VIRTUAL SALES DATA CONTROLLER (VSDC) TECHNICAL SPECIFICATIONS

VSDC Types and Information

1. VSDC solutions may come in the following types:
   1.1. Type 1: As an application installed on a computer on which a Certified Invoicing System is operating;
   1.2. Type 2: As an application server installed on a local network and offering its services to other network nodes (where the CIS is installed);
   1.3. Type 3: As a web server accessed via Internet connection by client applications (where the CIS is installed).
2. The VSDC shall be provided with following information:
   2.1. Software Development Company Name, Address, TIN, Email, Telephone;
   2.2. Version number;
   2.3. Software documentation including:
      2.3.1. The Company name and registration number
      2.3.2. The current VSDC version (at the moment of certification)
      2.3.3. The overall VSDC architecture & design
      2.3.4. The description of all Application Programming Interfaces (API) presented by the VSDC
      2.3.5. The description of all security measures implemented in the VSDC
      2.3.6. The expected frequency of software updates
      2.3.7. The contact list of software developers involved in the creation and update of the VSDC (full names, emails, and phone numbers)
      2.3.8. The contact list of all third-parties involved in the development of the VSDC
      2.3.9. The requirements for any end-user that intends to use the VSDC
      2.3.10. The list of all files and libraries that make up the VSDC software
      2.3.11. The detailed specifications of the operating environment on which the VSDC can be installed and executed.
3. The VSDC must be constructed in such a way that it can operate normally when registering transactions while simultaneously performing local or remote audit functions.
4. The VSDC shall present the following application programming interfaces (APIs) and graphical user interfaces (GUI):
   4.1. API 1: An API for communicating with the Certified Invoicing System (CIS);
   4.2. API 2: An API for communicating with the Authority's Security Keys Management Module (SKMM);
   4.3. API 3: An API for communicating with the Authority's Server;
   4.4. GUI 1: An interface for local audit purposes;
   4.5. GUI 2: A read-only interface to display the status of VSDC;
5. Once activated, the VSDC should be able to copy, via GUI 1, data from internal memory to any kind of removable or non-removable storage available from the computing environment performing Local Audit.
6. Once activated, the VSDC should transmit data from its internal database to the designated server of Authority using Internet via API 3, performing Remote Audit.
7. VSDC must have a communication protocol in which the data formats for all APIs are determined.
8. VSDC shall have configurable settings for Remote Audit.
9. VSDC shall be able to communicate with SKMM trough API 2 to configure security settings used for generation of receipt signature.
10. VSDC must display on GUI 1 real-time clock which shows date and time (including year, month, day, hour, minute, second) according to Rwanda time. Adjustment of the real-time clock accuracy is permitted via NTP server, however VSDC must not depend on network availability in order to run all operations excluding remote audit.
11. VSDC shall provide information, via GUI 2, as to whether it is functioning or not functioning, its

current status and audit progress.

12. VSDC shall be able to execute tasks provided by Authority in order to activate and perform Remote Audit.

VSDC data processing

13. VSDC shall receive and process *Receipt data* from the CIS.
14. VSDC shall send *Response data* to the CIS.
15. VSDC shall update *Counters,* one for each receipt type and one for all receipts.
16. VSDC shall generate *Signature data* via SKMM for receipt types Normal and Copy.
17. VSDC shall not generate *Signature data* for receipt types Proforma and Training.
18. VSDC shall write *Receipt data* of the receipt type Normal and Copy into its *database*.
19. VSDC shall update its *database* before sending response data to the CIS.
20. All data processing aforementioned must be in compliance with the Commissioner General Instructions on CIS-VSDC-SKMM communication protocol.

VSDC Internal data

21. VSDC stores receipt data for each receipt type Normal and Copy.
22. VSDC stores receipt data in the order in which it was received from the CIS.
23. VSDC should store Counters.
24. VSDC should generate Daily Z report for each day.
25. VSDC Database data shall be encrypted, using AES-256 with Encryption Key.
26. VSDC should be able to communicate (receive or send) with the CIS, the Authority's Server, and its internal database on the following types of data:
    - 26.1. Receipt data as defined in section "VSDC Data File Format".
    - 26.2. Importation data as defined in section "VSDC Data File Format".
    - 26.3. Purchases data as defined in section "VSDC Data File Format".
    - 26.4. Stock data as defined in section "VSDC Data File Format".
    - 26.5. Items data as defined in section "VSDC Data File Format".
    - 26.6. System codes as defined in section "VSDC Data File Format".

VSDC Receipt Counters

27. VSDC Counters consist of:
    - 27.1. Counter of all receipts (Total Counter);
    - 27.2. Counter per Receipt type (Normal, Copy, Training, Proforma);
28. Total Counter is incremented for each receipt.
29. Counter per Receipt type Normal is incremented for each receipt of type Normal.
30. Counter per Receipt type Copy incremented for each receipt of type Copy.
31. Counter per Receipt type Training is incremented for each receipt of type Training.
32. Counter per Receipt type Proforma is incremented for each receipt of type Proforma.
33. All counters start with the value 0.
34. Total counter and Counters per receipt type can only increment by value of 1.
35. Counters cannot be reduced.
36. Date and time of the last local audit is recorded after performing a local audit.
37. Date and time of the last remote audit is recorded after performing a remote audit.

VSDC Daily Z Report

38. For each day, VSDC shall generate a Daily Z report.
39. Daily Z report shall be automatically generated only from data for each day (from 00:00:00 up to 23:59:59).
40. Daily Z report shall contain all data specified in section "VSDC data File Format" in this document.

Receipt data provided by the CIS

41. For each receipt, the CIS shall send data as specified in section “VSDC receipt data specification”

Response data provided by VSDC

42. For each receipt of type Normal or Copy, VSDC shall send data as specified in section “VSDC receipt data specification”
43. For each receipt of type Training or Proforma, VSDC shall send data as specified in section “VSDC receipt data specification”

VSDC Signature and Internal Data

44. VSDC shall request and receive from the Authority’s SKMM an Internal Data record and a Receipt Signature record for each receipt processed (of the types N - normal and C - copy).
45. The Internal Data record is a 26 characters long Base-32 encoded string.
46. The Receipt Signature record is a 16 characters long Base-32 encoded string.

VSDC Internal data specification

47. VSDC shall send to SKMM the following Input Data in order to generate the Receipt Internal Data:

Field	Description	Length and format
STA	VSDC total sales tax amount (excluding decimal part) for all Normal Sale receipts	5 bytes (40 bits) whole number
RTA	VSDC total return tax amount (excluding decimal part) for all Normal Refund receipts	5 bytes (40 bits) whole number
ZCNT	VSDC number of daily reports	2 bytes (16 bits) whole number
SDCTC	VSDC Total Receipt Counter	4 bytes (32 bits) whole number
The following applies: ● Byte order is big endian ● Total length is 128 bits and is fixed		

48. VSDC shall receive a 26-character long Encrypted Internal Data string from SKMM and send back to the CIS.
49. Only Authority shall be able to decrypt the Encrypted Internal Data.

