MAVERIQ
by RADCOM

Extreme Analytical Customer Experience Management for LTE, LTE-Advanced, 3G and Wi-Fi

- Do you want to **ensure** that your LTE customers are satisfied with their web, video and gaming experience?

- Do you want to **optimize** your network, and control cell congestion?

- Do you want to **gain insights** into handset and application performance?

- Do you need to **quickly pinpoint** and **troubleshoot** network issues that affect your subscribers?

- Do you want to **monitor user activity** in your HetNet?

MaveriQ provides actionable network intelligence that helps operators accelerate LTE network and service rollout, optimize performance, and ensure excellent Quality of Experience for LTE customers.

Operators deploying and operating 4G LTE and 3G networks need powerful monitoring tools to manage services, and cope with massive amounts of data. Subscribers expect the highest quality of experience, ultra-high bandwidth, and fast connections for their tablets, smartphones and USB modems. At the same time, network bandwidth is rapidly growing, and operators need to deploy a monitoring system that will be able to support hundreds of gigabits, or even multi-terabit networks. A comprehensive service assurance and customer experience solution needs to monitor each and every subscriber session to immediately detect any degradation in QoE, and provide powerful troubleshooting tools to rapidly resolve issues.

Comprehensive Service Assurance Solution

RADCOM's MaveriQ Service Assurance solution is the most comprehensive solution for your monitoring needs.

- Holistic monitoring solution for the complete user experience, including web, video, voice and Over-the-Top (OTT) applications.

- Powerful, yet user-friendly analytical tools detect and pinpoint performance issues.

- One solution for LTE, LTE Advanced, 3G, 2G, Wi-Fi and VoLTE/IMS networks.

- Low footprint solution with unlimited scalability, that meets high capacity network designs.

- Based on data warehouse technology, to provide a Big Data analytics solution that is able to efficiently handle the vast amounts of data needed to monitor today's and future networks.

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RADCOM's Solution

RADCOM's MaveriQ Service Assurance and Customer Experience Management solution provides a comprehensive solution that meets all the challenges that mobile service providers face when delivering data services on Terabit Networks.

- Provides rich measurements for every user transaction, including session and bearer establishment, voice calls, web browsing, media streaming, e-mail and Over-The-Top (OTT) applications.

- Innovative measurement of the actual service quality as experienced by the end user, which is key to constant improvement in customer satisfaction.

- Provides QoE analysis per cell and network element to easily identify elements and interfaces that are performing below par.

- Proactive real-time early warning alarms for service degradation allow engineers to quickly and efficiently pinpoint the root cause of these problems, enabling fast resolution and reducing the impact on customers.

- One application monitors data and voice services on LTE, UMTS (HSPA+), GPRS, Wi-Fi and VoLTE/IMS networks, providing a single view of service quality across all technology generations.

- Correlated, end-to-end detailed views of user transactions across multiple interfaces, protocols and network planes provides engineers all the information needed to troubleshoot complex issues.

- Voice over LTE (VoLTE) monitoring includes end-to-end troubleshooting, online correlation, service profiling and integrated active testing for Voice-over-LTE IMS-based call flows.

