



RADCOM

# Virtual-Ready Assurance for Hybrid, Legacy and NFV Networks

Service Assurance and Customer Experience  
Management for Communications Service Providers





## Virtualization Transformation

When the need for services is undergoing massive expansion while the complexity of services only increases, and the urgent need for cutting spending and energy waste slides up the charts, the best answer is virtualization.

Virtualization is the key to scaling down costs, energy, and labor, while simultaneously scaling up services and capabilities exponentially. It is a crucial next step for any CSP today, as the world rushes forward into expanding usage and accelerating connectivity speeds. People need more, they need it faster, and they want it now. Only virtualization can handle that type of demand.

In today's rapidly changing communications world, how can Communication Service Providers (CSPs) offer and maintain a high-quality customer experience that builds brand value and customer loyalty?

How can CSPs pare down excess OPEX and CAPEX while optimizing service, increasing agility, and shortening time to market, in the midst of generational network transitions, new technologies, and expanding networks?

NFV (network functions virtualization) and SDN (software-defined networking) are the answer. Decoupling network controls from proprietary hardware, and virtualizing functions so that they operate as software elements composed of easily deployable microservices allows for flexibility, automation, self-healing, and easy scaling. A virtualized network can be run on commodity hardware, and can be managed to make the best, most efficient use of all available resources at any given time.

RADCOM's assurance solution operates as a VNF (virtual network function), built to work perfectly with NFV-based networks, while still affording future-proof assurance for hybrid and legacy networks. Take service assurance and customer experience management to a new level: assure a seamlessly smooth transition to new technologies as they roll out, with a stable, unified and integrated solution that's ready for it all. RADCOM has been creating innovative solutions for CSPs for 25 years, powering their ability to reliably and continually deliver top-quality service to their subscribers.

## Hybrid Networks

CSPs are gradually transitioning out of legacy networking through to full virtualization, each in their own way and on their own timeline, by phasing out old hardware and phasing in new software-based network architecture. For some CSPs, the chief consideration impeding transformation is outlay, even though the end results will net them enormous savings. Not every CSP has the ability to virtualize completely in a short time frame, and it is not necessary to transition fully at once. Many current estimates suggest that an average total virtualization transformation can take years to complete. This means that instead of an instantaneous turnover, many carriers will continue to operate legacy hardware networks while they begin implementing virtualization. That is known as hybrid virtualization: with some components from both types of network, working in tandem.

RADCOM offers a solution now that will remain stable and reliable throughout the virtualization process. It is important to take into consideration that any service or quality assurance solution chosen now must serve all phases of the virtualization transformation, for a smooth and secure transition that covers every progressive step of the metamorphosis without a hitch.

# RADCOM

Disrupting the customer experience and service assurance market with the first NFV-ready 100% software probe-based solution, RADCOM has made the virtualization transition its focal point, ensuring service providers have a fully cloud-native NFV-ready assurance solution in place now, ready for a smooth transition at the CSP's pace.

Below are some MaveriQ features and their benefits for CSPs at any stage of the NFV transformation.

Features	Benefits
Single software, single license: fits physical, virtual and hybrid networks.	50% or greater reduction in costs (CAPEX and OPEX)
vProbes are virtualization-ready and software-based. Save on hardware costs for deployment, maintenance and upgrades: expand your network traffic without overspending your budget.	Significant return on investment: <ul style="list-style-type: none"> <li>• Hardware-based and hybrid/transition networks: deploy as a software-based solution on COTS hardware</li> <li>• NFV (virtualized) network: unlock a license to deploy the same solution as a virtual network function (VNF)</li> </ul>
Integration into any standard ETSI-compliant Management and Orchestration (MANO) (including Open Source MANO and AT&T's ECOMP).	Seamlessly slots into all standard NFV environments.
Cloud-native, fully virtualized. Works as a VNF (virtual network function) with: <ul style="list-style-type: none"> <li>• Works with OpenStack and VMware</li> <li>• Completely automated system deployment</li> <li>• Automated horizontal and vertical scalability</li> <li>• Auto-healing</li> <li>• On-demand probing</li> </ul>	Fast deployment (3-6 months e2e).  Delivers dynamic assurance that automatically reacts to network demands and traffic fluctuations.
Big Data ready: built-in architecture for Big Data analytics.	Business value driven application library, using real-time network events.
Monitors physical, virtual and hybrid networks; assures seamless customer experience, even during migration: NFV-ready when you are.	Single set-up, single learning process: future-proof and cost-effective.
Proactive troubleshooting maintains customer quality of experience.	Retain and gain subscribers.
True multi-tech support; provides a unified cross-technology network quality assurance solution: 3G, LTE, VoLTE, WiFi, VoWiFi, VoIP, IMS, SIGTRAN, Fixed and mobile broadband, vEPC, vIMS	Provides a unified solution that assures service quality across all network technologies
Full QoS and customer experience assurance; visibility into: Subscribers, Networks, Roamers, VIPs, Geographical regions, Devices	Offers a thorough and complete view of service and customer experience across the entire network for cross-technology, comprehensive insight and troubleshooting.
Receives and processes XDRs from any NE-VNF: integrates data from external VNFs for a comprehensive view of service and customer experience across the entire network.	

