

# VoIP Network QoS Testing

## From Inet Technologies, Inc.



### **Spectra2 Media Gateway Application Suite**

Spectra2 Media Gateway Application Suite (MG)™ brings the power of signaling and media testing together for the VoIP environment. Spectra2 MG provides the tools necessary to prove the Quality of Service (QoS) of traffic carried across your network. The key to validating QoS in the typical VoIP network environment lies in the reliability and quality of the Media Gateway. It is critical to ascertain the QoS this element provides since it is responsible for the conversion of media between converging TDM and packet-based elements within typical VoIP networks. Spectra2 MG provides a simple and flexible way of testing Media Gateways and end-to-end Network QoS with an array of media testing tools including PSQM, MOS, media file injection and detection, and detailed media stream statistics.

### **Measure Quality of Service (QoS)**

Spectra2 MG supports Media Gateway call control protocols such as SIP, H.323, MGCP and MEGACO, and measures the quality of the media content of calls set up by these protocols. The Perceived Speech Quality Measurement (PSQM) tools of Spectra2 MG can inject standard voice files (.wavs) into a Media Gateway, detect the injected file, and compare the quality of the detected file to the original file. This comparison results in a measurement expressed in a PSQM value range that indicates the QoS delivered by the Media Gateway. A corresponding MOS value can be derived from the PSQM value to offer further definition of the quality of service within the network.

Spectra2 MG also provides DTMF and SF tone and .wav file injection and detection capabilities, including the ability to capture an RTP stream and inject it into a network under test. The QoS media tools of Spectra2 MG validate PCM voice trunks at the T1/E1 and DS3 levels, and RTP stream voice quality over 10/100 Ethernet interfaces.

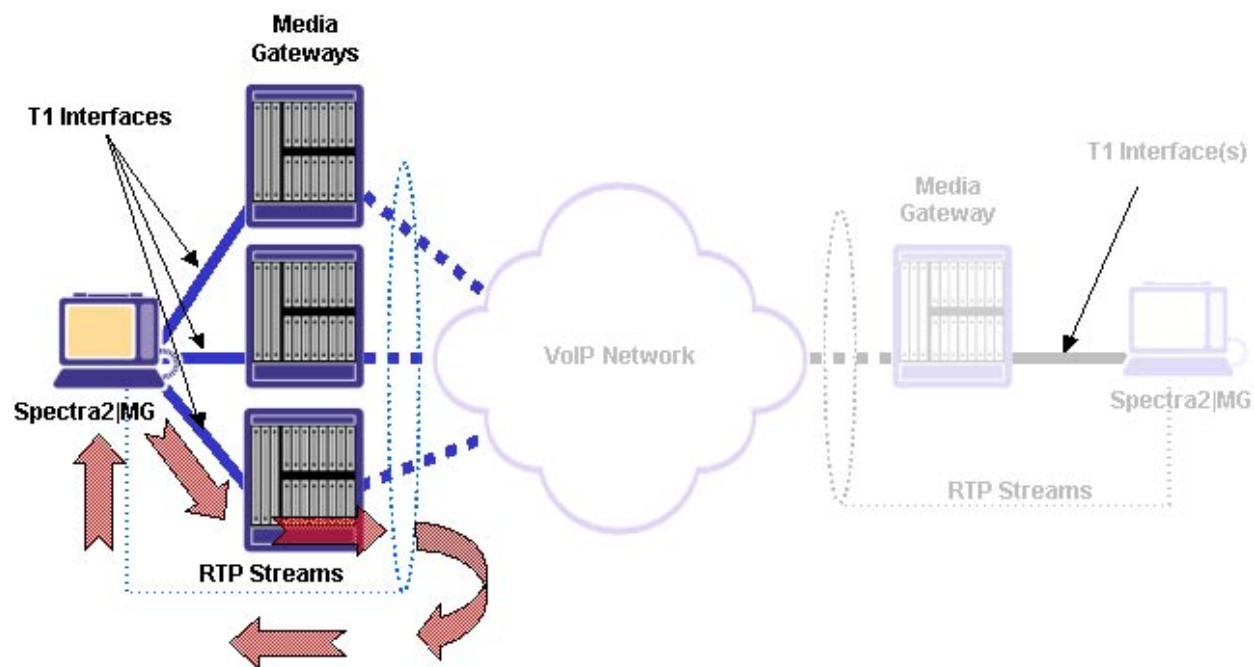
### **Confirm Network Performance**

Spectra2 MG simulates and tracks typical VoIP network conditions such as packet loss, delay, and jitter to confirm Media Gateway performance. Consult detailed statistics for packets lost, jitter intervals, and latency on any given call to precisely determine the underlying cause of a Media Gateway's PSQM or MOS score. Customize packet loss, delay, and jitter settings for outgoing media transactions to evaluate a Media Gateway's performance under stress.

