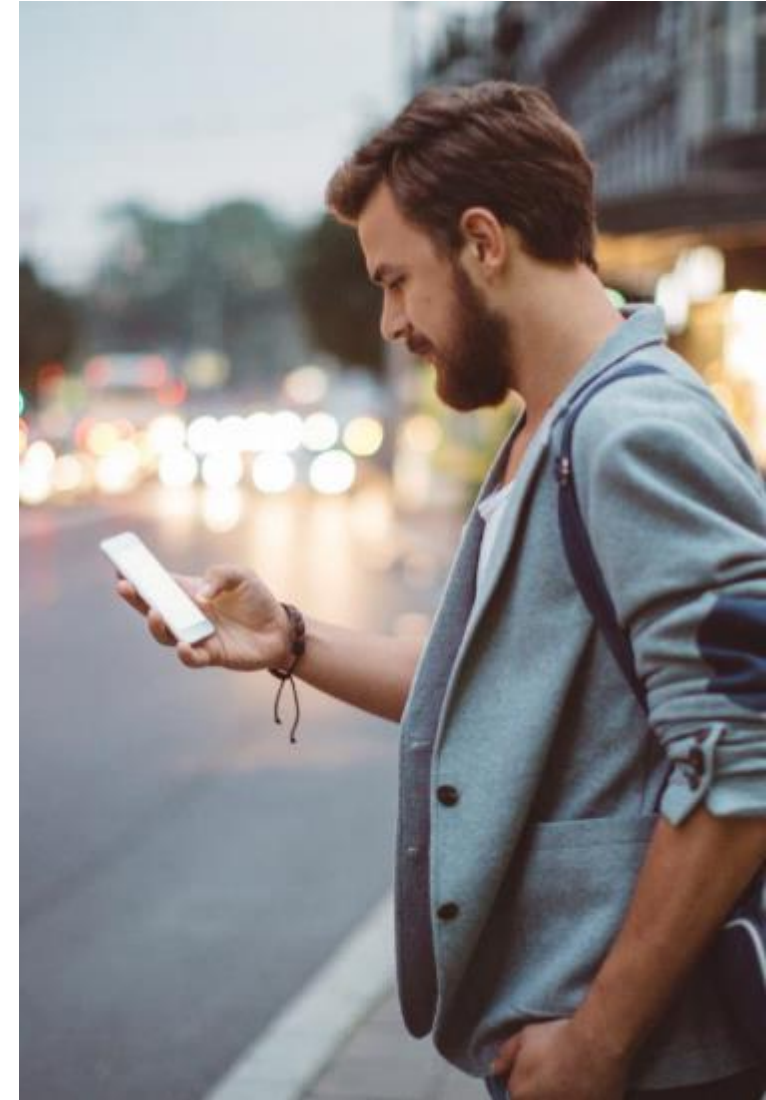




RantCell – Crowd sourced solutions

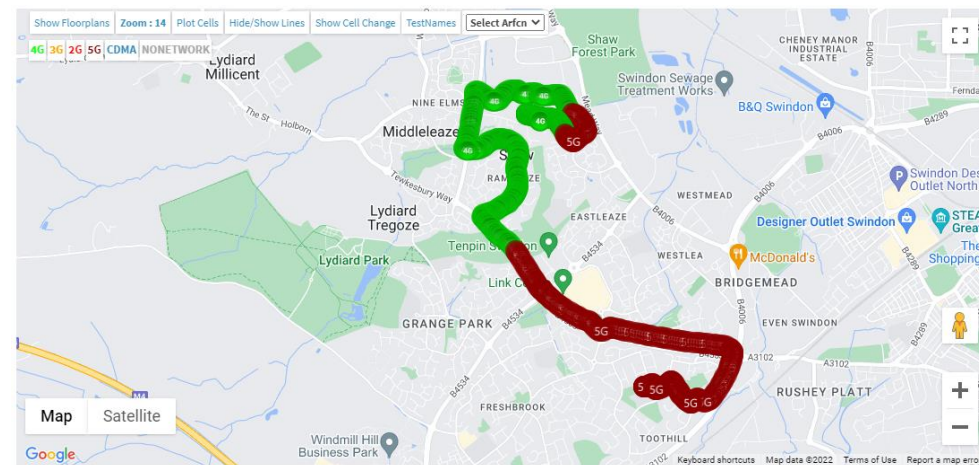
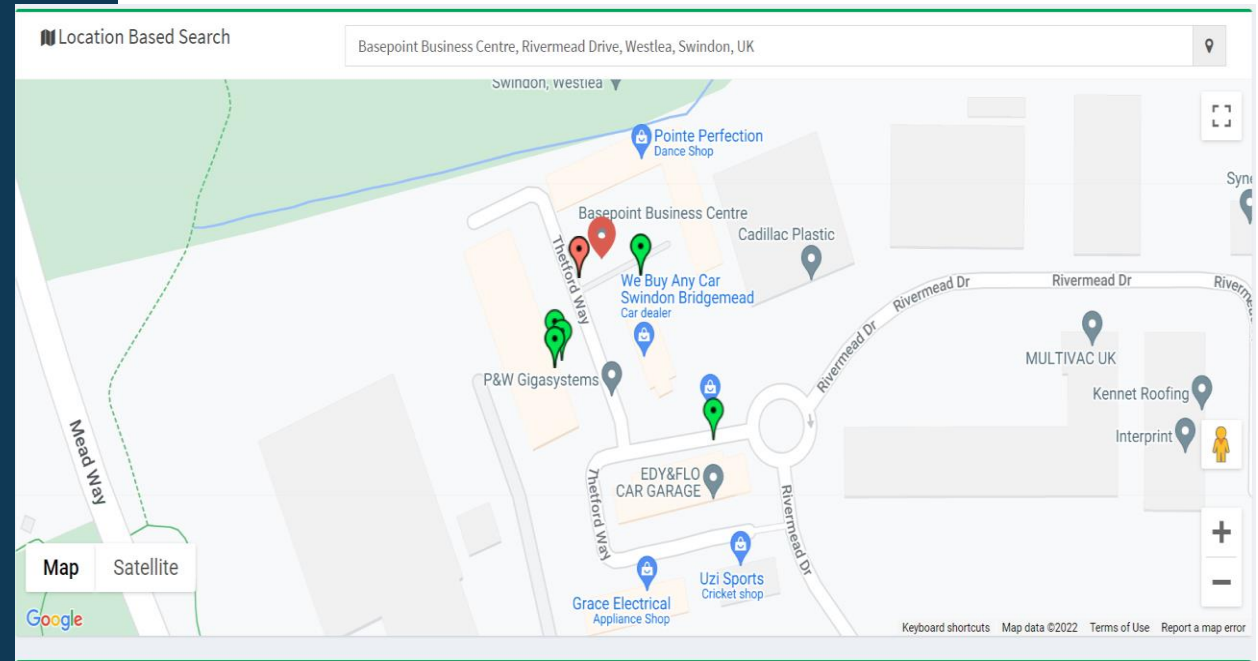
Use cases

- Hotspots
- Best/Worst User
- Best/Worst Location
- Best/Worst Users in a User-Defined Group
- Worst Availability
- Users Not on a Specific Network
- Cell Loading
- User Experience per User (UUID based)



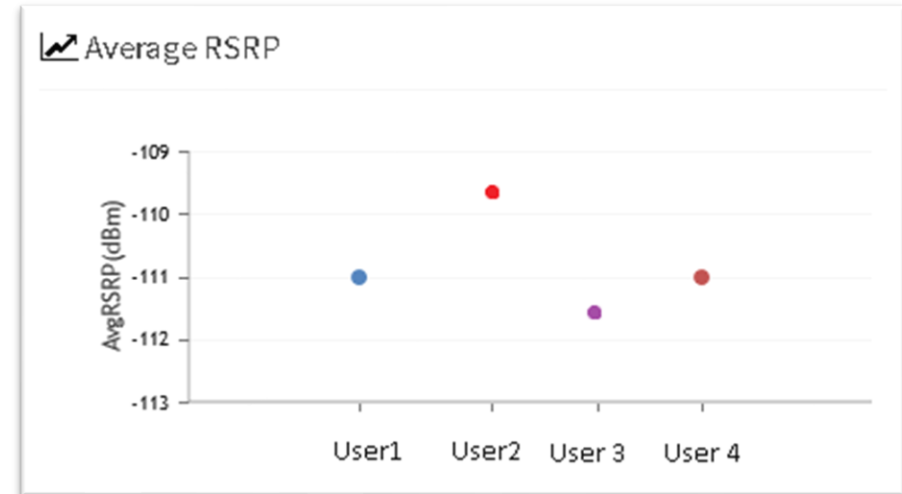
Hotspots (LBS)

- Network might be covering a large Industry or campus, while monitoring the complete area is important to monitor hotspots like Operations Office, sports complex or specific routes is equally important
- This feature will enable you to pinpoint the exact area to capture the Quality of Experience(QoE) of any hotspot by using Lat Long and Radius
- RantCell will respond to the third-party system with all available campaigns on that Hotspot
- The campaigns can also be exported as SSV hence completely removing post-processing tools of any kind



Best/Worst User for each KPI(e.g., Latency, Throughput, Coverage, Quality, Technology, etc.)

