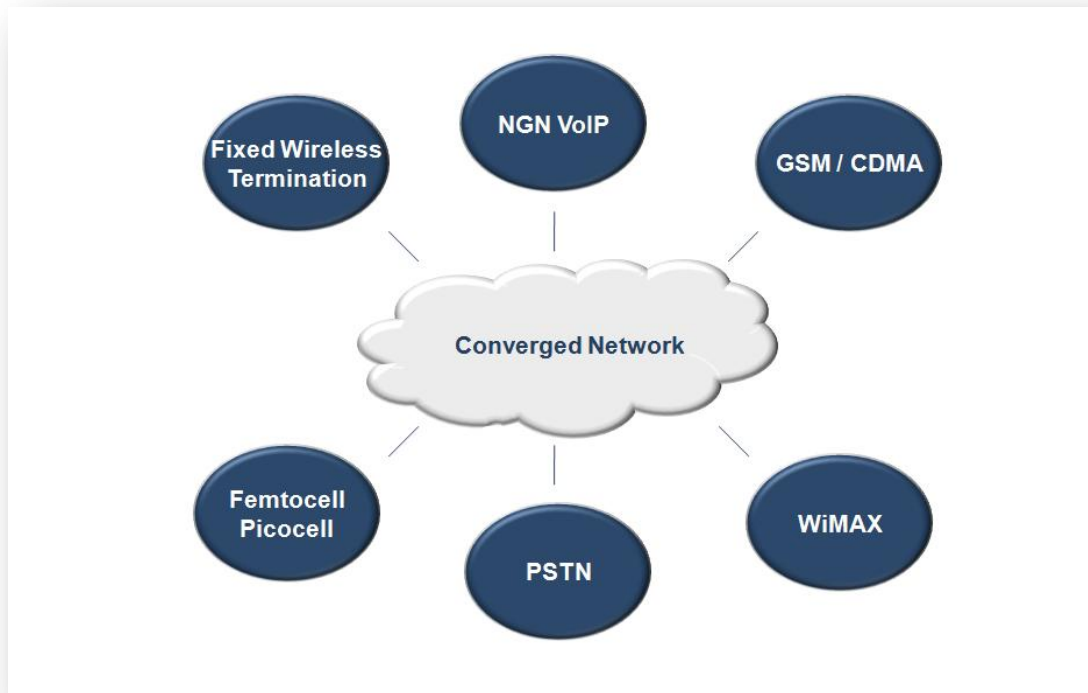


Testing Voice Quality



Introduction

Virtually any of the industry's voice access technologies – mobile, PSTN and VoIP - can be tested from ISP-I to assist with network management, conduct competitive benchmarking or analyze telecom devices.

ISP-I customer experience 'probes' act as typical subscribers by connecting to the voice network and completing telephone calls. Probes can be located across a country or region of interest to test not just your network but the networks of competitors also.

The ITU standard P.862 PESQ quality measurement algorithm is used for all network types. PESQ compares an original reference voice sample with the degraded output from the far-end.

Test calls are made to/from other "listening" probes that are connected on any of the services in the diagram above.

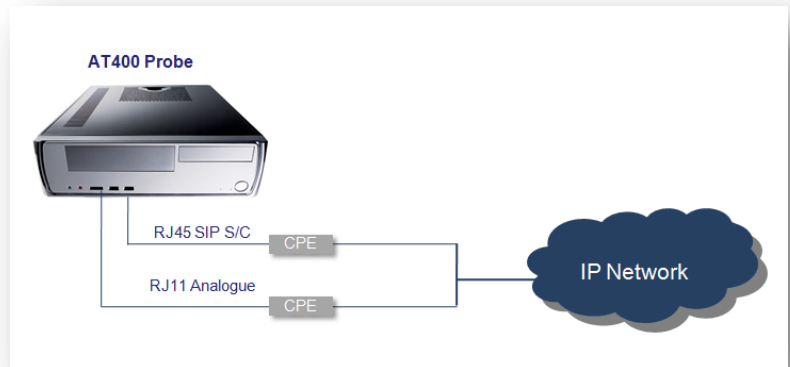
The overall audio quality is measured as well as other audio characteristics such as background noise, volume differential and one-way audio delay.

For IP networks, voice quality issues arising from the impact of digital transport issues such as packet loss and jitter can be measured and an ITU E-Model voice quality score determined.

While MOS voice quality scores are an indicator of customer experience, other metrics are also recorded such as call setup times, dropped calls as well as network information unique to the voice access technologies being used.

VoIP Testing

A typical configuration for testing voice quality is shown. ISP-I AT400 probes are able to connect either directly to IP services with SIP clients or via CPE devices depending on the type of VoIP service to be tested. ISP-I's UDP testing simulate actual VoIP signals to determine packet loss, jitter and delay based on real VoIP traffic scenarios. IP addressing adds further insight.



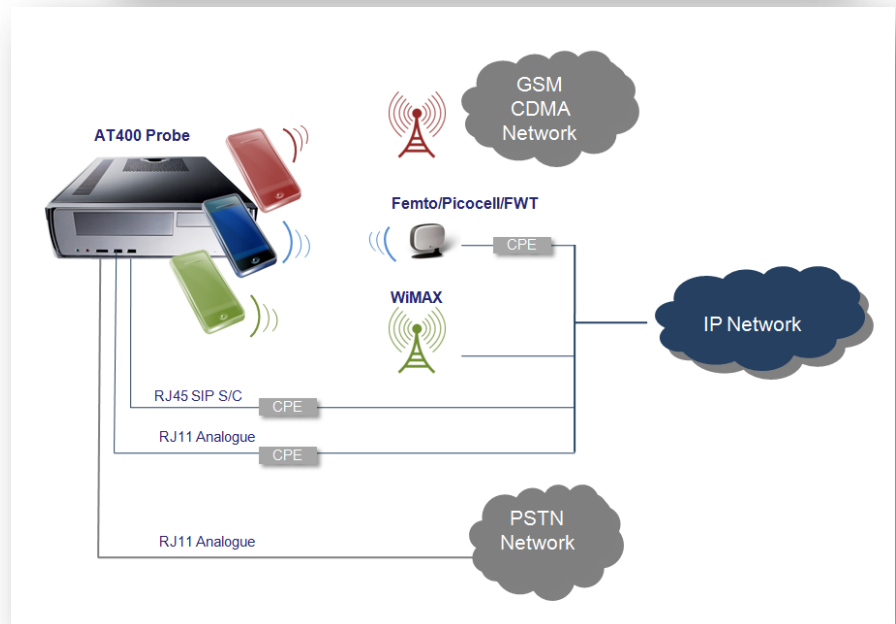
Mobile Voice Quality

The AT400 probe can be configured to test multiple mobile voice services. The handset controller application interfaces with a list of handsets to invoke dialling to and from other "listening" endpoints. A similar set-up is used for WiMAX voice testing.



WiMAX, Femtocell and PSTN

WiMAX, Femtocell, Picocell, PSTN and Fixed Wireless Termination voice call can be tested for call set-up, service quality and call quality characteristics. The diagram shows a fully comprehensive test solution across all popular voice technologies.



Please contact us directly to learn more about Epitiro's test capabilities.

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