

# VoIP and IP Video Performance Management



The APCON IntellaFlex Series 3000 aggregates packets copied from SPAN and TAP sources throughout the network and aggregates, manipulates, and filters the packet stream before passing the data to Telchemy SQprobe/ SQmediator.



Over the last decade, the number of companies opting for IP-based delivery of their business communications has skyrocketed. Voice and video over IP systems offer tangible benefits to businesses of all types and sizes — significantly lower costs, easier installation and configuration, increased scalability and portability, and a wide range of enhanced features.

Despite the clear advantages, the use of these technologies is not without its risks. Typically deployed on a shared infrastructure with other Internet and LAN traffic, VoIP and IP videoconferencing systems are vulnerable to performance degradation caused by network congestion and routing problems. Packet loss, jitter and delay can impact the quality of both voice and video, leading to gaps in speech, audio/picture distortion, excessive echo, and other impairments that can make conversation difficult.

Because network problems are often transient and may occur at any point along the service path, identifying the root cause of poor performance can be a complex and time-consuming task. To ensure the reliability and performance of business communications systems, network managers need full visibility into the quality of every voice and video call— and the ability to quickly identify, diagnose and fix performance issues when they occur. **Telchemy SQprobe® and SQmediator®**, combined with **APCON's intelligent network monitoring and packet aggregation switching technology**, provide a comprehensive solution for proactively managing the performance of voice and video services in enterprise networks.

## TELCHEMY SQPROBE® / SQMEDIATOR®

SQprobe® is a high performance software probe powered by Telchemy's industry-leading VQmon® performance analysis technology. When deployed as a virtual application on an APCON intelligent network monitoring switch, SQprobe monitors voice and video packet streams passed to it by the APCON switch, detecting and analyzing the performance of individual VoIP and videoconferencing calls in real time and sending detailed quality reports to SQmediator®. SQmediator's intuitive dashboard interface provides customers immediate access to QoE scores (including voice and video MOS), detailed performance metrics and critical diagnostic information for every monitored call.

A comprehensive VoIP and IP video performance monitoring strategy that provides a competitive advantage includes the ability to:

- **Monitor** any point of the service network at will
- **Collect data streams** from a variety of sources and merge them into a continuous flow
- **Direct the right flow** to SQprobe/SQmediator
- **Filter the flow** to provide only the data that SQprobe/SQmediator need

Network architectures are growing to meet business and customer data needs. As a result, there is growing complexity in managing and monitoring network-based communications efficiently. By utilizing an APCON intelligent network monitoring switch, customers can gain greater visibility and scale of their VoIP and videoconferencing performance monitoring investment by monitoring across multiple network layers, zones and monitoring points.

## ENTERPRISE-GRADE DATA CENTER MONITORING

The APCON solution enables the aggregation of packets from multiple mission-critical monitoring points. Utilizing APCON's IntellaFlex XR network monitoring solution, customers can then manipulate, filter and load-balance that traffic to the appropriate monitoring tool.

Enterprise-grade data center monitoring switches must have the ability to bond several disparate data streams from external-facing, DMZ, and internal switches, and route all this data to SQprobe with packet tags that indicate the source of the data. Further, the switch must be able to filter both individual and aggregated data streams using both pass and drop filtering.

## SOLUTION: APCON AND TELCHEMY SQPROBE® / SQMEDIATOR®

APCON provides an intelligent network monitoring switch solution with the port density, overall port count and throughput capacity, and high availability to handle the volume of data generated in a modern data center. APCON also provides time stamping capability at the nanosecond level, and the ability to eliminate duplicate packets, slice packets at the header, and filter packets on any criteria.

This allows network engineers to bring together data inputs from any point on the network, aggregate and manipulate the data at the packet level, and then direct the voice and video packet flows to SQprobe for analysis and quality reporting via the SQmediator user interface.

With a comprehensive VoIP and videoconferencing performance monitoring system in place, network engineers can monitor service performance across the network, easily identify problem calls, and drill down into detailed diagnostics to find out what caused the poor performance. This insight brings a number of advantages, including:

- **Proactive problem detection** (no waiting until users complain)
- **Accurate root cause analysis** – no “finger pointing” between customers and service providers
- **Faster problem resolution** – helps minimize downtime

### ABOUT APCON

For more than 20 years, APCON has consistently delivered smart, stable and scalable technology solutions that provide an unparalleled level of confidence to service providers and businesses seeking total data center visibility and security. Its customers range from midsize companies to Fortune 1000 enterprises in more than 40 countries. APCON assures superior network monitoring while supporting traffic analysis and streamlined network management and security. For more information, visit [www.apcon.com](http://www.apcon.com) or follow us on Twitter @apcon.

### ABOUT TELCHEMY

Telchemy is the world's leading provider of real-time analytics software for data, voice and video service quality management. Our next generation performance management solutions implement a highly scalable distributed architecture using virtualized software probes or agents integrated directly into network infrastructure, accurately measuring service performance in real time and providing the quality management layer for the emerging SDN and NFV.

## WHY IS APCON A COMPLEMENT TO TELCHEMY?

### APCON DELIVERS:

#### INNOVATION

- Modular switch design based on large enterprise data center requirements
- Patented aggregation and filtering technology
- Advanced features include time stamping, packet slicing, multi-stage filtering, data rate conversion, protocol stripping, load balancing, NetFlow generation, pattern matching and tunnel termination.
- Advanced WebXR graphical user interface
- Unique TitanXR multi-switch management software
- Common software and hardware across all chassis simplifies operations

#### RELIABILITY

- Redundant controller and power supplies
- Separate data and control plane architecture maintains connections during controller swap
- Hot-swappable power supplies, blades, controllers, transceivers

#### SCALABILITY

- Five sizes of chassis from 1RU to 14RU
- Up to 504 ports in 14RU
- Up to 5.04 Tbps throughput capacity

#### 100G ETHERNET MONITORING

- IntellaFlex XR makes it easy to monitor high-speed networks, including 100G Ethernet, with existing security and performance monitoring tools

