SMARTVISTA EXCHANGE PROTOCOL OF MIGRATION (SVXP MGR)

API developer reference

April 2018

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1. PREFACE
   1. Revision history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Revision | Date | Author | | Details |
| 1.0 | 21.09.2018 | | Kolodkina Y. | Initial version |
| 1.1 | 18.12.2018 | | Pestryakov D. | Status\_reason tag supported |

* 1. Document purpose

SVXP MGR is a reference manual for developers who are implementing API of the SmartVista solution. This document is written for internal use of BPC. 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
   1. General concepts

SmartVista exchange protocol of Dictionaries (SVXP MGR hereafter) provides a description of the file formats of information load into SmartVista. File format xml. For each format will be described in this document, XML Schema Definition language (XSD) and provided examples.

* 1. Data types, Occurrence, Dictionaries

For SVXP MGR methods the standard XML data types are used. Those are fully described in the following document**XML Schema Part 2: Datatypes Second Edition and** t can be found here: [***http://www.w3.org/TR/xmlschema-2/***](http://www.w3.org/TR/xmlschema-2/)

Within the current document all the SVXP MGR messages are described in the table structure below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Tag name | Data type | | Length | | Occurrence (min-max) | | Description |
| invoces | | | | | | | | |
| invoice | complex | |  | | 1-\* | | Periodical invoice for credit repayment | |
| invoice | | | | | | | | |
| account\_number | | string | | 32 | | 1-1 | Account number of account based on which invoice was issued. | |
| exceed\_limit | | long | |  | | 1-1 | Total credit limit at the moment of invoice issuance. | |
| total\_amount\_due | | long | |  | | 1-1 | Total amount of credit debt(TAD) | |
| mandatory\_amount\_due | | long | |  | | 1-1 | The amount of mandatory payment (MAD) | |
| own\_funds | | long | |  | | 1-1 | Customer own funds at customer account | |

**Data Type:** SVXP MGR tags can be of Primitive XML Data Types (string, long, boolean, etc ) or Complex Data Types (Aggregates).

**Occurrence**: This field defines if the field is mandatory or optional (first number) as well as maximum number occurrences of this tag in the message (last digit)

e.g. 1-1 = minOccurs="1" maxOccurs="1"

Documentation is provided along with Examples of the Request messages for all of the methods described below.

1. FEES FILE STRUCTURE
   1. Overview

The file is used to download to the SmartVista information about the rules of revenue sharing, settlements between payee, the owners of the terminal and processing system.

The direction of the file is INCOMING.

* 1. References

Format of fee file described by XSD file: svxp\_fees.xsd

Example of xml document: svxp\_fees\_example.xml

* 1. List of elements

| Tag name | Data type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| fee\_records | | | | |
| fee\_record | fee\_record |  | 1-\* | Unit to link entities and fees. |
| fee\_record | | | | |
| customer\_number | string | 15 | 0-1 | Customer ID from external system. |
| provider\_number | string | 200 | 0-1 | Service provider ID from external system. |
| terminal\_number | string | 8 | 0-1 | Merchant terminal ID from external system. |
| account\_number | string | 32 | 0-1 | Account number. |
| inst\_id | int | 4 | 1-1 | Institution number to which the fee is related. |
| mod\_name | string | 200 | 0-1 | Special condition (modifier) name. |
| mod\_condition | string | 2000 | 0-1 | Special condition (modifier). |
| service\_id | int | 8 | 0-1 | Service internal ID |
| purpose\_id | int | 8 | 0-1 | Payment purpose internal ID. |
| purpose\_number | string | 200 | 0-1 | Payment purpose external ID. |
| fee | fee |  | 1-\* | Combine tags of a fee. |
| fee | | | | |
| command | string | 8 | 1-1 | Command that defines the action over the fee. Dictionary article: CMMDPRRE - Produced or remove  CMMDEXUP - Except or update  CMMDEXRE - Except or remove  CMMDEXPR - Except or produce  CMMDCRUP - Create or update  CMMDCRPR - Create or produce  CMMDCREX - Create or except |
| fee\_id | int |  | 0-1 | Fee ID. |
| fee\_type | string | 8 | 0-1 | Fee type. Dictionary article (the FETP dctionary). |
| fee\_rate\_calc | string | 8 | 0-1 | |  |  | | --- | --- | |  |  |   Fee rate calculation algorithms. Dictionary article: FEEM0001 – Percentage value  FEEM0002 – Fixed value  FEEM0003 – Minimum between percent and fixed value  FEEM0004 – Maximum between percent and fixed value  FEEM0005 – Sum of percent and fixed value |
| fee\_base\_calc | string | 8 | 0-1 | Fee basis calculation algorithms. Dictionary article: FEEB0001 – Incoming amount  FEEB0002 - Difference between incoming amount and lower threshold  FEEB0003 – Lower threshold  FEEB0004 – Tired basis |
| currency | int | 3 | 0-1 | Currency code (3 digits). |
| start\_date | date |  | 0-1 | Start date of the fee processing. |
| end\_date | date |  | 0-1 | End date of the fee processing. |
| tier | tier |  | 0-\* | Combine tags of integer fee parameters within one range. |
| tier | | | | |
| fixed\_rate | long | 18 | 0-1 | Fixed amount. |
| percent\_rate | long | 18 | 0-1 | Percentage rate. |
| min\_value | long | 18 | 0-1 | Fee minimum value. |
| max\_value | long | 18 | 0-1 | Fee maximum value. |
| length\_type | string | 8 | 0-1 | Fee calculation period unit. Dictionary article:  LNGT0001 - Hour  LNGT0002 - Day  LNGT0003 - Week  LNGT0004 - Month  LNGT0005 - Year  LNGT0006 - Minute  LNGT0007 – Second |
| sum\_threshold | long | 18 | 0-1 | Sum threshold. |
| count\_threshold | long | 18 | 0-1 | Quantity threshold. |

* 1. FEE\_RECORDS

This is a root element of the fee import file. It contains all elements to import.

* 1. FEE\_RECORD

This element groups all link settings of the entities (a merchant and/or a service provider, and/or a terminal, and/or an account) and fees.

* + 1. CUSTOMER\_NUMBER

A customer ID from external system.

* + 1. PROVIDER\_NUMBER

Service provider external ID previously registered in SmartVista.

* + 1. TERMINAL\_NUMBER

Terminal external ID previously registered in SmartVista.

* + 1. ACCOUNT\_NUMBER

Number of the existing account.

* + 1. FEE

This element groups fees related to one entity set.

FEE\_ID

Fee ID registered in SmartVista. If the ID is absent then the fee must be created. To link the existing fee the FEE\_ID element presence in the FEE block is enough.

FEE\_TYPE

The created fee type. An article from the FETP dictionary. Defines the fee purpose and appliance.

FEE\_RATE\_CALC

Fee rate calculation algorithm. The rate is calculated from the fee base with the help of the corresponding typed algorithm. An article from the FEEM dictionary.

FEE\_BASE\_CALC

Fee base calculation algorithm. An article from the FEEB dictionary.

FEE\_FIXED\_VALUE

Fixed fee value.

FEE\_PERCENT\_VALUE

Percent fee rate to calculate fee amount.

CURRENCY

Fee currency code.

