SMARTVISTA EXCHANGE PROTOCOL WITH DATA WAREHOUSE (SVXP DWH)

API developer reference

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1. PREFACE
   1. Revision history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Revision | Date | Author | | Details |
| 1.0 | 22.06.2017 | | Kolodkina Y. | Initial version |
| 1.1 | 11.04.2018 | | Kolodkina Y. | Dictionary file structure. Format of dictionary data was allocated into new common interface: \Dictionaries\svxp\_dict\_interfaces\_eng.docx. |

* 1. Document purpose

SVXP DWH 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 with Data Warehouse (SVXP DWH hereafter) provides a description of the file formats of information upload into Data Warehouse (DWH) from 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 DWH methods the standard XML data types are used. Those are fully described in the following document**XML Schema Part 2: Datatypes Second Edition and** it 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 DWH messages are described in the table structure below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tag name | Data type | Length | Occurrence (min-max) | Description |
| merchant | | | | |
| merchant\_number | string | 15 | 1-1 | A merchant number |
| inst\_id | long | 4 | 1-1 | Institution identifier |
| merchant\_name | string | 200 | 0-1 | A merchant name that is used in an operation description. It must be specified in English only |
| merchant\_status | string | 8 | 1-1 | Merchant status. Please refer to MRCS dictionary |
| merchant\_type | string | 8 | 1-1 | Account type. Please refer to MRCT dictionary |
| Lang | string | 7 | 0-1 | Language. Please refer to LANG dictionary |

**Data Type:** SVXP DWH 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. CUSTOMER FILE STRUCTURE
   1. Overview

The file contains information on acquiring customers. Including contract data, person data, company data, contact data, address data of customers. The information about customers is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag CUSTOMERS is root tag and it include itself one or more tags CUSTOMER.

* 1. References

Format of customer file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_customer\_1.1.xsd

Example of xml document:

svxp\_dwh\_customer.xml – customers information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| customers | | | | It is root tag and it include itself one or more tags customer |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPCUST |
| inst\_id | int | 4 | 0-1 | An institution ID |
| customer | complex |  | 0-\* | Customer data. Should contain an attribute customer\_id |
| customer | | | | |
| **customer\_id** | long | 12 | 1-1 | Unique identifier of customer in SVBO. It can be used for search and update/insert data it DWH |
| inst\_id | int | 4 | 1-1 | An institution ID |
| customer\_number | string | 200 | 1-1 | External identifier of customer. Should be unique within an institution |
| customer\_category | string | 8 | 0-1 | Customer category: regular, privileged, VIP etc. Value from dictionary CCTG |
| customer\_ext\_type | string | 8 | 0-1 | Customer extended type – agent, institute or Service provider. Value from dictionary ENTT |
| customer\_ext\_id | long | 16 | 0-1 | Customer extended identifier |
| customer\_relation | string | 8 | 0-1 | Customer relation type: affiliate, employee, insider, no relation. Value from dictionary RSCB |
| resident | int | 1 | 0-1 | Resident flag: 1 – resident, 0 – nonresident |
| nationality | string | 3 | 0-1 | Nationality. Numeric ISO code of country of nationality. |
| credit\_rating | string | 8 | 0-1 | Category of customer quality (creditworthiness). Value from dictionary CRDR |
| money\_laundry\_risk | string | 8 | 0-1 | Risk of money laundry by customer: high, low. Value from dictionary MOLR |
| money\_laundry\_reason | string | 8 | 0-1 | Reason of high risk of money laundry. Value from dictionary MLRS |
| status | string | 8 | 0-1 | Status of customer. Value from dictionary CTST |
| contract | complex |  | 1-\* | Contract data. Should contain an attribute contract\_id |
| person | complex |  | 0-1 | Person data. Filled only if customer type is person. Should contain an attribute person\_id |
| company | complex |  | 0-1 | Company data. Filled only if customer type is company. |
| contact | complex |  | 0-\* | Customer contact data. Should contain an attribute contact\_id |
| address | complex |  | 0-\* | Customer post addresses. Should contain an attribute address\_id |
| flexible\_field | complex |  | 0-\* | Flexible field block |
| note | complex |  | 0-\* | Note field block |
| contract | | | | |
| **contract\_id** | int | 8 | 1-1 | Unique identifier of contract in SVBO. It can be used for search and update/insert data it MP |
| contract\_number | string | 200 | 1-1 | A contract number. It must be unique in the scope of an institution |
| agent\_id | int | 8 | 1-1 | An ID of an agent a contract is going to be associated with |
| agent\_number | string | 200 | 1-1 | Agent number |
| contract\_type | string | 8 | 1-1 | A contract type: Merchant registration, Terminal installation, etc. Values are taken from the dictionary CNTP |
| product\_id | int | 8 | 1-1 | Product identifier which describe whole set of service terms provided by contract |
| product\_number | string | 200 | 0-1 | Product number uses to identify a product as well as tag <PRODUCT\_ID>. |
| start\_date | date |  | 1-1 | Start date of contract validity |
| end\_date | date |  | 0-1 | End date of contract validity |
| person | | | | |
| **person\_id** | int | 12 | 1-1 | Unique identifier of person in SVBO. It can be used for search and update/insert data it DWH |
| person\_title | string | 8 | 0-1 | A person title: Mr., Mrs., Miss, etc. Values are taken from the dictionary PTTL |
| person\_name | complex |  | 1-\* | A person’s name. It may be presented in a number of languages |
| suffix | string | 8 | 0-1 | A name suffix: Jr., Sr., etc. Values are taken from the dictionary PSFX |
| birthday | date |  | 0-1 | Date of birth |
| place\_of\_birth | string | 200 | 0-1 | Place of birth |
| gender | string | 8 | 0-1 | A contact person’s gender. Values are taken from the dictionary GNDR |
| identity\_card | complex |  | 0-\* | Contains information about identifying documents of person |
| person\_name | | | | |
| surname | string | 200 | 1-1 | A person’s surname |
| first\_name | string | 200 | 1-1 | A person’s first name |
| second\_name | string | 200 | 0-1 | A person’s second name |
| company | | | | |
| incorp\_form | string | 8 | 0-1 | A type of an incorporated person: LLC, OJSC, UE, etc. Values are taken from the dictionary INCF |
| embossed\_name | string | 200 | 0-1 | Company's embossed name. |
| company\_name | complex |  | 0-2 | The name of the company. Can be presented simultaneously in multiple languages. Must have an attribute LANGUAGE to display the language in which the name is |
| identity\_card | complex |  | 0-3 | Company’s ID data |
| company\_name | | | | |
| company\_short\_name | string | 200 | 1-1 | A contracted name of a company |
| company\_full\_name | string | 200 | 0-1 | The full name of a company |
| identity\_card | | | | |
| id\_type | string | 8 | 1-1 | Type of identity card. Dictionary value IDTP. |
| id\_series | string | 200 | 0-1 | Series of identity card |
| id\_number | string | 200 | 1-1 | Number of identity card |
| id\_issuer | string | 200 | 0-1 | Identity card’s issuer name |
| id\_issue\_date | date |  | 0-1 | Date of issuing |
| id\_expire\_date | date |  | 0-1 | Date of expiring |
| contact | | | | |
| **contact\_id** | int | 12 | 1-1 | Unique identifier of contact in SVBO. It can be used for search and update/insert data it DWH |
| contact\_type | string | 8 | 1-1 | Contact purpose (owner): primary, secondary, notification, CEO, CFO etc. Value from dictionary CNTT |
| preferred\_lang | string | 8 | 0-1 | Preferred language of communication. Value from dictionary LANG |
| job\_title | string | 8 | 0-1 | Contact person position. Value from dictionary JTTL |
| person | complex |  | 0-1 | Contact person data |
| contact\_data | complex |  | 1-\* | Contact data |
| contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | Communication method: phone, fax, email, Skype etc. Value from dictionary CMNM |
| commun\_address | string | 200 | 1-1 | Communication identifier: phone number, email address, Skype user name etc. |
| start\_date | date |  | 0-1 | Start date |
| end\_date | date |  | 0-1 | End date |
| address | | | | |
| **address\_id** | int | 12 | 1-1 | Unique identifier of address in SVBO. It can be used for search and update/insert data it DWH |
| address\_type | string | 8 | 1-1 | Address purpose: business, legal, home, delivery. Value from dictionary ADTP |
| country | string | 3 | 1-1 | Numeric ISO country code. ISO Dictionary value |
| address\_name | complex |  | 1-\* | Address text data which could be provided as multilingual. Should contain an attribute LANGUAGE to display language in which the data is |
| house | string | 200 | 1-1 | House number |
| apartment | string | 200 | 0-1 | Office or apartment number |
| postal\_code | string | 4-10 | 0-1 | Postal code |
| place\_code | string | 200 | 0-1 | Place code |
| region\_code | string | 8 | 0-1 | Region code |
| latitude | float | 10 | 0-1 | Location coordinates – latitude (N) |
| longitude | float | 10 | 0-1 | Location coordinates – longitude (W) |
| address\_name | | | | |
| region | string | 200 | 0-1 | Country region (State, Province) |
| 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 |
| note | | | | |
| note\_type | string | 8 | 1-1 | Note type:  NTTPUSER – user comment;  NTTPRSTR - Notes for registry of opened and closed accounts;  NTTPDLVR – Delivery notes. |
| note\_content | complex |  | 1-\* | Content of the note. Have attribute language |
| note\_content | | | | |
| note\_header | string | 4000 | 0-1 | Header of the note |
| note\_text | string | 4000 | 0-1 | Text of the note |

1. ACCOUNT FILE STRUCTURE
   1. Overview

The file contains information on accounts. Including account data, balance data. The information about accounts is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag ACCOUNTS is root tag and it include itself one or more tags ACCOUNT.

