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Upgrade Requirements

For upgrades, if you have the Cisco Unified MeetingPlace Audio Server hardware and are using Audio Server Release 5.3 or 5.4 software, you must upgrade the software to Audio Server Release 6.1 yourself. (A Cisco Unified MeetingPlace Audio Server system running Release 5.2 cannot upgrade directly to Release 6.1. You must first upgrade to Release 5.4, then upgrade to Release 6.1.) See Installing and Upgrading the

Software

- The Cisco Unified MeetingPlace Audio Server system requires a Cisco Unified MeetingPlace 8100 series server.
- The Cisco Unified MeetingPlace Audio Server must be connected to a network switch port that is configured for auto-negotiate. Cisco Unified MeetingPlace gateways must be connected to network switch ports that are configured for 100/1000 MB full duplex.
- If the Cisco Unified MeetingPlace Audio Server is configured to use Cisco Unified CallManager in conjunction with a Cisco Unified MeetingPlace H.323/SIP IP Gateway, and if the Cisco Unified MeetingPlace H.323/SIP IP Gateway resides on a server with Cisco Unified MeetingPlace Web Conferencing, and if the network interface card (NIC) on the Cisco Unified MeetingPlace H.323/SIP IP Gateway is configured with more than one IP address, or there is more than one NIC, then you must do the following: In Cisco Unified CallManager, configure an H.323 Gateway to each NIC interface. Otherwise, outdials from the Cisco Unified MeetingPlace web interface may fail.

Hardware Requirements

The Cisco Unified MeetingPlace Audio Server system requires a Cisco Unified MeetingPlace 8100 series server.

If your system includes a shadow server, the shadow server can use a different chassis, but it must have the exact same hardware configuration, licenses, and software versions as the primary server. You cannot have a primary server that is a Cisco Unified MeetingPlace 8112 with more than 40 IP ports configured and a shadow server that is a Cisco Unified MeetingPlace 8106 with 480 IP ports configured.

For a new Release 6.1 system, Cisco Unified MeetingPlace Audio Server software is installed in manufacturing, so you do not need to install Audio Server software.

Note: The Cisco Unified MeetingPlace Audio Server must be connected to a network switch port that is configured for auto-negotiate. Cisco Unified MeetingPlace gateways must be connected to network switch ports that are configured for 100/1000 MB Full Duplex.

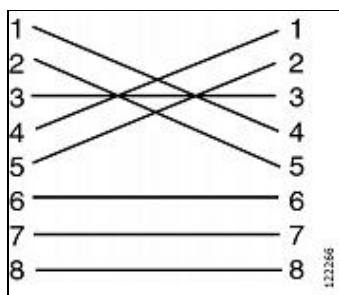
Tools Required for the Installation

Before installing the Cisco Unified MeetingPlace Audio Server, confirm that you have the following tools necessary for a successful installation:

- Laptop computer.

- Null modem female to female DB9 serial cable. Cisco Systems provides this cable. (For details, see the [Connecting the Cables.](#))
- Screwdriver with a type #2 blade.
- Phillips #1 screwdriver.
- Phillips #2 screwdriver.
- Antistatic grounding strap.
- Connectivity tester (ohm tester or pen light).
- Crossover cable for RJ-48 connectors. Cisco Systems provides this cable. See [Figure: Crossover-Cable Pinouts.](#)

Figure: Crossover-Cable Pinouts



Environmental Requirements

Environmental Requirements for the Cisco Unified MeetingPlace 8106

The recommended operating temperature range for the Cisco Unified MeetingPlace 8106 is 50 to 95 degrees Fahrenheit with a noncondensing humidity of 5 to 80 percent.

It is essential to keep the Cisco Unified MeetingPlace 8106 equipment cool. The Cisco Unified MeetingPlace 8106 has an internal fan assembly with four fans. To ensure that all Cisco Unified MeetingPlace 8106 components are adequately cooled, the Cisco Unified MeetingPlace 8106 must meet the following requirements:

- At least 1.5 inches of clearance in the front and back of the Cisco Unified MeetingPlace 8106.
- At least 0.5 inches of clearance to the right and left of the Cisco Unified MeetingPlace 8106.
- At least 0.5 inches of clearance on the top and bottom of the Cisco Unified MeetingPlace 8106.
- Fill or cover all module slots (use filler panels in empty slots).
- Airflow in an open frame rack or in an enclosed cabinet must be from left to right.