VSDC Receipt data specification

50. Receipt signature provides means of verifying receipt data integrity and authenticity.
51. VSDC shall send to SKMM the following Receipt Input Data in order to generate the Receipt Signature:

Field	**Description**	**Length and format**	**Example**
CDT	CIS Date and Time on the receipt	14 characters Format: YYYYMMDDhhmmss	‘20120605213455’
TIN	Tax Identification Number (Seller)	9 digits	‘123456789’
CTIN	Client’s Tax Identification number (Buyer)	9 digits	‘123456789’
MRC	Machine Registration Code	11 characters	‘ABC01012345’

Field	Description	Length and format	Example
RRN	Receipt Run Number	10 characters	‘ 12345’
TR1	Tax Rate 1	5 characters amount	‘18,00’
TV1	Taxable Amount 1	15 characters amount	‘ 500,00’
TA1	Tax Amount 1	15 characters amount	‘ 76,27’
TR2	Tax Rate 2	5 characters amount	‘ 0,00’
TV2	Taxable Amount 2	15 characters amount	‘ 500,00’
TA2	Tax Amount 2	15 characters amount	‘ 0,00’
TR3	Tax Rate 3	5 characters amount	‘ 0,00’
TV3	Taxable Amount 3	15 characters amount	‘ 0,00’
TA3	Tax Amount 3	15 characters amount	‘ 0,00’
TR4	Tax Rate 4	5 characters amount	‘ 0,00’
TV4	Taxable Amount 4	15 characters amount	‘ 0,00’
TA4	Tax Amount 4	15 characters amount	‘ 0,00’
RT	Receipt Type	1 character	‘N’ or ‘C’ or ‘T’ or ‘P’
TT	Transaction Type	1 character	‘S’ or ‘R’
VSDCID	VSDC ID	12 characters	‘SDC123456789’
VSDCDT	VSDC Date and Time on the receipt	14 characters Format: YYYYMMDDhhmmss	‘20120605213455’
VSDCRTC	VSDC Receipt Type Counter	10 characters	‘ 123’
VSDCTC	VSDC Total Receipt Counter	10 characters	‘ 1234’

Following applies:

- All the fields are padded with spaces (‘ ’) from the left in order to reach the specified length
- Total length is 241 bytes and is fixed
- Decimal comma (,) is used for amounts
- If amount is not present, default value is 0,00

52. VSDC shall receive a 16-character Receipt signature from the SKMM and send back to the CIS.
53. Only Authority shall be able to verify data integrity and authenticity by using Receipt signature.

VSDC data for Authority

54. VSDC generates data for Authority in two manners: Local Audit and Remote Audit.
55. All data in VSDC database shall be encrypted using AES-256 with Encryption Key provided by SKMM.

VSDC Data File Format

56. All data transmissions from VSDC to Authority shall be enclosed in a root tag called <request>.
57. All data received by VSDC from the Authority server shall be enclosed in a root tag called <response>.
58. A <request> message from the VSDC to the Authority server includes:
    58.1. One <header> tag that contains the five (5) tags delineated below with their description:

Tag	Description

<sid>	The Service ID requested by the VSDC. The following types of Service IDs can be used: *1.* SEND_RECEIPT: Used when VSDC sends to Authority Server one or many *Receipt* records. 2. SEND_RECEIPTITEM: Used when VSDC sends to Authority Server one or many *Receipt Item* records. 3. RECV_PURCHASE: Used when VSDC receives one or many *Purchase* records from the Authority Server. 4. SEND_PURCHASE: Used when VSDC sends to Authority Server one or many *Purchase* records.

Tag	Description
	5. RECV_PURCHASEITEM: Used when VSDC receives one or many *Purchase Item* records from the Authority Server. 6. SEND_PURCHASEITEM: Used when VSDC sends to Authority Server one or many *Purchase Item* records. 7. SEND_INVENTORY: Used when VSDC sends to Authority Server one or many *Current Stock* records. 8. SEND_ITEM: Used when VSDC sends to Authority Server one or many *Item description* records. 9. RECV_ITEM: Used when VSDC receives one or many *Item description* records from the Authority Server. 10. RECV_IMPORT_ITEM: Used when VSDC receives one or many *Importation* records from the Authority Server. 11. SEND_IMPORT_ITEM: Used when VSDC sends one or many *Importation* record confirmations to the Authority Server. 12. RECV_SYSCODECLS: Used when VSDC receives one or many *System Code Classification* records from the Authority Server. 13. RECV_SYSCODE: Used when VSDC receives one or many *System Code* records from the Authority Server. 14. RECV_TAXPAYER: Used when VSDC receives one or many *Taxpayer* records from the Authority Server. 15. RECV_CMDAUDIT: Used when VSDC checks if there is a pending remote audit command to be executed from the Authority Server 16. SEND_CMDAUDIT: Used when VSDC sends back to Authority Server the information requested through a RECV_CMDAUDIT's command. 17. SEND_ZREPORT: Used when VSDC sends daily ZReport records to the Authority Server.
<tin>	Taxpayer Identification Number owning the VSDC
<bhfId>	Branch Office ID of the Taxpayer owning the VSDC
<reqrId>	User ID
<reqDt>	Request Date and Time in the format YYYYMMDDHHSS

58.2. Zero to many <row> records for the accompanying data, as determined by the Service ID <sid> tag.

58.3. Each <row> tag contains different types of tags depending on the value in <sid> as described below:

58.3.1. For <sid> value = SEND_RECEIPT

58.3.1.1. Tags with corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	TRNRECEIPT
	actionCd	Target Data processing	ACT – INSERT
	invId	Invoice ID	290
	bhfId	Branch ID	00
	sdcId	Sales Data Controller Id	SDCXXXXXXXXX
	mrcNo	Machine Registration Code	MRCXXXXXXXX
	bcncId	Customer TIN	100111222
	bcncPhone	Customer Phone number	0788888888
	bcncNm	Customer Name	TAXPAYERXX
	refId	Reference invoice number	
	transTyCd	Transaction Type code	N
	rcptTyCd	Receipt Type Code	S
	ValidDt	Receipt date	2017-06-21 13:15:28

	Tag name	Description	Sample data
	totNumItem	Total number item	1
	taxRateA	Tax rate A	0
	taxRateB	Tax rate B	18
	taxRateC	Tax rate C	0
	taxRateD	Tax rate D	0
	totTaxablAmtA	Total taxable amount A	0
	TotTaxablAmtB	Total taxable amount B	295000
	TotTaxablAmtC	Total taxable amount C	0
	totTaxablAmtD	Total taxable amount D	0
	totTaxA	Total tax amount A	0
	totTaxB	Total tax amount B	45000
	totTaxC	Total tax amount C	0
	totTaxD	Total tax amount D	0
	totTax	Total Tax amount	45000
	totAmt	Total amount	295000
	rcptDt	Receipt date	21062017131534 (DDMMYYYYHHMMSS)
	sdcRcptNo	SDC receipt number	285
	totSdcRcptNo	SDC receipt number	285
	internalData	Receipt Internal data	G7ZTMX4DSSAPNR5C6UTSJYKRNA
	signature	Receipt signature	OHYYSNKC2XQ2N3AM
	journal	Electronic journal	[RECEIPT TEXT]
	regusrId	Register User id	2
	regusrNm	Register user name	Test
	rptNo	Report number	2
	regDt	Send date	2017-06-21 13:15:35