START\_DATE

Start date of the fee operation.

END\_DATE

End date of the fee operation.

1. CREDIT MIGRATION FILE STRUCTURE
   1. Overview

The file is used for credit history migration, for credit funds accounting accounts migration, fees and debts.

The direction of the file is INCOMING.

* 1. Common description

The structure of the file is XML document which contains full information about state of balances, invoices and credit history. Debit operations, payments and linkage between them is also included. The format does not contain information about operations. This information is transferred in clearing format. Before credit history loading all information about operations participating in credit accounting must be loaded. The document contains full set of tags which are allowed in this format.

* 1. References

Format of credit migration file described by XSD file: svxp\_credit\_invoice.xsd, svxp\_credit\_payment.xsd, svxp\_credit\_debt.xsd

Example of xml document:

svxp\_cards\_closed\_by\_aging.xml,

svxp\_cards\_with\_overdue.xml,

svxp\_credit\_debt\_example.xml,

svxp\_credit\_example.txt,

svxp\_credit\_invoice\_example.xml,

svxp\_credit\_payment\_example.xml

* 1. List of elements
     1. Invoices

| Tag name | Data type | Size | Quantity | Description |
| --- | --- | --- | --- | --- |
| invoces | | | | |
| invoice | complex |  | 1-\* | Periodical invoice for credit repayment |
| invoice | | | | |
| account\_number | string | 32 | 1-1 | Account number of account based on which invoice was issued. |
| exceed\_limit | long |  | 1-1 | Total credit limit at the moment of invoice issuance. |
| total\_amount\_due | long |  | 1-1 | Total amount of credit debt(TAD) |
| mandatory\_amount\_due | long |  | 1-1 | The amount of mandatory payment (MAD) |
| own\_funds | long |  | 1-1 | Customer own funds at customer account |
| start\_date | date |  | 1-1 | Start date of accounting period. |
| invoice\_date | date |  | 1-1 | Invoice issuance date. |
| due\_date | date |  | 1-1 | The date until which MAD must be paid. |
| grace\_date | date | 9 | 1-1 | Grace period end date. |
| penalty\_date | date |  | 1-1 | The date of applying penalties in case of MAD payment delay. |
| aging\_period | int |  | 1-1 | Number of payment delay period. |
| is\_tad\_paid | int |  | 1-1 | Flag shows if TAD was paid until the end of grace period. |
| is\_mad\_paid | int |  | 1-1 | Flag shows if MAD was paid at the of penalty date. |
| overdue\_date | date |  | 0-1 | Overdue date. |

INVOICES

Root tag of a file where invoices data resides.

INVOICE

Separate invoice which is sent to customer. Invoices for similar account must be arranged in accordance with increasing of issuing date.

ACCOUNT\_NUMBER

Account number which is used for credit accounting.

EXCEED\_LIMIT

Credit or exceed limit. Maximum amount of credit funds that customer is able to use. It must be set in minimal account currency units.

TOTAL\_AMOUNT\_DUE

Total amount of customer debt at the moment of invoice issuance. It must be set in minimal account currency units.

MANDATORY\_AMOUNT\_DUE

The amount that have to be paid by customer until defined date. If customer does not pay full amount of mandatory payment then customer can be penalized. It must be set in minimal account currency units.

OWN\_FUNDS

Customer owned funds if customer paid more than total debt. This value cannot be more than zero if TOTAL\_AMOUNT\_DUE or MANDATORY\_AMOUNT\_DUE are non-zero. It must be set in minimal account currency units.

START\_DATE

Accounting period startup date is equal either to date of the last invoice issuance or to account opening date.

INVOICE\_DATE

The date of accounting period ending and date of invoice issuance.

DUE\_DATE

The date is shown to the customer as the last date until which at least MAD amount must be paid.

PENALTY\_DATE

The date of customer penalization and payment delay occurrence if the customer has not paid mandatory amount due till this moment. Usually this date is equal to DUE\_DATE or to DUE\_DATE plus 1-2 days.

AGING\_PERIOD

The number of payment delays at the moment of invoice issuance.

IS\_TAD\_PAID

This flag shows that customer fulfilled the grace period conditions and paid all debt till the end of grace period. 1 – grace period conditions are met, 0 – grace period conditions are not met.

IS\_MAD\_PAID

This flag shows that customer made a payment with amount more or equal to mandatory amount due before last payment date (PENALTY\_DATE). 1 – MAD was paid, 0 – payment delay occurred.

* + 1. Debit operations

| Tag name | Data type | Size | Quantity | Description |
| --- | --- | --- | --- | --- |
| debts | | | | |
| debt | complex |  | 1-\* | Debit operation registered in credit module that should be taken into account during credit calculation. |
| Debt | | | | |
| originator\_refnum | string | 12-36 | 1-1 | Unique identifier of basic operation. |
| account\_number | string | 32 | 1-1 | Account number used for credit calculation. |
| card\_number | string | 24 | 0-1 | Card number if operation is performed by means of card. |
| amount | long |  | 1-1 | Total amount of operation. |
| debt\_amount | long |  | 1-1 | Part of operation amount that was taken from credit funds. |
| aging\_period | int |  | 1-1 | Number of delays of operation credit part repayment. |
| status | string | 8 | 1-1 | Debt status. |
| fee\_type | string | 8 | 0-1 | Fee type that causes debt. |
| macros\_type\_id | int |  | 1-1 | Macros type, technical field. |
| invoice\_date | date |  | 0-1 | The data of issuance of invoice which includes current debt if operation has been included already in invoice. |
| is\_grace\_enabled | int |  | 1-1 | Flag of possibility to remove interest if grace period condition is met. |
| debt\_balance | complex |  | 1-\* | Information about debt balances. |
| debt\_balance | | | | |
| balance\_type | string | 8 | 1-1 | Credit accounting balance type. |
| amount | long |  | 1-1 | The part of the debt residing at current balance. |
| repay\_priority | int |  | 1-1 | Repayment priority. погашения |
| min\_amount\_due | int |  | 1-1 | The part of the debt residing at current balance included in MAD. |
| debt\_interest | complex |  | 1-\* | History of interest accounting and debt status changes. |
| debt\_interest | | | | |
| balance\_date | dateTime |  | 1-1 | Date of debt state snapshot. |
| amount | long |  | 1-1 | Amount of debt |
| interest\_rate | float |  | 1-1 | Interest rate |
| additional\_interest\_rate | float |  | 0-1 | Additional Interest rate |
| interest\_amount | long |  | 0-1 | Amount of calculated interest |
| is\_charged | int |  | 1-1 | Flag of interest posting |

DEBTS

Root tag of the file where debts data resides.

DEBT

Information about single debt, i.e. about debit operation which is done fully or partially by means of credit funds. Information related to similar account must be arranged in ascending order by date of operation processing.

ORIGINATOR\_REFNUM

Identifier of financial operation caused debt. All operations must be previously loaded into system.

ACCOUNT\_NUMBER

Account number which is used for credit calculation and accounting.

CARD\_NUMBER

Debit operation card number in case of card-based operation.

AMOUNT

Total amount of debit operation. It must be set in minimal account currency units.

DEBT\_AMOUNT

Operation amount part that was taken from credit finds. The value may be less of equal to AMOUNT. It must be set in minimal account currency units.

