WHY

RADCOM

INTRODUCTION

RADCOM is the leading expert in cloud-native, automated assurance solutions with AI and ML-driven insights to ensure a superior customer experience. Our solutions support operators transitioning to virtualization and 5G, delivering dynamic service assurance and network troubleshooting for real-time customer and service insights. RADCOM's solution for 4G and 5G, RADCOM ACE, is explicitly designed for telecom operators and delivers Automated, Containerized, and End-to-end network (from the RAN to the core) assurance.

With over 30 years of deep network understanding, we have extensive experience with leading telecom operators globally. We offer the most advanced cloud-native assurance solutions for large-scale networks, providing operators with an innovative, efficient, and on-demand approach to network monitoring that meets the challenges of assuring the customer experience in the 5G era.

5G — Full support for standalone (SA) 5G;
- Service-Based Interfaces (SBI) deciphering
- Complex CUPS correlation and Auto-service discovery

AI-driven insights for automated anomaly detection and root cause analysis

Fully containerized solution with a microservices architecture for efficient scaling, high availability and resilience

Cloud-agnostic (public, private and hybrid cloud deployments)

30 years of deep network understanding, through extensive experience with leading telecom operators worldwide

Disruptive, risk-free and predictable commercial model

RADCOM GLOBAL PRESENCE

30 years
of telecom
experience

Publicly traded
on NASDAQ (RDCM)
since 1997

Cloud-native
assurance for mobile
and fixed networks

We selected RADCOM because of its functional strengths, especially in virtualization, scalability, performance, and efficiency.
Susan A. Johnson, Senior Vice President AT&T Global Supply