Precise Customer Experience Monitoring

By monitoring sessions that are meaningful to the end user, such as complete HTTP browsing sessions and file downloads, MaveriQ provides accurate insight into customer experience (CEM) for mobile broadband. Metrics are generated and correlated for layers 4 through 7. By analyzing these measurements in real time, and applying business intelligence and advanced real-time analytics, MaveriQ provides realistic insight not only into the end user quality of experience, but also into the corresponding quality of the service provider's network.
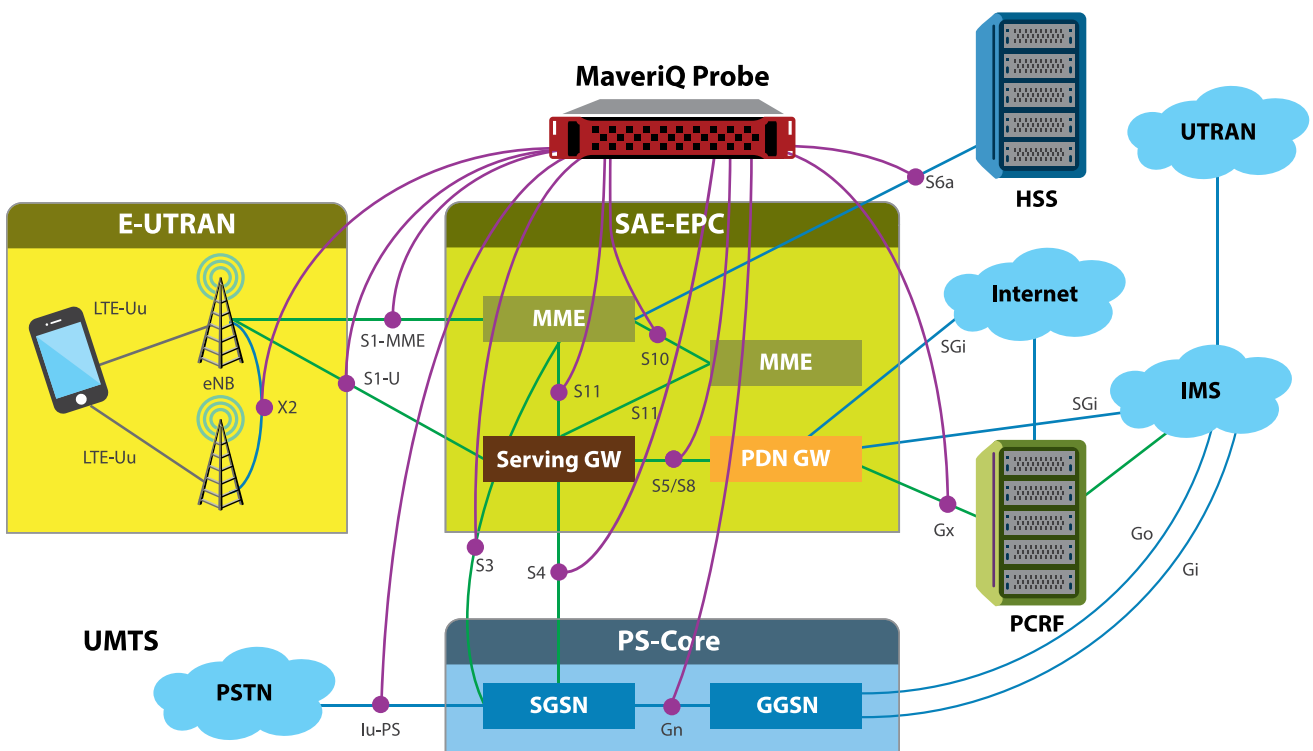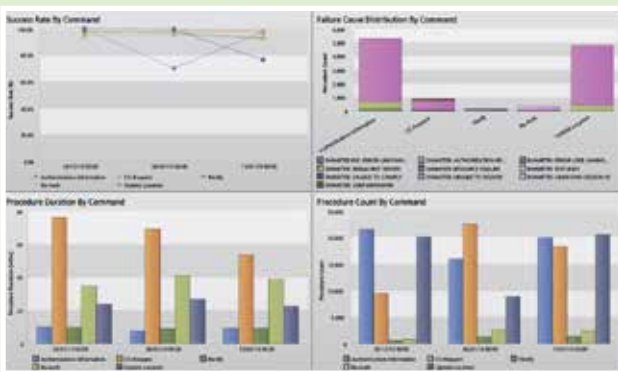

One MaveriQ probe monitors all LTE and 3G interfaces simultaneously

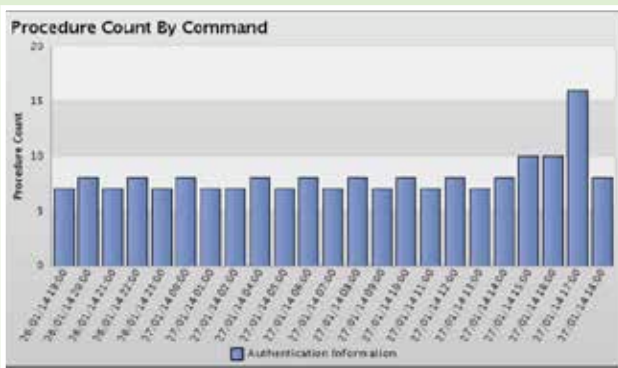# Comprehensive Solution for LTE Service Assurance

A set of tools for LTE Service Assurance, both from a statistical network level, and subscriber and call trace level. Statistics KPIs present customer experience in terms of network elements, procedures and services.