- While the network is serving many users, there will always be some users experiencing poor network
- We can identify such users with the worst experience in the network
- Request can be made by username or UUID
- RantCell will respond top 100 Best/ Worst users on daily basis for example, the poorest RSRP(Coverage) for last 2 months who are highly likely to leave network



User Experience on Network

MSISDN: Samsung SM-M325F

UserName: Worker1

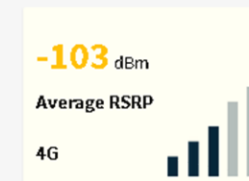
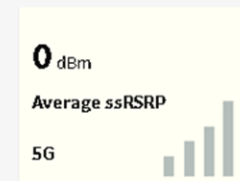
Device Model: Samsung_SM-M325F

Home Network: 404_45

Network Scoring: 43/55

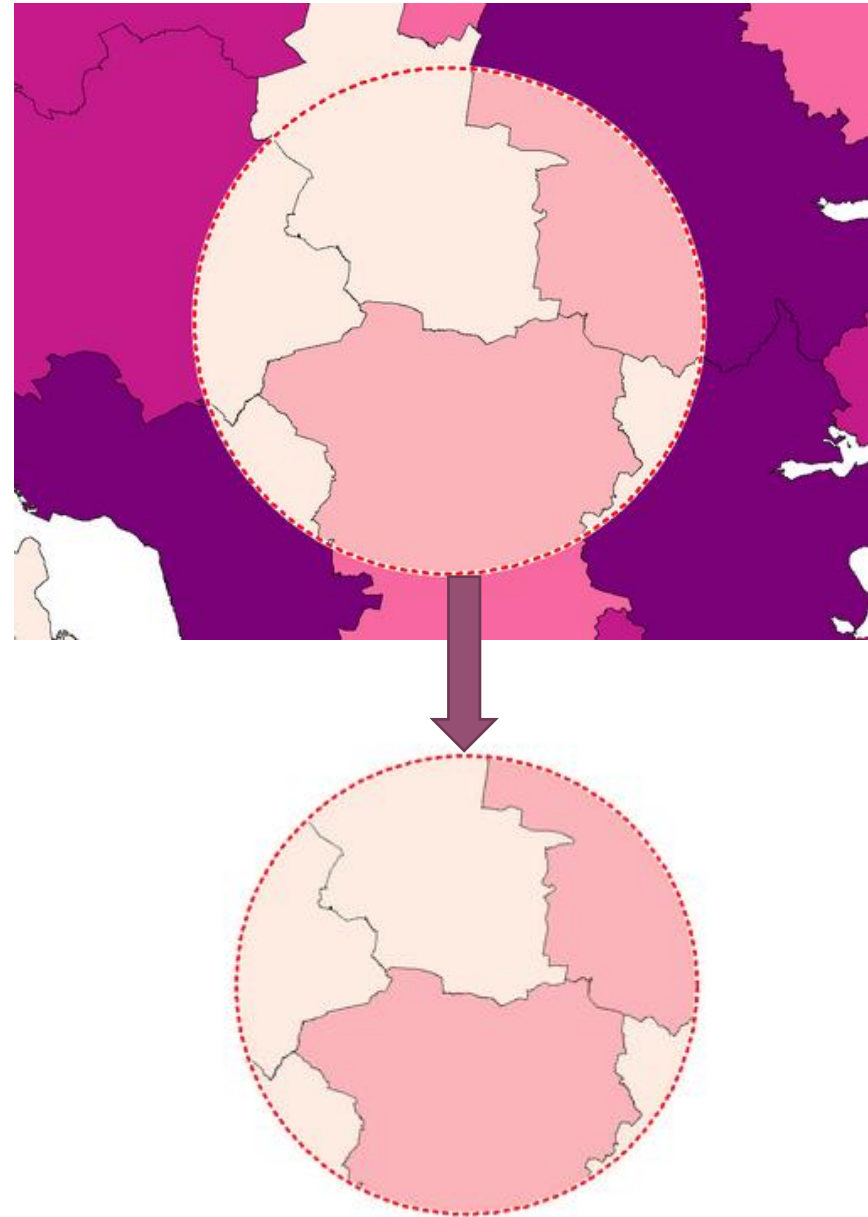
Scoring computed duration days: 0.50

User Satisfaction: 😞



Best/Worst Location (Cluster)

