# Cisco Expressway CE1000 Appliance

## Installation Guide

**First Published: April 2014**

**Last Updated: November 2015**

X8.2 or later

# Introduction

## About This Document

This document describes how to install a Cisco Expressway CE1000 appliance into your video network. It contains information on:

- Preparing the installation.
- Installing the hardware.
- Performing the initial configuration.
- Troubleshooting the installation.

The Cisco Expressway appliance is based on the UCS C220 M3. For more detailed information on installing this appliance, see the *Cisco UCS C220 Server Installation and Service Guide*.

## About the Cisco Expressway Appliance

This product has entered the end-of-life cycle. See the End-of-life announcement for details.

The appliance ships with the Cisco Expressway software pre-installed, and you can upgrade the software if necessary.

The appliance supports Cisco Expressway version X8.2 or later.

**Note:** If you choose to use the copper SFPs, the unit cannot support more than 150 traversal calls. This is the case even if the option key for extra traversal calls has been installed.

| Item | Part | Quantity |
|---|---|---|
| Chassis | UCSC-C220-M3L | 1 |
| Processor | UCS-CPU-E5-2643 (3.30 GHz / 4 Core - Hyper threaded) | 2 |
| RAM | UCS-MR-1X082RY-A (8 GB) | 4 |
| Hard Disk | UCS-HDD1TI2F212 (1TB NL SAS Disk LFF) | 2 |
| RAID Card | UCS-RAID9271-8I (Generation 3 RAID card)<br><br>**Note:** the appliance is configured with RAID1 (mirror) | 1 |
| NIC | N2XX-AIPCI01 (Intel X520 Dual Port 1/10 Gb SFP+ Adapter) | 1 |
|  | EXP-10GSFP-SR= (10 Gb SR Fiber SFP) | 2 |
|  | EXP-1GSFP-T= (1 Gb Copper SFP) | 2 |
| PSU | UCSC-PSU-650 W & Power cable | 2 |
| TPM | UCSX-TPM1-001 (Trusted Platform Module) | 1 |
| Miscellaneous | UCSC-BBLKD-L (HDD filler panel) | 2 |
|  | UCSC-HS-C220M3 (Heat Sink) | 2 |
|  | UCSC-RAIL1 (Rail Kit) | 1 |

The following components are field replaceable:

- Hard disks
- PSUs

- 1 Gb and 10 Gb SFP modules

To begin a Return Material Authorization (RMA) go to http://www.cisco.com/web/ordering/cs_info/or3/o32/Return_a_Product/WebReturns/product_Online_web_returns.html.

## Related Documents

- The *Cisco Expressway Administrator Guide* on the Maintain and Operate Guides page describes how to maintain and operate the Cisco Expressway software.
- The *Cisco Expressway Cluster Creation and Maintenance Deployment Guide* on the Configuration Guides page describes how to create and maintain a cluster of Cisco Expressways.

## Training

Training is available online and at our training locations. For more information on all the training we provide and where our training offices are located, visit www.cisco.com/go/telepresencetraining

## Glossary

A glossary of TelePresence terms is available at: https://tp-tools-web01.cisco.com/start/glossary/

# Preparing to Install

## Environmental and Power Specifications

To view environmental and power specifications for the appliance server, see http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C220/install/spec.html.

## Unpacking the Unit and Preparing the Installation

See http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C220/install/install.html for information on:

- Unpacking and inspecting the server.

  The CE1000 is shipped with 2 x 10 Gb fiber SFPs and 2 x 1 Gb copper SFPs.
- Installation guidelines.
- Rack requirements.
- Equipment requirements.
- Slide rail adjustment range.

## Locating Serial Numbers

The Cisco Expressway appliance displays two serial numbers:

- UCS serial number:
  - Has the format FCHxxxxxxxx.
  - Is displayed on the physical hardware and in the CIMC web interface.
- Application/Software serial number:
  - Has the format 52BNNNNN, where B indicates the CE1000 series and N are numbers.
  - Is displayed in the Cisco Expressway web interface, on the underside of the pull-out tab, and is available in the SSH session.
  - Must be supplied to obtain release and option keys.

# Installation

## Install the Unit in a Rack

See http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C220/install/install.html#wp1341126 for information on how to install the unit in a rack.

## Inserting the SFPs

The CE1000 unit is shipped with two 10 Gb fiber small form-factor pluggable (SFP) transceivers and two 1 Gb copper SFPs. When inserting the SFPs into the unit, you cannot mix the type of SFP. Either insert two 10 Gb fiber SFPs or two 1 Gb copper SFPs.

