

# Network Management Suite (NMS)

Network Management Applications Unify WLAN/LAN for Centralized Visibility and Control. Anytime, Anywhere.



Unified LAN/WLAN management system simplifies tools and automates management tasks across the entire infrastructure

Easy policy enforcement, network-wide, ensures the availability of network resources for today's bandwidth intensive applications

Highly automated capabilities avoid time-consuming manual tasks for consistency and increased efficiency

Open APIs integrate with other IT applications streamlining workflows

Anytime, anywhere management from popular mobile devices for the fastest response times

## Product Overview

Enterasys NMS rich set of integrated management capabilities provides centralized visibility and highly efficient anytime, anywhere control of enterprise wired and wireless network resources. NMS is distinguished by web-based NMS OneView, the unified control interface. Graphical and exceptionally easy-to-use, OneView simplifies troubleshooting, help desk support tasks, problem solving and reporting.

Application	Benefits
<b>Console with Wireless Management</b> Graphically displays aggregated wired and wireless network information for centralized and simplified management of all infrastructure components as a single system	<ul style="list-style-type: none"> <li>Combines WLAN/LAN management for greater IT operational efficiency</li> <li>Facilitates communication and alignment between IT and line of business</li> <li>Adds value to existing management platforms</li> <li>Reduces total cost of ownership</li> </ul>
<b>Policy Management</b> Automates the definition and enforcement of network-wide policy rules controlling QoS, priority, bandwidth, and security	<ul style="list-style-type: none"> <li>Fully aligns the network infrastructure with business objectives</li> <li>Simplifies policy lifecycle management easing IT burden</li> <li>Reduces troubleshooting time</li> <li>Minimizes risk of disruptions</li> </ul>
<b>Automated Security Management</b> Integrates with Enterasys IPS, NAC, SIEM, and other third party security appliances to respond automatically and remediate threats in real-time	<ul style="list-style-type: none"> <li>Protects corporate data and ensures network availability</li> <li>Ensures response actions are policy-based and executed consistently</li> <li>Reduces IT staff burden and costs</li> </ul>
<b>Network Access Control (NAC) Management</b> Manages the NAC solution providing granular control over users and applications, and featuring a high-level dashboard view of the complete security posture	<ul style="list-style-type: none"> <li>Ensures that only the right users have access to the right information from the right place and time</li> <li>Maintains guest/contractor and user productivity</li> <li>Simplifies end-system compliance monitoring and reporting</li> <li>Delivers quick time to value</li> </ul>
<b>Inventory Management</b> Automates management of device configurations and provides tools to capture, modify, load, and verify configurations	<ul style="list-style-type: none"> <li>Provides network control and better efficiency</li> <li>Streamlines IT operations and enhances staff productivity</li> <li>Enables audit efficiency and cost savings</li> </ul>
<b>OneView</b> Unified web-based interface for network analysis, problem solving, help desk visibility and reporting functions with unique, fast access to port-level information.	<ul style="list-style-type: none"> <li>State-of-the-art graphics reporting enables efficiency and more effective communications</li> <li>Simplifies troubleshooting, help desk support tasks, problem solving across wireless and wired networks</li> <li>Streamlines wireless management</li> </ul>
<b>Mobile Management</b> Optimizes network management and help desk troubleshooting with anywhere, anytime access to critical NMS information using popular mobile devices	<ul style="list-style-type: none"> <li>Prevents loss of user productivity</li> <li>Most responsive network management</li> </ul>

## Benefits

### Business Alignment

- Transform complex network data into business-centric, actionable information
- Centralize and simplify the definition, management, and enforcement of policies such as guest access
- Efficiently address regulatory compliance requirements

### Operational Efficiency

- Reduce IT administrative effort with the automation of routine tasks and web-based dashboard
- Streamline management with the integration of wired and wireless networks
- Easily enforce policies network-wide for QoS, bandwidth, etc.
- Troubleshoot with the convenience of a smart phone or tablet
- Integrate with enterprise management platforms

### Security

- Protect corporate data with centralized monitoring, control, and real-time response
- Enhance existing investments in network security
- Preserve LAN/WLAN network integrity with unified policies

