBP</CRDCURRCODE>
    <LINKEDTOKEN>6543210123456789</LINKEDTOKEN>
    <PRODUCTID>9001</PRODUCTID>
    <LASTUPDATED>20190307045701</LASTUPDATED>
  </CARD>
  <CARD>
    <PAN>8765432187654321</PAN>
    <VIRTUAL>N</VIRTUAL>
    <PRIMARY>N</PRIMARY>
    <CRDPRODUCT>ABCD</CRDPRODUCT>
    <PROGRAMID>FEDCBA</PROGRAMID>
    <CUSTCODE></CUSTCODE>
    <STATCODE>00</STATCODE>
    <EXPDATE>2022-01-15</EXPDATE>
    <GPSEXPDATE>2021-01-15</GPSEXPDATE>
    <CRDACCNO>DEF123</CRDACCNO>
    <PRIMARYTOKEN>234321042355666</PRIMARYTOKEN>
    <CRDCURRCODE>GBP</CRDCURRCODE>
    <LINKEDTOKEN>6543210123456789</LINKEDTOKEN>
    <PRODUCTID>9001</PRODUCTID>
    <LASTUPDATED>20181012162432</LASTUPDATED>
  </CARD>
</ACCOUNT>
```

SECTION 3:
SUB-ELEMENTS AND ATTRIBUTES

This section describes the sub-elements and attributes in the Balance XML schema.

3.1 Sub-elements and Attributes

This section describes the message sub-elements and attributes, listed below in alphabetical order.

ACCNO	EXPDATE	PRODUCTID
ACCTYPE	ID	PROGRAMID
BANKACC	LINKEDTOKEN	SORTCODE
CRDACCNO	PAN	STATCODE
CRDCURRCODE	PAYMENT	VIRTUAL
CRDPRODUCT	PRIMARY	
CUSTCODE	PRIMARYTOKEN	

3.1.1 ACCNO

The ACCNO element is used to describe the account number in the ACCOUNT element. This number is the 16-19 digit Thredd public token of the created card, and is generated by Thredd. It uses the ACCNO data type.

Description	Base Data Type	Constraints / Permitted Values
The 16-19 digit Thredd public token of the created card generated by Thredd.	xs:string	Numeric, 16-19 characters.

Example

```
<ACCNO>5432160123456789</ACCNO>
```

3.1.2 ACCTYPE

The ACCTYPE element is used to indicate the type of card account.

Description	Base Data Type	Constraints / Permitted Values
Account card type.	xs:string	Numeric string Valid values are: 00 = Domestic Maestro 01 = Mastercard 02 = Visa 07 = Discover

Example

```
<ACCTYPE>00</ACCTYPE>
```

3.1.3 BANKACC

The BANKACC element indicates the agency banking account number assigned to the cardholder's account.

Description	Base Data Type	Constraints / Permitted Values
Virtual agency bank account number assigned to the cardholder's account.	xs:string	Numeric, 8 characters.

Example

```
<BANKACC>12345678</BANKACC>
```

3.1.4 CRDACCNO

The CRDACCNO is used to describe the account number in the CARD element. It uses the CRDACCNO data type.

Description	Base Data Type	Constraints / Permitted Values
Card Account Number.	Xs:string	Numeric, 16-19 characters

Example

```
<CRDACCNO>5432160123456789</CRDACCNO
```

3.1.5 CRDCURRCODE

- The CURRCODE element indicates the currency the ACCOUNT operates.
- The CRDCURRCODE indicates the currency the CARD operates.

Both elements are based on the CRDCURRCODE data type.

Description	Base Data Type	Constraints / Permitted Values
Currency code (ISO 3 digit).	xs:string	Alphanumeric, maximum 3 characters.

Example

```
<CURRCODE>GBP</CURRCODE>
<CRDCURRCODE>GBP</CRDCURRCODE>
```

3.1.6 CRDPRODUCT

The CRDPRODUCT element is used to indicate the card network, which is either Visa (VISA) or Mastercard (MCRD).

Description	Base Data Type	Constraints / Permitted Values
The Card Scheme (payment network), which is either Visa (VISA) or Mastercard (MCRD).Mastercard (MCRD), Visa (VISA), or Discover (DGN).	xs:string	Alphanumeric, maximum 4 characters.

Example