The SFPs do not autonegotiate the speed, therefore ensure that the SFPs are connected to a switch at the correct speed (1 Gb if connecting to the copper SFPs or 10 Gb if connecting to the fiber SFPs).

**Note:** If you choose to use the copper SFPs, the unit cannot support more than 150 traversal calls. This is the case even if the option key for extra traversal calls has been installed.

## Connect and Power on the Unit

First connect the power cords to the unit, and then connect them to a grounded AC power outlet.

See http://www.cisco.com/en/US/docs/unified_computing/ucs/c/hw/C220/install/spec.html#wp1070378 for power specifications.

The power button is on the top-left corner of the front panel.

When you plug in the CE1000 appliance for the first time, leave it in standby mode for 5 minutes before pressing the power button. This time allows the onboard CIMC to boot; ready the self-test; perform a hardware check; and prepare the power characterization test. Failure to wait adequate time will postpone the power characterization test until the next boot.

When you power on the unit, the system performs a self-test and the unit automatically restarts. This restart is expected behavior.

The first boot takes approximately 5 minutes due to the initial power characterization test. Any subsequent boot of the system takes approximately 2 minutes.

The power characterization test displays the message `Performing Platform Characterization …` when running.

If the power characterization test runs on subsequent bootups, causing a lag in the boot time, it is important that you disable it. It is especially important to disable the test in a clustered environment to avoid issues. See *Specific Issues* in the Troubleshooting section for more information.

To verify the power status look at the Power Status LED (see Figure 3: Front view of the Cisco Expressway unit, page 11):

- Off – There is no AC power present in the server.
- Amber – The server is in standby power mode. Power is supplied only to the CIMC and some motherboard functions.
- Green – The server is in main power mode. Power is supplied to all server components.

# Configure

This section describes the different ways you can connect to the Cisco Expressway and perform the initial configuration.

## Connect to the Cisco Expressway

Before you can use the Cisco Expressway, you must configure its IPv4 and/or IPv6 address, subnet mask and default gateway. Consult your network administrator for information on which addresses to use. Note that the Cisco Expressway must use a static IP address.

For initial configuration, use any of these methods:

■ Connect a PC to the Cisco Expressway using a serial cable (see Connect Using the Serial Port, page 7 followed by Configure the Cisco Expressway, page 8).

■ Connect a monitor and keyboard directly into the unit (see Connect Using the KVM Port, page 8 followed by Configure the Cisco Expressway, page 8).

■ If your network is set up to allow it, use a web browser to connect to the default IP address of 192.168.0.100 (see Use the Web Interface, page 9).

