SMARTVISTA EXCHANGE PROTOCOL OF RECONCILIATION (SVXP RCN)

API developer reference

December, 2017

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1. PREFACE
   1. Revision history

| Revision | Date | Author | Details |
| --- | --- | --- | --- |
| 0.1 | 28.12.2017 | Serov Alexey | Initial version |

* 1. Document purpose

SmartVista Exchange Protocol for host-to-host interaction is a reference manual for developers who are implementing API of the SmartVista solution. This document is written for internal use of BPC and BPC Customers developers. The document describes the content and the structure of the API.

It is supposed document users to be familiar with financial transactions, communications and XML data format.

1. SMARTVISTA INTEGRATION SERVICES OVERVIEW

SmartVista Exchange Protocol for reconciliation interaction (SVXP RCN hereafter) provides a description of the file formats of information exchange between Smartvista and external card management systems or banking system or providers. File format xml. For each format will be described in this document, XML Schema Definition language (XSD) and provided examples.

1. RECONCILIATION CBS FILE STRUCTURE
   1. Overview

The file contains comprehensive information on transactions for reconciliation.

The direction of the file may be INCOMING only.

* 1. References

Example of xml document with most common operation:

svxp\_reconciliation\_in\_example.xml – incoming payment operation

* 1. List of elements

| Tag | Type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| reconciliation | | | | |
| file\_type | string | 8 | 1-1 | Type of incoming file. Describe the purpose of data in file. Dictionary FLTP. |
| start\_date | date |  | 0-1 | Start date of period which represented in file. The date include the date and time. |
| end\_date | date |  | 0-1 | Represented period end date. The date include the date and time. |
| inst\_id | int | 4 | 0-1 | Identifier of partner (system) which related with operations. |
| recon\_type | string | 8 | 1-1 | Operation type. Dictionary RCNT |
| operation | operation |  | 1-\* | Operation data |
| operation | | | | |
| oper\_type | string | 8 | 1-1 | Operation type. Dictionary OPTP |
| msg\_type | string | 8 | 0-1 | Message type. Dictionary MSGT |
| sttl\_type | string | 8 | 0-1 | Settlement type. Dictionary STTT |
| oper\_date | date |  | 1-1 | Date when operation occurs |
| oper\_amount | amount |  | 1-1 | Original operation amount |
| oper\_request\_amount | amount |  | 0-1 | Operation requested amount in operation currency |
| oper\_surcharge\_amount | amount |  | 0-1 | Operation surcharge amount |
| additional\_amount | additional\_amount |  | 0-\* | Operation’s additional amounts |
| originator\_refnum | string | 36 | 0-1 | Reference number generated by originator of operation |
| network\_refnum | string | 36 | 0-1 | Reference number incoming from external network |
| acq\_inst\_bin | string | 12 | 0-1 | Acquirer BIN |
| status | string | 8 | 0-1 | Authorization status. Dictionary OPST |
| is\_reversal | int | 1 | 1-1 | 0 – operation is not reversal  1 – operation is reversal |
| merchant\_number | string | 15 | 0-1 | Merchant number |
| mcc | string | 4 | 0-1 | Merchant category code |
| merchant\_name | string | 200 | 0-1 | Merchant name |
| merchant\_street | string | 200 | 0-1 | Merchant street address |
| merchant\_city | string | 200 | 0-1 | Merchant’s city |
| merchant\_region | string | 3 | 0-1 | Region of merchant |
| merchant\_country | string | 3 | 0-1 | Country of merchant |
| merchant\_postcode | string | 10 | 0-1 | Merchant’s postal code |
| terminal\_type | string | 8 | 0-1 | Terminal type. Dictionary TRMT |
| terminal\_number | string | 8 | 0-1 | Terminal number |
| acq\_inst\_id | int | 4 | 0-1 | Identifier of participant acquirer. |
| card\_number | string | 19 | 0-1 | Card number |
| card\_seq\_number | int | 4 | 0-1 | Card sequential number |
| card\_expir\_date | date |  | 0-1 | Card expiration date |
| card\_country | string | 3 | 0-1 | Card country |
| iss\_inst\_id | int | 4 | 0-1 | Identifier of participant institution. |
| auth\_code | string | 6 | 0-1 | Auth code |
| amount | | | | |
| amount\_value | long | 16 | 1-1 | Amount value expressed in minimal currency units |
| currency | string | 3 | 1-1 | Amount currency |
| **additional\_amount** | | | | |
| amount\_value | long | 22 | 1-1 | Additional amount’s value |
| currency | string | 3 | 1-1 | Additional amount’s currency code |
| amount\_type | string | 8 | 1-1 | Amount’s type, it is a dictionary article (dictionaries AMPR, FETP, BLTP, LMTP, etc.) |

