



DATA SHEET

CISCO MCS 7845-I1

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The Cisco® Media Convergence Server 7845-I1 (MCS 7845-I1) is a high availability server platform for Cisco IP Communications solutions. An integral part of a complete, scalable architecture for a new generation of high-quality IP voice solutions that run on enterprise data networks, the Cisco MCS 7845-I1 delivers the high performance and availability demanded by today's enterprise networks and is easy to deploy and highly cost effective. At only 2 rack units (2RU) high, the Cisco MCS 7845-I1 offers tremendous power in a low-profile chassis that minimizes rack space and offers the following features:

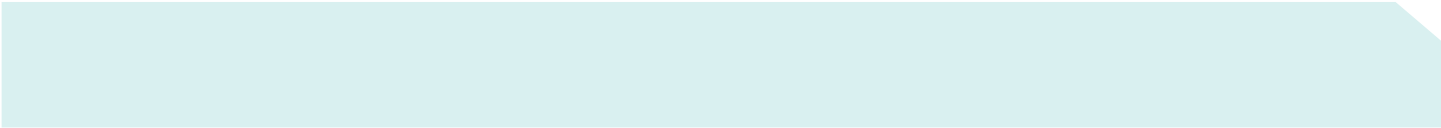
The following points are an outline of the features of the Cisco MCS 7845-I1:

- Intel Xeon 3.4GHz (or faster) processor, a 800MHz front side bus (FSB) and 2 MB of Layer 2 cache
- 4 GB PC2-3200R 400MHz Double Data Rate 2 (DDR2) memory (must be installed in pairs)
- IBM ServeRAID 7k Redundant Array of Independent Disks (RAID) Controller with 256MB 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

SUPPORTED APPLICATIONS

The Cisco MCS 7845-I1 can run any of the following Cisco Systems® applications:

- Cisco Unified CallManager—Up to 7500 IP phones per server
- Cisco Emergency Reporter—Up to 30,000 IP phones per server
- Cisco Unified Presence Server
- Cisco Unified Intelligent Contact Management Enterprise
- Cisco Unified Intelligent Contact Management Hosted
- Cisco Unified Contact Center Enterprise
- Cisco Unified Contact Center Hosted
- Cisco Unified Contact Center Express
- Cisco Unified IP Interactive Voice Response (IP IVR)
- Cisco Unified Customer Voice Portal
- Cisco MeetingPlace®—Supports Cisco MeetingPlace systems with up to 1152 concurrent voice conferencing licenses running the following software: Cisco MeetingPlace for Outlook, Cisco MeetingPlace for Notes, Cisco MeetingPlace Web Conferencing (up to 200 concurrent Web conferencing licenses per server), Cisco MeetingPlace Directory Integration Application (dedicated Cisco MCS 7835-H1/I1 server for >200



concurrent voice conferencing licenses), Cisco MeetingPlace Video Integration, Cisco MeetingPlace H.323/Session Initiation Protocol (SIP) Gateway Software, Cisco MeetingPlace Simple Mail Transfer Protocol (SMTP) E-mail Gateway

- Cisco Unified IP Queue Manager
- Cisco Unity™ Unified Messaging—Up to 72 ports and up to 3000 on-box (voicemail) or 7500 off-box (voicemail or unified messaging) mailboxes

KEY FEATURES AND BENEFITS

Performance

The Cisco MCS 7845-I1 is a robust, highly available server platform designed to support today's unified communications applications. The Cisco MCS 7845-I1 includes such innovations as variable speed fan support, NetBAY cabling support, Light Path Diagnostics and Chipkill memory support. The Cisco MCS 7845-I1 occupies only 2RU rack space while providing the features most requested in a high availability server platform. At product introduction the Cisco MCS 7845-I1 will ship with dual Intel Xeon 3.4GHz processors and over time the processor speed will be increased as Intel retires the 3.4GHz processor and introduces new processors that will be supported by the Cisco MCS 7845-I1 chassis.

