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| **Globitel_Logo(100pxls).jpg** |
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**Prepared by Suhair Fuqaha.**

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**Technical Guide**

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# Introduction

Need Introduction

# General Declarations

**General Declarations:**

|  |  |
| --- | --- |
| **Display Name** | Display name for the column that should appear in all pages. |
| **Field Data** | Data that the column should read from “if the column data should be filled from another table” |
| **Field Type** | Input text, listbox, checkbox … |
| **Input Type** | String, number, select, user click … |
| **Editable** | Show if the column is editable or not [user will be able to edit column value “**in the update page**” or not]. |
| **O/M** | Check if the column is optional or mandatory. |
| **Business Rule** | If there is another control(s) in the same page is depending on. |
| **DB Action** | Where to save the column data in the database. |
| **Is Unique** | To check if the column is unique or not. |
| **Minimum Length** | To check if minimum length should be validated or not. |
| **Max Length** | To specify column max length. |

# General Notes

1. All queries will be on Account Holder ID.
2. If the logged in is Admin account holder type, will show column Account holder name and Created by (Username).
3. If the logged in is not Admin account holder type, will show column Created by (Username).
4. Wherever applicable will add paging and export to excel.
5. Regarding the current location and bulk location will add the IMSI option without backend implementation, will back to once it will be ready from the core part.
6. Regarding the Security Part 2, all output/input parameters should be verified with the document sent from the customer. Attached in section “Technical Proposal”. @Saja to verify this point.
7. Regarding track\_details and bulk\_details we have service called “Positioning service”.
8. Positioning methods:

GMLC : response (lng , lat) and need conversion.

Update Location and SS7 : response lng,lat and address.

# Lookups

position\_methods

notifications\_templates

about\_system

auto\_dates

events

imsiformat

msisdnformat

networktype

notifications\_templates

position\_methods

reports

request\_types

search\_type\_output

search\_types

system\_settings

# System Management

## System Settings

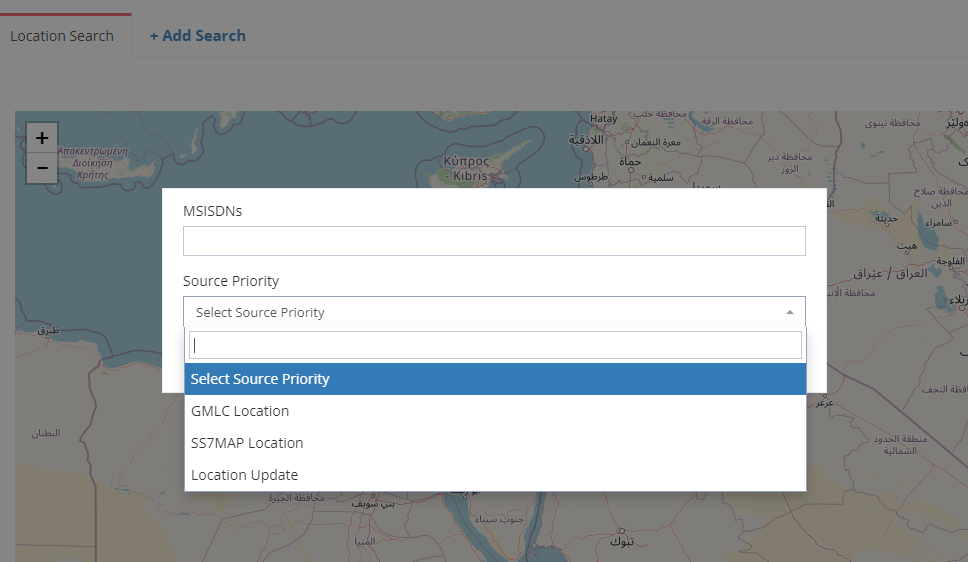
Standard module.

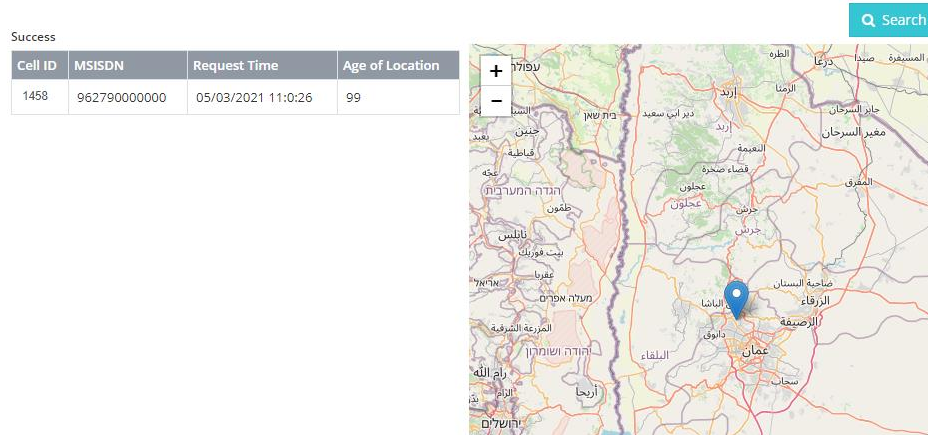
## Auto Reporting Agents

Standard module.

# Security Watch

## Current Location



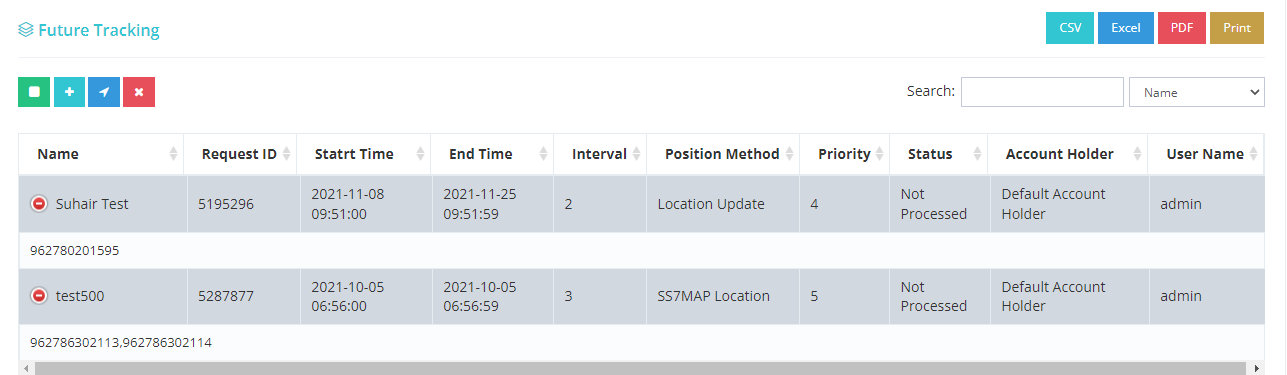


**Business/Code Rules:**

|  |
| --- |
| 1. Search will accept multiple **MSISDN/IMSI** comma separated.   **NOTE: for the time being, we will not proceed with the IMSI option.** |
| 1. Will have radio button **[Either to search by IMSI or MSISDN]. [Postpone this option]** 2. Currently will not add backend functionality for the IMSI. |
| 1. Format should be checked. |
| 1. Maximum user can insert 10 different subscribers per request. |
| 1. Will have 2 tables in the output one for failed and one for success. |
| 1. ***Will call API regarding this feature.*** |

## Future Tracking

***Note: all actions on this module, will be from web side.***



|  |  |
| --- | --- |
| Module Name | Future Tracking |
| Source Table | track\_record where Priority <> 10 [10 reserved for Immediate Tracking] |
| Required Actions | Add, Delete, Locate, Pause , Resume. |
| Grid Columns | Name, Request ID, Start Time, End Time, Interval, Position Method, Priority, Status, Account Holder, Created By.  Name: track\_record. Name  Request ID: track\_record. RequestID  Start Time: track\_record. StartTime  End Time: track\_record. StopTime  Interval: track\_record. Interval (min(s))  Position Method: position\_methods.Name  Priority: track\_record. Priority  Status: track\_record. Status (0 Not Processed, 1 In Progress, 2 Done, 3 Paused, 4 Resumed, 5 Failed, 6 Bad)  Account Holder: web\_sdk\_v2. accounts\_holders.Name  Created By: web\_sdk\_v2.Users.Username  Note: Account Holder will be shown only if the logged in is Admin Account Holder Type.  Note: will add Plus Icon “Expand” and when click will show list of MSISDNs related to this track. |
| Search List | Name, Request ID, Interval, Position Method, Priority , Status, Account Holder, Created By.  Name: track\_record. Name  Request ID: track\_record. RequestID  Interval: track\_record. Interval (min(s))  Position Method: position\_methods. Name  Priority: track\_record. Priority  Status (0 Not Processed, 1 In Progress, 2 Done, 3 Paused, 4 Resumed, 5 Failed, 6 Bad)  Account Holder: web\_sdk\_v2. accounts\_holders.Name  Created By: web\_sdk\_v2.Users.Username |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Name | N/A | Input Text | String | No edit page | M | N/A | track\_records.Name | Y per Account holder | N/A | 50 |
| MSISDN(s) | N/A | Input Text | String | No edit page | M | Numbers comma separated | track\_records.MSISDN | N/A | N/A | 1500 |
| Date Ranges | N/A | calendar | select | No edit page | M | Start must be greater than now. | track\_records. StartTime  track\_records. StopTime | N/A | N/A | N/A |
| Interval | 1 Min , 5 min , 15 Min , 30 Min , 60 | listBox | select | No edit page | M | N/A | track\_records. Interval | N/A | N/A | N/A |
| Priority | 1(Lowest),2,3,4,5 (Highest) | listBox | select | No edit page | M | N/A | track\_records. Priority | N/A | N/A | N/A |
| Position Method | position\_methods. Name | listBox | select | No edit page | M | N/A | track\_records. Position\_MethodID | N/A | N/A | N/A |

**Business/Code** **Rules**:

|  |
| --- |
| 1. Grid should be single select. |
| 1. Name is unique per account holder. |
| 1. Will generate random unique number and store it in track\_records.RequestID. |
| 1. If the user enters more than MSISDN, will insert multi records into table track\_records with same Request ID and different MSISDNs. |
| 1. Regarding the Intervals, will convert it into seconds before save it into the database. |
| 1. track\_records. AccountHolderID and track\_records. UserID will be inserted implicitly. |
| 1. MSISDNs should be unique. “Add hint” |
| 1. When clicks Locate button will do the following:  * Will get all the details for the selected record from track\_details based on the RequestID. * First will show list of MSISDN(s). I prefer to check the MSISDNs count in this track, if = 1, directly will show his details (Success,Failed). * When click on specific MSISDN will show 2 tabs for both success [track\_details.StatusCode = 200] and failed records. * **Regarding the success tab** will show the Date/Time (track\_details.RecordDate) and the Address (will extract it from track\_details.Location). * **Onclick on specific MSISDN, will locate it on the map** * **Regarding the failed tab** will show the Date/Time (track\_details.RecordDate) . |
| 1. Window should have radio button, enable/disable auto refresh based on the interval. 2. Also will Add manual Icon Refresh. |
| 1. If the Position Method is not GMLC, will render all the Pins on the map, and when click specific row will highlight the Pin and zoom in. 2. If the Position Method is GMLC, will render the shape only when click on specific row. |
| 1. We can show the track details if the Status is **1,2,3,4** |
| 1. Regarding Pause button, the user can pause track if it’s current status is in Progress.   And will update track\_records set Status = 3   1. Regarding Resume button, the user can Resume track if it’s current status is Paused and Expiry Date still valid..   And will update track\_records set Status = 4 |