AGING\_PERIOD

Number of periods of debt payment delay. If debt was paid in time then this value is equal to 0.

STATUS

State of debt.

|  |  |
| --- | --- |
| Code | Description |
| DBTSACTV | Active – waiting for repayment |
| DBTSCNCL | Cancelled |
| DBTSPAID | Paid |
| DBTSSSPN | Frozen because of dispute existence on operation. |

FEE\_TYPE

Fee type is filled if debt was caused by fee that was assigned to basic operation, e.g. cash withdrawal fee or currency exchange fee.

|  |  |
| --- | --- |
| Code | Description |
| FETP0110 | Card balance inquire on-them ATM fee |
| FETP0111 | Card cash withdrawal on-them ATM fee |
| FETP0112 | Card cash advance on-us POS fee |
| FETP0113 | Card cash advance on-them POS fee |
| FETP0114 | Card cash withdrawal on-us ATM fee |
| FETP0115 | Card cash withdrawal on-partner ATM fee |
| FETP0116 | Card cash advance on-partner POS fee |
| FETP0117 | Card balance inquire on-them POS fee |
| FETP0304 | Cash withdrawal account fee |
| FETP0305 | Debit account fee |
| FETP0306 | Currency conversion fee |
| FETP0307 | Statement account fee |

MACROS\_TYPE\_ID

Macros type is special technical field that is used by system to define debt processing. The list of values of this field is defined during system configuration and the subject of agreement during integration process.

INVOICE\_DATE

The issuance date of the invoice in which operation was included. It must be omitted if operation was not invoiced.

IS\_GRACE\_ENABLE

Flag shows that interest for current period can be removed of reduced in case of grace period condition meeting. 0 – interest cannot be removed, 1 – interest can be removed. Unless interest can be removed it is unable to invoice this interest.

DEBT\_BALANCE

Information about distribution of debt between credit accounting balances.

BALANCE\_TYPE

Type of account balance for credit debt accounting. The list of suitable types may vary in accordance with credit accounting requirements. Standard balances are listed below.

|  |  |
| --- | --- |
| Code | Description |
| 0001 | Ledger |
| 0002 | Hold |
| 0003 | Fees |
| 0004 | Disput |
| 0005 | Frozen |
| 0006 | Stand-IN |
| 1001 | Assigned exceed limit |
| 1002 | Overdraft |
| 1003 | Interest |
| 1004 | Overdue |
| 1005 | Overdue interest |
| 1006 | Penalty |
| 1007 | Overlimit |
| 1008 | Interest on overlimit |
| 1009 | Write-off |
| 1010 | Deposit |
| 1011 | Interest on arrears |
| 1012 | Unused exceed limit |
| 1013 | Used exceed limit |

AMOUNT

The part of debt amount which belongs to appropriate balance at the moment of migration file creation. It must be set in minimal account currency units.

REPAY\_PRIORITY

Balance repayment priority. Valid values are 0-9999. Zero is the highest priority, 9999 is lowest.

MIN\_AMOUNT\_DUE

The part of debt amount included in mandatory amount due. May be less or equal to value specified in tag AMOUNT. It must be set in minimal account currency units.

DEBT\_INTEREST

The history of debt state and interest calculation changes.

BALANCE\_DATE

The date of debt state changing latching.

AMOUNT

Amount at balance at the date specified in tag BALANCE\_DATE. It must be set in minimal account currency units.

INTEREST\_RATE

Annual fee rate that is used for credit usage interest calculation for appropriate debt type. It must be specified as fractional number. Example of interest fee 10.45, 11.95, 1.5, 3, 5.

ADDITIONAL\_INTEREST\_RATE

Additional annual fee rate that is used for credit usage interest calculation for appropriate debt type. It must be specified as fractional number. Example of interest fee 10.45, 11.95, 1.5, 3, 5.

INTEREST\_AMOUNT

Amount of interest calculated for this part of debt from the moment of previous state change till date specified in tag BALANCE\_DATE. It must be specified if interests are posted and invoiced. It must be set in minimal account currency units.

IS\_CHARGED

Flag shows that interest was calculated, posted and invoiced. 0 – interest is not posted, 1 – interests is posted.

* + 1. Payments

| Tag name | Data type | Size | Quantity | Description |
| --- | --- | --- | --- | --- |
| payments | | | | |
| payment | complex |  | 1-\* | Payment accepted for credit repayment |
| payment | | | | |
| originator\_refnum | string | 12-36 | 1-1 | Unique operation identifier. |
| account\_number | string | 32 | 1-1 | Account number used for credit calculation and accounting. |
| card\_number | string | 24 | 0-1 | Card number if operation was performed by means of card. |
| amount | long |  | 1-1 | Total payment amount. |
| pay\_amount | long |  | 1-1 | Part of payment amount which was used for credit repayment. |
| status | string | 8 | 1-1 | Payment status. |
| invoice\_date | date |  | 0-1 | Date of invoice which includes payment. |
| debt\_payment | complex |  | 0-\* | Payment distribution between debts. |
| debt\_payment | | | | |
| debt\_refnum | string | 12-36 | 1-1 | The reference to debit operation that was repaid by payment. |
| fee\_type | string | 8 | 0-1 | Fee type. |
| balance\_type | string | 8 | 1-1 | Type of credit accounting balance. |
| pay\_amount | long |  | 1-1 | Amount that was repaid. |
| eff\_date | dateTime |  | 1-1 | The date of repayment. |

PAYMENTS

Root tag of the file where payments data resides.

PAYMENT

Separate payment – one-time account credit.

ORIGINATOR\_REFNUM

Credit account operation identifier. All operations must be previously loaded into system.

ACCOUNT\_NUMBER

Account number to which payment was made.

CARD\_NUMBER

Card number if payment was performed by means of card. This tag can be omitted if payment was done directly to account.

AMOUNT

Total amount of payment operation. It must be set in minimal account currency units.

PAY\_AMOUNT

Part of payment amount that can be used for credit repayment. The value can be less or equal to the value specified in AMOUNT. It must be set in minimal account currency units.

STATUS

Payment operation status.

| Value | Description |
| --- | --- |
| PMTSACTV | Active – Accrued funds are waiting for distribution between debt contents. |
| PMTSSPNT | Spent – Accrued funds were spent. |

INVOICE\_DATE

Date of invoice which includes current payment information. It should be omitted if there was no invoice with this payment.

DEBT\_PAYMENT

Distribution of payment between debts. Information must be arranged in accordance with repayment priority.

DEBT\_REFNUM

The reference to debit operation which causes debt and was repaid partially or fully by current payment.

FEE\_TYPE

Fee type is filled if debt was caused by fee that was assigned to basic operation, e.g. cash withdrawal fee or currency exchange fee.

| Code | Description |
| --- | --- |
| FETP0110 | Card balance inquire on-them ATM fee |
| FETP0111 | Card cash withdrawal on-them ATM fee |
| FETP0112 | Card cash advance on-us POS fee |
| FETP0113 | Card cash advance on-them POS fee |
| FETP0114 | Card cash withdrawal on-us ATM fee |
| FETP0115 | Card cash withdrawal on-partner ATM fee |
| FETP0116 | Card cash advance on-partner POS fee |
| FETP0117 | Card balance inquire on-them POS fee |
| FETP0304 | Cash withdrawal account fee |
| FETP0305 | Debit account fee |
| FETP0306 | Currency conversion fee |
| FETP0307 | Statement account fee |

BALANCE\_TYPE

Balance type that was partially or fully repaid during payment processing.

