DAILY INBOUND ROAMERS REPORT (OFFNET_ONNET)

This report is done to monitor two type of daily voice traffic to detect bypass activity: First, inbound OFFNET roamers traffic that means foreign subscribers that are roaming on NATCOM Network and calling our subscribers. Secondly, inbound ONNET roamers traffic that means foreign subscribers that are roaming on our Network and making suspicious calls. Below are respectively the scripts for Inbound OFFNET roamers usage and inbound ONNET roamers usage.

SCRIPTS:

1- INBOUND_ROAMING_OFFNET_USAGE

```sql
/***************** INBOUND ROAMING TRAFFIC FOR NATCOM *************/


  SELECT DATE_CODE,
         COUNT (1) TOTAL_CALLs,
         COUNT (DISTINCT CALLEDPARTYNUMBER) UNIQ_B,
         SUM (CHARGEABLEDURATION / 60) TOTAL_MINUTES
    FROM CDRMSC.ST_CDRMSC_IMPORT@exae
   WHERE     DATE_CODE >= '20221221'
         AND CALL_TYPE = 'MOBTRAN'
         AND INCOMINGROUTE LIKE '%NAT%'
         AND CALLINGPARTYNUMBER NOT LIKE '509%'
         AND LENGTH (CALLINGPARTYNUMBER) > 8
         AND CALLEDPARTYNUMBER <> '50937000000'
GROUP BY DATE_CODE
      ORDER BY DATE_CODE ASC;
```

2- INBOUND_ROAMING_ONNET_USAGE

```sql
/***************** INBOUND ROAMING TRAFFIC FOR DIGICEL *************/


  SELECT DATE_CODE,
         COUNT (1) TOTAL_CALL,
         COUNT (DISTINCT CALLEDPARTYNUMBER) UNIQ_B,
         SUM (CHARGEABLEDURATION / 60) TOTAL_MINUTES
    FROM CDRMSC.ST_CDRMSC_IMPORT@exae
   WHERE     DATE_CODE >= '20221221'
         AND CALL_TYPE = 'MOBORIG'
         AND CALLINGPARTYNUMBER NOT LIKE '509%'
         AND LENGTH (CALLINGPARTYNUMBER) > 8
         AND CALLEDPARTYNUMBER <> '50937000000'
GROUP BY DATE_CODE
      ORDER BY DATE_CODE ASC;
```
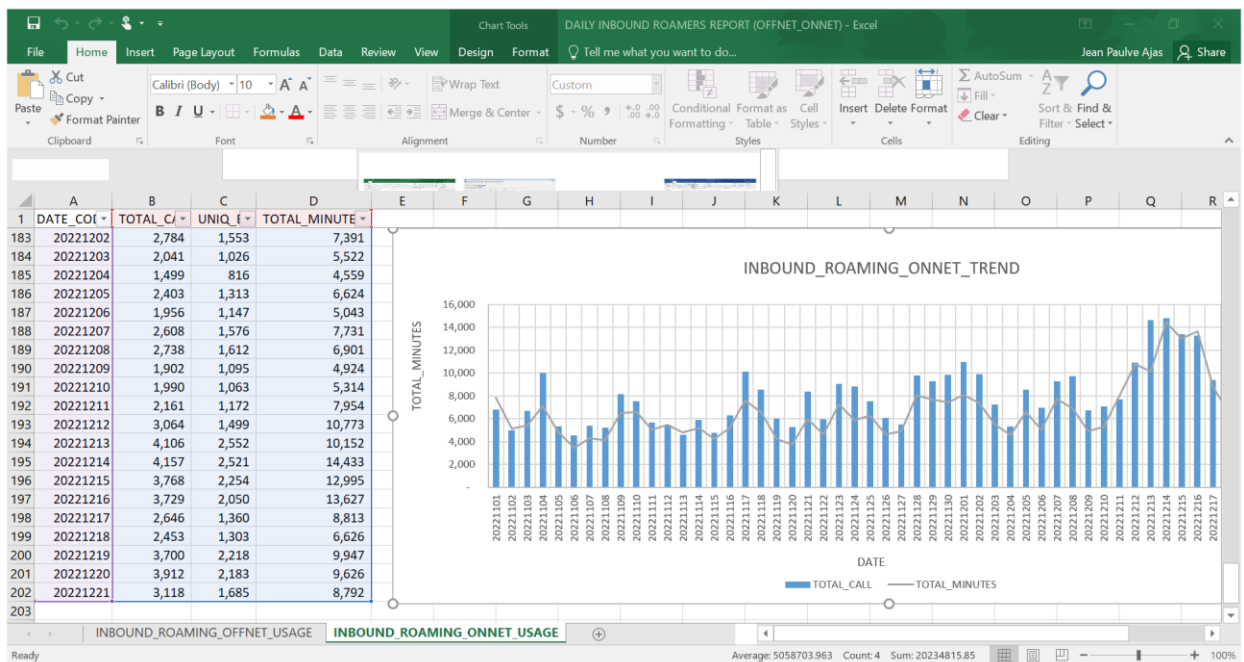
STEPS:

1- **Run the first script on BRISK DB by modifying the DATE_CODE to the appropriate date.**
2- **Export the records and update the first spreadsheet in the template file excel named below**
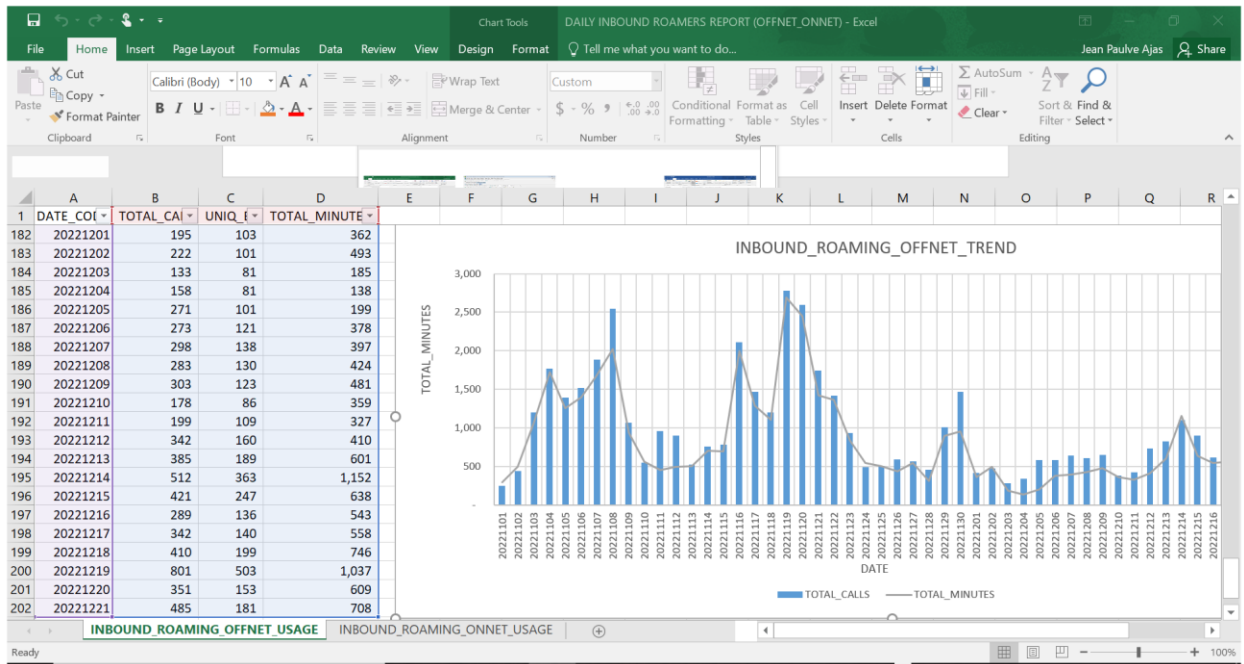
3- **Run the second script on BRISK DB by modifying the DATE_CODE to the appropriate date.**
4- **Export the records and update the second spreadsheet in the template file excel named below**

5- In case of any spike for one of the above trend, we check the CDRs by running respectively the below scripts and find the numbers that are suspicious with a diversity greater than 75%.