## Immediate Tracking

***Note: all actions on this module, will be from web side.***

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| MSISDN(s) | N/A | Input Text | String | No edit page | M | Numbers comma separated | track\_records.MSISDN | N/A | N/A | 1500 |
| Interval | 1 Min , 5 min , 15 Min | listBox | select | No edit page | M | N/A | track\_records. Interval | N/A | N/A | N/A |
| Position Method | position\_methods. Name | listBox | select | No edit page | M | N/A | track\_records. Position\_MethodID | N/A | N/A | N/A |

**Business/Code** **Rules**:

|  |
| --- |
| 1. ~~Will have multi tabs, as current location, each tab contains the input mentioned before in the above table.~~ |
| 1. Will save data into table track\_records. |
| 1. Name will be inserted implicitly. Select unique name indicates that this related to immediate tracking. |
| 1. Start Date, will be now and end date will be after 30 minutes. [Configured value should be in the web.xml]. |
| 1. Priority will be inserted implicitly “10”. |
| 1. When click Start Tracking, will open new window contains the result. 2. Window should have radio button, enable/disable auto refresh based on the interval. 3. Also will Add manual Icon Refresh. |

## Historical Events Tracking

This will be same as Calls Detailed Records.

## Bulk Upload

***Note: all actions on this module, will be from web side.***

|  |  |
| --- | --- |
| Module Name | Bulk Upload |
| Source Table | bulk\_records |
| Required Actions | Add, Delete, Locate, Download. |
| Grid Columns | Name, Request ID, Status, Position Method, Account Holder, Created By.  Name: bulk\_records. Name  Request ID: bulk\_records. RequestID  Position Method: position\_methods.Name  Status: bulk\_records. Status (0 Not Processed , 1 in progress, 2 done)  Account Holder: web\_sdk\_v2. accounts\_holders.Name  Created By: web\_sdk\_v2.Users.Username  Note: Account Holder will be shown only if the logged in is Admin Account Holder Type. |
| Search List | Name, Request ID, Status, Position Method, Account Holder, Created By. |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Name | N/A | Input Text | String | No edit page | M | N/A | bulk\_records.Name | Y per Account holder | N/A | 50 |
| Position Method | position\_methods. Name | listBox | select | No edit page | M | N/A | track\_records. Position\_MethodID | N/A | N/A | N/A |
|  | MSISDN/ IMSI | Radio |  |  |  |  |  |  |  |  |
| File |  | Upload File |  |  | M | To be checked | bulk\_records. FilePath | N/A | N/A | N/A |

**Business/Code** **Rules**:

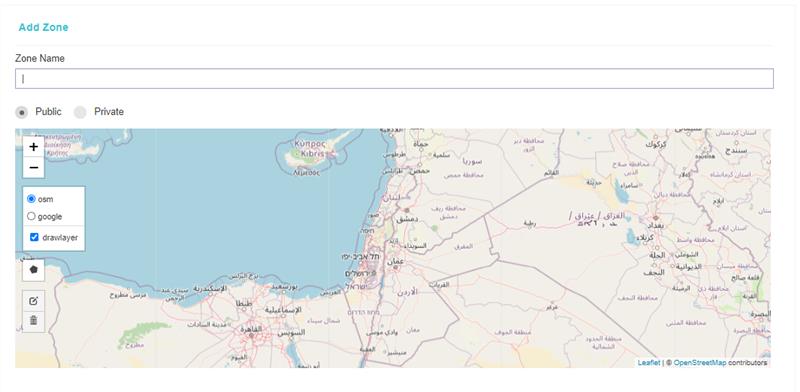
|  |
| --- |
| 1. Grid should be single select. |
| 1. Name is unique per account holder. |
| 1. Will generate random unique number and store it in bulk\_records.RequestID. |
| 1. bulk\_records. AccountHolderID and bulk\_records. UserID will be inserted implicitly. |
| 1. Regarding the bulk\_records. FilePath, full path should be saved into the database. |
| 1. We will not validate the data inside the uploaded file. 2. The uploaded file will be limited to 100 MSISDNs. Add it as hint . |
| 1. Regarding the Download button:    * + If the status is 1,2 you can proceed.      + We will go to the database “bulk\_details”.      + Will read the data from the above table and save it into excel sheet with 2 tabs “Success/Failed”.      + Regarding the success sheet will show the below columns : |
| 1. Regarding the Locate button:    * + If the status is 1,2 you can proceed.      + Will get the data from bulk\_details Based on the selected “RequestID” .      + Will show list of MSISDN with their locations. |
| 1. Regarding the Location status, we will check bulk\_details.StatusCode :  * if bulk\_details.StatusCode = 200 then it is success and we have address for this record. * Else if bulk\_details.StatusCode is NULL the Failed (“Problem in API”) * Else “No available location”. |

# Security Part 2

## Zones

***Note: all actions on the zones, will be web service, except the main grid..***

|  |  |
| --- | --- |
| Module Name | Zones |
| Source Table | Zones where is-archived =0 (will get not deleted only), accounts\_holders, users |
| Required Actions | Add, Update, Delete |
| Grid Columns | Zone Name, Account Holder Name(only will be shown if the logged in user is Admin account holder type (SDK. accounts\_holders\_type.ID=0)), Created By, Created Date.  Zone Name: zones.name  Account Holder Name: accounts\_holders.Name  Created By: SDK.Users.username  Created Date: zones. creation-date |
| Search List | Zone Name, Account Holder, Username, Other Attributes.  Other attributes will open new modal dialog contains the below:(All are ~~optional~~ mandetory) |

****

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Zone Name | N/A | Input Text | String | y | M | N/A | Web service | Y per content provider | N/A | 100 |
| Public / Private | N/A | Radio button | Select | Y | M | Will be shown only for admin account holder type. | Web service | N/A | N/A | N/A |
| Map | N/A | N/A | select | Y | M | N/A | Web service | N/A | N/A | N/A |

**Business/Code Rules:**

|  |
| --- |
| 1. Zone Name should be unique per account holder. |
| 1. Public/Private will appear only for the admin. |
| 1. Zone Delete, will be implicitly, will have new column “is-archived”. |
| 1. Main view for the zones, and all list that read from zones table(mySQL), should get only the not deleted zones. |
| 1. When select specific zone from the zones view, will render the zone location on the map. |
| 1. On the update zone page, will have new checkbox, before the map, “View Cells”, if checked will display the zone(s) cell(s). |

## Cells IDs

**Note: all actions on the cells, will be web service except the main view. [view filled by Web team from mongo DB]**

|  |  |
| --- | --- |
| Module Name | Cells |
| Source Table | mongoDB.cells |
| Required Actions | Add, Update, Delete, Upload |
| Grid Columns | Cell ID, ~~LAT\_TAC~~, LAC, Address (main header) when expand the row, will get the below: Note: return all columns    Notes: all the columns will be retrieved from mongo db |
| Search List | Almost all the fields that accept search.  Also add new added column [MCC, MNC, Service Node, LAC\_TAC rename to LAC]  Other attributes will open new modal dialog contains the below:(All are optional)  Put all the document fields.  **Note: when do search on long,lat:**  float plus\_mnius\_coordiate\_lng = (float) 0.00095; float plus\_mnius\_coordiate\_lat = (float) 0.00085; |

**Columns Detailed Specifications: Order as the above screen shot**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Cell ID | N/A | Input Text | String | Y | M | Y |  | Y | 5 | 25 |
| ~~LAC\_LAT~~  LAC |  | Input Text | String | Y | O | N/A |  | N/A | N/A | 50 |
| Serving Node |  | Input Text | String | Y | O | N/A |  | N/A | N/A | 50 |
| MCC |  | Input Text | String | Y | O | N/A |  | N/A | N/A | 50 |
| MNC |  | Input Text | String | Y | O | N/A |  | N/A | N/A | 50 |
| Address |  | Text area | String | Y | O | N/A |  | N/A | N/A | 200 |
| Longitude |  | Input Text | double | y | M | N/A |  | N/A | N/A | 15 |
| Latitude |  | Input Text | double | y | M | N/A |  | N/A | N/A | 15 |
| Range |  | Input Text | double | Y | O | N/A |  | N/A | N/A | 15 |
| ~~Type~~  This should be deleted everywhere | ~~GSM, UMTS~~ | ~~list~~ | ~~select~~ | ~~Y~~ | ~~O~~ | ~~N/A~~ |  | ~~N/A~~ | ~~N/A~~ | ~~N/A~~ |
| RAT  Send Name to API not ID | Select \* from RAT  Initially  GSM , UMTS | list | select | Y | O | N/A |  | N/A | N/A | N/A |
| Min Rx-Level |  | Input Text | double | y | O | N/A |  | N/A | N/A | 15 |
| Power Level |  | Input Text | double | y | O | N/A |  | N/A | N/A | 15 |
| Antenna Type  Send Name to API not ID | ~~Omni, Mimo~~  This should read from table Antenna\_Type | List box | select |  | O |  |  |  |  |  |
| Cell Direction Angle |  | Input Text | double | y | O | N/A |  | N/A | N/A | 15 |

**Business/Code Rules:**

|  |
| --- |
| 1. Data table should be single row select |
| 1. When select specific cell from the cells view, will render the cell location on the map. |
| 1. Regarding the above point, will add edit icon to update the cells info. |
| 1. Regarding the address, if it NULL, will call web service (Open Street Map Reverse Geo Coding). 2. Also this should be applied for the upload Cells. |
| 1. Upload File validation should be done from web side. |

## Security Watch Agents

|  |  |
| --- | --- |
| Module Name | Security Watch agents. |
| Source Table | security\_watch\_agents |
| Required Actions | Add, Update and Delete |
| Grid Columns | Agent Name, Phone Number, Email Address, Created By(from Users.username) |
| Search List | Agent Name, Phone Number, Email Address, Created By |