```
<CRDPRODUCT>MCRD</CRDPRODUCT>
```

3.1.7 CUSTCODE

This may be left blank or populated with the last 8 digits of the PAN.

Description	Base Data Type	Constraints / Permitted Values
This may be left blank or populated with the last 8 digits of the PAN.	xs:string	Numeric, maximum 8 characters.

Example

```
<CUSTCODE>12345678</CUSTCODE>
```

3.1.8 EXPDATE

The EXPDATE element indicates the expiry date of the card as specified when the card is created.

Description	Base Data Type	Constraints / Permitted Values
The expiry date assigned when the card is created. This is either the date you specified when creating the card, or, if a date was not specified, it is based on the default Card Scheme (payment network) validity period in months (e.g., 36 months from the date of card creation). This date is embossed on the card.	xs:string	Alphanumeric, maximum 10 characters, in the format: *YYYY-MM-DD*.

Example

```
<EXPIRYDATE>2021-01-31</EXPIRYDATE>
```

3.1.9 GPSEXPDATE

The GPSEXPDATE element indicates the expiry date of the card as specified when the card is activated.

Description	Base Data Type	Constraints / Permitted Values
The expiry date you specified on activation of the card or on card activation and load. If no expiry date is specified, this date is based on the Thredd validity period in days configured at product level (e.g., 1095 days from the date of card activation). **Note**: If there is an unknown card without an expiry date (primarily found in the event of a BIN attack) Thredd will convert the null Thredd Expiry Date to an empty string.	xs:string	Alphanumeric, maximum 10 characters, in the format: *YYYY-MM-DD*.

Example

```
<GPSEXPIRYDATE>2021-01-31</GPSEXPIRYDATE>
```

3.1.10 ID

The ID attribute identifies the scheme to which the Balance XML data belongs.

Description	Base Data Type	Constraints / Permitted Values
Scheme to which the balance XML belongs. This is typically blank.	xs:string	Alphanumeric, maximum 3 characters.

Example

```
<SCHEME ID="ABC">
```

3.1.11 LINKEDTOKEN

If the card is linked to another card with a different account, then this field holds the Thredd public token of the linked card.

Description	Base Data Type	Constraints / Permitted Values
This field is populated when the card is linked to another card on a different account. If the card is not linked then this element may be	xs:string	Thredd full length public token. Numeric, 16 to 19 digits length.

Description	Base Data Type	Constraints / Permitted Values
omitted (i.e. not presented at all).		

Example

```
<LINKEDTOKEN>6543210123456789</LINKEDTOKEN>
```

```
<MASKEDPAN>556752******6789</MASKEDPAN>
```

3.1.12 PAN

The PAN element is used to indicate the Primary Account Number of a CARD element. If you are not PCI DSS Compliant then will contain the Thredd 16-digit public token.

Description	Base Data Type	Constraints / Permitted Values
Primary Account Number.	xs:string	Numeric, 14 to 19 characters.

Example

```
<PAN>1234567812345678</PAN>
```

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

3.1.13 PAYMENT

The PAYMENT element describes additional payment options selected by the card account holder.

Description	Base Data Type	Constraints / Permitted Values
Additional payment options activated by the card account holder. The code is a combination of the code for activated receipt options and the code for activated payment options.	xs:string	Alphanumeric string of 4 characters. Valid receipt values are: Value | Description R0 | No Receipt Options R1 | BACS Receipts Only R2 | Faster Payment Receipts Only R5 | Both Receipt Options Valid payment values are: Value | Description P0 | No Outbound Options P1 | Outbound Faster Payments Only

Description	Base Data Type	Constraints / Permitted Values
		P2 — Direct Debit Payments Only P5 — Both Outbound Payments Option

Example

```
<PAYMENT>R5P1</PAYMENT>
```

3.1.14 PRIMARY

The PRIMARY element indicates whether or not the card is the Primary card on the account. There can only be one Primary card on a given account.

Description	Base Data Type	Constraints / Permitted Values
Primary Account flag.	xs:string	Valid values: Y = Yes N= No

Example

