

# Utel Voice Recording and Playback:

## A proven solution for SIP/RTP networks and customer care



Delivering consistent Quality of Experience for VoIP and VoLTE customers in packet-switched networks is a challenge for many operators. Find out how **Utel's Voice Recording and Playback module** provides operators with an easy-to-use and intuitive solution to pinpoint the root causes of voice quality problems.

## Background

Use call recordings to troubleshoot voice call quality issues and pinpoint the root cause.

The Utel Voice Recording and Playback solution is used by telecom operators for recording voice calls on their networks – specifically Voice-over-IP (VoIP) and Voice-over-LTE (VoLTE). These networks use a combination of SIP/RTP to facilitate voice calls. Experience tells us that our customers value the quality of service our solution provides and its proven reliability.

## The business challenge

VoIP and VoLTE calls can be impaired by a wide range of issues, creating problems for identifying the root cause of problems.

In legacy circuit-switched networks, end-to-end network resources were allocated to every voice call instigated by a customer. However, packet-switched networks, which are primarily designed to carry data traffic, introduced a new set of challenges for operators, as there are now multiple elements that can affect the quality of a call.

Network components and how they route packets, available bandwidth on both the sender and receiver side, and the different types of handsets used and their built-in features and codecs, all have a significant impact on a customer's Quality of Experience (QoE).

It means that ensuring the quality of VoIP and VoLTE services in packet-switched networks is a much bigger challenge than it was for voice calls over circuit-switched networks.

### What factors can impact call quality

Factors that can reduce the quality of a VoIP call, include the following:

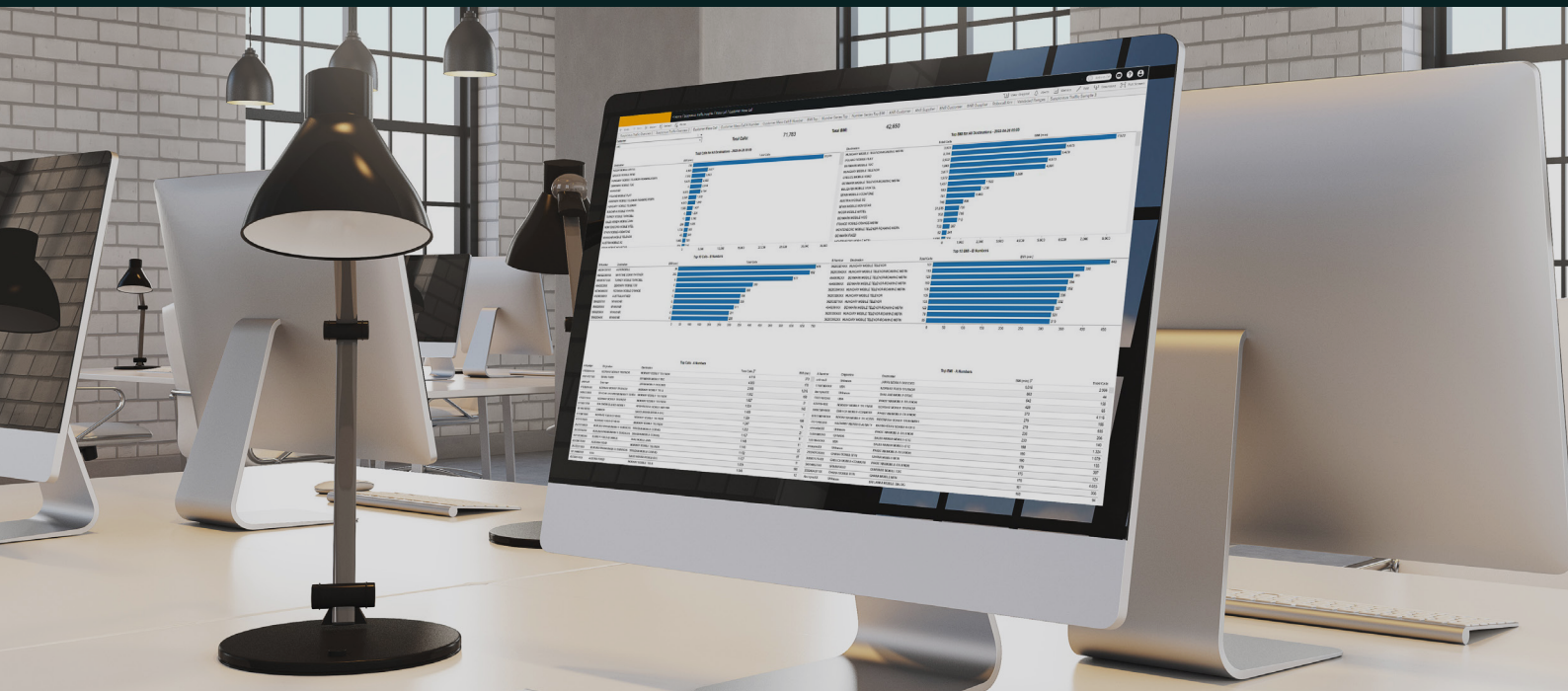
- Packet-loss due to the nature of the network or limits to network capacity
- Delayed packets or packets received in the wrong order (known as 'jitter') caused by network issues or sub-optimal packet routing
- Codec incompatibilities between handsets and/or network equipment leading to reduced call quality