**NOTE: this module will be as the Auto Reporting Agents module, but we have some new restrictions here:**

**Business/Code Rules:**

|  |
| --- |
| * 1. Will have new column Account\_HolderID, this will appear only if the logged in account holder type is Admin. |
| * 1. Regarding the uniqueness (Name,Phone,Email) they will be unique per the account holder type . |

## Notifications Templates

***Note: all actions on this module, will be from web side.***

|  |  |
| --- | --- |
| Module Name | Notifications Templates |
| Source Table | notifications\_templates |
| Required Actions | Update |
| Grid Columns | Template Name: notifications\_templates.type('1:Zones Protections, 2:VIPS Protection , 3:Spatial Density , 4: Groups Tracking, 5: Events Monitoring ') |
| Search List | Template Name |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Template Name | notifications\_templates.type('1:Zones Protections, 2:VIPS Protection , 3:Spatial Density , 4: Groups Tracking, 5: Events Monitoring ') | Input Text | N/A | N | N/A | N/A | N/A | N/A | N/A | N/A |
| We should go through the below JSON and reflect it on the web GUI.  **All elements should be reflected except the Agents.**  NOTE: will receive Array of JSON.  "action": {​​​​                  "type":"http",     "parameters": {​​​​​​​​​​​         "http-rest-url":"",         "http-request-type":"",         "http-request-body":"body",         "headers":[             {​​​​​​​​​​​"Content-Type" : "application/x-www-form-urlencoded" }​​​​​​​​​​​,             {​​​​​​​​​​​"Content-Type" : "application/x-www-form-urlencoded" }​​​​​​​​​​​         ]     }​​​​​​​​​​​ }​​​​​​​​​​​ or "action": {​​​​​​​​​​​                  "type":"sms",     "parameters": {​​​​​​​​​​​         "sms-sender":"",         "sms-type":"",         "sms-body":"body",         "agents": [13,14] // **Don’t add it to the GUI**     }​​​​​​​​​​​ }​​​​​​​​​​​ or "action": {​​​​​​​​​​​                  "type":"email",     "parameters": {​​​​​​​​​​​         "email-from":"",         "email-cc":"",          "email-subject":"",         "email-body":"body",         "agents": [13,14] **//Don’t add it to the GUI**      }​​​​​​​​​​​ }​​​​​​​​​​​ | | | | | | | | | | |

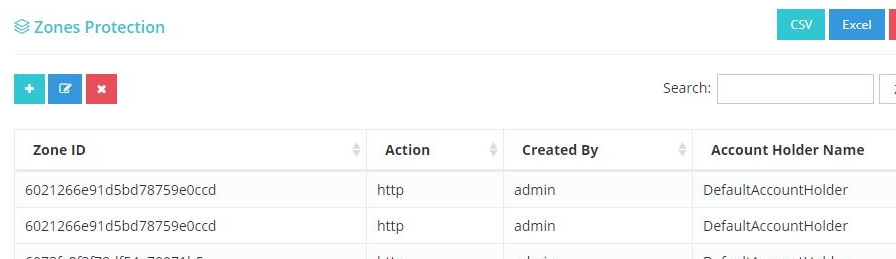
**Business/Code Rules:**

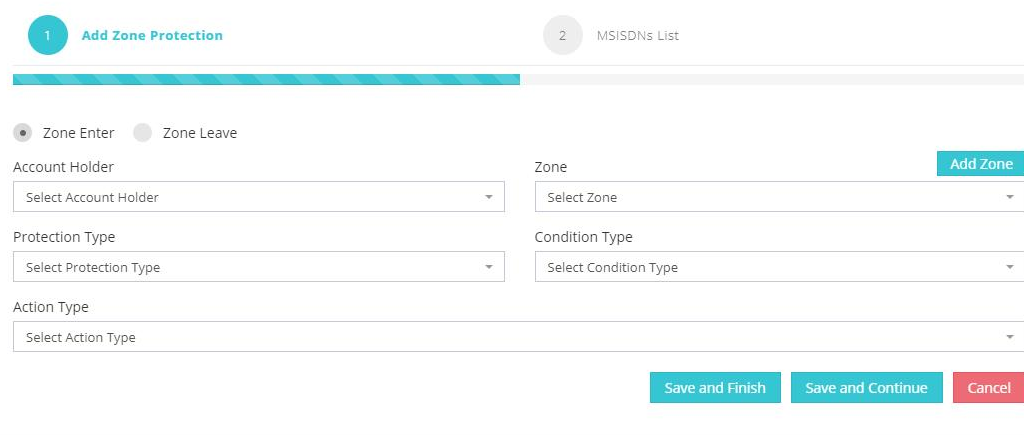
|  |
| --- |
| 1. Grid should be single select. |
| 1. Check what should we do incase if table is empty. |

## Zones Protection

***Note: all actions on this module, will be APIs except the main grid ~~and full management of the MSISDN List~~.***

|  |  |
| --- | --- |
| Module Name | Zones Protection |
| Source Table | zones\_protections,~~Actions~~ |
| Required Actions | Add, Update, Delete |
| Grid Columns | Zone, Action, Created By, Account Holder Name(only will be shown if the logged in user is Admin account holder type).  Zone: from Zones.Name  Action: Zones.action.type  Created By: Users.username |
| Search List | Zone, Action, Created By, Account Holder Name |





**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Direction | Zone Enter/Leave | Radio button | select | Y on add only | M | Y | zones\_protections. Direction | N/A | N/A | N/A |
| Zone | From Zones.name | listBox | select | Y | M | N/A | zones\_protections. ZoneID | N/A | N/A | N/A |
| Protection Type | 0:Any, 1:Inclusion (WhiteList), 2: Execlusion (Black list) | listBox | select | Y on add only | M | Y | zones\_protections. ProtectionType | N/A | N/A | N/A |
| Condition Type | Will be enabled only if the Protection Type is Execlusion  (Combined Together ‘Anding’,  Solo ‘Oring’) | listBox | select | Y | M | Y | zones\_protections. ConditionType | N/A | N/A | N/A |
| Action Type | Email ,SMS,HTTP | listBox | select | y | M | N/A | Will not save to direct column, will use column “Action” to save the action and it’s related params as JSON. | N/A | N/A | N/A |
| From | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| CC | From notification template.Actions  Will be shown if action type is Email. | Input text | String comma separated | Y | O | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Subject | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Body | From notification template.Actions  Will be shown if action type is Email | Rich Text Area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 2000 |
| Sender | From notification template.Actions  Will be shown if action type is SMS | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 50 |
| SMS Type | From notification template.Actions  1:Normal , 2:Flash  Will be shown if action type is SMS | radion | select | Y | M | N/A | Will add it to the Action column. | N/A | N/A | N/A |
| SMS Body | notifications\_temp.Actions  Will be shown if action type is SMS | Text area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| URL | notifications\_templatesActions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| Request Type | From notification template.Actions  “GET”, “POST”, “PUT” or “DELETE”  Will be shown if action type is HTTP Rest | List box | select | y | M | Y | Will add it to the Action column. | N/A | N/A | N/A |
| Request Body | From notification template.Actions  Will be shown if action type is HTTP Rest | Text Area | string | y | M incase type is not get | Y | Will add it to the Action column. | N/A | N/A | 300 to be re checked later. |
| **The below Key, value table will be related to Header Parameters** | | | | | | | | | | |
| Key | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | Y | N/A | 100 |
| Value | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N | N/A | 255 |
| Agents | security\_watch\_agents.Name where Account\_HolderID = logged in Account Holder ID  Will be shown if action type is not HTTP Rest | Multi select | select | Y | M | N/A | Will add it to the Action column. | N | N/A | 300 |

**Business/Code Rules:**

|  |
| --- |
| 1. Regarding the Directions, if Zone Leave remove the Inclusion option. |
| 1. No restrictions on the zones (Uniqueness). |
| 1. Regarding the protection type:    * + If any: then the MSISDNs list will be disabled.      + If Exclusion, then the condition type will be enabled.      + If Inclusion, then the condition type will be disabled and the value for this will be implicitly Solo ‘Oring’. |
| 1. Email format should be checked. |
| 1. When click edit, will call web service method,” incase if Protection Type is not Any”, and will pass to the defined MSISDN list, and will show them on the map.   passive(Update Location) |
| 1. After clicking Next, will get the below pages |
| 1. Maximum MSISDN number per zone protection is 1000. |

### MSISDNs List

|  |  |
| --- | --- |
| Module Name | MSISDNs List |
| Source Table | From web service |
| Required Actions | Add, Upload and Delete |
| Grid Columns | MSISDN |
| Search List | MSISDN |

***Note: MSISDN format(Number, empty, Valid Format, etc …) and uniqueness should be done from web side.***

This module be as our standard module, and we only have one additional check, MSISDN should be unique per Zones\_Protection\_ID.

## Events Monitoring

***Note: all actions on this module, will be APIs except the main grid .***

|  |  |
| --- | --- |
| Module Name | Events Monitoring |
| Source Table | events\_monitoring where RuleSource = 0, Actions |
| Required Actions | Add, Update, Delete |
| Grid Columns | Name, Action, Start Date, End Date, Created By, Account Holder Name(only will be shown if the logged in user is Admin account holder type).  Name: events\_monitoring.Name  Action:”SMS,Email,HTTP”  Start Date: StartDate  End Date: EndDate  Description: Description  Created By: Users.username |
| Search List | Name, Action, Description, Created By, Account Holder Name |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Name | N/A | Input text | string | Y | M | N/A | events\_monitoring.Name | N | N/A | 100 |
| Start Date | N/A | calendar | select | Y | M | Now and future. | events\_monitoring.StartDate | N/A | N/A | N/A |
| End Date | N/A | calendar | select | Y | O | N/A | events\_monitoring.EndDate | N/A | N/A | N/A |
| Description | N/A | Text area | text |  | O |  |  | N/A | N/A | 500 |
| Condition | It will be as it is in the currents static page, and read the data from the database regarding the zones, cells , and event. | Control | Select/text | Y | M | Y | events\_monitoring.Condition  we should save the condition as mongo syntax. | N/A | N/A | 2000 |
| Action Type | Email ,SMS,HTTP | listBox | select | y | M | N/A | Will not save to direct column, will use column “Action” to save the action and it’s related params as JSON. | N/A | N/A | N/A |
| From | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| CC | From notification template.Actions  Will be shown if action type is Email. | Input text | String comma separated | Y | O | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Subject | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Body | From notification template.Actions  Will be shown if action type is Email | Rich Text Area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 2000 |
| Sender | From notification template.Actions  Will be shown if action type is SMS | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 50 |
| SMS Type | From notification template.Actions  1:Normal , 2:Flash  Will be shown if action type is SMS | radion | select | Y | M | N/A | Will add it to the Action column. | N/A | N/A | N/A |
| SMS Body | notifications\_temp.Actions  Will be shown if action type is SMS | Text area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| URL | notifications\_templatesActions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| Request Type | From notification template.Actions  “GET”, “POST”, “PUT” or “DELETE”  Will be shown if action type is HTTP Rest | List box | select | y | M | Y | Will add it to the Action column. | N/A | N/A | N/A |
| Request Body | From notification template.Actions  Will be shown if action type is HTTP Rest | Text Area | string | y | M incase type is not get | Y | Will add it to the Action column. | N/A | N/A | 300 to be re checked later. |
| **The below Key, value table will be related to Header Parameters** | | | | | | | | | | |
| Key | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | Y | N/A | 100 |
| Value | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N | N/A | 255 |
| Agents | security\_watch\_agents.Name where Account\_HolderID = logged in Account Holder ID  Will be shown if action type is not HTTP Rest | Multi select | select | Y | M | N/A | Will add it to the Action column. | N | N/A | 300 |
| Status | Enabled. | checkbox | select |  |  |  | events\_monitoring.Status |  |  |  |

