SMARTVISTA EXCHANGE PROTOCOL OF DICTIONARIES (SVXP DICT)

API developer reference

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1. PREFACE
   1. Revision history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Revision | Date | Author | | Details |
| 1.0 | 11.04.2018 | | Kolodkina Y. | Initial version |
| 2.0 | 18.07.2018 | | Kolodkina Y. | Added MCC file structure  Added notation about web services (2.3 References) |
| 2.1 | 17.09.2018 | | Alalykin A. | Support of flexible fields for basic entities |
| 2.1 | 29.01.2019 | | Viktorov N. | Add web-service address and request and response format for dictionary web service method |

* 1. Document purpose

SVXP DICT 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 DICT hereafter) provides a description of the file formats of information upload into External Systems 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 DICT 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 DICT messages are described in the table structure below.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tag name | Data type | | Length | | Occurrence (min-max) | | Description | |
| article | | | | | | | | | |
| code | | string | | 8 | | 1-1 | | Code of article | |
| article\_name | | complex | |  | | 0-\* | | Article name that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language | |
| article\_name | | | | | | | | | |
| name | | string | | 200 | | 1-1 | | Name of article | |
| description | | string | | 200 | | 0-1 | | Description of article | |

**Data Type:** SVXP DICT 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. References

SVXP DICT Web Services schema and its underlying components are required for SmartVista.  
The following are the locations of the WSDL file.

SVXP DICT WSDL: svxp\_dict.wsdl

1. DICTIONARY FILE STRUCTURE
   1. Overview

The file contains information on dictionaries used in many processes which unload information from SmartVista.

Tag DICTIONARIES is root tag and it include itself one or more tags DICTIONARY.

* 1. References

Format of dictionary file described by XSD file: svxp\_dictionary.xsd

The web-service schema is described in svxp\_dict.wsdl

The web-service address wsdl address: smartvistaaddress/DictionaryWS?wsdl

Example of xml document: svxp\_dictionary.xml – dictionaries information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| dictionaries | | | | It is root tag and it include itself one or more tags dictionary |
| 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 FLTPDICT |
| dictionary | complex |  | 0-\* | Dictionary data |
| dictionary | | | | |
| code | string | 4 | 1-1 | Dictionary code |
| dictionary\_name | complex |  | 1-\* | Dictionary name that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| articles | complex |  | 1-1 | List of dictionaries articles |
| dictionary\_name | | | | |
| name | string | 200 | 1-1 | Name of dictionary |
| description | string | 200 | 0-1 | Description of dictionary |
| articles | | | | |
| article | complex |  | 0-\* | Articles data |
| article | | | | |
| code | string | 8 | 1-1 | Code of article |
| article\_name | complex |  | 0-\* | Article name that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| article\_name | | | | |
| name | string | 200 | 1-1 | Name of article |
| description | string | 200 | 0-1 | Description of article |

* 1. Dictionaries retrieval method
     1. Request format

| Tag name | Data type | Length | Occurrence (min-max) | Description |
| --- | --- | --- | --- | --- |
| DictionariesRequest | | | | |
| dict\_version | string | 200 | 1-1 | Interface version. |
| lang | string | 8 | 0-1 | Dictionary language. |
| inst\_id | long | 4 | 0-1 | Institution to which belong dictionaries. |
| array\_dictionary\_id | long | 12 | 0-1 | The array of dictionaries which must be unloaded. |

* + 1. Response format

| Tag name | Data type | Length | Occurrence (min-max) | Description |
| --- | --- | --- | --- | --- |
| DictionariesResponse | | | | |
| dictionaries | complex |  | 0-1 | Unloaded dictionaries. |

1. CURRENCY RATES FILE STRUCTURE
   1. Overview

The file is used to update the exchange rates in the SmartVista in the case when exchange rates are set in the external system.

1. To load the Bank Selling exchange rate (when the Bank sells currency. Such exchange rate is used for debit transactions) The tags «scr currency» (source currency) and «dst currency» (destination currency) should be filled in the following way:

* Source currency is transaction currency
* Destination currency is account currency

1. To load the Bank Buying exchange rate (When the Bank buys currency. Such exchange rate is used for credit transactions) .The tags «scr currency» and «dst currency» should be filled in the following way:

* Source currency is account currency
* Destination currency is transaction currency

The direction of the file is INCOMING and OUTGOING.

* 1. References

Format of currency rate file described by XSD file: svxp\_currency\_rate.xsd

The web-service schema is described in svxp\_dict.wsdl.

Example of xml document: svxp\_currency\_rate\_example.xml

* 1. List of elements

| Tag name | Data type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| currency\_rates | | | | |
| currency\_rate | currency\_rate |  | 1-\* | Exchange rate between two currencies on the particular date. |
| currency\_rate | | | | |
| inst\_id | int | 4 | 1-1 | Financial institution ID for which the rate is applied. |
| rate\_type | string | 8 | 1-1 | Exchange rate type. It is an article of dictionary RTTP (Rate types). |
| effective\_date | dateTime |  | 1-1 | Start date of the rate. |
| expiration\_date | dateTime |  | 0-1 | End date of the rate. |
| src\_currency | currency\_scale |  | 1-1 | Source currency. |
| dst\_currency | currency\_scale |  | 1-1 | Destination currency. |
| rate | float |  | 1-1 | Rate. |
| inverted | int | 1 | 0-1 | Flag whether to invert the rate value or not. Default value 0 – do not invert. |
| result\_code | string | 8 | 0-1 | Result of processing incoming currency rate. Filled only in response file. |
| flexible\_data | complex |  | 0-\* | Flexible fields data |
| error\_code | string | 200 | 0-1 | Error code of processing incoming currency rate. Filled only in response file if status not successful. |
| currency\_scale | | | | |
| scale | int |  | 1-1 | Currency scale value in rate. |
| currency | string | 3 | 1-1 | Currency code. ISO code (3 digits). |
| exponent\_scale | float |  | 0-1 | Additional scale exponent that influence on the result. |
| flexible\_data | | | | |
| field\_name | string | 200 | 1-1 | Flexible field system name. |
| field\_value | string | 200 | 1-1 | Flexible field value. Date and numeric values are represented in standard SmartVista formats. |

1. MCC FILE STRUCTURE
   1. Overview

The file contains information on Merchant Category Codes (MCC) used in processes which unload information from SmartVista.