Environmental Requirements for the Cisco Unified MeetingPlace 8112

The recommended operating temperature range for the Cisco Unified MeetingPlace 8112 is 50 to 104 degrees Fahrenheit with a noncondensing humidity of 5 to 80 percent.

It is essential to keep the Cisco Unified MeetingPlace 8112 equipment cool. The Cisco Unified MeetingPlace

8112 has three internal DC-powered fans. To ensure that all Cisco Unified MeetingPlace 8112 components are adequately cooled, the Cisco Unified MeetingPlace 8112 must meet the following requirements:

- At least 24 inches of clearance in the back of the Cisco Unified MeetingPlace 8112.
- At least 1.75 inches of clearance on top of the Cisco Unified MeetingPlace 8112.
- Fill or cover all module slots (use filler panels in empty slots).
- Airflow in an open frame rack must be from front to back.
- Airflow in an enclosed cabinet must be from front to back and bottom to top.

Power Requirements

Power for the Cisco Unified MeetingPlace 8100 series must come from a totally dedicated circuit breaker within 8 feet of the equipment. In addition, the site must have additional power outlets for test and maintenance equipment.

Do not plug any other electrical devices into an outlet connected to the circuit breaker serving the Cisco Unified MeetingPlace 8100 series.

Cisco Unified MeetingPlace 8106 requirements

- 100-240V
- 3 A
- 50/60 Hz

Cisco Unified MeetingPlace 8112 requirements

- 100-115/200-230V
- 6/3 A
- 50/60 Hz

If the power in your area is susceptible to fluctuations or interruptions, consider installing surge suppressors or connecting the Cisco Unified MeetingPlace Audio Server system to an uninterruptible power supply (UPS). If the Audio Server system loses power, it does not maintain its telephony connections.

The Cisco Unified MeetingPlace 8106 draws a maximum of 300 watts of power and produces a maximum of 1364 BTU per hour. The Cisco Unified MeetingPlace 8112 draws a maximum of 600 watts of power and produces a maximum of 2048 BTU per hour.

Table: Power Requirements by Country for the Cisco Unified MeetingPlace 8100 Series lists the power requirements by country for the Cisco Unified MeetingPlace 8100 series.

Table: Power Requirements by Country for the Cisco Unified MeetingPlace 8100 Series

Country	Power	Socket
U.S. Canada	115 VAC	NEMA 5-15R socket. Outlet installed within 8 feet of the Audio Server.
Hong Kong European Union	240 VAC	BS-1363 socket. Outlet installed within 8 feet of the Audio Server.
Japan	100 VAC (50 Hz for East Japan; 60 Hz for West Japan)	NEMA 5-15R socket. Outlet installed within 8 feet of the Audio Server.

T1 Digital Trunk Requirements

T1 Smart Blades support digital connections to a PBX system or to a public switched phone network (PSTN). The framing for the digital lines can be either Extended Superframe (ESF) or D4 framing. The digital lines can use either Binary 8-Zero Substitution (B8ZS) or jammed-bit coding.

We recommend using ESF framing and B8ZS coding. Using D4 framing or jammed-bit coding may not be satisfactory.

Caution! Supplemental earth grounding is required at all times. This supplemental grounding consists of a grounding cable that is attached to supplemental ground lugs on the back of the Cisco Unified MeetingPlace Audio Server chassis and is permanently connected to an earth ground point at the other end through an appropriate facilities-grounding terminal.

You must use shielded cables, and you must electrically terminate the shield at the back of the Cisco Unified MeetingPlace Audio Server.

Note the following considerations:

- Cisco Unified MeetingPlace supports fractional T1 services and has complete flexibility to activate any or all ports on a span.
- Cisco Unified MeetingPlace can use dialed-number information to directly connect the caller to a meeting or to determine the Cisco Unified MeetingPlace services to which the caller has access.
- You can configure Cisco Unified MeetingPlace to support devices where the T1 trunk does not provide any signaling and is always offhook. This is used in applications where a clear channel connection is required.

Table: T1 Digital Trunk Requirements by Country lists the T1 digital trunk requirements by country for a Cisco Unified MeetingPlace system.

