

> Uplogix delivers comprehensive management for IPT environments to ensure a consistent, high Quality of Service (QoS). With active monitoring of call quality, you can rest assured that your IPT environment is performing at its best.



## TECHNICAL SPECIFICATIONS:

- Scheduleable and ad-hoc call execution
- RTCP XR (RFC3611) VoIP metrics payload

## CALL GENERATION:

- SIP signaling (RFC 3216), register, invite, bye
- RTP (RFC3550) with RTCP SR/RR
- RTCP XR (RFC3611) VoIP metrics payload
- Multiple codecs supported (G7.11a,u, G7.29a)
- Voice payloads - male and female English Harvard sentences, DTMF, tones
- Configurable call duration

## CALL QUALITY MEASUREMENT:

- Extended ITU-T recommendation G.107
- ETSI TS 101 3295- Annex E
- R-LQ, listening quality R factor
- R-CQ, conversational quality R factor
- MOS-LQ, listening quality MOS score
- MOS-CQ, conversational quality MOS score
- Jitter buffer emulator

## TODAY'S NETWORK COMPLEXITY

Companies are rapidly adopting convergence technologies, like Internet Protocol Telephony (IPT), to maximize the value of their network investments. While IPT offers many benefits, including a lower cost of ownership, scalability, and centralized control, it adds another level of complexity to managing today's highly distributed, enterprise networks.

Compounding the management challenge, sub-optimal performance in an IPT environment, unlike other network applications, is immediately noticeable to end-users. They are accustomed to TDM quality, reliability, and availability after years of communicating over traditional phone systems and expect the same consistent, high quality of service in an IPT deployment. The result is a very low tolerance for even minor imperfections in the IPT environment.

The ability to quickly measure, diagnose, and resolve Quality of Service (QoS) issues is essential for IPT success. To be effective, you must be able to actively monitor service levels from the end-user's perspective and then correlate this data with the performance of underlying network devices and segments.

## Unique Challenges of IPT Management

The enterprise-wide adoption of IPT presents a number of difficult challenges for the IT departments tasked with delivering network services. These include:

- **Overcoming the Voice - Data Knowledge Gap:** While experienced network administrators have significant knowledge regarding data on the network, the idiosyncrasies of voice traffic are oftentimes foreign to even the most senior staff members.
- **Isolating Problems in a Complex Infrastructure:** Previously, voice problems were almost always related to the PBX. With IPT, problems can originate anywhere in the network or in the underlying systems and protocols. Isolating IPT problems accurately and quickly requires a combination of expertise and powerful tools.
- **Managing Change Without Impacting Service:** In a TDM environment, changes to the phone system could be made simply and locally, with little impact on users. In IPT environments, the infrastructure is intricately interconnected and poorly executed MACDs, patches or upgrades can significantly degrade the quality of service.
- **Reducing Security Risks:** In the traditional voice world, security did not represent a major concern. However, security is understandably a primary concern for today's networks. Given IPT's mission-critical nature, IT departments must take special care to protect the enterprise from a myriad of threats targeting both voice and data networks.
- **Ensuring Carrier SLAs:** In the TDM world, the carrier network was highly available and did not have interdependencies with the enterprise infrastructure. In contrast, IPT requires the carrier's networks to be tuned with the customer's networks. MPLS presents an additional management hurdle, as enterprises lose both control and visibility when problems arise in the carrier's network.

### SERVICE LEVEL VERIFICATION FOR IPT FROM UPLOGIX

Uplogix delivers comprehensive management for IPT environments to ensure a consistent, high Quality of Service (QoS). Working in combination with the award-winning, appliance-based Envoy Network Resource Manager, the optional, software-based Service Level Verification (SLV) management module monitors IPT environments from the end-user's perspective and correlates this data to the performance of underlying network services and applications. This enables the root cause of QoS issues to be instantly pinpointed and tied to specific network elements.

Using synthetic transactions, the SLV module regularly collects network- and application-specific performance data from each Envoy appliance. This data is uploaded to the Network Resource Management Server (NRMS) – Uplogix' web-based management portal – where it is available for operators to view and analyze, along with graphical trending of voice call quality. Administrators can quickly and easily establish acceptable thresholds for all monitored services and receive alerts via email when service-level events occur that violate these thresholds. Service-level data is also stored and archived for up to one year to facilitate trend analysis, and can be easily exported for custom reporting or integration into other management systems.

For IPT environments, the SLV module captures 40 specific QoS metrics that reflect the health of the telephony system. Uplogix uses standard Harvard sentences to gauge IPT performance and monitors important metrics such as jitter, latency, packet loss, MOS scores, and R values. By performing continuous active testing to measure QoS performance indicators, Uplogix enables enterprises to more quickly diagnose issues and resolve them, before they impact business operations.

### Resolution for Common IPT Issues

Uplogix' SLV module provides the monitoring and management capabilities required to maintain a high QoS and rapidly and effectively resolve common issues with IPT environments. These include:

- **Preventing Network Atrophy:** To maintain a high level of performance, networks require constant tuning as applications are added and traffic patterns evolve. Uplogix provides continuous monitoring, diagnosis, and proactive recovery to quickly resolve issues that impact QoS in IPT environments.
- **Ensuring Excellent End-User Experience:** MOS scores and R values indicate performance, but cannot capture the transient causes of poor call quality experienced by end users. Uplogix overcomes the limitations of other solutions by actually replicating the end-user experience through the use of synthetic transactions. By capturing QoS metrics on these transactions, the Uplogix solution can immediately alert administrators when call quality falls below an acceptable level.
- **Streamlining Maintenance Tasks:** IPT networks require vigilant release and upgrade management, which can be time consuming and prone to manual errors. Uplogix enables central distribution of releases, upgrades, and patches for all devices in the IPT environment. A unique SurgicalRollback™ feature eliminates outages due to failed configuration changes by automatically returning devices to the last known good configuration.
- **Ensuring Carriers Meet MPLS SLAs:** Real-time performance measurement and reporting are critical when verifying that carriers meet stated SLAs. Uplogix provides enterprises with the detailed reports and metrics required to hold carriers accountable.



**Uplogix' solutions support  
IPT networks from the  
following vendors:**

- » Cisco Systems
- » Nortel
- » Avaya
- » Siemens

**ABOUT UPLOGIX //** Uplogix provides enterprise edge management solutions for organizations seeking to reduce the cost and complexity of managing their networks. Uplogix' solutions dramatically increase network uptime, lower network support costs and improve network management security. Uplogix is privately held and headquartered in Austin, Texas. For more information please visit [www.uplogix.com](http://www.uplogix.com).

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