

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

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## Notice

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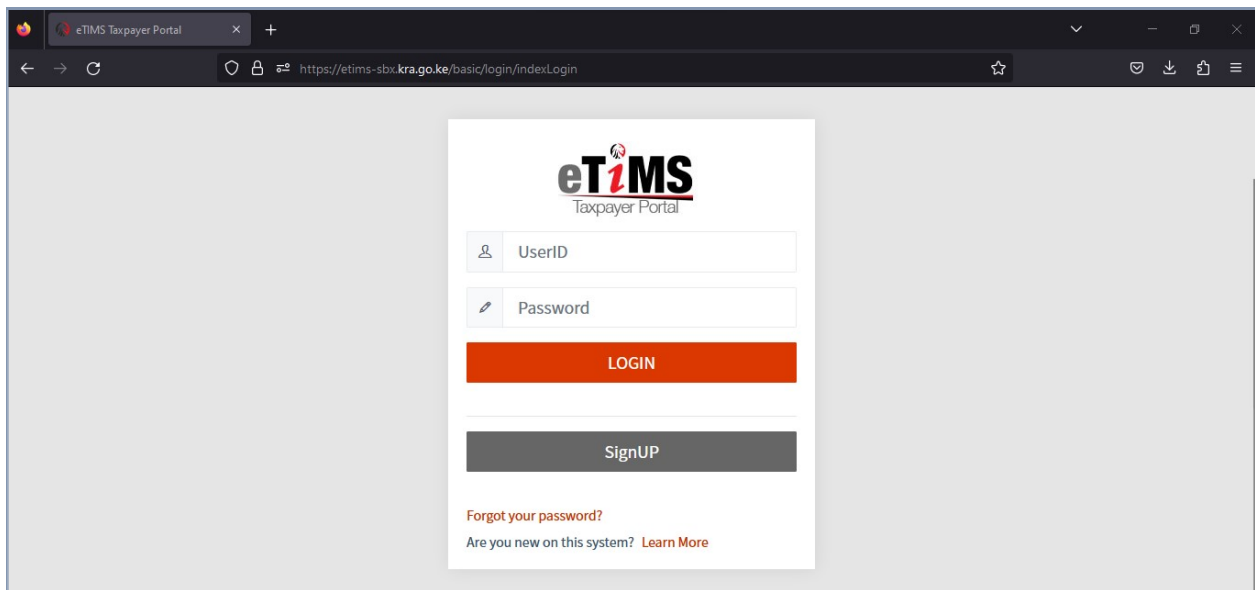
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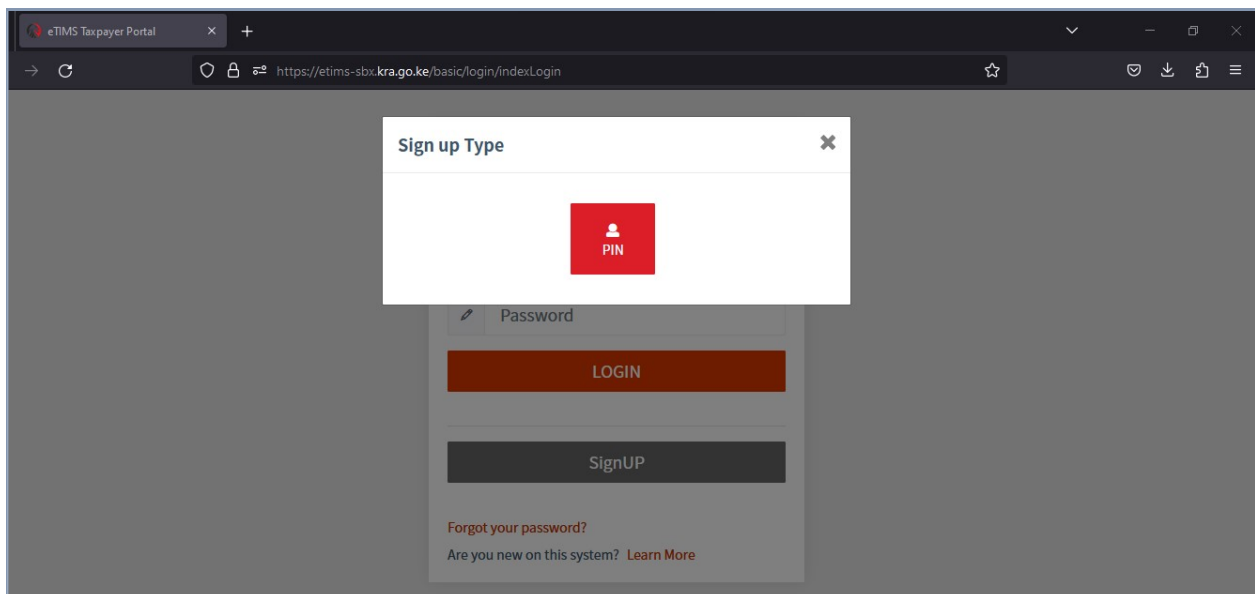
# eTIMS OSCU and VSCU Integration Step-by-Step Guide