Table: T1 Digital Trunk Requirements by Country

Country	Requirements
U.S.	Public network to Channel Service Unit (CSU) connection-Receive and transmit (E&M) wink start (line side and trunk side). Ground start or loop start (line side only). U.S. only-FCC and CSA-listed CSU required.
Canada	Customer-supplied connectors-USOC (male) RJ-48 jacks. See the <u>Wiring Requirements for Customer-Supplied Connectors-U.S., Canada, and Hong Kong</u> .
Hong Kong	Cable provided by Cisco Systems-25-foot shielded twisted-pair cable with ferrite. PBX to CSU connection-FCC and CSA-listed CSU required for connections over 600 feet. The Cisco Unified MeetingPlace system ships with a 25-foot shielded cable with ferrite beads for each T1 span. The cable terminates in an RJ-48 connector. Listed CSU is provided for overvoltage protection for the T1 Smart Blades.
Japan	T1 connection into PBX with INS1500-to-T1 converter. Customer-supplied connectors-RJ-45 connector. Cable provided by Cisco Systems-50-foot shielded cable (male-male). One per T1 span.
Australia	Cisco Systems does not supply any T1 cables with Cisco Unified MeetingPlace Audio Server systems that are shipped to Australia.

In some cases, the cables that Cisco Systems provides may not be appropriate for your Private Branch eXchange (PBX) or Network Interface Unit (NIU) side connections. If this is the case, create your own custom cables.

Custom T1 CAS (channel-associated signaling) and IP cables require the following:

- Cat5e STP UTP cable with shielded RJ-45 connectors terminated to the cable shield at both ends.
- Add the ferrite that is on the cable supplied by Cisco Systems.

Caution! (U.S. only) The FCC Part 68 registration number is EMC USA-34550-XD-T. Be sure to use only FCC and CSA or UL-listed CSUs.

T1-Supported Protocols

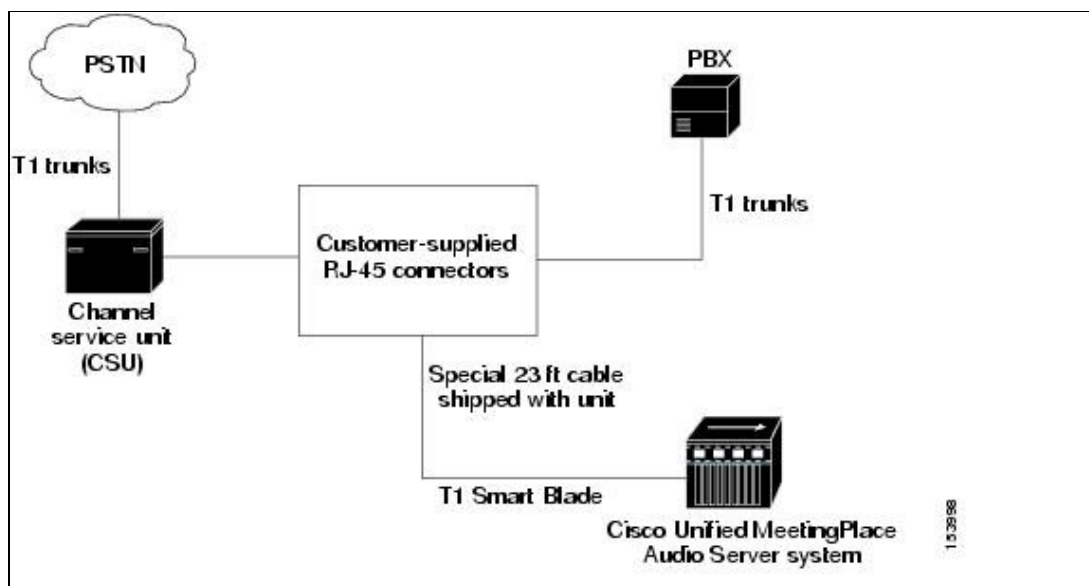
The following protocols are supported for T1 digital trunks:

- T1 CAS Cisco Unified MeetingPlace systems-E&M wink start, ground start, and loop start
- T1 PRI Cisco Unified MeetingPlace systems-AT&T (TR41459), Telcordia Technologies (NI-2), and Nortel (DMS-100)

End-to-end positive disconnect supervision is essential. Without it, Cisco Unified MeetingPlace cannot reliably tell when a caller hangs up. Many PBX and central office systems can provide disconnect signaling; we recommend E&M wink start lines because they provide for a positive answer and disconnect supervision. In many cases, the person taking the order for the lines will not understand your request, so you will probably need to escalate the request to someone with a technical background.

