# 3.4 Master Template: DFP Cellular Master

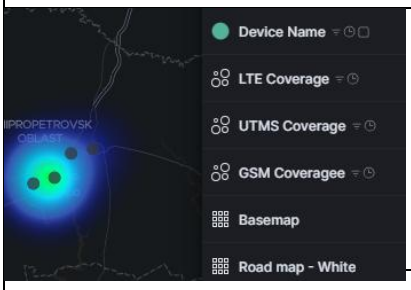
**Dashboard Purpose:** The training board develops Defense Force Protection by leveraging Network Survey device data. The dashboard focuses exclusively on cellular signals surveyed by operators surveying with NS devices. The purpose is to identify and highlight potential cellular anomalies in the area of interest, providing analysts with actionable insights to enhance situational awareness and threat detection with abnormal patterns that deviate from normal cellular behavior. Quickly allows an analyst to ID a time, location, and start point in the raw data for insight.

## 3.4.1 Modifying Filters on Dashboard using the Map and Filters

| | |
|---|---|
| **Search Bar** | Free query the deviceName prefix example *deviceName: predator** this filters the DB. |
| **Add Filter** | Choose Index, field, boolean (AND OR), and value to filter the dashboard. |
| **Pinned Filters** | Filters pinned when switching from discover, viz, or DB to carry over filters. |
| **Load Query** | Saved queries are saved with DTG filters and are accessible to all users. |
| **Polygon Filter** | In a Map, click **wrench**→ click **draw shape** → **save title** and view as a filter for the DB. |
| **Time Range** | Adjust the calendar: quick selection: the last 1 hour or the absolute date for firm dates. |

## 3.4.2 Understanding Each Graph

**Map:** Network Survey Cellular Map **Purpose:** Identify cellular data from NS users of cellular structure and highlight potential anomalies in the area of interest, providing analysts with actionable insights to enhance situational awareness and threat detection. Broken out into cellular technologies.




**Network Survey Cellular Tracks:** The survey route of an NS User

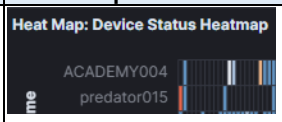
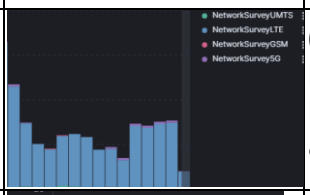
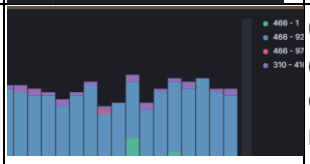
**Cellular Automated Alerts**: This shows where cellular anomalies with severity and criteria occurred along the survey route.

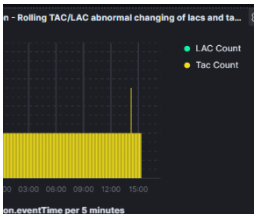
**LTE Coverage:** This shows all the LTE coverage in the area from LTE 4G cell towers.

**UMTS Coverage:** This shows all the UMTS coverage from UMTS 3G cell towers. (Less encryption)

**GSM Coverage:** This shows all the UMTS coverage from UMTS 3G cell towers. (Least encryption)

## 3.4.3 Current Visualizations in Dashboard: Purpose and Modifying

| Visualization Top to Bottom | Snapshot of VIZ | How to Modify it |
|---|---|---|
| **Heat Map: "Device Status Heatmap" Purpose:** Displays deviceName active with the filters used to identify active devices and how active those users are. |  | Click → Edit Lens→ Modify deviceName → save & return→ SAVE DB |
| **Bar Graph: "Drops in Service " Purpose:** Use this graph to detect unexpected drops in the servicing technology. |  | Click → Edit VIZ→ Modify deviceName in Set Filter → click Refresh→ save & return→ SAVE DB |
| **Line Graph: "Cellular DFP Signal Strengthen" Purpose:** Look for a significant spike in signal strength and/or false serving cells (neighbor cell) have a prolonged higher signal strength than the true serving cell (cell providing service). Note the circles are not indicators of anomaly behavior. |  | Click → Edit VIZ→ Modify Set Filter → save and return→ SAVE DB |
| **Bar Graph: "Cellular Anomaly Detection-MCC and MNC of Interest" Purpose:** Analyst to identify potential towers of interest where it is not historically seen. Look for Mobile Country Codes (MCC) or Mobile Network Codes (MNC) that should not typically be seen in the surveyed area. |  | Click → Edit VIZ→ Modify deviceName in Set Filter → click Refresh→ save & return→ SAVE DB |

| 3.4.3 Current Visualizations in Dashboard: Purpose and Modifying Continued. | | |
|---|---|---|
| **Visualization Top to Bottom** | **Snapshot of VIZ** | **How to Modify it** |
| **Bar Graph: "Cellular Anomaly Detection-Neighbor List Present" Purpose:** The analyst can ID potential towers of interest where there is a lack of neighbor cells reported, and only the serving cell can be a potential for an anomaly. Look for areas with no neighbor cells present (red color). Neighbor cells should always be part of the survey. |  | Click → Edit VIZ→ Modify deviceName in Set Filter → Click Refresh→ Save and return→ SAVE DB |
| **Bar Graph: "Cellular Anomaly Detection-Rolling TAC/LAC Purpose:** Shows over time, a user is switching TACS & LACs used to ID cellular anomalies. **1.** If the NS device is stationary & the LAC/TAC is rapidly switching. (Normal- on a LAC Border or Poor Signal strength.) **2.** If an NS device moves outside a LAC/TAC, it has only 1 LAC/TAC. **3.** If the device only surveys LAC (2g/3g) in a historically LTE area. |  | Click → Edit Lens→ Modify user prefix group in the search bar → click Refresh→ save & return→ SAVE DB. |