### Service and Support

- Industry-leading first call resolution rates and customer satisfaction rates
- Personalized services, including site surveys, network design, installation and training

**There is nothing more important than our customers.**

NMS is distinctive for granularity that reaches beyond ports, VLANs and SSIDs down to individual users, applications, and protocols. NMS increases efficiency, enabling IT staff to avoid time-consuming manual device-by-device configuration tasks. NMS fills the functionality gap between traditional element managers that offer limited vendor-specific device control, and expensive, complex enterprise management applications. NMS is a key component of Enterasys networking solutions and assures that network operations are aligned with the business, operationally efficient, and secure.

## OneView

Enterasys NMS unifies all the NMS applications under one web-based control interface. With NMS OneView, critical network information is accessible and easy to use. This powerful tool enables both managers and technical staff to be more efficient in their monitoring, reporting, analysis, troubleshooting and problem solving tasks.

Highlights among the OneView capabilities include: wired/wireless dashboards, reports, web-based FlexViews, device views and events logs for the entire infrastructure. NetFlow diagnostics are incorporated into OneView enabling diagnosis of network issues and performance through real-time NetFlow analysis.

The NMS OneView wireless dashboard streamlines network monitoring with consolidated status of all the devices and drill down ability for more details. State-of-the-art reporting provides historical and real-time data for high level network summary information and/or details. The reports and other views are interactive allowing users to choose the specific variables they need when analyzing data. Web-based FlexViews enable real-time diagnostics.

PortView is a unique OneView tool. It combines data sources available to NMS such as performance data, NetFlow data and network access control (NAC) data and provides port level analysis for rapid troubleshooting.

## NMS Console

NMS Console, with NMS Wireless Manager, is the foundation for centrally monitoring and managing all the components in the infrastructure. NMS Console enables the network infrastructure to be viewed as a unified whole rather than as a collection of disparate individual components. It transforms complex network data into graphical, business-centric information making the network less complicated and better aligned with business requirements.

With its distributed client/server architecture, NMS Console is exceptionally convenient to use. A user with appropriate security credentials anywhere on the network can access a launch page and log into any of the NMS-managed applications. NMS Console simplifies routine and one-time tasks such as reconfiguring switches and access points, monitoring network performance, and isolating faults. It takes advantage of advanced functionality in Enterasys switching, routing, and wireless products including topology maps, FlexViews (graphical depictions of a broad range of network parameters), VLAN management, device discovery, and event logging. Enterasys NMS supports management for IPv6 devices.

## Wireless Management

NMS Wireless Manager, integrated with NMS Console, provides a single launch point for wired/wireless management and common management functionality. Enterasys NMS integrated wired/wireless management, streamlines IT effort and lowers costs. Configuration changes are specified and deployed in minutes rather than hours. A single administrator can manage significantly more users and devices by utilizing the inherent automation features in NMS.

When used with Wireless Advanced Services, NMS Wireless Manager integrates Wireless IPS security, performance, real-time visibility, and forensic data combined with Access Point (AP) details into the Wireless Manager control display. Adding Enterasys SIEM, IPS and NAC solutions further extends the benefits of NMS to consolidate and strengthen the enterprise's security posture over the entire network.

## Policy Management

NMS Policy Manager centralizes all the policies for users, applications, protocols, VLANs, ports, and data flows. It automates the definition, distribution, and enforcement of policy rules across the entire network. With an intuitive user interface, administrators can define policies once and then automatically enforce them on Enterasys policy-enabled infrastructure devices.

Unified wired/wireless policy management consolidates user access to protect IT services. NMS Policy Manager defines global user policies, dynamically updates and continuously enforces policy across wired and wireless environments. Packets are inspected and filtered at the AP and admitted or blocked based on the user's policy. Policy also controls topology management and traffic flows.

Policy Manager is role-based, significantly streamlining policy administration. Individual users with similar behavior profiles, such as sales managers, executives, or guest users are grouped into a far smaller number of roles. Applying roles makes it far easier to align the network infrastructure with the business and control guest users, enforce regulatory mandates, and enforce acceptable use rules.

