

eTIMS Online Sales Control Unit (OSCU) AND Virtual Sales Control Unit (VSCU) Step-by- Step Guide

April, 2023

Version 1.1

Notice

© 2023 Kenya Revenue Authority (KRA)

This is a controlled document. Unauthorized access, copying, replication or usage for a purpose other than for which it is intended, are prohibited.

All trademarks that appear in the document have been used for identification purposes only and belong to their respective companies.

C. SETUP FOR OSCU

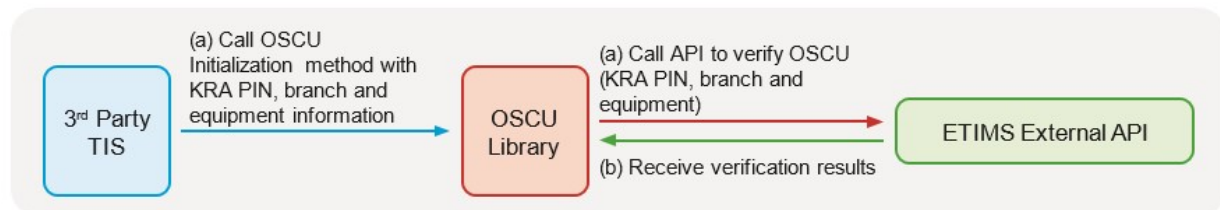
1. Upon approval of OSCU, a taxpayer will access the OSCU from KRA servers and start activation.
2. The OSCU running process, main configurations and technical policies are detailed in the [OSCU Specifications document/guide](#) section 2.2.

Note that the services included in the sequence definitions are to be used with the below URLs:

- In Sandbox environment use: <https://etims-api-sbx.kra.go.ke>
- In Production environment use: <https://etims-api.kra.go.ke>

e.g. the url path for OSCU device activation is indicated as (**url : /selectInitOsdcInfo**) therefore the full url path is <https://etims-api-sbx.kra.go.ke/selectInitOsdcInfo> in sandbox environment.

3. The Trader Invoicing System (TIS) will need to invoke the initialization Method of OSCU with PIN, branch office ID, and equipment information. After which the OSCU will begin verification of the device and receive communication key from the KRA eTIMS API server.



4. The Taxpayer PIN, branch office ID and Communication key are critical details that are necessary for communications between the TIS and eTIMS OSCU API server.

D. SETUP FOR VSCU

1. After approval of VSCU, a VSCU package file will be available on the eTIMS taxpayers portal.
2. The package file (eTIMS-VSCU-<version>.zip) needs to be deployed in the Taxpayer server environment using the following steps:
 - a) Prepare the environment

- Install the Java Runtime Environment (JRE) or Java Development Kit (JDK) on the target machine where you want to deploy the JAR file, if it is not already installed

NOTE: Required Java (JRE/JDK) Version is Java 16 or higher.

- Set up the Java environment variables (such as JAVA_HOME and PATH) on the target machine to point to the installed JRE or JDK.
- b) Transfer the package file
- Transfer the package file to the target machine where you want to deploy it. You can use methods such as FTP, SCP, or a file-sharing service to transfer the package file from your local machine to the target machine.
 - Unzip the package file
- c) Set configuration parameters in **config/application.properties** file.
- VSCU runs on port 8088 by default. This can be changed to a preferred port by editing the *server.port* property.
 - Dependent on whether you are connecting to Sandbox or Production environments, uncomment the appropriate *api.external.domain* property.
- d) Run the JAR file
- Open a command prompt or terminal on the target machine.
 - Navigate to the directory where the JAR file is located.
 - Execute the JAR file using the Java Virtual Machine (JVM) by running the following command:

```
java -jar etims-vscu-<version>.jar
```
 - The JAR file should now be executed, and VSCU application should start running on the target machine.
- e) Connecting the JAR Server process.
- The Trader Invoicing System (TIS) should point to the VSCU JAR Server through the following URL http://<hostname_or_ip_running_vscu_jar>:<server.port>

3. The VSCU running process, main configurations and technical policies are detailed in the VSCU Specifications document/guide section 2.2.