- A network might be covering sub-cluster like an city area, residential areas, IT hub, or any user-defined cluster.
- Worst/Best locations based on latency , data speeds, Coverage etc
- This feature will enable the user to capture QoE of that sub-cluster
- RantCell will respond to the third-party system with all available campaigns on that Sub-Cluster



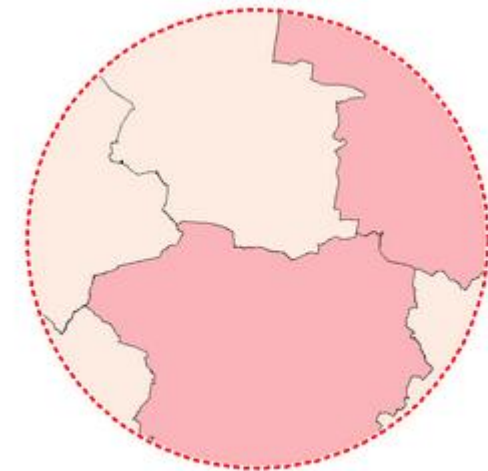
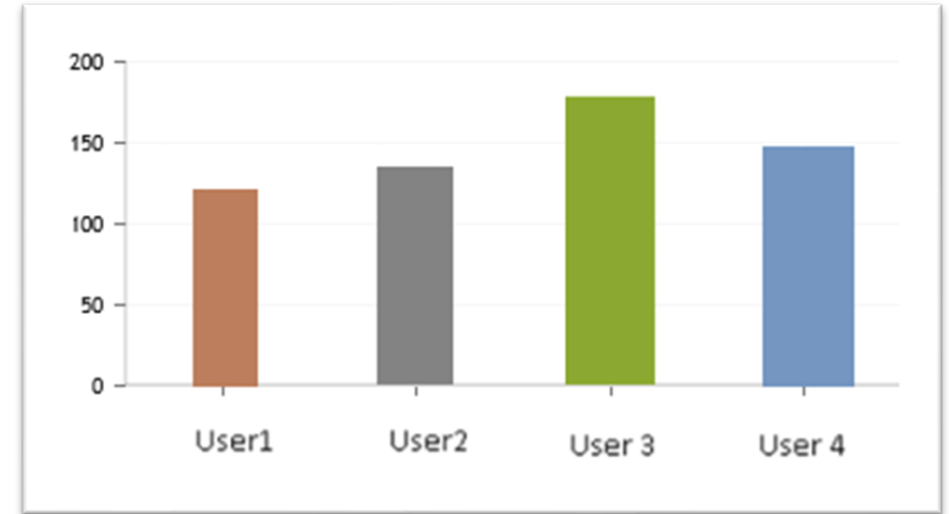
Best/Worst Users in a User-Defined Group (Scoring)

- Based on RantCell's Internal state of the art Scoring Mechanism users can be ranked on their QoE
- RantCell will respond to the third-party system with a User Experience Score , ex top 100 worst users
- This is extremely useful to score and identify Platinum user's QoE or in general top users who are experiencing the worst networks.

UserName/Location	MSISDN	Device Name	IMEI/MEID	Device ID	Scoring
Worker1	Samsung SM-M325F	Samsung_SM-M325F	NS	73104-4... More	43.68
TWS0123	SM-M325	Samsung- SM	NS	73104-4... More	43.68
NS	1234	Samsung_SM-M325F	NS	-83110-... More	46.71
NS	Samsung SM-M325F	Samsung_SM-M325F	NS	-83110-... More	46.71
NS	1234	Samsung_SM-T225	NS	-124-16... More	50.04
CCCCC	004	T001	99999	-124-16... More	50.04
NS	SM-A307FN	Samsung_SM-A307FN	NS	94-62-9... More	50.54
NS	SM-A307FN	Samsung_SM-A307FN	NS	94-62-9... More	50.54
s21	Samsung SM-G991B	Samsung_SM-G991B	NS	-96-937... More	51.10
NS	Samsung SM-G781B	Samsung_SM-G781B	NS	-99-115... More	56.80

