Micro Focus Meets Enterprise IT Network Management Needs Through Integrated Suite

Executive Summary
Very large enterprise IT deployments represent a huge challenge from a network management perspective. They are often complex and globally distributed, and they require the ability to support network equipment across a wide variety of vendor platforms spanning both wired and wireless, as well as both physical and virtual environments. It is equally challenging to find a single integrated platform that can address the many network management needs, including fault and event management, network and application performance management, and configuration and compliance management. This ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) case study examines how one large transportation company has implemented Micro Focus Network Operations Management and how it used Micro Focus’ solution to replace an existing solution that was no longer meeting day-to-day operational needs.

The Enterprise Network Management Challenge
Enterprises large and small have similar needs when it comes to managing their networks. While scale may differ, functional needs are consistent and everyone’s network environments are complex and likely to become even more so in the future. At the core of common needs is the ability to understand what comprises the network, how it is connected, the current operational health and state, as well as detecting and managing configurations and compliance to standards. EMA defines this set of requirements, and more specifically the management tools that seek to address them, as Enterprise Network Management Systems (ENMS).

A common approach to meet the ENMS challenge of managing, maintaining, monitoring, configuring, and troubleshooting large globally-dispersed networks is to deploy multiple network management tools from different vendors, oftentimes with some open-source tools in the mix. During research and dialogues with network engineering and operations teams, EMA regularly finds use of multiple tools—sometimes a dozen or more—to support the network. But while this “best of breed” approach may cover all of the necessary ground, it has a number of shortcomings. First, it creates a tool management dilemma, as network operations struggle to keep all the tools current and up to date. Second, the diversity often means there are network operators on staff that cannot effectively use all the various solutions on hand. And perhaps the biggest problem that practitioners often cite is the time and effort it takes to keep all the various tools in synch with the current network topology and with each other, so that accurate context can be maintained when switching from one functional area to another, such as from availability or performance monitoring into configuration management.

The “best of breed” approach to ENMS thus creates a fragmented view of the network and often makes it exceedingly difficult to troubleshoot and resolve performance issues when they do occur. For instance, EMA research has found that organizations with large network management toolsets are less effective at network problem detection. The average enterprise network operations team is able to detect 60 percent of all network problems before end users feel their effects and report them to a help desk. Among organizations that use 11 or more tools to monitor and troubleshoot their networks, that problem detection rate drops to 48 percent, while network operations teams that use just 1 to 3 tools are have a problem detection rate of 71 percent.¹

The ideal ENMS alternative is a modular, unified network management solution that supports multi-vendor deployment environments and that spreads common data management and user/operator interfaces across multiple functional feature sets. Such a platform needs to establish basic coverage of the entire enterprise network–LAN, WAN, WLAN, virtual, and even inline optimization and security technologies—for basic availability monitoring. The platform also should support the addition of complementary functionality to cover the other major task areas, such as performance monitoring and Network Change and Configuration Management (NCCM, including compliance management), in a pre-integrated, seamless manner.

A Case Study in Enterprise Network Management

The Challenge

A large U.S.-based transportation company had reached a critical point with its network performance management solution. The company had been using an ENMS solution, but it faced significant challenges due to the high level of customization they had undertaken, making version upgrades increasingly problematic. During a product update, the team was forced to completely reinstall the product. Several years later, when faced once again with yet another complete reinstall of the product, the team decided it was time to reexamine its approach and see what other options were available on the market. The company needed a solution that could handle and manage approximately 16,000 network devices including a mix of Cisco routers and switches, WLAN access points and controllers from Cisco and HPE-Aruba, cellular modems, WAN optimization equipment, load balancers, and firewalls. The company has two main data centers, two smaller data centers, and 600 remote sites. The objective was to find a solution that could accommodate very specific and unique deployment needs through configuration options found in the basic tool itself, removing the need for hand coding customization that was time-consuming to maintain and could potentially break with every major product upgrade.

The Micro Focus Solution

The company chose the Micro Focus Network Operations Management (NOM), an integrated platform based on the network availability and performance management system Network Node Manager (NNMi) and the NCCM system Network Automation (NA). The NOM solution also included the following enhanced capabilities: Performance Metrics, Quality Assurance, and the Network Engineering Toolset (NET). In addition, the company purchased two other complementary solutions: Micro Focus Operations Bridge Reporter (OBR), a cross-domain resource metrics and reporting tool, and Micro Focus Operations Orchestration (OO) for IT process automation. This solution was used to replace the existing network management platform.

