

Cisco Monitor Manager 1.1: For Applications Monitoring up to 250 IP Phones

More than 90 percent of the world's economy consists of small and medium-sized businesses (SMBs), making the impact of this segment huge. More than ever these businesses expect a fully reliable network for conducting their daily commerce. Economics, ease of use, and proactive maintenance of these networks are essential to the survival of SMB customers.

Product Overview

Cisco Monitor Manager 1.1 is a management application designed solely for the needs of SMBs. It provides monitoring of key device parameters on Cisco SMB class routers, switches, voice gateways, Cisco Unified Communications Manager Express, Cisco Unity[®] Express, security appliances, access points, and Cisco Unified IP phones. Cisco Monitor Manager also provides support for the newly introduced Cisco Unified Communications 500 Series for small businesses. It monitors the network 24 hours, 7 days a week, and periodically polls and collects inventory and performance-monitoring data from the managed Cisco devices in the network. Cisco Monitor Manager is a Microsoft Windows-based application that is completely nondisruptive to system operations and does not deploy any agent software on managed devices.

Applications

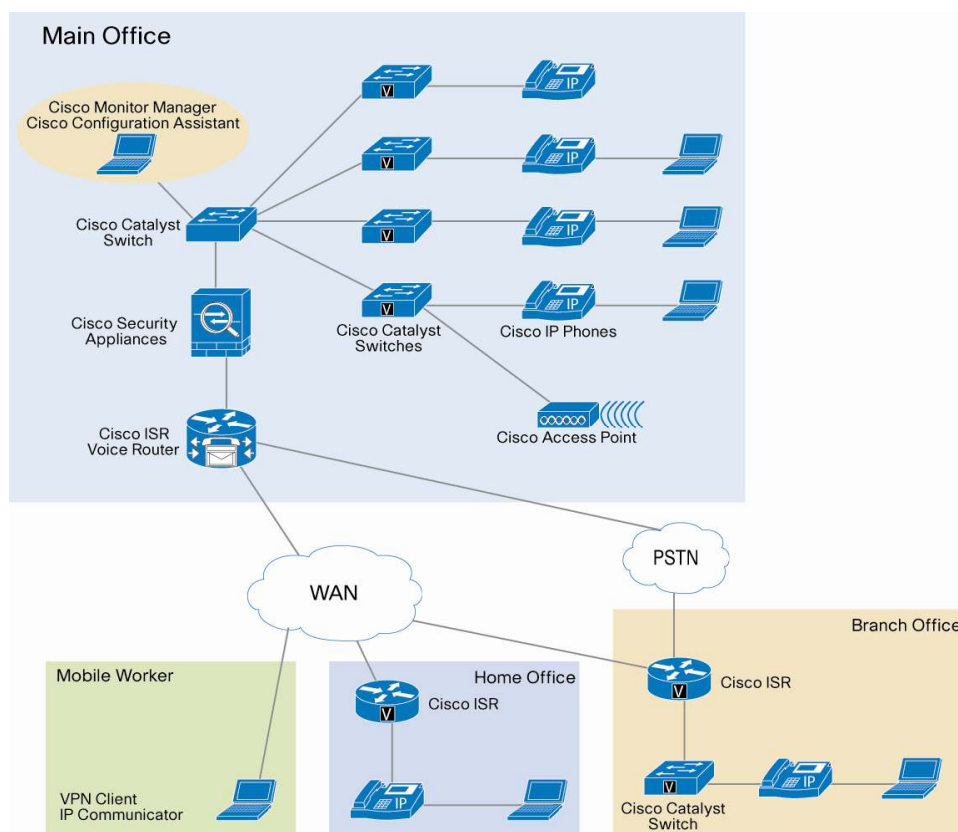
Cisco Monitor Manager can be used as a standalone network-monitoring application or as part of a managed service offering startup package. This gives greater flexibility to SMBs and creates revenue-generating opportunities for managed service providers.

SMB Self-Managed Solution

In this application, SMB customers can self-manage and monitor their network by simply installing a single copy of Cisco Monitor Manager at their corporate office. The application can operate in a standalone mode and remotely discover, monitor, and proactively manage the entire SMB network across the main office and remote offices. Reports and alerts are generated as required to provide 24-hour visibility into the health of the network. Cisco Monitor Manager also allows for the rapid deployment of Cisco device managers when they are needed to perform advanced configurations.

Cisco Monitor Manager performs automatic discovery of the entire underlying network infrastructure and Cisco Unified Communications System. The application provides a real-time physical view, service-level details, and the current operational status of each element in the network. See Figure 1.

Figure 1. Cisco Monitor Manager in a Small-Business Network



VAR Managed Solution

Cisco value-added reseller (VAR) managed service providers (MSPs) can install a copy of Cisco Monitor Director at their network operation center, and deploy Cisco Monitor Manager at their SMB customers' sites. This deployment model provides the VAR MSPs with an economical, proactive, 24-hour network management solution for their SMB customers. The benefit to SMB customers that decide to outsource their network management to a provider of managed services is they will be able to focus more on their own core business objectives rather than their network. Cisco Monitor Manager enhances proactive response to potential network downtime situations by actively collecting relevant network information and syslogs from the SMB customer's network and selectively forwarding this information to the VAR MSP's Cisco Monitor Director server. The VAR MSP can monitor and respond accordingly to this critical information as it is transferred over a secure and reliable communication channel.