58.3.1.2. Example of Request message with <sid> = SEND_RECEIPT

Request	<request> <header> <sid> SEND_RECEIPT</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <reqDt>20161214102217</reqDt> </header> <row> <actionCd>ACT</actionCd> <table>TRNRECEIPT</table> <bhfId>00</bhfId> <invId>33</invId> <sdcId>SDC007000082</sdcId> <mrcNo>WIS01000082</mrcNo> <bcncId>100600570</bcncId> < bcncPhone>0788888888</ bcncPhone> <refId>0</refId> <transTyCd>N</transTyCd> <rcptTyCd>S</rcptTyCd> <payTyCd>01</payTyCd> <validDt>20180223185334</validDt> <totNumItem>0</totNumItem> <taxRateA>0.00</taxRateA>

```
            <taxRateB>18.00</taxRateB>
            <taxRateC>0.00</taxRateC>
            <taxRateD>0.00</taxRateD>
            <totTaxablAmtA>14.00</totTaxablAmtA>
            <totTaxablAmtB>25.00</totTaxablAmtB>
            <totTaxablAmtC>0.00</totTaxablAmtC>
            <totTaxablAmtD>0.00</totTaxablAmtD>
            <totTaxA>0.00</totTaxA>
            <totTaxB>3.81</totTaxB>
            <totTaxC>0.00</totTaxC>
            <totTaxD>0.00</totTaxD>
            <totAmt>39.00</totAmt>
            <rcptDt>23022018205327</rcptDt>
            <sdcRcptNo>50</sdcRcptNo>
            <totSdcRcptNo>50</totSdcRcptNo>
            <internalData>Z7S52TM7W5XHAIQNHBAXNEUGWE</internalData>
            <signature>AAI3N5OPSBESJ7YX</signature>
            <journal>text journal</journal>
            <regusrId>peter </regusrId>
            <regusrNm>peter</regusrNm>
            <rptNo>20</rptNo>
            <regDt>20180223185334</regDt>
        </row>
</request>
```

58.3.2. For <sid> value = SEND_RECEIPTITEM

58.3.2.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	TRNRECEIPTITEM
	actionCd	Target data processing	ACT – INSERT
	invId	Invoice ID	001201612190001
	bhfId	Branch ID	00
	itemSeq	Item sequence	1
	itemClsCd	Item Classification Code	3026530000
	itemCd	Item Code	RW2BEXUXXX0000001
	itemNm	Item Name	Bar 12mm
	bcncId	Customer TIN number	100111222
	pkgUnitCd	Packaging unit code	BE (Sys Code:17)
	pkgQty	Packaging quantity	0
	qtyUnitCd	Quantity unit code	U(Sys Code:10)
	qty	Quantity	50
	untpc	Unit price	5900
	splpc	Supplier price	295000
	dcRate	Discount rate	0
	dcAmt	Discount amount	0
	taxablAmt	Taxable amount	295000
	taxTyCd	Tax type code	B(Sys Code:4)
	tax	Tax amount	45000
	totAmt	Total amount	295000

58.3.2.2. Example of Request message with <sid> = SEND_RECEIPTITEM

Request	<request> <header>


```
<sid>SEND_RECEIPTITEM</sid>
<tin>182345362</tin>
<bhfId>00</bhfId>
<reqrId>admin</reqrId>
<reqDt>20161214102217</reqDt>
</header>
<row>
<actionCd>ACT</actionCd>
<table>TRNRECEIPTITEM</table>
<bhfId>00</bhfId>
<invId>1593</invId>
<itemSeq>2</itemSeq>
<itemClsCd>1411170300</itemClsCd>
<itemCd>CN2CTXPAX0000008</itemCd>
<itemNm>Supa baby diapers 3-6 kgs</itemNm>
<bcncId>102869838</bcncId>
<pkgUnitCd>CT</pkgUnitCd>
<pkgQty>0</pkgQty>
<qtyUnitCd>PA</qtyUnitCd>
<qty>1</qty>
<untpc>333</untpc>
<splpc>333</splpc>
<dcRate>0</dcRate>
<dcAmt>0</dcAmt>
<taxablAmt>333</taxablAmt>
<taxTyCd>B</taxTyCd>
<tax>50.8</tax>
<totAmt>333</totAmt>
</row>
</request>
```


58.3.3. For <sid> value = RECV_PURCHASE

The request for the <sid> RECV_PURCHASE doesn't require the row. However its response can contain zero or many rows.

58.3.3.1. Example of <request> message with <sid> = RECV_PURCHASE

Request

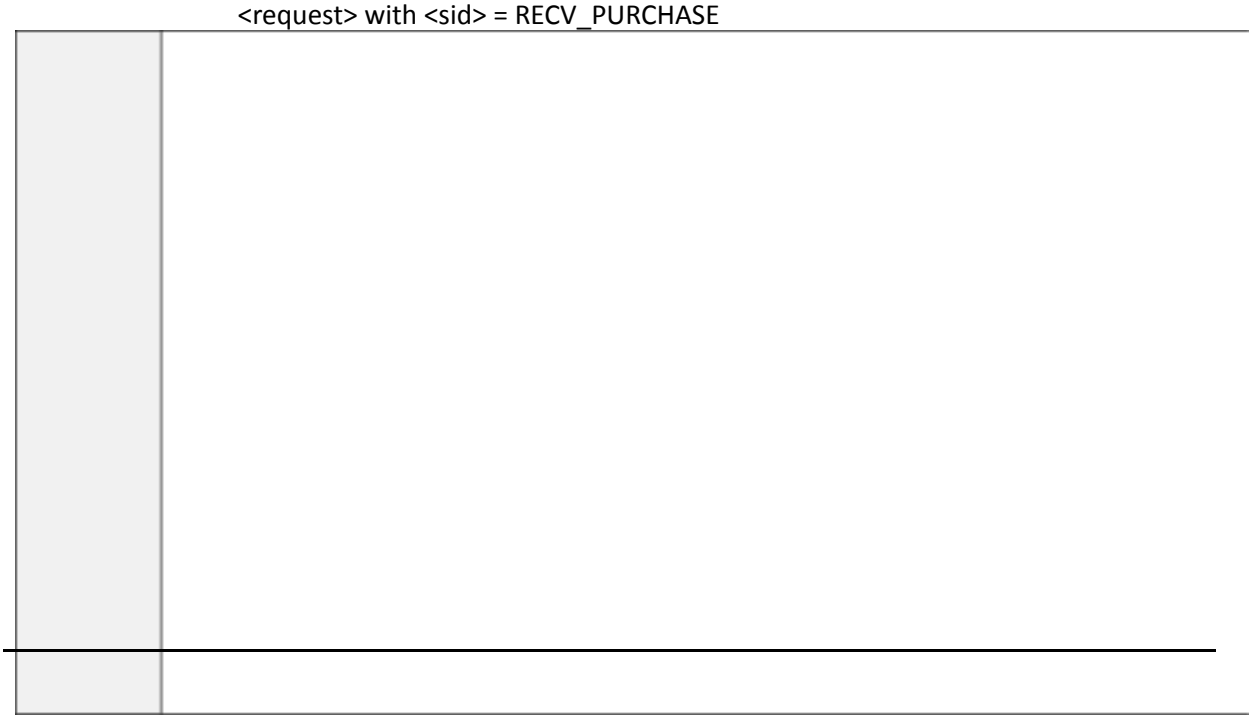

```
<request>
<header>
<sid>RECV_PURCHASE</sid>
<tin>182345362</tin>
<bhfId>00</bhfId>
<reqrId>admin</reqrId>
<reqDt>20161214102217</reqDt>
</header>
</request>
```


58.3.3.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_PURCHASE

	Tag name	Description	Sample data
Row (1..n)	table	Target table	TRNPURCHASE
	actionCd	Target data processing	ACT – INSERT
	InvId	Invoice ID	251
	bhfId	Branch ID	00
	bcncId	Customer TIN	101558700