* 1. References

Format of account file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_account\_1.1.xsd

Example of xml document:

svxp\_dwh\_account.xml – account information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| accounts | | | | It is root tag and it include itself one or more tags account |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPACCT |
| inst\_id | int | 4 | 0-1 | An institution ID |
| account | complex |  | 0-\* | Account data. Should contain an attribute account\_id |
| account | | | | |
| **account\_id** | int | 8 | 1-1 | Unique identifier of account in SVBO. It can be used for search and update/insert data it DWH |
| inst\_id | int | 4 | 1-1 | An institution ID |
| agent\_id | int | 8 | 1-1 | An ID of an agent a contract is going to be associated with |
| agent\_number | string | 200 | 1-1 | Agent number |
| account\_number | string | 200 | 1-1 | Account number |
| account\_type | string | 8 | 0-1 | Account type. Please refer to ACTP dictionary |
| account\_status | string | 8 | 0-1 | Account status. Please refer to ACST dictionary |
| currency | string | 3 | 1-1 | Account currency |
| customer | complex |  | 1-1 | Customer data. Should contain an attribute customer\_id |
| contract | complex |  | 1-1 | Contract data. Should contain an attribute contact\_id |
| balance | complex |  | 1-\* | Account balances. Should contain an attribute balance\_id |
| customer | | | | |
| customer\_id | long | 12 | 1-1 | Unique identifier of customer in SVBO. It can be used for search and update/insert data it DWH |
| customer\_number | string | 200 | 1-1 | An external ID of a customer. It must be unique in the scope of an institution |
| contract | | | | |
| contract\_id | long | 12 | 1-1 | Unique identifier of contract in SVBO. It can be used for search and update/insert data it DWH |
| contract\_number | string | 200 | 1-1 | A contract number. It must be unique in the scope of an institution |
| balance | | | | |
| balance\_id | long | 12 | 1-1 | Unique identifier of balance in SVBO. It can be used for search and update/insert data it DWH |
| balance\_type | string | 8 | 1-1 | Balance type. Please refer to BLTP dictionary |
| balance\_currency | string | 3 | 1-1 | Balance currency |
| balance\_status | string | 8 | 1-1 | Balance status. Please refer to BLST dictionary |
| balance\_open\_date | date |  | 0-1 | Balance account opening date |
| balance\_close\_date | date |  | 0-1 | Balance account closure date |

1. CARD FILE STRUCTURE
   1. Overview

The file contains information on cards. Including card data, instance data, cardholder data, accounts of cards. The information about cards is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag CARDS is root tag and it include itself one or more tags CARD.

* 1. References

Format of card file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_card\_1.1.xsd

Example of xml document:

svxp\_dwh\_card.xml – cards information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| cards | | | | It is root tag and it include itself one or more tags card |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPCINF |
| inst\_id | int | 4 | 0-1 | An institution ID |
| card | complex |  | 0-\* | Card data. Should contain an attribute card\_id |
| card | | | | |
| **card\_id** | string | 200 | 1-1 | Internal card instance identifier(UID) |
| inst\_id | int | 4 | 1-1 | An institution ID |
| card\_number | string | 24 | 1-1 | A card number(PAN). It must be unique in the scope of an institution. It can be masked. |
| card\_mask | string | 24 | 0-1 | Masked card number |
| card\_type | int | 4 | 0-1 | Card type: Visa Gold, Visa Classic etc. Dictionary value |
| Country | string | 3 | 1-1 | Country of card |
| category | string | 8 | 0-1 | Category of card. Value from dictionary CRCG |
| reg\_date | date |  | 1-1 | Date when card was registered in the SVBO |
| customer | complex |  | 1-1 | Customer-owner of card. Should contain an attribute customer\_id |
| contract | complex |  | 1-1 | Contract by which card was registered. Should contain an attribute contract\_id |
| cardholder | complex |  | 1-1 | Cardholder of card. Should contain an attribute cardholder\_id |
| card\_instance | complex |  | 1-\* | Card instance data. Should contain an attribute instance\_id |
| account | complex |  | 1-\* | Card’s account. Should contain an attribute account\_id |
| customer | | | | |
| customer\_id | long | 12 | 1-1 | Unique identifier of customer in SVBO. It can be used for search and update/insert data it DWH |
| customer\_number | string | 200 | 1-1 | An external ID of a customer. It must be unique in the scope of an institution |
| contract | | | | |
| contract\_id | long | 12 | 1-1 | Unique identifier of contract in SVBO. It can be used for search and update/insert data it DWH |
| contract\_number | string | 200 | 1-1 | A contract number. It must be unique in the scope of an institution |
| cardholder | | | | |
| cardholder\_id | long | 12 | 1-1 | Unique identifier of cardholder in SVBO. It can be used for search and update/insert data it DWH |
| cardholder\_number | string | 200 | 1-1 | Unique number of cardholder. |
| cardholder\_name | string | 200 | 1-1 | Cardholder embossed name. |
| person | complex |  | 1-1 | Contains information about person of cardholder. Should contain an attribute person\_id |
| address | complex |  | 0-\* | Cardholder’s address block. Should contain an attribute address\_id |
| contact | complex |  | 0-\* | Cardholder’s contacts block. Should contain an attribute contact\_id |
| card\_instance | | | | |
| **instance\_id** | int | 12 | 1-1 | Card instance identifier. It can be used for search and update/insert data it DWH |
| inst\_id | int | 4 | 1-1 | An institution ID |
| agent\_id | int | 8 | 1-1 | An ID of an agent a contract is going to be associated with |
| agent\_number | string | 200 | 0-1 | Agent external number |
| sequential\_number | int | 4 | 1-1 | Sequential number of a plastic |
| card\_status | string | 8 | 1-1 | Status of card. Value from dictionary CSTS |
| card\_state | string | 8 | 1-1 | State of a card. Value from dictionary CSTE |
| iss\_date | date |  | 0-1 | Date of card issuing |
| start\_date | date |  | 0-1 | Card validity start date |
| expiration\_date | date |  | 1-1 | Expiration date of card instance |
| reissue\_date | date |  | 0-1 | Date of card's instance reissuing |
| reissue\_reason | string | 8 | 0-1 | Reason of reissuing defines reissuing flags (EVNT dictionary) |
| pin\_update\_flag | int | 1 | 0-1 | PIN update flag |
| pin\_request | string | 8 | 0-1 | PIN request. Value from dictionary PNRQ |
| perso\_priority | string | 8 | 0-1 | Personalization priority. Value from dictionary PRSP |
| embossing\_request | string | 8 | 0-1 | Embossing request. Value from dictionary EMRQ |
| pin\_mailer\_request | string | 8 | 0-1 | PIN mailer request. Value from dictionary PMRQ |
| preceding\_instance\_id | int | 12 | 0-1 | Preceding card instance identifier |
| person | | | | |
| **person\_id** | int | 12 | 1-1 | Unique identifier of person in SVBO. It can be used for search and update/insert data it DWH |
| person\_title | string | 8 | 0-1 | A person title: Mr., Mrs., Miss, etc. Values are taken from the dictionary PTTL |
