



Cisco Business Edition 6000 Installation Guide, Release 10.5(1)

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CONTENTS

Preface

Introduction v

CHAPTER 1

Preparation 1

Required Network Information 1

CHAPTER 2

Installation 3

Power On and Initial Setup 3

Customize ESXi Host for Remote Access 6

Access and Configure ESXi Host 9

Preloaded Files on Datastore 13

Deploy Virtual Machines 13

Install Applications on Virtual Machines 15

Examples of Application Installation 18

Install Cisco Unified Communications Manager 19

Install Cisco Video Communications Server 20

CHAPTER 3

Initial Configuration 21

Browse, Setup, and Apply Licenses 21

Where To Go From Here 22

For More Information 22

APPENDIX A

Business Edition 6000 Application Requirements 23



Introduction

Cisco Business Edition 6000 (BE6000) is designed for organizations with up to 1000 employees. The solution offers premium voice, video, mobility, messaging, conferencing, instant messaging and availability; and contact center features on a single, integrated platform. The solution provides core communication capabilities that midsize businesses need for improved collaboration across their value chain.

This document provides step-by-step guidance on how to configure a BE6000 server and how to install a selection of collaboration applications:

- Cisco Prime Collaboration Provisioning
- Cisco Unified Communications Manager
- Cisco Unity Connection
- Cisco Unified Communications Manager IM and Presence Service
- Cisco Expressway
- Cisco TelePresence Conductor
- Cisco TelePresence Server
- Cisco TelePresence Management Suite
- Cisco Unified Contact Center Express
- Cisco Emergency Responder
- Cisco TelePresence Video Communication Server
- Cisco Unified Attendant Consoles
- Cisco Paging Server

BE6000 consists of a Cisco Unified Computing System C220M3 Rack-mount server, complete with the following:

- Formatted disk drives prepared as a RAID array, preinstalled and licensed
- Cisco Virtualization Hypervisor (VMware ESXi)
- Preinstalled Cisco Collaboration virtual machines
- Installation media for Cisco Collaboration applications preloaded in the datastore

- Product Activation kit for promotional TelePresence VCS-C licenses

BE6000 also consists of licensing for Cisco Collaboration applications. Licensing is provided separately via email.

For design and virtualization details, see [Business Edition 6000 Application Requirements](#), on page 23 .



Preparation



Note

Ensure that the Cisco Business Edition server is rack-mounted, connected to electrical power source and customer data network as illustrated in the *Quick Start Guide (QSG)*, which is included in the shipping box. Also ensure that a monitor and keyboard are connected to the server.

Before you proceed with installation, collect the network information from the data network administrator.

- [Required Network Information, page 1](#)

Required Network Information

Collect the following network information from the data network administrator:

- IP Addresses for the following:
 - VMware Hypervisor (ESXi)
 - Each collaboration application to be installed
 - (optional) CIMC, if remote console access is required
- Subnet Mask
- Gateway IP address
- DNS server IP address
- Hostname for each application
- (optional) Domain Name
- NTP server IP address
- Time zone
- (optional) SMTP server

The next sections list the steps to install a BE6000 server. After collecting the required network information, follow the rest of the document carefully.



Installation

- [Power On and Initial Setup, page 3](#)
- [Customize ESXi Host for Remote Access, page 6](#)
- [Access and Configure ESXi Host , page 9](#)
- [Deploy Virtual Machines, page 13](#)
- [Install Applications on Virtual Machines, page 15](#)