Figure: Cisco Unified MeetingPlace Digital Connection Requirements-T1 illustrates the Cisco Unified MeetingPlace digital telephony connections with T1 trunks.

Figure: Cisco Unified MeetingPlace Digital Connection Requirements-T1



Wiring Requirements for Customer-Supplied Connectors-U.S., Canada, and Hong Kong

Table: Wiring of RJ-48 Connectors and Table: Wiring of RJ-48 Connectors When Transmit/Receive Is Reversed describe wiring requirements for customer-supplied RJ-48 connectors.

Table: Wiring of RJ-48 Connectors

Pin	Name	Description
1	T1	Cisco Unified MeetingPlace received signal - tip
2	R1	Cisco Unified MeetingPlace received signal - ring
4	T	Cisco Unified MeetingPlace outgoing signal - tip
5	R	Cisco Unified MeetingPlace outgoing signal - ring

To identify the pins, hold the RJ-48 connector as if you are going to plug it in with the tab down. Pin 1 is on the left.

If transmit and receive need to be reversed, also reverse the pins. See [Table: Wiring of RJ-48 Connectors When Transmit/Receive Is Reversed](#).

Table: Wiring of RJ-48 Connectors When Transmit/Receive Is Reversed

Pin	Name	Description
1	T	Cisco Unified MeetingPlace outgoing signal - tip
2	R	Cisco Unified MeetingPlace outgoing signal - ring
4	T1	Cisco Unified MeetingPlace received signal - tip
5	R1	Cisco Unified MeetingPlace received signal - ring

Wiring Requirements for Customer-Supplied Connectors-U.K., Singapore, and India

For the E1 card, the connection from the network interface to the network can be one of the following types:

- RJ-45connector.
- SMB coaxial connectors with SMB/BNC adapters.

[Table: Wiring of RJ-45 Connectors](#) describes wiring requirements for customer-supplied RJ-45 connectors.

Table: Wiring of RJ-45 Connectors

Pin	Signal	Description	Direction
1	LRT	Receive +ve (tip)	Input
2	LRR	Receive -ve (ring)	Input
4	LTT	Transmit +ve (tip)	Output

5	LTR	Transmit -ve (ring)	Output
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E1 Digital Trunk Requirements

Confirm that the E1 digital trunk specifications meet the requirements in [Table: E1 Digital Trunk Requirements](#).

Table: E1 Digital Trunk Requirements

Country	Requirements
European Union	<p>Connection Type-Euro ISDN and QSIG digital telephony (E1).</p> <p>Cable supplied by Cisco Systems-25-foot Cat5 cable with RJ-48c connectors at each end.</p> <p>Socket-Connector must be an RJ-25 socket or an NBNC (female) connector.</p> <p>Cable length (if you provide your own cable)-Maximum cable length is 328 feet.</p>
Australia	Cisco Systems does not supply any E1 cables with Cisco Unified MeetingPlace Audio Server systems that are shipped to Australia.

In some cases, the RJ-48c cables that Cisco Systems provides may not be appropriate for your PBX or NIU-side connections. If this is the case, create your own custom cables. Custom E1 and T1 PRI cables require the following:

- Cat5e UTP cable.
- RJ-48c connector on the breakout box side.
- Add the ferrite that is on the cable that is supplied by Cisco Systems.

Note: In E1 Cisco Unified MeetingPlace systems, you can connect Cisco Unified MeetingPlace directly to the PSTN. You do not need a CSU.