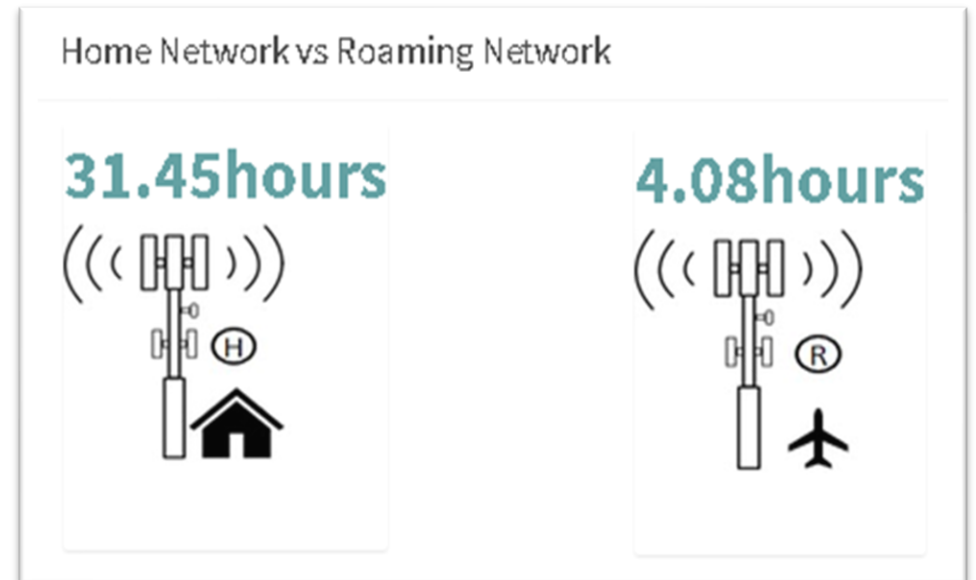
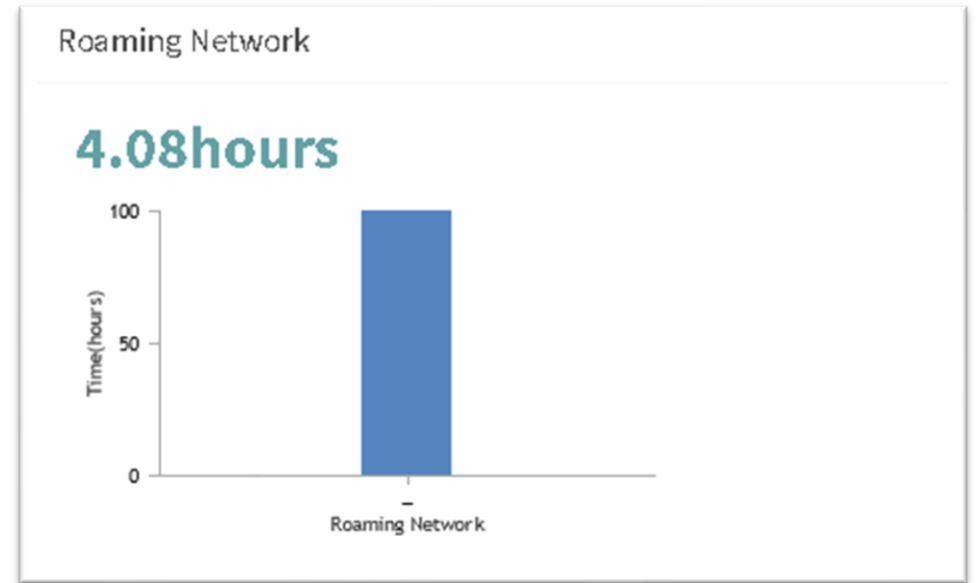
Best/Worst Data Size

- Devices latched onto the same network can have different behavior
- With this feature Data used by devices across the network can be ranked
- Solution provides report on locations or regions where the downloads are quite high. Hence MNOs are monetize by offers or add additional capacity to those locations for better user experience. For example, seating area in large shopping complex.