Cisco Monitor Manager (Figure 2) also works as an onsite component of the Cisco VAR Managed Services Provider Solution. It provides distributed intelligence, comprehensive alerts, and reports to the Cisco Monitor Director application, which resides at the managed service provider's location. Cisco Monitor Director is a centralized, proactive network management tool for managed service providers that want to offer continuous, value-added network management services to SMBs. With this solution deployed, managed service providers have full visibility into their SMB customers' networks and can proactively anticipate network issues before they impact their customers' businesses.

Figure 2. Cisco Monitor Manager with Cisco Monitor Director



Key Features and Benefits

Cisco Monitor Manager provides the following key features and benefits:

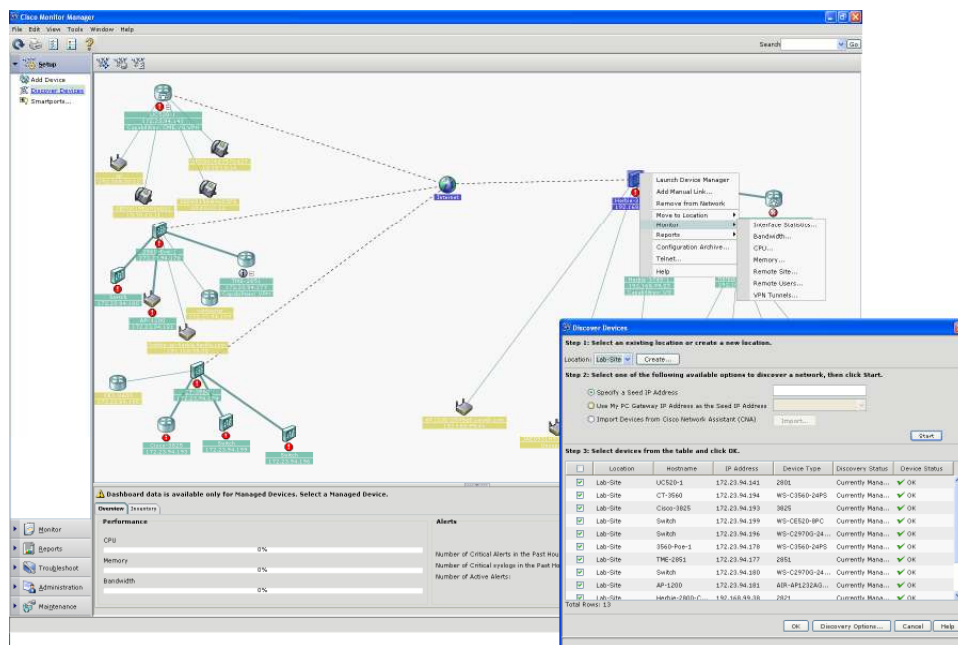
- Voice and data network discovery and topology
- Networkwide inventory collection and reporting
- Cisco IP telephony monitoring
- Key end-user monitoring component in an MSP upgrade
- Highly secure and reliable communication
- Cisco device performance monitoring
- Interface status and traffic monitoring
- Real-time alerts and notifications
- Reports
- Configuration archive
- Troubleshooting tools

Voice and Data Network Discovery and Topology

Cisco Monitor Manager allows network users to discover and view the complete topology of their network across all locations and remote offices. It supports Cisco Discovery Protocol–based network discovery, which starts from an initial seed device and discovers the entire underlying data and voice network and then visualizes it in an intuitive graphical display. Its real-time autorefresh display shows network and device-level status, faults, inventory, connectivity, and manageability information for all the Cisco networking elements in the network. Cisco Monitor Manager periodically rediscovers the topology and generates new alerts if it finds new Cisco networking devices in the network. The graphical topology display also serves as a central navigation point to initiate various context-sensitive right-click menus that can be used to obtain detailed status; to obtain real-time as well as historical performance data, reports, and alerts; and to launch device managers for in-depth configuration. See Figure 3.

A single copy of Cisco Monitor Manager deployed at the main office will enable monitoring of all remote sites as well the main office.

Figure 3. Cisco Monitor Manager Network Topology



Networkwide Inventory Collection and Reporting

Cisco Monitor Manager periodically collects inventory information that includes cards and interface information from all managed Cisco devices in the network. This interface information is collected and stored in an embedded database for reporting purposes. The application provides device-inventory reports that show all the managed Cisco devices with their operational cards and interfaces. These reports are also periodically sent to the Cisco Monitor Director server when managed by a VAR MSP on behalf of the customer. Cisco Monitor Manager also collects detailed inventory of all Cisco voice devices in the network and stores them as well in its embedded database for detailed voice related reports. See Figure 4.