Implementing RADCOM's solution enables us to increase the end-to-end customer experience we deliver to our Beeline customers and reduce operational costs.
Martin Skop, VimpelCom's Chief Technology Officer
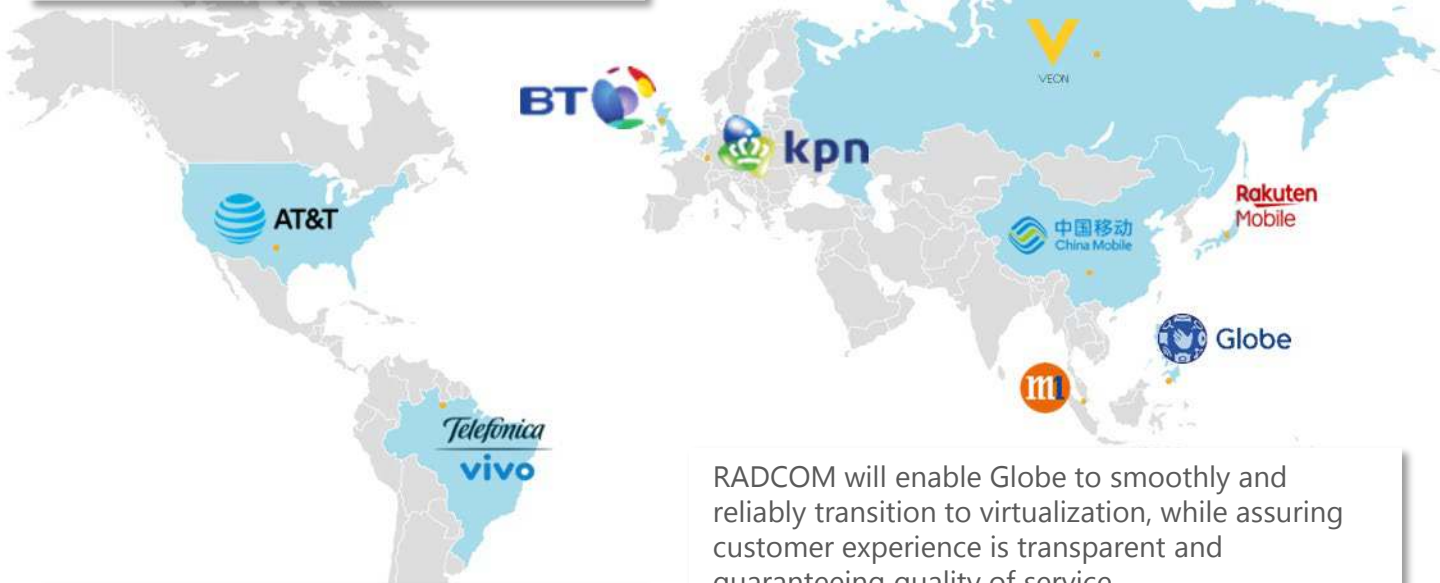
Rakuten aims to revolutionize the way a mobile network is operated by focusing on the customer... RADCOM's unique solution enables this on a highly dynamic, fully virtualized network.
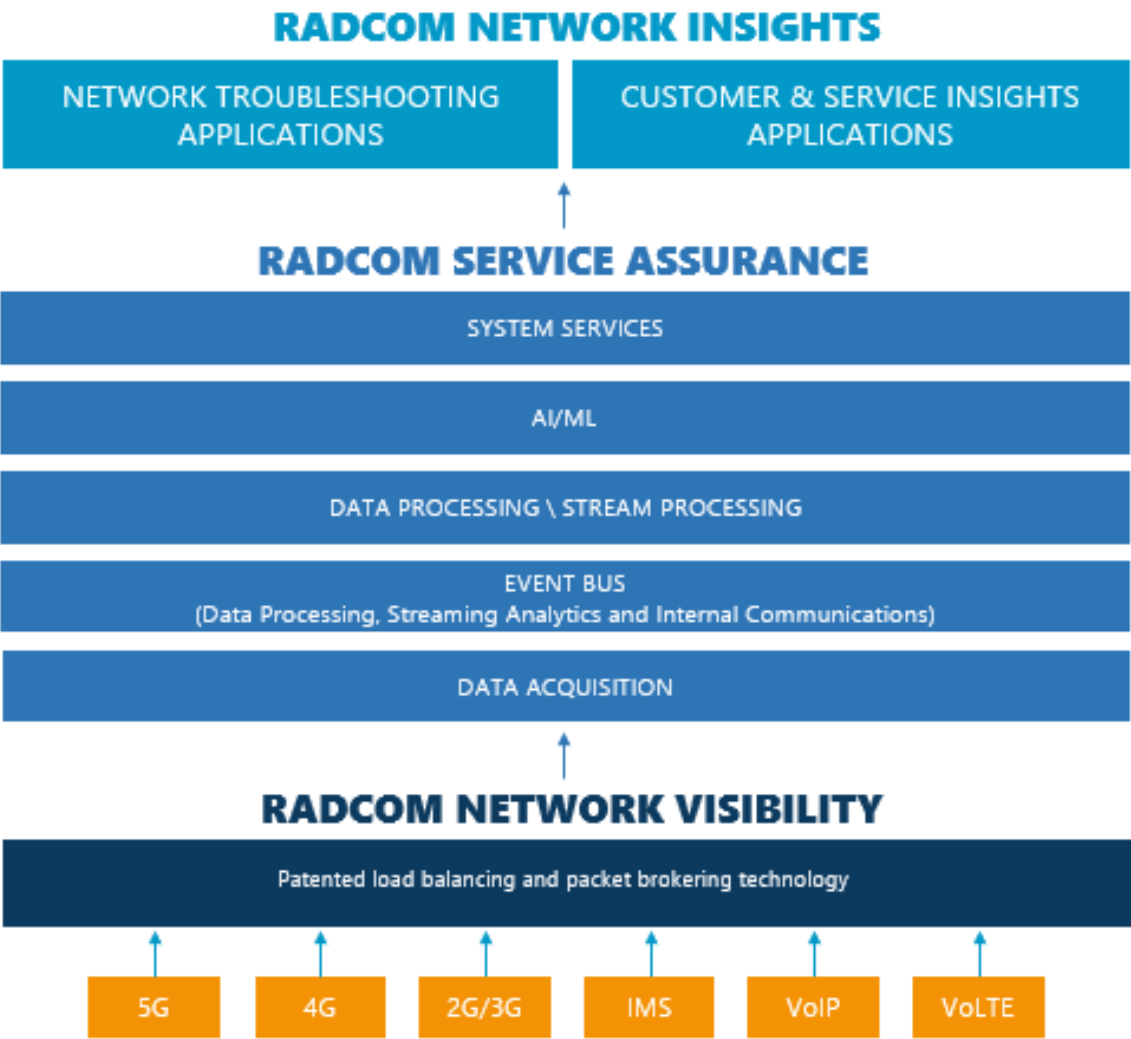Tareq Amin, Chief Technology Officer, Rakuten Mobile

RADCOM will enable Globe to smoothly and reliably transition to virtualization, while assuring customer experience is transparent and guaranteeing quality of service.
James Lim, Globe Vice President for Network Technology Group

SOLUTION OVERVIEW

RADCOM's solution includes RADCOM ACE (5G Service Assurance and AI-driven Insights) and RADCOM Network Visibility, all working together to provide an end-to-end view of the network.