```
<PRIMARY>Y</PRIMARY>
```

3.1.15 PRIMARYTOKEN

Provides the full Primary Account Number (PAN) of the card.

Note: This field is only available if you receive the full, unencrypted PAN; if you do not receive the full PAN, then this field will not appear.

Description	Base Data Type	Constraints / Permitted Values
Provides the full Primary Account Number (PAN) of the card. • If the card is a primary card, then this field will display the PAN of the primary card • If the card is a secondary card, then this field will display the PAN of the linked primary card	xs:string	Thredd full length PAN. Numeric, 16 to 19 digits length.

Example

```
<PRIMARYTOKEN>234321042355666</PRIMARYTOKEN>
```

3.1.16 PRODUCTID

The PRODUCTID element indicates the ID of product associated with the card.

Description	Base Data Type	Constraints / Permitted Values
The ID of the product associated with the card.	xs:string	Numeric, 5 maximum.

Example

```
<PRODUCTID>1234</PRODUCTID>
```

3.1.17 PROGRAMID

The PROGRAMID element indicates the program to which the card is linked.

Description	Base Data Type	Constraints / Permitted Values
Program Identifier, the Co-Brand (i.e. Sub-Scheme) that the Programme Manager operates.	xs:string	Alphanumeric, maximum 6 characters.

Example

```
<PROGRAMID>FEDCBA</PROGRAMID>
```

3.1.18 SORTCODE

The SORTCODE element indicates the agency banking sort code assigned to the card program.

Description	Base Data Type	Constraints / Permitted Values
Agency banking sort code applicable to the card program.	xs:string	Numeric, 6 characters.

Example

```
<SORTCODE>123456</SORTCODE>
```

3.1.19 STATCODE

The STATCODE element indicates the card status.

Description	Base Data Type	Constraints / Permitted Values
The card status.	xs:string	Numeric, maximum 2 characters, see Card Status Codes.

Example

```
<STATCODE>00</STATCODE>
```

3.1.20 VIRTUAL

The VIRTUAL element indicates whether the card is a physical or a virtual card.

Description	Base Data Type	Constraints / Permitted Values
Physical or virtual card flag.	xs:string	Valid values: Y = Virtual card N = Physical card

Example

```
<VIRTUAL>Y</VIRTUAL>
```

Section 4: Appendices

This section provides a list of appendices.

4.1 Appendices

Refer to the table below for details of available appendices:

Appendix	Description
Card Status Codes	Card status codes.
Balance Report Example	Provides an example of a balance report.
Balance Report XML Schema	Provides a description of the balance report XML schema.

4.2 Card Status Codes

The table below provides details of possible card status codes. These are status values that you can set for a card via Smart Client, Thredd Portal, the Thredd API or the Cards API. For more details, refer to the *Web Services Guide SOAP* or the Cards API website).

Status Code	Description
00	All Good. Indicates that the card is good for use, but does not indicate whether it is active.
02	Card not yet activated
04	Capture card
05	Do not honour
14	Invalid card (if you receive this status, it indicates that this card does not exist on the Thredd system and was used for a fraudulent transaction)
41	Lost card
43	Stolen card
46	Closed account
54	Expired card
57	Transaction not permitted to cardholder
59	Suspected fraud
62	Restricted card
63	Security violation
70	Cardholder to contact Issuer (BIN sponsor).
83	Card destroyed
98	Refund given to customer
99	Card voided
G1	A short-term block which temporarily blocks card usage for all card transactions (excluding Credits and Refunds) for a short period.
G2	Short-term full block (all transactions are blocked).
G3	Long-term block (excluding Credits and Refunds).
G4	Long-term full block (all transactions are blocked).
G5	Thredd Protect: A short-term block which temporarily blocks card usage for all card transactions (excluding Credits and Refunds) for a short period.
G6	Thredd Protect: Short-term full block (all transactions are blocked).
G7	Thredd Protect: Long-term block (excluding Credits and Refunds).

Status Code	Description
G8	Thredd Protect: Long-term full block (all transactions are blocked).
G9	IVR Lost/Stolen block. Non-reversable status, equivalent to status code 41.

4.3 Balance Report Example

Below is an example of a Balance report, containing fictional data. For a description of the XML schema, see Balance Report XML Schema.