	Tag name	Description	Sample data
	bcncSdcId	Supplier SDC Id	SDC007000001
	bcnMrcNo	Supplier Mrc No	MRC00100001
	regTyCd	Registration Type code -M: Manual - A: Automatic	M
	refId	Reference Id (Supplier invoice number)	2
	payTyCd	Paymeny Type Code	01
	invStatusCd	Invoice status code	02
	ocde	Transaction Date	20161219
	validDt	Valid Date	2016-12-19 09:05:12
	CancelReqDt	Cancel Request Date	2016-12-19 09:05:12
	canceledDt	Canceld Date	2016-12-19 09:05:12
	cancelTyCd	Cancel Type Code	
	refundDt	Refund Date	2016-12-19 09:05:12
	totNumItem	Total number item	1
	totTaxablAmtA	Total taxable amount A	0
	totTaxablAmtB	Total taxable amount B	630000
	totTaxablAmtC	Total taxable amount C	0
	totTaxablAmtD	Total taxable amount D	0
	totTaxA	Total tax A	0
	totTaxB	Total tax B	96101.70
	totTaxC	Total tax C	0
	totTaxD	Total tax D	0
	totSplpc	Total Supplier Amount	630000
	totTax	Total Vat amount	96101.70
	totAmt	Total Amount	630000
	remark	Remark	[FREE TEXT]
	regusrId	Register user ID	Teller
	regDt	Register Date	20161219171600

58.3.3.3. Example of <response> message from Authority Server for a VSDC <request> with <sid> = RECV_PURCHASE



Response

```
<response>
    <header>
        <resultCode>00</resultCode>
        <resultMsg>SUCCESS</resultMsg>
        <resDt>20161215102230</resDt>
    </header>
    <row>
     <table>TRNPURCHASE</table>
        <actionCd>ACT</actionCd>
        <bcncId>101374021</bcncId>
        <invId>15938</invId>
        <bcncSdcId>SDC007000952</bcncSdcId>
        <bcncMrcNo>ALG02011308</bcncMrcNo>
        <bhfId>00</bhfId>
        <regTyCd>A</regTyCd>
        <refId />
        <payTyCd>02</payTyCd>
        <invStatusCd>01</invStatusCd>
        <ocde>20180103</ocde>
```

```
            <validDt>2018-01-03 11:42:51</validDt>
            <cancelReqDt />
            <cancelDt />
            <cancelTyCd />
            <refundDt />
            <totNumItem />
            <totTaxablAmtA>0</totTaxablAmtA>
            <totTaxablAmtB>25012.2</totTaxablAmtB>
            <totTaxablAmtC>0</totTaxablAmtC>
            <totTaxablAmtD>0</totTaxablAmtD>
            <totTaxA>0</totTaxA>
            <totTaxB>3815.42</totTaxB>
            <totTaxC>0</totTaxC>
            <totTaxD>0</totTaxD>
            <totTax>3815.42</totTax>
            <totAmt>25012.2</totAmt>
            <totSplpc>25012.2</totSplpc>
            <remark />
            <regusrId>ME</regusrId>
            <regDt>2018-01-03 11:42:51</regDt>
        </row>
</response>
```


58.3.4. For <sid> value = SEND_PURCHASE

58.3.4.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	TRNPURCHASE
	actionCd	Target data processing	ACT – INSERT
	InvId	Purchase ID	251
	bhfId	Branch ID	00
	bcncId	Supplier TIN	101558700
	bcncNm	Supplier Name	TAXPAYER X
	bcncSdcId	Supplier SDC Id	SDCXXXXXXXXX
	bcncMrcNo	Supplier MRC No	MRCXXXXXXXX
	regTyCd	Registration Type Code	M
	refId	Reference Id	1
	payTyCd	Payment type code	02
	invStatusCd	Invoice Status Code	02
	ocde	Transaction date	20161219
	validDt	Valid Date	2016-12-19 09:05:12
	cancelReqDt	Cancel Request Date	2016-12-19 09:05:12
	CancelDt	Cancel Date	2016-12-19 09:05:12
	refundDt	Refund Date	2016-12-19 09:05:12
	cancelTyCd	Cancel Type Date	
	totNumItem	Total number item	1
	totTaxablAmtA	Total taxable amount A	0
	totTaxablAmtB	Total taxable amount B	630000
	totTaxablAmtC	Total taxable amount C	0
	totTaxablAmtD	Total taxable amount D	0
	totTaxA	Total tax A	0
	totTaxB	Total tax B	96101.70

	totTaxC	Total tax C	0
	totTaxD	Total tax D	0

	Tag name	Description	Sample data
	totSplpc	Total Supplier Amount	630000
	totTax	Total Vat amount	96101.70
	totAmt	Total Amount	630000
	remark	Remark	[FREE TEXT]
	regusrId	Register ID	Teller
	regDt	Register date	20161219171600

58.3.4.2. Example of Request message with <sid> = SEND_PURCHASE

Request

```
<request>
    <header>
        <sid>SEND_PURCHASE</sid>
        <tin>182345362</tin>
        <bhfId>00</bhfId>
        <reqrId>admin</reqrId>
        <reqDt>20161214102217</reqDt>
    </header>
    <row>
    <actionCd>ACT</actionCd>
    <table>TRNPURCHASE</table>
    <bcncId>IND000001</bcncId>
    <invId>1</invId>
    <sdcId>SDC007000587</sdcId>
    <mrcNo>WIS01000567</mrcNo>
    <bcncSdcId/>
    <bcncMrcNo/>
    <bhfId>00</bhfId>
    <regTyCd>M</regTyCd>
    <refId>2</refId>
    <payTyCd>01</payTyCd>
    <invStatusCd>02</invStatusCd>
    <ocde>20180305</ocde>
    <validDt>20180305142501</validDt>
    <cancelReqDt/>
    <cancelDt/>
    <refundDt/>
    <cancelTyCd/>
    <totNumItem>1</totNumItem>
    <totTaxablAmtA>0</totTaxablAmtA>
    <totTaxablAmtB>60000</totTaxablAmtB>
    <totTaxablAmtC>0</totTaxablAmtC>
    <totTaxablAmtD>0</totTaxablAmtD>
    <totTaxA>0</totTaxA>
    <totTaxB>9153</totTaxB>
    <totTaxC>0</totTaxC>
    <totTaxD>0</totTaxD>
    <totTax>9153</totTax>
    <totAmt>60000.00</totAmt>
    <totSplpc>60000</totSplpc>
```

	<remark/> <regusrId>testUser</regusrId> <regDt>20180305142405</regDt> <bcncNm>GENERAL CUSTOMER</bcncNm> </row> </request>

58.3.5. For <sid> value = RECV_PURCHASEITEM

The request for the <sid> RECV_PURCHASEITEM doesn't require the row. However its response can contain zero or many rows.