Figure 4. Cisco Monitor Manager Networkwide Inventory Report

Device Inventory

Filters

Location: All

Device Family: All

Last Inventory Collected: March 11, 2007 11:26:53 PM PDT

Inventory

Device Type	Model	Serial Number	Part Number	MAC Address	IP Address	Slot Number	Software Version	Hardware Version	Up Time
2801	UCS20-1	FX01002217M			172.23.94.341		12.0(PREDDO_03.2006...	4.0	March 8, 2007 5:25:...
WS-C3560-24PS	CT-3560	CAT3560RMD	73-9673-09		172.23.94.194		12.0(2)SEB4	WS-C3560-24PS-E-P0	December 28, 2006 ...
3825	Cisco-3825	FX009062PC			172.23.94.193		12.0(1)T2	1.0	March 10, 2007 7:31:...
C3825 Motherboard		FX009062PC	800-23087-01			0	12.0(1)T2	1.0	
GigabitEthernet0/0				00:13:39:CA:3B:00	172.23.94.139				
GigabitEthernet0/1				00:13:39:CA:3B:01	172.23.94.193				
NR-3825W		FOC085024Y	800-35157-01			2	12.0(1)T2	1.0	
WS-CES20-8PC	Switch		73-11204-02		172.23.94.199		12.0(3)PT5		March 1, 2007 12:09:...
FastEthernet1				00:09:67:FF:3D:82					
FastEthernet2				00:09:67:FF:3D:83					
FastEthernet3				00:09:67:FF:3D:84					
FastEthernet4				00:09:67:FF:3D:85					
FastEthernet5				00:09:67:FF:3D:86					
FastEthernet6				00:09:67:FF:3D:87					
FastEthernet7				00:09:67:FF:3D:88					
FastEthernet8				00:09:67:FF:3D:89					
GigabitEthernet1				00:09:67:FF:3D:81					
WS-C2970G-D4T-E	Switch	CAT3092ZHL9	73-0754-08		172.23.94.196		12.0(2)SEB2	WS-C2970G-D4T-E-M0	February 9, 2007 11:...
WS-C3560-24PS	3560-Poe-1	CAT3096N078	73-9673-09		172.23.94.178		12.0(2)SEB2	WS-C3560-24PS-S-P0	December 28, 2006 ...
2801	TRE-2801	FX009062W7			172.23.94.177		12.0(1)T7	03.04	February 9, 2007 11:...
WS-C3560-24PS	3560-Poe-1	FX009062W7	800-24799-01			Internal	12.0(1)T7	1.0	
C2801 Motherboard		FX009062W7	800-21934-02			0	12.0(1)T7	4.0	
GigabitEthernet0/0				00:14:49:09:A6:F0	172.23.94.140				
GigabitEthernet0/1				00:14:49:09:A6:F1	172.23.94.177				
HWIC-4ESW		FOC09112P7	73-8474-06			2	12.0(1)T7	5.1	
VIC-2PVS		32615059	800-02493-04			3	12.0(1)T7	1.1	
WIC-14DSL		FOC0924651A	73-4771-09			0	12.0(1)T7	2.0	
NR-1CE1T3-FX1 Port adapter		FOC090258R0	800-21550-01			1	12.0(1)T7	1.0	
WS-C2970G-D4T-E	Switch	CAT3092ZHLQ	73-0754-08		172.23.94.180		12.0(2)SEB2	WS-C2970G-D4T-E-M0	January 15, 2007 12:...
WS-C2970G-D4T-E	Switch	FX009062W7	73-0704-12		172.23.94.181		12.0(1)T7	03.04	January 15, 2007 11:...
WS-C3560-24PS	Herb-2800-CHE-CUE	FX010084HM	192.168.99.30				12.0(1)T7	03.04	March 4, 2007 5:45:...
WS-C3560-24PS	Herb-3560-1	CAT3096N078	73-5700-10		192.168.99.34		12.0(2)SEB2	WS-C3560-24-CHM-CUE	December 15, 2006 ...
WS-C2950G-24-EI	Herb-2950-1	FX0044621EH	73-7280-05		192.168.99.37		12.0(2)SEB2	WS-C2950G-24-EI-E0	December 15, 2006 ...
3745	Herb-3745-1	FX009062ZEH	73-7280-05		192.168.99.33		12.0(1)T7	2.0	March 5, 2007 11:18:...

Total Rows: 283

Close

Cisco IP Telephony Monitoring

The application remotely polls and collects data continuously as it monitors the different Cisco IP telephony elements such as Cisco Unified Communications 500 Series, Cisco Unified Communications Manager Express, Cisco Unity Express, Cisco voice gateways, and Cisco Unified IP phones. It provides real-time information and raises alerts for connectivity-related and registration-related outages affecting Cisco Unified IP phones in the network and provides additional contextual information to determine the location and identification of the Cisco Unified IP phones. It uses open interfaces such as Simple Network Management Protocol (SNMP) and HTTP/HTTPS to periodically collect data from the Cisco Unified Communications System and the underlying transport infrastructure.

Cisco Monitor Manager provides a rich set of reports that include trunk utilization, voice port utilization, and IP phone reports. The IP phone inventory reports give network managers instant access to status information about every IP phone deployed in the network. Such reports are available for both Session Initiation Protocol (SIP)-based and Skinny Client Control Protocol (SCCP)-based IP phones. Cisco Monitor Manager also provides voicemail monitoring that keeps track of the size of the mailbox and creates alerts based on configured threshold limits.

Secure and Reliable Communication

Cisco Monitor Manager uses the highly secure and reliable HTTP over Secure Sockets Layer (HTTPS) protocol when discovering and retrieving configuration and performance information from managed Cisco routers, switches, voice gateways, Cisco Unified Communications Manager Express, Cisco Unity Express, access points, and security devices. The application also supports protocol fallback and uses HTTP if the HTTPS protocol is not supported by a managed Cisco device.