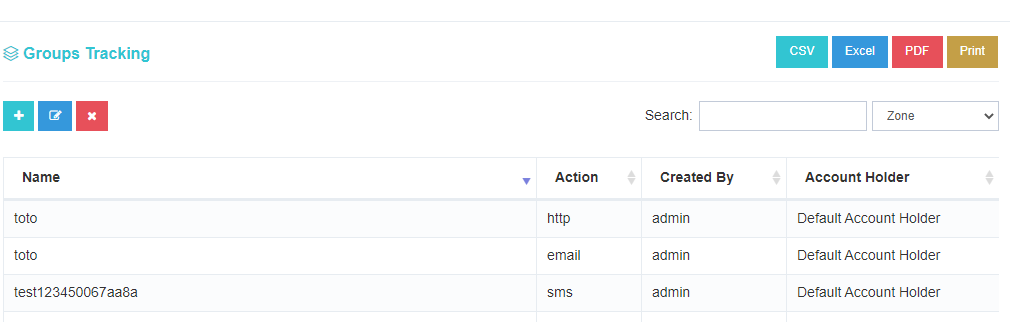
**Business/Code Rules:**

|  |
| --- |
| 1. No restrictions on the name. |
| 1. Email format should be checked. |
| 1. Regarding the HTTP Action, if request type is Get, will not show/or we will disable the Request Body, and the user then will add the parameters to the URL. |
| 1. Actions structure will be as below:   "action": {​​​​                  "type":"http",     "parameters": {​​​​​​​​​​​         "http-rest-url":"",         "http-request-type":"",         "http-request-body":"body",         "headers":[             {​​​​​​​​​​​"Content-Type" : "application/x-www-form-urlencoded" }​​​​​​​​​​​,             {​​​​​​​​​​​"Content-Type" : "application/x-www-form-urlencoded" }​​​​​​​​​​​         ]     }​​​​​​​​​​​ }​​​​​​​​​​​ or "action": {​​​​​​​​​​​                  "type":"sms",     "parameters": {​​​​​​​​​​​         "sms-sender":"",         "sms-type":"",         "sms-body":"body",         "agents": [13,14]     }​​​​​​​​​​​ }​​​​​​​​​​​ or "action": {​​​​​​​​​​​                  "type":"email",     "parameters": {​​​​​​​​​​​         "email-from":"",         "email-cc":"",          "email-subject":"",         "email-body":"body",         "agents": [13,14]     }​​​​​​​​​​​ }​​​​​​​​​​​ |
| 1. Regarding the condition mapping:   msisdn --> all events type (where events.IncludeInEventsMonitoring =1) event.type --> all events type (where events.IncludeInEventsMonitoring =1) event.details.new\_ci --> all events type (where events.IncludeInEventsMonitoring =1) event.details.new\_zid --> 4, 5, 6  Example:  msisdn = 0797070585 and event.type  in (1,2,3,4,5,6)  Add  event.type in (1)  it should get only MSISDN with event type 1  **the below should be removed:** ~~event.details.calling\_number --> 7, 8, 9, 10 event.details.called\_number --> 7, 8, 9, 10 event.details.duration --> 6~~    example:  "condition": {​​​​​​​​$and: [{​​​​​​​​"event.type":{​​​​​​​​$in:["MT SMS", "Location Update", "Cell Enter"]}​​​​​​​​}​​​​​​​​, {​​​​​​​​"event.details.calling\_number": "962793573354"}​​​​​​​​]}​​​​​​​​  "condition": {​​​​​​​​​"event.type":{​​​​​​​​​$in:["MT SMS", "Location Update", "Cell Enter"]}​​​​​​​​​}​​​​​​​​ |

## Groups Tracking

***Note: all actions on this module, will be APIs except the main grid***

|  |  |
| --- | --- |
| Module Name | Groups Tracking |
| Source Table | groups\_tracking |
| Required Actions | Add, Update, Delete |
| Grid Columns | Name, Action, Created By, Account Holder Name(only will be shown if the logged in user is Admin account holder type).  Name: from groups\_tracking.Name  Action:actions. groups\_tracking. action.type  Created By: Users.username |
| Search List | Name, Action, Created By, Account Holder Name |



**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Name | N/A | Input Text | String | Y | M | Y | groups\_tracking.Name | Y per account holder | N/A | 50 |
| Action Type | Email ,SMS,HTTP | listBox | select | y | M | N/A | Will not save to direct column, will use column “Action” to save the action and it’s related params as JSON. | N/A | N/A | N/A |
| The below columns where type : 4 | | | | | | | | | | |
| From | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| CC | From notification template.Actions  Will be shown if action type is Email. | Input text | String comma separated | Y | O | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Subject | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Body | From notification template.Actions  Will be shown if action type is Email | Rich Text Area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 2000 |
| Sender | From notification template.Actions  Will be shown if action type is SMS | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 50 |
| SMS Type | From notification template.Actions  1:Normal , 2:Flash  Will be shown if action type is SMS | radion | select | Y | M | N/A | Will add it to the Action column. | N/A | N/A | N/A |
| SMS Body | notifications\_temp.Actions  Will be shown if action type is SMS | Text area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| URL | notifications\_templatesActions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| Request Type | From notification template.Actions  “GET”, “POST”, “PUT” or “DELETE”  Will be shown if action type is HTTP Rest | List box | select | y | M | Y | Will add it to the Action column. | N/A | N/A | N/A |
| Request Body | From notification template.Actions  Will be shown if action type is HTTP Rest | Text Area | string | y | M incase type is not get | Y | Will add it to the Action column. | N/A | N/A | 300 to be re checked later. |
| **The below Key, value table will be related to Header Parameters** | | | | | | | | | | |
| Key | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | Y | N/A | 100 |
| Value | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N | N/A | 255 |
| Agents | security\_watch\_agents.Name where Account\_HolderID = logged in Account Holder ID  Will be shown if action type is not HTTP Rest | Multi select | select | Y | M | N/A | Will add it to the Action column. | N | N/A | 300 |

**Business/Code Rules:**

|  |
| --- |
| 1. Name should be unique per account holder. |
| 1. Email format should be checked. |
| 1. After clicking Next, will get the below pages |
| 1. Maximum MSISDN number per groups tracking is 1000. |
| 1. Here will remove button (save and finish). |
| 1. MSISDN(s) in mandatory. |

### MSISDNs List

|  |  |
| --- | --- |
| Module Name | MSISDNs List |
| Source Table | From web service |
| Required Actions | Add, Upload and Delete |
| Grid Columns | MSISDN |
| Search List | MSISDN |

***Note: MSISDN format(Number, empty, Valid Format, etc …) and uniqueness should be done from web side.***

This module be as our standard module, and we only have one additional check, MSISDN should be unique per Group\_TrackingID.

## VIPs Protection

***Note: all actions on this module, will be APIs except the main grid***

|  |  |
| --- | --- |
| Module Name | VIPs Protection |
| Source Table | vips\_protections |
| Required Actions | Add, Update, Delete |
| Grid Columns | MSISDN, Action, Created By, Account Holder Name(only will be shown if the logged in user is Admin account holder type).  MSISDN: from vips\_protections.MSISDN  Action: vips\_protections.action.type  Created By: Users.username |
| Search List | MSISDN, Action, Created By, Account Holder Name |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| MSISDN | N/A | int | Input text | y | M | Y | vips\_protections.MSISDN | Y per Account holder |  | 20 |
| Direction | Zone Enter/Leave | Radio button | select | Y on add only | M | Y | vips\_protections. Direction | N/A | N/A | N/A |
| Protection Type | 0:Any, 1:Inclusion (WhiteList), 2: Execlusion (Black list) | listBox | select | Y on add only | M | Y | vips\_protections. ProtectionType | N/A | N/A | N/A |
| Condition Type | Will be enabled only if the Protection Type is Execlusion  (Combined Together ‘Anding’,  Solo ‘Oring’) | listBox | select | Y | M | Y | vips\_protections. ConditionType | N/A | N/A | N/A |
| Action Type | Email ,SMS,HTTP | listBox | select | y | M | N/A | Will not save to direct column, will use column “Action” to save the action and it’s related params as JSON. | N/A | N/A | N/A |
| From | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| CC | From notification template.Actions  Will be shown if action type is Email. | Input text | String comma separated | Y | O | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Subject | From notification template.Actions  Will be shown if action type is Email | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 100 |
| Email Body | From notification template.Actions  Will be shown if action type is Email | Rich Text Area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 2000 |
| Sender | From notification template.Actions  Will be shown if action type is SMS | Input text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 50 |
| SMS Type | From notification template.Actions  1:Normal , 2:Flash  Will be shown if action type is SMS | radion | select | Y | M | N/A | Will add it to the Action column. | N/A | N/A | N/A |
| SMS Body | notifications\_temp.Actions  Will be shown if action type is SMS | Text area | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| URL | notifications\_templatesActions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N/A | N/A | 255 |
| Request Type | From notification template.Actions  “GET”, “POST”, “PUT” or “DELETE”  Will be shown if action type is HTTP Rest | List box | select | y | M | Y | Will add it to the Action column. | N/A | N/A | N/A |
| Request Body | From notification template.Actions  Will be shown if action type is HTTP Rest | Text Area | string | y | M incase type is not get | Y | Will add it to the Action column. | N/A | N/A | 300 to be re checked later. |
| **The below Key, value table will be related to Header Parameters** | | | | | | | | | | |
| Key | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | Y | N/A | 100 |
| Value | From notification template.Actions  Will be shown if action type is HTTP Rest | Input Text | String | Y | M | N/A | Will add it to the Action column. | N | N/A | 255 |
| Agents | security\_watch\_agents.Name where Account\_HolderID = logged in Account Holder ID  Will be shown if action type is not HTTP Rest | Multi select | select | Y | M | N/A | Will add it to the Action column. | N | N/A | 300 |

**Business/Code Rules:**

|  |
| --- |
| 1. Regarding the Directions, if Zone Leave remove the Inclusion option. |
| 1. MSISDN should be unique per Account holder |
| 1. Regarding the protection type:    * + If any: then the MSISDNs list will be disabled.      + If Exclusion, then the condition type will be enabled.      + If Inclusion, then the condition type will be disabled and the value for this will be implicitly Solo ‘Oring’. |
| 1. Email format should be checked. |
| 1. When click edit, will call web service method,” incase if Protection Type is not Any”, and will pass to the defined MSISDN list, and will show them on the map.   passive(Update Location) |
| 1. After clicking Next, will get the below pages |
| 1. Maximum MSISDN number per VIP protection is 1000. |

### MSISDNs List

|  |  |
| --- | --- |
| Module Name | MSISDNs List |
| Source Table | From web service |
| Required Actions | Add, Upload and Delete |
| Grid Columns | MSISDN |
| Search List | MSISDN |

***Note: MSISDN format(Number, empty, Valid Format, etc …) and uniqueness should be done from web side.***

This module be as our standard module, and we only have one additional check, MSISDN should be unique per VIP\_Protection\_ID.

