

Cisco Network Building Mediator 2500 and Cisco Network Building Mediator 5000

Product Overview

The Cisco® Network Building Mediator (“Mediator”) is the industry’s first solution that extends the network as a platform to transform the way buildings are built, operated, and experienced. The Mediator:

- Helps reduce energy usage across global operations
- Applies Cisco's expertise in collaboration, convergence, and security to foster sustainable energy use
- Provides flexible integration of new technologies that deliver energy efficiency, clean energy, and environmental stewardship

Figure 1. Cisco Network Building Mediator Elements



The Mediator powers an energy-efficient intranet by enabling, converging, and balancing four key elements: building systems, IT, energy supply, and energy demand (Figure 1). The integration of these disparate systems onto an IP network leads to a truly converged, energy-efficient building.

The Mediator's strategy is built on:

- Any-to-any connectivity: Building, IT, and “green” technologies
- End-to-end management: Efficiency, conservation, and de-carbonization
- Extensible platform: Third-party applications and cloud services

The Mediator collects data from the building, IT, energy supply, and energy demand systems, which use different protocols and are otherwise unable to communicate. It then normalizes the data into a common data representation. This enables the Mediator to perform any-to-any protocol translation and to provide information to the end user in a uniform presentation.

This network-based framework creates a common, standards-based, open platform that then allows enterprise applications, cloud services, and building/IT systems to communicate. The Mediator is protocol-agnostic and extends the network to serve as an effective foundation for sustainability management.

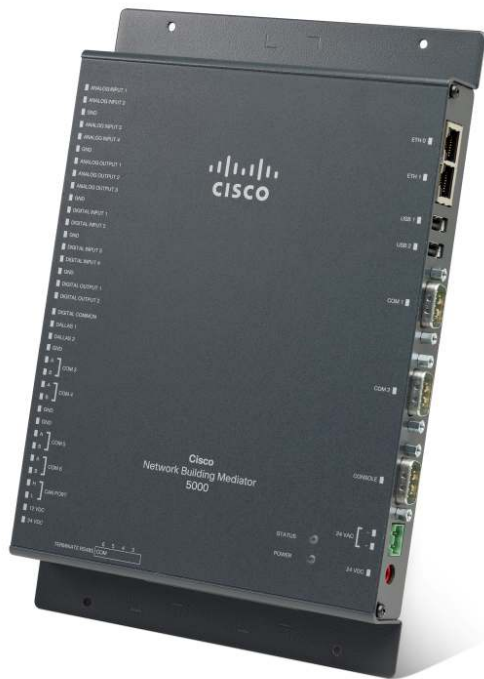
Benefits of the Cisco Network Building Mediator

The Mediator provides the following customer benefits:

- Reduced total cost of ownership (TCO)
- Simplified management of energy and facilities
- Flexible integration of building, IT, and clean technology systems
- Enhanced uptime and resiliency with networking technology
- Secure, high-quality delivery of concurrent building and IT services
- A future-proofed investment with third-party applications and cloud services

Figure 2 shows the Cisco Network Building Mediator.

Figure 2. Cisco Network Building Mediator



Features

Table 1 lists the features of the Cisco Network Building Mediator.

Table 1. Cisco Network Building Mediator Key Product Features

| | |
|----------------------------------|---|
| Network features | <ul style="list-style-type: none"> • Supports Cisco EnergyWise technology to manage energy across IT and facilities • Supports network protocols such as SNMP and XML |
| Multiprotocol translation | <ul style="list-style-type: none"> • Supports open standard building automation protocols such as BACnet, Modbus and KNX • Supports other third-party building automation protocols • Uses any-to-any protocol translation to allow communication between multivendor systems |
| Energy management | <ul style="list-style-type: none"> • Supports energy meters, including pulse meters and smart meters (Modbus or IP) • Flexibly integrates energy-generating and energy-consuming devices • Provides tools to monitor real-time energy consumption • Provides tools to create automated policies to control energy consumption • Supports automated demand response and automated fault diagnostics |