E1-Supported Protocols

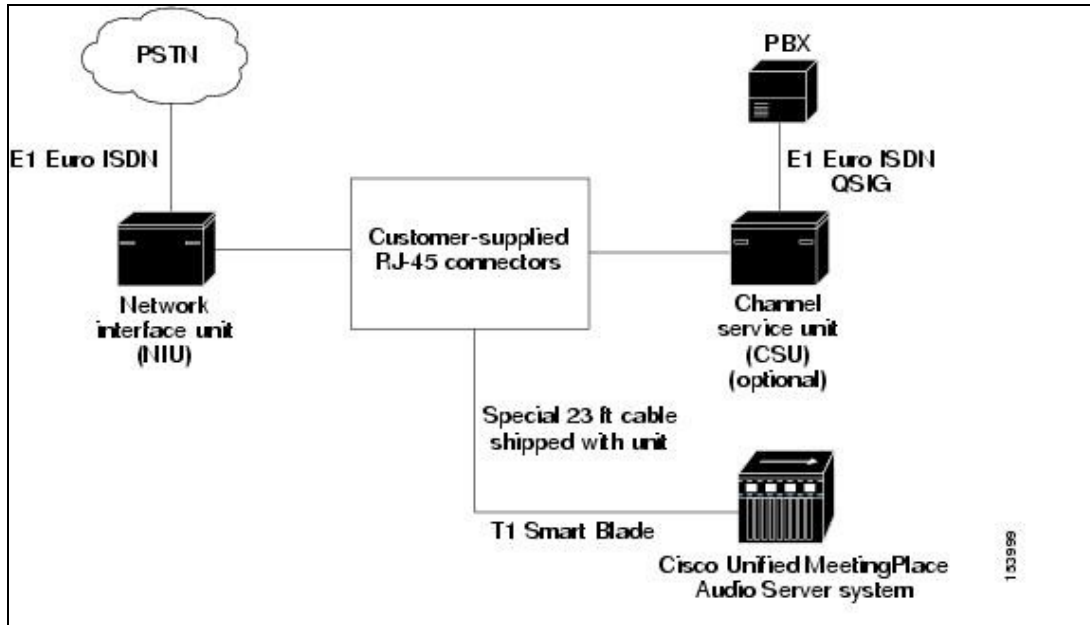
The following protocols are supported for E1 digital trunks:

- Euro-ISDN (ETSI 300-102).
- QSIG (ECMA version)-Channels are numbered 1 to 30.
- QSIG (ETSI version)-Channels are numbered 1 to 15 and 17 to 31.

The Cisco Unified MeetingPlace system supports only E1 PRI protocols. The Cisco Unified MeetingPlace system does not support E1 CAS protocols.

Figure: Cisco Unified MeetingPlace Digital Connection Requirements-E1 illustrates the Cisco Unified MeetingPlace digital telephony connections with E1 trunks.

Figure: Cisco Unified MeetingPlace Digital Connection Requirements-E1



Modem Requirements

The Cisco Unified MeetingPlace 8100 series includes an external modem that connects to the Cisco Unified MeetingPlace system through a serial cable. Connect the modem cable from the back of the Cisco Unified MeetingPlace 8100 series to the CPU transition module.

Confirm that you can call the modem extension from the outside so that Cisco TAC can access the Cisco Unified MeetingPlace system.

Table: Modem Requirements by Country lists modem requirements by country for a Cisco Unified MeetingPlace system.

Table: Modem Requirements by Country

Country	Requirements
U.S.	<ul style="list-style-type: none"> • U.S. modem supplied by Cisco Systems. • Serial cable.* 6-foot modem cable.