Policy Manager includes a unique tool for delegating limited administration controls to non-technical line of business users. From a secure web-based console, a delegated user such as a line of business manager, receptionist, or classroom instructor can easily select a policy to implement. Policies are enabled or disabled with a simple mouse click and changes are instantly acknowledged on the console.

## Automated Security Management (ASM)

NMS Automated Security Manager is a unique threat response solution that translates security intelligence into security enforcement. It interoperates with the Enterasys Intrusion Prevention System (IPS) and third-party network security appliances to automate responses to security incidents, remediating threats in real-time. It ensures that corporate data is protected, secure, and available.

ASM executes policy-based rules, and when triggered, maps IP addresses to ports and takes assigned actions. The range of possible response actions is broad and configurable, including quarantining the user, disconnecting a wired or wireless client, or rate-limiting the traffic flow. Taking the action does not disrupt other users.

Combined with NMS Policy Manager and IPS, ASM provides sophisticated identification and management of threats and vulnerabilities. For example, when notified by the IPS, ASM can determine the exact source location of a threat, determine a response based on the security policy, and trigger the configured action on the network switch, access point or wireless controller.

## Network Access Control Management

NMS Network Access Control (NAC) Manager combines with Enterasys NAC Gateway or NAC Gateway Virtual appliances for a complete network access control solution ensuring that only the right users have the right access to the right information from the right place at the right time.

NMS NAC Manager software provides secure, policy-based NAC management. From one, centralized location IT staff can configure and control the NAC solution, simplifying deployment and on-going administration. The Enterasys NAC IP-to-ID Mapping capability binds together the username, IP address and MAC address, and physical port of each endpoint. NMS NAC Manager reports this important information for audit or forensics analysis.

NMS NAC Manager provides additional value through its integration with other NMS applications and Enterasys security products. For example, NMS NAC Manager with NMS Policy Manager enables “one click” enforcement of role-based policies. IP-to-ID Mapping is also used by NMS ASM for location-independent distributed intrusion prevention and by Enterasys Security Information & Event Manager (SIEM) to pinpoint the source of the threat.

## Inventory Management

NMS Inventory Manager is a tool for efficiently documenting and updating the details of the ever-changing network. It simplifies the deployment and management of Enterasys devices and supports basic configuration and firmware device management functions for popular third party devices. IT staff can easily perform a broad list of tasks including device administration on configuration files, schedule firmware updates, archive configuration data, or restore one or multiple devices to a known good state. Script-based configuration allows custom configuration scripts to be pushed to a set of devices. Inventory Manager identifies unused ports and chassis slots and tracks moves, adds, and changes for Field Replaceable Units.

Inventory Manager also tracks configuration changes for Enterasys devices made by other NMS applications, third-party management applications, or the command line interface.

## Mobile Management

NMS Mobile extends OneView optimizing network management and help desk troubleshooting with anywhere, anytime access to critical information using popular mobile devices such as iPad®, iPhone® and Android™ devices. Capabilities include: Network Access Control (NAC) end-system view, system location and tracking, wireless dashboards; detailed views of controllers and APs; event logs, and wireless client search.

## NMS Features

### IPv6

Enterasys NMS supports IPv6 management for IPv6 capable devices.

### Device Discovery

The discovery process locates network attached devices, stores attributes for these devices, and reports device status. Devices may be discovered automatically by specifying an IP address range or via both standard and multiple vendors' proprietary discovery protocols. Devices may also be added manually or imported into the NMS database using a device list file.

### Network Topology Maps

A topology map is an automatically generated visual representation of network connectivity. Topology maps, encompassing integrated wired and wireless networks, provide network administrators with in-depth graphical views of device groupings, device links, VLANs, and Spanning Tree status. Color codes are used to indicate device status and SNMP/ SNMPv3 or information traps are easily generated.

### FlexViews and Graphing

Incorporating both wired and wireless systems, FlexViews are NMS Console tools that allow network support staff to view a broad range of network configuration parameters in graphical format—including tables, bar graphs, line graphs, and pie charts. FlexView data is searchable and sortable. For example, an administrator can use a FlexView to quickly determine the top instances of ports with sustained load over 30% across all networked devices.