Tag MCC is root tag and it include itself one or more tags record.

* 1. References

Format of mcc file is described by XSD file: svxp\_mcc.xsd

The web-service schema is described in svxp\_dict.wsdl

Example of xml document: svxp\_mcc.xml – MCC information.

* 1. List of elements

| Tag name | Data type | Length | Is mandatory | Description |
| --- | --- | --- | --- | --- |
| mcc | | | | It is root tag and it include itself one or more tags dictionary |
| file\_id | long | 16 | 1-1 | 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 FLTPMCC |
| record | complex |  | 0-\* | MCC data |
| record | | | | |
| mcc | string | 4 | 1-1 | MCC code |
| tcc | string | 4 | 0-1 | Transaction Category Code (TCC) |
| mastercard\_cab\_type | string | 4 | 0-1 | Card Acceptor Business (CAB) type |
| visa\_mcg | string | 4 | 0-1 | Visa Merchant Category Group (MCG) |
| mcc\_name | complex |  | 1-\* | MCC name that may be presented in different languages at once. This tag must contain the LANGUAGE attribute to display them in the proper language |
| mcc\_name | | | | |
| name | string | 200 | 1-1 | Name of mcc |

1. BIN FILE STRUCTURE
   1. Overview

File is used to loading BIN. Data is loading at any time.

The direction of the file is INCOMING.

* 1. References

Format of BIN file described by XSD file: svxp\_bin.xsd

Example of xml document:

svxp\_bin.xml

* 1. List of elements

| Tag name | Data type | Size | Occurs | Description |
| --- | --- | --- | --- | --- |
| bins | | | | |
| bin | bin |  | 1-\* | Information about card status changing. |
| bin | | | | |
| pan\_low | string | 24 | 1-1 | Range low value |
| pan\_high | string | 24 | 1-1 | Range high value |
| pan\_length | int | 4 | 0-1 | Card number length |
| priority | int | 4 | 0-1 | Priority |
| card\_type\_id | int | 4 | 0-1 | Card type identifier |
| country | string | 3 | 0-1 | Country code (numeric) |
| iss\_network\_id | int | 4 | 0-1 | Issuing network identifier |
| iss\_inst\_id | int | 4 | 0-1 | Issuing institution identifier |
| card\_network\_id | int | 4 | 0-1 | Card owner network identifier |
| card\_inst\_id | int | 4 | 0-1 | Card owner institution identifier |
| MasterCard\_BIN | Mastercard\_BIN |  | 0-1 | Detail information for mastercard bin |
| Visa\_bin | Visa\_bin |  | 0-1 | Detail information for visa bin |
| Mastercard\_BIN | | | | |
| PRODUCT\_ID | string | 3 | 1-1 | Product identifier |
| BRAND | string | 3 | 0-1 | Brand identifier |
| MEMBER\_ID | string | 12 | 0-1 | Member identifier |
| PRODUCT\_TYPE | string | 3 | 0-1 | Product type |
| COUNTRY | string | 3 | 0-1 | Issuer country |
| REGION | string | 3 | 0-1 | Issuer region |
| Visa\_BIN | | | | |
| region | string | 8 | 0-1 | Issuer region |
| country | string | 3 | 0-1 | Issuer country |
| product\_id | string | 8 | 0-1 | Product identifier |
| fast\_funds | string | 1 | 0-1 | Fast funds flag |
| funding\_source | string | 1 | 0-1 | Account Funding Source |
| tech\_indicator | string | 1 | 0-1 | Technology Indicator |

BINS

This is a root element of the BIN file. It contains a list of BINs.

* + 1. BIN

The element contains the information about one particular BIN.

* + 1. Mastercard\_BIN

PRODUCT\_ID

This is the Product ID recognized by GCMS for the issuer account range and card program identifier combination.

BRAND

The card program identifier associated to the account range.

MEMBER\_ID

The member ID associated with the account range.

PRODUCT\_TYPE

The product type of the associated account range and card program identifier. Valid values:

1 - Consumer

2 - Commercial

3 – Both

COUNTRY

The alphabetic country code associated with the account range

REGION

The region of the associated country code.

1 - United States

A - Canada

B - Latin America and the Caribbean

C - Asia/Pacific

D - Europe

E - South Asia/Middle East/Africa

* + 1. Visa\_BIN

REGION

Visa region of issuer BIN

1 - United States

2 - Canada

3 - Europe

4 – Asia Pacific

5 - LAC

6 - CEMEA

COUNTRY

Country of issuer BIN

PRODUCT\_ID

Product identifier

FAST\_FUNDS

Possible value:

Y - Domestic and cross-border Fast Funds

C - Cross-border only

D - Domestic Fast Funds only

Space - Does not participate in Fast Funds

FUNDING\_SOURCE

Possible value:

C - Credit

D - Debit

P - Prepaid

H - Charge

R - Deferred Debit

TECH\_INDICATOR

Technology Indicator

Possible value:

A - Chip Card