



Q&A

Cisco Media Gateway Controller Node Manager 2.6(1)

The Cisco® Media gateway controller (MGC) Node Manager supports the Cisco PGW 2200 Softswitch and provides a consolidated view of the other common Cisco components that make up an analog-to-voice-over-IP (VoIP) gateway solution. It specifically helps manage the call-control (MGC) functional layer as it bridges Signaling System 7 (SS7) phone traffic between the traditional Public Switched Telephone Network (PSTN) and Cisco next-generation packet networks – using either simple or intelligent call controls.

Q. What is Cisco MGC Node Manager?

A. The Cisco MGC Node Manager is one of the Cisco element managers that provide device-specific fault, configuration, accounting, performance, and security (FCAPS) management capability for the Cisco PGW 2200 Softswitch. (It was previously known as Cisco SC 2200 Signaling Controller or the Cisco VSC3000 Virtual Switch Controller). The Cisco MGC Node Manager provides fault, performance, and security management and integrates management access to all Cisco PGW 2200 Softswitch components, effectively representing them as an SS7 node to the network operator. Cisco VSPT provides the provisioning or configuration support for Cisco PGW 2200 with or without the Cisco MGC Node Manager. The Cisco PGW 2200 uses the MGC software technology, invented by Cisco Systems®, which constitutes the call-control functional layer that bridges between the traditional PSTN and next-generation packet networks – supporting SS7 interconnect, and providing intelligent call-control and routing functions in service provider networks.

Q. What does Cisco MGC Node Manager 2.6(1) manage?

A. It can be used for all the node components listed in Table 1; however, each Cisco PGW 2200 solution is tested with a particular version of Cisco MGC Node Manager, so check the individual solution recommendations prior to ordering. Not all the solutions listed in Table 1 use all the versions listed. Please verify the supported version by looking at the release notes for each release and patch on Cisco.com.

Table 1. Cisco Managed Elements

Managed Element/Device	Version	Solution
Cisco PGW 2200 Softswitch	9.2, 9.3.1, 9.3.2 – end of life 9.4.1, 9.5(2), 9.6(1)	Cisco Voice Infrastructure and Applications (VIA) Cisco PSTN Gateway Cisco Managed Voice Services Cisco Business Voice Services
Cisco SC 2200 Signaling Controller	7.4.12 – end of life	Wholesale Dial Wholesale Voice Cisco Any Service, Any Port (ASAP)
Cisco Signaling Link Terminal (SLT) Cisco Integrated SLT	Cisco IOS® Software Release 12.3	All
Cisco Catalyst® 5500 Switches	5.x – end of life	All
Cisco Catalyst 2900 XL Series Switches	12.x – end of life	All
Cisco Billing and Measurements Server	3.13	All
Cisco H.323 Signaling Interface adjunct	2.20, 2.21, 4.1	Cisco PSTN Gateway

- Q.** Does Cisco MGC Node Manager support fault, configuration, performance, accounting, and security (FCAPS) management functions?
- A.** Cisco MGC Node Manager provides features that support fault, performance, and user administration security management. See the note about accounting management. Cisco VSPT provides configuration management.

Fault Management

Faults are collected for all components of the Cisco MGC Node Manager, including MGC Host; Cisco Billing and Measurements Server; Cisco Catalyst 5500 Series, Catalyst 2900XL Series, and Catalyst 6509 switches; Cisco SLT and Integrated SLT; and Cisco H.323 Signaling Interface.

