



Data Sheet

Cisco MCS 7835-I1 Unified CallManager Appliance

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The Cisco® Unified Communications system of voice and IP Communications products and applications helps organizations communicate more effectively—by helping them streamline business processes, reach the right resource the first time, and increase profitability. The Cisco Unified Communications portfolio is an integral part of the Cisco Business Communications Solution—an integrated solution for organizations of all sizes that also includes network infrastructure, security, and network management products; wireless connectivity; and a lifecycle services approach—along with flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

PRODUCT OVERVIEW

The Cisco® MCS 7835-I1 Unified CallManager Appliance (MCS 7835-I1) is a high-availability server platform for Cisco Unified CallManager 5.0 and an integral part of a complete, scalable architecture for a new generation of high-quality IP Communications solutions for enterprise data networks. Delivering the high performance and availability that today's enterprise networks demand, the solution is easy to deploy and highly cost-effective. The server appliance is preinstalled with an operating system and Cisco Unified CallManager 5.0. It is fully operational upon startup, requiring entry of just a few configuration items such as IP address and domain. At just 2 rack units (2RU) high, the Cisco MCS 7835-I1 Unified CallManager Appliance packs tremendous power in a low-profile chassis that minimizes rack space. It can support up to 2500 IP phones per server and 10,000 IP phones per cluster, and includes the following features and components:

- Intel Xeon 3.4-GHz or higher processor, an 800-MHz front side bus (FSB), and 2 MB of Layer 2 cache
- PC2-3200R 2-GB 400-MHz Double Data Rate 2 (DDR2) memory (must be installed in pairs)
- IBM ServeRAID 7k Redundant Array of Independent Disks (RAID) Controller with 256-MB memory and battery-backed caching
- Dual-port Gigabit Ethernet controller (embedded)
- Quick-deployment third-party rail kit
- Support for up to six 1-inch Ultra320 Small Computer System Interface (SCSI) hot-plug hard drives
- Hot-plug redundant power supplies
- Hot-plug redundant fans
- IBM LightPath Diagnostics to assist in identifying failed components

KEY FEATURES AND BENEFITS

Performance

The Cisco MCS 7835-I1 Unified CallManager Appliance is a robust, highly available server platform designed to support today's IP Communications applications. It includes such innovations as variable-speed fan support, NetBAY cabling support, and Light Path Diagnostics and Chipkill memory support. Occupying only 2RU of space, the Cisco MCS 7835-I1 Unified CallManager Appliance provides the features most requested in a high-availability server platform. At product introduction, it includes an Intel Xeon 3.4-GHz processor, and the processor speed will be increased as Intel replaces the 3.4-GHz processor and introduces new processors.

High Availability

High availability on the Cisco MCS 7835-I1 Unified CallManager Appliance is achieved through the following mechanisms:

- Redundant hot-swap 625W power supplies
- Hot-swap SCSI hard drives configured using RAID 1
- Redundant hot-swap fans

Memory

The Cisco MCS 7835-I1 Unified CallManager Appliance supports up to 16 GB of DDR2 memory. The increased processor performance coupled with DDR2 memory allows for quick, efficient retrieval and processing of information. DDR memory executes twice the number of operations per cycle than traditional synchronous dynamic RAM (SDRAM) memory, effectively doubling the data exchange rate between memory and processors.

Variable-Speed Fan Support

The Cisco MCS 7835-I1 includes variable-speed fans to reduce operating noise. Through the use of temperature sensors within the server, the speed of the fans is adjusted to maintain the proper cooling, reducing the noise generated by the fans by operating them only when required and at a speed based upon the cooling requirements.

Advanced Connectivity Technology

The Cisco MCS 7835-I1 Unified CallManager Appliance supports IBM's new NetBAY Advanced Connectivity Technology products that help reduce Keyboard/Video/Mouse (KVM) costs by linking administrators' chain systems with Category 5 cable. In addition to reducing overall costs, Advanced Connectivity Technology reduces bulk cable clutter, making servers accessible and serviceable in the rack.

Serviceability

Light Path Diagnostics

The Cisco MCS 7835-I1 is equipped with Light Path Diagnostics, providing a central information LED panel (visible without removing the cover) and individual LED lights throughout the system on items such as memory dual in-line memory modules (DIMMs), peripheral-component-interconnect (PCI) slots, power supplies, and CPUs. It can quickly view system status, and service personnel can identify the specific failing component, helping reduce downtime and service costs. Thus the Cisco MCS 7835-I1 provides increased availability, because nontechnical personnel can report error conditions without removing the top cover and exposing vital components to further risk. If the system error LED on the front of the server is on, one or more LEDs inside the server or on the power supply will be on. These LEDs help identify and locate problems with some server components. By following the path of lights, users can quickly identify the type of system error that occurred. The Cisco MCS 7835-I1 is designed so that any LEDs that are illuminated remain illuminated when the server shuts down as long as the AC power source is good and the power supply can provide +5 VDC to the server.

