

The RADCOM logo is positioned in the upper right quadrant of the page. It features the word "RADCOM" in a dark blue, sans-serif font. The letter "A" is stylized with a blue triangle above it. The background of the entire page is a light blue gradient, with a large, dark blue diagonal stripe on the left side. In the upper right, there are two horizontal brushstrokes, one in blue and one in orange. At the bottom, there is a pattern of vertical lines of varying heights, each topped with a small circle, set against a background of a blue dot grid.

RADCOM

# RADCOM SOC & CEM Solution

As the digital transformation is accelerating, many operators are integrating a Service Operations Center (SOC) alongside their existing Network Operations Center (NOC) in order to bring the customer into the center of focus; enabling the operator to make customer-led decisions on top of engineering-led decisions.

As subscriber ARPU appears to have leveled out, operators see that they need to find new ways to differentiate themselves from the competition, and they can do this by delivering superior service and prioritizing customer-affecting troubleshooting. Understanding, therefore, that the Quality of Experience (QoE) is a top priority, the subscriber and the customer journey is now, more than ever, a central part of the operators' strategy.

To this end, SOC and CEM solutions are becoming a central component for operators' as they take a more customer-centric approach.



# Introduction





**SOC**

**Customer Experience  
in Focus**

RADCOM's SOC solution provides comprehensive Service and Customer Experience insights for mobile and fixed-line broadband networks by monitoring Key Quality Indicators (KQIs), and Key Performance Indicators (KPIs) calculated based on numerous data sources and correlated by RADCOM Smart Mediation. Data acquisition is via RADCOM Service Assurance probes, RADCOM Network Visibility network packet brokers as well as OSS (PM, FM, TTS, CTR, CM/Inventory) and BSS (billing, CRM) solutions.

Operators can view actionable insights via an interactive dashboard and easily segment the data deciding which area of the network to focus in on. From there, an impact assessment is carried

identify which subscribers have been affected, how they have been affected and identify anomalies in the data. This information is used to perform an automated in-depth root cause analysis identifying whether the issue is stemming from a particular network element, device or location.

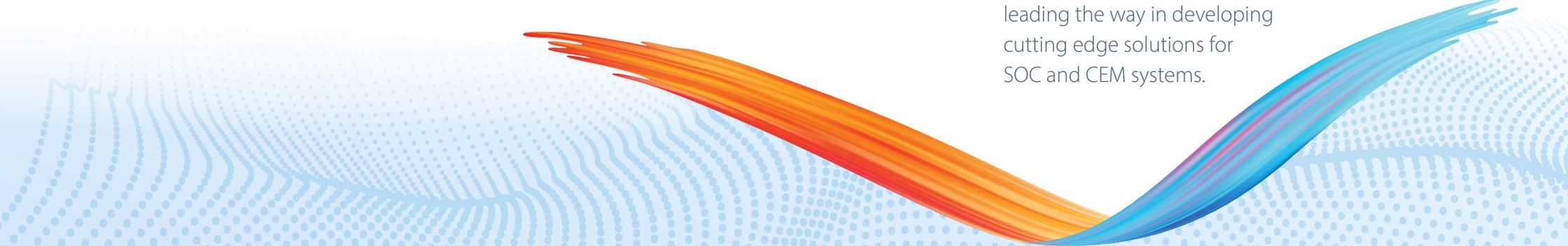
Due to the pre-integration with the RADCOM Service Assurance solution, troubleshooting drill-downs can be performed from the Customer Experience Index (CEI) level right down to a single transaction or packet.

In addition, the solution can automatically trigger actions for resolution. Whether this is to open a trouble ticket or to trigger change management from an external system such as SON for resolution process. With these triggers to external systems

the operator can take proactive steps to resolve service quality degradation for the affected subscribers and gain suggestions for the best next action. By deploying a probe-based CEM and SOC solution operators can analyze and troubleshoot traffic on a per customer, per service and per session level.

With the comprehensive insights delivered by correlating probe-based data and OSS/BSS data operators can truly understand the end-to-end service and customer experience. Given that this information is only available to probe vendors, operators must realize that being fully integrated with the probe data is essential in providing a complete solution for SOC and CEM systems.