```
<?xml version="1.0" encoding="UTF-8"?>
<SCHEME ID="<MadCap:variable name="General.BrandName" xmlns:MadCap="http://www.madcapsoftware.com/Schemas/MadCap.xsd" />">
  <ACCOUNT>
    <ACCNO>3641040414129330</ACCNO>
    <CURRCODE>GBP</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <FINAMT>5.70</FINAMT>
    <BLKAMT>0.00</BLKAMT>
    <AMTAVL>5.70</AMTAVL>
    <LINKEDTOKEN>1234040414129331</LINKEDTOKEN>
    <CARD>
      <PAN>1234040414129330</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>PMT</PROGRAMID>
      <CUSTCODE>14129330</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3641040414129330</CRDACCNO>
      <PRIMARYTOKEN>1234040414129330</PRIMARYTOKEN>
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <LINKEDTOKEN>3641040414129330</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190306141804</LASTUPDATED>
    </CARD>
    <CARD>
      <PAN>1234241730512284</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>N</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>PMT</PROGRAMID>
      <CUSTCODE>30512284</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3641040414129330</CRDACCNO>
      <PRIMARYTOKEN>1234241730512284</PRIMARYTOKEN>
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <LINKEDTOKEN>3641040414129330</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190128010438</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
    <ACCNO>1234002317022966</ACCNO>
    <CURRCODE>GBP</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <FINAMT>28.45</FINAMT>
    <BLKAMT>0.00</BLKAMT>
    <AMTAVL>28.45</AMTAVL>
    <CARD>
      <PAN>1234002317022966</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>PMT</PROGRAMID>
      <CUSTCODE>17022966</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3641002317022966</CRDACCNO>
      <PRIMARYTOKEN>1234002317022966</PRIMARYTOKEN>
```

```
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190207204750</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
    <ACCNO>3213425220704785</ACCNO>
    <CURRCODE>EUR</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <FINAMT>-7.00</FINAMT>
    <BLKAMT>0.00</BLKAMT>
    <AMTAVL>-7.00</AMTAVL>
    <LINKEDTOKEN>3213425220704785</LINKEDTOKEN>
    <CARD>
      <PAN>3213366722963138</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>N</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>448</PROGRAMID>
      <CUSTCODE>22963138</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3213425220704785</CRDACCNO>
      <PRIMARYTOKEN>3213425220704785</PRIMARYTOKEN>
      <CRDCURRCODE>EUR</CRDCURRCODE>
      <LINKEDTOKEN>3213425220704785</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190301063737</LASTUPDATED>
    </CARD>
    <CARD>
      <PAN>3213425220704785</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>448</PROGRAMID>
      <CUSTCODE>20704785</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3213425220704785</CRDACCNO>
      <CRDCURRCODE>EUR</CRDCURRCODE>
      <PRIMARYTOKEN>3213425220704785</PRIMARYTOKEN>
      <LINKEDTOKEN>3213425220704785</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190303181455</LASTUPDATED>
    </CARD>
    <CARD>
      <PAN>3219518230396859</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>N</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>448</PROGRAMID>
      <CUSTCODE>30396859</CUSTCODE>
      <STATCODE>00</STATCODE>
     <EXPDATE>2022-01-31</EXPDATE>
     <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>3213425220704785</CRDACCNO>
      <CRDCURRCODE>EUR</CRDCURRCODE>
      <PRIMARYTOKEN>3213425220704785</PRIMARYTOKEN>
      <LINKEDTOKEN>3213425220704785</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190129051659</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
    <ACCNO>5276026307791793</ACCNO>
    <CURRCODE>GBP</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <FINAMT>5.00</FINAMT>
    <BLKAMT>0.00</BLKAMT>
```