| person\_name | complex |  | 1-\* | A person’s name. It may be presented in a number of languages |
| suffix | string | 8 | 0-1 | A name suffix: Jr., Sr., etc. Values are taken from the dictionary PSFX |
| birthday | date |  | 0-1 | Date of birth |
| place\_of\_birth | string | 200 | 0-1 | Place of birth |
| gender | string | 8 | 0-1 | A contact person’s gender. Values are taken from the dictionary GNDR |
| identity\_card | complex |  | 0-1 | Contains information about identifying documents of person |
| person\_name |  |  |  |  |
| surname | string | 200 | 1-1 | A person’s surname |
| first\_name | string | 200 | 1-1 | A person’s first name |
| second\_name | string | 200 | 0-1 | A person’s second name |
| identity\_card | | | | |
| id\_type | string | 8 | 1-1 | Type of identity card. Dictionary value IDTP |
| id\_series | string | 200 | 0-1 | Series of identity card |
| id\_number | string | 200 | 1-1 | Number of identity card |
| id\_issuer | string | 200 | 0-1 | Identity card’s issuer name |
| id\_issue\_date | date |  | 0-1 | Date of issuing |
| id\_expire\_date | date |  | 0-1 | Date of expiring |
| address | | | | |
| **address\_id** | int | 12 | 1-1 | Unique identifier of address in SVBO. It can be used for search and update/insert data it DWH |
| address\_type | string | 8 | 1-1 | A purpose of an address: Home address, Business address, Statement delivery address. Values are taken from the dictionary. Dictionary ADTP |
| country | string | 3 | 1-1 | A numeric ISO country code. Values are taken from the dictionary |
| address\_name | complex |  | 1-1 | Address parameters that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| house | string | 200 | 1-1 | House number |
| apartment | string | 200 | 0-1 | Apartment number |
| postal\_code | string | 10 | 0-1 | Postal code |
| place\_code | string | 200 | 0-1 | Place code |
| region\_code | string | 11 | 0-1 | Region code |
| address\_name | | | | |
| region | string | 200 | 0-1 | Country region (region, state, republic) |
| city | string | 200 | 1-1 | City |
| street | string | 200 | 1-1 | Street |
| contact | | | | |
| **contact\_id** | int | 12 | 1-1 | Unique identifier of contact in SVBO. It can be used for search and update/insert data it DWH |
| contact\_type | string | 8 | 1-1 | Contact purpose (owner): primary, secondary, notification, CEO, CFO etc. Value from dictionary CNTT |
| preferred\_lang | string | 8 | 0-1 | Preferred language of communication. Value from dictionary LANG |
| job\_title | string | 8 | 0-1 | Contact person position. Value from dictionary JTTL |
| person | complex |  | 0-1 | Contact person data |
| contact\_data | complex |  | 1-\* | Contact data |
| contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | Communication method: phone, fax, email, Skype etc. Value from dictionary CMNM |
| commun\_address | string | 200 | 1-1 | Communication identifier: phone number, email address, Skype user name etc. |
| start\_date | date |  | 0-1 | Start date |
| end\_date | date |  | 0-1 | End date |
| account | | | | |
| account\_id | long | 12 | 1-1 | Unique identifier of account in SVBO. It can be used for search and update/insert data it DWH |
| account\_number | string | 200 | 1-1 | An account number. It must be unique in the scope of an institution |
| account\_type | string | 8 | 1-1 | An account type: Default, Savings, etc. Values are taken from the dictionary ACTP |
| currency | string | 3 | 1-1 | Account currency. ISO currency code |
| account\_status | string | 8 | 1-1 | An account status. Values are taken from the dictionary ACST |
| is\_pos\_default | int | 1 | 0-1 | Default account for POS |
| is\_atm\_default | int | 1 | 0-1 | Default account for ATM |
| is\_atm\_currency | Int | 1 | 0-1 | Default ATM in currency |
| is\_pos\_currency | int | 1 | 0-1 | Default POS in currency |
| link\_flag | int | 1 | 0-1 | Flag which show that account was attached/detached to card |

1. CARD STATUS FILE STRUCTURE
   1. Overview

The file contains information on cards statuses. Including card number, instance status, instance state. The information about cards statuses is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag CARD\_STATUSES is root tag and it include itself one or more tags CARD\_STATUS.