As a market leader in virtual probe-based assurance, RADCOM is leading the way in developing cutting edge solutions for SOC and CEM systems.



**SOC - Customer Experience in Focus**

# RADCOM Network Insights:

Enabling Customer Impact Assessment & Rapid Time to Resolution

## NETWORK INSIGHTS:

Automatic alerting | Event driven flow |  
Interactive dashboards | Reports

From:

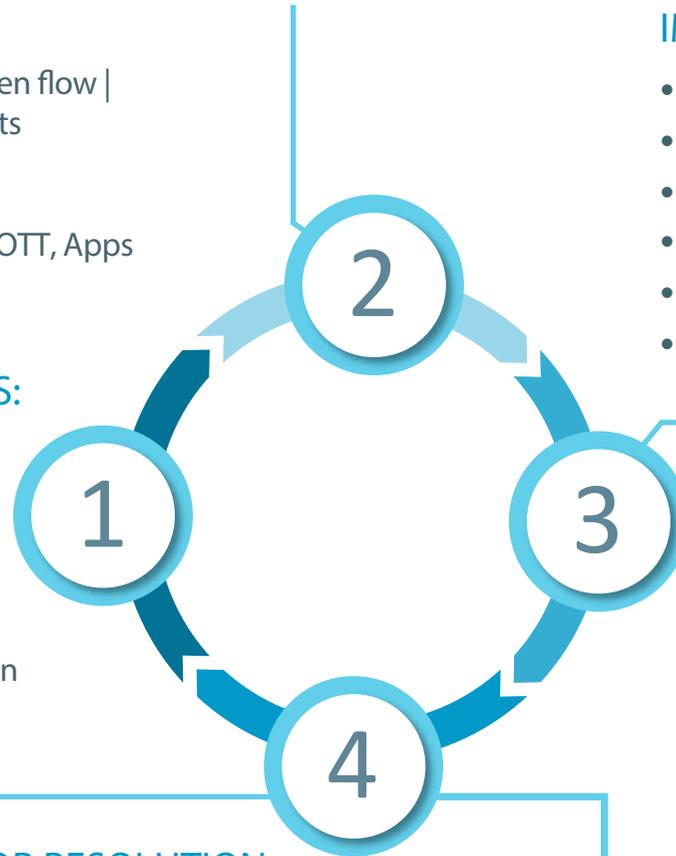
Cell, Device, Network, Service, OTT, Apps

## SEGMENTS\DIMENSIONS:

- Entire network
- Focus group [VIP, Groups per issue, etc.]
- Individual subscriber
- Location, Device, Application

## TRIGGER ACTION FOR RESOLUTION:

- Open trouble event
- Open change management event
- Notify Customer Care on affected subscribers for a proactive approach



## IMPACT:

- Affected subscribers
- Unique IMSI
- Service flow
- Trend analysis
- Compare to baseline
- Identify anomalies

## ROOT CAUSE ANALYSIS:

- Release cause / Error cause analysis
- Network Element, Device, Location, Ranking
- Drill to QTrace [Call flow and signaling analysis]

SOC - Customer Experience in Focus



**CEM**

**The Future of  
Customer Management**

The CEM layer, which typically sits above the SOC layer generates a CEI through its monitoring and analysis of the multiple data feeds enabling the operator to understand the end-to-end customer experience. Using small data sets, which are specific to the customer and their usage pattern the operator can enhance their customer care. This approach, which takes a comprehensive view of the customer experience breaking down silo's and ensuring communication between departments so that the customer is at the center of the solution. The solution calculates a CEI which highlights how satisfied a customer is based on multiple parameters which can be defined by the operator and include the following:

**Product experience:**

Does the customer have issues with the network quality or the device, or are there issues during a roaming period?

**Bill satisfaction:**

Can the customer easily understand their bill, or have they had to contact the operator for an explanation or a clarification regarding a billing mistake. Some operators have started to simplify the layout of their bills to highlight critical information and customers have a full understanding of what they are paying for.