Power On and Initial Setup

Before You Begin

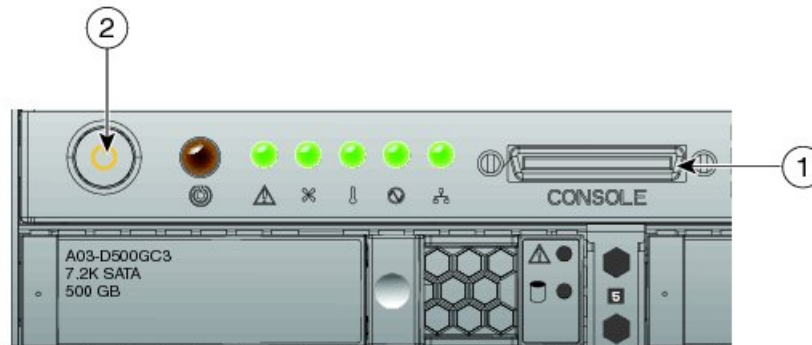
Ensure that the BE6000 server has been rack mounted, connected to a power supply, connected to the data network, and a monitor and keyboard is connected to the server, as described in the *Quick Start Guide*.

Procedure

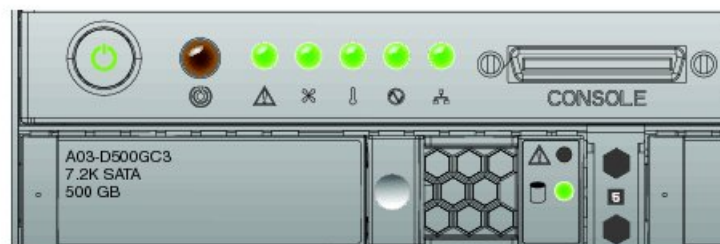
- Step 1** Verify that the monitor and keyboard are connected to the console port as shown in the figure below.
- Step 2** Verify that power is connected and the LED status is as shown in the figure below.

The power button LED (2) is orange, and the five LEDs between the console port (1) and power button are green. If not, check the electrical and network connections.

Figure 1: Power On, Console Port, and LED Status



Electrical Power is connected.
But server is not powered on yet.

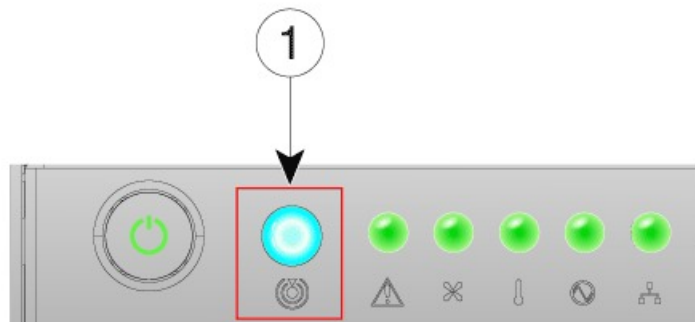
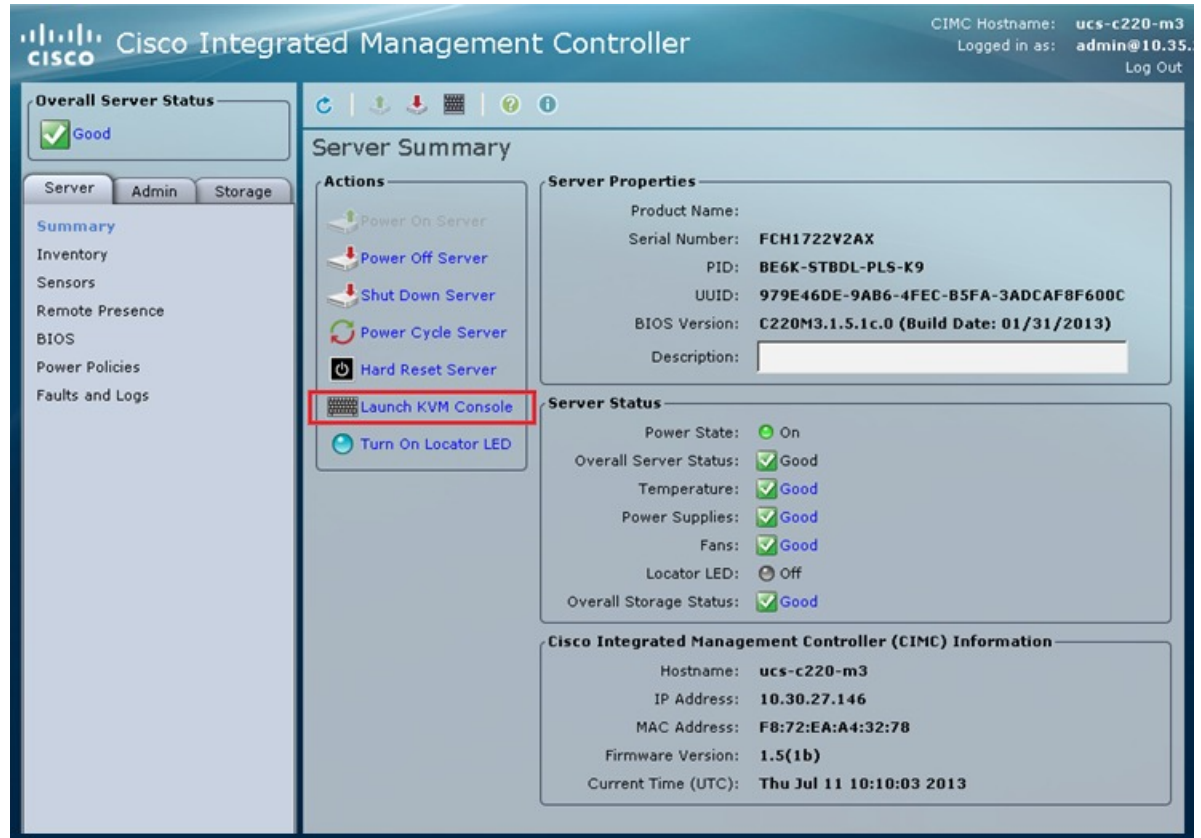