## Spatial Density

* 1. We will show current subscribers' distribution over the cells on a heat map, the exact implementation will depend on the capabilities of our heat map where we can show the cell as a circular area with some predefined radius for example;
     + Data are available **in the “subs\_current\_info” mongo collection**.
     + **New API (Spatial density API) –** get current subscribers [output Array for all cells, each containing: cell location coordinates, count].
       - The web team can provide us with the exact data structure needed for the heat map (API output) – if this is easier for them.
  2. We will show the history of subscribers' distribution in certain hour of time on a heat map where we can use the previous view with a slide with the hour as a step and even we can press play button and show how the density change against the time based on certain preview speed; the details should be discussed more with the web team.
     + **New table “cells\_count\_hourly”** will be filled using a job with an hour record for each cell in the system.
     + **Same as point 1 , but we need to add slider (per hour) , each slide will re render the chart. Data will be directly from database , not through API.**
  3. We will show the density for each hour in a week for certain cell (or area), where we will show a grid of 7\*24 squares with a color that reflects the density at this hour.
     + **New API (get cells API) –** get the cells within a polygon area drawn on the web interface by the user [input: polygon area], [output: Array for all cells within the area]. [First step will call API (input is polygon, output array of cells).
     + Data will be read from the previously mentioned table directly – summation of the count for all cells within the area for each hour. (group by cell/hour)

## Public Safety

***Note: all actions on this module, will be APIs except the main grid .***

|  |  |
| --- | --- |
| Module Name | Public Safety |
| Source Table | public\_safety |
| Required Actions | Add |
| Grid Columns | Name, Created By, Account Holder Name(only will be shown if the logged in user is Admin account holder type), Sender , Count (to be re checked ), Message Body .  Name: public\_safety.Name  Created By: Users.username  Sender: public\_safety.Sender  Count. public\_safety.Count  Message Body : public\_safety. Body |
| Search List | Name, Created By, Account Holder Name, Sender , Count (to be re checked ), Message Body |

**Columns Detailed Specifications:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Display Name** | **Field Data** | **Field Type** | **Input Type** | **Editable** | **O/M** | **Business Rule** | **DB Action** | **Is Unique**  **Y/N** | **Minimum Length** | **Max Length** |
| Name | N/A | Input text | string | N/A | M | N/A | public\_safety.Name | Y | N/A | 50 |
| Sender | N/A | Input text | string | N/A | M | N/A | public\_safety.Sender | N/A | N/A | 255 |
| Message Body | N/A | Text area | text | N/A | M | N/A | public\_safety.Body | N/A | N/A | 500 |
| Polygon Area on Map | N/A | Map |  | N/A | M | N/A |  | N/A | N/A | N/A |

**Business/Code Rules:**

|  |
| --- |
| 1. Name is unique per Account holder. |
| 1. User must select polygon on map . |
| 1. The API will get all the subscribers within the cells of the drawn polygon area, the count will be returned as a response of the API, and the send SMS request will be added for each subscriber to the “public\_safety” Kafka Topic that the notification manager will then handle. |

## Customer Search

|  |
| --- |
| * 1. Users may search using **one of following** main search fields:   • MSISDN.  • ID No.  • Arabic First Name.  • Arabic Last Name.  • English First Name.  • English Last Name.  Users may also extend their search criteria by using one of the following extended search fields:  • IMSI.  • SIM Card (ICCID).  • Voucher No. missing from Ayyoub.  • IMEI No.  • PUK1 – PUK2.  • PIN1 – PIN2.  Web will prepare the condition and send it to the API:  ***Note: Highlighted parameters are exclusively selected***  Endpoint: /customer\_search  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "line\_details" : {  "imsi\_details" : {  "imsi" : "420016978958852",  "iccid" : "350342138641240",  "pin1" : 4229,  "pin2" : 3466,  "puk1" : 31184729,  "puk2" : 31726995  },  "imei\_details" : {  "imei" : NumberLong(725588029409034)  }  },  "identity" : {  "no" : "200000"  },  "name" : {  "first\_ar" : "farah",  "first\_en" : "farah",  "last\_ar" : "mohd",  "last\_en" : "mohd"  }  } |
| * 1. Output will be as below: |
| * 1. Below is the response from the API:  |  | | --- | | List of JSON objects | | /\* 1 \*/  {  "\_id" : ObjectId("60d2ea2bdad83b55cac660c7"),  "identity" : {  "no" : "200000",  "type" : "citizen",  "issuing\_country" : "country",  "expiry\_date" : "2026-06-23"  },  "nationality" : "country",  "occupation" : "engineer",  "gender" : "female",  "title" : "engineer",  "dob" : "02-03-1991",  "customer\_level" : "standard",  "customer\_lang" : "english",  "written\_lang" : "english",  "default\_account" : "personal",  "name" : {  "first\_ar" : "farah",  "first\_en" : "farah",  "middle\_ar" : "farah",  "middle\_en" : "farah",  "third\_ar" : "farah",  "third\_en" : "farah",  "last\_ar" : "mohd",  "last\_en" : "mohd",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "home\_address" : {  "state" : "riyadh",  "area" : "riyadh2",  "city" : "riyadh3",  "street" : "street222",  "block" : "block3"  },  "lines" : [  "00002136548"  ],  "reference\_time" : "2021-06-23T11:00:43.354+03:00"  }, | | /\* 2 \*/  /\* *and so on* \*/  {}] | |
| * 1. When a user selects one customer from the previous list, system will display another window with two tabs, one is General Customer Information, and the other is Subscriber Information. |
| * 1. General Customer Information will be as below**: “ will extract the data from the output in point 3”**. |
| * 1. Subscriber Information: This screen/tab shows a list of MSISDNs (mobile numbers) that belong to this subscriber.   Related data will be extracted from the output in point 3.  "lines" : [  "00002136548"  ], |
| * 1. Clicking on one of the above MSISDN will display additional information in section 6.1.1 to 6. |
| * 1. Regarding the column Output, we agreed to do the below:      1. Will add all the search types into table **search\_types**.      2. Regarding the output, will add the output columns extracted from the API response, to table **search\_type\_output**. |
| * 1. ***Where applicable will add search and export to excel.*** |

### Subscriber Line Information

***NOTE: This page will be accessed from 2 locations:***

1. From the customer search sub tabs**. “ Input is MSISDN and in this case, it will be passed implicitly”**
2. From the main tree module. **“ Input is MSISDN and in this case will be passed explicitly”**

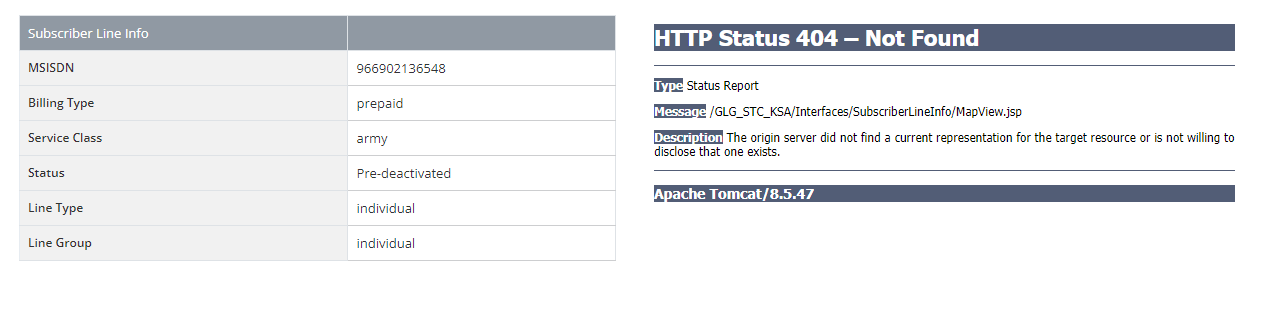
***Input***

|  |
| --- |
| The below parameter needs to be presented in the search request |
| Endpoint: /line\_info\_search  @POST  Request body:  {  "msisdns": [  "962790000000"  ]  } |

***Output***

|  |
| --- |
| JSON object |
| /\* 1 \*/  {  "\_id" : "00002136548",  "line\_details" : {  "imsi\_details" : {  "imsi" : "420016978958852",  "iccid" : "350342138641240",  "sim\_type" : "postpaid",  "sim\_status" : "suspend",  "pin1" : 4229,  "pin2" : 3466,  "puk1" : 31184729,  "puk2" : 31726995  },  "imei\_details" : {  "imei" : NumberLong(725588029409034),  "phone\_brand" : "LG",  "phone\_model" : "X13"  },  "activtion\_date" : "",  "expiry\_date" : "",  "currently\_roaming": "no",  "roaming\_country" : ""  },  "location" : {  "cell" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f67a"),  "reference\_time" : ISODate("2021-06-24T13:41:22.346+03:00")  },  "coordinates" : [  35.4752500000117,  32.3728010000117  ]  }  } |

Mockup screen:



We have to verify the output from API, with the requested output from the customer.

**Below is the requested output from the customer:**

\* MSISDN.

• IMSI No.

• ICCID No.

• Prepaid/Postpaid.

• Status.

• Activation Date.

• Expiry Date.

• Currently Roaming: (Yes/No).

• Roaming Country (in case of Currently Roaming =Yes).

• Fingerprint Flag: TRUE/FALSE.

• Current Location: This will be a link that will open an IFRAME that include a map for current

location of the subscriber (the same as displayed in the Map Screen).

