Cisco MCS 7835-I2

Cisco Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks enabling easy collaboration every time from any workspace.

The Cisco MCS 7835-I2 Media Convergence Server is a high-availability server platform for Cisco Unified 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 7835-I2 delivers the high performance and availability demanded by today's enterprise networks — and it is easy to deploy and highly cost-effective. At only 2 rack units (2RU) high, the Cisco MCS 7835-I2 packs tremendous power in a low-profile chassis that minimizes rack space.

Supported Applications

The Cisco MCS 7835-I2 can run any of the following Cisco applications:

- Cisco Unified Application Environment
- Cisco Unified Communications Manager (formerly known as Cisco Unified CallManager): Up to 2500 Cisco Unified IP Phones per server
- Cisco Emergency Responder: Up to 20,000 Cisco Unified IP Phones
- Cisco Unified Presence
- 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 IVR
- Cisco Unified Expert Advisor
- Cisco Unified MeetingPlace® conferencing
- Cisco Unified MeetingPlace Express
- Cisco Unity®
- Cisco TelePresence Manager

Key Features and Benefits

Performance

The Cisco MCS 7835-I2 is a robust, highly available server platform designed to support today's Cisco Unified Communications applications. It includes such innovations as variable-speed fan support, NetBAY cabling support, and Light Path Diagnostics and Chipkill memory support. The Cisco MCS 7835-I2 occupies only 2RU rack space while providing the features most requested in a high-availability server platform.

High Availability

High availability on the Cisco MCS 7835-I2 is achieved through the following mechanisms:

- Redundant hot-swap power supplies
- Hot-swap single-attachment-station (SAS) hard drives configured using Redundant Array of Independent Disks (RAID) 1
- Redundant hot-swap fans

Memory

The Cisco MCS 7835-I2 supports up to 48 GB of double-data-rate 2 (DDR2) memory. The increased processor performance coupled with DDR2 memory allows you to retrieve and process information quickly 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 7835-I2 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-I2 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 7835-I2 is equipped with Light Path Diagnostics, which provides 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 the specific failing component, helping reduce downtime and service costs. Availability increases 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 can 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 7835-I2 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 (VRM)

- Failure of one or both processors
- 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 higher than maximum rating
- Soft error
- RAID controller error

Remote Management

The RSA II SlimLine adds accelerated graphics and delivers advanced control and monitoring features to manage your Cisco MCS 7835-I2 server at virtually any time, from virtually any place. You can add the adapter card to the server through a connector that connects to the planar. This adapter facilitates easy console redirection with text and graphics, and keyboard and mouse (operating system must support universal-serial-bus [USB]) support over the system management LAN connections. With video compression now built into the adapter hardware, it is designed to allow the greater screen sizes and refresh rates that are becoming standard in the marketplace. This feature allows you to display server activities from power-on to full operation remotely, with remote interaction at virtually any time. The embedded Web server provides remote control from any standard Web browser. No additional software is required on the remote administrator's workstation. For those users who are accustomed to a command-line interface, administrators can also use the provided CLI from a Telnet session to perform some of the functions that they can perform from the Web server. The Remote Supervisor Adapter II SlimLine provides remote management and control of the system independent of the server status, in many cases even if the server is powered off or otherwise disabled.

Features and benefits include the following:

- The adapter continuously monitors system environmentals (temperatures and voltages), operating system status, and critical system components, such as processors, VRMs, memory, fans, power supplies, and power backplanes (where supported by the system).
- Video compression hardware is built in, eliminating drivers.
- Faster graphics support makes monitoring and control more efficient.
- RSA II SlimLine supports Secure Sockets Layer (SSL) and Lightweight Directory Access Protocol (LDAP).
- The adapter is integrated with IBM Director and Director Agent.
- Built-in LAN and serial connectivity supports virtually any network infrastructure.
- Multiple alerting functions warn systems administrators of potential problems, over e-mail, pager support, LAN, or Simple Network Management Protocol (SNMP).
- The adapter installs on the system planar using a dedicated connector, eliminating the need to take a PCI-X slot.

The RSA II SlimLine features are similar to the RSA II with the exception of the following features:

- The reset button is not accessible from the back of the system.
- A mini-USB cable is no longer required; the device uses an internal USB bus. The system has a designated systems management Ethernet port, activated only when RSA II SlimLine is installed.
- An external AC adapter is not required (the device uses standby power from system power supplies).
- Status LEDs are not externally viewable.
- The RSA II SlimLine no longer supports the prior RSA II interconnect function.

36/72-GB DAT Tape Support

The Cisco MCS 7835-I2 can support an optional 36/72-GB USB external Digital Audio Tape (DAT) drive (part number DAT-USB-EXT-72=) or an optional USB rack-mount DAT drive (part number DAT-UDB-RM-72=). This tape drive connects through one of the USB 2.0 ports provided by the Cisco MCS 7835-I2.