* + 1. RECONCILIATION

It is the root tag of the reconciliation file. It contains a set of operations.

FILE\_TYPE

Determines type of file data in the file. The same type of file can define a set of mandatory fields (for different types of it can vary) and the corresponding loader for him.

|  |  |
| --- | --- |
| Code | Description |
| FLTP2100 | Operations for reconciliation |

START\_DATE

Date of beginning of the period which includes transactions presented in the file. The date include the date and time.

END\_DATE

End of the period which includes transactions presented in the file. The date include the date and time.

INST\_ID

Institution identifier (participant of the processing), which own operations in the file.

RECON\_TYPE

Reconciliation type. Dictionary:

| Code | Description |
| --- | --- |
| RCNTCOMM | A common reconciliation for both sides issuer and acquirer |

* + 1. OPERATION

Tag contains general information about the operation and combines the financial data of all transactions.

OPER\_TYPE

Type of operation. Determines the purpose and method of processing the operation.

| Code | Description |
| --- | --- |
| OPTP0000 | Purchase |
| OPTP0001 | ATM Cash withdrawal |
| OPTP0009 | Purchase with casback |
| OPTP0010 | P2P Debit |
| OPTP0011 | P2P |
| OPTP0012 | POS Cash advance |
| OPTP0018 | Unique Transaction (Quasi Cash) |
| OPTP0019 | Fee collection (credit to originator) |
| OPTP0020 | Purchase return (Credit) |
| OPTP0022 | Cash-In |
| OPTP0025 | Envelope deposit |
| OPTP0026 | P2P Credit |
| OPTP0027 | Payment notification |
| OPTP0028 | Payment transaction |
| OPTP0029 | Fee collection (debit to originator) |
| OPTP0030 | Balance inquiry |
| OPTP0031 | Customer inquiry |
| OPTP0032 | Customer check |
| OPTP0038 | Statement request |
| OPTP0039 | Mini statement request |
| OPTP0040 | Customer account funds transfer |
| OPTP0041 | Internal account funds transfer |
| OPTP0042 | Foreign account funds transfer |
| OPTP0043 | Funds transfer credit |
| OPTP0044 | Fund transfer to other bank |
| OPTP0045 | Fund transfer to cash by card |
| OPTP0046 | Fund transfer to cash by cash |
| OPTP0047 | Cash deposit by cash |
| OPTP0048 | Cash by code (Remittance cash withdrawal) |
| OPTP0060 | Service provider payment |
| OPTP0061 | Service provider payment by agent |
| OPTP0070 | PIN Change |
| OPTP0071 | PIN unblock |
| OPTP0110 | Fund transfer debit |
| OPTP0111 | Fund transfer to external |
| OPTP0119 | Issuer fee |
| OPTP0126 | Fund transfer credit |
| OPTP0171 | Change card status |
| OPTP0172 | Change account status |
| OPTP0173 | Attach service |
| OPTP0174 | Detach service |
| OPTP0219 | Acquirer fee |
| OPTP0244 | Currency exchange |
| OPTP0250 | Settlement totals of the terminal |
| OPTP0251 | Clerk totals of the terminal |
| OPTP0252 | Change terminal status |
| OPTP0253 | Change merchant status |
| OPTP0319 | Institution fee |
| OPTP0400 | Debit account |
| OPTP0401 | Set account balance |
| OPTP0402 | Account debit adjustment |
| OPTP0403 | Set entity limit |
| OPTP0412 | Cash withdrawal from account |
| OPTP0422 | Account credit adjustment |
| OPTP0423 | Debit the Assigned exceed limit |
| OPTP0428 | Credit account |
| OPTP0432 | Counterparty account debit adjustment |
| OPTP0690 | Create virtual card |
| OPTP0801 | ATM cassettes setup 1 |
| OPTP0802 | ATM cassettes setup 2 |
| OPTP0803 | ATM settlement |
| OPTP0804 | ATM reset |
| OPTP0805 | ATM receipts setup |
| OPTP0806 | ATM cash adjustment |
| OPTP1001 | Providing credit limit |
| OPTP1100 | Loyalty points purchase |
| OPTP1102 | Manual loyalty points redemption |
| OPTP1122 | Manual loyalty points enrollment |
| OPTP1128 | Loyalty points earning |
| OPTP1500 | DPP purchase |
| OPTP1501 | DPP registration |
| OPTP1600 | Priority Pass Lounge Visit |
| OPTP5011 | Payment to unregistered communication ID |
| OPTP5012 | Payment to registered communication ID |
| OPTP5013 | Scartel write off |