### Status History

***Input:***

|  |
| --- |
| The below parameter needs to be presented in the search request |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Status"  }]  } |

***Output:***

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857e"),  "msisdn" : "00002329295",  "event" : {  "type" : "Status",  "details" : {  "from" : "idle",  "to" : "active",  "operator" : "administrator",  "business\_type" : "create subscriber",  "reason" : "creation life cycle",  "remarks" : "NA",  "reference\_time" : ISODate("2021-09-11T14:43:14.208+03:00"),  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343ee0c"),  "coordinates" : [  35.2594500000045,  32.1570010000045  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

### Calls Detailed Records

This sub-tab shows information about call records for subscriber during specific period. Call records

output will show information about Voice, SMS and Data.

***NOTE: This page will be accessed from 2 locations:***

1. From the customer search sub tabs**. “ Input is MSISDN and in this case, it will be passed implicitly”**
2. From the main tree module. **“ Input is MSISDN or** event.details.calling.number **or** event.details.called.number" **or** event.details.location.new\_ci **and in this case will be passed explicitly”, one or more. In addition to the date period and events.**

**If the source is from the main tree this will Historical Search.**

***Input***

**\*\*\*\*\* Events will be multi select.**

|  |
| --- |
| * The below parameter needs to be presented in the search request. * One or multiple events can be presented in the search request * At least one of highlighted parameters should be selected |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "MO International SMS"  },{  "type": "MO International Voice"  },{  "type": "MO Local Off-net SMS"  },{  "type": "MO Local Off-net Voice"  },{  "type": "MO Local On-net SMS"  },{  "type": "MO Local On-net Voice"  },{  "type": "MO Roaming SMS"  },{  "type": "MO Roaming Voice"  },{  "type": "MT International SMS"  },{  "type": "MT International Voice"  },{  "type": "MT Local Off-net SMS"  },{  "type": "MT Local Off-net Voice"  },{  "type": "MT Local On-net SMS"  },{  "type": "MT Local On-net Voice"  },{  "type": "MT Roaming SMS"  },{  "type": "MT Roaming Voice"  },{  "type": "Internet Access"  },{  "type": "Roaming Internet Access"  }],  "search-expression" : "{  "event.details.calling.number" : "966902235504",  "event.details.called.number" : "966902235504",  "event.details.location.new\_ci" : ObjectId("60c74c2ca0a33a5913440cc1")  "event.details.location.coordinates" : [  36.0455500000306,  32.9431010000306  ],  "event.details.calling\_country" : "jordan",  "event.details.called\_country" : "jordan"  }"  } |

***Output***

**\*\*\*\*\* If multi events were selected, will add tabs to the output.**

**\*\*\*\*\* Put max selection to 5 events.**

|  |
| --- |
| List of JSON objects, the below will show one example for different event type, and the details related. |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c96531861876b"),  "msisdn" : "966902235504",  "event" : {  "type" : "MO International SMS",  "details" : {  "calling\_country" : "jordan",  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:41.211+03:00"),  "called\_country" : "jordan",  "calling" : {  "number" : "966902235504",  "identity\_no" : "298956",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "called" : {  "number" : "962796302112892"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440cc1"),  "coordinates" : [  36.0455500000306,  32.9431010000306  ]  }  }  }  } |
| /\* 2 \*/  {  "\_id" : ObjectId("613c967ac86c965318618583"),  "msisdn" : "966902308647",  "event" : {  "type" : "MO International Voice",  "details" : {  "called\_country" : "jordan",  "duration" : 276,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:18.317+03:00"),  "calling\_country" : "jordan",  "calling" : {  "number" : "966902308647",  "identity\_no" : "372099",  "full\_ar" : "saleem adel adel saleem",  "full\_en" : "saleem adel adel saleem"  },  "called" : {  "number" : "962791800317484"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a59134403a2"),  "coordinates" : [  35.8120500000229,  32.7096010000229  ]  }  }  }  } |
| /\* 3 \*/  {  "\_id" : ObjectId("613c967ac86c96531861859f"),  "msisdn" : "966902225290",  "event" : {  "type" : "MO Local Off-net SMS",  "details" : {  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:29.142+03:00"),  "calling" : {  "number" : "966902225290",  "identity\_no" : "288742",  "full\_ar" : "ahmad mohd mohd ahmad",  "full\_en" : "ahmad mohd mohd ahmad"  },  "called" : {  "number" : "966589353622"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343fe3c"),  "coordinates" : [  35.6738500000183,  32.5714010000183  ]  }  }  }  } |
| /\* 4 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857b"),  "msisdn" : "966902227201",  "event" : {  "type" : "MO Local Off-net Voice",  "details" : {  "duration" : 365,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:13.006+03:00"),  "calling" : {  "number" : "966902227201",  "identity\_no" : "290653",  "full\_ar" : "walid saleem saleem walid",  "full\_en" : "walid saleem saleem walid"  },  "called" : {  "number" : "966588716024"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f3ba"),  "coordinates" : [  35.4048500000093,  32.3024010000093  ]  }  }  }  } |
| /\* 5 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857d"),  "msisdn" : "966902232561",  "event" : {  "type" : "MO Local On-net SMS",  "details" : {  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:13.006+03:00"),  "calling" : {  "number" : "966902232561",  "identity\_no" : "296013",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "called" : {  "number" : "966902248477",  "identity\_no" : "311929",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440705"),  "coordinates" : [  35.8987500000257,  32.7963010000257  ]  }  }  }  } |
| /\* 6 \*/  {  "\_id" : ObjectId("613c967ac86c965318618571"),  "msisdn" : "966902328153",  "event" : {  "type" : "MO Local On-net Voice",  "details" : {  "duration" : 907,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:08.997+03:00"),  "calling" : {  "number" : "966902328153",  "identity\_no" : "391605",  "full\_ar" : "walid saleem saleem walid",  "full\_en" : "walid saleem saleem walid"  },  "called" : {  "number" : "966902297977",  "identity\_no" : "361429",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f335"),  "coordinates" : [  35.3915500000089,  32.2891010000089  ]  }  }  }  } |
| /\* 7 \*/  {  "\_id" : ObjectId("613c967bc86c965318618ece"),  "msisdn" : "966902245074",  "event" : {  "type" : "MO Roaming SMS",  "details" : {  "roaming\_country" : "uae",  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:25.205+03:00"),  "calling" : {  "number" : "966902245074",  "identity\_no" : "308526",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "called" : {  "number" : "966902320566"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440081"),  "coordinates" : [  35.7319500000202,  32.6295010000202  ]  }  }  }  } |
| /\* 8 \*/  {  "\_id" : ObjectId("613c967ac86c965318618581"),  "msisdn" : "966902326808",  "event" : {  "type" : "MO Roaming Voice",  "details" : {  "roaming\_country" : "jordan",  "duration" : 924,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:17.717+03:00"),  "calling" : {  "number" : "966902326808",  "identity\_no" : "390260",  "full\_ar" : "walid saleem saleem walid",  "full\_en" : "walid saleem saleem walid"  },  "called" : {  "number" : "966902147967"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440d58"),  "coordinates" : [  36.0606500000311,  32.9582010000311  ]  }  }  }  } |
| /\* 9 \*/  {  "\_id" : ObjectId("613c967ac86c965318618672"),  "msisdn" : "966902200836",  "event" : {  "type" : "MT International SMS",  "details" : {  "calling\_country" : "jordan",  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:49.211+03:00"),  "called\_country" : "jordan",  "calling" : {  "number" : "962795139634865"  },  "called" : {  "number" : "966902200836",  "identity\_no" : "264288",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343fe77"),  "coordinates" : [  35.6797500000185,  32.5773010000185  ]  }  }  }  } |
| /\* 10 \*/  {  "\_id" : ObjectId("613c967ac86c965318618576"),  "msisdn" : "966902220724",  "event" : {  "type" : "MT International Voice",  "details" : {  "called\_country" : "jordan",  "duration" : 374,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:11.202+03:00"),  "calling\_country" : "jordan",  "calling" : {  "number" : "962794438491469"  },  "called" : {  "number" : "966902220724",  "identity\_no" : "284176",  "full\_ar" : "saleem adel adel saleem",  "full\_en" : "saleem adel adel saleem"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f16b"),  "coordinates" : [  35.3457500000074,  32.2433010000074  ]  }  }  }  } |
| /\* 11 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857c"),  "msisdn" : "966589691743",  "event" : {  "type" : "MT Local Off-net SMS",  "details" : {  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:12.805+03:00"),  "calling" : {  "number" : "966589691743"  },  "called" : {  "number" : "966902334764",  "identity\_no" : "398216",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343fd51"),  "coordinates" : [  35.6503500000175,  32.5479010000175  ]  }  }  }  } |
| /\* 12 \*/  {  "\_id" : ObjectId("613c967ac86c965318618586"),  "msisdn" : "966589024672",  "event" : {  "type" : "MT Local Off-net Voice",  "details" : {  "duration" : 152,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:19.019+03:00"),  "calling" : {  "number" : "966589024672"  },  "called" : {  "number" : "966902202638",  "identity\_no" : "266090",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f7ce"),  "coordinates" : [  35.5092500000128,  32.4068010000128  ]  }  }  }  } |
| /\* 13 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857f"),  "msisdn" : "966902145767",  "event" : {  "type" : "MT Local On-net SMS",  "details" : {  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:14.610+03:00"),  "calling" : {  "number" : "966902145767",  "identity\_no" : "209219",  "full\_ar" : "ahmad mohd mohd ahmad",  "full\_en" : "ahmad mohd mohd ahmad"  },  "called" : {  "number" : "966902186171",  "identity\_no" : "249623",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f2f0"),  "coordinates" : [  35.3846500000087,  32.2822010000087  ]  }  }  }  } |
| /\* 14 \*/  {  "\_id" : ObjectId("613c967ac86c965318618574"),  "msisdn" : "966902332241",  "event" : {  "type" : "MT Local On-net Voice",  "details" : {  "duration" : 586,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:09.498+03:00"),  "calling" : {  "number" : "966902332241",  "identity\_no" : "395693",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "called" : {  "number" : "966902296838",  "identity\_no" : "360290",  "full\_ar" : "walid saleem saleem walid",  "full\_en" : "walid saleem saleem walid"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343ff49"),  "coordinates" : [  35.7007500000192,  32.5983010000192  ]  }  }  }  } |
| /\* 15 \*/  {  "\_id" : ObjectId("613c967ac86c96531861863e"),  "msisdn" : "966902208595",  "event" : {  "type" : "MT Roaming SMS",  "details" : {  "roaming\_country" : "uae",  "duration" : 1,  "unit" : "sms",  "reference\_time" : ISODate("2021-09-11T14:43:35.205+03:00"),  "calling" : {  "number" : "966902208595"  },  "called" : {  "number" : "966902221358",  "identity\_no" : "284810",  "full\_ar" : "walid saleem saleem walid",  "full\_en" : "walid saleem saleem walid"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343fa2e"),  "coordinates" : [  35.5700500000148,  32.4676010000148  ]  }  }  }  } |
| /\* 16 \*/  {  "\_id" : ObjectId("613c967ac86c965318618591"),  "msisdn" : "966902206343",  "event" : {  "type" : "MT Roaming Voice",  "details" : {  "roaming\_country" : "brazil",  "duration" : 575,  "unit" : "sec",  "reference\_time" : ISODate("2021-09-11T14:43:24.031+03:00"),  "calling" : {  "number" : "966902206343"  },  "called" : {  "number" : "966902200879",  "identity\_no" : "264331",  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440a36"),  "coordinates" : [  35.9804500000284,  32.8780010000284  ]  }  }  }  } |
| /\* 17 \*/  {  "\_id" : ObjectId("613c967ac86c965318618572"),  "msisdn" : "966902139464",  "event" : {  "type" : "Internet Access",  "details" : {  "duration" : 271,  "unit" : "mb",  "reference\_time" : ISODate("2021-09-11T14:43:09.246+03:00"),  "calling" : {  "number" : "966902139464",  "identity\_no" : "202916",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440cf3"),  "coordinates" : [  36.0505500000308,  32.9481010000308  ]  }  }  }  } |
| /\* 18 \*/  {  "\_id" : ObjectId("613c967ac86c965318618575"),  "msisdn" : "966902188970",  "event" : {  "type" : "Roaming Internet Access",  "details" : {  "roaming\_country" : "england",  "duration" : 147,  "unit" : "mb",  "reference\_time" : ISODate("2021-09-11T14:43:11.253+03:00"),  "calling" : {  "number" : "966902188970",  "identity\_no" : "252422",  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma"  },  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a5913440195"),  "coordinates" : [  35.7595500000211,  32.6571010000211  ]  }  }  }  } |