RADCOM NETWORK INSIGHTS

NETWORK TROUBLESHOOTING APPLICATIONS	CUSTOMER & SERVICE INSIGHTS APPLICATIONS

RADCOM SERVICE ASSURANCE

SYSTEM SERVICES
AI/ML
DATA PROCESSING \ STREAM PROCESSING
EVENT BUS (Data Processing, Streaming Analytics and Internal Communications)
DATA ACQUISITION

RADCOM NETWORK VISIBILITY

Patented load balancing and packet brokering technology

5G	4G	2G/3G	IMS	VoIP	VoLTE

- **RADCOM Network Insights:** Provides a smart end-to-end view of the service quality and customer experience for 5G SA and NSA, enhanced by AI-driven insights.

- **RADCOM Service Assurance:** A fully containerized assurance solution that smartly collects and correlates data via multiple sources (network events, Event Detail Records, and network packets) for complete visibility into the 5G core.

- **RADCOM Network Visibility:** Offers advanced packet broker capabilities for smart traffic distribution, filtering, and load balancing across multiple clouds and domains.

SOLUTION ARCHITECTURE
RADCOM ACE

RADCOM ACE is a powerful combination of fully cloud-native and containerized Service Assurance, with AI and ML-based Customer Experience and Network Insights. Together they enable telecom operators to gain complete network visibility across multiple network domains (fixed and mobile) and cloud environments (public, private, and hybrid) to help optimize service quality and ensure a superior customer experience.

We deploy a complete CI/CD development pipeline enabling operators to continually receive a cutting-edge solution in line with the latest 5G developments with dramatically improved implementation times for updates and upgrades with minimal to no downtime.

> **RADCOM ACE, is a top-tier cloud-native solution, built for automated 5G assurance that seamlessly integrates into the 5G core as a Cloud-Native Function (CNF) and is compatible with any public cloud, such as AWS and Azure.**

RADCOM ACE runs as a cloud-native function (CNF) and is cloud-agnostic, providing a closed-loop approach to automated assurance for Standalone (SA) 5G by seamlessly integrating with Kubernetes.

Being Service-Based Architecture (SBA) ready, the solution supports advanced 5G assurance capabilities. Including complex Control and User Plane Separation (CUPS) correlation with our patented solution, new CUPS protocol decoding, and the Packet Forwarding Control Protocol. With full CUPS support, operators gain real-time subscriber analytics at the network edge for advanced troubleshooting and network optimization of edge services.

This disruptive technology provides end-to-end network troubleshooting from the KPI level down to the session/packet level, critical when rolling out new network architectures.

RADCOM ACE
ADVANTAGES
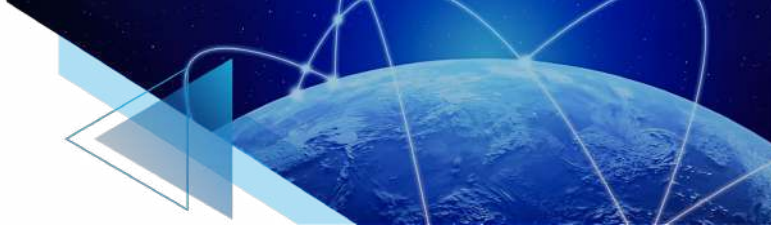
- **Built for 5G** Full support for SA 5G (auto-service detect, SBA architecture, SBI deciphering and complex CUPS correlation, Packet Forwarding Control Protocol (PFCP), new aggregations, and dimensioning)

- **Fully Cloud-Native** RADCOM ACE is developed from the ground up with a cloud-native design, allowing rapid deployment as containers or virtual machines on multiple cloud environments (public, private, and hybrid) such as Microsoft Azure and Amazon Web Services or on-premises. Utilizing Kubernetes (K8s) or other leading orchestrators for automating deployment, scaling, and managing the assurance components.

- **Advanced built-in AI and ML** Our AI and ML capabilities are built into the solution from inception, allowing for a variety of AI-based use cases, such as Anomaly detection, Predictive and Prescriptive Customer Experience analytics, Predictive and Dynamic Slice Quality KPIs, and more.