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*Ensuring the quality of VoIP and VoLTE services in packet-switched networks is a much bigger challenge than it was for voice calls over circuit-switched networks.*

- Transcoding within the network, which may be due to differences in network equipment, the mix of technologies (IP, TDM, and so on) or 'lossy' codecs that magnify the loss of quality each time transcoding occurs
- 'Silent calls' due to misconfiguration, routing errors or incomplete firewall setups

If Quality of Service (QoS) is not delivered consistently for voice calls – which remain a cornerstone of network services – poor QoE can result. In turn, this can lead to customer dissatisfaction, customer retention problems and, ultimately, loss of revenue. So, ensuring call QoS and QoE in packet-switched networks is an essential requirement for operators.



## The Utel solution

Easily investigate and identify voice call problems for VoIP and VoLTE networks.

The Utel Voice Recording and Playback module is deployed on a media server and interacts seamlessly with the Utel Monitoring System and existing network probes.

When a customer reports a problem about call quality to the customer care centre, the support agent uses the Utel Voice Recording and Playback solution to add their phone number to a watch list.

In turn, this instructs the Utel Monitoring System to monitor all VoIP signalling. When it encounters a configured (listed) phone number, it triggers RTP capture for the voice call, which analyses the SDP and looks for changes to IP, port or codec, as the call is in progress.

On completion of the call, the system creates an audio file of the entire call – along with detailed data of ‘events’ during the call – which is then made available to the operator. The operator can then listen to the call, analyse any adverse network events, and identify the root cause(s) for the poor voice quality the customer experienced.

## Benefits

Reduce churn, protect your reputation and deliver consistent Quality of Experience with Utel.

Poor quality for voice calls causes customer dissatisfaction, which can lead to increased churn, reputational damage and lost revenue. Regardless of whether the root cause of the problem is on the customer side or within the network, being able to identify problems and take swift action to isolate them enables operators to improve the quality of their network and voice calls, and ultimately secure revenue by keeping customers happy.

The Utel solution allows operators to quickly resolve customers complaints regarding VoIP call quality. Using an easy-to-use configuration and playback interface in the Utel Monitoring System, the operator can easily track customers calls regardless of signalling and media.

### Correlate and pinpoint

Correlating calls from the same customer, or even different customers in the same area, means that operators can quickly and accurately identify and remedy the root cause(s) of any issue with poor call quality.

Utel Voice Recording and Playback provides multiple benefits to operators, including:

- Identification and troubleshooting of VoIP call quality issues proactively in near real-time
- Tracking customer calls via an intuitive playback interface
- Identifying dynamic and historical root causes of network issues
- Providing consistent and enhanced Quality of Experience for IP-based calls
- Improving customer satisfaction
- Reducing churn and protecting revenue

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*The solution also allows carriers to build internal procedures to block unwanted calling or called number series in the phone switches by contacting and working alongside the carriers and operators that are routing the unwanted traffic.*





## Conclusion

A complete solution from Utel - easy to use, easy to adopt and proven to deliver.

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*Utel's Voice Recording and Playback module in the Utel Monitoring System provides operators with an easy-to-use and intuitive solution to pinpoint the root causes of any voice quality problems experienced by their users*

Leading operators need to take the quality of voice calls over IP networks seriously, not just to provide the best quality service to their customers, but also to prevent churn and protect revenue.

Utel's Voice Recording and Playback module in the Utel Monitoring System provides operators with an easy-to-use and intuitive solution to pinpoint the root causes of any voice quality problems experienced by their users. Voice calls are recorded for analysis, along with detailed information of any adverse events during the call.

It can quickly and accurately identify whether call quality issues are due to problematic subscriber equipment or a deeper problem in the network traffic flow. Utel enables operators to identify voice call quality issues on packet-switched networks, diagnose them, and take remedial action. It's a key tool for ensuring QoE and for enhancing service delivery.

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