### **Extreme Media Processing**

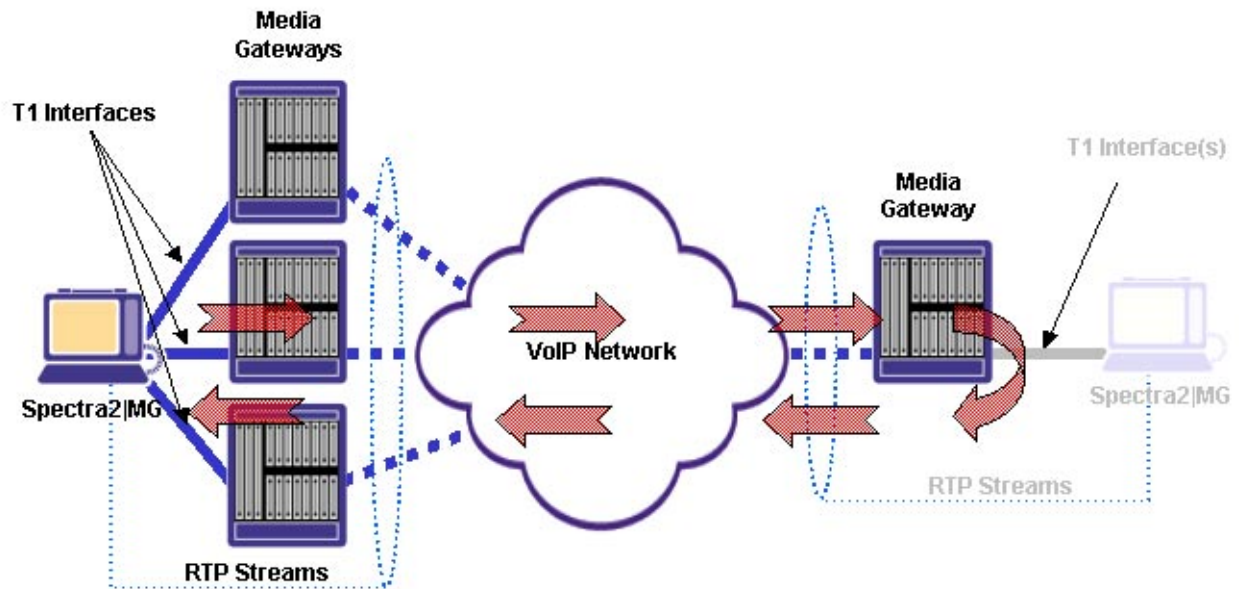
Spectra2 MG supports the compressed and uncompressed media encoding schemes of G.711, G.723.1 and G.729A. Each DSP resource in a Spectra2 MG platform can process up to 2048 channels of uncompressed media and up to 256 channels of compressed media. Media injection is supported on up to 512 IP ports or a full DS3 on each Signaling and Trunk Interface. No matter what the encoding schemes or capacity of the Media Gateway under test, Spectra2 MG gives you the power to confirm QoS.

# Local Media Gateway QoS Testing Environment



In the Local Media Gateway QoS Testing Environment, Spectra2 MG validates that the Media Gateway is not contributing to any QoS problems across the network. Through its comprehensive media testing tools, Spectra2 MG gives you the power to isolate transmission problems to their network source, access or transmission.