- **Automated Assurance** Automates solution deployment for on-demand instantiation, scaling, healing, and updating for a closed-loop approach to assurance with Kubernetes controlling the containerized components lifecycle

- **Supports SA 5G advanced use cases** Smartly monitors private networks, edge computing, and end-to-end network slicing.

- **Slicing & NWDAF** Our solution allows real-time individual slices monitoring, providing a plethora of KPI and KQIs. Furthermore, ACE NWDAF capability enables closed-loop automation by processing real-time data from the assurance platform and triggering the relevant actions towards the PCF and NSSF, resulting in the highest customer experience levels.

- **Real time AI and ML based insights**

5G Launch

Smartly monitor the customer experience for 5G by monitoring mmWave, 4G vs 5G connectivity

Slice Assurance

Understand how data services are functioning by offering an overview of the CEI for various network slices
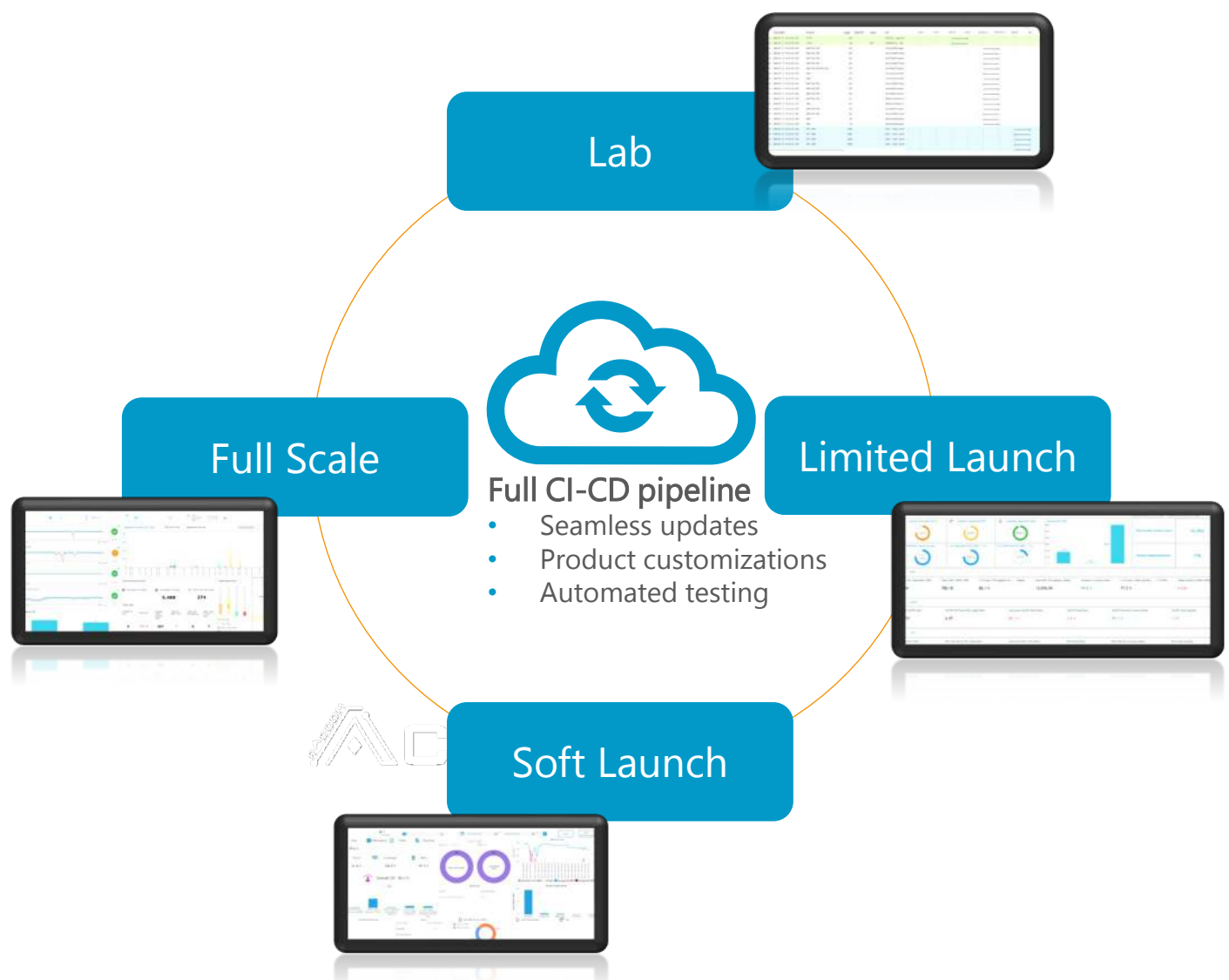
Vo5G Assurance

