

DATASHEET

Hammer XMS

Innovation Leadership in Monitoring for Next Generation Carrier Class Networks

FEATURES

Carrier Class

- Monitoring all calls, 24 x 7, for VoIP, SS7 and ISDN signaling and VoIP (RTP) media
- Scalability using distributed high performance probes and centralized data management system
- Patent-pending Gigabit wirerate processing for IP packet filtering
- Open architecture with full set of SNMP MIBs defined to interface with existing network management systems

Innovative Diagnostics and Analysis

- Correlation of multiple call legs across both VoIP and TDM protocols in an IMSenabled network
- Drill down from high level call analysis to individual call protocol message decodes
- Signaling metrics for call timers, endpoint identification, call duration and failure reasons
- Media metrics by endpoint for R-factor and MOS quality scores, jitter, and packet measurements such as loss, out-of-sequence, loss rate

Enhanced Usability

- LDAP support for secure user access
- Customizable, web-based GUI for intuitive searching to maximize user efficiency
- Optional, simplified user interface specifically designed for first-level Customer Support Representatives

Reporting

- Off-the-shelf reports for Key Performance Indicators and metrics in .PDF format
- Enhanced reporting capability allowing customers web-based access to their own service metrics
- Data export to support long-term data storage and analysis



Our award-winning, carrier-class Hammer XMS provides the truest assessment of network behavior and the detailed insight Service Providers require to deliver the Quality of Service their end users demand.



Hammer XMS integrates diagnostic, analytic and monitoring capabilities for signaling and media quality, making network engineering, operations, and customer care organizations more efficient. With Hammer XMS, service providers have the confidence to deploy new services faster, with higher quality, yet do so at a lower cost of operations.

Carrier-Class Design

Hammer XMS is designed to economically scale, from small configurations up to ones needed to support call volumes found in large VoIP/IMS service deployments.

Hammer XMS captures and correlates signaling and media quality on every call — 24x7. Carrier class scalability is achieved, in spite of the volume of traffic monitored, because of an architectural design that provides significant processing power at each Hammer XMS Probe. By concentrating processing where the traffic is monitored, Hammer XMS only needs to forward compressed, real-time call and media data records, for centralized processing and storage.

This architecture, shown in Figure 1 below, provides the details required for complex call correlation, diagnostics and analysis, yet avoids the need to bring all data back to a central location, eliminating a potential bottleneck in the management of a service providers' network. This same design enables XMS Packet Analysis, an on-demand, session-based, capture and analysis of both call and non-call related signaling and media packets.

Hammer XMS has the architectural flexibility to provide the centralized functions on a single server or across multiple servers, dependent upon traffic and usage requirements.

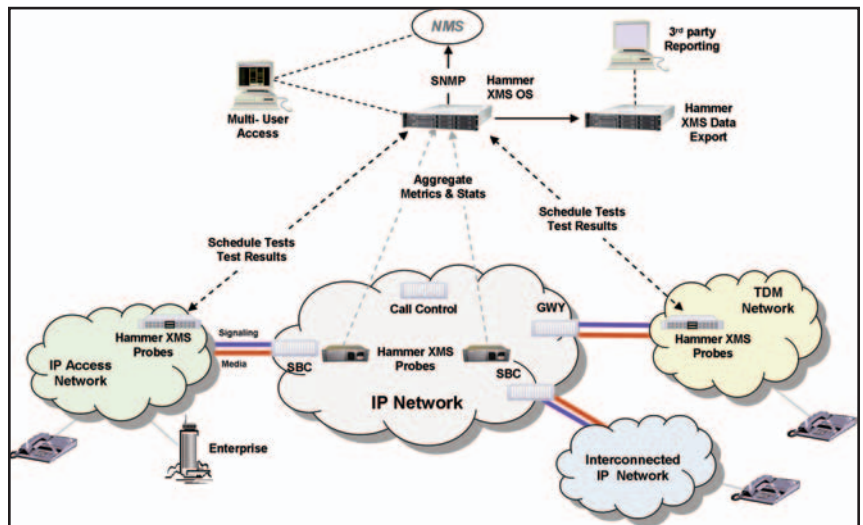


Figure 1: Hammer XMS carrier-class architecture.