**Figure 1:    Rear Panel Showing Ports**
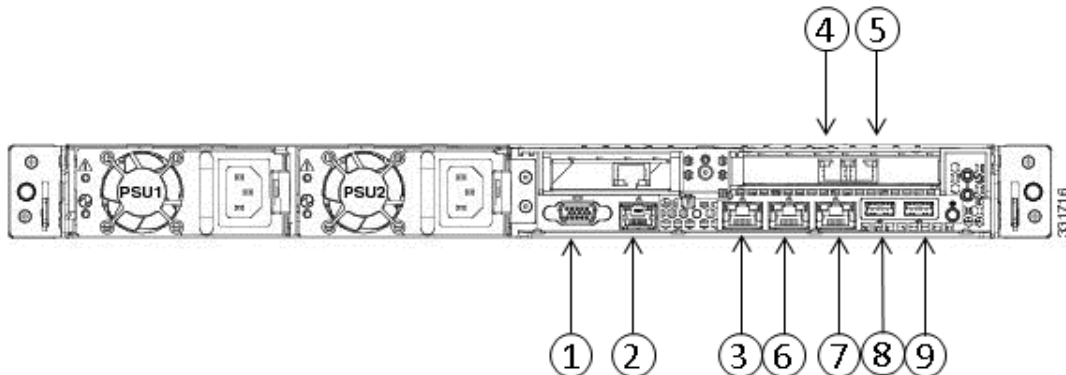


**Table 1    Rear Panel Ports**

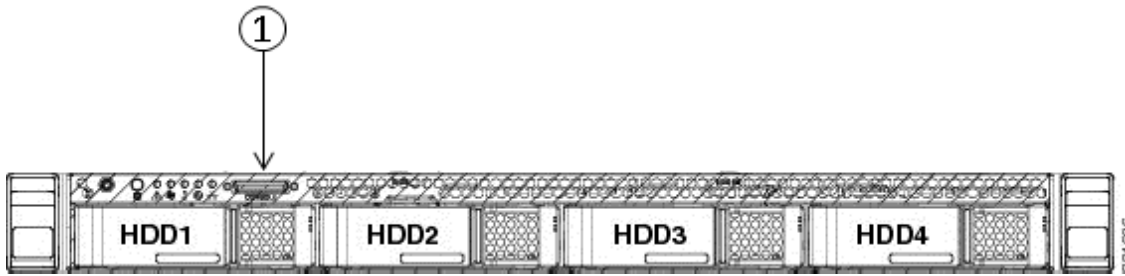| 1 | VGA port |
|---|---|
| 2 | Serial port |
| 3 | Dedicated management port (can be used for CIMC in the future) |
| 4 | LAN 1 (left-hand SFP port) |
| 5 | LAN 2 (right-hand SFP port) |
| 6 | LAN 3 (not currently used) |
| 7 | LAN 4 (not currently used) |
| 8 | USB port |
| 9 | USB port |

Figure 2: Front Panel Showing KVM Connector



Table 2   Front Panel Ports

| 1 | KVM connector |
|---|---|

## Connect Using the Serial Port

1. Connect the Ethernet LAN cable from the LAN 1 port on the rear of the unit to your network.

   The LAN 1 port is the left-hand port of the dual port adapter on the rear panel of the unit (shown in Figure 1: Rear Panel Showing Ports, page 6).

2. Connect a serial cable from the serial port on the rear of the unit to the serial port on a PC (see Figure 1:   Rear Panel Showing Ports, page 6).

   The serial cable used must be a cross-over cable. The pin assignment for the serial cable is:

| Male RJ45 pin | Female DB9 pin |
|---|---|
| 1 | 8 |
| 2 | 6 |
| 3 TXD | 2 |
| 4 GND | 5 |
| 5 GND | 5 |
| 6 RXD | 3 |
| 7 | 4 |
| 8 | 7 |

   Note: If there is no DB9 port on your PC, a DB9 to USB serial port adapter is required.

3. Start a terminal emulator program (for example PuTTY) on the PC and configure it to use the PC's serial port as follows:

   – baud rate: 115200 bits per second

   – data bits: 8

   – parity: none

   – stop bits: 1

   – flow control (hardware and software): none

   Note: Do not leave a terminal emulator session open after it is no longer in use. An open session may cause issues during a system restart.

## Connect Using the KVM Port

1. Connect the Ethernet LAN cable from the LAN 1 port on the rear of the unit to your network.

   The LAN 1 port is the left-hand port of the dual port adapter (shown in Figure 1:   Rear Panel Showing Ports, page 6).

2. Either:
   – Connect a USB keyboard and VGA monitor using a KVM adaptor to the KVM connector on the front panel (see Figure 2:   Front Panel Showing KVM Connector, page 7).
   – Connect a USB keyboard to the USB port and a VGA monitor to the VGA port on the rear panel (see Configure, page 6).

You can now proceed to configure the Cisco Expressway.

# Configure the Cisco Expressway

If the system has just booted up, the terminal emulator program on the PC will display the Cisco Expressway's startup information. After approximately four minutes you will get the login prompt. If the Cisco Expressway was already on when you connected the serial cable, press `Enter` to get the login prompt.

1. Enter the username `admin` and press `Enter`.
2. Enter the default password of `TANDBERG` and press `Enter`.

   You will get the install wizard prompt:

   `Run install wizard [n]:`

3. Type `y` and press `Enter`.
4. Follow the prompts given by the install wizard to specify the following:
   – The password you want to use for your admin account.

     **Note:** For security reasons you are advised to change the password from the default of `TANDBERG`.
   – Whether you want to use IPv4, IPv6 or Both .
   – The LAN 1 IP address of the Cisco Expressway.
   – The LAN 1 IPv4 subnet mask of the Cisco Expressway (if you have selected IPv4).
   – The IP address of the default gateway of the Cisco Expressway.
   – The Ethernet speed.

     **Note:** Use the default value of `Auto`, but ensure that the SFP is connected to a switch at the correct speed (1 Gb if connecting to the copper SFPs or 10 Gb if connecting to the fiber SFPs).
   – Whether you want to use SSH to administer the Cisco Expressway.
5. After the wizard is finished the following message will appear:

   `Setting other settings...OK.`

   `The system must be restarted for new`
   `settings to take effect..`

   You will get a restart prompt:

   `Restart Now?`

   Type `y` and press `Enter`.
6. After it has rebooted, the Cisco Expressway is ready to use. You can access the Cisco Expressway's web interface using the IP address assigned to the LAN 1 Ethernet port.