LEDs status after Power-On

- Step 3** Power on the monitor.
- Step 4** Push the power button (Figure 1) and verify that the power button LED the disk LED disk drive change to green.
- Step 5** Watch the boot process on the monitor.
- Step 6** (Optional) Press **F8** to enter the CIMC configuration dialog to configure the management interface IP address and then exit.
- The Cisco Integrated Management Controller (CIMC) is the management interface for the C-Series Servers. CIMC runs within the server, allowing remote administration, configuration, and monitoring of the server via web or SSH command line access.

Step 7 (Optional) If using CIMC for console access, browse to the IP address that you configured, and use the default username admin and password password. The CIMC screen is shown in Figure 2. Navigate the CIMC for various tasks, such as Locator LED, and KVM Console as marked in Figure 3.

Figure 2: Cisco Integrated Management Controller



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Step 8 Wait until the ESXi loads and displays the configuration screen on the console.

Customize ESXi Host for Remote Access

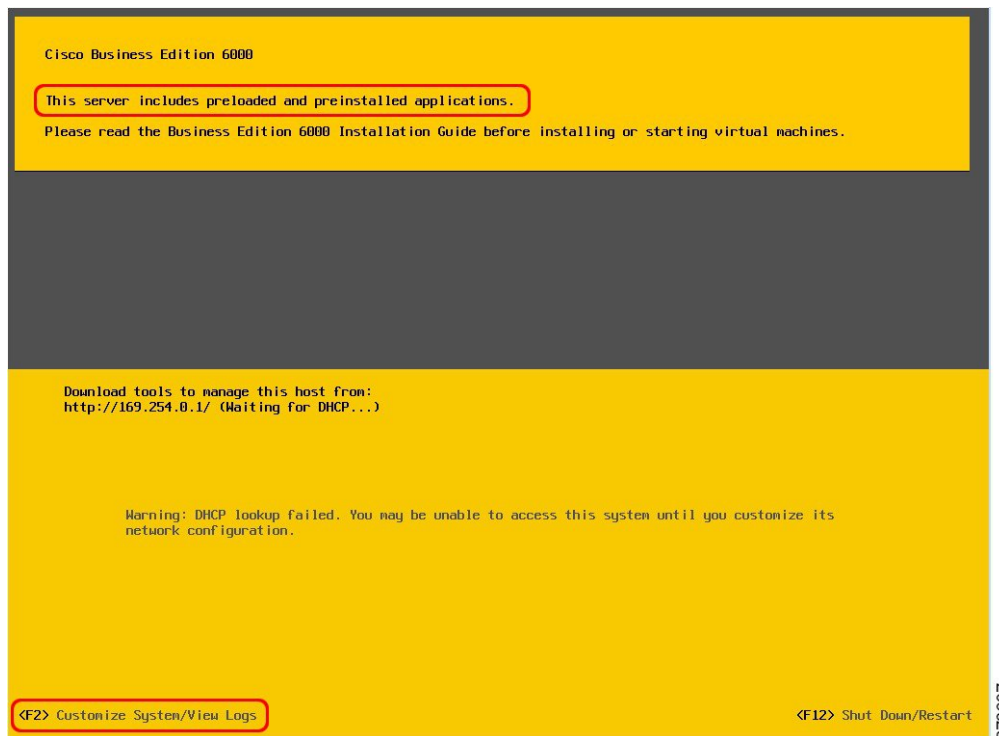
Follow this procedure to customize the ESXi host (the VMware hypervisor) to enable remote access from your PC using the vSphere client.