PAY\_AMOUNT

The amount of debt reduction. It must be set in minimal account currency units.

EFF\_DATE

Date and time of payment distribution between debts.

1. PRODUCT MIGRATION FILE STRUCTURE
   1. Overview

This file is used for product’s migration. In this format products and attribute values could be described.

* 1. References

Format of product migration file described by XSD file: svxp\_product.xsd

Example of xml document:

svxp\_product\_example.xml

* 1. List of elements

| Tag name | Data type | Length | Occurs | Description |
| --- | --- | --- | --- | --- |
| products | | | | |
| file\_type | string | 8 | 1-1 | File type. Dictionary value (FLTP) |
| inst\_id | int | 4 | 1-1 | Identifier of institution which owns products in file |
| product | complex |  | 1-\* | Encapsulate all information about one product (with subproducts) |
| product | | | | |
| command | string | 8 | 1-1 | Command which is defines the action over the product. Dictionary value |
| product\_type | string | 8 | 0-1 | Indicates the type of product. Dictionary value |
| contract\_type | string | 8 | 0-1 | Indicates the type of contract which can be serviced by the product. Dictionary value. |
| product\_number | string | 200 | 1-1 | Unique identifier of product. |
| product\_name | product\_name |  | 0-1 | Multilingual name and description of product. Must contain attribute language |
| product\_status | string | 8 | 0-1 | Activity status of product. Dictionary value. |
| product\_service | product\_service |  | 0-\* | Combines product attributes |
| product\_account\_type | complex |  | 0-\* | List of account types on product |
| product\_card\_type | complex |  | 0-\* | List of cards types on product |
| product | product |  | 0-\* | Child products of this product |
| product\_name | | | | |
| language | string | 8 | 1-1 | Language of the person name. Possible values:  LANGBUL – Bulgarian.  LANGRUS – Russian.  LANGENG – English. |
| command | string | 8 | 0-1 | Command which is defines the action over the product name |
| label | string | 200 | 1-1 | Short name of product |
| description | string | 2000 | 0-1 | Description of product |
| product\_service | | | | |
| command | string | 8 | 1-1 | Command which is defines the action over the service on product. Dictionary value |
| service\_number | string | 200 | 1-1 | Unique identifier of service connected or must be connected to product |
| initial\_service\_number | string | 200 | 0-1 | Unique number of initial service. May be set only on parent product. |
| min\_count | int | 4 | 1-1 | Minimum count of this services on product. May be set only on parent product. |
| max\_count | int | 4 | 1-1 | Maximum count of this services on product. May be set only on parent product. |
| attribute | attribute\_value |  | 0-\* | Combines attributes |
| attribute\_value | | | | |
| attribute\_name | string | 200 | 1-1 | Unique name of attribute |
| start\_date | date |  | 0-1 | Date of attribute value became actual |
| end\_date | date |  | 0-1 | Date of attribute value became inactive |
| value\_char | string | 200 | 0-1 | String value of attribute |
| value\_num | decimal | 200 | 0-1 | Decimal value of attribute |
| value\_date | date |  | 0-1 | Date value of attribute |
| value\_cycle | value\_cycle |  | 0-1 | Parameters of cycle |
| value\_limit | value\_limit |  | 0-1 | Parameters of limit |
| value\_fee | value\_fee |  | 0-1 | Parameters of fee |
| mod\_id | int | 4 | 0-1 | Modifier’s identifier |
| definition\_level | string | 8 | 0-1 | Attribute value defining level (Product or Object, Service, Object). |
| entity\_type | string | 8 | 0-1 | Entity type which attribute relates to |
| object\_id | long | 16 | 0-1 | Object identifier which attribute relates to |
| object\_number | string | 200 | 0-1 | Object number which attribute relates to |
| value\_cycle | | | | |
| cycle\_length\_type | string | 8 | 1-1 | Type of length of cycle (month, hour, etc.). Dictionary value. |
| cycle\_length | int | 4 | 1-1 | Length of cycle in periods, defined by length type |
| cycle\_trunc\_type | string | 8 | 0-1 | Describe type of truncate start date. Calculate cycle from first day of start date (year, month, week, day) or from start date. Dictionary value. |
| workdays\_only | int | 1 | 0-1 | 0 – cycle calculates in calendar days 1 – cycle calculates in work days |
| shift | shift |  | 0-\* | Cycle shifts |
| shift | | | | |
| shift\_type | string | 8 | 1-1 | Type of cycle shit. Dictionary value. |
| shift\_priority | int | 4 | 1-1 | Priority of shift when cycle has multiple shifts |
| shift\_sign | int | 1 | 1-1 | 1 – forwards shift -1 – backward shift |
| shift\_length\_type | string | 8 | 0-1 | Type of shift length period. Use only with shift\_type = CSHTPERD – shift by period. |
| shift\_length | string | 8 | 1-1 | Shift value |
| value\_limit | | | | |
| limit\_sum\_value | int | 22 | 0-1 | Value of sum limit. |
| limit\_count\_value | int | 16 | 0-1 | Value of count limit. |
| limit\_check\_type | string | 8 | 0-1 | Type of limit value check. Dictionary value |
| currency | int | 3 | 1-1 | Currency code for sum value |
| limit\_base | string | 8 | 0-1 | Reference to base limit type or balance type. |
| limit\_rate | decimal | 22 | 0-1 | Percent to calculate dependent limit |
| value\_cycle | value\_cycle |  | 0-1 | Cycle for cycling limit |
| value\_fee | | | | |
| fee\_rate\_calc | string | 8 | 1-1 | Algorithm for calculating rate of fee. Dictionary value. |
| fee\_base\_calc | string | 8 | 1-1 | Algorithm for calculating base of fee. Dictionary value. |
| currency | int | 3 | 1-1 | Currency code |
| tier | tier |  | 1-\* | Tiers of fee. |
| value\_limit | value\_limit |  | 0-1 | Limit for limited fee |
| value\_cycle | value\_cycle |  | 0-1 | Cycle for cycling fee |
| tier | | | | |
| fixed\_rate | int | 22 | 0-1 | Fixed rate of fee tier |
| percent\_rate | decimal | 22 | 0-1 | Percent rate of fee tier |
| min\_value | int | 16 | 0-1 | Minimum amount of result sum |
| max\_value | int | 16 | 0-1 | Maximum amount of result sum |
| sum\_threshold | int | 22 | 0-1 | Range lower threshold for sum. |
| count\_threshold | int | 22 | 0-1 | Range lower threshold for count. |
| length\_type | string | 8 | 0-1 | Period interest calculation unit. Dictionary LNGT. |
| length\_type\_algorithm | string | 8 | 0-1 | Type of calculating days in year. NDYR dictionary. |
| product\_account\_type | | | | |
| command | string | 8 | 1-1 | Command which is defines the action over the account on product. Dictionary value |
| account\_type | string | 8 | 1-1 | Indicates the type of account. Dictionary value. |
| currency | string | 3 | 1-1 | Currency code of account. |
| service\_number | string | 200 | 1-1 | Unique identifier of service connected or must be connected to product. |
| aval\_algorithm | string | 8 | 0-1 | Available balance calculation algorithm. |
| product\_card\_type | | | | |
| command | string | 8 | 1-1 | Command which is defines the action over the card on product. Dictionary value |
| card\_type\_id | int | 4 | 1-1 | Type of card. |
| seq\_number\_low | int | 4 | 1-1 | Card sequential number low |
| seq\_number\_high | int | 4 | 1-1 | Card sequential number high |
| bin | int | 8 | 1-1 | Issuing bin identifier |
| index\_range\_id | int | 8 | 1-1 | Index range identifier |
| number\_format\_id | int | 4 | 1-1 | Number format identifier |
| emv\_appl\_scheme\_id | int | 4 | 0-1 | Identifier of EMV application scheme |
| pin\_request | string | 8 | 1-1 | Requesting action about PIN generation |
| pin\_mailer\_request | string | 8 | 1-1 | Requesting action about PIN mailer printing |
| embossing\_request | string | 8 | 1-1 | Requesting action about plastic embossing |
| status | string | 8 | 1-1 | Online status |
| perso\_priority | string | 8 | 1-1 | Personalization priority |
| reiss\_command | string | 8 | 1-1 | Reissuing command (RCMD) |
| reiss\_start\_date\_rule | string | 8 | 0-1 | Rule for reissuing start date generation (SDRL) |
| reiss\_expir\_date\_rule | string | 8 | 0-1 | Rule for reissuing expiration date generation (EDRL) |
| reiss\_card\_type\_id | string | 8 | 0-1 | Card type for reissued card |
| reiss\_contract\_id | string | 8 | 0-1 | Card contract for reissued card |
| blank\_type\_id | string | 8 | 1-1 | Identifier of blank for card embossing |
| state | string | 8 | 1-1 | Card instance state |
| perso\_method\_id | int | 4 | 1-1 | Personalization method identifier |
| service\_number | string | 200 | 1-1 | Unique identifier of service connected or must be connected to product |

