OTA Quality of Service Monitoring

Using a SIM agent to capture real-time QoS of end-users and connected objects

As they invest in new networks (LTE or 5G) to address an increasing number of connected devices, mobile operators must ensure the best Quality of Service to match the growing expectations of their customers. IDEMIA's OTA Platform's QoS monitoring feature answers that very need.

Leverage your SIM cards

Traditional Quality of Service (QoS) monitoring methods are not sufficient. There is a gap between the QoS and the actual quality as perceived by subscribers. Probes collect only statistics on global network performance without collecting data when subscribers are in roaming or out of coverage. Drive tests only provide statistics at one point of time without the means to differentiate between behaviors of several devices. Mobile operators need to monitor in real time the QoS from a device/user's perspective. Our OTA Quality of Service feature is an efficient and simple solution that enables a mobile operator to do just that. The SIM card of all your subscribers will become your QoS probe!

This SIM-based solution is device agnostic, working in silent mode without draining the end-users battery and is compatible with low-cost IoT devices. It is non-intrusive, as all data gathered by QoS agents is anonymized to ensure subscriber privacy.

Identify network issues

The solution helps you to:

› Identify customers experiencing poor services
› Map out critical coverage zones
› Benchmark coverage services and events per cell
› Identify poorly performing cells (across a wide range of KPIs)

Optimize roaming

Roamers expect the same experience when they travel abroad as when they are at home. Mobile operators also need to ensure roaming partners, affiliates or MVNOs are meeting their roaming agreements. The SIM agent will gather metrics when visiting such networks.

Comply with QoS regulations

Authorities in more than 160 countries define KPI metrics such as network availability. OTA Quality of Service is helping mobile operators by gathering those measurements.

Benefits

For business teams

› Get QoS statistics per cell
› Optimize infrastructure investments and new cells deployments
› Improve quality where it is most critical with signal recalibration and new access network policy
› Anticipate network congestion and service disruptions
› Correlate the KPIs with network data and marketing insights
› Benchmark QoS of roaming partners, affiliates or MVNOs

For customer care teams

› Identify subscribers who have quality and performance issues
› Anticipate issues before a subscriber raises a complaint
› QoS statistics per device
› Resolve problems using the diagnosis tool

For end-users

› Great connection experience (coverage, automatic best network selection) and best roaming experience
› Issues easily identified by the operator in case of complaints

Why IDEMIA?

› Proven expertise in SIM cards to deliver the best-in-class SIM agent
› Combined framework and use cases with our OTA Platform to manage your OTA Quality of Service Monitoring SIM agent fleet

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Turn your subscriber's SIM into QoS probes and improve the quality of Service

Our SIM agent gathers vital KPI metrics and sends them to our server for further analytics:

› Local Information (date/time/MCC/MNC/ LAC/CellId…)

› Radio access network (2G, 3G, 4G, 5G)

› Signal strength and quality

› Data accessibility

› Total time switched off

› Total time no/poor/average/good coverage

› Total time local/roaming

› Network rejection info

To drill down through the data, the solution includes an easy-to-use web interface with interactive maps, comprehensive live dashboards and customizable reports. Mobile operators can define an extensive set of KPIs that can be uploaded to their business intelligence systems.

A lite SIM agent in cards

Our QoS SIM applet is interoperable and compatible with most cards including low-cost and long-life devices. It monitors vital KPIs (Coverage, Network Rejection…) to raise alerts in case of needed replacements.

External API

Monitoring GUI

OTA Quality of Services Monitoring

SIM Agent Configuration

Security / Data Encryption

SIM Metrics

Device Metrics

2G
3G
4G
5G

IoT
M2M
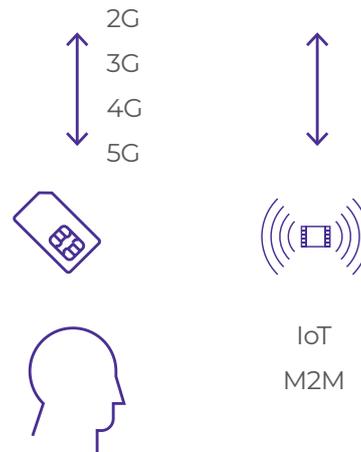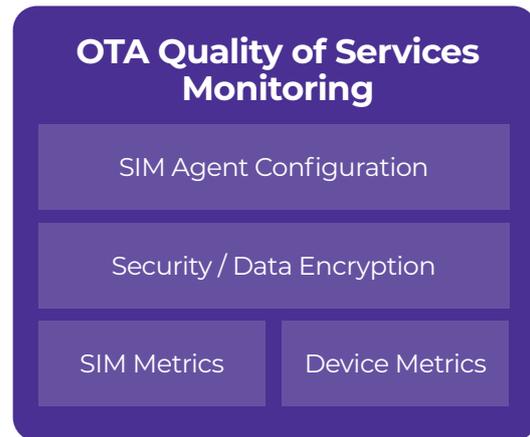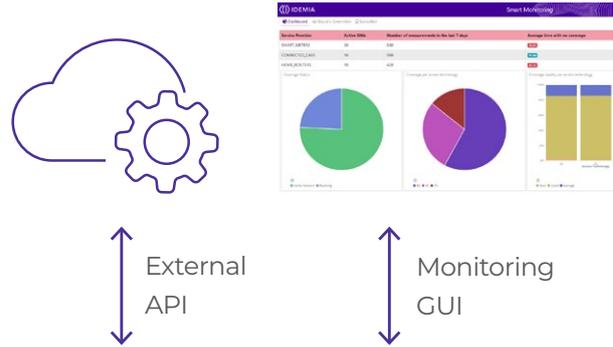
Cutting-edge technology

› Interoperable SIM application

› Follow latest QoS regulations initiatives

› Modern Kibana Reporting Tool

› Free OpenStreetMap API

› Low footprint, low computation needs

And tomorrow?

Our QoS module will be fully integrated inside our OTA platform.

QoS data analysis will allow to perform real-time OTA updates for continued improvement of the customer experience.

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