MSG\_TYPE

Financial message type.

| Code | Description |
| --- | --- |
| MSGTACBK | Arbitration chargeback |
| MSGTAUTH | Authorization |
| MSGTBTCH | Batch upload |
| MSGTCHBK | Chargeback |
| MSGTCMCL | Completion cancelation |
| MSGTCMPL | Authorization completion |
| MSGTCNCL | Cancelation |
| MSGTCPPE | Chargeback protection period extension request |
| MSGTFPST | Forced post |
| MSGTFRDR | Fraud reporting |
| MSGTPACC | Partial amount, completion |
| MSGTPAMC | Partial amount, multi-clearing |
| MSGTPRES | Presentment |
| MSGTPREU | Preauthorization |
| MSGTREPR | Representment |
| MSGTRLBK | Rollback |
| MSGTRTRA | Retrieval request Acknowledgement |
| MSGTRTRQ | Retrieval request |
| MSGTSCDL | Authorization schedule registration |
| MSGTSPLT | Split |
| MSGTSTAT | Authorization status |
| MSGTVALD | Authorization validation |
| MSGTWFNG | Write-off negative |
| MSGTWFPS | Write-off positive |

STTL\_TYPE

Type of settlement depends on the accessory to the participants involved in the operation processing. Value based on dictionary STTT.

| Code | Description |
| --- | --- |
| STTT0000 | Internal |
| STTT0001 | Internal intrainstitution |
| STTT0002 | Internal interinstitution |
| STTT0010 | US-ON-US |
| STTT0011 | Intrainstitution US-ON-US |
| STTT0012 | Interinstitution US-ON-US |
| STTT0100 | US-ON-THEM |
| STTT0200 | THEM-ON-US |
| STTT0300 | THEM-ON-THEM |
| STTT1001 | US-ON-Domestic |
| STTT5001 | Us-On-CSC |
| STTT5002 | CSC-On-Us |

OPER\_DATE

Date of the transaction by the client. The date of the transaction by the client.

HOST\_DATE

Date of transaction processing in the system. The date of creating operations in SV2.

**OPER\_COUNT**

Operations count. If the value oper\_count is null, the default value will be set 1. In some cases, it may come as batch of operations as one record. Count of operation is used to set limit of count and calculate fees.

OPER\_AMOUNT

Original amount of operation.

AMOUNT\_VALUE

The value of the amount in minimum denominations of currency.

CURRENCY

The currency of the transaction amount. Numeric ISO currency code.

ORIGINATOR\_REFNUM

A unique identifier generated by the initiator of the transaction.

NETWORK\_REFNUM

The unique identifier of the operation generated by network which exterior to the SmartVista.

ACQ\_INST\_BIN

The ID of the acquiring institution in acquiring network.