## A. SIGN UP FOR ACCESS ON THE eTIMS TAXPAYER SANDBOX PORTAL

1. Access the eTIMS taxpayer sandbox portal on the following URL address:
  - <https://etims-sbx.kra.go.ke>



2. Select the **Sign Up** option.



3. Select **PIN** option and complete the Sign Up form.

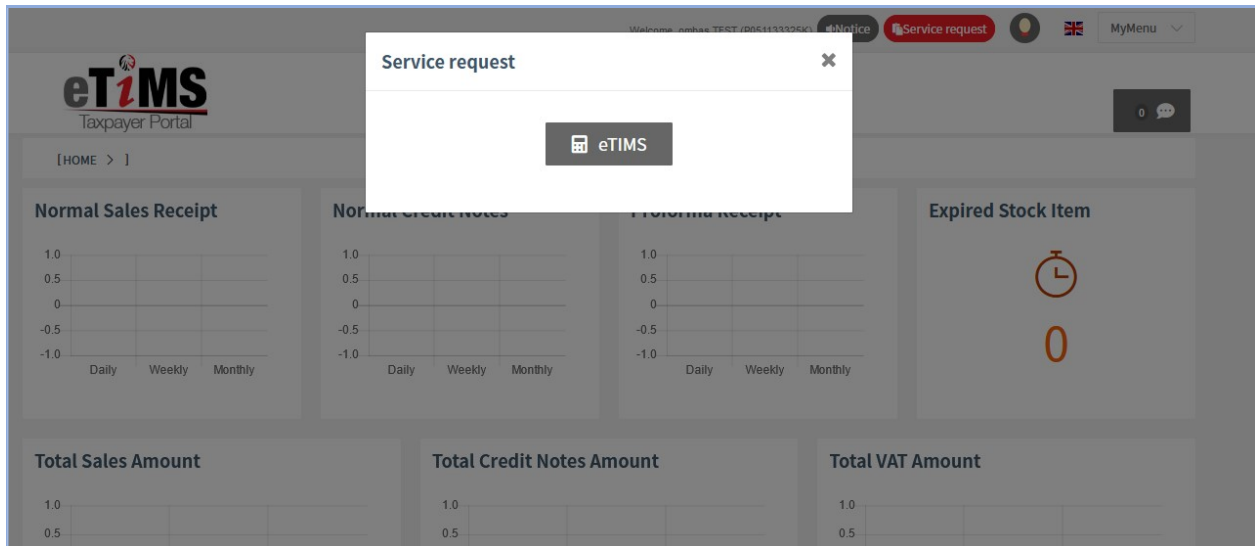
- You will enter the PIN of the company
- Verify that the masked phone number value displayed is correct and can be accessed as the One Time Password (OTP) message will be sent to this number. In case it is incorrect, write to [timsupport@kra.go.ke](mailto:timsupport@kra.go.ke) for the correct phone number to be updated.
- Enter and confirm the Password to be used for the taxpayer sandbox portal access.

The screenshot shows the 'Sign up(PIN)' form on the eTIMS Taxpayer Portal. The form is titled 'Sign up(PIN)' and 'Taxpayer Information'. It contains several input fields and buttons:

- \* PIN**: A text input field for the Taxpayer PIN, followed by a red 'Verify' button.
- Tax payer name**: A text input field.
- Tax payer type**: A text input field.
- \* Mobile**: A text input field.
- E-Mail**: A text input field.
- \* Taxpayer PIN**: A text input field.
- \* Password**: A text input field.
- \* Password Ok**: A text input field.
- Verification**: A section containing a red 'Send OTP' button and a text input field.
- An OTP will be sent to the iTax registered Mobile Number and Email Address**: A note below the verification field.
- Sign up**: A red button with a checkmark icon.
- Cancel**: A black button.

## B. REGISTER FOR OSCU OR VSCU DEVICE

1. Upon successful sign up, access the eTIMS taxpayer sandbox portal using your credentials (KRA PIN and Password).
2. Select the **Service Request** button at the top right corner of the home page.
3. Select **eTIMS** button on the dialog box presented.



4. The **Service Request** form will be displayed.

The screenshot shows the 'Service Request (eTims)' form in the Taxpayer Portal. The form is divided into two main sections: 'Taxpayer Information' and 'Service Information'.

**Taxpayer Information:**

- PIN:** [Empty field]
- Tax payer name:** ombas TEST
- VAT Type:** VAT
- Tax payer type:** 2
- Telephone number:** [Empty field]
- E-Mail:** [Empty field]
- Address (County):** Mombasa
- Address (Sub County):** Mombasa North District
- Address (Tax Area Locality):** Mombasa
- Address (Location Information):** MOMBASA/MALINDIRD

