

Network Monitoring/Management



Monolith – Delivering Next Generation Monitoring for Operations

The Challenge

Decades of experience working with large enterprises and service providers have provided key data points as to what customers expect in network monitoring/management solutions. It is easy to get caught up in the promise of gee whiz, cutting edge technology, yet it is important to realize that the principles of network management have been around for a long time now — AT&T built their first network control center in 1962. Quite simply, if your organization is going to build out its network management capabilities, then undoubtedly the following capabilities will be part of the equation:

- Availability management — up/down of devices, interfaces, ports, services
- Performance management — trending and thresholding of utilization data to troubleshoot issues/ predict problems
- Fault & event management — network equipment was built to communicate issues
- Holistic Auto-discovery — manually maintaining an accurate inventory has proven to be unrealistic
- Topology mapping — dynamic maps showing what is connected to what; stateful topology awareness
- Artificial intelligence — enrichment & correlation to provide improved MTTR

This list of base requirements has not changed in over a decade. It has stood the test of time. Here's the question though. Has your organization, that relies so heavily on its network infrastructure, deployed a solution with these base set of requirements? If you are like 90+% of your peers, then the answer is No. Why would that be? Our experience delivers a telling factor. None of the traditional vendors in the marketplace have built an integrated, holistic solution to meet these requirements. They have all been in business for 20+ years and started with a point solution addressing a point requirement. As customers demanded more functionality it became difficult for these vendors to expand around the existing code base. Instead, they acquired companies to fill the gaps. This sounds reasonable until you consider the net result — an inconsistent, hodge podge of code that doesn't work efficiently together or in a consistent fashion across the different acquired modules.

It is one thing to be able to check the functional boxes on an RFP. It is quite another achievement to say you can deliver this functionality in an integrated solution that delivers a consistent user interface across the entire spectrum of capabilities, shares a common administration methodology across the board, scales to meet the needs of the largest infrastructures, deploys quickly to deliver fast time-to-value, was built with the needs of IT operations in mind, and comes at a price point that is commensurate with the value being received.

The Solution – Unified and Comprehensive Network Monitoring/Management

Monolith Software's network monitoring solution was built to address the specific problem identified above. We were fortunate that we were not saddled with an old, legacy code base to work around. This enabled us to build our solution with a modern, web-based application architecture versus older mainframe or client/server architectures. Our prior experience, spending the better part of a decade consulting and deploying best-of-breed solutions from what is now our competitors, led us to recognize the short comings with the existing crop of tools enabling us to build the industries first fully integrated, single code set solution to meet the high demand needs of today's largest network infrastructures.

Monolith Software's solution breaks new ground in the field of network monitoring & management. Unlike competitors, who provide piecemeal solutions network monitoring, Monolith Software's platform goes much further. The difference becomes evident from the minute you run the installation package. Weeks are not spent standing up the solution. It installs immediately, auto-discovers your network, provides a full inventory of network devices and interfaces, and auto-provisions monitoring based upon discovery. The result is a fully integrated, holistic network monitoring solution that allows you to pinpoint trouble areas and provides your network administrators with immediate and relevant information — giving you the advantage in predicting, isolating and recovering from network failures.

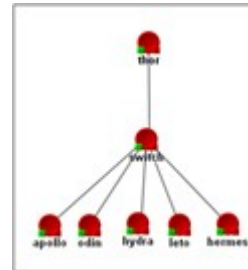
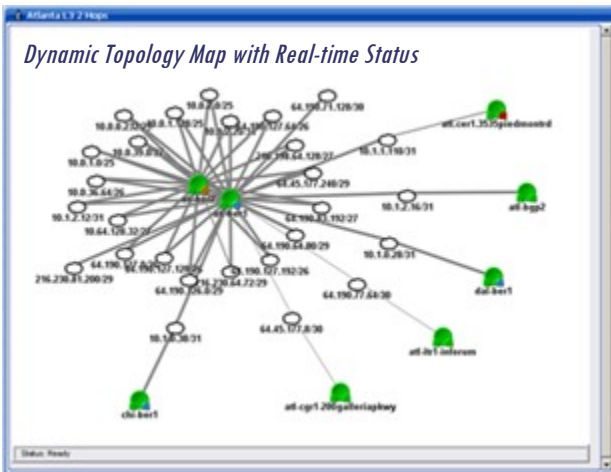
Monolith Software is the only vendor on the market today to bring together standard network monitoring capabilities (availability, fault, performance) with advanced discovery, collection, correlation capabilities, flow collection, real-time IT dashboarding and SLM monitoring analysis providing you and your network management team with advanced prediction, diagnosis and recovery capabilities. And, we go well beyond a network only capability. Monolith Software offers an open and expansive approach to overall technology management, enabling Monolith to be leveraged by other groups, such as systems, storage, application and security, to provide a consolidated view of the technology infrastructure within a single solution.