* 1. References

Format of card file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_card\_status\_1.1.xsd

Example of xml document:

svxp\_dwh\_card\_status.xml – cards statuses information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| card\_statuses | | | | It is root tag and it include itself one or more tags card\_status |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPCRDS |
| inst\_id | int | 4 | 0-1 | An institution ID |
| card\_status | complex |  | 0-\* | Information about card status changing |
| card\_status | | | | |
| **card\_id** | string | 200 | 1-1 | Internal card instance identifier(UID) |
| card\_number | string | 24 | 1-1 | A card number(PAN). It must be unique in the scope of an institution. It can be masked. |
| instance\_id | int | 12 | 1-1 | Card instance identifier |
| sequential\_number | int | 4 | 1-1 | Sequential number of a plastic |
| card\_status | string | 8 | 1-1 | Status of card. Value from dictionary CSTS |
| card\_state | string | 8 | 1-1 | State of a card. Value from dictionary CSTE |
| expiration\_date | date |  | 1-1 | Expiration date of card instance |
| initiator | string | 8 | 0-1 | Initiator of status changing. Dictionary ENSI |
| status\_reason | string | 8 | 0-1 | Reason of card status. Dictionary EVNT. |

1. MERCHANT FILE STRUCTURE
   1. Overview

The file contains information on merchants. Including merchant data, contact data, address data, accounts of merchants. The information about merchants is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag MERCHANTS is root tag and it include itself one or more tags MERCHANT.

* 1. References

Format of merchant file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_merchant\_1.1.xsd

Example of xml document:

svxp\_dwh\_merchant.xml – merchants information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| merchants | | | | It is root tag and it include itself one or more tags merchant |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPMRCH |
| inst\_id | int | 4 | 0-1 | An institution ID |
| merchant | complex |  | 0-\* | Merchant data. Should contain an attribute merchant\_id |
| merchant | | | | |
| **merchant\_id** | int | 8 | 1-1 | Unique identifier of merchant in SVBO. It can be used for search and update/insert data it DWH |
| inst\_id | int | 4 | 1-1 | An institution ID |
| agent\_id | int | 8 | 1-1 | An ID of an agent a contract is going to be associated with |
| agent\_number | string | 200 | 1-1 | Agent number |
| merchant\_number | string | 15 | 1-1 | A merchant number. It must be unique in the scope of an institution |
| merchant\_name | string | 200 | 0-1 | A merchant name that is used in an operation description. It must be specified in English only |
| merchant\_label | string | 200 | 0-\* | A name of a merchant. It may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display the name in the proper language |
| merchant\_type | string | 8 | 1-1 | A merchant type. Defines a merchant position in the merchant hierarchy. Values are taken from the dictionary MRCT |
| mcc | string | 4 | 0-1 | Merchant category code. Values are taken from the dictionary (table com\_mcc) |
| merchant\_status | string | 8 | 1-1 | A merchant status. Values are taken from the dictionary MRCS |
| parent\_id | int | 8 | 0-1 | Reference to parent merchant level in accordance with acquiring hierarchy |
| customer | complex |  | 1-1 | Customer-owner of merchant. Should contain an attribute customer\_id |
| contract | complex |  | 1-1 | Contract by which merchant was registered. Should contain an attribute contract\_id |
| contact | complex |  | 0-\* | Contact information. Should contain an attribute contact\_id |
| address | complex |  | 0-\* | Location address. Should contain an attribute address\_id |
| account | complex |  | 0-\* | A merchant’s account. Should contain an attribute account\_id |
| customer | | | | |
| customer\_id | long | 12 | 1-1 | Unique identifier of customer in SVBO. It can be used for search and update/insert data it DWH |
| customer\_number | string | 200 | 1-1 | An external ID of a customer. It must be unique in the scope of an institution |
| contract | | | | |
| contract\_id | long | 12 | 1-1 | Unique identifier of contract in SVBO. It can be used for search and update/insert data it DWH |
| contract\_number | string | 200 | 1-1 | A contract number. It must be unique in the scope of an institution |
| contact | | | | |
| contact\_id | long | 12 | 1-1 | Unique identifier of contact in SVBO. It can be used for search and update/insert data it DWH |
| contact\_type | string | 8 | 1-1 | A purpose of a contact. Values are taken from the dictionary CNTT |
| contact\_data | complex |  | 1-\* | Contact information |
| contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | A communication method. Values are taken from the dictionary CMNM |
| commun\_address | string | 200 | 1-1 | A communication ID: phone number, email, Skype, etc. |
| address | | | | |
| address\_id | long | 12 | 1-1 | Unique identifier of address in SVBO. It can be used for search and update/insert data it DWH |
| address\_type | string | 8 | 1-1 | A purpose of an address: Home address, Business address, Statement delivery address. Values are taken from the dictionary. Dictionary ADTP |
| country | string | 3 | 1-1 | A numeric ISO country code. Values are taken from the dictionary |
| address\_name | complex |  | 1-1 | Address parameters that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| house | string | 200 | 1-1 | House number |
| apartment | string | 200 | 0-1 | Apartment number |
| postal\_code | string | 10 | 0-1 | Postal code |
| place\_code | string | 200 | 0-1 | Place code |
| region\_code | string | 11 | 0-1 | Region code |
| address\_name | | | | |
| region | string | 200 | 0-1 | Country region (region, state, republic) |
| city | string | 200 | 1-1 | City |
| street | string | 200 | 1-1 | Street |
| account | | | | |
| account\_id | long | 12 | 1-1 | Unique identifier of account in SVBO. It can be used for search and update/insert data it DWH |
| account\_number | string | 200 | 1-1 | An account number. It must be unique in the scope of an institution |
| account\_type | string | 8 | 1-1 | An account type: Default, Savings, etc. Values are taken from the dictionary ACTP |
| currency | string | 3 | 1-1 | Account currency. ISO currency code |
| account\_status | string | 8 | 1-1 | An account status. Values are taken from the dictionary ACST |