### Voucher History

This sub-tab will display the historical information for voucher cards that are already used by selected

subscriber.

***NOTE: This page will be accessed from 2 locations:***

1. From the customer search sub tabs**. “ Input is MSISDN and in this case, it will be passed implicitly”**
2. From the main tree module. **“ Input is MSISDN or** event.details.card\_serial\_no **and in this case will be passed explicitly”, one of them.**

***Input***

|  |
| --- |
| * The below parameter needs to be presented in the search request * Highlighted parameters are exclusively selected |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Voucher"  }],  "search-expression" : "{"event.details.card\_serial\_no" : 1615361137}"  } |

***Output***

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c965318618582"),  "msisdn" : "966902301323",  "event" : {  "type" : "Voucher",  "details" : {  "card\_serial\_no" : 1615361137,  "amount" : 68,  "channel" : "app",  "reference\_time" : ISODate("2021-09-11T14:43:17.418+03:00"),  "identity" : {  "no" : "364775",  "type" : "citizen"  },  "full\_ar" : "salma jaber jaber salma",  "full\_en" : "salma jaber jaber salma",  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f21d"),  "coordinates" : [  35.363550000008,  32.261101000008  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

### SIM Information History

***NOTE: This page will be accessed from 2 locations:***

1. From the customer search sub tabs**. “ Input is MSISDN and in this case, it will be passed implicitly”**
2. From the main tree module. **“ Input is MSISDN or** imsi **or** iccid **and in this case will be passed explicitly”, one of them.**

***Input***

|  |
| --- |
| * The below parameter needs to be presented in the search request * Highlighted parameters are exclusively selected |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "line\_details" : {  "imsi\_details" : {  "imsi" : "420016978958852",  "iccid" : "350342138641240",  },  },  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Change Profile"  }],  "search-expression" : "{"key" : "line\_details.imsi\_details"}"  } |

***Output, don’t show the ‘Key’,***

***Either to put them in one table, or check if we could add expand row as the below screen:***

******

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c965318618573"),  "msisdn" : "966902333547",  "event" : {  "type" : "Change Profile",  "details" : {  "key" : "line\_details.imsi\_details",  "value" : {  "imsi" : "420016980046864",  "iccid" : "344972452689058",  "sim\_type" : "postpaid",  "sim\_status" : "idle",  "pin1" : 7323,  "pin2" : 3391,  "puk1" : 66662147,  "puk2" : 47304139  },  "reference\_time" : ISODate("2021-09-11T14:43:09.246+03:00"),  "identity" : {  "no" : "396999",  "type" : "resident"  },  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah",  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f975"),  "coordinates" : [  35.5515500000142,  32.4491010000142  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

### Subscriber Orders

***Input***

|  |
| --- |
| The below parameter needs to be presented in the search request |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Order"  }]  } |

***Output***

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c96531861857e"),  "msisdn" : "966902329295",  "event" : {  "type" : "Order",  "details" : {  "order\_id" : 532845971,  "order\_type" : "type2",  "status" : "not-completed",  "service\_no" : 586899511,  "subscriber\_code" : 754355014,  "cancellation" : "yes",  "reference\_time" : ISODate("2021-09-11T14:43:14.208+03:00"),  "identity" : {  "no" : "392747",  "type" : "citizen"  },  "full\_ar" : "ahmad mohd mohd ahmad",  "full\_en" : "ahmad mohd mohd ahmad",  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343ee0c"),  "coordinates" : [  35.2594500000045,  32.1570010000045  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

### IMEI Information History

***NOTE: This page will be accessed from 2 locations:***

1. From the customer search sub tabs**. “ Input is MSISDN and in this case, it will be passed implicitly”**
2. From the main tree module. **“ Input is MSISDN or** imei **and in this case will be passed explicitly”, one of them. “Historical”**

***Input***

|  |
| --- |
| * The below parameter needs to be presented in the search request * Highlighted parameters are exclusively selected |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "line\_details" : {  "imei\_details" : {  "imei" : NumberLong(725588029409034)  }  },  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Change Profile"  }],  "search-expression" : "{"key" : " line\_details.imei\_details"}"  } |

***Output***

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c965318618577"),  "msisdn" : "966902316452",  "event" : {  "type" : "Change Profile",  "details" : {  "key" : "line\_details.imei\_details",  "value" : {  "imei" : NumberLong(166157088892102),  "phone\_brand" : "Huawei",  "phone\_model" : "5T"  },  "reference\_time" : ISODate("2021-09-11T14:43:11.247+03:00"),  "identity" : {  "no" : "379904",  "type" : "resident"  },  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah",  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343ec89"),  "coordinates" : [  35.2207500000032,  32.1183010000032  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

### MSISDN Information History

***NOTE: This page will be accessed from 2 locations:***

***Input***

|  |
| --- |
| The below parameter needs to be presented in the search request |
| Endpoint: /historical\_events  @POST  Request body:  {  "msisdns": [  "962790000000"  ],  "start-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "end-time": ISODate("2021-06-24T13:41:22.346+03:00"),  "events": [{  "type": "Change Profile"  }],  "search-expression" : "{"key" : "\_id"}"  } |

***Output***

|  |
| --- |
| List of JSON objects |
| /\* 1 \*/  {  "\_id" : ObjectId("613c967ac86c965318618573"),  "msisdn" : "966902333547",  "event" : {  "type" : "Change Profile",  "details" : {  "key" : "\_id",  "value" : {},  "reference\_time" : ISODate("2021-09-11T14:43:09.246+03:00"),  "identity" : {  "no" : "396999",  "type" : "resident"  },  "full\_ar" : "farah mohd mohd farah",  "full\_en" : "farah mohd mohd farah",  "location" : {  "new\_ci" : ObjectId("60c74c2ca0a33a591343f975"),  "coordinates" : [  35.5515500000142,  32.4491010000142  ]  }  }  }  } |
| /\* 2 \*/  /\* *and so on* \*/  {}] |

# API Documentation



# Technical Proposal



[NEOM - LCS System - Solution Design Document - v1.0(draft).docx](file:///C:\LatestBackup\WebSheets\WebSheets\DesignDocument\GLG_STC_KSA\NEOM%20-%20LCS%20System%20-%20Solution%20Design%20Document%20-%20v1.0(draft).docx)

# Reports

# Pending

Hazem:

1. ~~Refresh~~.
2. ~~Pause , Resume.~~
3. ~~GMLC Test.~~
4. ~~Future Tracking get Priority <> 10.~~

Don’t send the keys that don’t have conditions

DB Changes:

1. ~~Add new table : position\_methods~~
2. ~~Track\_Records: add column : Position\_MethodID~~
3. ~~Bulk\_Record: add column : Position\_MethodID , and rename Description to Name.~~
4. ~~Add Decryption to all columns that don’t have.~~
5. ~~Check if we need to add relation between the \_records table and other related table. Yes they added FK, Restricted~~
6. ~~Rename Buttons~~, ~~CheckBox Enable~~, ~~Get address for first point, Start working on Bulk~~.
7. ~~Enhance the web delay.~~
8. ~~Arabic points~~.
9. ~~Download , discriminate between Address based on Position Method.~~
10. Subscriber line info do you have location?

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

High Priority:

~~1. Status History : add the same keys in the response returned from. [Db , Javascript]~~

~~Same note should be for other tabs.~~

~~2. All grid \*\*\*\*\*inner\*\*\*\* should have small fonts.~~

~~3. On click, make sure to render the location on map.~~

~~4. in CDR Detailed : when no data returned for specific event , don't show it.~~

~~5. From/ To enhancement~~

~~6. SIM/MSISDN/Voucher.~~

**Hazem, the below should be done by end of the day.**

**~~1. CDR : List make it checkbox.~~**

**~~2. Date picker should be enhanced.~~**

**~~3. Table , remove extra BR.~~**

**Historical points:**

1. **~~Highlight~~.**
2. **~~Date From To should be changed to calendar.~~**
3. **Decrease fonts.**
4. **~~Scroll horizontal.~~**
5. **~~Arabic. Still we have issue in Date Range mlaz2a~~**

**Hazem Next [Voucher, SIM, IMEI]:**

1. **~~Regarding Voucher/SIM/IMEI:~~**
   * 1. **~~Arabic~~.**
     2. **~~double check bundles.~~**
     3. **~~Update customer search to read from the new page.~~**

Yellow: Hazem

**Pending: I have to review**

* + 1. **Max len for tabs 5. CDR/ Historical.**
    2. ~~Map URL to be added to web.xml~~
    3. Check Session.
    4. Current Location: API with new build.
    5. Password Encryption.
    6. ~~Bulk Upload, we have problem in the paths.~~

Low Priority:

* + 1. Request Body , not completed.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Ayyoub**:

1. In the original document shared by you, we have section Cell Info? What about it?
2. CDR notes:
   * 1. What do you mean by event.details.location.new\_ci **?**
     2. In the request body we have Search Expression, also we have location and country ?
3. Subscriber line info only exists inside customer search right?
4. Subscriber line info do you have location?
5. ***BULK CUSTOMER SEARCH SCREEN***
6. ***QUERY BY CELL ID SEARCH SCREEN***
7. Voucher Search Screen: ell baraneye, no restriction on the input, they are optional !!!
8. Why the below note :

**Note**: in the case of multiple MSISDNs, the input field will be limited to 10 MSISDNs in a single bulk, and each MSISDN will be shown on a separate map in order to enhance user experience; because it would be hard for users to identify location on a map for multiple MSISDNs if they are located in different cities.