```
    <AMTAVL>5.00</AMTAVL>
    <LINKEDTOKEN>5273593578585571</LINKEDTOKEN>
    <CARD>
      <PAN>5276026307791793</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>N</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>PMT</PROGRAMID>
      <CUSTCODE>07791793</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
     <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>5273593578585571</CRDACCNO>
      <PRIMARYTOKEN>5273593578585571</PRIMARYTOKEN>
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <LINKEDTOKEN>5273593578585571</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190226112604</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
    <ACCNO>5273593578585571</ACCNO>
    <CURRCODE>GBP</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <FINAMT>2.75</FINAMT>
    <BLKAMT>0.00</BLKAMT>
    <AMTAVL>2.75</AMTAVL>
    <LINKEDTOKEN>5273593578585571</LINKEDTOKEN>
    <CARD>
      <PAN>5273593578585571</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>PMT</PROGRAMID>
      <CUSTCODE>78585571</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>5273593578585571</CRDACCNO>
      <PRIMARYTOKEN>5273593578585571</PRIMARYTOKEN>
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <LINKEDTOKEN>5273593578585571</LINKEDTOKEN>
      <PRODUCTID>1234</PRODUCTID>
      <LASTUPDATED>20190113231425</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
    <ACCNO>4321000987654321</ACCNO>
    <CURRCODE>USD</CURRCODE>
    <ACCTYPE>02</ACCTYPE>
    <FINAMT>-15.81</FINAMT>
    <BLKAMT>0.00</BLKAMT>
    <AMTAVL>-15.81</AMTAVL>
    <CARD>
      <PAN>4321000987654321</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>VISA</CRDPRODUCT>
      <PROGRAMID>EXVUSD</PROGRAMID>
      <CUSTCODE>78636420</CUSTCODE>
      <STATCODE>14</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>4321000987654321</CRDACCNO>
      <PRIMARYTOKEN>4321000987654321</PRIMARYTOKEN>
      <CRDCURRCODE>USD</CRDCURRCODE>
      <PRODUCTID>4321</PRODUCTID>
      <LASTUPDATED>20190226010433</LASTUPDATED>
    </CARD>
  </ACCOUNT>
  <ACCOUNT>
```

