

# Network Management Suite (NMS)

Network Management Applications Unify WLAN/LAN for Centralized Visibility and Control



Provides identity-based visibility and control of network resources with an open, standards-based architecture

Unified LAN/WLAN management system automates management tasks to significantly reduce IT administrative effort

Provisions role-based access controls for wired and wireless environments

Simplifies configuration change and troubleshooting procedures

Enables easy policy deployment aligned with industry-specific best practices

## Product Overview

The Enterasys NMS suite of management applications provides centralized visibility and granular control of enterprise wired and wireless network resources. With web-based NMS OneView, managers and technical staff have a unified, easy-to-use interface for reporting, network analysis, trouble shooting and providing interactive dashboards to the management team.

Application	Benefits
<b>NMS Console with NMS Wireless Manager</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>NMS Policy Manager</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>NMS Automated Security Manager</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>NMS Network Access Control (NAC) Manager</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>NMS Inventory Manager</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>NMS OneView</b> Unified web-based interface to facilitate network analysis, problem solving, help desk visibility and reporting functions	<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>

## 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.
- 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 and VLANs down to individual users, applications, and protocols. NMS increases efficiency, enabling IT staff to avoid time-consuming manual switch-by-switch 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.

## 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, NMC 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.

## NMS Wireless Manager

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, event, 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.

## NMS Policy Manager

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.

## NMS Automated Security Manager (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.

## NMS Network Access Control Manager

NMS Network Access Control (NAC) Manager combines with Enterasys NAC Controller and/or NAC Gateway 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.

## NMS Inventory Manager

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.

## NMS OneView

Enterasys NMS unifies all the NMS applications under one web-based interface, NMS OneView. 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: wireless dashboards, reports, web-based FlexViews, device views and events logs for the entire infrastructure.

The NMS OneView wireless dashboard streamlines wireless systems monitoring with consolidated status of all the wireless 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. Finally, the web-based FlexViews enable real-time diagnostics.

## NMS Value Bundles

NMS applications are designed for flexible deployment. With NMS Console, each application offers a standalone solution that can be seamlessly upgraded as other capabilities are needed. NMS applications are also combined in cost-saving bundles that address high priority IT management needs. Enterasys provides cost efficient choices so enterprises can address their priorities, optimize their budget use, and demonstrate quick time-to-value.

- NMS Single User – NMS Console, Policy Manager, and Inventory Manager for departments, smaller enterprises, or as an introduction to NMS's benefits
- NMS Policy Bundle – NMS Console and Policy Manager for enterprises focusing on policy management efficiency and cost savings
- NMS NAC Bundle – NMS Console, NMS Policy Manager and NMS NAC Manager for cost efficient introduction to the protection of network access control
- NMS Wireless Management Suite – NMS Console, NMS Policy Manager and NMS Inventory Manager combined provide an enterprise management solution for wireless-only environments

- NMS Advanced Bundle – a cost-effective package including NMS Console, NMS Inventory Manager, Policy Manager, NMS ASM and NAC Manager
- NMS Advanced Bundle FT – For the most comprehensive solution NMS Advanced Bundle FT provides all the components of NMS Advanced Bundle plus NMS OneView. It also includes two additional licenses: a supplemental NMS license for fault tolerance for those enterprises with high-availability SLA requirements, and a lab license

## NMS Suite 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.

## 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.

# 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

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

- VMware ESX 4.0 and ESXi 4.0 servers
- Any VMware host that supports the OVA appliance format