NMS Console ships with pre-defined FlexViews that depict status and configuration information for the entire network. An administrator can easily modify and apply filters to these pre-defined FlexViews, or create additional ones. FlexView data may also be exported in CSV, XML, and HTML formats.

### Basic Policy Management

Basic Policy Management allows users to view and configure port default policy for network attached devices. Use Basic Policy Management to view information about each port login session, including authentication type and authenticated user role.

### Compass

Compass is an endpoint and user search tool that allows the user to quickly locate information pertaining to an individual network user or group of users across the integrated wired and wireless network. It provides searches by user name, switch authentication, physical location, MAC address, IP address, IP Subnet, and other parameters.

### VLAN Tools

NMS Console includes a set of VLAN management tools to simplify the system-wide deployment of VLAN configuration and monitoring capabilities. Using these tools a user can easily create VLAN configuration parameters which may be deployed automatically to multiple devices or to groups of ports.

### MIB Browser Tools

NMS Console's Management Information Base (MIB) Browser allows the user to examine the SNMP MIB variables of network attached devices and set the values of writable MIB objects.

## Alarms and Events

The alarms/events interface reports alarm and event information from managed devices. This information may be archived, exported, filtered, or searched. NMS Console includes a configuration tool to trigger email or other notifications based on predefined alarm conditions.

## Ease of Installation

All NMS client-server applications are installed in a single step and the license key automatically determines which features are enabled. Product upgrades to add additional functionality are fast and straightforward. The Java®-based NMS client application is automatically installed and launched by clicking on a URL and is automatically upgraded if not at the correct revision level. This ensures that the server and client are always in sync, and all installation and upgrades only need to be performed on the server. The NMS client supports single sign-on so users are prompted just once for their authentication credentials across any of the NMS plugin applications. Permission consistency also limits user access to only authorized MIB information.

## Database Backups

Administrators can schedule backups of the NMS database for easier recovery.

# System Requirements

## NMS Server and Client OS Requirements

These are the operating system requirements for both the NMS Server and remote NMS client machines. Only 32-bit operating systems are supported.

### Windows (qualified on the English version of the operating systems)

Windows Server® 2003 w/ Service Pack 2  
Windows XP® w/ Service Pack 2 or 3  
Windows Vista® (Service Pack 1 Optional)  
Windows Server® 2008 Enterprise  
Windows Server® 2008 Enterprise 64-bit (as 32-bit application)  
Windows® 7

### Linux

Red Hat Enterprise Linux WS and ES v4 and v5  
SuSE Linux versions 10 and 11

### Mac OS® X (remote NMS client only)

Snow Leopard®

### VMware® (NMS Virtual Appliance)

VMware ESXi™ 4.0 server

## NMS Server and Client Hardware Requirements

These are the hardware requirements for the NMS Server and NMS client machines:

### NMS Server

Minimum - Dual-Core 2.4 GHz Processor, 2 GB RAM, 5 GB Free Disk Space  
Medium - Quad-Core 2.66 GHz Processor, 4 GB RAM, 10 GB Free Disk Space  
Large - Dual Quad-Core Intel® Xeon CPU E5530 2.4 GHz Processors (running Red Hat Enterprise Linux ES), 6 GB RAM, 20 GB Free Disk Space

### NMS Client

Recommended - Dual-Core 2.4 GHz Processor, 2 GB RAM

## Failover

NMS may be implemented in failover mode when it is deployed as a virtual machine. Leveraging VMware ESC and vCenter, an automatic failover based on hardware failure is provided if contact to the NMS server is lost.

## NMS Deployment Flexibility

Enterasys NMS is typically downloaded and installed on enterprise server machines. NMS is also available as an appliance or virtual appliance for enterprises that seek the benefits of these other deployment alternatives.

**NMS Appliance** -- server with all NMS applications pre-installed (activated via license keys) for enterprises that prefer the easy deployment of an appliance.

**NMS Virtual Appliance** -- virtual appliance with NMS applications pre-installed (activated via license keys) for enterprises who wish to further leverage their virtualized environments. It provides all the benefits of the management suite with the advantages of a virtual environment -- simple installation and cost savings from the use of existing hardware.