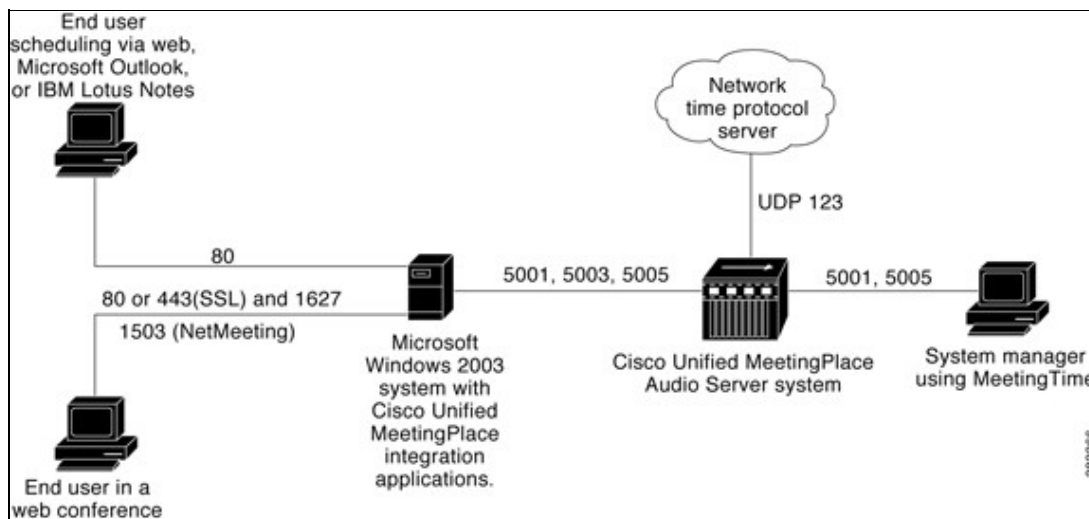
Canada	<ul style="list-style-type: none"> • Customer-supplied standard analog phone jack (RJ-11). You must be able to call the extension from the outside.
Hong Kong	
Japan	<ul style="list-style-type: none"> • CE modem supplied by Cisco Systems. • Serial cable.* 8.2-foot modem cable. • Customer-supplied standard analog phone jack (RJ-11). You must be able to call the extension from the outside.
European Union	<ul style="list-style-type: none"> • Global modem supplied by Cisco Systems. • Serial cable.* Customer-supplied standard analog phone jack (RJ-11). You must be able to call the extension from the outside.

LAN Requirements

To connect to other applications, such as MeetingTime and Cisco Unified MeetingPlace Web Conferencing, Cisco Unified MeetingPlace Audio Server systems require certain TCP and User Datagram Protocol (UDP) ports to remain open on your network.

Figure: TCP/UDP Port Requirements illustrates the ports that a Cisco Unified MeetingPlace system uses for communication. Unless otherwise specified, all ports listed are TCP.

Figure: TCP/UDP Port Requirements



Ensure that the Cisco Unified MeetingPlace Audio Server system resides on a network segment that is free from potential network problems, such as storms, loops, and collisions.

LAN Cable Requirements

The Cisco Unified MeetingPlace Audio Server system attaches to an Ethernet LAN, which provides all the communication from the Audio Server system to your network. There are two possible scenarios for using an Ethernet LAN cable:

- Connecting from an Audio Server CPU to your network.
- Connecting from an Audio Server Multi Access Blade to your network (for IP ports only).

For all configurations, you need a customer-supplied LAN cable to connect the Audio Server CPU to your network.

For IP configurations, Cisco Systems supplies the necessary LAN cables to connect the Multi Access Blade that is used for the IP configuration to your network.

Table: LAN Cable Requirements by Country lists the LAN cable requirements by country for a Cisco Unified MeetingPlace system.

Table: LAN Cable Requirements by Country

Country	Requirements
U.S.	CPU to LAN cable-For twisted-pair Ethernet, 100BASE-TX. You need to supply an RJ-45 connector. 10BASET works but is not recommended.
Canada Hong Kong	Multi Access Blade to LAN cable-For twisted-pair Ethernet, Cat5e. You need an RJ-45 connector. Cisco Systems provides a 25-foot CAT-5e cable (#3300-0029-02) with a Ferrite snap-on bead on one end. If you change the cable, you must move the snap-on bead. Note: You must set the Ethernet switch port (or any other network devices) to which the Multi Access Blade connects directly to fixed 100BASE-TX Full Duplex. Otherwise, you may experience decreased voice quality.
Japan	CPU to LAN cable-For twisted-pair Ethernet, 100BASE-TX UTP. You need to supply an RJ-45 connector. 10BASET works but is not recommended. Multi Access Blade to LAN cable-For twisted-pair Ethernet, Cat5e. You need an RJ-45 connector. Cisco Systems provides a 25-foot Cat5e cable (#3300-0029-02) with a Ferrite snap-on bead on one end. If you change the cable, you must move the snap-on bead.

	Note: You must set the Ethernet switch port (or any other network devices) to which the Multi Access Blade connects directly to fixed 100BASE-TX Full Duplex. Otherwise, you may experience decreased voice quality.
Australia	Cisco Systems does not supply any LAN cables with Cisco Unified MeetingPlace Audio Server systems that are shipped to Australia.