Product Specifications

Tables 1 and 2 list the configurations of the Cisco MCS 7835-I2.

Table 1. Currently Shipping Configuration

Component	Value
Product part numbers	MCS-7835-I2-CCE2 MCS-7835-I2-CCX2 MCS-7835-I2-ECS2 MCS-7835-I2-IPC2 MCS-7835-I2-RC2
Preload	None
OS included	None
Processor	Single Intel 5140 2.33-GHz 4M L2
Memory	PC2-5300 667-MHz DDR2 synchronous dynamic RAM (SDRAM) Fully Buffered DIMMs
Hard disks	Two 146-GB SAS 2.5-in. hot-swap
Remote management	IBM RSA II Slimline

Table 2. Previous Shipping Configuration

Component	Value
Product part numbers	MCS-7835-I2-CCE1 MCS-7835-I2-CCX1 MCS-7835-I2-ECS1 MCS-7835-I2-IPC1 MCS-7835-I2-RC1 MCS-7835-I2-UC1
Preload	None
OS included	None
Processor	Single Intel 5140 2.33-GHz 4M L2
Memory	2-GB (two 1-GB) PC2-5300
Hard disks	Two 72-GB SAS 2.5-in. hot swap

Remote management	IBM RSA II Slimline

Tables 3 through 13 give specification and compliance information about the Cisco MCS 7835-I2.

Table 3. Product Specifications

Maximum processors	2
Processors installed	1
Basic input/output system (BIOS) type	Flash

Table 4. Memory Specifications

Memory maximum	48 GB
Memory bus clock	667 MHz
Memory technology	PC2-5300 667-MHz DDR2 synchronous dynamic RAM (SDRAM) Fully Buffered DIMMs
Multibit error mitigation	Advanced Error Checking and Correcting (AECC)
Total RAM slots	12

Table 5. RAID Controller Specifications

Controller model	IBM mezzanine ServeRAID-8k controller
Interface	Connect to motherboard
Cache	256 MB
Battery-backed write cache	Yes
RAID levels supported	1

Table 6. Hard Disk Specifications

Hot-swappable bays	8
Hard disk interface type	SAS
Hard disk revolutions per minute (rpm)	10,000
Hard disk average seek time	4 ms
Data-transfer rate	300 MB per second

Table 7. Network Interface Specifications

Ethernet network interface card (NIC)	Dual onboard 10/100/1000
Ethernet connectors	Two RJ-45 connectors on back of server
10BASE-T cable support	Electronic Industries Alliance (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, 5 UTP (2 pair) up to 328 ft (100m)

Table 8. Interface Port Specifications

Serial ports	1
Parallel ports	0
USB 2.0 ports	7

Keyboard ports	Use one of the USB ports (PS/2 ports are not provided)
Mouse ports	Use one of the USB ports (PS/2 ports are not provided)
Audio ports	None
Video Graphics Array (VGA) ports	1 front and 1 back
System management ports	RJ-45 for IBM RSA2 dedicated Ethernet port

Security Capabilities

- Power-on password and privileged access password functions control access to the data and server setup program on the server.
- Set unattended boot mode allows the system keyboard to be locked to all entries except the password, and at the same time allows other computers on the network to access the system disk drive.
- Selectable boot sequence can be used to prevent unauthorized installation of software or removal of data from the diskette drive.

The Cisco MCS 7835-I2 meets the following standards compliances

- Multiprocessor Specification (MPS) 1.4
- PCI specification 2.3
- PCI-X specification V2.0a
- (Hardware) Enabled to meet the ISO 9241, Part 3 standard

Table 9 gives expansion options and interfaces, and Table 10 gives unit specifications for the Cisco MCS 7835-I2.

Table 9. Expansion Options and Interfaces

Expansion Options	
8x PCIe non-hot plug slots	1
PCI-X non-hot plug 133-MHz, 64-bit slots	2

Table 10. System Unit Specifications

Dimensions (H x W x D)	3.36 x 17.5 x 27.5 in.	8.54 x 44.36 x 69.8 cm
Weight (maximum)	65 lb	29.6 kg
Input requirements (per power supply)	Rated line voltage	100–127 VAC and 200–240 VAC
	Rated input current	10A (100 VAC), 10A (120 VAC), and 5A (200 VAC)
	Rated input frequency	50–60 Hz
BTU rating (maximum)	BTU/hr	3390
Power supply output power	Rated steady state power	835W
Temperature range	Operating	50 to 95°F (10 to 35°C) at 0 to 3000 ft (0 to 914.4m) with an altitude de-rating of [[fill in number°F (0.75°C) per 1000 ft (??m) to 10,000 ft (3048m)
	Nonoperating	50 to 109.4°F (10 to 43°C)
	Shipment	–40 to 140°F (–4 to 60°C)
Relative humidity (RH; noncondensing)	Operating	8 to 80%
Maximum altitude	7000 ft	2133m
Acoustic noise	Operating minimum (random seeks to fixed disks)	L WAd (bels) 6.8