Configuration Management

- Cisco VSPT is available as part of Cisco PGW 2200 Softswitch and may be installed with the Cisco MGC Node Manager, Cisco PGW 2200, or standalone. When used with Cisco MGC Node Manager, it is launched for Cisco PGW 2200 and Cisco Billing and Measurements Server provisioning functions.
- Cisco VSPT provides a provisioning GUI for all signaling, trunk group, trunk, route, and dial-plan information required for Cisco PGW 2200 in all solutions and configurations.
- Cisco VSPT provides provisioning for Cisco SC 2200 Signaling Controller, but does not provision the gateway (network access server [NAS], or Cisco AS5000 Series Universal Gateway). Cisco AS5000 Series universal gateways are managed using their native command-line interfaces (CLIs) or by using Cisco LAN Management Solution (LMS), with Cisco Universal Gateway Call Analyzer (UGCA) and CiscoWorks Voice Manager as options.
- Man-Machine Language (MML) and CLI commands can also be used to set all provisioning parameters on Cisco PGW 2200 softswitches, Cisco SLT, and Cisco Billing and Measurements Server. They can be typed in directly or added to a script file for batch activation of provisioning parameters.
- Automated discovery of Cisco PGW 2200 softswitches, Cisco SLT, Cisco Catalyst switches, and Cisco Billing and Measurements Server is accomplished using a seed file or graphic workflow templates.

Performance Management

- Performance statistics and measurements are gathered and reported textually and graphically or exported in comma-separated value (.csv), tab, or space-delimited formats.

Accounting Management

- Logical and physical inventory information is displayed on the Cisco MGC Node Manager GUI; however, the traditional concept of inventory and billing-report generation is not provided. Billing records are presented in Bell AMA Format (BAF) by Cisco Billing and Measurements Server, or as an ASCII flat file using .csv formatting.

Security Management

- Cisco MGC Node Manager provides role-based user-access management for all functions directly controlled by it, such as discovery, alarm viewing, and configuration.
- Sun Solaris security is applied for Cisco PGW 2200 user login.
- Cisco IOS Software login security is used on the Cisco SLT and Cisco Catalyst switch CLI.

- Q.** How are Cisco Media Gateway Controller (MGC) Node Manager 2.6(1) and Cisco Voice Services Provisioning Tool (VSPT) related?
- A.** The Cisco MGC Node Manager now supports Cisco PGW 2200 Softswitch 9.6(1). Cisco Voice Services Provisioning Tool (VSPT) features are no longer included with the product's media kit; however, the VSPT is still launched from the appropriate Cisco MGC Node Manager Map icon. VSPT is available as a free download from Cisco.com. The version required for Cisco PGW 2200 9.6(1) is VSPT 2.6(1).

Q. How can I get alarm and event traps from the Cisco MGC Node Manager devices?

A. The Cisco MGC Node Manager components report their alarms using Simple Network Management Protocol (SNMP). Each device is configured during installation to report its traps to the Cisco MGC Node Manager management server IP address. In addition, Cisco MGC Node Manager also provides a “presence poll” to check each device periodically to make sure it is responding, the applications on the device are alive, and the device will be able to send traps when appropriate alarm events occur.

Q. How can alarm traps be forwarded from the Cisco MGC Node Manager?

A. 1) All alarms that result from traps received or events generated by Cisco MGC Node Manager are sent to a northbound SNMP manager. Cisco MGC Node Manager accepts clear commands back from the northbound SNMP manager to synchronize the alarm queue. Cisco Element Manager Framework 3.2, service pack 7, with the latest patch, contains the best support for clear and acknowledge commands from Cisco Info Center as a northbound SNMP manager. Cisco MGC Node Manager supports trap forwarding directly from the southbound managed elements, with no EMS alarm added. It also provides the Northbound Event Interface (NEI), which does include all EMS alarms, and delivers the northbound traps using the Cisco Element Manager Framework MIB, instead of requiring each network element MIB to be compiled. NEI is the preferred alarm-forwarding method.

2) Alarms may also be sent to a northbound management system through Common Object Request Broker Architecture (CORBA). All alarms and events may be registered to be reported in this fashion. Inventory is also supported through CORBA.

Q. Does Cisco MGC Node Manager manage the Cisco AS5000 and MGX 8000 series gateways?

A. Cisco MGC Node Manager does not manage the Cisco AS5000 and MGX 8000 series gateways; however, Cisco MGC Node Manager supports co-resident operation with Cisco LMS to reduce the number of Sun servers required. Cisco Transport Manager Release 6 provides the latest and best support for Cisco MGX voice gateways.

Q. How many users does Cisco MGC Node Manager support?

A. Cisco MGC Node Manager currently supports up to 10 users per application server and a maximum of 30 active out of 50 total users. It is recommended that a client-server configuration be used when supporting larger numbers of concurrent users, consisting of the presentation server and the management server. The presentation server offloads the X-terminal CPU workload so the management server can manage the database and polling chores.