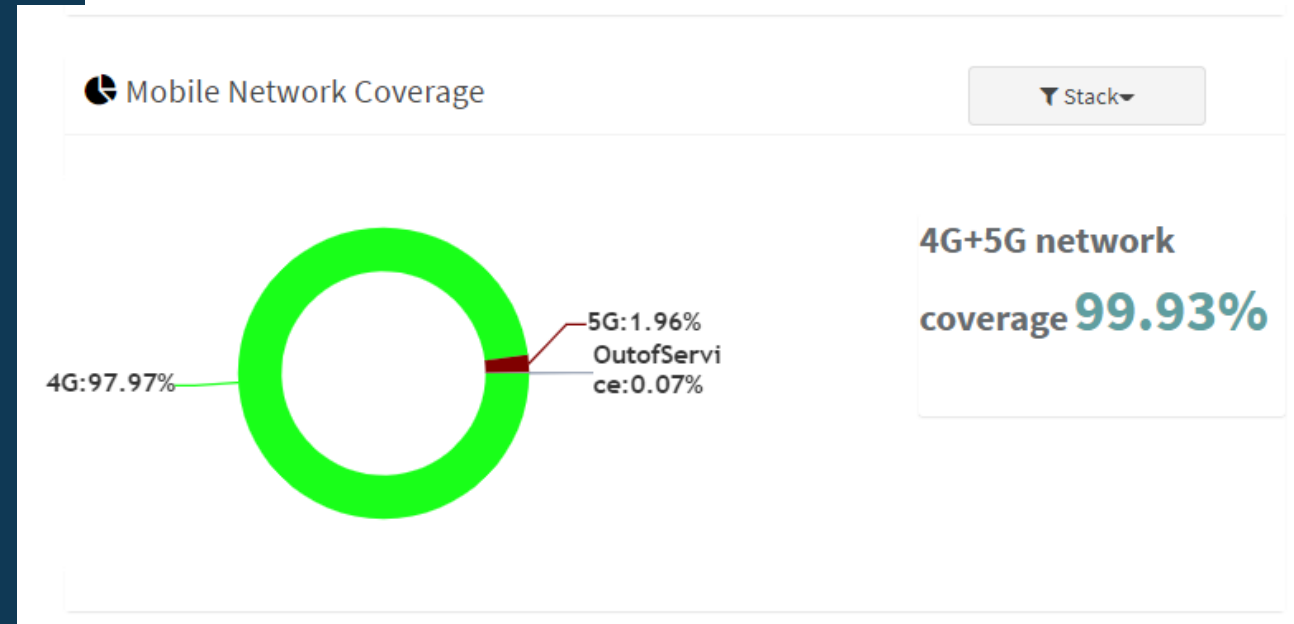
Users Not on a Specific Network

- Identify number of users who are outside the network for example number of users on roaming networks.
- Identify their user experience while on roaming networks.