Light Path Diagnostics provide indication of failures for the following conditions:

- One or both power supplies consuming power higher than maximum rating
- Power supply 1 failure
- Power supply 2 failure
- Error on voltage regulator module
- One or both processors failed
- Hardware configuration error
- Memory error
- Nonmaskable interrupt

- Error on the system board
- Service processor failure
- Error on adapter in PCI-X slots A, B, or C
- Hard disk error
- Fan failure or slow operation
- System temperature exceeded maximum rating
- Soft error
- RAID controller error

Enhanced Predictive Failure Analysis

The Cisco MCS 7835-I1 supports Enhanced Predictive Failure Analysis (PFA) on hot-swap fans, power supplies, processors, and memory and voltage regulator modules. Through diagnostics, the Cisco MCS 7835-I1 anticipates failures in these devices and generates an alert, allowing service personnel to quickly replace the components before a failure actually occurs. An example of PFA is its ability to monitor variations in electrical input/output to the power supplies and cooling fans.

DAT Support

The Cisco MCS 7835-I1 appliance can support an optional 36-/72-GB universal-serial-bus (USB) external Digital Audio Tape (DAT) drive (part number DAT-USB-EXT-72=) or an optional USB rack-mount DAT drive (part number DAT-USB-RM-72=). This tape drive connects through one of the 4 USB 2.0 ports provided by the Cisco MCS 7835-I1 appliance.

PRODUCT SPECIFICATIONS

Table 1 lists product specifications for the Cisco MCS 7835-I1 Unified CallManager Appliance.

Table 1. Product Specifications

Processor at Product Introduction	
Processor (CPU)	Xeon DP
Processor internal clock speed	3400 MHz (or higher)
Level 2 cache	2048 KB
Maximum processors	2
Processors installed	1
Basic input/output system (BIOS) type	Flash
Memory	
Memory maximum	16 GB (using 2-GB DIMMs)
Memory bus clock	400 MHz
Memory technology	PC2-3200R 400-MHz DDR2 SDRAM Two-way interleaved memory for improved performance (memory must be installed in pairs)
Multibit error mitigation	Chipkill
Total RAM slots	8
Memory installed	2 GB (2 x 1-GB DIMMs)

RAID Controller	
Controller model	IBM mezzanine ServeRAID-7k controller
Interface	PCI-X 133-MHz, 64-bit
Cache	256 MB
Battery-backed write caching	Yes
RAID levels supported	0, 1, 5, 10, 50, and 5EE
SCSI protocols supported	Ultra320
SCSI peak data-transfer rate	320 MB per channel
Maximum number of drives	14 per channel
SCSI ports (external/internal)	0/2
Hard Disk	
Hard disk installed	Two 72 GB (RAID 1)
Hard disk rotate processor module (RPM)	15,000
Hard disk average seek time	3.6 ms
Hot-swappable bays	6
Hard disk interface type	Ultra320 SCSI
Maximum hard drive capacity	880.8 GB with six 146.8-GB internal disks
Network Connectivity	
Ethernet network interface card (NIC)	Dual onboard 10/100/1000
Ethernet connectors	Two RJ-45 connectors on rear of server
10BASE-T cable support	EIA Category 3, 4, or 5 unshielded twisted-pair (UTP) (2 or 4 pair) up to 328 ft (100m)
100BASE-TX cable support	EIA Category 5 UTP (2 pair) up to 328 ft (100m)
1000BASE-T cable support	EIA Category 6 UTP (recommended), 5E UTP, or 5 UTP up to 328 ft (100m)
Interfaces	
Serial ports	1 RS-232D
Parallel ports	0
Universal serial bus (USB) 2.0	3 (1 at front and 2 at rear of chassis)
Keyboard ports	1 PS/2
Mouse ports	1 PS/2
Audio ports	None
System management ports	RJ-45 for IBM RSA2 Ethernet port (customer use supported only for Cisco Unity® servers)
External SCSI ports	1 Ultra320
Security	
<ul style="list-style-type: none"> • Power-on password • Privileged access password to server setup • Unattended boot mode, which allows keyboard to be locked to all entries except the password • Selectable boot sequence 	