1. TERMINAL FILE STRUCTURE
   1. Overview

The file contains information on terminals. Including terminal data, contact data, address data, accounts of terminals. The information about terminals is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag TERMINALS is root tag and it include itself one or more tags TERMINAL.

* 1. References

Format of terminal file described by XSD file.

SVXP DWH XSD: svxp\_dwh\_terminal\_1.1.xsd

Example of xml document:

Svxp\_dwh\_terminal.xml – terminals information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| terminals | | | | It is root tag and it include itself one or more tags terminal |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTPTRMN |
| inst\_id | int | 4 | 0-1 | An institution ID |
| terminal | complex |  | 0-\* | Terminal data. Should contain an attribute terminal\_id |
| terminal | | | | |
| **terminal\_id** | int | 8 | 1-1 | Unique identifier of terminal in SVBO. It can be used for search and update/insert data it DWH |
| inst\_id | int | 4 | 1-1 | An institution ID |
| agent\_id | int | 8 | 1-1 | An ID of an agent a contract is going to be associated with |
| agent\_number | string | 200 | 1-1 | Agent number |
| terminal\_number | string | 8 | 1-1 | A terminal number. It must be unique in the scope of an institution |
| terminal\_type | string | 8 | 1-1 | A terminal type. Values are taken from the dictionary TRMT |
| mcc | string | 4 | 0-1 | Merchant category code. Values are taken from the dictionary (table com\_mcc) |
| terminal\_status | string | 8 | 1-1 | A terminal status. Values are taken from the dictionary TRMS |
| standard\_id | int | 4 | 0-1 | A communication standard. Values are taken from the dictionary |
| version\_id | int | 4 | 0-1 | A communication standard version |
| card\_data\_input\_cap | string | 8 | 0-1 | Available methods of reading the card data. Values are taken from the dictionary F221 |
| crdh\_auth\_cap | string | 8 | 0-1 | Available methods of cardholder authentication. Values are taken from the dictionary F222 |
| card\_capture\_cap | string | 8 | 0-1 | Available methods of card capture. Values are taken from the dictionary F223 |
| term\_operating\_env | string | 8 | 0-1 | Terminal environment. Values are taken from the dictionary F224 |
| crdh\_data\_present | string | 8 | 0-1 | Cardholder presence. Values are taken from the dictionary F225 |
| card\_data\_present | string | 8 | 0-1 | Card data presence. Values are taken from the dictionary F226 |
| card\_data\_input\_mode | string | 8 | 0-1 | Card data input mode. Values are taken from the dictionary F227 |
| crdh\_auth\_method | string | 8 | 0-1 | A method of cardholder authentication. Values are taken from the dictionary F228 |
| crdh\_auth\_entity | string | 8 | 0-1 | An entity to use for cardholder authentication. Values are taken from the dictionary F229 |
| card\_data\_output\_cap | string | 8 | 0-1 | Available methods of card data output. Values are taken from the dictionary F22A |
| term\_data\_output\_cap | string | 8 | 0-1 | Available methods of terminal data output. Values are taken from the dictionary F22B |
| pin\_capture\_cap | string | 8 | 0-1 | PIN input capability. Values are taken from the dictionary F22C |
| cat\_level | string | 8 | 0-1 | A terminal category. Values are taken from the dictionary F22D |
| gmt\_offset | int | 2 | 0-1 | Time zone offset |
| cash\_dispenser\_present | int | 1 | 0-1 | Indicates the cash withdrawal capability |
| payment\_possibility | int | 1 | 0-1 | Indicates the payment capability |
| use\_card\_possibility | int | 1 | 0-1 | Indicates the card use capability |
| cash\_in\_present | int | 1 | 0-1 | Indicates the cash-in capability |
| instalment\_support | int | 1 | 0-1 | Indicates the instalment support of POS terminal |
| pos\_batch\_support | int | 1 | 0-1 | Indicates the POS batch support of POS terminal |
| atm\_terminal | complex |  | 0-1 | ATM specific parameters |
| merchant | complex |  | 1-1 | Merchant-owner of terminal. Should contain an attribute merchant\_id |
| customer | complex |  | 1-1 | Customer-owner of terminal. Should contain an attribute customer\_id |
| contract | complex |  | 1-1 | Contract by which terminal was registered. Should contain an attribute contract\_id |
| contact | complex |  | 0-\* | Contact information |
| address | complex |  | 0-\* | Location address |
| account | complex |  | 0-\* | A terminal’s account. Should contain an attribute account\_id |
| atm\_terminal | | | | |
| atm\_type | string | 8 | 0-1 | An ATM type. Values are taken from the dictionary ATMT |
| atm\_model | string | 200 | 0-1 | An ATM model name |
| serial\_number | string | 200 | 0-1 | An ATM serial number |
| placement\_type | string | 8 | 0-1 | A placement type. Values are taken from the dictionary ATMP |
| availability\_type | string | 8 | 0-1 | An availability type. Values are taken from the dictionary ATMA. |
| cassette\_count | int | 1 | 0-1 | A number of cassettes with banknotes |
| atm\_dispenser | complex |  | 0-\* | Dispenser related parameters |
| atm\_dispenser | | | | |
| disp\_number | int | 4 | 1-1 | A dispenser ordinal number |
| face\_value | float |  | 1-1 | A face value of banknotes in a dispenser. |
| currency | string | 3 | 1-1 | Banknote currency |
| denomination\_id | string | 1 | 0-1 | A denomination ID |
| dispenser\_type | string | 8 | 1-1 | A dispenser type. Values are taken from the dictionary DSTP |
| merchant | | | | |
| merchant\_id | int | 8 | 1-1 | Unique identifier of merchant in SVBO. It can be used for search and update/insert data it DWH |
| merchant\_number | string | 15 | 1-1 | A merchant number. It must be unique in the scope of an institution |
| customer | | | | |
| customer\_id | long | 12 | 1-1 | Unique identifier of customer in SVBO. It can be used for search and update/insert data it DWH |
| customer\_number | string | 200 | 1-1 | An external ID of a customer. It must be unique in the scope of an institution. |
| contract | | | | |
| contract\_id | long | 12 | 1-1 | Unique identifier of contract in SVBO. It can be used for search and update/insert data it DWH |
| contract\_number | string | 200 | 1-1 | A contract number. It must be unique in the scope of an institution |
| contact | | | | |
| contact\_id | long | 12 | 1-1 | Unique identifier of contact in SVBO. It can be used for search and update/insert data it DWH |
| contact\_type | string | 8 | 1-1 | A purpose of a contact. Values are taken from the dictionary CNTT |
| contact\_data | complex |  | 1-\* | Contact information |
| contact\_data | | | | |
| commun\_method | string | 8 | 1-1 | A communication method. Values are taken from the dictionary CMNM |
| commun\_address | string | 200 | 1-1 | A communication ID: phone number, email, Skype, etc. |
| address | | | | |
| address\_id | long | 12 | 1-1 | Unique identifier of address in SVBO. It can be used for search and update/insert data it DWH |
| address\_type | string | 8 | 1-1 | A purpose of an address: Home address, Business address, Statement delivery address. Values are taken from the dictionary ADTP |
| country | string | 3 | 1-1 | A numeric ISO country code. Values are taken from the dictionary |
| address\_name | complex |  | 1-1 | Address parameters that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| house | string | 200 | 1-1 | House number |
| apartment | string | 200 | 0-1 | Apartment number |
| postal\_code | string | 10 | 0-1 | Postal code |
| place\_code | string | 200 | 0-1 | Place code |
| region\_code | string | 11 | 0-1 | Region code |
| address\_name | | | | |
| region | string | 200 | 0-1 | Country region (region, state, republic) |
| city | string | 200 | 1-1 | City |
| street | string | 200 | 1-1 | Street |
| account | | | | |
| account\_id | long | 12 | 1-1 | Unique identifier of account in SVBO. It can be used for search and update/insert data it DWH |
| account\_number | string | 200 | 1-1 | An account number. It must be unique in the scope of an institution |
| account\_type | string | 8 | 1-1 | An account type: Default, Savings, etc. Values are taken from the dictionary ACTP |
| currency | string | 3 | 1-1 | Account currency. ISO currency code |
| account\_status | string | 8 | 1-1 | An account status. Values are taken from the dictionary ACST |

1. OPERATION FILE STRUCTURE
   1. Overview

The file contains information on operations by cards, merchants and terminals accounts. Including entries and operation data. The information about operations is synchronized between the SmartVista and DWH.

The direction of the file may be only OUTGOING.

Tag OPERATIONS is root tag and it include itself one or more tags OPERATION.

* 1. References

Format of operation file described by XSD file.