A Hammer XMS Probe is configurable with patent-pending Ethernet or TDM interfaces to capture VoIP or SS7/ISDN signaling and media (RTP) packets. Hammer XMS is the first solution capable of handling all media streams “on the wire.” For each identified RTP stream, Hammer XMS directly measures the packet behavior of the stream and calculates voice metrics, including R-factor and MOS, using industry standard algorithms.

Hammer XMS excels at the correlation of complex multi-leg, multi-protocol calls in real-time. This attribute becomes even more in an IMS environment where it is possible to see a significant increase in signaling messages for each and every call. Signaling and media for all portions of a call are assembled into a single call record which provides quality metrics from the customer’s call perspective. Aggregate metrics, statistics, and correlated call data are then securely accessed through an intuitive web-based GUI for analysis and reporting. Hammer XMS supports LDAP for enhanced user security.

Hammer XMS provides extensive search and diagnostic tools which enable a full range of signaling and media analysis, such as: message decodes; per call or session quality; network-wide call trace; service performance quality metrics. Users can generate standard reports for aggregate real-time metrics or use customizable “views” of data, based upon the ability to segregate report data by customer-specific attributes.

Independent of reporting mechanisms, signaling and media metrics can be forwarded onto existing Network Management systems through standard SNMP MIBs, while correlated call data can be export for post processing, such as network optimization analysis.

Hammer XMS Product Specifications

Protocols and Protocol Layers

- SIP, H.323, MGCP, NCS, ASPEN, H.248/Megaco (trunking gateway application), SIP-T, and SIGTRAN (SCTP, M2PA, M3UA, SUA, IUA), COPS, Diameter Plus (Sonus)
- Diameter, IPsec
- IP, UDP/TCP, RTP
- ISUP, TCAP (ITU Q.773; ANSI T1.114, JNTT), ISDN (Q.931), AIN parameters

Hammer XMS Probe Interfaces

- Hammer XP Wire rate Packet Processor Card
 - 4 port 10/100 Base-T Fast Ethernet RJ45 copper
 - 2 port Gigabit Ethernet SC multimode or LX singlemode optical
- TDM Interface Unit (TIU) for SS7 or ISDN, supporting 2 - 16 T1/E1/J1 spans
- (2) Fixed port 10/100 Base-T Fast Ethernet RJ45 for communication between Probes and Operation Server and remote management

Hammer XMS Probe Density

- Up to two of either type of Hammer XP line cards
- One TDM Interface Unit per probe

Configuration Options

- Probe signaling data only
- Probe signaling and media data
- Probe media only
- All-In-One integrating the Probe and the Operation Server functions into a single chassis

Network Management Systems Interface

- SNMP defined MIBs or CSV (files or streams)

User Access

- Web-based GUI; HTTP; HTTPS
- Internet Browsers: Microsoft Internet Explorer 6.x; Mozilla Suite 1.6, 1.7; Mozilla Firefox 1.x; Netscape 7.1

Security

- Optional browser access using SSL (HTTPS) with self-signed digital certificate
- LDAP
- User Password Protection
- Linux shadow passwords

Supported Codecs

- G.711, G.729a/b, G.723, G.726, ILBC

Physical Dimensions

- Operations Server, Web Server, Correlation Engine Server, or Data Export Application Server (same chassis for all) 2U: Dimensions 17”(W) x 20”(D) x 6.8”(H)
- Hammer XMS Probe 2U: Dimensions 17”(W) x 24”(D) x 3.5”(H)
- TDM Interface Unit 1U: Dimensions 1.75”(1U) H x 19” W x 12” D

Average Power Draw / Maximum Heat Output:

- AC: 238W (idle) / 323W (stressed); 1101 BTU/hr.
- DC: 234W (idle) / 328W (stressed); 1117 BTU/hr.

Environmental Requirements

- Humidity: Up to 95% non-condensing
- Storage Temperature: -20° to +85°C
- Temperature coefficient: ±0.01% / °C
- Ambient Operating Temperature: 0 to +50°C continuous duty, full rating. Derate linearly to 50% of full rating at +71°C
- Cooling: Self-contained fan cooling

Product Safety / EMI/EMC

- EN 60950 -1: 2001; IEC 60950-1:2001; CE
- FCC Part 15, Class A; AS/NZS, CISPR-22: 2002 Class A; VCCI, Class A; ICES-003 Issue 3, Class A; EN55022: 1998, Class A; UL60950 and cUL CSA 22.2 #60950; EN300 386-2