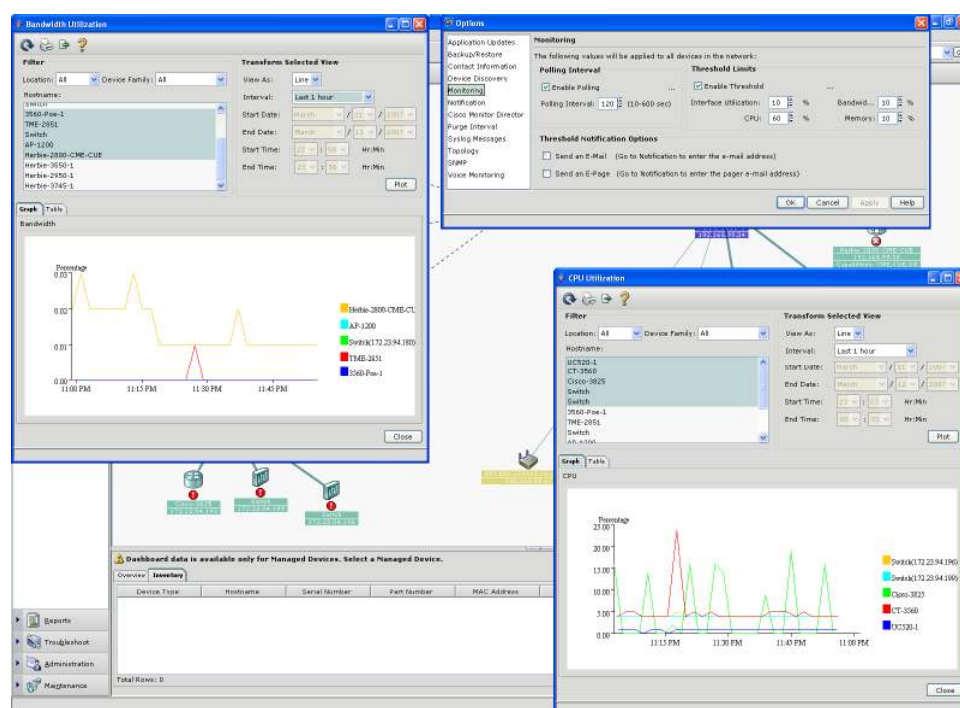
In managed service provider deployments, Cisco Monitor Manager periodically communicates with the Cisco Monitor Director installed at the MSP's location using a secure, reliable, and encrypted Secure Sockets Layer (SSL) connection. Every Cisco Monitor Manager that connects back to a

Cisco Monitor Director server is authenticated using a unique customer ID number and preshared serial license key. For improved security, the SSL port is made configurable on the Cisco Monitor Manager application as well as the Cisco Monitor Director server.

Cisco Device Performance Monitoring

Cisco Monitor Manager provides a GUI for monitoring important device parameters such as CPU, memory, and public switched telephone network (PSTN) trunk utilization. The application periodically polls the device for these parameters and stores them in the Cisco Monitor Manager embedded database for real-time graphing, historical analysis, and reporting purposes. The application also allows users to configure thresholds for these parameters in order to notify operators of a threshold breach. Application alerts are generated and dispatched through e-mail or pager messages and optionally sent to a Cisco Monitor Director server operating in a managed services solution mode. See Figure 5.

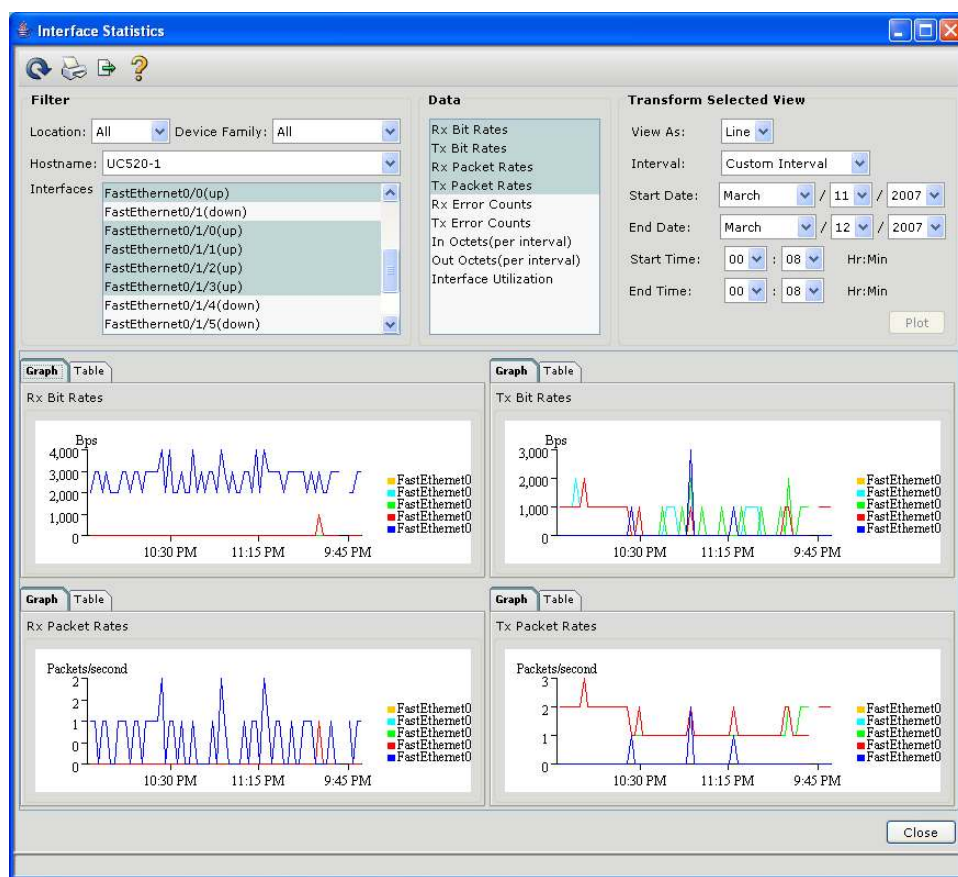
Figure 5. Cisco Monitor Manager Device Performance Monitoring