## Ordering Information

Part Number	NMS Advanced Bundle
<b>NS-AB-50</b>	NMS Advanced Bundle (50 device Console license for 1 server plus 3 concurrent users with Policy Manager, Automated Security Manager, Inventory Manager, and NAC Manager)
<b>NS-AB-50FT</b>	NMS Advanced Bundle FT (50 device Console license for 1 server plus 3 concurrent users, OneView, Policy Manager, Automated Security Manager, Inventory Manager, NAC Manager, a redundant NMS license for fault tolerance (manual fail-over), Includes Lab License)
<b>NS-AB-U</b>	NMS Advanced Bundle (Unrestricted device Console license for 1 server plus 25 concurrent users with Policy Manager, Automated Security Manager, Inventory Manager, and NAC Manager)
<b>NS-AB-UFT</b>	NMS Advanced Bundle FT (Unrestricted device Console license for 1 server plus 25 concurrent users, OneView, Policy Manager, Automated Security Manager, Inventory Manager, and NAC Manager, a redundant NMS license for fault tolerance (manual fail-over), includes Lab License)
Part Number	NMS OneView
<b>NS-OneView</b>	NMS web interface with reporting, troubleshooting tools and helpdesk access
Part Number	NMS Policy Bundle
<b>NS-PB-50</b>	NMS Policy Bundle (50 device Console license plus 3 concurrent users, and Policy Manager)
<b>NS-PB-U</b>	NMS Policy Bundle (Unrestricted device Console license for 1 server plus 25 concurrent users, and Policy Manager)
Part Number	NMS NAC Bundle
<b>NS-NB-10</b>	NMS NAC Bundle (10 device Console license for 1 server plus 3 concurrent users with Policy Manager and NAC Manager)
Part Number	NMS Single User
<b>NS-SU-10</b>	NMS Single User (10-device, single client (on same machine as server) license for Console, Policy Manager, and Inventory Manager)
Part Number	NMS Console
<b>NS-CON-50</b>	NMS Console (50 device license plus 3 concurrent user licenses)
<b>NS-CON-U</b>	NMS Console (Unrestricted device license plus 25 concurrent user licenses)
<b>NS-USER</b>	NMS User (Add 1 concurrent user license to existing NMS server)
Part Number	NMS Wireless Manager
<b>NS-WB-10</b>	NMS Wireless Management Suite (includes 10 AP license and up to 10 managed devices with Console, Policy Manager, and Inventory Manager)
<b>NS-WB-50</b>	NMS Enterprise Wireless Management Suite (includes 500 AP license and up to 50 managed devices with Console, Policy Manager, and Inventory Manager)
<b>NS-WM-CAPUP50</b>	NMS WM Capacity Upgrade for 50 APs (requires Console or bundle containing Console)
<b>NS-WM-CAPUP250</b>	NMS WM Capacity Upgrade for 250 APs (requires Console or bundle containing Console)
<b>NS-WM-CAPUP500</b>	NMS WM Capacity Upgrade for 500 APs (requires Console or bundle containing Console)
<b>NS-WM-CAPUP1000</b>	NMS WM Capacity Upgrade for 1000 APs (requires Console or bundle containing Console)
Part Number	NMS Applications
<b>NS-ASM</b>	NMS Automated Security Manager. Requires existing NS-CON-50 or NS-CON-U license.
<b>NS-IM</b>	NMS Inventory Manager. Requires existing NS-CON-50 or NS-CON-U license.
<b>NS-NAC</b>	NMS NAC Manager. Requires existing NS-CON-50 or NS-CON-U license.
<b>NS-PM</b>	NMS Policy Manager and Policy Control Console. Requires existing NS-CON-50 or NS-CON-U license.
<b>NS-LAB</b>	NMS Lab License (Non-production use, one-time fee inclusive of maintenance. 50 device license for 1 server plus 2 concurrent users with Policy Manager, Automated Security Manager, Inventory Manager, and NAC Manager. Requires existing NS-CON-50 or NS-CON-U license.)
Part Number	NMS Appliance
<b>SNS-NSS-A</b>	Rack mountable server with all NMS applications pre-installed. Purchased applications (licensed separately) are activated via license keys.



## 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)



**Thought Leadership**  
Patented Innovation

© 2010 Enterasys Networks, Inc. All rights reserved. Enterasys Networks reserves the right to change specifications without notice. Please contact your representative to confirm current specifications. Please visit <http://www.enterasys.com/company/trademarks.aspx> for trademark information.