With Monolith Software, enterprises and service providers easily achieve their specific network monitoring and management objectives, as well as presenting the capability to achieve greater levels of operational efficiency by consolidating all management and monitoring efforts into one technology platform and solution if desired.

Monolith for Network Monitoring / Management

Automatically Discover, Display & Correlate Your Network Topology

Your network is made up of a vast collection of interfaces, routers, gateways, LANS, WANS and other entities. In the past, your only available option for monitoring the network and all devices was to use a collection of network monitoring tools, each providing a fragment of necessary information. This put the burden on network management teams to hunt through the data and manually piece together the bigger picture – a time consuming approach to troubleshooting that is costly and far too slow for today's business environment. Monolith Software's single platform approach revolutionizes network management, allowing you to move beyond patchwork monitoring. Monolith's complete platform provides network administrators with a comprehensive and unified network management solution that reaches out to your network, discovers and collects information from your entire inventory of network devices (interfaces, VLAN, MACs, ARP and Router tables and CDP neighbors). We then consolidate, correlate and display vital network information allowing you to visualize your entire network topology and pinpoint trouble areas. Monolith delivers Probably Root Cause Analysis to provide downstream suppression and to intelligently suppress child-based or symptomatic events. Monolith Software's cohesive and complete approach to network monitoring allows you to troubleshoot, diagnose, fix and recover from a network failure faster and more efficiently. And in a business environment where downtime is revenue lost, we can dramatically reduce your network outages from minutes to seconds.



Device	Event Type	Event Test	Count	First Occurred	Last Occurred
thor	DeviceUpDown	Device Down	367	2008-05-21 10:30:00	2008-05-23 09:40:00
odin	DeviceUpDown	Device Down	567	2008-05-21 10:30:00	2008-05-23 09:40:00
apollo	DeviceUpDown	Device Down	567	2008-05-21 10:30:00	2008-05-23 09:40:00

Pinpoint & Continuously Monitor Top Offenders with Top-N Reporting

With a sea of devices under your management control, it is often a significant challenge for network managers to isolate top offenders – an important capability for troubleshooting as well as enhancing and improving network performance over time. Monolith Software provides Top-N reporting capabilities that allow you to isolate, track and continuously monitor top offenders on the network. You can flexibly define and monitor any number of devices, and categorize by type of device, metric collected (i.e bandwidth and CPU utilization or latency) or a combination of metric by device category.

Ranking	Device	Instance	Value
1	atl-ces4-200galleriapkw		59.000

Ranking	Device	Instance	Value
1	sea-ipla1	sea-atl-voice_jitter	76.930

Ranking	Device	Instance	Value
1	sea-ber2	Serial1/0/0/25:0	78.009
2	dal-ber1	Serial1/1/0/13:0	69.612
3	chi-ber1	Serial1/0/3/4:0	69.236
4	chi-ber1	Serial1/0/3/4:0	69.235
5	lan-ber1	Serial1/0/0/17:0	67.252
6	lan-ber1	Serial1/2/3/25:0	63.197
7	nor-ber1	Serial1/0/22:0	56.781
8	dal-ber1	Serial1/1/0/16:0	46.811
9	lan-ber1	Serial1/2/1/22:0	45.567
10	bos-ber1	Serial1/0/3/5:0	43.939

Ranking	Device	Instance	Value
1	cypress1	Swap Space	63.996

Ranking	Device	Instance	Value
1	dal-ipla1	dal-hou-cvg1-amicussearchgroup-voice_jitter	99.000

Ranking	Device	Instance	Value
1	lan-ber1	Serial1/3/0/15:0	94.581
2	sea-ber2	Serial1/0/0/25:0	64.727
3	dal-cpr1-crosignaturecenter	Serial0/0/0	46.561
4	lan-ber1	Serial1/1/2/5:0	46.087
5	sea-ber2	Serial1/0/2/23:0	42.632
6	lan-ber1	Serial1/0/1/22:0	31.192
7	dal-cpr1-americaninformationtechCorp	Serial0/0/0	30.203
8	dal-ber1	Serial1/1/0/13:0	29.883
9	nor-ber1	Serial1/0/28:0	29.244
10	nor-ber1	Serial1/0/7:0	29.150