# MaveriQ Applications

Use RADCOM's suite of applications to help boost network performance, customer satisfaction and retention, and revenue. Below is a sample of the many ways CSPs can benefit from RADCOM's solution.

	What can it do?	Use case examples
 <b>QVIP</b> Take constant care of your VIPs	Assure your VIP subscribers' customer experience	VIP dashboard shows low utilization of LTE network for premium VIP group. Drill down to see which subscribers have zero LTE connectivity. Possible solution: provision affected subscribers to allow connection to LTE network.
 <b>QiCare</b> Your customers expect more!	Rapidly resolve customer care calls	Subscriber calls and complains of slow browsing. QiCare shows that subscriber has exceeded data quota. View high data use applications. Possible solution: customer care representative recommends upgrading data package or advises which applications should be used less.
 <b>QMyHandset</b> Know what customers are using	Identify mobile devices for problem-solving, sales and marketing	Network connectivity for popular smartphone drops suddenly. QMyHandset indicates issue coincides with global operating system upgrade. Possible solution: SMS sent to subscribers advises them to make configuration change to device.
 <b>QAlarm</b> Keeping an eye on KPIs	Track network performance and service KPIs with automated alarms	Quality engineer receives critical alarm of a significant drop in customer experience. Possible solution: use QTrace to isolate, analyze, and find a solution to the issue.
 <b>QTrace</b> Track down issues in real time	Trace calls and troubleshoot subscriber issues quickly	Call escalated from Tier 1 customer care: subscriber can't connect to the network. View detailed session in QTrace for root cause analysis. Possible issues: subscriber may have a post-paid plan with an authentication error.
 <b>QRoam</b> Make the journey better	Improve roaming revenue	Outbound roamer purchases data roaming package before trip. QRoam analyzes quality of experience for outbound roamers to prevent refund-based revenue leakage.
 <b>Marketing Analytics</b> Correlating customer connection	Provide customer usage trends across multiple touchpoints	Marketing Analytics tool shows top used websites for subscriber groups. Products and Marketing departments create new revenue-generating unlimited data plan for most popular social websites.
 <b>QExpert</b> Reporting for duty	Advanced options for pre-defined reports	QExpert shows increase in dropped sessions. Drilldown to isolate the offending release cause, and the most affected subscribers, cells, and devices.
 <b>QCell</b> Uncap your cell capacity	Analyze and optimize QoE by location	Identify overutilized cells in nightlife district after office hours. Possible solution: increase cell resources, then verify that the quality of experience for those cells has improved.
 <b>QInsight</b> Take a deep dive into data	Enhanced self-BI analytics dashboards and visualizations	Planning manager creates near-instant drag-and-drop dashboard to display VoLTE service volume per region. Resulting data is immediately presented to upper management in the form of multiple map-based, graph-based, and other customized visualization options, enabling quick and well-informed decision-making.

For more details, and for the full set of RADCOM tools, see [www.radcom.com/products](http://www.radcom.com/products)

# Why Choose MaveriQ?

CSPs need to assure seamless, high-quality service levels, especially at this time of explosive growth, massive network and coverage expansion, and rising demand for excellence in customer experience, all while juggling new and changing technologies. The best way to do this is to keep a close and steady eye on networks and subscribers in action, in order to see and recognize problems before they affect subscribers, and to fully understand the next best steps for product, marketing, and customer service departments to take. MaveriQ offers a continuous, comprehensive view of service in a unified, real-time interface: its powerful advantage during this transitional period is a combination of future-proof virtualization readiness, and legacy compatibility for physical and hybrid networks. This is an unparalleled opportunity to set up a service assurance and customer experience solution that works now, while preparing the path to virtualization.

- Radically reduce your CAPEX and OPEX even as your network grows
- Big Data marketing analytics compatible: completely scalable built-in architecture
- Cloud-native and fully NFV-ready, right now: most parallel solutions are not
- Agile, flexible, and infinitely scalable: self-adapts to network conditions and automatically deploys, replaces, or adds resources on an as-needed basis
- Lightning fast: it utilizes software-only automated deployment via NFV orchestration
- Truly multi-tech supportive: monitor LTE, VoLTE, WiFi, VoWiFi, 3G, IMS, SIGTRAN, and fixed or mobile broadband with ease, flowing all KPI and KQI user plane and control plane data into a unified view via its comprehensive dashboard suite
- Preventive monitoring and testing will keep subscribers satisfied, and help CSPs earn subscriber loyalty through proactive troubleshooting and maintaining high-level QoE: more intelligent, advanced customer care means a decrease in churn



Please feel free to contact RADCOM, or request that we contact you. RADCOM offers customized solutions for many business needs.

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