

Obtain Automated Insights for Fixed Voice Services





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INTRODUCTION



While networks have evolved a lot over the past decades, fixed voice services, including PSTN and NGN voice networks, are still a core business offering. Whether provisioning local or long-distance fixed voice services, operators provide enterprise customers seamless communication services that utilize legacy networks and expand on their revenue opportunities.

In today's fast-paced world, enterprises require a cost-effective and easily deployed voice service for their internal communications. With fixed voice services, operators can provide enterprises and other customers with an enhanced communication experience, connecting employees, customers, and partners over a high-quality voice network. To an enterprise, fixed voice services are a secure and flexible solution offering the benefit of a single global platform for their internal use.

For example, the enterprise can buy a Private Branch Exchange (PBX) system from the operator to establish a private telephone network. With PBX, enterprise employees can communicate internally (within their company) and externally (with the outside world). Or, for example, with wholesale, an operator leases its voice services to a middle company or another operator, who then sells it to an enterprise end-user. In this case, the operator shares his access network to provide services for multiple tenants simultaneously.

By offering these tailored services, operators enable enterprises to have their own high-quality branded telephone services without a significant upfront investment or high running costs. Thus, as an operator, by selling quality fixed voice services, you can directly address enterprises with an easy-to-deploy, customizable solution.

However, you need to comply with pre-defined SLAs for the purchased services. As you are selling fixed voice services to enterprises and other customers according to a specific need, you need to guarantee the quality of service and contracted SLAs of each internal voice platform.



Deploy **RADCOM**'s top-tier fixed voice monitoring solution to provide your end-users with sustained high-quality services that comply with SLAs.



OUR SOLUTION

End-to-End Fixed Voice Monitoring

To meet the demands and SLAs of each customer, operators require end-to-end network visibility. As an operator, by deploying **RADCOM**'s fixed voice monitoring solution, you can monitor every call to pinpoint issues in real-time and help resolve degradations as quickly as possible.

As part of **RADCOM ACE**, our fixed voice solution offers automated analytics capabilities, enabling you to monitor critical voice KPIs (such as average call duration ASR and setup time) and drill-down to troubleshoot. Using built-in AI (Artificial Intelligence) and ML (Machine Learning) capabilities, it automates the root cause analysis process, auto-detects anomalies, and provides advanced insights across your fixed voice networks.

To make sure the received voice services meet differentiated SLAs and assure the quality of service, **RADCOM ACE** allows you to auto monitor key voice KPIs for the following use cases:



Interconnection and wholesale opportunities - Ensure sustained high-quality fixed voice services sold to enterprise and other customers.



Shared voice trunks between operators - Measure quality.



Multitenancy- Allows you to provide 'sliced' data insights and dashboards to your leasing and end-user companies, allowing each of them to access only the voice services data that specifically relate to them.



Regulatory compliance reporting – Comply with the regulatory requirements in terms of service quality.



Lawful interception in VoIP – Based on a whitelist, record the Real-time Transport Protocol (RTP) traffic of the required end-user.

SOLUTION BENEFITS

- Gain Real-time visibility into your fixed voice networks.
- Monitor fixed voice KPIs and drill-down to troubleshoot, thus improving call quality, meeting agreed upon SLAs, and expedite issue remediation.
- Proactively optimize the network by utilizing AI and ML to identify traffic patterns and anomalies over time and perform automated root-cause analysis in case an issue arises.
- Rapidly troubleshoot network degradations using session and packet tracing- a call tracing solution for detailed network analysis (with an end-to-end correlated view of the subscriber or network session at the packet level).
- Perform session and packet analysis in real-time and on historical data covering each subscriber's interactions with the network.
- Cross-protocol visibility into the call to ensure all call legs, including signaling, subscriber charging, networks interconnectivity, registration, authentication and others, all function correctly.
- Collect historical call records to inspect traffic disturbance events, screening by signaling information, QoS, subscriber information, legs information, and dozens of other filtering capabilities.
- Set up alarms for incident management- integrates with reporting systems to automatically open up a ticket when issues are spotted.
- Create automated analytics and dashboards to deliver a complete picture of customers' Quality of Experience.



RADCOM :ACE Automated Assurance for Advanced Fixed Voice Troubleshooting

RADCOM ACE is our fully cloud-native solution, selected by top-tier operators globally to ensure the quality of fixed-voice deployments. With RADCOM ACE, you can gain complete network visibility into your fixed-voice services, allowing you to pinpoint issues in real-time, rectify problems that affect service quality, and monitor the entire call flow end-to-end.

From engineering tools (online and historical call tracing, in-depth protocol analysis), up to cell analysis, and fixed-voice service dashboards for Network Operations Centers, we enable you to keep a finger on your fixed-voice services pulse.

MONITORING FIXED VOICE

Core KPIs

Commonly Used Measurements

Call quality

- Total Call Attempts
- NER[%]
- ASR[%]
- Average Call Duration
- Minimum call duration (seconds)
- Maximum call duration (seconds)
- Average PDD
- Average setup time (seconds)
- Total Drop calls
- MIN PDD
- MAX PDD
- Total Time-out calls
- Time-out calls ratio
- Total short calls
- Short calls ratio

Voice quality

- Packet loss Ratio
- Total packets IN
- Total packets OUT
- One-way voice
- RTCP Average Calculated RTD
- Last interval PMOS
- Last interval Jitter
- Last interval Packet loss
- Average PMOS
- Minimal PMOS
- R-Factor score x10
- Average Jitter
- MAX jitter
- Packet loss MAX

Commonly Used Attributes

- Network Elements
 - MGW, AS, SBC, I/P/S-CSCF, HSS
 - By Point codes, IP, GT
- Subscriber
- Country, Operator, Area code
- Service/Activity Type
 - Voice, IN
- International voice activity
- Interconnection Carriers
- Wholesale and enterprises
- Release Causes
- Directions (IN / OUT NET)
- Time
- Nature of Address

Protocols Support

- MTP2, MTP3
- SIGTRAN: M2UA, M2PA, M3UA, SCTP
- ISUP
- BICC
- Q931
- INAP
- SIP/ SIP-I/ SIP-T
- MGCP
- MEGACO
- ENUM/DNS
- Diameter

SUMMARY

RADCOM provides you with complete visibility of your fixed voice services. **RADCOM**'s solutions offer dynamic, on-demand service assurance and network troubleshooting at a macro and micro level so customer-affecting voice degradations can be resolved quickly with minimal effort. **RADCOM**'s solutions are explicitly designed for telecom operators.

Our fully customizable fixed voice solution offers real-time subscriber analytics and automated troubleshooting capabilities, enabling you to seamlessly track critical KPIs and comply with agreed upon SLAs. Fixed voice data, including core metrics such as Total Call Attempts, ASR, NER, Average Call Duration, Jitter, PMOS, etc. can all be collected and measured. By analyzing these core metrics, you can optimize the customer experience for each use case.

With integrated AI and ML capabilities, our advanced solution identifies data patterns and anomalies over time and performs automated root-cause analysis to quick issue remediation. As part of an end-to-end monitoring solution, **RADCOM**'s fixed voice solution enables you to assure your customers a sustained, high-quality experience.



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