* + 1. PRODUCTS

Tag is used as the root tag.

FILE\_TYPE

Type of file is SVXP file products. It should be constant for this file.

| Code | Description |
| --- | --- |
| FLTPPROD | Import products |

INST\_ID

Identifier of institution

* + 1. PRODUCT

Block combines all information about one product and a lot of child products.

COMMAND

Command which is defines the action over the product.

| Code | Description |
| --- | --- |
| CMMDCREX | Create or except |
| CMMDCRPR | Create or proceed |
| CMMDCRUP | Create or update |
| CMMDEXPR | Except or proceed |
| CMMDEXRE | Except or remove |
| CMMDEXUP | Except or update |
| CMMDIGNR | Ignore |
| CMMDPRRE | Proceed or remove |

PRODUCT\_TYPE

Tag indicates the type of product.

| Code | Description |
| --- | --- |
| PRDT0100 | Issuing product |
| PRDT0200 | Acquiring product |
| PRDT0300 | Institutions product |

CONTRACT\_TYPE

Contract of only this type could be connected to this product.

| Code | Description |
| --- | --- |
| CNTPBANK | Banking service for individuals |
| CNTPBNKC | Banking service for companies |
| CNTPCRCR | Corporate cards |
| CNTPCUSR | Customer servicing |
| CNTPINIC | Instant issuing cards |
| CNTPINSR | Insurance company |
| CNTPMRCB | Banking acquring |
| CNTPMRCM | Merchant acquring |
| CNTPPMAG | Payment aggregator settlement |
| CNTPPMPR | Payment partner settlement |
| CNTPPMTT | Payment terminals acquiring |
| CNTPPRCR | Payroll cards |
| CNTPSLPR | Payroll plan |
| CNTPSRVP | Service provider settlement |
| CNTPTRCO | Terminal co-owning |

PRODUCT\_NUMBER

It is unique number of product for referring to it.

PRODUCT\_STATUS

This is a status of product.

| Code | Description |
| --- | --- |
| PRDS0100 | Active |
| PRDS0200 | Inactive |

* + 1. PRODUCT\_NAME

Block encapsulates label and description of product. It could be multilingual. It must be marked by attribute language with value from dictionary.

| Code | Description |
| --- | --- |
| LANGBUL | Bulgarian |
| LANGENG | English |
| LANGRUS | Russian |

COMMAND

Command defines action for manipulate of product name.

LABEL

It is short description of product or product name.

DESCRIPTION

It’s long description of product

* + 1. PRODUCT\_SERVICE

This block encapsulates attributes (with or without values) defines on product. One product can contain more than one service. Services must exist in SmartVista.

COMMAND

Command which is defines the action over the service on product.

| Code | Description |
| --- | --- |
| CMMDCREX | Create or except |
| CMMDCRPR | Create or proceed |
| CMMDCRUP | Create or update |
| CMMDEXPR | Except or proceed |
| CMMDEXRE | Except or remove |
| CMMDEXUP | Except or update |
| CMMDIGNR | Ignore |
| CMMDPRRE | Proceed or remove |

SERVICE\_NUMBER

This is unique number or existing service.

INITIAL\_SERVICE\_NUMBER

It’s a service number of initial service for this service. Used if this services is not initial.

MIN\_COUNT

Minimum count of this service on one object

MAX\_COUNT

Maximum count of this service on one object

* + 1. ATTRIBUTE\_VALUE

Block encapsulates all information about one attribute on product. Attribute must exist in SmartVista. Only one of value\_\* (value\_char, value\_num, value\_date, value\_cycle, value\_limit, value\_fee) tags should be used in block. Type of value in block must correspond to data type of attribute.

ATTRIBUTE\_NAME

Unique name of product attribute

START\_DATE

Date of activating current value of attribute

END\_DATE

Date of attribute value became inactive

VALUE\_CHAR

String value of attribute with char type

VALUE\_NUM

Numeric value of attribute with numeric type

VALUE\_DATE

Date value of attribute with date type

MOD\_ID

Identifier of existent modifier

DEFINITION\_LEVEL

Attribute value defining level (Product or Object, Service, Object).

| Code | Description |
| --- | --- |
| SADLSRVC | Service |
| SADLPRDT | Product and Object |
| SADLOBJT | Product |

ENTITY\_TYPE

Entity type which attribute relates to. Dictionary ‘ENTT’.

OBJECT\_ID

Object identifier which attribute relates to.

OBJECT\_NUMBER

Object number which attribute relates to.

**Fields: entity\_type, object\_id, object\_number - may be used only in unloading.**

* + 1. VALUE\_CYCLE

Block used to describe complex value of attribute with cycle type. Cycle would be created as result of block processing

CYCLE\_LENGTH\_TYPE

Tag describes length type of cycle.

| Code | Description |
| --- | --- |
| LNGT0001 | Hour |
| LNGT0002 | Day |
| LNGT0003 | Week |
| LNGT0004 | Month |
| LNGT0005 | Year |
| LNGT0006 | Minute |
| LNGT0007 | Second |

CYCLE\_LENGTH

Integer length of cycle

CYCLE\_TRUNC\_TYPE

Describe type of truncate start date. Calculate cycle from first day of start date (year, month, week, day) or from start date (none). Values from length type dictionary should be used in this tag.