58.3.5.1. Example of Request message with <sid> = RECV_PURCHASEITEM

Request	<request> <header> <sid>RECV_PURCHASEITEM</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <reqDt>20161214102217</reqDt> </header> </request>

58.3.5.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_PURCHASEITEM

	Tag name	Tag description	Sample data
Row (1..n)	table	Target table	TRNPURCHASEITEM
	actionCd	Target data processing	ACT – INSERT
	invId	Invoice ID	251
	bhfId	Branch ID	00
	itemSeq	Item sequence	1
	itemClsCd	Item Classification Code	3026530000
	itemCd	Item Code	RW2BEXUXXX0000002
	itemNm	Item Name	Bar 10 mm
	bcncItemClsCd	Supplier item class code	3026530000
	bcncItemCd	Supplier item code	17350053850030
	bcncItemNm	Supplier item name	10 mm Bar
	pkgUnitCd	Packaging unit code	BE(Sys Code:17)
	pkgQty	Packaging quantity	10
	qtyUnitCd	Quantity unit code	U(Sys code:10)
	qty	Quantity	150
	expirDt	Expiry date	20200801
	untpc	Unit price	4200
	splpc	Supplier price	630000
	dcRate	Discount rate	0
	dcAmt	Discount amount	0
	taxablAmt	Taxable amount	630000
	taxTyCd	Tax type code	B(Sys Code:4)
	tax	Tax amount	96101.70
	totAmt	Total amount	630000
	regTyCd	Registration type code	M

58.3.5.3. Example of <response> message from Authority Server for a VSDC

<request> message with <sid> = RECV_PURCHASEITEM

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20161215102230</resDt> </header> <row> <table>TRNPURCHASEITEM</table> <actionCd>ACT</actionCd> <bcncId>101374021</bcncId> <invId>16158</invId> <itemSeq>1</itemSeq> <bhfId>00</bhfId> <itemClsCd /> <itemCd /> <itemNm /> <pkgUnitCd>0</pkgUnitCd> <pkgQty>0</pkgQty> <qtyUnitCd>U</qtyUnitCd> <qty>83910</qty> <expirDt /> <untpc>25</untpc> <splpc>25</splpc> <dcRate>0</dcRate> <dcAmt>0</dcAmt> <taxablAmt>1777754.24</taxablAmt> <taxTyCd>B</taxTyCd> <tax>319995.76</tax> <totAmt>2097750</totAmt> <bcncItemClsCd>50202201</bcncItemClsCd> <bcncItemCd>DRECH02</bcncItemCd> <bcncItemNm>DRECHE 1 KG</bcncItemNm> </row> </response>

58.3.6. For <sid> value = SEND_PURCHASEITEM

58.3.6.1. Tags in <row> with a corresponding sample value

	Tag name	Tag Description	Sample data
Row (1..n)	table	Target table	TRNPURCHASEITEM
	actionCd	Target data processing	ACT – INSERT
	invId	Invoice ID	251
	bhfId	Branch ID	00
	refId	Reference ID	1
	itemSeq	Item sequence	1
	itemClsCd	Item Classification Code	3026530000
	itemCd	Item Code	RW2BEXUXXX0000002
	itemNm	Item Name	Bar 10 mm
	bcncItemClsCd	Supplier item class code	3026530000
	bcncItemCd	Supplier item code	17350053850030
	bcncItemNm	Supplier item name	10 mm Bar
	pkgUnitCd	Packaging unit code	BE(Sys Code:17)
	pkgQty	Packaging quantity	10

	qtyUnitCd	Quantity unit code	U(Sys code:10)

	qty	Quantity	150
	expirDt	Expiry date	20200801
	untpc	Unit price	4200
	splpc	Supplier price	630000
	dcRate	Discount rate	0
	dcAmt	Discount amount	0
	taxablAmt	Taxable amount	630000
	taxTyCd	Tax type code	B(Sys Code:4)
	tax	Tax amount	96101.70
	totAmt	Total amount	630000
	regTyCd	Registration type code	M

58.3.6.2. Example of Request message with <sid> = SEND_PURCHASEITEM

Request

```
<request>
    <header>
        <sid>SEND_PURCHASEITEM</sid>
        <tin>182345362</tin>
        <bhfId>00</bhfId>
        <reqrId>admin</reqrId>
        <reqDt>20161214102217</reqDt>
    </header>
    <row>
    <actionCd>ACT</actionCd>
    <table>TRNPURCHASEITEM</table>
    <bcncId>IND000001</bcncId>
    <invId>1</invId>
    <bhfId>00</bhfId>
    <refId>2</refId>
    <itemSeq>1</itemSeq>
    <itemClsCd>1016150300</itemClsCd>
    <itemCd>RW2BCXDZX0000037</itemCd>
    <itemNm>Everyday Tea 100X2G</itemNm>
    <bcncItemClsCd/>
    <bcncItemCd/>
    <bcncItemNm/>
    <pkgUnitCd>BG</pkgUnitCd>
    <pkgQty>0.00</pkgQty>
    <qtyUnitCd>KG</qtyUnitCd>
    <qty>5.00</qty>
    <expirDt>20180426</expirDt>
    <untpc>12000.00</untpc>
    <splpc>60000.00</splpc>
    <dcRate>0.00</dcRate>
    <dcAmt>0.00</dcAmt>
    <taxablAmt>60000.00</taxablAmt>
    <taxTyCd>B</taxTyCd>
    <tax>0.00</tax>
    <totAmt>60000.00</totAmt>
    <regTyCd>M</regTyCd>
    </row>
</request>
```

58.3.7. For <sid> value = SEND_INVENTORY

58.3.7.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	STCINVENTORY
	actionCd	Target data processing	ACT – INSERT
	Tin	Taxpayer Identification Number	001201612190001
	bhfId	Branch ID	00
	itemClsCd	Item Classification Code	3026530000
	itemCd	Item Code	RW2BEXUXXX0000001
	qty	Quantity	120
	updDt	Update date	2018-02-05 13:02:52

58.3.7.2. Example of Request message with <sid> = SEND_INVENTORY

Request

```
<request>
    <header>
        <sid>SEND_INVENTORY</sid>
        <tin>182345362</tin>
        <bhfId>00</bhfId>
        <reqrId>admin</reqrId>
        <reqDt>20161214102217</reqDt>
    </header>
    <row>
        <table>STCINVENTORY</table>
        <actionCd>ACT</actionCd>
        <tin>102629814</tin>
        <bhfId>01</bhfId>
        <itemClsCd>1411170300</itemClsCd>
        <itemCd>CN2CTXPAX0000008</itemCd>
        <qty>16</qty>
        <updDt>20180308113845</updDt>
    </row>
</request>
```

58.3.8. For <sid> value = SEND_ITEM

58.3.8.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	ITMITEM
	actionCd	Target data processing	ACT – INSERT
	itemCd	Item Code	RW2BEXUXXX0000028
	itemClsCd	Item classification code	5612180500
	itemNm	Item name	Bar 15mm
	itemTyCd	Item type code	2
	itemStd		
	OrgplceCd	Origin country	RW
	PkgUnitCd	Packaging unit code	JY
	QtyUnitCd	Quantity unit code	KG
	AdiInfo	Addition information	0001
	InitlWhUntpc	Initial unit price	2000
	InitlQty	Beginning stock	10
	AvgWhUntpc	Average unit price	2000
	dfltDlUntpc	Sale price	2000
	taxTyCd	Tax type code	B
	rm	Remark	[FREE TEXT]

	useYn	Item usage on market	Y

	Tag name	Description	Sample data
	regusrId	Register username	User1
	regDt	Register date	20180301144328 (YYYYMMDDHHmmSS)
	updusrId	Update username	User1
	updDt	Update date	20180301144328 (YYYYMMDDHHmmSS)
	safetyQty	Security stock quantity	0
	useBarcode	Use of barcode	N
	changeYn	Change yes/no	N
	useAdiYn		Y