**Customer service experience:**

Is the customer pleased with the customer service they have received from the operator? At times of poor network service, the operator can take proactive steps to notify the

customer of possible service degradation. When roaming has the operator notified the customer in the event they might be incurring high data fees to help prevent bill shock. The operator can also alert the customer if their APN's are not configured correctly and proactively assist the customer in updating their settings to allow for smooth data connectivity when roaming.

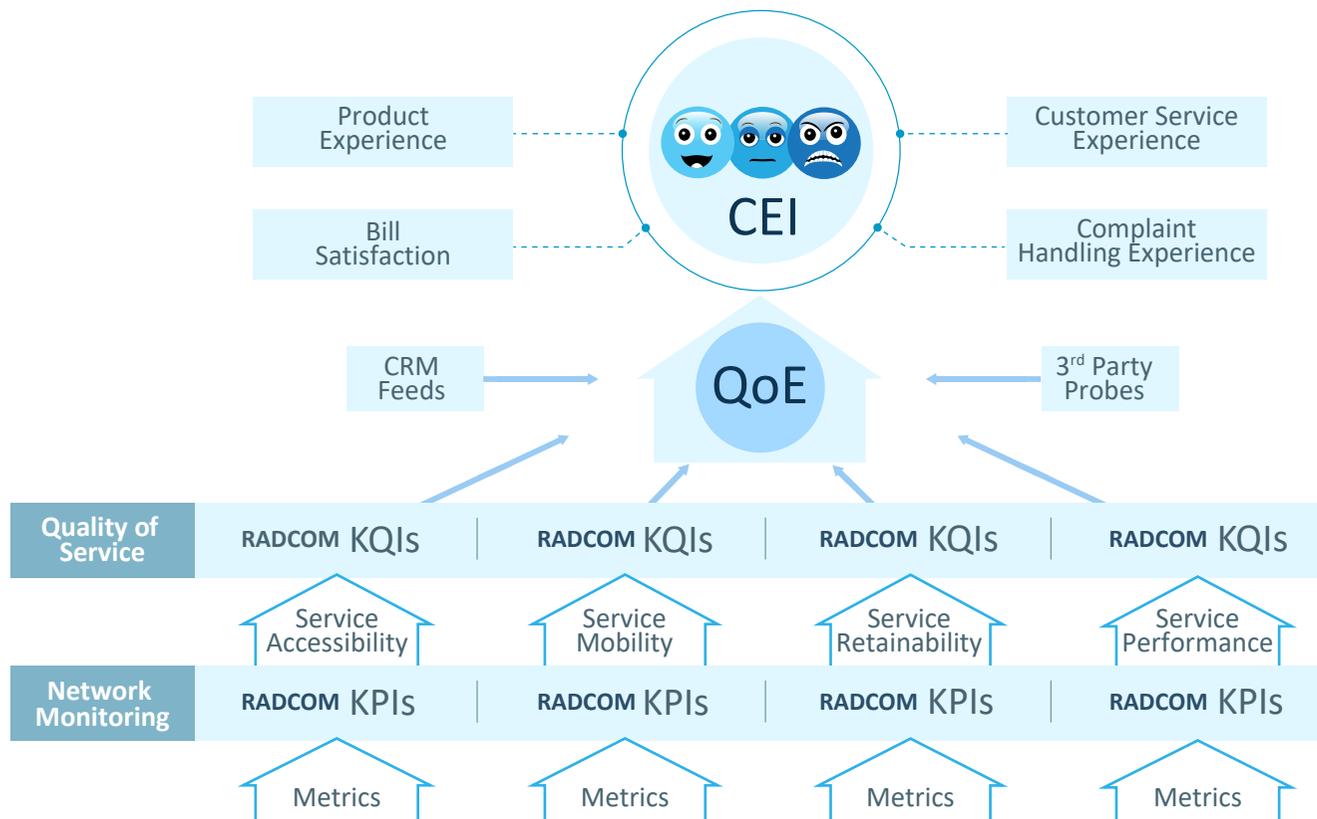
**Complaint handling experience:**

On the occasions that the operator has not been able to resolve the problem proactively and the customer has taken action to contact the operator to report the issue or lodge a complaint, what was their experience during this interaction?

The SOC solution is critical as it will provide the customer support representative with the key information needed to resolve the problem. High first call resolutions are a priority for operators as it reduces churn and saves resources.