```
    <ACCNO>5679871234554321</ACCNO>
    <CURRCODE>GBP</CURRCODE>
    <ACCTYPE>01</ACCTYPE>
    <SORTCODE>012345</SORTCODE>
    <BANKACC>12345678</BANKACC>
    <FEEBAND>SAMPLE-AB</FEEBAND>
    <PAYMENT>R5P1</PAYMENT>
    <FINAMT>19.20</FINAMT>
    <BLKAMT>17.00</BLKAMT>
    <AMTAVL>2.20</AMTAVL>
    <CARD>
      <PAN>1234871234554321</PAN>
      <VIRTUAL>N</VIRTUAL>
      <PRIMARY>Y</PRIMARY>
      <CRDPRODUCT>MCRD</CRDPRODUCT>
      <PROGRAMID>SAMPLE</PROGRAMID>
      <CUSTCODE>05623001</CUSTCODE>
      <STATCODE>00</STATCODE>
      <EXPDATE>2022-01-31</EXPDATE>
      <GPSEXPDATE>2021-01-31</GPSEXPDATE>
      <CRDACCNO>5679871234554321</CRDACCNO>
      <PRIMARYTOKEN>1234871234554321</PRIMARYTOKEN>
      <CRDCURRCODE>GBP</CRDCURRCODE>
      <PRODUCTID>1235</PRODUCTID>
      <LASTUPDATED>20190303160638</LASTUPDATED>
    </CARD>
  </ACCOUNT>
</SCHEME>
```

4.4 Balance Report XML Schema

Below is a copy of the latest Balance Report XML schema.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns="" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:msdata="urn:schemas-microsoft-com:xml-msdata"
           id="Balances">
    <xs:complexType name="CARD">
        <xs:sequence>
            <xs:element name="PAN" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:minLength value="14"/>
                        <xs:maxLength value="19"/>
                        <xs:pattern value="^\d+$"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="MaskedPAN" minOccurs="0" maxOccurs="1" nillable="true">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="16"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="VIRTUAL" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:enumeration value="Y"/>
                        <xs:enumeration value="N"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="PRIMARY" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:enumeration value="Y"/>
                        <xs:enumeration value="N"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="MVC" minOccurs="0" maxOccurs="1" nillable="true">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:enumeration value="Y"/>
                        <xs:enumeration value="N"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="CRDPRODUCT" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="4"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="PROGRAMID" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="6"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="CUSTCODE" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="8"/>
                    </xs:restriction>
                </xs:simpleType>
```

```
            </xs:element>
            <xs:element name="STATCODE" type="STATCODE" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="EXPDATE" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="10"/>
                        <xs:pattern value="^(20)\d\d[- /.](0[1-9]|1[012])[- /.](0[1-9]|[12][0-9]|3[01])$"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="GPSEXPDATE" minOccurs="0" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="10"/>
                        <xs:pattern value="^$|^(20)\d\d[- /.](0[1-9]|1[012])[- /.](0[1-9]|[12][0-9]|3[01])$"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="CRDACCNO" type="ACCNO" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="PRIMARYTOKEN" minOccurs="0" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:minLength value="15"/>
                        <xs:maxLength value="19"/>
                        <xs:pattern value="^\d+$"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="CRDCURRCODE" type="CRDCURRCODE" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="LINKEDTOKEN" type="xs:decimal" minOccurs="0" maxOccurs="1" nillable="false"/>
            <xs:element name="PRODUCTID" minOccurs="0" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="5"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="LASTUPDATED" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:pattern value=""/>
                        <xs:maxLength value="14"/>
                        <xs:pattern
                                value="([2-9]\d{3}((0[1-9]|1[012])(0[1-9]|1\d|2[0-8])|(0[13456789]|1[012])(29|30)|(0[13578]|1
[02])31)|(([2-9]\d)(0[48]|[2468][048]|[13579][26])|(([2468][048]|[3579][26])00))0229)([0-1][0-9]|[2][0-3])([0-5][0-9])([0-5][0-
9])"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="ACCOUNT">
        <xs:sequence>
            <xs:element name="ACCNO" type="ACCNO" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="CURRCODE" type="CRDCURRCODE" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="ACCTYPE" minOccurs="1" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:enumeration value="00"/>
                        <xs:enumeration value="01"/>
                        <xs:enumeration value="02"/>
                        <xs:enumeration value="07"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="SORTCODE" type="SORTCODE" minOccurs="0" maxOccurs="1" nillable="false"/>
            <xs:element name="BANKACC" type="BANKACC" minOccurs="0" maxOccurs="1" nillable="false"/>
            <xs:element name="FEEBAND" minOccurs="0" maxOccurs="1" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="10"/>
```

```
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="PAYMENT" type="PAYMENT" minOccurs="0" maxOccurs="1" nillable="false"/>
            <xs:element name="FINAMT" type="xs:decimal" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="BLKAMT" type="xs:decimal" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="AMTAVL" type="xs:decimal" minOccurs="1" maxOccurs="1" nillable="false"/>