STATUS

Authorization status (OPST dictionary).

| Code | Description |
| --- | --- |
| OPST0001 | Online incomplete |
| OPST0100 | Ready to process |
| OPST0101 | Does not require processing |
| OPST0102 | Frozen for manual processing |
| OPST0103 | Duplicate |
| OPST0104 | Declined by checker |
| OPST0107 | Merged |
| OPST0110 | Waits for clearing upload |
| OPST0120 | Waits for settlement confirmation |
| OPST0130 | Waits activation |
| OPST0140 | Waits for checker confirmation |
| OPST0200 | Wrong data |
| OPST0300 | Corrected |
| OPST0400 | Processed |
| OPST0401 | Presentment processed |
| OPST0402 | Unholded |
| OPST0403 | Authorized |
| OPST0404 | Processed without entries |
| OPST0500 | Processing error |
| OPST0501 | Unsuccessful authorization |
| OPST0600 | No rules selected |
| OPST0700 | Rejected |
| OPST0800 | Processed, awaits unhold |
| OPST0850 | Processed, partial unholded |
| OPST5001 | Awaiting closure invoice |

IS\_REVERSAL

Reversal flag of an operation:

0 – operation is not reversal;

1 – operation is reversal.

MERCHANT\_NUMBER

Merchant number received from payment network.

MCC

Merchant Category Code.

MERCHANT\_NAME

Merchant name registered in payment network.

MERCHANT\_STREET

Merchant street.

MERCHANT\_CITY

Merchant city.

MERCHANT\_REGION

Merchant region – two or three character code.

MERCHANT\_COUNTRY

Merchant country. Numeric ISO country code.

MERCHANT\_POSTCODE

Merchant postal code.

TERMINAL\_TYPE

Terminal type.

| Code | Description |
| --- | --- |
| TRMT0001 | Imprinter |
| TRMT0002 | ATM |
| TRMT0003 | POS |
| TRMT0004 | ePOS |
| TRMT0005 | Mobile |
| TRMT0006 | Internet |
| TRMT0007 | Mobile POS |
| TRMT0008 | Info-kiosk |
| TRMT0009 | Transponder |

TERMINAL\_NUMBER

Terminal number.

CARD\_NUMBER

Card number used in operation.

CARD\_SEQ\_NUMBER

The sequence number for the plastic card number.

CARD\_EXPIR\_DATE

Card expiration date.

INST\_ID

Identifier of institution which owns the customer participated in operation.

AUTH\_CODE

The authorization code received by participants as a result of the successful operation processing.

1. RECONCILIATION PROVIDER FILE STRUCTURE
   1. Overview

The file contains comprehensive information on payment orders for reconciliation between SV and service providers.

The direction of the file may be INCOMING or OUTGOING.

* 1. References

Format of payment operation file described by XSD file.

XSD: svxp\_reconciliation\_srvp.xsd

Example of xml document with most common payment operations:

svxp\_reconciliation\_srvp\_in\_example.xml – incoming payment operation

svxp\_reconciliation\_srvp\_out\_example.xml – outgoing payment operation

* 1. List of elements

| Tag name | Data type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| reconciliation | | | | |
| file\_type | string | 8 | 1-1 | Type of incoming file. Describe the purpose of data in file. Dictionary FLTP. FLTP2300 – Service provider reconciliation |
| inst\_id | int | 4 | 0-1 | Institution ID |
| start\_date | date |  | 0-1 | Start date of period which represented in file. The date include the date and time. |
| end\_date | date |  | 0-1 | Represented period end date. The date include the date and time. |
| recon\_type | string | 8 | 1-1 | Operation type. Dictionary RCNT |
| payment\_order | payment\_order |  | 1-\* | Information about payment orders |
| payment order | | | | |
| order\_id | long | 16 | 0-1 | Payment order id |
| payment\_order\_number | string | 200 | 1-1 | Payment order number |
| order\_date | date |  | 1-1 | Date of payment order |
| order\_amount | amount |  | 1-1 | Amount of payment order |
| customer\_number | string | 200 | 0-1 | Service provider customer number |
| purpose\_number | string | 200 | 1-1 | Payment purpose external number |
| purpose\_id | int | 8 | 0-1 | ID of payment order purpose |
| provider\_number | string | 200 | 1-1 | Service provider external number |
| order\_status | string | 8 | 0-1 | Payment order status. Dictionary POSA (Processed, Canceled) |
| parameter | parameter |  | 0-\* |  |
| amount | | | | |
| amount\_value | long | 16 | 1-1 | Amount value expressed in minimal currency units |
| currency | string | 3 | 1-1 | Amount currency |
| parameter | | | | |
| param\_name | String | 200 | 1-1 | Payment order parameter name |
| param\_value | string | 2000 | 1-1 | Payment order parameter value |