Interface Status and Traffic Monitoring

Cisco Monitor Manager monitors traffic status and important interface parameters such as packet rates, interface status, traffic counters, errors, and interface utilization. The application periodically polls the device for these parameters and stores them in the embedded database for real-time graphing, historical analysis, and reporting purposes. The application also allows users to configure thresholds for these monitored parameters in order to notify operators of a threshold breach. See Figure 6.

Figure 6. Cisco Monitor Manager Interface Monitoring

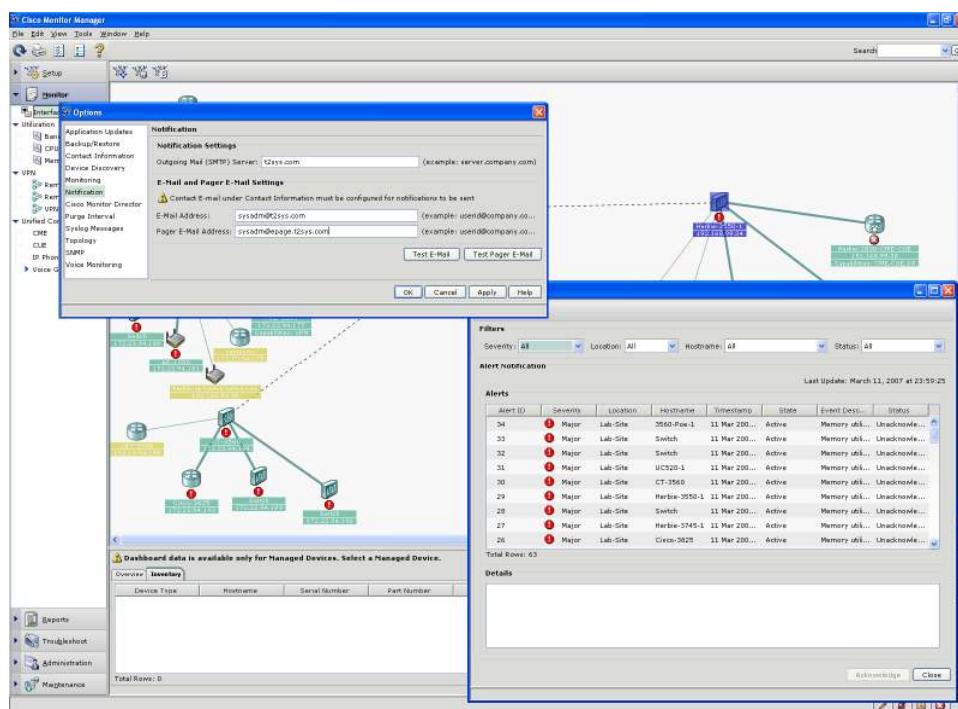


Real-Time Alerts and Notifications

Cisco Monitor Manager collects syslogs from all managed Cisco devices and displays real-time fault-monitoring information to help network users anticipate issues before they affect users. The application converts emergency, alert, and critical syslogs into alert notifications and notifies network managers through user-specified e-mail and pager messages. In addition to displaying user-friendly charts and graphs, Cisco Monitor Manager also compares monitoring data against user-defined thresholds and notifies network managers of a threshold breach. Cisco Monitor Manager also raises alerts on Cisco Unified Communications devices based on their service status.

Cisco Monitor Manager stores these alerts in the embedded database for historical reporting purposes over a user-configured time duration. See Figure 7.

