



Data Sheet

Cisco MCS 7845-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 important 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 7845-I1 Unified CallManager Appliance 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. It delivers the high performance and availability that today's enterprise networks demand—and 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 7845-I1 offers tremendous power in a low-profile chassis that minimizes rack space. The appliance supports up to 7,500 IP phones per appliance and 30,000 IP phones per cluster, and it includes the following features and components:

- Intel Xeon 3.4-GHz (or faster) processor, a 800-MHz front side bus (FSB), and 2 MB of Layer 2 cache
- PC2-3200R 4-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 or for five hot-plug hard drives and one Digital Audio Tape (DAT) non-hot plug tape drive
- Hot-plug redundant power supplies
- Hot-plug redundant fans
- IBM Light Path Diagnostics to assist in identifying failed components

KEY FEATURES AND BENEFITS

Performance

The Cisco MCS 7845-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, Light Path Diagnostics, and Chipkill memory support. The appliance occupies only 2RU of space while providing the features most requested in a high-availability server

platform. At product introduction the Cisco MCS 7845-I1 includes dual Intel Xeon 3.4-GHz processors, and over time the processor speed will be increased as Intel retires the 3.4-GHz processor and introduces new processors.

High Availability

High availability on the Cisco MCS 7845-I1 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 7845-I1 supports up to 16 GB of DDR memory. The increased processor performance coupled with DDR memory allows customers to retrieve and process information fast and efficiently. 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 7845-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 7845-I1 supports IBM's new NetBAY Advanced Connectivity Technology products that help reduce Keyboard/Video/Mouse (KVM) costs by linking administrators' chain systems together 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 7845-I1 is equipped with Light Path Diagnostics, which provide 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 pinpoint a specific failing component, helping reduce downtime and service costs. Availability is increased, 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 will help identify and locate problems with some server components. By following the path of lights, you can quickly identify the type of system error that occurred. The Cisco MCS 7845-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
- Failure of one or both processors
- Hardware configuration error

- Memory error
- Nonmaskable interrupt
- Error on the system board
- Service processor failure
- Error on adapter on 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 7845-I1 supports enhanced Predictive Failure Analysis (PFA) on hot-swap fans, power supplies, processors, and memory and voltage regulator modules. Through diagnostics the appliance can anticipate failures in these devices and generate an alert, allowing IT 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 Tape Support

The Cisco MCS 7845-I1 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 36-/72-GB 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 7845-I1 server.

PRODUCT SPECIFICATIONS

Table 1. Product Specifications

Table 1 lists product specifications for the Cisco MCS 7845-I1.

Processor at Product Introduction	
Processor (CPU)	Xeon DP
Processor internal clock speed	3400 MHz or greater
Level 2 cache	2048 KB
Maximum processors	2
Processors installed	2
Basic input/output system (BIOS) type	Flash
Memory	
Memory maximum	16 GB (using 2-GB DIMMs)
Memory bus clock	400 MHz
Memory technology	<ul style="list-style-type: none"> • 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	4 GB (4 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 drives	14 per channel
SCSI ports (External/Internal)	0/2
Hard Disk—72 GB	
Hard disk installed	<ul style="list-style-type: none"> Four 72 GB (2 x RAID 1) Installed on all Cisco MCS 7845-I1 models
Hard disk rotate processor module (RPM)	15,000
Hard disk average seek time	3.6 ms
Hard disk interface type	Ultra320 SCSI
Network Connectivity	
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 65 UTP (recommended), Category 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 ports	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 dedicated Ethernet port (customer use only supported 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

- Advanced Configuration and Power Interface (ACPI) 2.0 compliant
- Peripheral Component Interconnect (PCI) 2.3 compliant
- PCI-X specification v1.0a
- International Organization for Standardization (ISO) 9241, Part 3
- Multiprotocol over ATM Server (MPS) 1.4
- Microsoft Logo certifications

Equipment Approvals and Safety

- 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 slots, 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 low range	<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 VAC nominal)• 5.0A (200 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	8 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 order this product, visit the Cisco Ordering Home Page or visit <http://www.cisco.com/en/US/ordering/index.shtml>.

You may order the appliance in one of two ways. You can enter CALLMANAGER-5.0 into the Dynamic Configuration tool on Cisco.com and view a list of Cisco MCS Unified CallManager Appliances and their associated licenses. You can also order the components individually using the following product part numbers:

- MCS7845I1-K9-CM50
- LIC-CM5.0-K9-7845-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)
- LIC-CCM5.X-2500= (optional—order if you want another 2500 users per appliance)

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	MCS7845I1-K9-CM50

FIELD-REPLACEABLE SPARES

To order spare parts for the appliance, 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 7845-I1	HDD-7845-I1-72=
Spare 625W power supply for Cisco MCS 7845-I1	PWR-7845-I1=
Spare fan for Cisco MCS 7845-I1	FAN-7845-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 7845-II 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 P/N Located on Server	Introduction
Intel Xeon 3.4 GHz	74-4389-01	Initial production of appliance
Intel Xeon 3.4 GHz	74-4389-02	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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