1. API for Current Location.
2. ~~Incase of search on specific item, how should we send the request ? without the other~~
3. ~~Review Historical with Ayyoub. Same as CDR~~
4. ~~Did you review the future tracking? Ok done.~~
5. ~~In the future tracking do we have stop and start ? yes~~
6. ~~when we can check the future tracking details ? Done ? not logical, we might need to check old track !!!!!!~~ **when status = 1,2,3,4**
7. ~~When I could do Pause/Resume~~ ? **PAUSED : if in progress, Resume; Pause and check expiry date.**
8. ~~In GLGC : do we have address ? we can get the address for the first lng,lat.~~
9. ~~In the bulk\_details : I think data should be checked based on the status code ? does the below comment clear ?~~
   * + ~~I think we should add status-code =200~~
10. Bulk upload files format ? you mentioned in the document csv is that ok ? old was csv , txt , xlsx.

# Pending 2

General :

* + - Don’t send the keys that don’t have conditions

**Ayyoub**:

1. In the original document shared by you, we have section Cell Info? What about it?
2. CDR notes:
   * 1. What do you mean by event.details.location.new\_ci **?**
     2. In the request body we have Search Expression, also we have location and country ?
3. Subscriber line info only exists inside customer search right?
4. Subscriber line info do you have location?
5. ***BULK CUSTOMER SEARCH SCREEN***
6. ***QUERY BY CELL ID SEARCH SCREEN***
7. Voucher Search Screen: ell baraneye, no restriction on the input, they are optional !!!
8. Why the below note :

**Note**: in the case of multiple MSISDNs, the input field will be limited to 10 MSISDNs in a single bulk, and each MSISDN will be shown on a separate map in order to enhance user experience; because it would be hard for users to identify location on a map for multiple MSISDNs if they are located in different cities.

# Pending 3

Hazem : 17/2/2022

|  |  |  |  |
| --- | --- | --- | --- |
| **Section Name/#NO** | **Status** | **Pending** | **Source (db directly , APIs)** |
| 5.1 Current Location | Not completed , we need to recheck the design for the popup  if we want to Add (IMSI / MSISDN Radio Button or list) Now Just MSISDN | Pending , The json structure are changed, we have to re test all sources. | API -- We need new build API  for it / and the input (query param I think changed because we add new inputs) |
| 5.2 Future Tracking | 1- Add and Delete (Working fine)  2- we need to recheck  pause and resume I think there is a problem  3- we need to recheck design | In pending , Locate option need to recheck and the design for it ,  Check **GMLC Location** | DB – we need real data  or data have exact locations to do test well for locate |
| 5.3 Immediate Tracking | For the design is ok but we need to recheck the data when we select GMLC Location and do start tracking | Pending , Check GMLC Location,  Same as future | DB -- we need real data  or data have exact locations to do test well for locate |
| Whenever we have positioning methods, we need to do full test when real data/APIs become ready | | | |
| 5.4 historical events Tracking | not Implemented. | Pending | API |
| 5.5 Bulk Upload | Need to be recheck path Issue /// and check the locate option and Upload | Pending | DB |
| **Customer Search :**  **API Call from Web side.** |
| 6 Customer Search |  | Pending , , we need API(s).  Add GUI validation, ex: select specific row to view. | Api |
| 6.1.1 Subscriber Line Info |  | Pending , , we need API(s) | Api |
| 6.1.2 Status History |  | Pending , , we need API(s) | Api |
| 6.1.3 Calls Detailed Records |  | Pending , , we need API(s)  In CDR: restrict user to select Max 5 events | Api |
| 6.1.4 Voucher History |  | Pending , , we need API(s) | Api |
| 6.1.5 Sim Information History |  | Pending , , we need API(s) | Api |
| 6.1.6 Subscriber Order |  | Pending , , we need API(s) | Api |
| 6.1.7 IMEI |  | Pending , , we need API(s) | Api |
| 6.1.8 MSISDN Information History |  | Pending , , we need API(s) | Api |

\*\* we need to check Arabic issues / translation -- designs Issue

1. ~~Add Common JS & API Request Not Prepared from JSP Files. “Request Body not completed; we will call the APIs from jsp pages (Ajax Request”).~~ **~~[8 MDs].~~**
2. Bulk upload files format ? you mentioned in the document csv is that ok ? old was csv , txt , xlsx.
3. ~~Check Session. Need to work on.~~
4. Testing when API become ready. **[7 days]**.
5. ~~Historical.~~ **~~[3 Days]~~**
6. Current Location New Updated APIs. **[1 MD]**.
7. ~~Web Delay.~~

# Pending 4

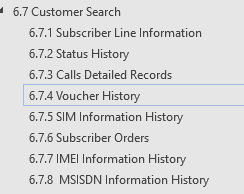
**In the customer search , we renamed events.searchID to Search\_TypeID.**

**Suhair: add foreign key and understand what was the logic**

Saja:

~~System Settings  
Agents  
Future Tracking all features.  
Immediate Tracking same as above note.  
Security Watch Agents  
Notifications Templates  
Bulk Upload.~~

Finally:



***[Hazem] Starting from Monday 18 April: Remaining 5 Man Days due to 9 May.***

1. ***Complete ~~Security watch~~, ~~notification~~.***
2. ~~Check privileges every were.~~
3. ~~Zones , view and add/update/delete apply standard.~~
4. ~~Zones Protections , EventsMonitoring, standard validation, and any thing related to MySQL. [1 Day]~~
5. ~~Cells Upload, please change the file format to excel instead of txt. Check RS [Tariff Upload] [1 Day]~~
6. ~~Check Bulk upload format, if MSISDN only keep it .txt else convert to excel and add download sample button.~~
7. ~~Cell : apply standard only. [validation don’t work on the backend level].~~
8. ~~We need to verify how could we implement the paging in the new customer info pages ? since the output is JSON.~~
9. Home Page.
10. ~~Please check if the following functionalities are exist or not, if yes please enable them.~~

~~[VIP protection, Group tracking. Public safety, Spatial Density]~~

1. ~~We need Session Storage instead of local storage.~~

***[ Mongo Modules Merging]***

1. ~~Zones, Cell, Current/Bulk Location ,Zones Protections , Events Monitoring[ Mongo ] , and Pwd issue. [ 3 days]~~
2. ~~Open street map URL should be configured in web.xml and all pages should read from this key.~~
3. ~~Rename all classes/ProjectName , remove \_STC\_KSA.~~
4. ~~Bulk download. We have problem in.~~
5. ~~Get Password from SDK users servlet. [ Odai]~~

**We need new table for MySQL for zones protection.**

1. ~~Zones Protection.~~
2. ~~Upload Cells Result.~~

Now:

1. **~~Ali follow up. And reflect changes everywhere.~~**
2. **~~Current Location~~**
3. **~~Ask Hazem where are the related pages. also make sure to test all pages that have feature locate.~~**
4. Postpone fixes till you finish the **previous** 2 points
5. GLG password from SDK, name should be dynamic.
6. We need to add new privilege (MLP) , this will be added implicitly incase of add any privilege related to Future/Immediate tracking and current location and bulk location.

***Ayyoub Pending List:***

I have some pending issues:

**High priority**

1. ~~Password Encryption we have major issue regarding this before proceed with the pages that need integration with the APIs.~~

~~Note: this will affect our call way , from servlet or directly from ajax ?~~

~~Old web was retrofit , now if we want to call from Ajax, user pwd will appear in every method.~~

**Will call web API from Servlet using Retrofit.**

Expected output:

{"draw":2,"recordsTotal":7,"recordsFiltered":5,"data":[{"ID":57,"Name":"test","AccountHolderType":"Account Holder Administrator"},{"ID":21,"Name":"Bayan\_","AccountHolderType":"Account Holder Administrator"},{"ID":8,"Name":"STC\_1","AccountHolderType":"Account Holder Administrator"},{"ID":6,"Name":"Zain","AccountHolderType":"Account Holder Administrator"},{"ID":2,"Name":"STC","AccountHolderType":"Account Holder Administrator"}]}

If output is not huge, we can proceed with the current.

***Is there any update should be done from Ali side before share the latest jars with us ?***

1. I need latest API, to do the merging [ Also latest DB Name]. And all jars

Zones, Cell, Current/Bulk Location ,Zones Protections , Events Monitoring, and Pwd issue. [ 3 days]

3. we need to check sent APIs [Paging] input and output, incase if we want to include them. if yes, Neom Document should be updated ,

4. Actions table used in zones protection not exist. from the design document.

**Low Priority:**

~~5. In the original document shared by you, we have section Cell Info? What about it?~~

6. Subscriber line info only exists inside customer search right?

7. BULK CUSTOMER SEARCH SCREEN, **Low Priority**

8. QUERY BY CELL ID SEARCH SCREEN, we need update Historical Search, we need to add list



Also add the below filters:

"event.details.calling\_country" : "jordan",

"event.details.called\_country" : "jordan"

9. We have static pages for groups tracking and VIP protection need to be reviewed.

Suhair: Phase 2.

1. **Prepare design document for other modules [VIP protection, Group tracking. Public safety, Spatial Density].**

String json = "";  
json += "{\n";  
json += "\"draw\":\"" + 2 + "\",";  
json += "\"recordsTotal\":\"" + 1 + "\",";  
json += "\"recordsFiltered\":\"" + 1 + "\",";  
json += "\"data\":[ ";   
json += "\n{";  
json += "\"\_Id\":\"" + "123456" + "\",";  
json += "\"msisdn\":\"" + "0786302113" + "\",";  
json += "\"event\":" ;  
json += "\n{";  
json += "\"details\":" ;  
json += "\n{";  
json += "\"card\_serial\_no\":\"" + "14452" + "\",";  
  
json += "\"amount\":\"" + "fff" + "\",";  
json += "\"full\_ar\":\"" + "yyyyyy" + "\"";  
json += "}";  
json += "}";  
json += "}";  
json += "]\n";  
json += "}";

New:

1. Tree re order and modules renaming.

Expexcted Request: Start , MaxLength

Expected Response should be :

Length:

Current:

Length 15 , current page 2 , 31 +15

{  
"draw": "2",  
"recordsTotal": "1",  
"recordsFiltered": "1",  
"data": [{  
"\_Id": "123456",  
"msisdn": "0786302113",  
"event": {  
"type": "Change Profile",  
"details": {  
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