Correlate the end-to-end Vo5G customer experience with network, device, cell and service performance in real-time

5G Service Utilization (RAN to Core Analysis)

Gain a service-level understanding of the real E2E customer experience

ASSURE THE 5G NETWORK LIFECYCLE

Lab

Full Scale

Limited Launch

Soft Launch

Full CI-CD pipeline
- Seamless updates
- Product customizations
- Automated testing

Lab
From advanced troubleshooting to multi-vendor E2E validation

Limited Launch
E2E service monitoring and subscriber journey identifying network bottlenecks and degradations

Soft Launch
Test all onboarding of new subscribers, executive dashboards with overall CEI per service and identify CEI impacting issues

Full Scale
Monitoring all traffic loads on the network and ensure enterprise subscribers and premium services

RADCOM ACE is **Automated, Containerized** and delivers complete **End-to-end** visibility for your 5G network.

SOLUTION ARCHITECTURE

RADCOM SERVICE ASSURANCE

RADCOM Service Assurance efficiently collects data from multiple sources (network events, event detail records – EDRs - and packets) and smartly correlates them into RADCOM Network Insights, driven by AI analysis.

RADCOM Service Assurance delivers Service-Based Architecture (SBA) readiness for both Service-Based Interfaces (SBI) and non-SBI, supporting complex Control and User Plane Separation (CUPS). This allows deciphering encrypted traffic by collecting and combining multiple data sources and event types and processing the data using AI and machine learning for advanced insights. In addition, RADCOM Service Assurance captures packet-based data via Containerized Probes (cProbes) and network events via its patented RADCOM I.C.O.N.

RADCOM I.C.O.N is a smart, stateless, and containerized node. RADCOM I.C.O.N monitors, correlates, processes, and analyzes multiple types of network events. RADCOM I.C.O.N combines front-end probe functionality with complex-back-end processing into one standalone monitoring cluster delivering complete network visibility in 5G from the RAN to the network core. Furthermore, both RADCOM cProbe and RADCOM I.C.O.N allow for an extremely high throughput that can handle the correlation of an unlimited amount of data, which will be crucial for monitoring in 5G.

DATA SOURCES

Network Function
Application Function
Orchestration & Admin
UDR

RADCOM ACE

DATA ANALYTICS OUTPUT

Network Function
Application Function
Orchestration & Admin

SOLUTION OVERVIEW

RADCOM NETWORK INSIGHTS

As part of RADCOM ACE, RADCOM Network Insights takes the data collected and analyzed by RADCOM Service Assurance and applies cutting edge AI and machine learning techniques to provide automated anomaly detection and root cause analysis to rapidly resolve customer-impacting issues proactively.

RADCOM Network Insights covers a wide range of use cases that provide the operator with an end-to-end understanding of the service quality and customer experience.

Also, RADCOM Network Insights offers next-generation tools for network optimization and root-cause analysis, such as call tracing and in-depth packet analysis.

Customer Support

Improve first call resolution and gain clear, concise customer data to handle service calls efficiently

Mobile & Fixed

Deliver a consistent customer experience across fixed and mobile services

Customer Service

Understand the overall customer experience index for your entire service offering (combines RAN and core data)
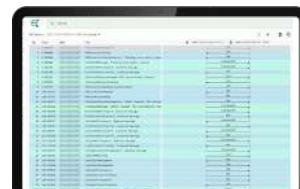
Subscriber Journey

Investigate the end users' journey through the RAN to the core via serving cells and seeing coverage levels

Low-High Band Spectrum

Understand the end users' journey across different spectrums to ensure a consistent customer experience

Session Analysis

Investigate degradations with session analysis of RRC data and core data to perform root cause analysis

