Cisco Media Experience Engine (MXE) 5600

Product Overview

The Cisco Media Experience Engine family of products expands the reach and usefulness of video as a collaboration and communications tool. As a part of the Cisco any-to-any vision for network-based media processing, the Cisco Media Experience Engine family provides a suite of media adaptation and customization features that allow customers and partners to better leverage existing video investments and unlock new use cases for video.

The Cisco Media Experience Engine (MXE) 5600 is a modular media-processing platform that combines advanced media-processing features with high performance and scalability to extend the reach of collaboration.

Configured with Cisco MXE 5600 Media Processing Modules (MPMs) and Cisco MXE 5600 Network Processing Modules (NPMs), the Cisco MXE 5600 supports applications and use cases that require real-time conversions of media among a variety of video and audio codecs, formats, bit rates, frame rates, and display resolutions (Figure 1). In addition, support for Session Initiation Protocol (SIP) signaling allows easy integration of the Cisco MXE 5600 into your communications infrastructure.

Based on the latest digital-signal-processor (DSP) and CPU architectures, the Cisco MXE 5600 comprises a modular architecture that allows you to grow your media-processing infrastructure incrementally as your needs increase. The modular design allows easy integration of new services and capabilities with future modules. The result is high-performance, high-density, highly scalable, and cost-effective processing of live media.

Figure 1.　Cisco MXE 5600

Features and Benefits

- The 19-inch 6-rack-unit (6RU) chassis is built for high reliability and scalability.
- The chassis has 8 front-accessed module slots with side-to-side airflow in a compact horizontal form factor (Note: Some modules occupy two slots.)

- Designed for ease of service, all MPMs, NPMs, shelf manager modules, fan trays and the air filter are accessible from the front; the redundant power supplies are accessible from the rear to help ensure that network cabling is not disrupted during maintenance.
- For reliability and maximum availability, all modules support hot-swap. Redundant configurations allow online servicing and minimized downtime.
- A dedicated shelf manager module monitors critical system operational parameters and provides centralized system alarms for simplified operations. (Note: Redundant shelf manager modules are optional.)
- The chassis contains a high-performance, replicated mesh fabric architecture that provides 10-Gbps connectivity among the system modules for very high performance and scalability.
- Integrated cable management simplifies installation and operations.

Cisco MXE 5600

When configured with three MPMs, the Cisco MXE 5600 8-slot chassis can support up to 90 full-duplex high-density (HD) (720p) video ports, meeting the demands of large enterprise deployments. (Note: Cisco MXE Media Processing Platform Software 1.0 will support one MPM and one NPM. Fully populated configurations with three MPMs and two NPMs will be supported in follow-ons to Release 1.0.)

Side-to-side airflow increases the system density within a 6RU footprint, optimizing the use of rack space. The design allows you to mount multiple Cisco MXE 5600 chassis in a standard data-center rack for additional scalability. The integrated cable-management system is designed to support the cabling requirements of a fully configured system to either or both sides of the chassis, allowing maximum flexibility. You can easily remove all other system components (fans, filter, and power supplies) with the cabling in place, simplifying maintenance tasks with minimal system disruption.

A series of LEDs at the top of the chassis and on each module provides a clear indication of the status of the major system components. These LEDs report the status of the power supplies, fan, shelf manager module, MPM, and NPM. Additional alarm relay outputs are provided for major, minor, critical, and power alarms. Variable-speed fans provide efficient cooling capacity to the entire system while minimizing acoustic noise, and fan-tray redundancy features help ensure reliability of the system with support for hot-swapping of fan trays. Rear-access power-supply modules reduce vertical rack-space requirements and support hot-swap and power-feed redundancy for higher reliability.

Coupled with the Cisco MXE Media Processing Platform Software, the Cisco MXE 5600 delivers a rich set of media-processing capabilities accessible by applications and endpoints anywhere in your network.

- Standards compliance: The media-processing capabilities of the Cisco MXE 5600 support a broad range of media codecs and formats, complying with industry standards to simplify interoperability with a range of systems and endpoints. (Details of the supported codecs and formats are available in the Cisco MXE 5600 Media Processing Platform Software data sheet.) The Cisco MXE 5600 supports standard SIP signaling for use in diverse communication and collaboration scenarios.
- Flexible transcoding: Both video and audio are converted among different standards, depending on the use case and the requirements of the source and destination endpoints. Using state-of-the-art DSP technologies, the Cisco MXE 5600 performs real-time transcoding of media, adapting to network bandwidth and endpoint requirements, while introducing negligible latency and maintaining the quality of the user experience even in live, interactive use cases.
- Automatic detection of endpoint capabilities: The Cisco MXE 5600 can detect the media format requirements (e.g., codec, encapsulation, bit rate, frame rate, etc.) of a given endpoint, without your having to manually specify this information.