58.3.8.2. Example of Request message with <sid> = SEND_ITEM

Request

```
<request>
    <header>
        <sid>SEND_ITEM</sid>
        <tin>182345362</tin>
        <bhfId>00</bhfId>
        <reqrId>admin</reqrId>
        <reqDt>20161214102217</reqDt>
    </header>
    <row>
      <actionCd>ACT</actionCd>
      <table>ITMITEM</table>
      <itemCd>RW2NTXU0000001</itemCd>
      <itemClsCd>3011160105</itemClsCd>
      <itemNm>Hima cement 32.5</itemNm>
      <itemTyCd>2</itemTyCd>
      <itemStd/>
      <orgplceCd>RW</orgplceCd>
      <pkgUnitCd>NT</pkgUnitCd>
      <qtyUnitCd>U</qtyUnitCd>
      <adiInfo>0000001</adiInfo>
      <initlWhUntpc>2.00</initlWhUntpc>
      <initlQty>10.00</initlQty>
      <avgWhUntpc>0.00</avgWhUntpc>
      <dfltDlUntpc>10.00</dfltDlUntpc>
      <taxTyCd>B</taxTyCd>
      <rm/>
      <useYn>Y</useYn>
      <regusrId>Test</regusrId>
      <regDt>20180301144328</regDt>
      <updusrId>test</updusrId>
      <updDt>20180301144328</updDt>
      <safetyQty>0.00</safetyQty>
      <useBarcode>N</useBarcode>
      <changeYn>N</changeYn>
      <useAdiYn>Y</useAdiYn>
    </row>
</request>
```

58.3.9. For <sid> value = RECV_ITEM

The request for the <sid> RECV_ITEM doesn't require any row. However its response can contain

zero or many rows.

58.3.9.1. Example of Request message with <sid> = RECV_ITEM

Request	<request> <header> <sid>RECV_ITEM</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <updDt>20161214102217</updDt> </header> </request>

58.3.9.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_ITEM

	Tag name	Tag Description	Sample data
Row (1..n)	Table	Target table	ITMITEM
	actionCd	Target data processing	ACT – INSERT
	itemCd	Item Code	RW2JYXLTR0000016
	itemClsCd	Item classification code	5015151300
	itemNm	Item name	zahabu 3 litres
	itemTyCd	Item type code	2
	itemStd		
	OrgplceCd	Origin country	RW
	PkgUnitCd	Packaging unit code	JY
	QtyUnitCd	Quantity unit code	LTR
	taxTyCd	Tax type code	B
	useYn	Item usage on market	Y
	regusrId	Register username	User1
	regDt	Register date	2017-04-24 16:18:00 (YYYY-MM-DD HH:mm:SS)
	useBarcode	Use of barcode	N
	changeYn	Change yes/no	N
	useAdiYn		Y

58.3.9.3. Example of <response> message from Authority Server for VSDC <request> message with <sid> = RECV_ITEM

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20161215102230</resDt> </header> <row> <table>ITEM</table> <actionCd>ACT</actionCd> <itemClsCd>5015151300</itemClsCd> <itemCd>RW2JYXLTR0000019</itemCd> <itemNm>STAR GORD -10 LTR</itemNm> <itemTyCd>2</itemTyCd> <itemStd /> <orgplceCd>RW</orgplceCd>

	<pkgUnitCd>JY</pkgUnitCd>

	<qtyUnitCd>LTR</qtyUnitCd> <taxTyCd>B</taxTyCd> <useYn>Y</useYn> <useBarcode>N</useBarcode> <changeYn>N</changeYn> <regusrId /> <useAdiYn>Y</useAdiYn> <regDt>2017-04-26 19:39:26</regDt> </row> </response>

58.3.10. For <sid> value = RECV_IMPORT_ITEM

The request for the <sid> RECV_IMPORT_ITEM doesn't require any row. However its response can contain zero or many rows.

58.3.10.1. Example of VSDC <request> message with <sid> = RECV_IMPORT_ITEM

Request	<request> <header> <sid>RECV_IMPORT_ITEM</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <reqDt>20161214102217</reqDt> </header> </request>

58.3.10.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_IMPORT_ITEM

	Tag name	Description	Sample data
Row (0..n)	Table	Target table	STCIMPORTITEM
	actionCd	Target data processing	· ACT – INSERT, UPDATE · DEL – DELETE
	operationCd	Operation code	1141093
	dclrtDate	Declaration date	20160826
	itemSeq	Item Sequence	1
	hsCd	HS Code	84715000000
	itemNm	Item name	EBM INCOTEX 133 (2 IN 1)
	orgplceCd	Origin Code	BG
	expNatCd	Export Country Code	BG
	pkgQty	Packaging quantity	30
	qty	Quantity	298
	qtyUnitcd	Quantity unit code	NMB
	grossWt	Gross Weight	434
	netWt	Net weight	434
	supplierNm	Supplier name	AL-AZHAR AUTO SPARE PARTS P.O BOX 81694 DEIRA DUBAI-UNITED ARAB EMIRATES
	agentNm	Agent name	UMOJA CLEARING AGENCY LTD
	invAmtFcx	Invoice Amount in foreign currency	34800
	invCurCd	Invoice currency	USD
	invCurRate	Exchange rate	804

58.3.10.3. Example of <response> message from Authority Server for VSDC <request>

message with <sid> = RECV_IMPORT_ITEM

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</resultMsg> <resDt>20161215102230</resDt> </header> <row> <table>STCIMPORTITEM</table> <actionCd>ACT</actionCd> <operationCd>1141093</operationCd> <dclrtDateKey>20160826</dclrtDateKey> <itemSeq>1</itemSeq> <hsCd>84715000000</hsCd> <itemNm>EBM INCOTEX 133 (2 IN 1)</itemNm> <orgplceCd>BG</orgplceCd> <expNatCd>BG</extNatCd> <pkgQty>30</pkgQty> <qty>298</qty> <qtyUnitCd>NMB</qtyUnitCd> <grossWt>434</grossWt> <netWt>434</netWt> <supplierNm>AL-AZHAR AUTO SPARE PARTS P.O BOX 81694 DEIRADUBAI-UNITED ARAB EMIRATES</supplierNm> <agentNm> UMOJA CLEARING AGENCY LTD </agentNm> <invAmtFcx>34800</invAmtFcx> <invCurCd>USD</invCurCd> <invCurRate>804</invCurRate> </row> </response>

58.3.11. For <sid> value = SEND_IMPORT_ITEM

58.3.11.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
row (1..n)	actionCd	Target action Code	ACT - UPDATE
	operationCd	Operation code	1141093
	dclrtDate	Declaration date	20160826
	itemSeq	Item sequence	1
	approvalStatusCd	Approval status code	3
	itemClsCd	Item classification code	
	itemCd	Item code	
	commF	Communication status	Y
	remark	remark	(FREE TEXT)

58.3.11.2. Example of VSDC <request> message with <sid> = SEND_IMPORT_ITEM

Request	<request> <header> <sid> SEND_IMPORT_ITEM</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <reqDt>20161214102217</reqDt> </header>

	<row> <actionCd>ACT</actionCd> <operationCd>1141093</operationCd> <dclrtDateKey>20160826</dclrtDateKey> <itemSeq>1</itemSeq> <approvalStatusCd>3</approvalStatusCd> <remark></remark> </row> </request>

58.3.12. For <sid> value = RECV_SYSCODECLS

The request for the <sid> RECV_SYSCODECLS doesn't require any row. However its response can contain zero or many rows.