Figure 7. Cisco Monitor Manager Notification and Alerts

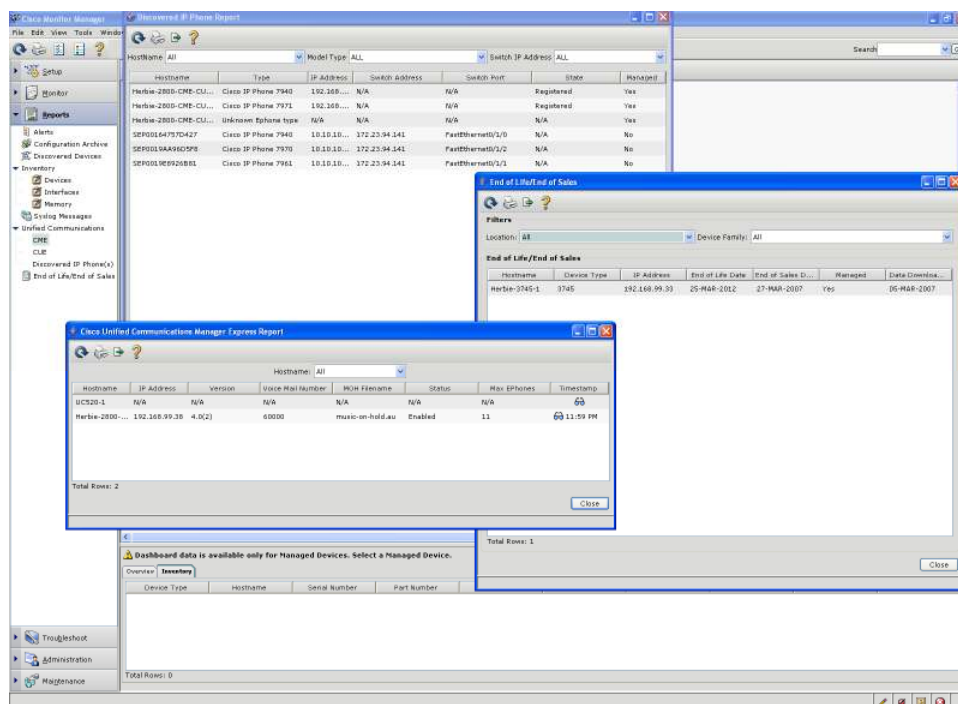


Reports

Cisco Monitor Manager periodically retrieves inventory and performance data and collects syslogs from the monitored devices. This data is stored in the embedded database for historical reporting purposes. The application provides in-depth reporting capabilities that are easy to interpret, present, and print. Data from the graphical reports can be filtered based on site, device family, or a particular managed Cisco device. Cisco Monitor Manager supports the following networkwide, easy-to-use graphical reports. See Figure 8.

- Alert Report
- IP Phone Report
- Device Performance Report
- Syslog Report
- End-of-Sale/End-of-Life
- Device Inventory Report
- Configuration Archive Report
- Discovered Devices Report

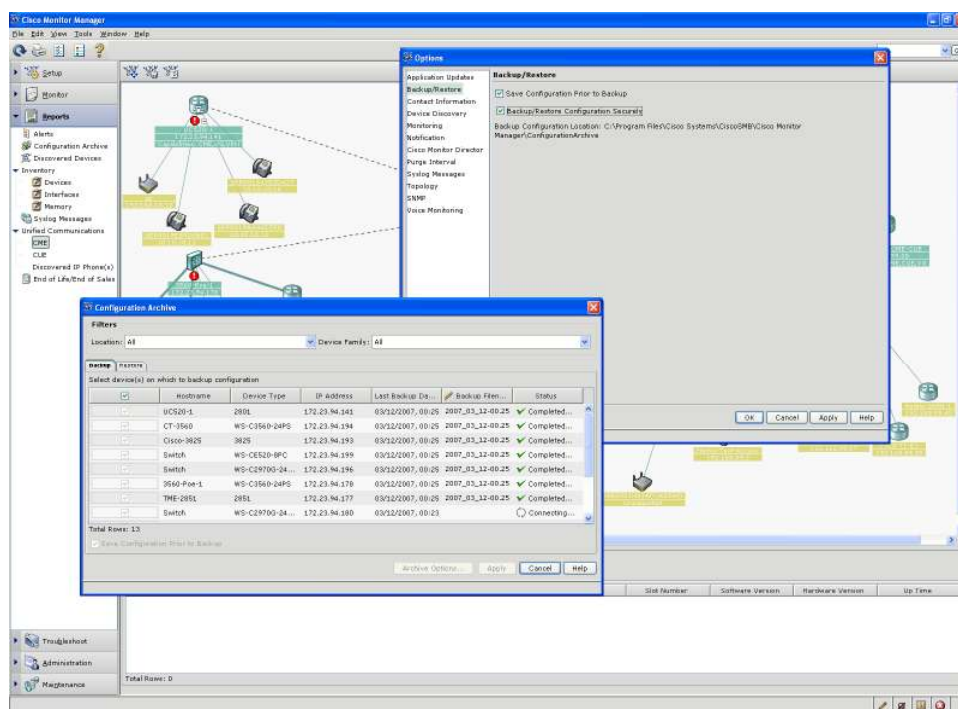
Figure 8. Cisco Monitor Manager Reports



Configuration Archive

The Cisco Monitor Manager GUI helps network users to perform on-demand backup and restore of startup configuration files for all the managed Cisco devices in the network. The configuration archive feature in Cisco Monitor Manager also supports backup and restore of the VLAN database for all managed Cisco Catalyst® switches in the network. With this feature, network managers can also save running configurations to startup configurations before performing a manual backup. See Figure 9.

Figure 9. Cisco Monitor Manager Configuration Archive



Troubleshooting Tools

Cisco Monitor Manager provides effective troubleshooting tools such as traceroute, ping, and port search to help network managers debug and isolate network issues. The port search feature helps network administrators locate end stations like Cisco IP phones, access points and workstations on the network by specifying the MAC address or the IP address of the end station. Traceroute and ping help network managers debug and locate network connectivity-related conditions in the network.

Cisco Monitor Manager 1.1 Features and Benefits

Table 1 lists the features and benefits of Cisco Monitor Manager.