SOLUTION ARCHITECTURE

RADCOM NETWORK VISIBILITY

RADCOM Network Visibility can be delivered together with RADCOM ACE or as a standalone solution for an integrated cloud-native solution. Advanced patented packet broker capabilities ensure intelligent traffic distribution, intelligent load balancing, and intelligent sampling for complete end-to-end visibility across the network. RADCOM Network Visibility can be instantiated in minutes and managed centrally, scaled via integration with NFV MANO and Orchestration, to provide visibility from the edge to the network core.
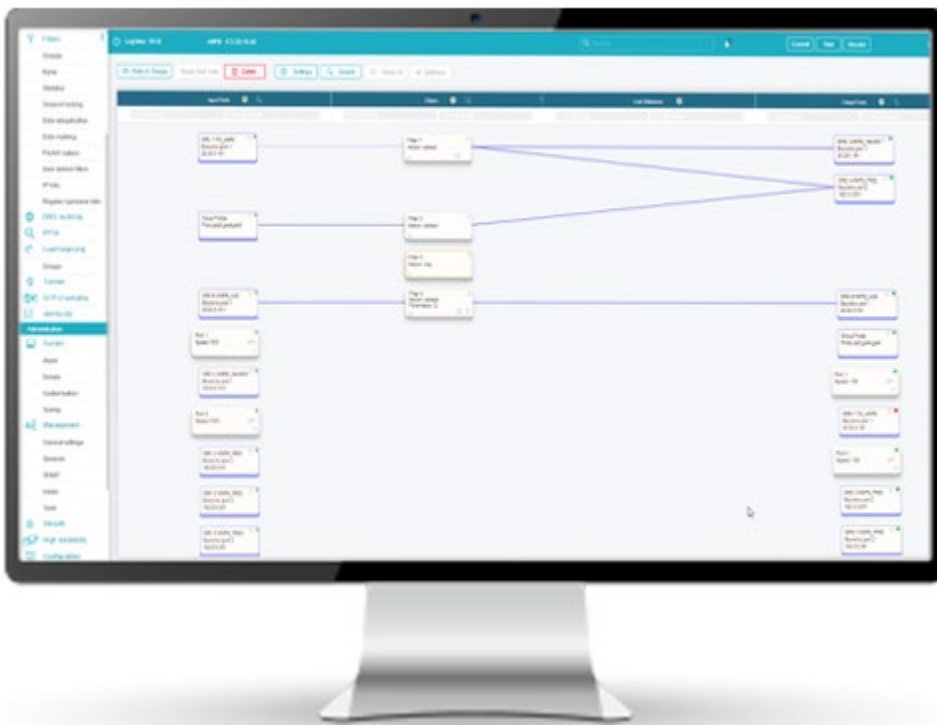

- Management of RADCOM Network Visibility is via a centralized web UI, Command-Line Interface (CLI), NETCONF/YANG, SNMP, and network access control list (ACL).

- Management at scale enables the operator to configure a filter rule once and apply to 1000s of vNPB instances.

RADCOM NWDAF SOLUTION

The Network Data Analytics Function (NWDAF) is a core component to the 5G core. At its most basic, it is a centralized function for data collection and analytics, enabling closed-loop functionality. RADCOM ACE provides an enhanced NWDAF solution.