58.3.12.1. Example of Request message with <sid> = RECV_SYSCODECLS

Request	<request> <header> <sid>RECV_SYSCODECLS</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <updDt>20171214102217</updDt> </header> </request>

58.3.12.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_SYSCODECLS

	Tag name	Tag description	Sample data
Row (1..n)	table	Target table	SYSCODECLS
	actionCd	Target data processing	ACT – INSERT
	codeCls	Code classification	39
	codeClsNm	Classification name	Warning Type
	codeClsDc	Classification description	Different warning message
	useYn	In use Yes/No	Y

58.3.12.3. Example of <response> message from Authority Server for VSDC <request> message with <sid> = RECV_SYSCODECLS

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20161215102230</resDt> </head <table>SYSCODECLS</table> <actionCd>ACT</actionCd> <codeCls>39</codeCls> <codeClsNm>Warningtype</codeClsNm> <codeClsDc /> <useYn>Y</useYn></row> </response>

58.3.13. For <sid> value = RECV_SYSCODE

The request for the <sid> RECV_SYSCODE doesn't require any row. However its response can contain zero or many rows.

58.3.13.1. Example of Request message with <sid> = RECV_SYSCODE

Request	<request> <header> <sid>RECV_SYSCODE</sid> <tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <updDt>20171214102217</updDt> </header> </request>

58.3.13.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_SYSCODE

	Tag name	Tag description	Sample data
Row (1..n)	actionCd	Target data processing	ACT – INSERT
	codeCls	Code classification	38
	code	Classification name	R
	codeNm	Classification description	Refund
	codeDc	Code description	Invoice refund
	useYn	In use Yes/No	

58.3.13.3. Example of <response> message from Authority Server for VSDC <request> message with <sid> = RECV_SYSCODE

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20171215102230</resDt> </header> <row> <table>SYSCODE</table> <actionCd>ACT</actionCd> <codeCls>38</codeCls> <code>R</code> <codeNm>Refund</codeNm> <codeDc /> <useYn>Y</useYn> </row> </response>

58.3.14. For <sid> value = RECV_TAXPAYER

The request for the <sid> RECV_TAXPAYER doesn't require any row. However its response can contain zero or many rows.

58.3.14.1. Example of Request message with <sid> = RECV_ TAXPAYER

Request	<request> <header> <sid>RECV_ TAXPAYER </sid>

	<tin>182345362</tin> <bhfId>00</bhfId> <reqrId>admin</reqrId> <updDt>20161214102217</updDt> </header> </request>

58.3.14.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_TAXPAYER

	Tag name	Tag description	Sample data
Row (1..n)	table	Target table	TAXPAYER
	actionCd	Target data processing	ACT – INSERT
	tin	Taxpayer Identification Number	123456789
	bizCnd	Business activity	Wholesaler of different products
	province	province	KIGALI CITY
	district	district	KICUKIRO
	sector	sector	KIGARAMA
	locDc	Location description	KK 250 ST

58.3.14.3. Example of <response> message from Authority Server for VSDC <request> message with <sid> = RECV_TAXPAYER

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20161215102230</resDt> </header> <row> <table>TAXPAYER</table> <actionCd>ACT</actionCd> <tin>101500014</tin> <taxPayerNm>ASSOCIATION AAABBBB</taxPayerNm> <bizCnd /> <province>KIGALI CITY</province> <district>KICUKIRO</district> <sector>KIGARAMA</sector> <locDc /> </row> </response>

58.3.15. For <sid> value = RECV_CMDAUDIT

The request for the <sid> RECV_CMDAUDIT doesn't require any row. However its response can contain zero or many rows.

58.3.15.1. Example of Request message with <sid> = RECV_ CMDAUDIT

Request	<request> <header> <sid>RECV_ CMDAUDIT</sid> <tin>182345362</tin> <sdcId>SDC007000001</sdcId> <bhfId>00</bhfId> <reqrId>admin</reqrId>

	<updDt>20161214102217</updDt>

	</header> </request>

58.3.15.2. Tags in <row> with a corresponding sample value of response for <sid>=RECV_CMDAUDIT

	Tag name	Tag description	Sample data
Row (1..n)	table	Target table	CMDAUDIT
	actionCd	Target data processing	ACT
	tin	Taxpayer Identification Number	123456789
	sdcId	VSDC Serial Number	SDC007000001
	taskId	Task Serial Number	24
	taskCd	Task Code to be executed	e.g: “RS”
	startDt	Start Date/Time of data	20180215164235
	endDt	End Date/Time of data	20180215221715

58.3.15.3. Example of <response> message from Authority Server for VSDC <request> message with <sid> = RECV_CMDAUDIT

Response	<response> <header> <resultCode>00</resultCode> <resultMsg>SUCCESS</ resultMsg > <resDt>20180215164535</resDt> </header> <row> <table>CMDAUDIT</table> <actionCd>ACT</actionCd> <tin>123456789</tin> < sdcId >SDC007000001</ sdcId > <taskId>24</taskId> <taskCd>RS</taskCd> <startDt>20180215164235</startDt> <endDt>20180215221715</endDt> </row> </response>

58.3.16. For <sid> value = SEND_ZREPORT

58.3.16.1. Tags in <row> with a corresponding sample value

	Tag name	Description	Sample data
Row (1..n)	table	Target table	SEND_ZREPORT
	actionCd	Target data processing	ACT – INSERT
	zdt	Report date	2018-01-09 01:45:13
	zrcnt	Report number	187
	tcnt	Daily total number of receipts issued	25
	ocnt	Opening run number	1523
	ccnt	Closing run number	1547
	zrtN	Opening/Close tag for Normal	
	zrtC	Opening/Close tag for Copy	
	zrtT	Opening/Close tag for Training	
	zrtP	Opening/Close tag for Proforma	

	rtcnt	Total number of receipts issue per Receipt type	25
	rtocnt	Opening run number per receipt type	1523

	rtccnt	Closing run number per receipt type	1547
	tsa	Total Sale amount per Receipt type including tax	30086560.00
	tra	Total Return amount per receipt type including tax	0.00
	stva	Total tax for sales amount per receipt type	4589475.28
	rtva	Total tax for refund amount per receipt type	0.00
	gtotal	Opening/Close tag of general total	
	tcnt	Total number of receipts	1547
	rtNcnt	Total number of receipts type Normal	1547
	rtCcnt	Total number of receipts type Copy	0
	rtTcnt	Total number for receipts type Training	0
	rtPcnt	Total number for receipts type Proforma	0
	tsa	Total sale amount including tax	1908973376.36
	tsvt	Total sales tax amount	291190585.17
	tra	Total return amount including tax	267945767.00
	trvt	Total return tax amount	40870010.28

58.3.16.2. Example of Request message with <sid> = SEND_ZREPORT

Request

```
<request>
    <header>
        <sid>SEND_ZREPORT</sid>
        <tin>182345362</tin>
        <bhfId>00</bhfId>
        <reqrId>admin</reqrId>
        <reqDt>20161214102217</reqDt>
    </header>
    <row>
      <zrtN>
            <rtcnt>25</rtcnt>
            <rtocnt>1523</rtocnt>
            <rtccnt>1547</rtccnt>
            <tsa>30086560.00</tsa>
            <tra>0.00</tra>
            <stva>4589475.28</stva>
            <rtva>0.00</rtva>
      </zrtN>
      <zrtC>
            <rtcnt>0</rtcnt>
            <rtocnt>0</rtocnt>
            <rtccnt>0</rtccnt>
            <tsa>0.00</tsa>
            <tra>0.00</tra>
            <stva>0.00</stva>
            <rtva>0.00</rtva>
      </zrtC>
      <zrtT>
            <rtcnt>0</rtcnt>
            <rtocnt>0</rtocnt>
            <rtccnt>0</rtccnt>
            <tsa>0.00</tsa>
```

	<tra>0.00</tra>

```
                <stva>0.00</stva>
                <rtva>0.00</rtva>
            </zrtT>
            <zrtP>
                <rtcnt>0</rtcnt>
                <rtocnt>0</rtocnt>
                <rtccnt>0</rtccnt>
                <tsa>0.00</tsa>
                <tra>0.00</tra>
                <stva>0.00</stva>
                <rtva>0.00</rtva>
            </zrtP>
            <gtotal>
                <tcnt>1547</tcnt>
                <rtNcnt>1547</rtNcnt>
                <rtCcnt>0</rtCcnt>
                <rtTcnt>0</rtTcnt>
                <rtPcnt>0</rtPcnt>
                <tsa>1908973376.36</tsa>
                <tsvt>291190585.17</tsvt>
                <tra>267945767.00</tra>
                <trvt>40870010.28</trvt>
            </gtotal>
        </row>
</request>
```

NB: The Opening/Close tag for Normal, Copy, Training and Proforma are used to delimit data for each type of transaction. The gtotal is used to delimit the data which summarize the zreport as shown in the example above.