Free Disk Space - 100 MB

(User's home directory requires 50 MB for file storage)

Supported Web Browsers:

- Internet Explorer version 7 and 8
- Mozilla Firefox 2.0 and 3.0

Java Runtime Environment (JRE) 6 (also referred to as 1.6) or higher

**NMS Console** must be installed and configured prior to installing:

- NMS Automated Security Manager
- NMS Inventory Manager
- NMS NAC Manager
- NMS Policy Manager

### NMS OneView

NMS OneView supports reporting on about 2,500 devices/interfaces in a typical enterprise network which stores: raw data for 7 days with a 15 minute polling interval, hourly rollups for 8 weeks, and daily rollups for 6 months. More information on tuning the deployment is available in the OneView Users Guide.

**NMS Inventory Manager** is designed for use with Microsoft® Windows XP®, Windows Server 2003®, and Linux operating systems.

### NMS Appliance

For NMS Appliance specifications see [the Enterasys NMS \(formerly NetSight\) Appliance Installation Guide](#).

### NMS Virtual Appliance

A virtual appliance is a software image that runs on a virtual machine. The NMS virtual appliance is packaged in the .OVA file format defined by VMware and must be deployed on a VMware ESX™ 4.0 server or ESXi™ 4.0 server with a vSphere™ 4.0 client.

The NMS virtual appliance uses the following resources from the server it is installed on:

- NMS virtual appliance - configured with 8 GB of memory, four CPUs, two network adapters, and 60 GB of thick-provisioned hard drive space.

## Ordering Information

Enterasys NMS provides cost-efficient choices enabling enterprises to address their priorities, optimize their budget use and demonstrate quick time-to-value. NMS models range from a cost-efficient entry solution to full functionality for device intensive enterprises. Flexible upgrade options support deployment growth.

Part Number	Devices	Thin APs	Number of Concurrent Users	NMS Capabilities Included						
				Console (including Wireless Management)	Policy	Inventory	Automated Security (ASM)	NAC	OneView	Mobility
NMS-5	5	50	25	✓	✓	✓	✓	✓	✓	✓
NMS-10	10	100	25	✓	✓	✓	✓	✓	✓	✓
NMS-25	25	250	25	✓	✓	✓	✓	✓	✓	✓
NMS-50	50	500	25	✓	✓	✓	✓	✓	✓	✓
NMS-100	100	1000	25	✓	✓	✓	✓	✓	✓	✓
NMS-250	250	2500	25	✓	✓	✓	✓	✓	✓	✓
NMS-500	500	5000	25	✓	✓	✓	✓	✓	✓	✓
NMS-U	Unlimited	Unlimited	25	✓	✓	✓	✓	✓	✓	✓
NMS-BASE-10	10	100	3	✓	✓	✓				
NMS-BASE-25	25	250	3	✓	✓	✓				
NMS-BASE-50	50	500	3	✓	✓	✓				
NMS-BASE-100	100	1000	3	✓	✓	✓				
NMS-BASE-250	250	2500	3	✓	✓	✓				
NMS-BASE-500	500	5000	3	✓	✓	✓				
NMS-BASE-U	Unlimited	Unlimited	3	✓	✓	✓				
Part Number	NMS Appliance									
SNS-NSS-A	Rack mountable server with all NMS applications pre-installed. Purchased applications (licensed separately) are activated via license keys.									

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## Warranty

As a customer-centric company, Enterasys is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible.

The NMS Appliance comes with a one year warranty against manufacturing defects. Software warranties are ninety (90) days, and cover defects in media only. For full warranty terms and conditions please go to: [www.enterasys.com/support/warranty.aspx](http://www.enterasys.com/support/warranty.aspx).

## Service and Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Enterasys account executive for more information about Enterasys Service and Support.

## Additional Information

For additional technical information on NMS suite of management applications please go to: <http://www.enterasys.com/products/visibility-control/index.aspx>.

## Contact Us

For more information, call Enterasys Networks toll free at 1-877-801-7082, or +1-978-684-1000 and visit us on the Web at [enterasys.com](http://enterasys.com)



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