The solution also provides real time and historical correlated end-to-end session tracing, and work flows that allow the user to easily drill from a network-wide statistical view to a transaction view.

MaveriQ for LTE and Mobile Networks supports RADCOM's Service Assurance Applications. These include the QiCare customer care solution for call center representatives, the QVIP SLA management application, the QRoam roaming quality service assurance application, the QCell geographical cell QoE analysis application, the QMyHandset device performance analysis, and the QiSolve proactive network aware optimization solution. More details about the applications can be found in the MaveriQ for Service Assurance Data Sheet.

KPIs for Accessibility, Retainability, Integrity, Availability and Mobility

User Plane KPIs

- User Throughput DL/UL
- HTTP Success rate
- HTTP Latency
- RTT
- RAN Latency
- Internet Latency
- Packet Loss Rate
- Retransmission Rate

Control Plane KPIs

- Attach Success rate
- Session/Bearer Creation Success Rate
- Diameter Success Rate – Authentication, Credit Control, etc.
- Release Cause Distribution
- Procedure Duration
- Procedure Count

Network / Service

Network Element

Trace Report

Complete Flow
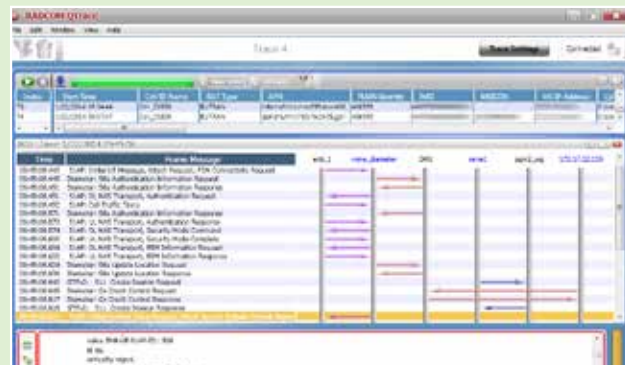
Why MaveriQ?

- A cost effective solution for any network size

- Scalable solution with built-in architecture for Big Data analytics

- Monitors LTE, VoLTE, 3G, 2G, VoIP/IMS, Mobile Data & SIGTRAN simultaneously on one probe

- Guarantees customer satisfaction by proactive troubleshooting

- Minimizes churn by enabling smarter customer care

- Protects revenue streams by improving VIP customer QoE

- Self optimizing network solution for cell congestion control

iPad dashboard showing QoE Analysis by APN, PLMN, or network element

Interfaces and Protocols Supported

- Interfaces supported: S1-MME, S1-U, S2a, S3, S4, S5-C, S5-U, S6a, S7, S8, S9, S10, S11, S101, S103, SGi, Gx, Gy, Rx, Gn, Iu-CS, Iu-PS, Gi, X2

- Protocols supported: GTPv1, GTPv2, Diameter, S1AP, NAS, MIPv4, PMIPv6, X2AP and SGSAP protocols, including ciphered signaling and user plane

- VoLTE standards supported: GSMA IR.92, One Voice

About RADCOM

RADCOM provides innovative service assurance and customer experience management solutions for leading telecom operators and communications service providers.

RADCOM specializes in solutions for next-generation mobile and fixed networks, including LTE, VoLTE, IMS, VoIP, UMTS/GSM and mobile broadband.

RADCOM's comprehensive, carrier-grade solutions are designed for big data analytics on terabit networks, and are used to prevent service provider revenue leakage and to enhance customer care management.

RADCOM's products interact with policy management to provide self-optimizing network solutions. RADCOM's shares are listed on the NASDAQ Capital Market under the symbol RDCM.

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