5.1- /*********Inbound OFFNET Roaming CDRs **************/

```sql
SELECT DATE_CODE,
       TIME_CODE,
       CALLINGPARTYNUMBER,
       CALLEDPARTYNUMBER,
       CHARGEABLEDURATION
  FROM CDRMSC.ST_CDRMSC_IMPORT@exae
 WHERE     DATE_CODE >= '202212121'
       AND CALL_TYPE = 'MOBTRAN'
       AND INCOMINGROUTE LIKE '%NAT%'
       AND CALLINGPARTYNUMBER NOT LIKE '509%'
       AND LENGTH (CALLINGPARTYNUMBER) > 8
       AND CALLEDPARTYNUMBER <> '50937000000'
GROUP BY DATE_CODE,
         TIME_CODE,
         CALLINGPARTYNUMBER,
         CALLEDPARTYNUMBER,
         CALL_TYPE,
         CHARGEABLEDURATION;
```

5.2- /********* Inbound OFFNET Roaming Diversity **************/

```sql
SELECT DATE_CODE,
       CALLINGPARTYNUMBER,
       COUNT (1) TOTAL_CALL,
       COUNT (DISTINCT CALLEDPARTYNUMBER) UNIQ_B,
       COUNT (DISTINCT CALLEDPARTYNUMBER) / COUNT (1) DIVERSITY,
       SUM (CHARGEABLEDURATION / 60) TOTAL_MINUTES
  FROM CDRMSC.ST_CDRMSC_IMPORT@exae
 WHERE     DATE_CODE >= '20221221'
       AND CALL_TYPE = 'MOBTRAN'
       AND INCOMINGROUTE LIKE '%NAT%'
       AND CALLINGPARTYNUMBER NOT LIKE '509%'
       AND LENGTH (CALLINGPARTYNUMBER) > 8
       AND CALLEDPARTYNUMBER <> '50937000000'
       AND CALLINGPARTYNUMBER IN
              ('15513155940',
'12017421634',
'12012731464',
'18653861056',
'14075484376')
GROUP BY CALLINGPARTYNUMBER, DATE_CODE
      ORDER BY DATE_CODE ASC;
```

5.3- `/*********Inbound 0NNET Roaming CDRs **************/`

```sql
SELECT DATE_CODE,
       TIME_CODE,
       FIRSTCELLLOCATIONINFO,
       LASTCELLLOCATIONINFO,
       CALLINGPARTYNUMBER,
       CALLEDPARTYNUMBER,
       CALLINGSUBSCRIBERIMSI,
       CALLINGSUBSCRIBERIMEI,
       CALL_TYPE,
       CHARGEABLEDURATION
  FROM CDRMSC.ST_CDRMSC_IMPORT@exae
 WHERE     DATE_CODE >= '20221221'
       AND CALL_TYPE = 'MOBORIG'
       AND CALLINGPARTYNUMBER NOT LIKE '509%'
       AND LENGTH (CALLINGPARTYNUMBER) > 8
       AND CALLEDPARTYNUMBER <> '50937000000'
GROUP BY DATE_CODE,
       TIME_CODE,
       FIRSTCELLLOCATIONINFO,
       LASTCELLLOCATIONINFO,
       CALLINGPARTYNUMBER,
       CALLEDPARTYNUMBER,
       CALLINGSUBSCRIBERIMSI,
       CALLINGSUBSCRIBERIMEI,
       CALL_TYPE,
       CHARGEABLEDURATION;
```

5.4- `/********* Inbound ONNET Roaming Diversity **************/`

```sql
SELECT DATE_CODE,
       CALLINGPARTYNUMBER,
       COUNT (1) TOTAL_CALL,
       COUNT (DISTINCT CALLEDPARTYNUMBER) UNIQ_B,
       COUNT (DISTINCT CALLEDPARTYNUMBER) / COUNT (1) DIVERSITY,
       SUM (CHARGEABLEDURATION / 60) TOTAL_MINUTES
  FROM CDRMSC.ST_CDRMSC_IMPORT@exae
 WHERE     DATE_CODE >= '20221212'
       AND CALL_TYPE = 'MOBORIG'
       AND CALLINGPARTYNUMBER NOT LIKE '509%'
       AND LENGTH (CALLINGPARTYNUMBER) > 8
       AND CALLEDPARTYNUMBER <> '50937000000'
    AND CALLINGPARTYNUMBER IN
            ('33637373835',
'18764791578',
'15104353727',
'14708546540',
'16318397669',
'15613054779')
GROUP BY CALLINGPARTYNUMBER, DATE_CODE
ORDER BY DATE_CODE ASC;
```

6- **Once analyzing the CDRs and their diversity the most appeared suspicious numbers should be followed up with MSC guys to have those numbers blacklisted.**