As well as serving as an NWDAF, RADCOM ACE also offers an efficient and cost-effective, containerized service assurance solution. This provides end-to-end network troubleshooting and complete service and customer experience visibility-empowering the operator with an enhanced, more agile NWDAF solution.
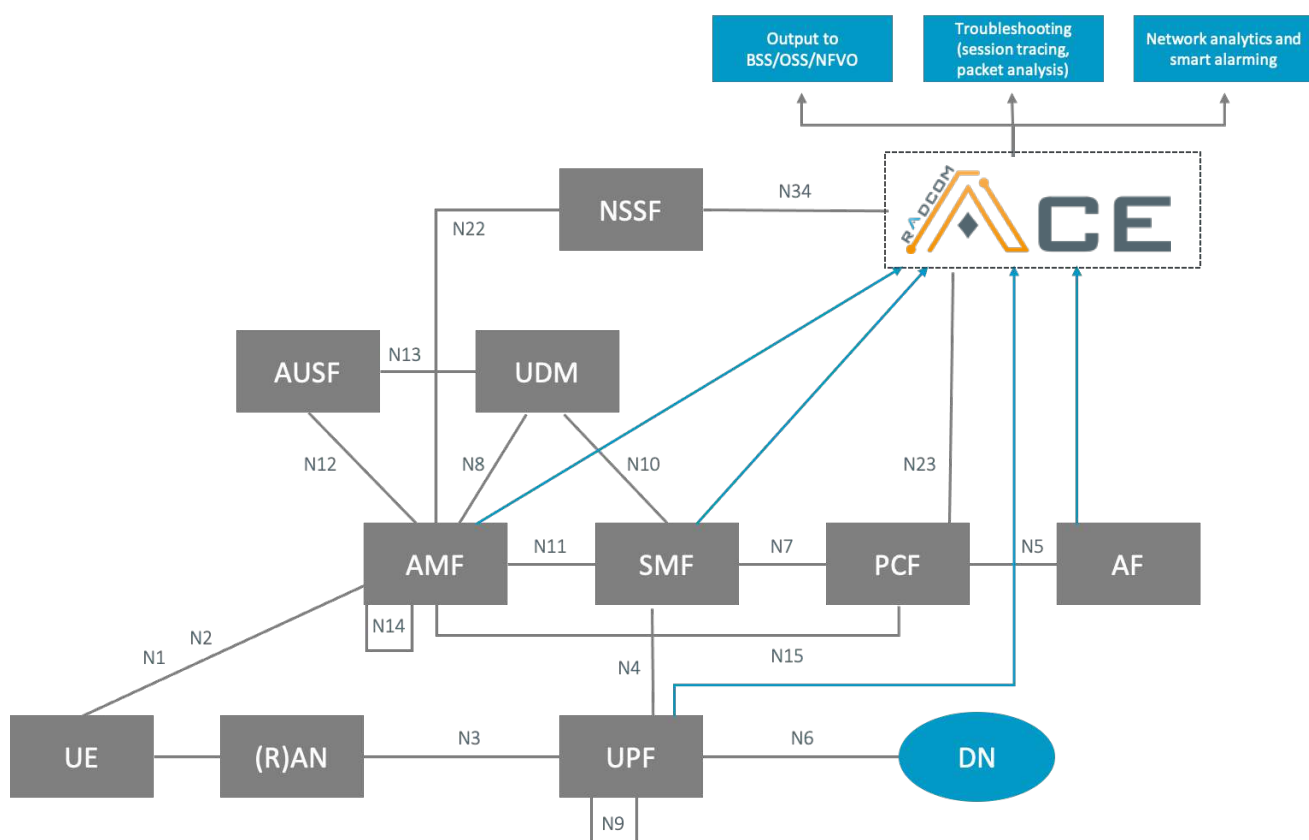
WORLDWIDE PROFESSIONAL SERVICES & SUPPORT

RADCOM has a dedicated Professional Services team that uses a native and agile methodology for maximum flexibility. This team brings a vast amount of 5G, NFV, and cloud-native deployment experience from operator delivery projects.

RADCOM Professional Services provides a complete lifecycle of services:

Solution Design and Implementation
Detailed design, testing strategy, and implementation planning

External Integration
NOC, user management, north and southbound

Integration with Cloud Infrastructure
Including orchestration

Network Monitoring, KPI, and Full Scope Validation
Learning service structure, analyzing traces, deploying pre-defined KPIs, defining workflows, customizing KPIs

Customized Development and Solution Implementation
Agile, flexible and on time

Additional Services
Acceptance testing, training, worldwide knowledge sharing, maintenance, and support

RADCOM is the leading expert in cloud-native, automated service assurance solutions for telecom operators running 5G and 4G networks.

RADCOM (Nasdaq: RDCM) delivers real-time network analysis, troubleshooting, and AI-driven insights to ensure a superior customer experience. Utilizing cutting-edge technologies for over 30 years, we are the operators' eyes into their network, supporting them as they transition to new network technologies such as the cloud and 5G. RADCOM provides dynamic service assurance for an accelerated digital transformation.

We offer the most advanced 5G portfolio for large-scale networks, providing operators with a smart, efficient, and on-demand approach to network monitoring that meets the challenges of assuring the customer experience in the 5G era. Our leading solution, RADCOM ACE, is explicitly designed for telecom operators, delivering Automated, Containerized, and End-to-end network visibility.

Using our innovative technology, we enable operators to manage and optimize their network operation seamlessly.

Global Footprint   Leading Cloud-Native Technology   Proven Solutions

"Deploying RADCOM ACE on our network helps us identify service issues in real-time and troubleshoot them, tasks which are essential for smoothly migrating our customers to the new 5G network and onboarding new customers while maintaining the highest quality of service."

Tareq Amin, chief technology officer of Rakuten Mobile

Visit our website at:
www.radcom.com