**Note:** For security reasons you are advised to change the password for the default admin account (if you have not already done so) and the root account from the default of TANDBERG.

## Use the Web Interface

1. Open a browser window and in the address line type either:
   - The IP address of the Cisco Expressway.
   - The FQDN of the Cisco Expressway.
   The **Login** page will appear.
2. Select **Administrator Login**.
3. Enter a valid administrator username and password and select **Login**.
   You will be presented with the **Overview** page.

See the online help or *Cisco Expressway Administrator Guide* for information on the configuration options available for each page of the Cisco Expressway web interface.

## Use the Command Line Interface (CLI)

The command line interface is available over SSH and through the serial port by default.

1. Start an SSH session.
2. Enter the IP address or FQDN of the Cisco Expressway.
3. Log in with a username of `admin` and your system password.
   You will see a welcome message.

For a full list of CLI commands available on the Cisco Expressway, see *Cisco Expressway Administrator Guide*.

## Change the Admin Account Password

To change the password for the admin account using the web interface:

1. Go to **Users > Administrator accounts**.
2. Click on **View/Edit** for the admin name.
3. In the **Password** and **Confirm password** fields, enter the new password, and click **Save**.

   The **Password strength** box will indicate how secure your chosen password is.

To change the password for the admin account using the CLI:

Type `xConfiguration SystemUnit Password`

**Note:** You cannot set a blank password for the admin user, or any other administrator account, or the root account.

## Change the Root Account Password

1. Using a serial connection, log in as `root` using the existing password.
2. Type the command `passwd`.
   You will be asked for the new password.
3. Enter the new password and, when prompted, retype the password.
4. Type `exit` to log out of the root account.

## Change Other System Settings

You are also required to configure the following:

- The system name of the Cisco Expressway. This is used by the Cisco TelePresence Management Suite (Cisco TMS) to identify the system. This can be set from the **System administration** page (**System > Administration**) on the web interface.
- Automatic discovery. If you have multiple Cisco Expressways in the same network you may want to disable automatic discovery on some of them. This can be set from the **H.323** page on the web interface (**Configuration > Protocols > H.323**).
- The DNS server address(es), if URI dialing or Fully Qualified Domain Names (FQDNs) are to be used. This can be set from the **DNS** page on the web interface (**System > DNS**).

See the online help or *Cisco Expressway Administrator Guide* for more information on these configuration options.

## Check for Updates and Upgrading

To check whether your Cisco Expressway has the latest software installed go to http://software.cisco.com/download/navigator.html and navigate to the Cisco Expressway.

See the *Cisco Expressway Administrator Guide* for information on how to upgrade.

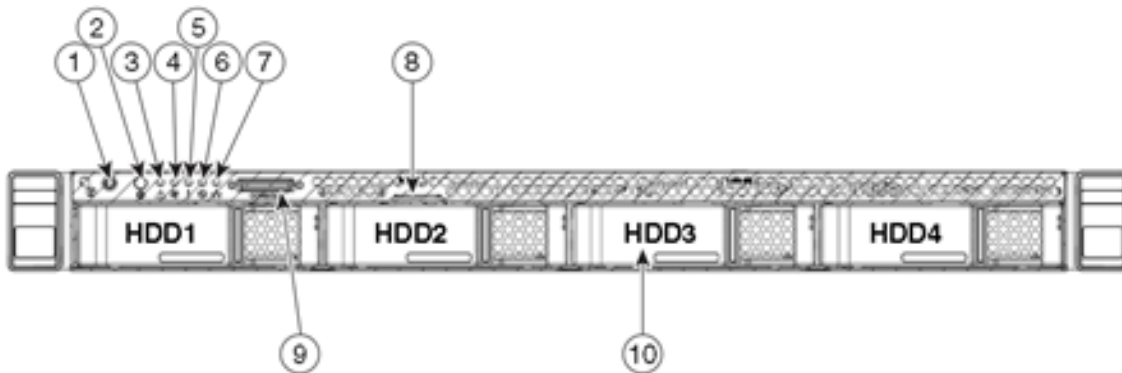**Note:** You must not downgrade to a software version lower than X8.1.1.

# Troubleshooting

## Locating LEDs and Components

### Front view

Below is an illustration of the unit's front view and a list of the LEDs and components available.

