eTax Multi-Vendor Monitoring System

eTax Monitoring System Features:

1- Tracking the current location of each POS.
2- Ticketing System that tracks all current problems.
3- Tracking approved and rejected transactions count per each batch for each merchant.
4- Tracking if the terminal is Up-To-Date regarding Configuration, Software, and Firmware.
5- Checking if Current POS is turned on or off.
6- Getting data on both Sims.
7- Exporting Reports to Excel Files. **eTax Monitoring System prerequisite:**

1- Implementing this request inside of the code and Connect to the server.
2- Getting all the parameters needed from the POS and implement it inside of the request message.
3- Creating a Statistics Message that Connects to this Monitoring System every 10 or x minutes.
4- To Support checking if terminal is Up-To-Date feature POS must check with its TMS if firmware, software and configuration updated or not.
5- Implementing a Ticketing Open Menu in the terminal.
6- Implementing a Ticketing Enquiry Menu.
7- Implementing a Ticket Visit Menu that takes the ID of the Technician and Password Protected.

Request Message:

https://tms.etax.com.eg/api/Request/MonitoringSystem

Content-Type: application/json

Request Post

Data is in Json Format

JSON Data Example:

```
{
   "Vendor":"NEWLAND",
   "TermType":"smartBox V7",
   "TermSerial":"74B00296372611",
   "TermOS": 1,
   "StatMsgInterval":"201236",
   "Firmware_Ver":"8.0.0",
   "Firmware_UTD":1,
   "Firmware_LUDT":"01/12/2019 15:07:03",
   "Software_Ver":"2.0.0",
   "Software_UTD":1,
   "Software_LUDT":"01/12/2019 15:07:03",
   "AppData":[
      {
         "TermID":"22930010",
         "MerchantID":"511426119",
         "MasterApp":true,
         "Config_Ver":"1",
         "Config_UTD":true,
         "Config_LUDT":"01/12/2019 15:07:03",
         "BatchData":[
            {
               "BatchNo":1,
               "ApprovedTrans":8,
               "RejectedTrans":"81,7,05,3,04,9"
            },
            {
               "BatchNo":2,
               "ApprovedTrans":20,
               "RejectedTrans":"81,1,05,2,04,1"
            }
         ]
      },
      {
         "TermID":"22930011",
         "MerchantID":"229300",
         "MasterApp":0,
         "Config_Ver":"10",
         "Config_UTD":1,
         "Config_LUDT":"03/12/2019 15:07:03",
         "BatchData":[
            {
               "BatchNo":4,
               "ApprovedTrans":5,
```

```
            "RejectedTrans":"91,4,05,2,04,6"
         },
         {
            "BatchNo":5,
            "ApprovedTrans":25,
            "RejectedTrans":"91,2,05,1,04,3"
         }
      ]
   }
],
"TNeeded":false,
"TEnquiry":false,
"TChoosed":4,
"TicketID":0,
"TVisit":false,
"TVisitorId":50,
"SimData":[
   {
      "SimSerial":"8920022022651206251",
      "SimMCCMNC":60202,
      "SimSuccConnCount":10,
      "SimChangedCount":2,
      "CurrentSim":1,
      "LocalIP":"192.168.1.5"
   },
   {
      "SimSerial":"8920018517200872509",
      "SimMCCMNC":60201,
      "SimSuccConnCount":30,
      "SimChangedCount":4,
      "CurrentSim":0
   }
],
"CellTowersData":[
   {
      "MCC":602,
      "MNC":2,
      "LAC":31201,
      "CID":7876094,
      "SigStrength":-80
   },
   {
      "MCC":602,
      "MNC":2,
```

```
            "LAC":31201,
            "CID":7876096,
            "SigStrength":-90
         }
      ],
      "Longitude":31.1840318245614,
      "Latitude":30.0023239385965
}
```


Terminal Info:

Vendor:

The Name of Vendor.

TermType:

Type of Terminal.

TermSerial:

Terminal Serial Number.

TermOS:

Terminal Operating System (0 For Linux – 1 For Android – 2 For Windows – 3 For IOS – 4 For MAC).

StatMsgInterval:

The Interval Time between each statistics Message formatted as (HHMMSS).

Versioning:

Software_Ver:

Software Version.

Software_UTD:

Software Is Up-To –Date or not (bool).

Software_LUDT:

Software Latest Update Date-Time.

Firmware_Ver:

Firmware Version.

Firmware_UTD:

Firmware Is Up-To –Date or not (bool).

Firmware_LUDT:

Firmware Latest Update Date-Time.

App Data:

Array of Applications, for Multi Merchant Terminals, an application for each merchant.