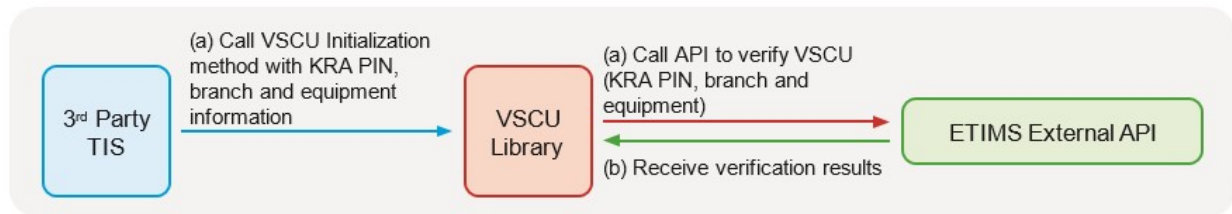
Note that the services included in the sequence definitions are to be used with the below URL:

- http://<hostname_or_ip_running_vscu_jar>:<server.port>

e.g. the url path for OSCU device activation is indicated as (**url : /selectInitOsdcInfo**) therefore the full url path is <http://vscuserverhostname:8088/selectInitOsdcInfo>

4. The Trader Invoicing System (TIS) will need to invoke initialization Service URL of VSCU with PIN, branch office ID , and equipment information as request body, VSCU

will begin verification of the device and receive and save keys from the KRA eTIMS API server.



E. INITIALIZATION AND SYSTEM FUNCTIONALITIES (PROCESS FLOW)

The functionalities of OSCU/VSCU are grouped into eight (8) categories based on their purpose. The below briefly introduces the purpose of each category.

1. Initialization (Send only)

This functionality maps the provided PIN, Branch Code and serial number during the service request process to the TIS being integrated.

NOTE: For VSCU/OSCU initialization, registration and approval of the e-TIMS type must have been completed. (Refer to Section B above)

2. Basic Data Management (Get only)

This category of functionalities is used to get necessary standard codes and data from the eTIMS API Server, which is the basis of generating invoice data. The standard codes and data includes item classification code for managing item, location code, and package, weight code, PIN list and notice from KRA. For more information, check code definition chapter.

NOTE: To send Invoice data to the eTIMS API server, the consistency of the data is essential.

3. Branch Information Management (Get and Send)

Functionalities in this category allows the TIS to send list of head and branch office(s), and user information of branch offices to e-TIMS API server.

NOTE:

- i. For Pharmacy, there is a functionality for sending insurance information of the head & branch offices to e-TIMS API Server.
- ii. Branch codes will be used while sending stock within branch office(s).

4. Item Management (Get and Send)

Functionalities in this category allows TIS to send item information to and get item list from eTIMS API Server.

NOTE: In case you want to recover your items, you can receive them through eTIMS API server.

5. Imported Item Management (Get and Send)

Functionalities in this category allows TIS to receive data of imported items which is declared by the PIN of TIS owner and to send confirmation of the received imported items with the corresponding TIS stock items.

NOTE: The imported items data are retrieved from KRA customs system and data can be used for stock adjustment.

6. Sales Management (Send only)

Functionalities in this category allows TIS to send sales transaction and invoice information to e-TIMS API Server.

NOTE:

- i. Sales transaction data comprises of information such as Customer PIN, Customer Name, Sales Type Code, Receipt Type Code, Payment Type Code, Invoice Status Code, Validated Date, Sale Date, Stock Released Date, Cancel Requested Date, Canceled Date and Refunded Date.
- ii. Sales Invoice data comprises of information such as Invoice Number, Current Receipt Number, Total Receipt Number, Customer PIN, Customer Mobile Number, Receipt Published Date, Internal Data and Receipt Signature.