Q. What hardware configuration is best?

A. Each solution and network configuration has certain characteristics that may influence the Sun hardware platform selected to support Cisco MGC Node Manager. Table 2 defines the hardware component requirements.

Table 2. Hardware Sizing

Cisco PGW 2200 Network Size	Small Network 1–2 Operations, 1–2 Nodes, 24 Traps per Minute	Midsized Network ³ 3–6 Operators, 3–10 Nodes, 36–42 Traps per Minute	Large Network 7–10 Operators, 11–20 Nodes, 42–54 Traps per Minute	
	One machine	Management server	Presentation server ¹	Management server
RAM (GB)	2	2	2	4
Swap (GB)	4	4	2	8
Disk drives	2	4 ²	1	4–6
CPU (MHz)	1 x 1.05G	2 x 1.05G	4 x 1.05G	4 x 1.05G

1. Additional presentation servers may be added, if necessary, to maintain good operator response time in large networks with heavy alarm traffic. Additional operator support will be tested in a future release.

2. Two disk machines will work for smaller networks with less traffic and fewer operators. Response time to operator commands will slow down as the network grows and additional operators are added.

3. Presentation and management servers can run co-resident or distributed. Adding more presentation servers generally increases the number of operators supported in increments of 10.

Q. What version of Solaris is required?

A. Solaris 8.

Q. Does Cisco sell Sun hardware for Cisco MGC Node Manager?

A. No, Cisco does not offer Sun hardware. Sun provides many workstation and server configurations that are compatible with the Cisco MGC Node Manager software. By purchasing directly from Sun, customers save money and benefit from a wider range of hardware options.


Q. How does the Cisco MGC Node Manager manage the Cisco SLT and the Cisco Catalyst 6509, Catalyst 5500 Series, and Catalyst 2900XL Series switches?

A. CiscoWorks Common Services with CiscoView is bundled with Cisco MGC Node Manager and can be launched from the Cisco MGC Node Manager object map icon menu. It is a GUI-based, device-management software application that lets you access dynamic status, statistics, and view and change some configuration information for Cisco switch and internetworking products. CiscoWorks CiscoView provides a graphical representation of the device chassis, showing the cards as they are installed. The many chassis and physical port parameters are set by selecting the card and port from the GUI and choosing the appropriate setting from a pop-up list.

The Cisco SLT and Cisco Catalyst switches can also be completely configured from their CLIs, accessible through Telnet on Cisco MGC Node Manager. Because the LAN switches listed here have reached end of life, it is recommended that CiscoWorks LMS be used with Cisco MGC Node Manager for more complete management and support for a wide variety of current Cisco LAN switches.

Q. Are patches made available for Cisco MGC Node Manager?

A. Patches for Cisco MGC Node Manager are made available for download from Cisco.com for download. Log in to the Website and access the following link: <http://www.cisco.com/kobayashi/sw-center/sw-netmgmt.shtml>.



Q. What products are tested to run co-resident with Cisco MGC Node Manager?

A. Many products have been regression tested to run together. These applications will install together and function; however, certain address changes may be required and there is no guarantee that performance will be acceptable on the hardware specified for each application alone.

- Cisco Voice Services Provisioning Tool
- Cisco Signaling Gateway Manager
- CiscoWorks LAN Management Solution
- Cisco Universal Gateway Call Analyzer
- CiscoWorks Voice Manager

Q. What is an element management system (EMS)?

A. The element manager system (EMS) is the first management layer in the Telecommunication Management Network (TMN) architecture. It provides element-specific network-management functions, such as alarm collection, device configuration, performance measurement collection with display, and user administration for access and security. A higher-level manager called the network management system (NMS) manages functions that require network-level information and can join together interfaces from multiple element managers. Cisco Info Center is an example of an NMS layer product and is supported by Cisco MGC Node Manager.

For More Information

For more information about the Cisco MGC Node Manager, visit its product page at

<http://www.cisco.com/en/US/products/sw/netmgtsw/ps1912/index.html> or contact your local account representative.

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