            <xs:element name="LINKEDTOKEN" type="xs:decimal" minOccurs="0" maxOccurs="1" nillable="false"/>
            <xs:sequence minOccurs="0" maxOccurs="unbounded">
                <xs:element name="CARD" type="CARD"/>
            </xs:sequence>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="SCHEME">
        <xs:sequence maxOccurs="unbounded">
            <xs:element name="ACCOUNT" type="ACCOUNT"/>
        </xs:sequence>
        <xs:attribute name="ID" use="optional">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:maxLength value="3"/>
                    <xs:pattern value="^(([A-Za-z0-9]|\s){3})$"/>

                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
    </xs:complexType>
    <xs:simpleType name="ACCNO">
        <xs:restriction base="xs:string">
            <xs:maxLength value="28"/>
        </xs:restriction>

    </xs:simpleType>
    <xs:simpleType name="STATCODE">
        <xs:restriction base="xs:string">
            <xs:enumeration value="00"/>
            <xs:enumeration value="01"/>
            <xs:enumeration value="02"/>
            <xs:enumeration value="03"/>
            <xs:enumeration value="04"/>
            <xs:enumeration value="05"/>
            <xs:enumeration value="06"/>
            <xs:enumeration value="08"/>
            <xs:enumeration value="10"/>
            <xs:enumeration value="12"/>
            <xs:enumeration value="13"/>
            <xs:enumeration value="14"/>
            <xs:enumeration value="15"/>
            <xs:enumeration value="17"/>
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```
</xs:schema>
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4.4.1 Schema Changes for Balance XML Reporting

Refer to the list of changes below.

Version	Description
V1.14	ISO currency codes and ISO country codes removed.
V1.13	Added the following codes to the schema: CUW, SXM, XCG.
V1.12	Added Discover card type to the ACCTYPE element. Updated minimum length requirement of PAN in <Card> to 14 digits. Added new ISO currency code: 924
V1.11	Added missing STATCODE values: G1,G2,G3,G4,G5,G6,G7,G8,G9,93,6P,59 & 46.
V1.10	Added the ability to accept empty strings in the GPSEXPDATE.
V1.09	Added a new field PRIMARYTOKEN.
V1.08	Added a new field GPSEXPDATE.
V1.07	Spaces added as SchemeID are allowed.
V1.06	Thredd Balance XML Schema for normal balance file

General FAQs

This section provides answers to frequently asked questions.

Types of Reports

What type of reports does Thredd provide?

Thredd provides the following reports to Program Managers:

- Transaction reports
- Balance reports

Note:
For Issuers (BIN sponsors) 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

Can I configure the details provided in each report?

No, the Thredd reports are standard. If you require bespoke reports, please speak to your account manager.

How often are reports provided? Can I change this?

The Thredd reports are provided daily. For specific details regarding report timing, please speak to your account manager.

For more frequent transaction information, we recommend you use the External Host Interface (EHI) which provides transaction reporting in real-time.

Thredd provides reports of card balances according to preset UTC times in the past 24 hours, rather than at any time that you require.

How are reports provided to customers?

The daily reports are provided via sFTP. This is on a push only basis.

How often do you change the fields in the report?

Thredd will add new fields to the report in line with updates from the Card Schemes (payment network) or to reflect other changes relevant to the payments industry or our service. Currently the payment networks are Visa and Mastercard Mastercard, Visa, and Discover.

When we make changes to the reports, we will update the technical documentation and notify you of the change.

Are reports encrypted?

Yes. Reports are encrypted 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. See Balance Report XML Schema. We currently do not provide the XML version within the XML report.

How large is a typical report?

This is based on the number of your transactions and can be anything from 1Kb to 2GB. We will split up anything larger than 2GB into smaller files: eg., *filename.001*, *filenename.002* and so on.

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

Reports are stored for up to 2 calendar days on the sFTP server, after which they are deleted from the sFTP server. We keep an archive of historical files for a limited period. For access to historical files, please raise a JIRA request.

How can I use the reports?

You can use them to do the following:

- Update to your card balance/transaction database
- For card balance/transaction reconciliation purposes

Why is there a difference between the balance reported in the balance XML file and that in Smart Client?

For balance XML reports, a primary card shares the balance with secondary cards. In these scenarios, Thredd shows the combined balance of the primary card and all of its secondary cards. However, in Smart Client, a card's balance is its own balance only. This means Smart Client does not include the balance of any linked secondary cards.

For example, reported balance on a primary card:

- In Balance XML file: EUR 10,245.55
- In Smart Client: EUR 10,176.55
- Discrepancy: EUR 69.00

The difference of 69 EUR is the balance of the secondary token.

Note: This behaviour does not apply to Thredd portal as Thredd portal can share the balance between Primary and Secondary cards.

Glossary

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

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.

B

BIN Attack