Provides dynamic group based availability reports with full drill down

Type Status	Name	Availability
	Atlanta	96.89%
	Chicago	97.88%
	Dallas	97.65%

Monolith for Network Monitoring / Management

Key Technology Features/Benefits

Features

- Only solution to blend standard network monitoring capabilities (system logs, traps, SNMP polling) with advanced capabilities for device discovery, data collection and correlation, as well as flow collection and analysis.
- Management Information Base (MIB) conversion utilities enable easy introduction of new devices for SNMP traps and polling
- Quickly convert vendor documentation into business rules within the Monolith Platform to speed deployment and return on investment (ROI)
- Collect and consolidate data from full inventory of network devices (interfaces, VLAN, MACs, ARP table, route tables, CDP neighbors) to provide a visual display of network topology
- Out-of-the-box discovery and monitoring for Cisco IP Service Level Agreement (SLA) for powerful link status and performance monitoring
- Track and monitor top offenders through consolidated TopN performance analysis for devices, any metric (i.e. bandwidth, CPU utilization, latency), or on metrics by device class.
- Advanced flow collection supports all flow formats (NetFlow, JFlow, CFlow, IPDR) and enables comprehensive flow collection and analysis for bandwidth, applications, ports, sources and destinations.
- Netflow reporting helps organizations understand and interpret how bandwidth is used.

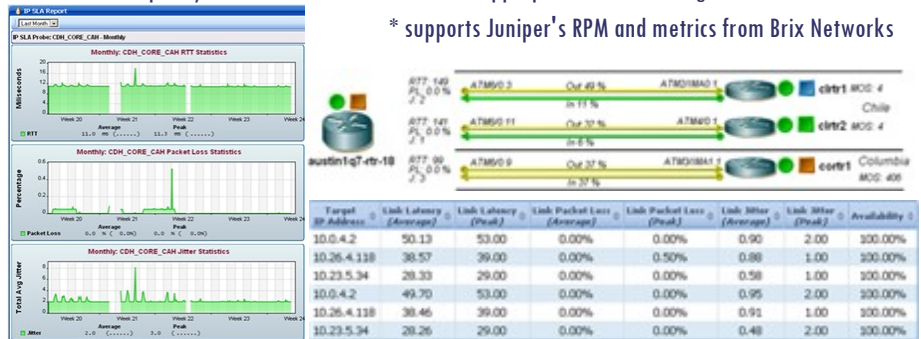
Benefits

- Enhanced predictive, diagnostic and resolution abilities transform a ten minute network outage into 30 seconds of downtime
- Meet 99.999 availability and uptime tolerances and SLAs for the network
- Improve customer service by preventing network failures before they occur, reducing the frequency of their occurrence, and decreasing mean time to recovery (MTTR)
- Pinpoint top offenders and network problem areas with high accuracy
- Gain unprecedented, real time visibility into the performance of your network through dynamic visualization of a network topography
- Improve security of the network by understanding and locking down bandwidth utilization
- Easy to use; quick to deploy
- Facilitates deployment of new devices and speeds ROI

Out-of-the-Box Discovery/Monitoring for Cisco IP SLA

Cisco IP Service Level Agreement (IPSLA) is an industry-proven feature within Cisco's IOP Software to monitor continuous traffic on a network. Monolith Software provides out-of-the-box discovery and monitoring for Cisco IPSLA, enabling easy and powerful port-to-port link status and performance monitoring. This powerful performance monitoring ability within the Monolith platform uses synthetic transactions to help network managers pinpoint network problem areas with accuracy, assess overall quality of the network and determine appropriate WAN coverage.

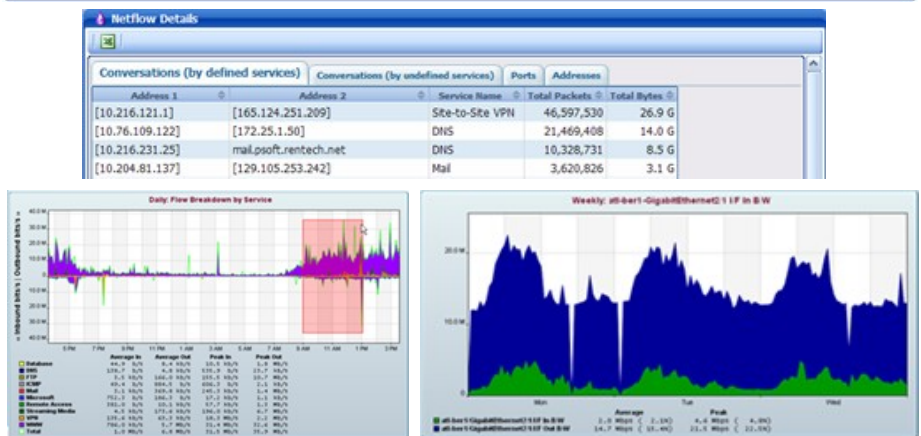
* supports Juniper's RPM and metrics from Brix Networks