WORKDAYS\_ONLY

Value must be 0 or 1:

0 – cycle calculates in calendar days;

1 – cycle calculates in work days.

* + 1. SHIFT

Block encapsulates all parameters for cycle shift. Cycle can have more than one shift, it’s will be calculated in shift\_priority order.

SHIFT\_TYPE

Type of cycle shift

| Code | Description |
| --- | --- |
| CSHTENDM | End of month |
| CSHTMDAY | Shift to exact day of month |
| CSHTPERD | Shift by period |
| CSHTWDAY | Shift to exact day of week |
| CSHTWRKD | Shift to certain workday |

SHIFT\_PRIORITY

Priority to calculate cycle shift when cycle has more than one shift

SHIFT\_SIGN

Forward (1) or backward (-1) shift

SHIFT\_LENGTH\_TYPE

Type of length of period for cycle with shift by period type

| Code | Description |
| --- | --- |
| LNGT0001 | Hour |
| LNGT0002 | Day |
| LNGT0003 | Week |
| LNGT0004 | Month |
| LNGT0005 | Year |
| LNGT0006 | Minute |
| LNGT0007 | Second |

SHIFT\_LENGTH

Length of shift

* + 1. VALUE\_LIMIT

Block used to describe complex value of attribute with limit type. Limit (and cycle for limit if this limit is cycle limit) would be created as result of block processing.

LIMIT\_SUM\_VALUE

Limit of amount. If tag not set in the input file then will be set unlimited value.

LIMIT\_COUNT\_VALUE

Limit of count. If tag not set in the input file then will be set unlimited value.

LIMIT\_CHECK\_TYPE

Type of check for limit’s values:

| Code | Description |
| --- | --- |
| LCHT0001 | One of the thresholds is exceeded (sum or count) |
| LCHT0002 | Both thresholds are exceeded (sum and count) |

The LCHT0001 used by default.

CURRENCY

ISO currency code for limit\_sum\_value

LIMIT\_BASE

Reference to base limit type (LMTP dictionary) or balance type (BLTP dictionary).

BLTP dictionary

| Code | Description |
| --- | --- |
| 0001 | Ledger |
| 0002 | Hold |
| 0003 | Fees |
| 0004 | Disput |
| 0005 | Frozen |
| 0006 | Stand-IN |
| 1001 | Assigned exceed limit |
| 1002 | Overdraft |
| 1003 | Interest |
| 1004 | Overdue |
| 1005 | Overdue interest |
| 1006 | Penalty |
| 1007 | Overlimit |
| 1008 | Interest on overlimit |
| 1009 | Write-off |
| 1010 | Deposit |
| 1011 | Interest on arrears |

LMTP dictionary

| Code | Description |
| --- | --- |
| 0100 | Cash withdrawal limit |
| 0101 | Wrong PIN entry counter/limit |
| 0102 | Card usage limit |
| 0103 | Card usage periodic limit |
| 0104 | Total expense limit on contract |
| 0105 | Total avalable balance limit |
| 0106 | Card spend month limit |
| 0107 | Card cash withdrawal day limit |
| 0108 | Card cash withdrawal month limit |
| 0109 | Card purchase day limit |
| 0110 | Card purchase month limit |
| 0111 | Card MOTO/E-commerce operation day limit |
| 0112 | Card MOTO/E-commerce operation month limit |
| 0113 | Card spend on-us day limit |
| 0114 | Card spend on-us month limit |
| 0115 | Card cash withdrawal on-us day limit |
| 0116 | Card cash withdrawal on-us month limit |
| 0117 | Card purchase on-us day limit |
| 0118 | Card purchase on-us month limit |
| 0119 | Card MOTO/E-commerce operation on-us day limit |
| 0120 | Card MOTO/E-commerce operation on-us month limit |
| 0121 | Card spend on-them day limit |
| 0122 | Card spend on-them month limit |
| 0123 | Card cash withdrawal on-them day limit |
| 0124 | Card cash withdrawal on-them month limit |
| 0125 | Card purchase on-them day limit |
| 0126 | Card purchase on-them month limit |
| 0127 | Card MOTO/E-commerce operation on-them day limit |
| 0128 | Card MOTO/E-commerce operation on-them month limit |
| 0129 | Card spend day limit |
| 0130 | Limit for cashback amount on us |
| 0131 | Card spending credit limit value |
| 0135 | Limit for cashback amount on domestic |
| 0136 | Limit for cashback amount on them |
| 0137 | Limit for cashback amount on partner |
| 0200 | Limit for Merchant service charge |
| 0201 | One time cash withdrawal with other cards limit |
| 0300 | Total top up account limit |
| 0301 | Total expense limit |
| 0302 | Cash withdrawal cyclic limit |
| 0303 | Debit account cyclic limit |
| 0304 | Credit account cyclic limit |
| 0305 | Cash IN account cyclic limit |
| 0306 | One-time expense limit |
| 0307 | One-time top up account limit |
| 0308 | Limit for Account maintenance fee |
| 0309 | Account total expense day limit |
| 0310 | Account total expense month limit |
| 1101 | Limit for Loyalty points rate |

LIMIT\_RATE

Percent to calculate dependent limit

* + 1. VALUE\_FEE

Block used to describe complex value of attribute with fee type. Fee (and limit, and cycle – if applicable) would be created as result of block processing

FEE\_RATE\_CALC

Dictionary value describes how rate will be calculated:

| Code | Description |
| --- | --- |
| FEEM0001 | Percentage value |
| FEEM0002 | Fixed value |
| FEEM0003 | Minimum between percent and fixed value |
| FEEM0004 | Maximum between percent and fixed value |
| FEEM0005 | Sum of percent and fixed value |

FEE\_RATE\_CALC

Dictionary value describes how base for fee will be calculated:

| Code | Description |
| --- | --- |
| FEEB0001 | Incoming amount |
| FEEB0002 | Difference between incoming amount and lower threshold |
| FEEB0003 | Lower threshold |
| FEEB0004 | Tired basis |

CURRENCY

ISO currency code of fee amount

* + 1. TIER

Block describes the one tier of fee. Fee must contain one or more tiers.

FIXED\_RATE

Fixed fee amount

PERCENT\_RATE

Percent rate of fee

MIN\_VALUE

Minimum value of resulting fee amount

MAX\_VALUE

Maximum value of resulting fee amount

SUM\_THRESHOLD

Lower threshold for base amount

COUNT\_THRESHOLD

Lower threshold for count

LENGTH\_TYPE

Period interest calculation unit. Dictionary value:

| Code | Description |
| --- | --- |
| LNGT0001 | Hour |
| LNGT0002 | Day |
| LNGT0003 | Week |
| LNGT0004 | Month |
| LNGT0005 | Year |
| LNGT0006 | Minute |
| LNGT0007 | Second |

LENGTH\_TYPE\_ALGORYTHM

Number days in year for fee calculating. Dictionary value:

| Code | Description |
| --- | --- |
| NDYR0001 | 360 days |
| NDYR0002 | 365 days |
| NDYR0003 | The actual quantity |

1. ACCOUNT CREDIT STATEMENT FILE STRUCTURE
   1. Overview

The document provides description and information about structure and contents of account credit statement for given period. The document is intended to be used by programmers and analyst for developing interfaces to exchange with SmartVista. It is supposed document users to be familiar with XML data format.