| | |
|--|---|
| Security | <ul style="list-style-type: none"> • Provides a hardened platform that is secured using the Cisco Self-Defending Network • Increases user security through role-based access control • Helps secure communications via certificate-based encryptions |
| Configuration and programming tools | <ul style="list-style-type: none"> • Provides interactive, menu-driven tools that allow the user to: <ul style="list-style-type: none"> ◦ Configure the interfaces and protocols on the Mediator ◦ Create and edit schedules, alarms, logs, and trends ◦ Perform remote installation ◦ Back up and restore configurations • Provides a graphical programming tool that allows users with a working knowledge of controls and automation to translate their knowledge into efficient and powerful control logic |
| Remote management | <ul style="list-style-type: none"> • Provides a web-based management framework • Allows administrators to control and manage devices over the Internet • Presents real-time information to users in web-based graphical views • Enables the creation of customized web pages for facility operations management |
| Cloud services platform | <ul style="list-style-type: none"> • Provides a standards-based open interface that allows third-party applications to integrate with the Mediator and offer services over the cloud • Examples of cloud services include: <ul style="list-style-type: none"> ◦ Remote energy management ◦ Automated demand response ◦ Automated fault diagnostics ◦ Remote facility management |
| Global management | <ul style="list-style-type: none"> • Enables the global management feature with the Cisco Network Building Mediator Manager • Global management capabilities include: <ul style="list-style-type: none"> ◦ Enterprise navigation with real-time presence ◦ Global schedules ◦ Global set points ◦ Global alarms |

Product Configurations

The Cisco Network Building Mediator is an appliance that is available in configurations (Table 2).

Table 2. Cisco Network Building Mediator Configurations

| | | |
|--------------------------------------|------------|---|
| Cisco Network Building Mediator 5000 | NBM5000-K9 | Designed for enterprise and campus deployments. Supports up to 5000 points. |
| Cisco Network Building Mediator 2500 | NBM2500-K9 | Designed for branch and retail deployments. Supports up to 1000 points. |

Note: A “point” is a generic term used to describe a single item of information in a building control system. Examples of points include the temperature of a room, duct pressure of an air handling unit (AHU), and chiller water flow rate.

Licensing

The Mediator provides a flexible, “pay-as-you-grow” licensing mechanism that gives customers the option to add additional points and protocols as needed. There are three types of licenses:

1. **Point licenses:** Each Mediator comes with a certain number of built-in points that can be configured per appliance. Customers can purchase additional licenses to increase the number of points.
2. **Protocol licenses:** Each Mediator comes with a certain set of built-in protocols. Additional protocol licenses may be purchased according to the requirements of the project.
3. **Global Management licenses:** Each Mediator may be enabled with Global Management for use with the Cisco Network Building Mediator Manager.

Product Ordering Information

Table 3 provides ordering information for the Cisco Network Building Mediator.

Table 3. Ordering Information

| Product Name | Part Number |
|---|--------------|
| Cisco Network Building Mediator 5000: Includes 2000 Points | NBM5000-K9 |
| Cisco Network Building Mediator 5000: Add 1000 Points License | NBM45000-PL |
| Cisco Network Building Mediator 5000: Intermediate Protocols | NBM5000-INT |
| Cisco Network Building Mediator 5000: Advanced Protocols | NBM5000-ADV |
| Cisco Network Building Mediator 5000: Global Management | NBM5000-MGMT |
| Cisco Network Building Mediator 2500: Includes 250 Points | NBM2500-K9 |
| Cisco Network Building Mediator 2500: Add 250 Points License | NBM2500-PL |
| Cisco Network Building Mediator 2500: Intermediate Protocols | NBM2500-INT |
| Cisco Network Building Mediator 2500: Global Management | NBM2500-MGMT |

For more details on licenses and supported protocols, please contact your Cisco reseller or account representative.