Better Understand & Manage Bandwidth Usage with Comprehensive Flow Analysis & Reporting

Monolith Software collects and analyses many different flow formats, including NetFlow, JFlow, SFlow and IPDR, allowing network administrators to assess bandwidth on a particular port, as well as determine bandwidth usage by an application and by source. This allows for more effective and precise administration of the network, as administrators are able to better understand how bandwidth is being used in the organization, pinpoint top offenders, and even lock down bandwidth for security reasons.

Interface	Speed	Availability	Inbound Avg Value	Inbound Avg Util	Inbound Peak Value	Inbound Peak Util	Outbound Avg Value	Outbound Avg Util	Outbound Peak Value	Outbound Peak Util	Average/Peak Visuals
Serial1/0/0	44.2 M	100.0%	900.9 k	2.038%	3.2 M	7.207%	2.1 M	4.655%	5.4 M	12.206%	
Serial1/0/1	44.2 M	100.0%	1.1 M	2.519%	3.4 M	7.782%	561.0 k	1.269%	2.4 M	5.334%	
Serial1/0/2	44.2 M	100.0%	3.8 M	8.556%	9.2 M	20.757%	9.7 M	22.002%	23.4 M	53.038%	
Serial1/0/3	44.2 M	100.0%	1.4 M	3.244%	4.3 M	9.626%	3.6 M	8.134%	8.9 M	20.176%	
Serial1/1/0	44.2 M	100.0%	3.9 k	0.009%	187.9 k	0.425%	7.1 k	0.016%	375.1 k	0.848%	



Monolith for Network Monitoring / Management

A True Manager of Managers for Fault/Event Management

A cornerstone of any network monitoring system is the fault/event management system. Monolith addresses this management discipline with its Event Manager Suite — offering the industries most flexible and scalable event, fault and log management solution on the market. Monolith's Event Manager Suite was built with the latest available technology enhancements (Web 2.0, LAMP, AJAX) to compete with and replace much older technology offerings from IBM, CA, BMC and HP. Event Manager Suite offers true “Manager of Managers” functionality allowing your organization to monitor the entire infrastructure from a single, unified console. With Event Manger Suite organizations have a highly scalable platform capable of receiving and processing events of any format — trap, syslog, TLI, accii, event log. Event Manger performs out-of-the-box de-duplication and a completely customizable rules engine to easily adjust logic to meet your organizations needs.



Event Manager's Correlation Capabilities

Correlation is one of the key differentiators of event management solutions, and Event Manager Suite contains more comprehensive correlation capabilities than any offering currently on the market. Monolith's Correlation measurably impacts operational efficiency for Network Operations Centers and IT Departments by reducing downtime, quickly isolating root cause problems, and suppressing child events.

- up/down correlation
- time based correlation
- count based correlation
- X in Y correlation
- state based correlation
- probable root cause analysis
- downstream suppression of events
- parent / child association
- meta event correlation
- topology correlation
- event enrichment
- meta tag correlation
- group based correlation
- service tree correlation

Accelerated Deployment / Time to Value with MIB Conversion Utilities

Planning to introduce new devices to facilitate SNMP traps and polling? Monolith Software's open platform provides easy-to-use management information base (MIB) conversion utilities to streamline and accelerate the introduction and deployment of new devices for SNMP traps and SNMP polling, putting no limitations on your network monitoring ability today, or into the future. Monolith also absorbs and converts vendor documentation into rules within our software a step that dramatically speeds deployment of devices and your return on investment.

About Monolith Software

Monolith Software is the leading provider of operationally focused technology management software for network operations centers (NOCs) delivering the only fully integrated platform for managing fault, availability and performance on the market today. Service providers and IT organizations seeking to increase operational efficiency and drive down costs while maintaining 99.999 percent uptime and availability turn to Monolith Software's next generation management and monitoring solution for real time insight into the health, performance and availability of mission critical systems and applications.