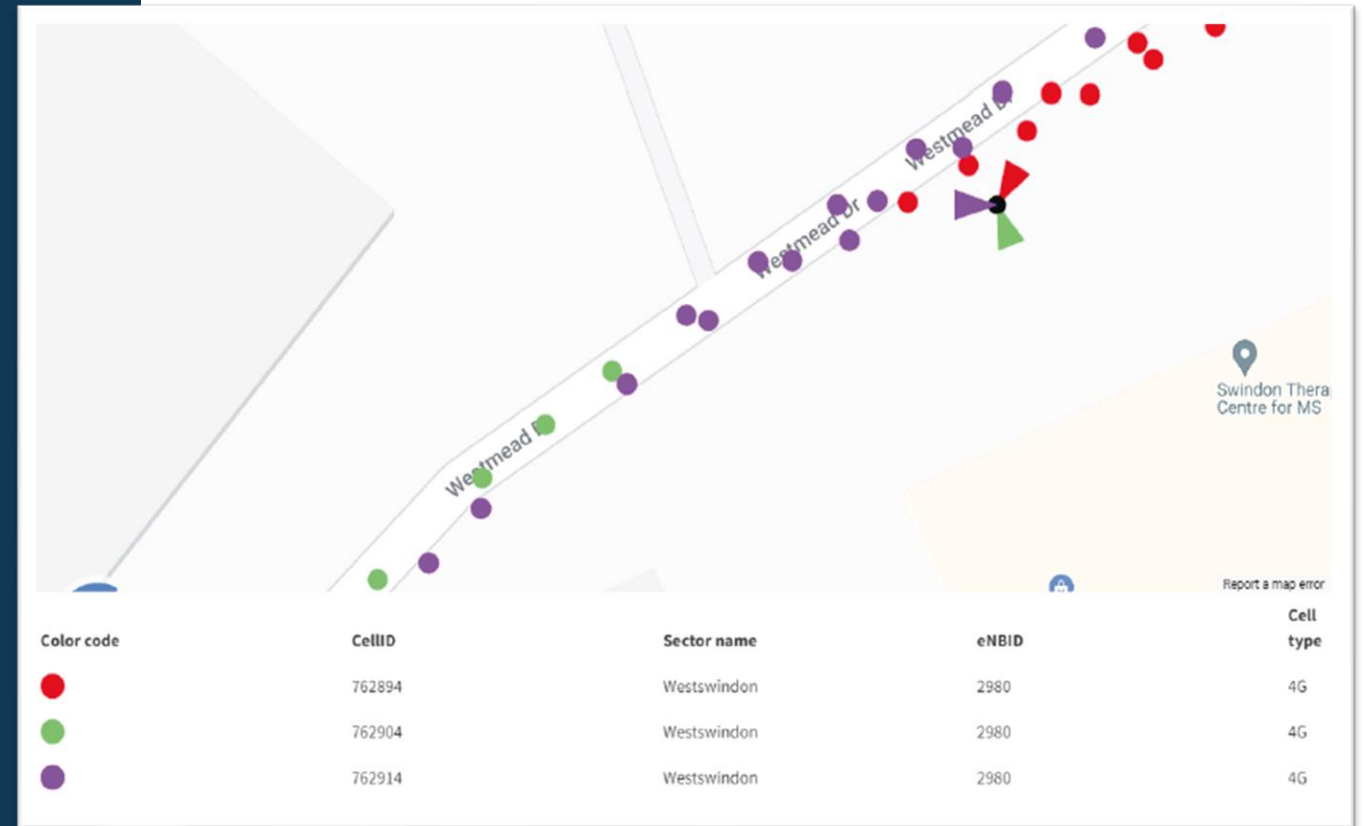
Availability KPI

- Network can be used for monitoring purposes for example monitoring pressure at various points on a pipeline
- Identify how many users going out of service on daily basis .



Busiest CellIDs (Cell Loading)

- For any network cell loading is an important KPI for the below-mentioned reasons:
 - As they are more likely to overload even with slight traffic fluctuation
 - As they are more likely to produce interference
 - And hence are more likely to affect KPIs
- For cell Loading, RantCell will respond to the third-party system with Samples count on each CellIDs



User Experience per User (UUID)

- RantCell can also find a single user's QoE based on its UUID
- For this RantCell will respond to the third-party system with that UUIDs QoE KPIs e.g. Latency, Throughput, Coverage, Quality, Technology, etc.