Industry Standard Compliance	
<ul style="list-style-type: none"> Advanced Configuration and Power Interface (ACPI) 2.0 compliant PCI 2.3 compliant PCI-X specification v1.0a International Organization for Standardization (ISO) 9241, Part 3 MPS 1.4 Microsoft Logo certifications 	
Equipment Approvals and Safety	
<ul style="list-style-type: none"> Federal Communication Commission (FCC)—Verified to comply with Part 15 of the FCC Rules, Class A Canada Information Collection and Evaluation Standard (ICES)-003, issue 3, Class A Underwriters Laboratories 1950 CSA C22.2 No. 950 NOM-018 	
Expansion Options	
PCI-X non-hot plug 133-MHz, 64-bit slots	2 (full-length, full-height—usable for Cisco Unity voice cards)
PCI-X non-hot plug 100-MHz, 64-bit slots	2 (low-profile, not usable for Cisco Unity voice cards)
Power	
Steady-state output power	625W
Autoranging AC mains input	Yes
Power Factor Correction (PFC)	Yes
Maximum hot-swap power supplies	2
Hot-swap power supplies installed	2
Mains input frequency range	47–63 Hz
Operational input voltage ranges	<ul style="list-style-type: none"> 90–137 VAC minimum 180–265 VAC maximum
Input current (per power supply)	<ul style="list-style-type: none"> 10.0A (100–127 VAC nominal) 5.0A (200–240 VAC nominal)
Environmental	
Air temperature at 0 to 3000 ft (0 to 914m)	50.0 to 95.0°F (10 to 35°C)
Air temperature at 3000 to 7000 ft (914 to 2133m)	50.0 to 90°F (10 to 32°C)
Relative humidity	10 to 80%
BTU rating (maximum configuration)	2840 BTU per hour
Sound emissions maximum	6.6 bel
Dimensions	
Form factor	Rack-mount 2RU
Rack-mounting	Included for standard third-party rack
Weight—maximum	62 lb (28.1 kg)
Weight—no drives	46.5 lb (21.1 kg)

Height	3.36 in. (8.54 cm)
Width	17.5 in. (44.36 cm)
Depth	27.5 in. (69.8 cm)

ORDERING INFORMATION

To place an order, visit the [Cisco Ordering Home Page](#) or visit <http://www.cisco.com/en/US/ordering/index.shtml>.

You can order the Cisco MCS-7835-I1 Unified CallManager Appliance in two ways. You can enter CALLMANAGER-5.0 into the Dynamic Configuration Tool on Cisco.com and view a list of Cisco Unified CallManager appliances and their associated licenses. You can also order the components individually using the following product part numbers:

- MCS7835I1-K9-CM50
- LIC-CM5.0-K9-7835-I1=
- KEY-CCM-ADMIN-K9= (order a minimum quantity of 2)
- DAT-USB-EXT-72= (optional external USB DAT tape drive)
- DAT-USB-RM-72= (optional rack-mount USB DAT tape drive)
- DAT-USB-ADPT= (required if DAT-USB-EXT-72= or DAT-USB-RM-72= are used)

APPLIANCE SPARES

To order spare appliances, refer to Table 2.

Table 2. Ordering Information for Spare Appliances

Application	Spare Part Number
Cisco Unified CallManager 5.0	MCS7835I1-K9-CM50

FIELD-REPLACEABLE SPARES

To order spare parts for the servers, refer to Table 3.

Table 3. Ordering Information for Appliance Spare Parts

Description	Spare Part Number
Spare 72-GB Ultra320 hot-plug SCSI drive for Cisco MCS 7835-I1	HDD-7835-I1-72=
Spare 625W power supply for Cisco MCS 7835-I1	PWR-7835-I1=
Spare fan for Cisco MCS 7835-I1	FAN-7835-I1=
Spare external USB 36-/72-GB DAT drive	DAT-USB-EXT-72=
Spare rack-mount USB 36-/73-GB DAT drive	DAT-USB-RM-72=
PCI-to-USB DAT adapter	DAT-USB-ADPT= (required for DAT-USB-EXT-72= or DAT-USB-RM-72=)

IDENTIFYING CPU SPEED OF SERVER

As the Cisco MCS 7835-I1 Unified CallManager Appliance matures, the processor speeds will be changed as Intel replaces slower processors. Table 4 provides the Cisco manufacturing part number shown on the chassis to help identify the processor speed of any individual server.

Table 4. Manufacturing Part Numbers by Processor Speed

Processor	Manufacturing Part Number Located on Server	Introduction
Intel Xeon 3.4 GHz	74-4247-01	Initial production of server
Intel Xeon 3.4 GHz	74-4247-02	Revised with new processor providing 2 MB of Layer 2 cache

CISCO UNIFIED COMMUNICATIONS SERVICES AND SUPPORT

Using the Cisco Lifecycle Services approach, Cisco Systems® 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. Operate services reduce the risk of communications downtime with expert technical support. Optimize 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.

WARRANTY INFORMATION

Cisco offers a one-year limited hardware warranty on Cisco media convergence servers. For terms and conditions of this warranty, refer to http://www.cisco.com/univercd/cc/td/doc/es_inpk/1y1cen_.htm.



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