- Support for low bandwidth: The Cisco MXE 5600 allows bandwidth configuration for optimal support of endpoints in low bandwidth environments
- Broad use case support: As a network-based system, the Cisco MXE 5600 can be accessed by endpoints and applications anywhere in the network. Support for a rich set of media and signaling standards allows you to use the Cisco MXE 5600 in a broad range of applications and use cases.
- Gateway functionality: The Cisco MXE 5600 has the ability to connect diverse sets of video endpoints—Cisco TelePresence systems, video conferencing endpoints, and unified communication devices—into a shared environments while maintaining a consistent viewing experience.
- Media quality improvements: Through unique algorithms and the use of its DSP-based architecture, the Cisco MXE 5600 has the ability to digitally upscale standard-definition video streams to ensure consistent video quality and experience across the video endpoints. In addition, the Cisco MXE 5600 can detect and correct for network bit errors, significantly enhancing the end usre's experience.

Licensing

The Cisco MXE 5600 supports licensing of capacity to meet customers' specific requirements. The capacity of the Cisco MXE 5600 is licensed in increments of 10 HD (720p) full-duplex ports (up to 30 HD full-duplex ports per MPM).

The Cisco MXE 5600 also supports feature licensing. The first such feature supports interoperability between Cisco TelePresence™ systems and other video conferencing endpoints.

Product Specifications

Table 1 lists the product specifications for the Cisco MXE 5600 8-slot chassis.

Table 1.   Product Specifications

Item	Specification
Product compatibility	Supports all Cisco MXE 5600 blades and modules
Software compatibility	Cisco MXE Media Processing Platform Software Release 1.0
Cards, ports, and slots	The 8-slot chassis can host: Up to 2 Cisco MXE 5600 NPM modules (slots 1 and 2)* Up to 3 Cisco MXE 5600 MPM modules (slots 3–4, 5–6, and 7–8) Up to 2 Cisco MXE 5600 Shelf Manager Modules (1 standard)
Options	Redundant power supplies Redundant shelf manager modules
Performance	10–90 HD (720p) full-duplex ports (up to 30 per MPM)
Reliability and availability	Mean time between failures (MTBF): Base chassis (nonredundant configuration) > 50,000 hours Availability: Redundant configuration >99.98%
Network management	Through Simple Network Management Protocol (SNMP) Version 3, 2c, or 1; also through the command-line interface (CLI)
Network interface	Four 10/100/1000BASE-T RJ-45 connectors (per NPM) for media Two 10/100/1000BASE-T RJ-45 connectors (per NPM) for management One RS-232 RJ-45 connector (per NPM) for console
Physical dimensions (H x W x D) and Weight	Required rack space: 6RUs 10.5 x 17.7 x 20.0 in. (26.67 x 44.9 x 50.8 cm) Weight: 88 lb (40 kg) minimum; 137 lb (62 kg) maximum, depending on configuration Rack-mountable in 19-inch, four-post EIA rack or cabinet
Power	100–120 VAC and 200–240 VAC (auto-ranging), 50–60 Hz Power consumption depends on configuration; 4000 watts (maximum) *When there are three Cisco MXE MPMs installed in the chassis, you must use a 200–240 VAC power connection
Temperature range	Ambient operating: 23 to 104ºF (–5 to 40ºC) Ambient nonoperating: –40 to 158ºF (–40 to 70ºC)

Item	Specification
Relative humidity	Ambient (noncondensing) operating: 10 to 85%
	Ambient (noncondensing) nonoperating and storage: Maximum 95%
Approvals and compliance	The Cisco MXE 5600 meets both safety and EMC requirements for the following countries and areas at first availability:
	Australia and New Zealand Canada European Union Japan
	Korea
	Russia United States
	The Cisco MXE 5600 is intended for worldwide distribution to all Cisco theaters. Other countries and areas will be supported following first availability. Please request updated information from Cisco.

* Cisco MXE Media Processing Platform Software 1.3 will support one NPM.
** Cisco MXE Media Processing Platform Software 1.3 will support three MPMs.

Software Requirements

The Cisco MXE 5600 8-slot chassis is supported in the Cisco MXE Media Processing Platform Software Release 1.3.

Warranty Information

For warranty information about the product, please visit Product Warranties at Cisco.com.

Ordering Information

The Cisco Media Experience Engine (MXE) 5600 is currently orderable.

Cisco Services

Cisco and our partners provide a broad portfolio of personalized services and support that can help you realize the full value of your video investment, and increase your business agility and network availability. This portfolio of services drives business transformation through a network-based collaboration platform that enables business to collaborate anywhere, anytime. For more information about these services, visit: http://www.cisco.com/go/services/.

For More Information

For more information about the Cisco MXE 5600, visit http://www.cisco.com/go/mxe or contact your local Cisco account representative.

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