The direction of the file is OUTGOING.

* 1. Common description

The structure of the file is an XML document containing comprehensive information on account credit statement. The document contains a complete list of all the tags are allowed in this file format. However, the final set of tags defined by the needs of a specific use and can be significantly reduced or exceeded.

XML file generates by running process "Export credit statement".

* 1. References

Format of account credit statement file described by XSD file: svxp\_acc\_credit\_statement.xsd

Example of xml document:

svxp\_acc\_credit\_statement\_example.xml

* 1. List of elements

| Tag name | Data type | Size | Quantity | Description |
| --- | --- | --- | --- | --- |
| Account\_credit\_statement | | | | |
| Account | Account |  | 1-1 | Account |
| opening\_balance | float | 23 | 1-1 | Account balance on start date of period |
| closing\_balance | float | 23 | 1-1 | Account balance on end date of period |
| start\_date | date | 10 | 1-1 | Beginning date of the calculation period. Format DD.MM.YYYY |
| invoice\_date | date | 10 | 1-1 | Invoice date. Format DD.MM.YYYY |
| payment\_sum | float | 23 | 1-1 | Total sum of payments by credits for given period |
| interest\_sum | float | 23 | 1-1 | Total invoice sum by credits for given period |
| available\_credit | float | 23 | 1-1 | Rest sum of credits for given period (maximum - total) |
| serial\_number | long | 20 | 1-1 | Serial number of invoice for exact account |
| invoice\_type | string | 8 | 1-1 | Dictionary invoice type id |
| exceed\_limit | float | 23 | 1-1 | Exceed limit sum |
| total\_amount\_due | float | 23 | 1-1 | Total sum of credits and invoices for given period |
| own\_funds | float | 23 | 1-1 | Own funds sum |
| min\_amount\_due | float | 23 | 1-1 | Minimal amount due sum |
| grace\_date | date | 10 | 1-1 | Grace date. Format DD.MM.YYYY |
| due\_date | date | 10 | 1-1 | Due date. Format DD.MM.YYYY |
| penalty\_date | date | 10 | 1-1 | Penalty date. Format DD.MM.YYYY |
| aging\_period | long | 10 | 1-1 | Number of aging period. |
| is\_mad\_paid | long | 1 | 1-1 | Is minimal amount paid in grace period. |
| is\_tad\_paid | long | 1 | 1-1 | Is total amount paid in grace period. |
| Operations | Operations |  | 1-1 | Operations |
| Account | | | | |
| account\_number | string | 32 | 1-1 | Account number |
| currency | long | 3 | 1-1 | Account currency |
| account\_type | string | 8 | 1-1 | Dictionary account type name |
| inst\_id | long | 16 | 1-1 | Id of institution |
| agent\_id | long | 16 | 1-1 | Id of agent |
| Customer | Customer |  | 1-1 | Customer |
| Contact | Contact |  | 1-1 | Contact |
| Customer | | | | |
| customer\_number | string | 200 | 1-1 | Customer number |
| customer\_category | string | 8 | 1-1 | Dictionary customer category name |
| resident | long | 1 | 1-1 | Is customer resident: 1 – Yes, 0 -No |
| customer\_relation | string | 8 | 1-1 | Dictionary customer relation type |
| nationality | string | 3 | 1-1 | Dictionary nationality type name |
| Person | Person |  | 1-1 | Person |
| Contact | Contact |  | 1-1 | Contact |
| Address | Address |  | 1-1 | Address |
| Person | | | | |
| Person\_name | Person\_name |  | 1-1 | Person surname |
| Identity\_card | Identity\_card |  | 1-1 | Identity card |
| Person\_name | | | | |
| surname | string | 200 | 1-1 | Person surname |
| first\_name | string | 200 | 1-1 | Person first name |
| second\_name | string | 200 | 1-1 | Person second name |
| Identity\_card | | | | |
| id\_type | string | 8 | 1-1 | Dictionary identity card type |
| id\_series | string | 200 | 1-1 | Identity card series |
| id\_number | string | 200 | 1-1 | Identity card number |
| Contact | | | | |
| contact\_type | string | 8 | 1-1 | Dictionary contact type id |
| preferred\_lang | string | 8 | 1-1 | Dictionary preferred language |
| Contact\_data | Contact\_data |  | 1-1 | Contact data |
| Contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | Dictionary communication method type |
| commun\_address | string | 200 | 1-1 | Communication address |
| Address | | | | |
| address\_type | string | 8 | 1-1 | Dictionary type of address |
| country | string | 3 | 1-1 | Dictionary country |
| Address\_name | Address\_name |  | 1-1 | Address name |
| house | string | 200 | 1-1 | Address house |
| apartment | string | 200 | 1-1 | Address apartment |
| Address\_name | | | | |
| region | string | 200 | 1-1 | Address region |
| city | string | 200 | 1-1 | Address city |
| street | string | 200 | 1-1 | Address street |
| Contract | | | | |
| contract\_type | string | 8 | 1-1 | Dictionary contract type id |
| product\_id | long | 16 | 1-1 | Id of product |
| contract\_number | string | 200 | 1-1 | Card contract number |
| contract\_date | date | 10 | 1-1 | Contract start date. Format DD.MM.YYYY |
| Operations | | | | |
| Operation | Operation |  | 1-\* | Operation |
| Operation | | | | |
| oper\_type | string | 8 | 1-1 | Dictionary operation type id |
| oper\_description | string | 200 | 1-1 | Operation description |
| card\_mask | string | 16 | 1-1 | Card mask |
| card\_id | long | 16 | 1-1 | Card id |
| posting\_date | date | 10 | 1-1 | Posting date. Format DD.MM.YYYY |
| oper\_date | date | 10 | 1-1 | Operation date. Format DD.MM.YYYY |
| oper\_amount | float | 23 | 1-1 | Operation amount |
| oper\_currency | string | 3 | 1-1 | Operation currency id |
| credit\_oper\_amount | float | 23 | 1-1 | Credit operation amount sum |
| debit\_oper\_amount | float | 23 | 1-1 | Debit operation amount sum |
| overdraft\_amount | float | 23 | 1-1 | Overdraft amount sum |
| repayment\_amount | float | 23 | 1-1 | Repayment amount sum |
| interest\_amount | float | 23 | 1-1 | Interest amount sum |
| oper\_type\_interest | long | 1 | 1-1 | Operation type interest (1-interest, 0-others operations) |

ACCOUNT

Element contains all the data related to one particular customer's account.

CUSTOMER

Element, combining all the data for one particular customer.

PERSON

The main element to display the personal data of the client, if the client is an individual.

IDENTITY\_CARD

Element that contains a data customer's identity. A customer can have several different IDs.

CONTACT

Element contains all the contact data of the customer. Each contact may be several different ways to communicate with the client. Client may have multiple contacts for various purposes. Purpose of contact is determined by its type.

ADDRESS

Element contains data relating to the postal address of the customer. One customer can have multiple addresses for different purposes. Address assignment is determined by its type.

CONTRACT

Element contains the data contract in which the account is opened.