One of the major reasons that the company selected Micro Focus NOM was because the team found it did not have to do much, if any, customization. With NOM, the network management team was able to meet its operational requirements through configuration options found natively in the platform itself, rather than writing its own custom scripts. For example, the network team was able to create node groups, discovery ranges, and events that were necessary and specific to its managed environment. These settings were part of the base product and will be carried through upgrades and patches. Previously, with the old solution, these same capabilities required manual customizations that were implemented through underlying scripts, which were not typically forward-compatible with product upgrades.
Benefits Realized

The network engineering and operations team was able to achieve a number of benefits and advantages by choosing Micro Focus NOM over the previously deployed system:

**No more custom scripting:** The elimination of extensive customized script writing and maintenance reduced the need for dedicating FTEs (full time equivalent human resources) to manage and maintain the tool itself.

**Data integration:** Another major time-savings was realized due to the integrated inventory database within Micro Focus NOM, which unified network availability and performance monitoring data with network change and configuration management data. Previously, the company had to spend time manually synchronizing the information between the various tools and databases. Consequently, the network management team was always battling issues created by topology mismatches between tools. In the lead network manager's own words, “Knowing your network topology is priceless.” NOM constantly monitors all of the devices on the network and keeps all the topology information current by sharing inventory management data across the different components of the platform. The customer cited this as being a huge benefit for them.

**True NCCM:** Micro Focus NOM provides the ability to easily manage and configure networking devices from multiple vendors from within a single platform. Previously, the team was forced to use multiple standalone element management products, each specific to an individual network equipment vendor’s product, with no common look and feel and no shared database. There was no visibility or interoperability between the element management products (both across device vendors and across function such as fault, performance, and configuration). Now with a single, cross-platform change and configuration solution, the team can push out multiple changes in an automated fashion and, perhaps most important, can auto-remediate to a known working state in the event of a configuration error. The network management team views that as a very valuable feature. The team was once pushing out a massive update to its voice gateways, and upon discovering a configuration error was able to make a correction to 50 devices in just five minutes.

**Proactive policy compliance:** With the prior approach, it was impossible to create and enforce configuration policies across the network. With Micro Focus NOM, all changes can be monitored, logged, and reviewed to ensure that devices are configured according to policy, and alerted when they are not. The implementation of Micro Focus NOM has allowed more people to participate and do regular compliance checks, and the company now has anywhere from 15 to 20 people doing regular reviews of compliance checks to make sure devices stay within compliance requirements. This process, along with streamlining the overall change and configuration procedures, has greatly improved general network stability. In fact, Micro Focus NOM has become such a central part of engineering and operations processes that NOM reports are now part of weekly staff meetings.
EMA Perspective

ENMS solutions continue to play a vital role in today’s enterprises, and as this case study demonstrates, it is important to find the right tool that fits a given deployment scenario and requirements. This case study subject had outgrown its previous solution to the point that too much of the networking team’s time was being spent on managing the integration between the tools, and resolving issues was hampered by incomplete topology information and a lack of formal process for managing network change, configurations, and compliance.

The longevity of ENMS solutions in the market means that some large enterprise shops, like the one in this case study, have heavily invested in and customized these solutions to the point that to remove them requires a forklift overhaul of the Network Operations Center (NOC) itself. In this use case, because the original deployment was so highly customized, the transition took almost a full year start to finish, which is longer than might be typical elsewhere. However, once the transition was made, the product proved to be a much better fit and continues to prove itself over and over again in how much this has upgraded overall operational efficiency for this NOC.

This platform has a place in both large and small IT shops, because it works across multiple vendor platforms and provides a common look and feel, with shared data with context across different workflows, and the ability to easily add and use new modules. User acceptance is an important element of a successful implementation of a network management system. Users must be motivated to use a tool and use it consistently for the full benefits to be realized. Virtualization, WLAN, VoIP, mobile devices, and “everything that gets an IP address,” from UPSs to motion detectors, are all driving an increase in the amount of IP traffic that needs to be monitored and managed. Such hyper-growth in connectedness is making the network, and hence the role and importance of assuring the network is healthy and working, increasingly critical.

This EMA case study also evidenced a strong case for the use of NCCM capabilities that are fully integrated with network availability and performance monitoring. EMA advocates for the use of NCCM technologies and practices as a key means for achieving greater network stability and a more proactive stance in supporting the organization. When NCCM is tightly integrated with a fully featured network availability and performance monitoring solution, the combination goes a long way in enabling the networking team to not only provide better overall network performance and prevent problems before they occur, but also gives them greater visibility into problems when they do occur, and hence faster responsiveness and accelerated remediation.

About EMA

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA’s clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on Twitter, Facebook, or LinkedIn.