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 16GB 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. This reduces 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 helps 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. Light Path Diagnostics provides a central information LED panel (visible without removing the cover) and individual LED lights throughout the system on items like 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 reducing downtime and service costs. This 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 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 are 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 occurred
- Memory error
- Non-maskable interrupt occurred
- Error occurred on the system board
- Service processor failure
- Error on adapter on PCI-X slots A, B or C
- Hard disk error occurred
- Fan failure or slow operation
- System temperature exceeded maximum rating
- Soft error occurred
- RAID controller error occurred

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 Cisco MCS 7845-I1 is able to anticipate failures in these devices and generate an alert, which allows 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.

Tape Drive 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 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

Processor at Product Introduction	
Processor (CPU)	Xeon DP
Processor internal clock speed	3400MHz or greater
Level 2 cache	2048 KB
Maximum processors	2
Processors installed	2
Basic input/output system (BIOS) type	Flash

Memory

Memory maximum	16GB (using 2GB DIMMs)
Memory bus clock	400MHz
Memory technology	PC2-3200R 400MHz 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 (4x1 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, 5EE
SCSI protocols supported	Ultra 320
SCSI peak data transfer rate	320 MB per channel
Maximum drives	14 per channel
SCSI Ports (external/internal)	0/2

72GB Hard Disk

Hard disk Installed	Four 72GB (2xRAID 1) Installed on all Cisco MCS 7845-I1 models
Hard disk RPM	15,000
Hard disk average seek time	3.6 ms
Hard disk interface type	Ultra320 SCSI

144GB Hard Disk

Hard disk installed	Two 144GB (RAID 1) Only installed on Cisco MCS 7845-I1-ECS1 in addition to the four 72GB disks noted above
Hard disk RPM	10,000
Hard disk average seek time	5.8 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	Electronic Industries Alliance (EIA) Categories 3, 4, or 5 unshielded twisted-pair (UTP) (2 or 4 pair) up to 328 feet (100 meters)

Network Connectivity

100BASE-TX cable support	EIA Category 5 UTP (2 pair) up to 328 feet (100 meters)
1000BASE-T cable support	EIA Category 65 UTP (recommended), Category 5E UTP, 5 UTP up to 328 feet (100 meters)

Interfaces

Serial ports	1 RS-232D
Parallel ports	0
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

Power-on password
Privileged access password to server setup
Unattended boot mode 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
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
Auto-ranging 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 minimum180–265 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 914 m)	50.0 to 95.0°F (10 to 35°C)
Air temperature at 3000 to 7000 ft (914 to 2133 m)	50.0 to 90°F (10 to 32°C)
Relative humidity	8 to 80 percent
British Thermal Unit (BTU) rating (maximum configuration)	2840 BTU per hour
Sound emissions maximum	6.6 bel

Dimensions

Form factor	Rack-mount 2U
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](#).

Table 2. Ordering Information

Product Name	Part Number
Cisco CallManager 3.3	CALLMANAGER-3.3
Cisco Unified CallManager 4.0	CALLMANAGER-4.0
Cisco Unified CallManager 4.1	CALLMANAGER-4.1
Cisco Unified CallManager 4.2	CALLMANAGER-4.2
Cisco Emergency Responder	Refer to Cisco Emergency Responder data sheet
Cisco Unified Presence Server	Refer to Cisco Unified Presence Server data sheet

Product Name	Part Number
Cisco Unified Intelligent Contact Management Enterprise	ICME-BUNDLE
Cisco Unified Intelligent Contact Management Hosted	HOSTED-BUNDLE
Cisco Unified Contact Center Enterprise	IPCE-BUNDLE
Cisco Unified Contact Center Hosted	HOSTED-BUNDLE
Cisco Unified Contact Center Express	<ul style="list-style-type: none"> • IPCX-40-STANDARD • IPCX-40-ENHANCED • IPCX-40-PREMIUM • UCCX-45-STANDARD • UCCX-45-ENHANCED • UCCX-45-PREMIUM
Cisco Unified IP IVR	IPIVR-3.5=
Cisco Unified Customer Voice Portal	ISN-APSSVRLIC
Cisco MeetingPlace conferencing solution	Refer to Cisco Unified MeetingPlace data sheet
Cisco MeetingPlace Express	<ul style="list-style-type: none"> • MPE-1.1-SMALL • MPE-1.1-MED
Cisco Personal Assistant	PASR-BUNDLE
Cisco Unified IP Queue Manager	IPQM-3.5=
Cisco Unity Unified Messaging	UNITY-BUNDLE

SERVER SPARES

To order spare servers, refer to Table 3.