A BIN attack is a type of BIN scamming in which a fraudster takes the first six numbers and runs software to generate the rest of the numbers. After the fraudster identifies a full account number, they will test it via credit card testing.

C

Card Scheme (Network)

Card payment 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 (BIN sponsor) transfers the requested settlement amount to the acquirer and 'clears' the amount on the card, reducing the available card balance accordingly.

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 processor or other member to identify the member in the transaction.

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 (payment network).

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.

P

Pretty Good Privacy (PGP),

An encryption program that provides cryptographic privacy and authentication for data communication.

Program Manager

A Thredd 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.

Q

Quarterly Management Report

Quarterly Management Report which Issuers (BIN sponsors) send to their Card Scheme (payment network) on a quarterly basis. Contact your Scheme for details.

S

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 for managing your account on the Thredd 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.

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) Balance XML Reports

A UTC Balance XML Report allows a client to receive reports from Thredd at preset UTC times.

Document History

This section provides details of what has changed since in each document release.

Version	Date	Reason	Who
2.0.6	12/06/2025	Added new Balance XML schema where country and currency codes are removed (see Balance Report XML Schema). Removed country and currency codes reference sections.	KD
	10/04/2025	Added currency code for the Caribbean Guilder currency (XCG) for Curacao and Sint Maartens that replaces Netherlands Antillean guilder (see ISO Currency Codes). Added Curacao and Sint Maartens to the currency list for this new currency.	KD
	11/02/2025	Added references to Thredd Portal, our new web application for managing your cards and transactions.	KD
	03/02/2025	Added an FAQ to explain differences between the balance reporting in the balance XML file and the balance in Smart Client for Primary and Secondary cards. See the FAQs.	WS
	21/11/2024	Updated minimum length requirement of PAN in <Card> to 14 digits. Added new ISO currency code: 924. See PRN-196 and PRN-197	KD
	22/10/2024	Added Discover card type to the ACCTYPE element within the schema. See PRN-194.	KD
	30/07/2024	Added Discover Global Network information	PC
	26/06/2024	Updated the company address.	PC
2.0.6	30/05/2024	Updated name from new Balance XML reports to Global Balance Reports.	
	21/05/2024	Added details on the time settings in File Sending Schedule.	KD
2.0.5	17/05/2024	Changed the title of the guide to reflect that Balance XML reports are new.	KD
	10/05/2024	Improved descriptions of new Balance XML reports.	KD
	21/03/2024	Updates to content and graphics to align with taxonomy updates on our Documentation Portal.	KD
	27/02/2024	Updated the description of the BLKAMT field. See the ACCOUNT element.	WS
	31/05/2023	Updated Operations email address to be occ@thredd.com	MW
	27/04/2023	Guide rebrand to reflect new company name and brand identity.	WS
2.0.4	28/02/2023	Added Chinese Offshore Renminbi (currency code CNH) to the list of supported currencies. See Currency Codes.	WS
	25/01/2023	Update to the description of the XML report file naming convention. See Balance Data Files.	WS
	20/01/2023	Update to description of frequency of XML reports in FAQs section.	WS
	01/12/2022	Updated the Copyright Statement	MW
2.0.3	28/10/2022	Added a description of the Thredd 16-digit public token.	WS

Version	Date	Reason	Who
	12/10/2022	Updates to description of when the balance XML files can be generated. Updates to the Balance XML filename format to include details of the applicable Production environment. See Balance Data Files.	WS
	29/06/2022	Updates made to Introduction (QMR section) and Transactional Data Files (Sending of Files section).	JB
2.0.2	08/04/2022 09/05/2022	Added the following missing STATCODE values to the XML schema: G1,G2,G3,G4,G5,G6,G7,G8,G9,93,6P,59 & 46. See Status Codes. New field PRIMARYTOKEN added to the CARD element, which shows the full Primary Account Number (PAN) of the card; If this is a secondary card, shows the full PAN of the linked primary card. See PRN-109. Added the ability to accept empty strings in the GPSEXPDATE. Added details of the *XMLCutoffUTCtime* setting, which allows you to set the equivalent local midnight cut-off time for receiving balance XML reports if the time zone in your country differs from the UK time. See Balance Data Files. Added a link to the Downloads page on the Documentation Portal, where you can view and download upcoming/future schema versions.	WS
2.0.1	23/08/2021 01/10/2021	New *GPSEXPDATE* field added to the CARD element. See PRN-60. Updates to Card Satus Codes. See PRN-48.	WS
2.0	09/06/2021	Major revamp to look and feel and organisation of the guide. Rewrite of content to simplify and make the guide easier to use.	WS
1.08	24/07/2020	Changed SchemeID, ProgramID and statcode as per DEV_REPORTING-396.	DM
1.07	11/05/2020	Updated Balance Data Files - Reporting Contents Description.	VS
1.06	10/06/2019	Added CRDACCNO description.	IF
1.05	08/03/2019	Added PRODUCTID and LASTUPDATED to the CARD element.	IF
1.04	16/04/2018	Updated Appendix B - Card Status Codes.	IF
1.01	12/09/2016	Added fields for Agency Banking and further corrections and small changes.	IF
1.0	23/08/2010	Initial draft.	IF

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