1. Customers FILE STRUCTURE
   1. Overview

The document provides description and information about structure and contents of customers. The document is intended to be used by programmers and analyst for developing interfaces to exchange with SmartVista. It is supposed document users to be familiar with XML data format.

The direction of the file is OUTGOING.

* 1. Common description

The structure of the file is an XML document containing comprehensive information on account credit statement. The document contains a complete list of all the tags are allowed in this file format. However, the final set of tags defined by the needs of a specific use and can be significantly reduced or exceeded.

XML file generates by running process " Process for customers export".

* 1. List of elements

| Tag | Type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| customers | | | | |
| file\_id | long | 16 | 0-1 | Output file unique ID. |
| file\_type | string | 8 | 1-1 | Input/output file type. Defines its purpose and way of processing. Dictionary FLTP. |
| file\_date | date |  | 0-1 | File creation date. |
| customer | complex |  | 0-\* | Customer data. |
| **customer** | | | | |
| customer\_number | string | 200 | 1-1 | Customer number. |
| customer\_type | string | 8 | 1-1 | Customer type. Possible values:  ENTTUNDF – Undefined.  ENTTPERS – Person. |
| customer\_category | string | 8 | 1-1 | Customer category. Possible values:  CCTGORDN – Ordinary customer.  CCTGPRVG – Privileged customer. |
| customer\_relation | string | 8 | 0-1 | Client and Bank relationship. Possible values:  RSCBAFLT – Affiliate.  RSCBEXTR – External.  RSCBEMPL – Employee.  RSCBINSD – Insider. |
| resident | int | 1 | 0-1 | Resident flag. Possible values:  0 – Non-resident.  1 – Resident. |
| nationality | string | 3 | 0-1 | Nationality. ISO country code in 3 digits. |
| credit\_rating | string | 8 | 0-1 | Customer credit rating. Possible values:  CRDR0001 – Category I.  CRDR0002 – Category II.  CRDR0003 – Category IIV.  CRDR0004 – Category IV.  CRDR0005 – Category V. |
| money\_laundry\_risk | string | 8 | 0-1 | Money laundering risk. Possible values:  MOLR0001 – Low.  MOLR0002 – High. |
| money\_laundry\_reason | string | 8 | 0-1 | Reason of the high money laundering risk. Possible values:  MLRS0001 – No reasons for high risk of money laundry. |
| customer\_status | string | 8 | 0-1 | Customer status. Dictionary CTST. |
| status\_reason | string | 8 | 0-1 | Last status change reason |
| reg\_date | date |  | 0-1 | Customer registration date. |
| close\_date | date |  | 0-1 | Customer close date |
| contract | complex |  | 0-\* | Contract data. |
| person | complex |  | 0-1 | Person’s data |
| contact | complex |  | 0-\* | Customer’s contacts |
| address | complex |  | 0-\* | Customer’s address |
| flexible\_field | complex |  | 0-\* | Flexible field block |
| contract | | | | |
| contract\_number | string | 200 | 1-1 | Contract number |
| start\_date | date |  | 0-1 | Contract start date |
| person | | | | |
| person\_title | string | 8 | 0-1 | Person title.List of values:  PTTLMRSS – Mrs  PTTLMSTR – Mr |
| person\_name | person\_name |  | 1-2 | Person name |
| suffix | string | 8 | 0-1 | The suffix of the name.List of values:  PSFXSENR – Senior  PSFXJUNR – Junior  PSFXFRST – First  PSFXSCND – Second |
| birthday | date |  | 0-1 | Date of birthday |
| place\_of\_birth | string | 200 | 0-1 | Place of birth |
| gender | string | 8 | 0-1 | Sex. Possible values:  GNDRFEML – Female.  GNDRMALE – Male. |
| identity\_card | identity\_card |  | 0-3 | Declaration of identity. |
| person\_name | | | | |
| language | string | 8 | 1-1 | Language of the person name. Possible values:  LANGRUS – Russian.  LANGENG – English. |
| surname | string | 200 | 0-1 | Surname. |
| first\_name | string | 200 | 1-1 | Name. |
| second\_name | string | 200 | 0-1 | Patronymic name. |
| identity\_card | | | | |
| id\_type | string | 8 | 1-1 | Person or company IDs types. Please refer to IDTP dictionary. |
| id\_series | string | 200 | 0-1 | Declaration series. |
| id\_number | string | 200 | 1-1 | Declaration number. |
| id\_issuer | string | 200 | 0-1 | Issuer. |
| id\_issue\_date | date |  | 0-1 | Date of issue. |
| id\_expire\_date | date |  | 0-1 | Expiry date. |
| id\_desc | string | 4000 | 0-1 | Id description |
| contact | | | | |
| contact\_type | string | 8 | 0-1 | Contact type. Possible values:  CNTTPRMC – Primary contact. |
| preferred\_lang | string | 8 | 0-1 | Desired communication language. Possible values:  LANGRUS – Russian.  LANGENG – English. |
| job\_title | string | 8 | 0-1 | Dictionary JTTL |
| person | person |  | 0-1 | Person |
| contact\_data | contact\_data |  | 0-\* | Contact data. |
| contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | Communication method. Possible values:  CMNM0001 – Mobile phone.  CMNM0002 – E-mail.  CMNM0003 – Post.  CMNM0004 – Fax.  CMNM0005 – Skype.  CMNM0008 – ICQ Corp. |
| commun\_address | string | 200 | 1-1 | Communication address in accordance with the specified communication method. |
| address | | | | |
| address\_type | string | 8 | 1-1 | Address type. Possible values:  ADTPBSNA - Business address.  ADTPHOME – Home address.  ADTPLGLA – Legal address. |
| country | string | 3 | 1-1 | Country (3 digit of the ISO code). |
| address\_name | address\_name |  | 1-2 | Address data that can be performed in different languages. |
| house | string | 200 | 1-1 | House number. |
| apartment | string | 200 | 0-1 | Apartment. |
| postal\_code | string | 10 | 0-1 | ZIP code. |
| region\_code | string | 8 | 0-1 | Region code. |
| latitude | double |  | 0-1 | Geographic coordinate - Latitude (N) |
| longitude | double |  | 0-1 | Geographic coordinate - Longitude (W) |
| address\_name | | | | |
| language | string | 8 | 1-1 | Language of the address data. Possible values:  LANGRUS – Russian.  LANGENG – English. |
| region | string | 200 | 0-1 | Region name. |
| city | string | 200 | 1-1 | City. |
| street | string | 200 | 1-1 | Street. |
| **flexible\_field** | | | | |
| flexible\_field\_name | string | 200 | 1-1 | Unique flexible field name |
| flexible\_field\_value | string | 200 | 1-1 | Flexible field value |

CONTACT

The element contains all the customer contact details. There may be several communication methods for a customer. Also a customer can have several contacts. Contact type defines its purpose.

CUSTOMER

The element contains all data of a particular customer.

CUSTOMERS

This is a document root element that contains data about customers to upload to external system.

IDENTITY\_CARD

The element contains the customer declaration of identity. There can be several declarations for a customer.

PERSON

This is a mail element to display customer personal data if the customer is a person.

CONTRACT

The element contains the contract data in accordance with which the account was opened.

FLEXIBLE\_FIELD

The element contains flexible fields with theirs values.