**Service Information:**

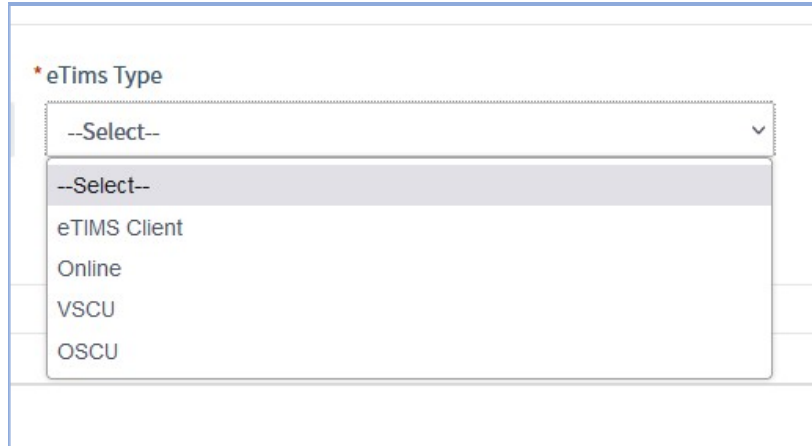
- Service Type:** eTIMS
- eTims Type:** --Select-- (with a red asterisk and the text '\* This field is required' below it)

Below the 'Service Information' section, there are two 'Browse' buttons for uploading files. The first one is labeled 'Signed Commitment letter(PDF/JPG)'. At the bottom of the form, there are 'Send' and 'Cancel' buttons.

5. Complete the **Service Request** form.

- Select the appropriate eTIMS Type:
  - i. **Virtual Sales Control Unit (VSCU)** – Implemented and hosted on the client side. Suitable for organizations with large volumes of invoices that require to be generated in a short span of time.
  - ii. **Online Sales Control Unit (OSCU)** – Implemented and hosted at KRA. Integration organization requires to customize their trader invoicing system to work with OSCU API. Suitable for systems that operate online.
  - iii. **eTIMS Client** – Standalone clients for Windows and Android platforms for PC, Mobile, PDAs and Tablets developed by KRA. This solution is specifically designed for Large and Medium Taxpayers, both VAT and non- VAT registered taxpayers, as well as other taxpayers who may apply for it.

- iv. **eTIMS Online** – Invoicing functionality availed on the eTIMS taxpayer portal. Eligible taxpayers for this solution are those operating in service sector who do not issue more than 10 invoices per month. E.g.: rental property owners, transport service providers, consultants, lawyers, etc.



The image shows a screenshot of a web form. At the top, there is a label '\* eTims Type'. Below it is a dropdown menu. The menu is currently open, showing a list of options. The first option is '--Select--'. Below that, there are four other options: 'eTIMS Client', 'Online', 'VSCU', and 'OSCU'. The dropdown menu has a small downward arrow on the right side.

- Complete and upload the **eTIMS Commitment Form**. The form is available on the Service Request form and on the **eTIMS Learn More** page (<https://www.kra.go.ke/images/publications/eTIMS-confirmation-document.pdf>).
6. The **Service Request** will be processed, and you will receive a confirmation SMS message on your registered mobile number reading “*Service Request was approved. You can now proceed with eTIMS installation in your KRA Account.*”.

### C. SETUP FOR OSCU

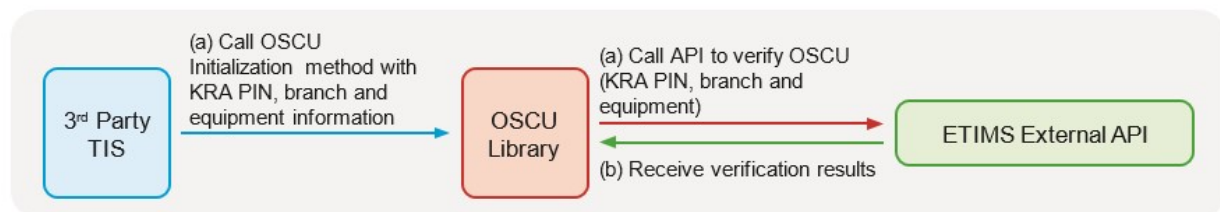
1. Upon approval of OSCU, a taxpayer will access the OSCU from KRA servers and start activation.
2. The OSCU running process, main configurations and technical policies are detailed in the [OSCU Specifications document/guide](#) section 2.2.

**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>](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.

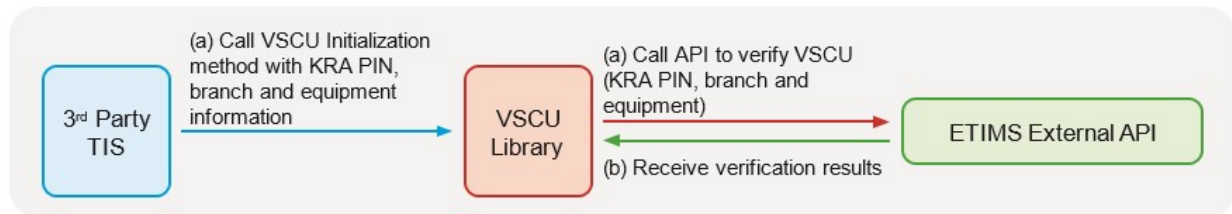
**Note** that the services included in the sequence definitions are to be used with the below URL:

- [http://<hostname\\_or\\_ip\\_running\\_vscu\\_jar>:<server.port>](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.	