Cisco MCS 7835-I2 Unified Communications Manager Appliance

Cisco® Unified Communications is a comprehensive IP communications system of voice, video, data, and mobility products and applications. It enables more effective, more secure, more personal communications that directly affect both sales and profitability. It brings people together by enabling a new way of communicating—where your business moves with you, security is everywhere, and information is always available...whenever and wherever it is needed. Cisco Unified Communications is part of an integrated solution that includes network infrastructure, security, mobility, network management products, lifecycle services, flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

Product Overview

The Cisco MCS 7835-I2 Unified Communications Manager Appliance (MCS 7835-I2) is a high-availability server platform for Cisco Unified Communications Manager 6.0 or 5.1 and greater and an integral part of a complete, scalable architecture for a new generation of high-quality unified 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 Communications Manager 6.0 or 5.1. Cisco Unified Communications Manager was formerly known as Cisco Unified CallManager. 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-I2 Unified Communications Manager Appliance packs tremendous power in a low-profile chassis that minimizes rack space. It can support up to 2500 Cisco Unified IP phones per server and 10,000 Cisco Unified IP phones per cluster, and includes the following features and components:

- Intel Woodcrest Xeon 2.33-GHz processor, a 1333-MHz front side bus (FSB), and 4 MB of Layer 2 cache
- 2-GB ultra-fast fully buffered 667-MHz PC2-5300 double data rate (DDR) II Error Checking and Correcting (ECC) memory with Chipkill protection (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 eight small form factor hot-plug hard drives
- Hot-plug redundant power supplies
- Hot-plug redundant fans
- IBM LightPath Diagnostics to assist in identifying failed components
- IBM Slimline Remote Supervisor Adapter II (RSA II)

Key Features and Benefits

Performance

The Cisco MCS 7835-I2 Unified Communications Manager Appliance is a robust, highly available server platform designed to support today's unified 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-I2 Unified Communications Manager Appliance provides the features most requested in a high-availability server platform. At product introduction, it includes an Intel Xeon 2.33-GHz processor, and the processor speed will be increased as Intel replaces the 2.33-GHz processor and introduces new processors.

High Availability

High availability on the Cisco MCS 7835-I2 Unified Communications Manager Appliance is achieved through the following mechanisms:

- Redundant hot-swap 835W power supplies
- Hot-swap Serial Attached SCSI (SAS) hard drives configured using RAID 1
- Redundant hot-swap fans

Memory

The Cisco MCS 7835-I2 Unified Communications Manager Appliance supports up to 48 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-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 Unified Communications Manager 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-I2 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-I2 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-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
- 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

Remote Management

The RSA II SlimLine adds accelerated graphics and delivers advanced control and monitoring features to manage your Cisco MCS 7845-I2 Unified Communications Manager Appliance at virtually any time, from virtually any place. The adapter card can be added to the server through a connector that connects to the planar. This adapter enables 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 the user to display server activities from power-on to full operation remotely, with remote user 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 (CLI), the administrator 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.

Enhanced Predictive Failure Analysis

The Cisco MCS 7835-I2 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-I2 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-I2 appliance 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-USB-RM-72=). This tape drive connects through one of the 4 USB 2.0 ports provided by the Cisco MCS 7835-I2 appliance.

Product Specifications

Table 1 lists product specifications for the Cisco MCS 7835-I2 Unified Communications Manager Appliance.

Table 1. Product Specifications

Processor at Product Introduction	
Processor (CPU)	Intel Woodcrest Xeon DP
Processor internal clock speed	2.33 GHz
Level 2 cache	4096 KB
Maximum processors	2
Processors installed	1
Basic input/output system (BIOS) type	Flash memory
Memory	
Memory maximum	48 GB
Memory bus clock	667 MHz
Memory technology	PC2-5300 667 MHz DDR2 SDRAM
Multibit error mitigation	Advanced Error Checking and Correcting (AECC)
Total RAM slots	12
Memory installed	2 GB (two 1-GB dual in-line memory modules [DIMMs])
RAID Controller	
Controller model	IBM mezzanine ServeRAID-8k controller
Interface	Connected to motherboard
Cache	256 MB
Battery-backed write caching	Yes
RAID levels supported	1
Hard Disk	
Hard disk installed	Two 72.3-GB SAS drives
Hard-disk route processor module (RPM)	10,000
Hard-disk average seek time	4 ms
Hot-swappable bays	8
Hard-disk interface type	SAS
Data-transfer rate	300 MB per second

Network Interface Specifications	
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
Parallel ports	0
USB 2.0	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
VGA ports	1 front and 1 rear
System management ports	RJ-45 for IBM RSA2 Ethernet port
Security	
	• •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	
	• •Multiprocessor Specification (MPS) 1.4 • Peripheral Component Interconnect (PCI) specification 2.3 • PCI-X specification V2.0a Hardware-enabled to meet the International Organization for Standardization (ISO) 9241, Part 3
Equipment Approvals and Safety	
	• FCC – Verified to comply with Part 15 of the FCC Rules, Class A • Canada ICES-003, issue 4, Class A • UL/IEC 60950-1* • •CSA C22.2 No. 60950-1-03 • NOM-01913 *This server model is certified by the respective UL and NOM agencies.
Expansion Options	
8 PCIe non-hot plug slots	1
PCI-X non-hot plug 133 MHz/64-bit slots	2
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	• 90–137 VAC minimum • 180–265 VAC maximum

Input current (per power supply)	• 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-I2 Unified Communications Manager Appliance in two ways. You can enter UNIFIED_CM_6.0 or CALLMANAGER 5.1 into the Dynamic Configuration Tool on Cisco.com and view a list of Cisco Unified Communications Manager appliances and their associated licenses. You can also order the components individually using the following product part numbers:

- MCS7835I2-K9-CMB1D (preloaded with Cisco Unified Communications Manager 6.0)
- MCS7835I2-K9-CMA2D (preloaded with Cisco Unified Communications Manager 5.1)
- LIC-CM5.1-7835=
- LIC-CM6.0-7835=
- 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 Communications Manager 7.1	MCS7835I2-K9-CMC2
Cisco Unified Communications Manager 7.0	MCS7835I2-K9-CMC1
Cisco Unified Communications Manager 6.1	MCS7835I2-K9-CMB2D
Cisco Unified Communications Manager 6.0	MCS7835I2-K9-CMB1D
Cisco Unified Communications Manager 5.1	MCS7835I2-K9-CMA2D

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-I2	HDD-7835-I2-72=
Spare 625W power supply for Cisco MCS 7835-I1	PWR-7835-I2=
Spare fan for Cisco MCS 7835-I2	FAN-7835-I2=
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-I2 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 Woodcrest 2.33 GHz	74-4488-01	Initial production of server

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 and Support

Using the Cisco Lifecycle Services approach, Cisco 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, and 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.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Printed in USA C78-378313-06 05/09