Table 1. Features and Benefits

Feature	Benefits
Ease of use and low initial investment	<ul style="list-style-type: none"> Specifically designed for SMBs Intuitive and easy to use Low-cost initial deployment
Cisco Discovery Protocol-based network discovery and complete topology	<ul style="list-style-type: none"> Discovers entire data and Cisco Unified Communications voice network Rich graphical topology views span multiple customer locations, displaying the total network with unified topologies and interconnections Displays network- and device-level fault information, device connectivity, and manageability information
Device system parameters configuration	<ul style="list-style-type: none"> Provides easy-to-use configuration of basic system parameters; for in-depth data and voice configuration, use Cisco Configuration Assistant.
Highly secure and reliable channel to the managed devices	<ul style="list-style-type: none"> Uses highly secure and reliable HTTPS and Simple Network Management Protocol (SNMP) connection to retrieve configuration and monitoring information from managed devices
Networkwide inventory collection and reporting	<ul style="list-style-type: none"> Provides complete device-inventory information including card and interface details for all managed devices in the network Provides inventory reports that can be used to keep track of devices and cards in the network
Built-in troubleshooting tools	<ul style="list-style-type: none"> Facilitates debugging of network issues by providing troubleshooting tools such as traceroute and ping

IP telephony monitoring	<ul style="list-style-type: none"> • Discovery, inventory, and monitoring of Cisco Unified IP telephony elements • Provides real-time information about connectivity and registration status of Cisco Unified IP telephony elements • Raises alerts on Cisco Unified IP telephony element based on their service status • Voice mailbox monitoring; keeps track of the size of the mailbox and creates alerts based on the configured threshold limits. • Monitoring of PSTN trunk and voice port utilization
Performance and interface traffic monitoring	<ul style="list-style-type: none"> • Collects, stores, and displays important real-time monitoring information with output options of charts and graphs • Compares monitoring data against user-defined thresholds and generates threshold-crossing alerts to the user • Monitors interface traffic statistics and displays interface utilization • Monitors CPU and memory utilization for all managed devices
Real-time alerts and notifications through e-mail and pager	<ul style="list-style-type: none"> • Sends e-mail or pager messages for notification of possible discovery, syslogs, or monitoring alerts
Applications	<ul style="list-style-type: none"> • Self-managed solution—Cisco Monitor Manager operating as a standalone application and managed onsite by the SMB customer • VAR managed solution—Cisco Monitor Manager is the end user monitoring component of the VAR managed service offerings.
Highly secure and reliable communication	<ul style="list-style-type: none"> • Uses highly secure and reliable Secure Sockets Layer (SSL) connection to communicate with Cisco Monitor Director • Configurable SSL port for improved security
Configuration archive	<ul style="list-style-type: none"> • Facilitates backup and restore of startup configuration files • Network managers can also select the option of saving running configuration files prior to manual or periodic backup
End-of-sale and end-of-life reports	<ul style="list-style-type: none"> • Provides product end-of-sale and end-of-life reports to predict network upgrade requirements
Syslog-based alerting and reporting	<ul style="list-style-type: none"> • Collects and stores syslog messages from managed devices • Generates alerts and reports of syslog messages
Device manager launch point	<ul style="list-style-type: none"> • Supports the launch of various Cisco device managers such as the Cisco Adaptive Security Device Manager and the Cisco Router and Security Device Manager, Cisco PIX[®] Device Manager, Smartports, and so on
Persistent storage of monitored data and device credentials for historical reporting with built-in database	<ul style="list-style-type: none"> • Uses built-in database to store inventory, performance, and syslog data • Supports the ability to view, report, and analyze historical data
Discovery and monitoring of VPN peers	<ul style="list-style-type: none"> • Discovers VPN peers across locations • Monitors status and traffic parameters of VPN tunnels

Product Specifications

Table 2 lists system requirements for Cisco Monitor Manager, and Table 3 provides information about supported device software.

Table 2. System Requirements

Description	Specifications
Cisco networking device support	<ul style="list-style-type: none"> • Routers/Integrated Services Routers—Cisco 830, 850, 870, 1700, 1800, 1841, 2600, 2800, 3600, 3700, and 3800 Series • Cisco Catalyst Switches—Cisco Catalyst 2900XL, 2940, 2950, 2955, 2970, 3550, 3500XL, 3560, and 3750 Series, and Catalyst Express 500 Series • Cisco Unified Communications 500 Series for Small Business • Cisco Unified Communications Manager Express, Cisco Unity Express • Cisco Unified IP phones • Security Appliances—Cisco ASA 5505 and 5510; Cisco PIX 501, 506, 506E, 515, and 515E • Access Points—Cisco Aironet[®] 1100 and 1200 Series; Airespace 1010, 1020, and 1030 Series; Airespace 2006, 4112, 4124, 4136, WLC521 and AP521, and 4402 Wireless LAN Controllers, Cisco Integrated Services Router network modules

Voice Modules	<ul style="list-style-type: none"> Voice Interface Modules—VIC2-2FXS, VIC2-2FXO, VIC2-4FXO, VIC2-2E/M, VIC-4FXS/DID, VIC-2BRI-NT/TE, VWIC2-1MFT-T1/E1, VWIC2-2MFT-T1/E1, VWIC-1MFT-T1, VWIC-2MFT-T1, VWIC-2MFT-T1-DI, VWIC-1MFT-E1, VWIC-2MFT-E1-DI Voice Network Modules—NM-HD-1V, NM-HD-2V, NM-HD-2VE, NM-HDA-4FXS, NM-HDV2, NM-HDV2-1T1/E1, NM-HDV2-2T1/E1 Voice Expansion Modules—EVM-HD-8FXS/DID, EM-HDA-8FXS, EM-HDA-6FXO, EM-HDA-3FXS/4FXO, EM-4BRI-NT/TE, EM-HDA-8FXS, EM-HDA-4FXO, EM2-HDA-4FXO
Scalability criteria	<ul style="list-style-type: none"> Networking devices: 20 Access points: 50 Cisco Unified IP phones: up to 250
Operating systems	<ul style="list-style-type: none"> Windows XP Professional (Service Pack 2) Windows 2000 Professional (Service Pack 4)
Protocols	<ul style="list-style-type: none"> HTTP/HTTPS, SNMP, Cisco Discovery Protocol, TFTP
Processor	<ul style="list-style-type: none"> Pentium IV 1.2 GHz
Memory	<ul style="list-style-type: none"> 2 GB RAM or more
Disk space	<ul style="list-style-type: none"> 1 GB or more