User Experience on Network

MSISDN : Samsung SM-G991B

UserName : s21

Device Model : Samsung_SM-G991B

Home Network : 234_30

Network Scoring : 46/55

Scoring computed duration days: 0.25

User Satisfaction: 😐

Active Passive

0 dBm

Average ssRSRP

5G



-96 dBm

Average RSRP

4G



0 dBm

Average RSCP

3G

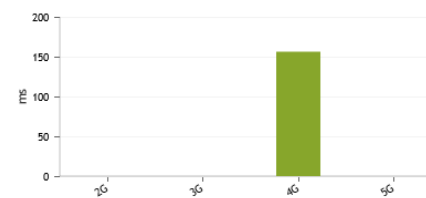


OutCall Count 1

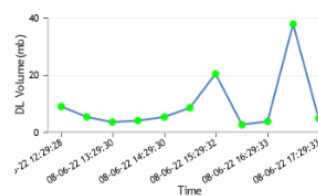
InCall Count 1



Average Latency Per Technology



DL data volumes



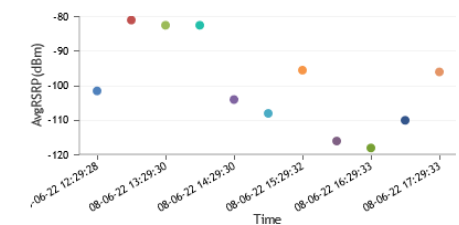
Total DL

106.25mb

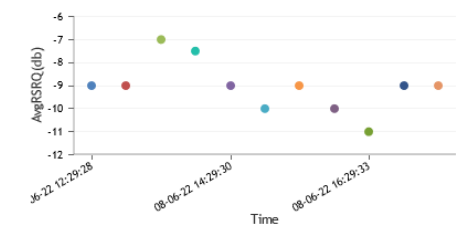
5G DL

0.00mb

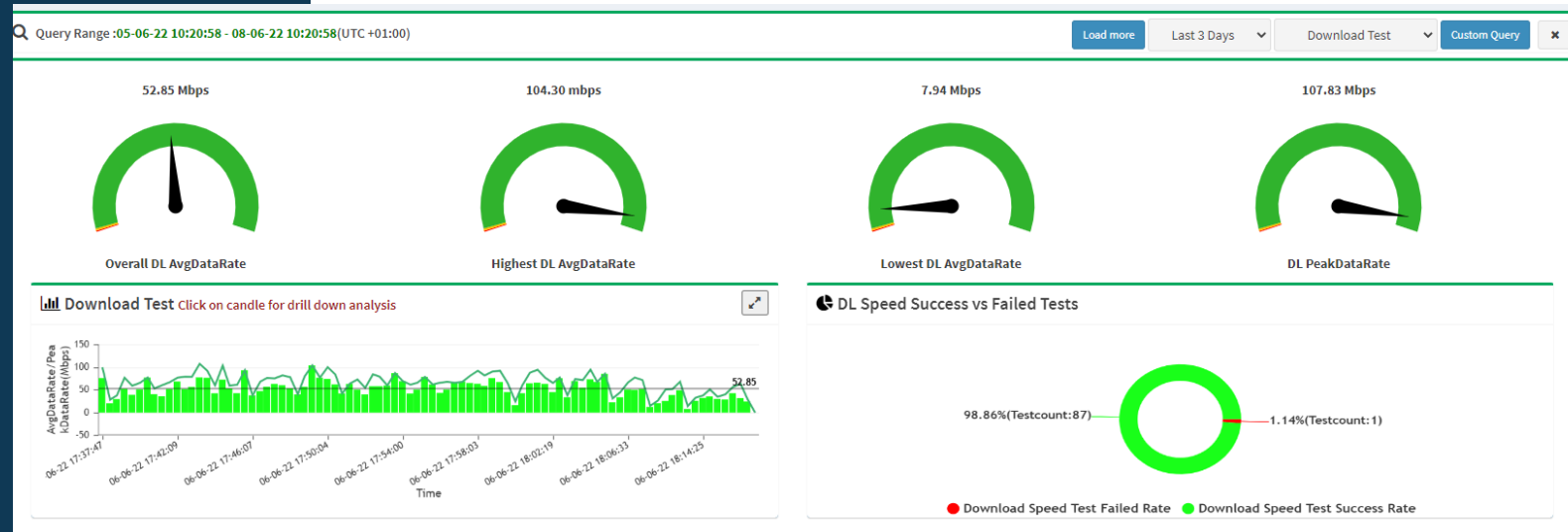
Average RSRP



Average RSRQ



Link data bandwidth /latency assurance.



- Continuous loop tests by probes to monitor latency and speed
- API to respond on last 3 days how it looked like for last 24hrs

Custom KPI reporting

- Custom KPIs can be reported at regular intervals in response to API Request:
- For example, the following KPI can be fetched every 30mins, Hour or 24Hrs:
 - Average RSRP
 - Average Number of Users in poor coverage(<-110dBm)

DLDataVolume4G(Bytes)	ULDataVolume4G(Bytes)	AverageRSRP	AverageRSRQ	AverageSNR
2436435	2137804	-108	-9	3.12
26388	34646	-81	-9	3.76
58006	68770	-82	-7	6.68
6659	16045	-86	-8	7
0	0	0	0	0
0	0	0	0	0
417	251	-96	-9	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Summary

API Use Case	Type or Product
Hotspots (LBS)	RantCell pro
Best/Worst User for each KPI	RantCell Crowd
Best/Worst Location (Cluster)	RantCell Crowd
Best/Worst Users in a User-Defined Group (Scoring)	RantCell Crowd
Best/Worst Data Size	RantCell Crowd
Users Not on a Specific Network	RantCell Crowd
Availability KPI	RantCell Pro
Busiest CellIDs(Cell Loading)	RantCell Crowd
User Experience per User (UUID)	RantCell Crowd



Thank You