7. Purchase Transaction Management (Get and Send)

The functionalities in this category allows TIS to get purchase transaction(s) and Invoice data from eTIMS Server with the PIN of TIS owner. It also allows for confirmation of the purchases by the TIS owner for stock adjustment purposes.

8. Stock Management (Get and Send)

The functionalities in this category allows TIS to send inventory in & out of the branches and update the stock status by item classification to eTIMS Server. It also provides for request of stock from main branch.

NOTE: For implementation purposes, the categories and actions listed in the table below are ordered sequentially meaning that latter actions are dependent on some of the preceding actions.

#	Category	Action of TIS side	Description	Remark
1.	Initialization	Device authentication	Device authentication from KRA. 3rd party users must complete an eTIMS service request.	
2.	Basic data management	Get code list	TIS application can update common standard codes managed by KRA from eTIMS API server	
		Get item classification list	Server TIS application can update item classification codes managed by KRA from eTIMS API server.	
		Get PIN information	TIS application can get information on a certain PIN from eTIMS server	
		Get the branch list of head office(store)	TIS application can update the branch office information of head office into eTIMS API server.	
		Get notice list from eTIMS API server	TIS application gets eTIMS notification managed by KRA from eTIMS API server.	
3.	Branch information management	Send customer information	TIS application sends customer information of the head & branch offices into eTIMS Server.	
		Send branch user account	TIS application sends branch user account information to upload it in eTIMS Server.	
		Send branch insurance information	TIS application sends insurance information of the head & branch offices and update it in eTIMS Server	Applied to Pharmacy only. Not Mandatory
4.	Item management	Send Item information	TIS application sends item information (name, unit price, bar code and etc.) of the head or branch offices and updates them in eTIMS Server	Head office(store) role
		Send Item Composition information	TIS application sends item composition information of the head or branch store and updates them in eTIMS API server. Item composition is used to calculate BOM (Bill of Material) of the final processed items.	Head office(store) role
		Get item list	TIS application gets item information updated to eTIMS Server by TIS application.	
5.	Imported item management	Get imported item information	TIS application gets imported item information managed by KRA customs department. All the import declaration result of an owner of TIS application is provided from eTIMS Server.	Head office(store) role
		Send (converted) imported item information	TIS shall convert the received imported item information into eTIMS standard item information for sales (inventory). TIS application sends converted imported items information to eTIMS	Head office(store) role

#	Category	Action of TIS side	Description	Remark
			API server.	
6.	Sales management	Send sales transaction and sales Invoice information	TIS application sends sales transaction and sales invoice information to eTIMS API server. The sales transaction information must proceed sales Invoice information for VSCU.	
		Send sales Invoice information and get Internal Data and Signature Data (VSCU Only)	TIS application sends sales invoice information to the VSCU and gets Receipt counters, Receipt Date, Internal Data and Signature Data.	
			Every sales Invoice information must have its sales transaction information sent in advance to eTIMS server.	
7.	Purchase transaction management	Get purchase transaction information	TIS application gets purchase transaction information which were registered to eTIMS Server by a seller under TIS application owner's PIN.	Head office(store) role
		Send purchase transaction confirmation	TIS application sends purchase transaction confirmation of received purchase transaction information to eTIMS Server.	Head office(store) role
8.	Stock management	Send stock in/out information	When adjusting inventory quantities or selling items at each branches or head office, TIS application sends the stock in/out information to the eTIMS Server. Every stock in/out information must have its sales Invoice information sent in advance to eTIMS Server.	
		Send stock inventory information	If stock inventory information is changed due to stock IN / OUT, Server TIS application sends the changed information of the inventory master and stores it in the eTIMS API server. Every stock inventory information must have its stock in/out information sent in advance to eTIMS Server.	
		Receive stock from head office.	Branch office should request for inventory coming from head office.	