



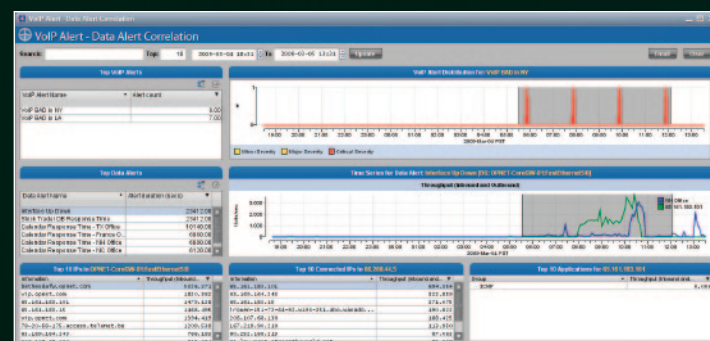
**Corporate Armor** For more information, please call 877.449.0458, or email us at Sales@CorporateArmor.com.

# VoIP Monitoring Module for AppResponse Xpert™

## Easily Monitor and Troubleshoot Voice Call Quality in Real-Time

Voice-over-IP (VoIP) can help organizations reduce telecommunications operating costs while delivering the high call quality that users expect. However, ensuring call quality requires effective management, including a monitoring solution that will identify issues and enable rapid troubleshooting.

The AppResponse Xpert VoIP Monitoring module supplies real-time and historical data in a business context about both application performance and call quality. The VoIP monitoring solution is based on real application traffic and voice calls with the ability to drill-down to the underlying problem source and understand the interaction of voice and data traffic.



Monitor and troubleshoot voice call quality with point and click, web-based dashboards.

“ Before having [AppResponse Xpert] with the VoIP module, we didn't have a tool that could report on the voice links from either a real-time or flow-based perspective. We were impressed both by the ease of installation and the speed with which [AppResponse Xpert] with the VoIP module delivered valuable information—our return on investment took only a couple of months, and we are looking forward to expanding our implementation to cover more of the network. ”

Senior Applications Engineer  
Fortune 500 company

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



OPNET's AppResponse Xpert VoIP Monitoring module reduces the cost of troubleshooting and improves end-user satisfaction within VoIP deployments.

### Key Features

- Software module that runs on an AppResponse Xpert appliance
- Vendor agnostic solution
- Passive speech quality analysis
- P.564 class 1 compliant MOS analysis
- Rich set of RTP metrics on a per-call, per-channel basis
- Automatically detects active calls and provides incremental quality statistics
- Tracks QoS priority settings on the network
- Holistic solution for data and voice applications
- Business-level views of overall network health and VoIP performance

### Benefits

- Proactively monitor voice call quality and resolve issues before they affect end-users
- Easily troubleshoot the source of poor call quality with real-time, web-based dashboards for a quick resolution
- Prioritize problem resolution and set meaningful SLA's based on how call quality is affecting various areas of the business

## AppResponse Xpert VoIP Metrics

### Call Quality Metrics

- Listening, conversational and transmission quality
- MOS ratings with ACR
- ITU and TTC scaling – MOS-LQ, MOS-CQ

### Call Setup Diagnostics (Call Setup Ladder)

- SIP, Cisco SCCP (Skinny), H.323

### 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, and Type of Service (TOS)

### Jitter Buffer Metrics

- Early packets, late packets, discards, resynchronization events, and jitter buffer delay

### Degradation Factors

- Percentage contribution of loss, jitter, codec, delay, signal level, noise level, echo, and latency to call degradation

### Interface Protocol Compatibility

- UDP, RTP (RFC3550), RTCP XR (RFC3611)
- Spans VLAN encapsulated traffic