

SQmon™ is a family of modular system software that includes sophisticated Voice over IP probe and mediation functions. Based on Telchemy's market leading VQmon/SA and expert problem diagnosis technologies, SQmon provides network equipment and performance management system vendors with OEM applications that provide a faster route to market with best of breed technology.

SQprobe™ is an advanced VoIP probe that monitors high speed packet streams, automatically detects active VoIP calls, analyzes each call and generates alerts when quality falls below a specified service level threshold. SQprobe is available world-wide as a software product for selected versions of Linux, Microsoft Windows and Sun Solaris.

Key call quality metrics produced per call include:

- Listening quality MOS scores and R factors
- Conversational quality MOS scores and R factors
- Data highlighting normal and bad call segments
- Percentage degradation due to loss, jitter, delay, codec, signal level, etc.
- Detailed RTP packet statistics
- Additional information highlighting transient IP problems

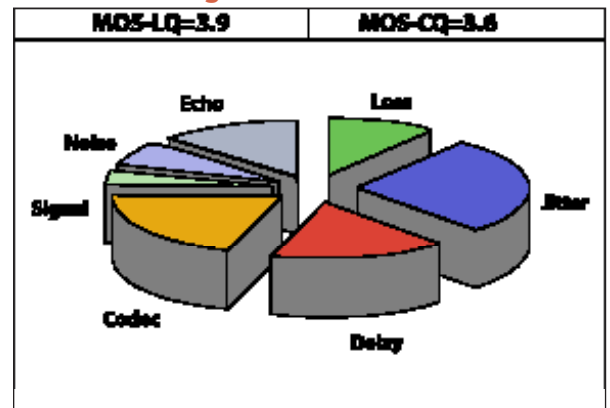
SQprobe is fast, accurate and informative. It provides real-time visibility into service quality when it's installed at key locations and demarcation points. SQprobe's advanced diagnostic facilities enable network administrators to quickly detect, identify and resolve transient network events impacting call quality.

The probe promiscuously monitors network segments to measure call statistics and create Call Quality Records (CQR) for each call stream. SQprobe automatically imports RTCP XR (RFC3611) reports to configure itself to match the call endpoint. It also extracts endpoint reported signal, noise, and echo level measurements for inclusion in the CQR. At any point, the CQR is available for retrieval by reporting applications or mediation devices such as Telchemy's SQmediator via SNMP or FTP.

SQprobe periodically updates the CQR data (e.g., every 15 seconds) during the call and employs real-time thresholds to detect when either average or instantaneous call quality is deteriorating. Based on this information, SQprobe provides early warning of network problems that can affect service levels.

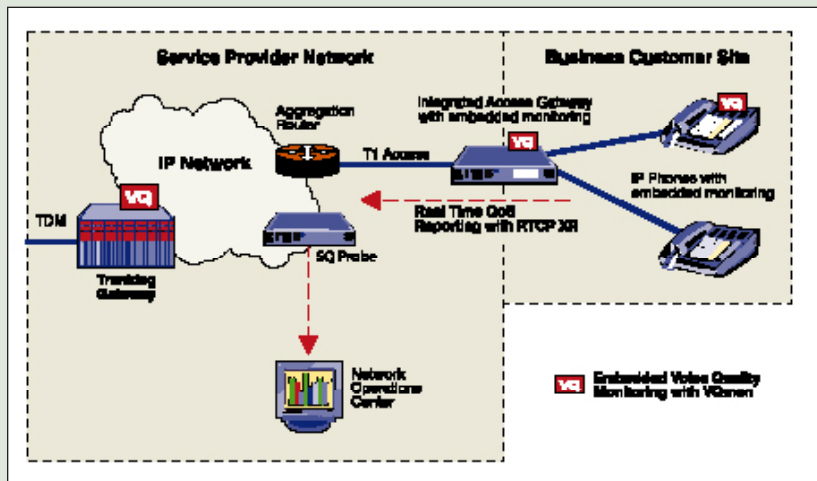
The probe also features expert problem diagnosis technology that examines CQR data as well as other real-time information to determine the possible cause of transient quality problems.

Degradation Factors



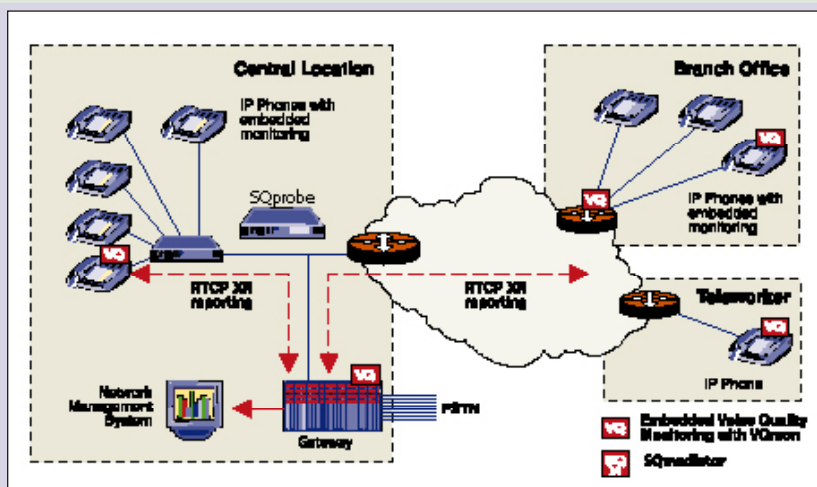
Call Quality Record

Call Identifier	Signal Level
Source/Destination	Noise Level
SSRC	Echo Level
CODEC Type	R-LQ
Packet Loss	R-CQ
Packet Discard	MOS-LQ
Burst Length	MOS-CQ
Burst Density	Burst R
Gap Length	Gap R
Gap Density	Jitter Buffer Config
Delay	Problem Diagnosis



IP Centrex

Located within the service provider network, SQprobe collects RTCP XR statistics and monitors incoming VoIP traffic.



Enterprise IP Telephony

Located at key traffic aggregation points, SQprobe collects RTCP XR statistics and monitors VoIP WAN traffic.

Technical Specifications

- Call quality analysis using VQmon - Optimized ITU-T G.107 with ETSI TS 101 329-5 Annex E
- Supports Japanese TTC JJ201.01 VoIP monitoring requirements
- Interprets RTCP XR (RFC3611) VoIP metrics payload Call Quality Metrics
- Listening and conversational quality MOS Scores with ACR, ITU and TTC scalings – MOS-LQ, MOS-CQ
- Listening and conversational quality R factors – R-LQ, R-CQ
- Separate R factors for burst and gap conditions – R-Burst, R-Gap IP/RTP Metrics
- Packet loss rate, packet discard rate, burst length/density, gap length/density, Jitter Buffer Metrics
- Early packets, late packets, discards, resynchronization events, jitter buffer delay, jitter envelope, etc., Degradation Factors
- Percentage degradation due to loss, jitter, codec, delay, signal level, noise level, echo, recency, Interface Protocol Compatibility
- Network monitoring interface – IPV4/IPV6, UDP, RTP (RFC3550), RTCP XR (RFC3611)
- Reporting interface – IPV4/IPV6, TCP/UDP, SNMP, FTP Supported Platforms
- Approved versions/ releases/ builds of Linux, Microsoft Windows 2000/XP, Sun Solaris

Version SQP10.0504



www.netrsr.com

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