Equipment approvals and safety information for the Cisco MCS 7835-I2

- FCC: Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 4, Class A
- UL/IEC 60950-1 (This server model is certified by the respective UL and NOM agencies.)
- CSA C22.2 No. 60950-1-03
- NOM-019*

Ordering Information

To place an order, visit the Cisco Ordering Home Page and refer to Tables 11 through 13.

Table 11. Ordering Information

Product Name	Part Number
Cisco Unified Application Environment	Refer to Cisco Unified Application Environment data sheet
Cisco Unified Communications Manager 4.3	CALLMANAGER-4.3
Cisco Emergency Responder	Refer to Cisco Unified Presence Server data sheet
Cisco Unified Presence	Refer to Cisco Unified Presence Server data sheet
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	CCX-50-STANDARD CCX-50-ENHANCED CCX-50-PREMIUM CCX-60-STANDARD CCX-60-ENHANCED CCX-60-PREMIUM CCX-70-NEW
Cisco Unified Expert Advisor	EA-BUNDLE
Cisco Unified IP IVR	IVR-5.0-NEW IVR-6.0-NEW IVR-70-NEW-BUNDLE
Cisco Unified MeetingPlace conferencing	Refer to Cisco Unified MeetingPlace data sheet
Cisco Unified MeetingPlace Express	Refer to Cisco Unified MeetingPlace Express data sheet
Cisco Unity Unified Messaging	See Server Spares below
Cisco TelePresence Manager	CTS-MAN1.0

Table 12. Ordering Information for Spare Servers by Application

Application	Spare Part Number
Cisco Unified Application Environment	MCS-7835-I2-IPC2
Cisco Unified Communications Manager	MCS-7835-I2-IPC2
Cisco Emergency Responder	MCS-7835-I2-IPC2
Cisco Unified Presence	MCS-7835-I2-IPC2
Cisco Unified Intelligent Contact Management Enterprise	MCS-7835-I2-CCE2
Cisco Unified Intelligent Contact Management Hosted	MCS-7835-I2-CCE2
Cisco Unified Contact Center Enterprise	MCS-7835-I2-CCE2
Cisco Unified Contact Center Hosted	MCS-7835-I2-CCE2

Cisco Unified Contact Center Express	MCS-7835-I2-CCX2
Cisco Unified Expert Advisor	MCS-7835-I2-CCX2
Cisco Unified IP IVR	MCS-7835-I2-CCX2
Cisco Unified MeetingPlace conferencing	MCS-7835-I2-RC2
Cisco Unified MeetingPlace Express	MCS-7835-I2-RC2
Cisco Unity	MCS-7835-I2-ECS2
Cisco TelePresence Manager	MCS-7835-I2-CTS1

Table 13. Ordering Information for Server Spare Parts

Description	Spare Part Number
Spare Two 1024-MB SDRAM DIMM for Cisco MCS 7835-I2	MEM-7835-I2-2GB=
Spare 72.3-GB SAS drive for Cisco MCS 7835-I2	HDD-7835-I2-72=
Spare 146-GB SAS drive for Cisco MCS 7835-I2	HDD-7835-I2-146=
Spare 835W power supply for Cisco MCS 7835-I2	PWR-7835-I2=

Replacement Part Numbers

With the introduction of the new configurations using 146-GB disks in place of 72-GB disks, the orderability of the old configuration was terminated. Table 14 provides the replacement part numbers for those products that are no longer orderable.

Table 14. Replacement Part Numbers

Old Part Number	Replacement Part Number
MCS-7835-I2-CCE1	MCS-7835-I2-CCE2
MCS-7835-I2-CCX1	MCS-7835-I2-CCX2
MCS-7835-I2-ECS1	MCS-7835-I2-ECS2
MCS-7835-I2-IPC1	MCS-7835-I2-IPC2
MCS-7835-I2-RC1	MCS-7835-I2-RC2
MCS-7835-I2-UC1	–

Warranty Information

Cisco offers a 1-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_inpck/1y1cen__.htm.

Cisco Unified Communications Services

Cisco Unified Communications Services allows you to accelerate cost savings and productivity gains associated with deploying a secure, resilient Cisco Unified Communications solution. Delivered by Cisco and our certified partners, our portfolio of services is based on proven methodologies for unifying voice, video, data, and mobile applications on fixed and mobile networks. Our unique lifecycle approach to services enhances your technology experience to accelerate true business advantage.

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