Table 3. Ordering Information for Spare Servers by Application

Application	Spare Part Number
Cisco CallManager	MCS-7845-I1-IPC1
Cisco Emergency Responder	MCS-7845-I1-IPC1
Cisco Unified Presence Server	MCS-7845-I1-IPC1
Cisco Unified Intelligent Contact Management Enterprise	MCS-7845-I1-CC1
Cisco Unified Intelligent Contact Management Hosted	MCS-7845-I1-CC1
Cisco Unified Contact Center Enterprise	MCS-7845-I1-CC1
Cisco Unified Contact Center Hosted	MCS-7845-I1-CC1
Cisco Unified Contact Center Express	MCS-7845-I1-CC1
Cisco Unified IP IVR	MCS-7845-I1-CC1
Cisco Unified Customer Voice Portal	MCS-7845-I1-CC1
Cisco Unified MeetingPlace conferencing solution	MCS-7845-I1-RC1
Cisco Unified MeetingPlace Express	MCS-7845-I1-RC1
Cisco Personal Assistant	MCS-7845-I1-IPC1
Cisco Unified IP Queue Manager	MCS-7845-I1-CC1

Application	Spare Part Number
Cisco Unity Unified Messaging	<ul style="list-style-type: none"> • MCS-7845-I1-ECS1 <on-box Voicemail only> • (4x72 GB and 2x144 GB hard disk configuration) • MCS-7845-I1-ECS2 <off-box Unified Messaging or Voicemail> • (4x72 GB hard disk configuration)

FIELD REPLACEABLE SPARES

To order spare parts for the servers, refer to Table 4.

Table 4. Ordering Information for Server Spare Parts

Description	Spare Part Number
Spare 1024 MB SDRAMM DIMM for Cisco MCS 7845-I1	MEM-7845-I1-1GB=
Spare 72 GB U320 Hot-Plug SCSI Drive for Cisco MCS 7845-I1	HDD-7845-I1-72=
Spare 144 GB U320 Hot-Plug SCSI Drive for Cisco MCS 7845-I1	HDD-7845-I1-144=
Spare 625W Power Supply for Cisco MCS 7845-I1	PWR-7845-I1=
Spare Fan for Cisco MCS 7845-I1	FAN-7845-I1=

IDENTIFYING CPU SPEED OF SERVER

As the Cisco MCS 7845-I1 matures, the processor speeds will be changed as Intel replaces slower processors. Table 5 provides the Cisco manufacturing part number that will be shown on the chassis to help identify any processor speed of any individual server.

Table 5. Manufacturing Part Numbers by Processor Speed

Processor	Manufacturing P/N Located on Server	Introduction
Intel Xeon 3.4GHz	74-3693-01	Initial production of server Cisco MCS-7845-I1-ECS1
Intel Xeon 3.4GHz	7403693-02	MCS-7845-I1-ECS1 revised with new processor containing 2MB of Layer 2 cache
Intel Xeon 3.4GHz	74-3694-01	Initial production of server Cisco MCS 7845-I1-CC1, Cisco MCS 7845-I1-ECS2 and Cisco MCS 7845-I1-IPC1
Intel Xeon 3.4GHz	74-3694-02	MCS-7845-I1-CC1, MCS-7845-I1-ECS2 and MCS-7845-I1-IPC1 revised with new processor containing 2MB of Layer 2 cache.

SERVICE AND SUPPORT

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see [Cisco Technical Support Services](#) or [Cisco Advanced Services](#).

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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