SVXP XSD: svxp\_dwh\_operation\_1.1.xsd

Example of xml document:

Svxp\_dwh\_operation.xml – operations information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| operations | | | | It is root tag and it include itself one or more tags operation |
| file\_id | long | 16 | 0-1 | Unique identifier of outgoing file |
| file\_type | string | 8 | 1-1 | Type of outgoing file. Describe the purpose of data in file. Dictionary FLTP. Value FLTP1710 |
| inst\_id | int | 4 | 0-1 | An institution ID |
| operation | complex |  | 0-\* | Operation data |
| operation | | | | |
| oper\_id | long | 16 | 1-1 | Operation identifier |
| oper\_type | string | 8 | 1-1 | Operation type. Dictionary OPTP |
| msg\_type | string | 8 | 1-1 | Message type. Dictionary MSGT |
| sttl\_type | string | 8 | 1-1 | Settlement type. Dictionary STTT |
| oper\_date | date |  | 1-1 | Date when operation occurs |
| host\_date | date |  | 1-1 | Processing date |
| oper\_amount | amount |  | 1-1 | Original operation amount |
| sttt\_amount | amount |  | 0-1 | Settlement operation amount |
| 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 |
| is\_reversal | int | 1 | 1-1 | 0 – operation is not reversal  1 – operation is reversal |
| merchant\_number | string | 15 | 1-1 | 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 |
| issuer | participant |  | 0-1 | Operation participant - issuer |
| acquirer | participant |  | 0-1 | Operation participant - acquirer |
| transaction | complex |  | 0-\* | Financial transaction made by operation |
| participant |  |  |  |  |
| participant | | | | |
| inst\_id | int | 4 | 0-1 | Identifier of participant institution. |
| network\_id | int | 4 | 0-1 | Network id |
| card\_number | string | 19 | 0-1 | Card number |
| card\_id | long | 12 | 0-1 | Internal card identifier |
| card\_instance\_id | long | 12 | 0-1 | Internal card instance identifier |
| 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 |
| card\_network\_id | int | 4 | 0-1 | Card owner network |
| auth\_code | string | 6 | 0-1 | Auth code |
| merchant\_id | int | 8 | 0-1 | Unique identifier of merchant from participant-acquirer |
| terminal\_id | int | 8 | 1-1 | Unique identifier of terminal from participant-acquirer |
| account\_number | string | 32 | 0-1 | Account number |
| account\_amount | long | 16 | 0-1 | Amount addressed to participant account |
| account\_currency | string | 3 | 0-1 | Account currency |
| transaction | complex |  | 0-\* | Financial transaction made by operation |
| transaction | | | | |
| transaction\_id | long | 16 | 1-1 | Internal identifier of transaction |
| transaction\_type | string | 8 | 0-1 | Type of transaction. Dictionary TRNT |
| posting\_date | date |  | 0-1 | Transaction posting date |
| debit\_entry | entry |  | 0-1 | Debit part of transaction |
| credit\_entry | entry |  | 0-1 | Credit part of transaction |
| conversion\_rate | float |  | 0-1 | Conversion rate |
| amount\_purpose | string | 8 | 0-1 | Amount purpose. Fee type. Dictionary FETP |
| entry | | | | |
| entry\_id | long | 16 | 1-1 | Internal identifier of entry |
| balance\_type | string | 8 | 1-1 | Type of account balance. Dictionary BLTP |
| account | complex |  | 1-1 | Account that affected by entry |
| amount | complex |  | 1-1 | Transaction amount |
| account | | | | |
| account\_id | long | 16 | 1-1 | Internal identifier of account |
| account\_number | string | 32 | 1-1 | Account number |
| currency | string | 3 | 1-1 | Account currency |
| amount | | | | |
| amount\_value | long | 16 | 1-1 | Amount value expressed in minimal currency units |
| currency | string | 3 | 1-1 | Amount currency |

1. DICTIONARIES

For several fields from formats are used dictionaries data. The format for unloading dictionaries data is described in specification \Dictionaries\svxp\_dict\_interfaces\_eng.docx.

The list of used dictionaries:

| Code | Description |
| --- | --- |
| FLTP | File type |
| CCTG | Category of customer |
| INCF | Incorporation forms |
| CNTP | Contract Types |
| CNTT | Contact types |
| JTTL | Job title |
| LANG | Language |
| CMNM | Communication method |
| PTTL | Person title |
| PSFX | Person name suffix |
| GNDR | Gender |
| ADTP | Address types |
| MRCT | Merchant type |
| MRCS | Merchant status |
| ACST | Account state |
| ACTP | Account type |
| FETP | Fee types |
| MSGT | Message type |
| OPST | Operation status |
| OPTP | Operation Type |
| RESP | Internal authorization response codes |
| STTT | Settlement Type |
| TRMS | Terminal status |
| TRMT | Terminal type |
| TRNT | Transaction type |
| BLST | Balance status |
| BLTP | Balance type |
| CRCG | Card category |
| CSTE | Card state |
| CSTS | Card statuses. |
| EMRQ | Requesting action about plastic embossing |
| ENSI | Initiators of entity status change. |
| EVNT | Events |
| PMRQ | Requesting action about PIN mailer printing |
| PNRQ | Requesting action about PIN generation |
| PRSP | Personalization priority |