

SVP – Voice Quality



Key Features

- Fully-automated solution for testing voice quality from an end-user perspective
- Originates and terminates voice calls throughout the operator's network
- Supports industry-standard speech quality algorithms for mobile-to-mobile, mobile-to-wireline and wireline-to-mobile calls
- Validation of voice calls from a subscriber perspective
- Enables continuous monitoring of service quality and availability from large numbers of geographically-dispersed locations
- Supports JDSU's Mobile Identity (MI) Server, providing a centrally-located pool of SIM modules for testing various subscriber profiles in remote locations
- Flexible and extensible script language with advanced parameterization, control and logging functionality
- HLR access and control via custom integration or telnet-based CLI scripts
- Interactive mode for test development and troubleshooting

Benefits

- Increases customer satisfaction by reducing the time required to detect customer-impacting problems
- Reduces operating cost by automating monitoring, testing and reporting
- Increases operator visibility of service quality by providing network-wide, real-time reporting of measurements and key performance indicators (KPIs)
- Improves consistency in customer experience by performing a common set of tests throughout the entire network footprint
- Reduces the time and risk to install or modify network infrastructure by providing extensive recursive testing capability
- Increased revenue and reduced churn through positive customer satisfaction

RCATS[®] SVP –Voice Quality enables wireless service providers to automatically test the voice quality of calls made across various locations within their network.

The Voice Quality SVP provides an automated, distributed solution to proactively test voice quality over a variety of call scenarios. For each test, the SVP validates end-to-end voice calls over the air interface and through the operator's network. It then assesses the speech quality of the voice call using industry-standard ITU algorithms that specifically address impairments commonly found in wireless and packet-based networks.

The Voice Quality SVP compares the received audio with the sent audio, producing a Mean Opinion Score (MOS) that predicts overall subjective listening quality without requiring actual human testing. Test results are reported in real-time, providing operators with full visibility into current network performance and enabling rapid-response to issues.

The Voice Quality SVP enables operators to test a variety of local and long-distance scenarios, including mobile-to-mobile, mobile-to-wireline and wireline-to-mobile. It also enables operators to compare the quality associated with specific access technologies (i.e., GSM vs. UMTS or CDMA vs. 1xRTT) or core networks (circuit-switched vs. packet-based). Specific to mobile phones and networks, the profiles are fully-parameterized and extensible, enabling operators to develop their own profiles to address complex or operator-specific test requirements. In addition to the fully-automated test mode, the solution also provides operators with an interactive mode for validating network modifications prior to deployment or for troubleshooting network or service issues.

The Voice Quality SVP is part of the patented JDSU RCATS[®] solution, which enables automated testing, centralized management and aggregated reporting for large numbers of deployed probes. The solution allows wireless operators to access real-time, network-wide performance and availability information, enabling them to use this information to increase service quality, increase revenue and reduce costs.

Specifications

Speech Quality Algorithms

- PESQ: Perceptual Evaluation of Speech Quality (ITU-T P.862)
- PSQM: Perceptual Speech Quality Measure (ITU-T P.861)
- Perceptual Analysis Measurement System

Service Validation

- Mobile-to-mobile
- Mobile-to-landline
- Landline-to-mobile
- Local calling (single-probe test)
- Long-distance calling (two-probe test)
- Language-independent

* Voice Quality SVP requires QoS Voice Quality software

Test Profile Functionality

- Advanced script language specific to mobile phones and networks
- Fully-parameterized and extensible
- Advanced loop control
- Event logging (standard and custom)
- Support for script versioning, labeling and commenting
- Control of external network elements (HLRs, MSC, etc) via custom integration or configurable telnet-based CLI commands

Operational Test Modes

- Automated
- Interactive

Measurements and Key Performance Indicators (KPIs)

Mean Opinion Scores (MOS)

- PESQ
- PESQ LQ (Listening Quality)
- PESQ LQO (Listening Quality Objective)

Jitter

- PESQ jitter (min, max, average, std deviation)
- PAMS jitter (min, max, average, std deviation)

Delay

- PESQ delay-per-utterance
- PAMS delay-per-utterance

* This is a sample of available measurements and KPIs.
Additional measurements may be available or created upon request.

Clipping

- Front-end clipping (amount, duration)
- Back-end clipping (amount, duration)
- Hangovers
- PESQ muted audio
- PAMS muted audio

Levels

- Speech activity percentage
- Mean DC
- Active speech level
- Mean noise
- Mean RMS
- Peak

Gain

- Speech gain
- Noise gain

Solution Requirements and Options

Required RCATS® Solution Components

- RCATS® Remote Test Probes (RTPs)
- QoSExecutive
- QoSManager
- Optional: MI Server (centralized SIM repository)
- Optional: MI Server Controller

RCATS® Remote Test Probes (RTPs)

- RCATS® RTP – GPRS/GSM
- RCATS® RTP – EDGE/GPRS/GSM
- RCATS® RTP – HSDPA/EDGE/GPRS/GSM
- RCATS® RTP – 1xEV-DO Rev. 0/1xRTT
- RCATS® RTP – 1xEV-DO Rev. A/1xRTT
- RCATS® RTP – iDEN

RCATS® Managed Services

- RCATS® RoamerNet®

RCATS® Service Validation Packages (SVPs)

- RCATS® SVP – Basic Voice
- RCATS® SVP – Supplementary Services
- RCATS® SVP – Basic Data
- RCATS® SVP – WAP
- RCATS® SVP – SMS
- RCATS® SVP – MMS
- RCATS® SVP – Voice Quality
- RCATS® SVP – IVR

Test & Measurement Regional Sales

NORTH AMERICA TOLL FREE: 1 866 228 3762 FAX: +1 301 353 9216	LATIN AMERICA TEL: +55 11 5503 3800 FAX: +55 11 5505 1598	ASIA PACIFIC TEL: +852 2892 0990 FAX: +852 2892 0770	EMEA TEL: +49 7121 86 2222 FAX: +49 7121 86 1222	WEBSITE: www.jdsu.com
--	---	--	--	---