# RADCOM Network Insights:

Delivering an End-to-End View of the Customer Experience



Together the SOC and CEM solution, powered by RADCOM Smart Mediation, combine to provide an end-to-end view which enables the prioritization of issues. By understanding what the high priority issues are to resolve based on the impacted subscribers, and the impact to the subscriber and subscriber value, operators are able to troubleshoot more effectively.

Customer care representatives also have a range of diagnostic tools for root-cause analysis which is driven by automatic actions and offer recommendations for next step actions. This will help improve the first call resolution rate as customer care reps will be guided through the best route to solving the issue enabling a smarter and more efficient customer care.

**CEM - The Future of Customer Management**



# Understanding the customer journey

In order to understand why some customers churn, a comprehensive view of the complete customer journey must be employed. Understanding why a customer signs up in the first place and then maintaining a view of their overall experience across the various customer touchpoints will help the operator to know what level of service they need to employ when an issue occurs. For example, a different approach may be taken with a customer the first time they experience a problem, as opposed to a repeated and reoccurring issue.

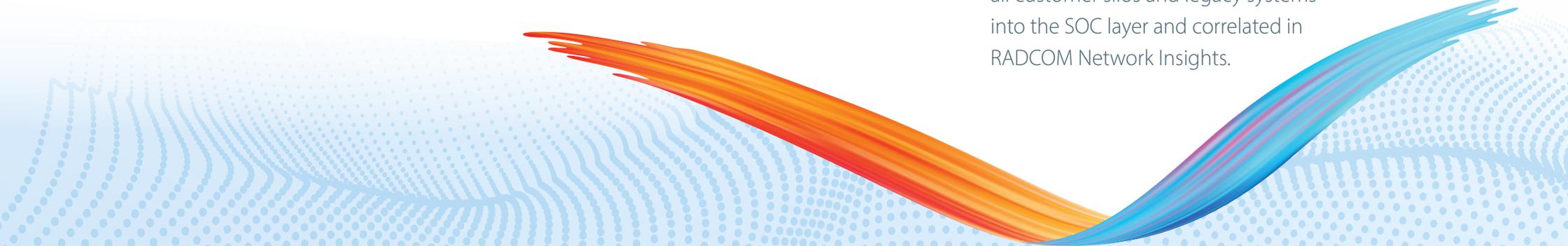
Customer care advisers need to have as much information to hand as possible to ensure a high rate of first call resolutions. Ensuring issues are handled promptly and with care is the key to retaining customers and avoiding churn.

Central to this is tailoring the service to the individual subscriber. This involves utilizing small data. Understanding how it is structured and that it is specific to the individual will provide personalized insights which the operator can use when handling network issues for that subscriber.

Once the operator identifies how to fix the issue, they are able to execute the next steps for resolution, it then gives the operator the opportunity for

upselling. Understanding the specific needs of a subscriber and personalizing the messaging delivered to them will help to ensure they remain a loyal customer and avoid churn. However, in the event a customer does decide to leave, a crucial part of the journey is post-churn analysis. Understanding where mistakes were made and identifying trends in the service delivered will help the operator to close the gaps and ensure such mistakes aren't repeated. Post- churn analysis can also be used to improve churn predictions using Machine Learning algorithms.

RADCOM takes a comprehensive view of the customer journey through their smart and innovative CEM solution, where information is fed from all customer silos and legacy systems into the SOC layer and correlated in RADCOM Network Insights.



Understanding the customer journey



**Future trends  
for customer  
experience**





As AI and Machine Learning develop at pace, the operator must look to see how this can be incorporated for delivering an improved customer experience. As part of the SOC solution, AI and Machine Learning will play a major role in predictive analytics and root-cause analysis. Using algorithms to detect patterns and anomalies in the network data which trigger alarms for proactive resolution.

RADCOM recognizes the importance of AI and Machine Learning and is utilizing these cutting-edge technologies across its RADCOM Network Intelligence portfolio and particularly in the SOC and CEM solution. With these technologies, RADCOM can provide insights into the customer experience for gaming, messaging, video streaming and tethering.

**Future trends for customer experience**



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with  
**RADCOM**  
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