Product Hardware Specifications

Table 4 lists the hardware specifications of the Cisco Network Building Mediator.

Table 4. Hardware Specifications

| | |
|-----------------|--|
| Processor | Freescale MPC8536, Core PC e500 |
| Memory | 1 GB DDR2 SDRAM, 1 GB Compact Flash, 2 MB bootflash |
| Communications | 1- Console port (RS-232) |
| | 2- RS-232 |
| | 4- RS-485 |
| | 2- 10/100 BASE-T Ethernet ports |
| | 4- Dallas 1-Wire [®] ports |
| | 2- USB 2.0 ports |
| Digital inputs | 4- Counters (optional, general-purpose digital inputs) |
| Digital outputs | 2- Solid-state single-pole relay outputs (0 to 60V, 1.0A AC/2.0A DC outputs, opto-isolated) |
| Analog inputs | 4- 24-bit resolution inputs configurable to read resistance, current and voltage (10 to 100,000 ohm, 0-20 mA, 0-10 V) |
| Analog outputs | 3- 10-bit resolution outputs provide a voltage between 0-10 volts |
| Power | 24 VDC or VAC (24V universal DC power supply provided with unit) |
| Wattage | 30W |
| Weight | Approximately 35 oz. |
| Size | Approximately 8 x 6 x 1 in. (housing cover) |
| Temperature | Recommended ambient range: 0° to 70°C (32° to 158°F) |
| Agency listings | Safety: UL 60950-1, CAN: CSA-C22.2 No. 60950-1 EMC Emission: EN 55022, class A/B, CISPR22, class A/B, EN 300386, class A/B, CFR47, Part 15, class A/B, EN61000-3-2 harmonic current emission, EN61000-3-3 voltage fluctuation and flicker |

Warranty Information

The Cisco Network Building Mediator is supported by a Cisco 1-Year Limited Hardware Warranty. Find detailed warranty information on Cisco.com at the [Product Warranties](#) page.

Cisco Services and Support

Cisco and our partners offer a wide range of services programs to accelerate customer success and help improve your return on investment. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help accelerate migration by assessing the readiness of your network, developing a sound design, and supporting a smooth implementation through effective planning and expert installation, configuration, and integration. Cisco services help you protect and extend the value of your network investment with award-winning technical support, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, visit [Cisco Technical Services](#) or [Cisco Advanced Services](#).

Cisco SMARTnet Foundational Capabilities

The foundational capabilities included in most Cisco Technical Services help ensure that your basic network infrastructure is available to support your business every minute of every day. The foundational capabilities of Cisco SMARTnet® for Cisco Network Building Mediator are:

- Around-the-clock, global access to the Cisco Technical Assistance Center (TAC) for accurate diagnosis and resolution of issues by Cisco support experts.
- Access to the extensive Cisco.com knowledgebase and tools.
- Next-business-day advance hardware replacement. Maintain business continuity by quickly restoring network operations. Replacement hardware is available eight hours per day (delivering the replacement hardware during normal business hours only), five days a week, with next-business-day delivery.
- Ongoing operating system software updates and upgrades, including minor and major releases within the licensed feature set. Extends the useful life of your Cisco network and increases the value of your technology investment with regular software updates and upgrades.

Table 5 lists Technical Services ordering information for the Cisco Network Building Mediator.

Table 5. Technical Services Ordering Information for Cisco Network Building Mediator

| Support Name | Part Number |
|------------------------------|---------------|
| SMARTnet 8x5xNBD* NBM5000-K9 | CON-SNT-NBM50 |
| SMARTnet 8x5xNBD NBM2500-K9 | CON-SNT-NBM25 |

* 8x5xNBD = Eight hours per day during normal business hours, five days per week with next-business-day delivery.

For More Information

For more information about the Cisco Network Building Mediator, visit www.cisco.com/go/mediator or contact your local account representative.

For more information about Cisco services, visit www.cisco.com/go/services.



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