# End-to-End Network QoS Testing Environment

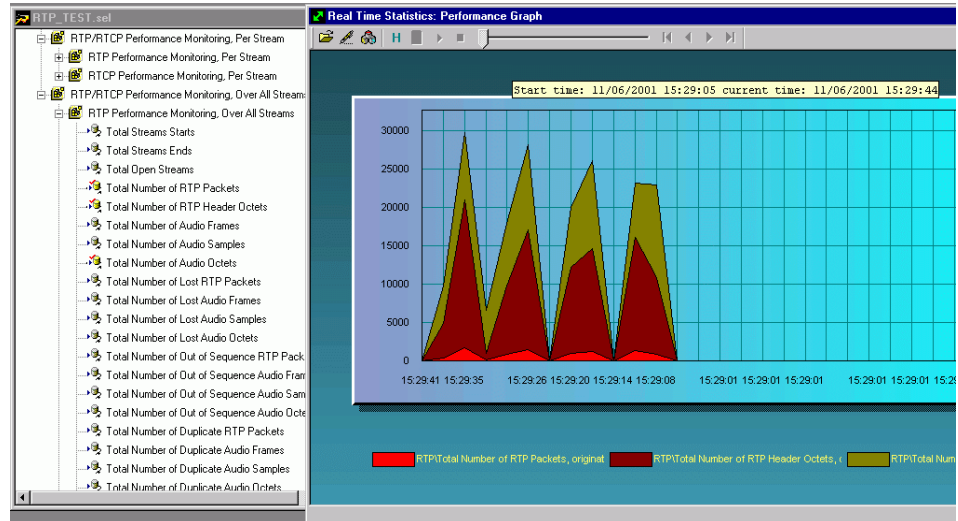


In the End-to-End Network QoS Testing Environment, Spectra2 MG validates the QoS delivered across the transmission network.

Spectra2 MG provides the necessary tools to isolate detected QoS issues to a specific transmission direction within your network.

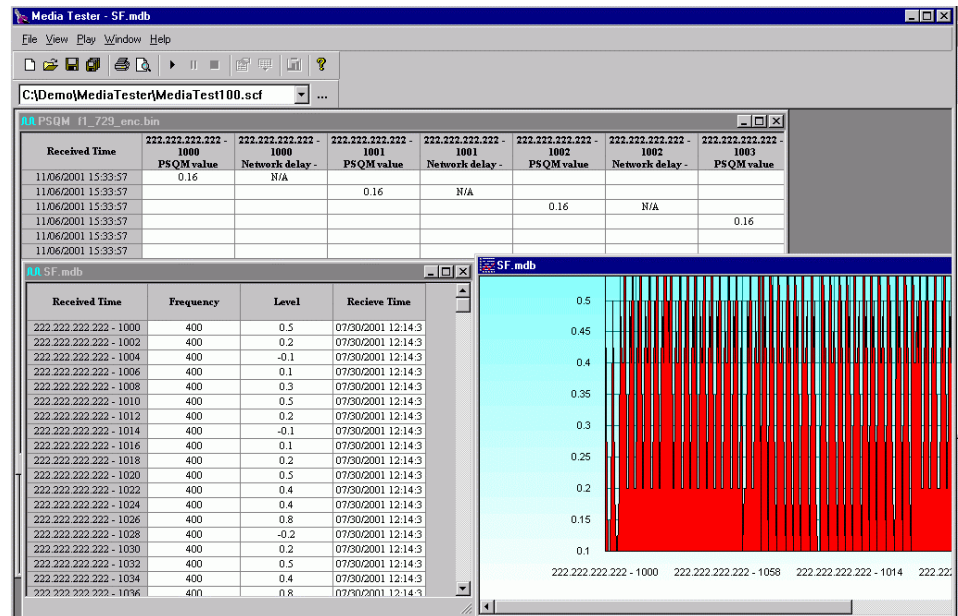
## RTP Performance Statistics

Spectra2 MG keeps comprehensive statistics on media streams used in VoIP network scenarios to quantify network performance. Statistics for RTP/RTCP media streams are generated on an individual and collective basis. Measurements such as total out of sequence RTP packets and total RTCP control packets can be easily viewed for a single media stream or for all media streams. All statistics can be exported to database applications to create itemized reports detailing Media Gateway performance.



## PSQM, MOS Performance Statistics

Spectra2 MG keeps comprehensive statistics on PSQM and MOS transactions used in VoIP network scenarios to quantify network performance. Measurements and value ranges for up to eight simultaneous PSQM transactions can be generated and tracked by Spectra2 MG. MOS and PSQM scores can be charted for historical and real-time reference in testing scenarios. Spectra2 MG also tracks the frequency, level, and receipt time of PSQM and MOS transactions. All statistics can be exported to database applications to create itemized reports detailing Media Gateway performance.




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[www.inet.com](http://www.inet.com)

### Inet Technologies, Inc.

1500 North Greenville Avenue • Richardson TX 75081 • Phone: 469-330-4000 • Fax: 469-330-4001

### Inet Global LTD

268 Bath Road • Slough, Berkshire • SL1 4DX United Kingdom • Phone: +44-1753-708709 • Fax: +44-1753-708861

### Inet Deutschland GMBH

Am Kronberger Hang 5 • Schwalbach/TS • D-65824 Deutschland • Phone: +49-6196-9519-0 • Fax: +49-6196-9519-199

### Inet Technologies-France

1, rue de la Haye, BP 10910 • 95731 Roissy CDG Cedex • France • Phone: +33-1-49-19-21-87 • Fax: +33-1-49-19-22-50


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