TermID:

Terminal ID **MerchantID:**

Merchant ID **MasterApp:**

Application Is the Master App or not and there must be only one master(bool).

Config_Ver:

Configuration Version.

Config_UTD:

Configuration Is Up-To –Date or not (bool).

Config_LUDT:

Configuration Latest Update Date-Time.

Batch Data:

Array of Batch Data objects must have at least two elements Previous and Current batch but only in case of there is no previous batch send just the current.

BatchNo:

Batch No.

ApprovedTrans:

Count of Approved Transactions.

RejectedTrans:

Count of Rejected Transactions, set as CSV (RejectedTransResponseCode,Count).

Ticketing:

TNeeded:

This Request was meant to open ticket or not (bool).

TEnquiry:

This Request was meant to enquiry on an opened ticket or not (bool).

TChoosed:

This is an Integer each bit represent a certain issue to open according to the enum.

TicketID:

This is used to enquire on a certain ticket using its TicketId.

TVisit:

This Request was meant to submit that the ticket was visited by Technician(bool).

TVisitorId:

This is Set using the ID of the Technician.

Ticketing Rules:

- If **Tneeded**, **Tenquiry,** and **TVisit** was set to true **TNeeded** has the higher priority.
- In case of **Tneeded** ○ If the Ticket was opened successfully:
  - ✦ Response Code: 201
  - ○ If the Ticket Failed To Open:
  - ✦ Response Code: 204
  - ○ In both cases:
  - ✦ Headers:
    - Content: TicketOpen_
    - Data: Json Data as an array of objects (Refer to Ticket Object).

- In Case of **Tenquiry** ○ If Ticket Found:
  - ✦ Response Code: 200 ○ If Ticket Not Found:
  - ✦ Response Code: 404 ○ If Found or Not Found ✦ Headers:
    - Content: TicketEnquiry_
    - Data: Json Data as an array of objects (Refer to Ticket Object).
  - ○ If Both **TChoosed** and **TicketID** is zero, it will return all tickets opened for this terminal

- If **TChoosed** is not Zero, it will return the selected Tickets set.
- If **TicketID** is not zero, it will return the selected Ticket.

- In Case of **TVisit** ○ **TvisitorId** must be set using the Id of the Technician who visited the Terminal.
  - Return Header:
    - ✦ Content: TicketVisit_
    - ✦ Data: Json Data as an array of objects (Refer to Ticket Object).
  - If **TvisitorId** wasn't found:
    - ✦ Response Code: 403 ○ If **Ticket** wasn't found:
    - ✦ Response Code: 404 ○ If ID was found:
    - ✦ Response Code: 200
  - If **TChoosed** is not Zero, it will return the selected Tickets set.
  - If **TicketID** is not zero, it will return the selected Ticket.
  - Else
    - ✦ Response Code: 400

Ticket Object:


```
[{
      "Ticket_ID":10,
      "TerminalSerialNmbr":"J74B00296393",
      "Error_Name":"Printer_Error",
      "Auto_Entry":0,
      "User_Assigned":"",
      "Progress":"NEW",
      "Date_Received":"Nov 19 2019 7:36PM",
      "Start_Work_Date":"",
"Visit_Date":"",      "Closed_Date":""
}]
```


Ticket Enum:

```
enum Errors
{
      HOST_Unavailable =     1 << 0,
      No_Paper_Roll    =     1 << 1,
      Printer_Error    =     1 << 2,
      Magnetic_Error   =     1 << 3,
      Chip_Reader_Error =    1 << 4,
      Contactless_Error =    1 << 5,
```

```
        Screen_Error      =     1 << 6,
        Keyboard_Error    =     1 << 7
};
```

Sim Data:

Array of Sim Data Object for each sim in terminal.

SimSerial:

The Sim Serial Number.

SimMCCMNC:

The Sim MCC and MNC combined (ex: 60202) **SimSuccConnCount:**

Count of number Successfull Connection.

SimChangedCount:

Count of how many times this sim was changed.

CurrentSim:

Is this the currently connected Sim (bool).

LocalIP:

The Local Ip that the sim has taken when Connected, leave it as null if not connected.

Cell Towers Data: (For terminals that doesn't support GPS)

Array of Cell Tower Data Object for each tower, the terminal is connected to.

MCC:

Mobile Country Code.

MNC:

Mobile Network Code.

LAC:

Location Area Code.

CID:

Cell ID.

SigStrength:

The Signal Strength (Must be less than Zero).

Location Data: (For terminals that supports GPS) Location

Of Terminal that supports GPS.

Longitude:

Longitude of Terminal Location.

Latitude:

Latitude of Terminal Location.