59. A <response> message from the Authority Server to the VSDC corresponds to the following characteristics:
    59.1. All VSDC <request> messages shall receive a <response> message from the Authority Server.
    59.2. All <response> messages have one <header> tag that contains the three (3) tags delineated below with their description:

Tag name	Description
<resultCode>	Result code Example: 00(in case of success) 01,02 (in case of error)
<resultMsg>	Result message Example: SUCCESS (or ERROR message)
<resDt>	Response Date/Time Example: 20161214102717

An example of <response> message header is offered below:

Response

```
<response>
    <header>
        <resultCode>00</resultCode>
        <resultMsg>SUCCESS</resultMsg>
        <resDt>20161215102230</resDt>
    </header>
</response>
```

59.3. All VSDC <request> messages with a <sid> value starting by “SEND” (i.e. SEND_RECEIPT, SEND_RECEIPTITEM, SEND_PURCHASE, SEND_PURCHASEITEM, SEND_INVENTORY, SEND_ITEM, SEND_IMPORT_ITEM) receive a <response> message from the Authority Server that does not contain any <row> lines.

59.4. For all VSDC <request> messages with a <sid> value starting by “RECV” (i.e. RECV_PURCHASE, RECV_PURCHASEITEM, RECV_ITEM, RECV_IMPORT_ITEM, RECV_SYSCODECLS, RECV_SYSCODE, RECV_TAXPAYER), the corresponding <response> message from the Authority Server may contain zero or more <row> lines as described in preceding instructions.

VSDC Local Audit

60. VSDC shall copy all of its unsent internal data to an external storage device when Local Audit is performed.
61. VSDC shall give possibility to choose boundaries date of data for local audit depend to the <sid>
62. Local audit file shall be created according to the <sid> define in data file format.
63. VSDC shall communicate with SKMM to encrypt the xml file produced in local audit.
64. VSDC shall give access to choose the <sid> when performing local audit or it can perform for all <sid> in once.
65. The file name must be in the following format "SID_SDCID_YYYYMMDDHHmmss.bin" where:
    65.1. SID= Service ID that define the type of data in the file;
    65.2. SDCID = VSDC identification number "SDCXXXXXXXXX";
    65.3. YYYY = year when the audit started;
    65.4. MM = month when the audit started;
    65.5. DD = day when the audit started;
    65.6. HH = hour when the audit started;
    65.7. mm = minute when the audit started;
    65.8. ss = second when the audit started.

VSDC Remote Audit

66. With each data transmission, VSDC shall check to see if a Remote Audit command has been added to the acknowledgment message from the Authority’s server.
67. VSDC shall send selected data from its internal data when Remote Audit is performed.
68. Data selection is done by Authority by issuing a command to VSDC that specifies which data and which data period (from-to date) is of interest.
69. VSDC shall communicate with Authority server by execution of commands received in the following manner:
    69.1. Command received through any acknowledgment message from the Authority server;
    69.2. Command received from Authority server upon the VSDC connection.

VSDC Remote Audit Command formats

70. The format of commands received by VSDC is based on the following table:

No.	Field description	Length and format
1	SDC ID	16 characters, String
2	Task code to be executed	2 characters, String
3	Task ID	16 characters, Number
4	Starting date and time	19 characters, (YYYY-MM-DDThh:mm:ss)
5	Ending date and time	19 characters, (YYYY-MM-DDThh:mm:ss)
Following applies:		

- fields are separated by row separator (one field per row)
- if request period has elapsed parameter 6 is ignored, and command is executed immediately

71. Following table represents flags which are combined in sequence of 2 characters to form the Task to be executed:

Char.	Description
ZR	Sends Z report
RS	Send receipt sales
RR	Send receipt refund
IS	Send item sales
IR	Send item refund
PC	Send purchase invoices
PI	Send purchase items
IL	Send item list
ST	Send stock inventory
NB: 1. If start and end date are not specified, VSDC should send to Authority Server all unsent data in the respective category. 2. Alternatively, if start and end date are specified, VSDC should send to Authority Server only data produced between the two boundary dates.	

VSDC Remote Audit Server protocol

72. Encrypted audit files can be sent through HTTPS POST requests to the URL of the Authority server. In the HTTPS request header must be specified field 'content-type' with value 'text/ xml'.

73. To identify which VSDC is the sender, the following fields must be provided in the XML header:
    73.1. TSN - VSDC ID (Serial Number);
    73.2. TSW – VSDC Software version;
    73.3. TSS – Specification version with fixed value prescribed by Authority “2.00”.

74. The files must indicate the XML standard and encoding. VSDC will generate and use <?xml version="1.0" encoding="ISO-8859-1"?>.
75. Server shall return errors according to the HTTP protocol in case VSDC fails to establish communication.
76. If case of no error at HTTP level, server shall return answer or confirmation in XML format.

VSDC requirements on performance

77. VSDC storage shall be such that it does not need electrical power for the stored data to be retained.
78. The Authority encryption keys shall be retrieved by the VSDC from the SKMM.
79. VSDC internal data shall be stored encrypted in a protected database so that it cannot be easily modified or deleted.
80. VSDC shall keep internal data for at least 10 years, starting from January 1st following the tax year in which data was produced, even when power supply is not present.
81. VSDC functions shall not delay normal CIS operations or affect user comfort.
82. VSDC shall signal via GUI 2 if it is functioning or not.
83. VSDC shall signal via GUI 2 if remote audit or local audit is complete or if an error occurred during this operation.

84. VSDC and real-time clocks should not differ by more than 5 minutes maximum per year.

VSDC Hosting environment

85. VSDC should be able to operate in an environment with the following minimal specifications:
    85.1. Storage greater than or equal to 20 GB;
    85.2. Random Access Memory greater than or equal to 1 GB;
    85.3. At least 1 Processor with clock-speed greater than or equal to 1.2 GHz;
    85.4. Availability of a 2.5 G Internet connection
    85.5. Availability of at least one USB port
    85.6. Uninstalling the VSDC from a host should not automatically involve the deletion of its database.
86. VSDC should have a table that stores the serial numbers and MRCs related to all invoicing systems (CIS terminal) connected to it. On each CIS connection, the VSDC shall check whether the MRC and serial number of the connecting CIS are included in its internal database.

Note: During delivery, the following documents have to be provided:

1. Installation Guide for SDC;
2. User Manuals (for End-User and Tax Officer);
3. Operating Environment;
4. Test Cases;
5. Additional information might be required during the testing period.