Table 3. Device Software Support Information

Device Family	Devices	Software Versions*
Cisco Aironet Access Points	Cisco Aironet 1100, AP521 and 1200 Series	12.2(15)JA and later
Cisco Airespace Access Points**	Cisco Airespace 2006, 4112, 4124, 4136, and 4402 Wireless LAN Controllers, WLC521 and AP521. Airespace 1010, 1020, and 1030 Series	** see note below
Cisco Routers	Cisco 830/850/870, Cisco 1700/1800/1841, Cisco 2600/ 2800, Cisco 3600/ 3700/ 3800, Cisco Unified Communications 500 Series for Small Business	12.2(13)ZH and later
	Cisco SBS 101/106/107/200	12.3(8)YG and later
Cisco Catalyst Switches	Cisco Catalyst 2900XL, 2940, 2950, 2955, 2970, 3550, 3500XL, 3560, and 3750 Series, and Catalyst Express 500 Series	12.0(5.1)XU and later
Cisco ASA and Cisco PIX Security Appliances	Cisco ASA 5505 and 5510 Cisco PIX 501, 506, 506E, 515, and 515E	7.0 and later
Cisco Unified Communications Express	Cisco Unified Communications Manager Express	3.3 and above
	Cisco Unity Express	2.0 and above
Cisco Unified IP phones	Cisco IP Phones 7900 Series	—

* Indicates the minimum software version supported by the device family. Individual devices in the family may require later versions.

** These devices will not be supported as fully managed devices. Thus no inventory, syslog, and monitoring functions will be available for these devices in release 1.1. These devices would only be discovered as neighbor devices provided Cisco Discovery Protocol is turned on for them. Cisco Monitor Manager 1.1 will not allow these devices to be added as initial devices. Cisco Monitor Manager 1.1 will show the controller and access points on the topology map. It will allow launching the embedded device manager on the controller.

For more information about system requirements, please refer to the Cisco Monitor Manager 1.1 Quick Start Guide at <http://www.cisco.com/go/sbnm>.

Cisco Monitor Manager 1.1 Licensing

Cisco Monitor Manager is a licensed application.

- SMB Self-Managed License—This Cisco Monitor Manager license is a perpetual license with no expiration date. This application allows network managers to self-manage their own SMB networks.

- **VAR MSP License**—This license is a yearly subscription license where Cisco Monitor Manager is installed at the end-user customer site and provides monitoring information to the user's managed service provider. The benefits provided in this application are realized when Cisco Monitor Manager works together with Cisco Monitor Director installed at the partner's location to assist in remotely managing and proactively monitoring the end user's network.

Cisco Monitor Manager also supports upgrade licenses that allow customers to scale their monitored network from 48 users to 250 users, and from a self-managed deployment to VAR-managed deployment. In a managed deployment, Cisco Monitor Manager sends its license type as well as its expiration status to Cisco Monitor Director at the VAR MSP's site. The VAR MSP can create license reports and proactively remind their customers of upcoming renewals.

Ordering Information

Cisco Monitor Manager is offered as a standalone application for SMBs. The ability to add additional software and support licenses is also available. An evaluation product is also offered without license keys for a limited trial and demonstration period. License purchases following the trial period are required for continued use of the product. Please refer to the online product bulletins for further ordering details. Cisco Monitor Manager 1.1 is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the [Cisco Ordering Home Page](#).

To download a time-based trial version of the latest Cisco Monitor Manager software or to purchase a perpetual license for use beyond the trial period, please contact your nearest Cisco channel partner or reseller.

Table 4 lists ordering information for Cisco Monitor Manager 1.1.

Table 4. Ordering Information

Product/Part Number	Description
MON-1.1-STD-K9	Cisco Monitor Manager 1.1 Single SW, STD Perpetual License
DIR-1.1-SMSPUP-K9	Cisco Monitor Director 1.1 STD SM to STD MSP

Cisco Monitor Manager licensing options are also described in detail in the product bulletin under the Cisco Monitor Manager "Product Literature" section at <http://www.cisco.com/go/sbnm>.

Cisco Unified Communications Services and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners offer a broad portfolio of end-to-end services to support the Cisco Unified Communications System. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and minimize network disruption during implementation. Operational services reduce the risk of communications downtime with expert technical support, and optimization services enhance solution performance for operational excellence. Cisco and its partners offer a system-level service and support approach that can help you create and maintain a resilient, converged network that meets your business needs.

For More Information

For more information about Cisco Monitor Manager, visit <http://www.cisco.com/go/sbnm> or contact your local Cisco account representative.



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