Figure 3:   Front view of the Cisco Expressway unit



| 1 | Power button/power status LED |
| --- | --- |
| 2 | Identification button/LED |
| 3 | System status LED |
| 4 | Fan status LED |
| 5 | Temperature status LED |
| 6 | Power supply status LED |
| 7 | Network link activity LED |
| 8 | Asset tag (serial number) |
| 9 | KVM connector (for USB/VGA connection) |
| 10 | HD drive activity/fault LED |

### Rear view

Below is an illustration of the unit's rear view and a list of the LEDs and components available.

**Figure 4:   Rear view of the Cisco Expressway unit**
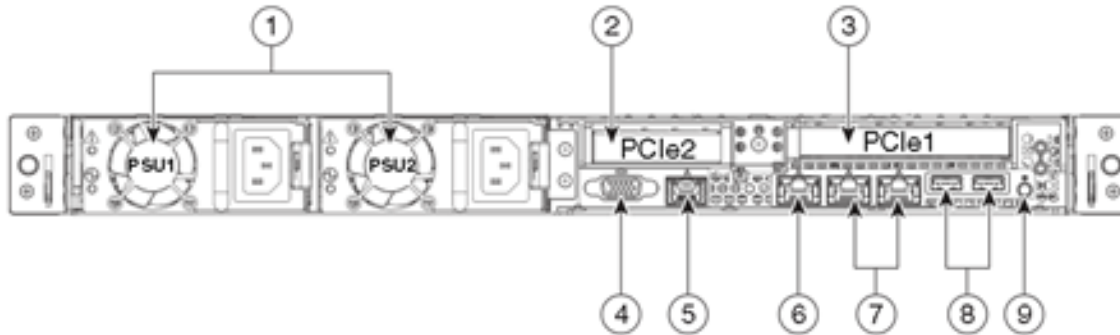


| 1 | Power supplies (two for CE1000) |
|---|---|
| 2 | Slot 2: used for RAID card |
| 3 | Slot 1: used for dual 1/10Gb network adapter (LAN 1 and LAN 2) |
| 4 | VGA video connector |
| 5 | Serial port (RJ-45 connector) |
| 6 | 10/100/1000 Ethernet dedicated management port (used for CIMC) |
| 7 | Dual 1-Gb Ethernet ports (not currently in use) |
| 8 | USB ports |
| 9 | Rear Identification button/LED |

### Definitions of LED states

For the definitions of LED states see http://www.cisco.com/en/US/docs/unified_
computing/ucs/c/hw/C220/install/replace.html#wp1167104.

## Specific Issues

### Active Options only indicates '150 traversal calls' for Large deployments

To utilize the Large scale capabilities (500 traversal calls) of the Cisco Expressway, the CE1000 unit must have an active 10Gb network connection.

## Document Revision History

| Date | Description |
|---|---|
| November 2015 | Updated for X8.7. Linked to End-of-life announcement. |
| December 2014 | Updated for X8.5. |
| June 2014 | Updated for X8.2. |

13

| Date | Description |
|------|-------------|
| April 2014 | Initial release. |

# Notices

## Technical Support

If you cannot find the answer you need in the documentation, check the web site at
http://www.cisco.com/cisco/web/support/index.html where you will be able to:

- Make sure that you are running the most up-to-date software.
- Get help from the Cisco Technical Support team.

Make sure you have the following information ready before raising a case:

- Identifying information for your product, such as model number, firmware version, and software version (where applicable).
- Your contact email address or telephone number.
- A full description of the problem.

To view a list of Cisco TelePresence products that are no longer being sold and might not be supported, visit:
http://www.cisco.com/en/US/products/prod_end_of_life.html and scroll down to the TelePresence section.

## Accessibility Notice

Cisco is committed to designing and delivering accessible products and technologies.

The Voluntary Product Accessibility Template (VPAT) for Cisco Expressway is available here:

http://www.cisco.com/web/about/responsibility/accessibility/legal_regulatory/vpats.html#telepresence

You can find more information about accessibility here:

www.cisco.com/web/about/responsibility/accessibility/index.html

# Cisco Legal Information

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

The following information is for FCC compliance of Class B devices: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment causes interference to radio or television reception, which can be determined by

turning the equipment off and on, users are encouraged to try to correct the interference by using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications to this product not authorized by Cisco could void the FCC approval and negate your authority to operate the product.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved.

Copyright © 1981, Regents of the University of California.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies are considered un-Controlled copies and the original on-line version should be referred to for latest version.

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.

## Cisco Trademark