Procedure

Step 1 When the hypervisor has booted, the ESXi Direct Console User Interface displays on the monitor as shown in the following figure.

Note For release 10.5(1) and later, you are notified about preinstalled applications.

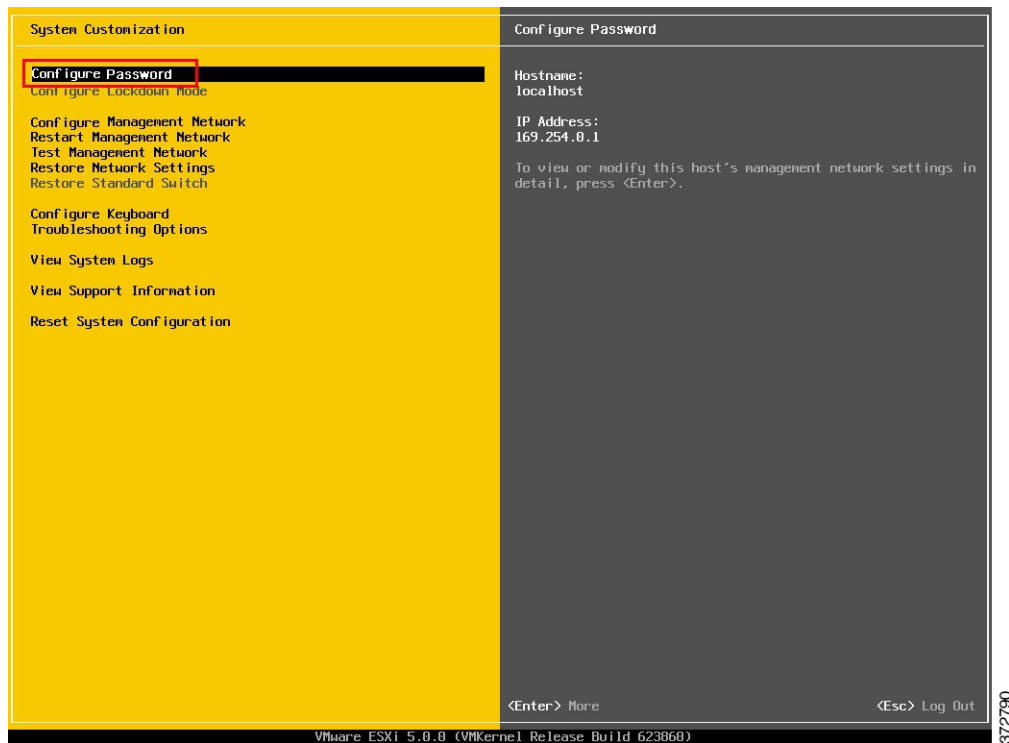
Figure 3: Console Screen After ESXi Loads



Step 2 Press **F2** to enter the System Customization menu as shown in the following figure.

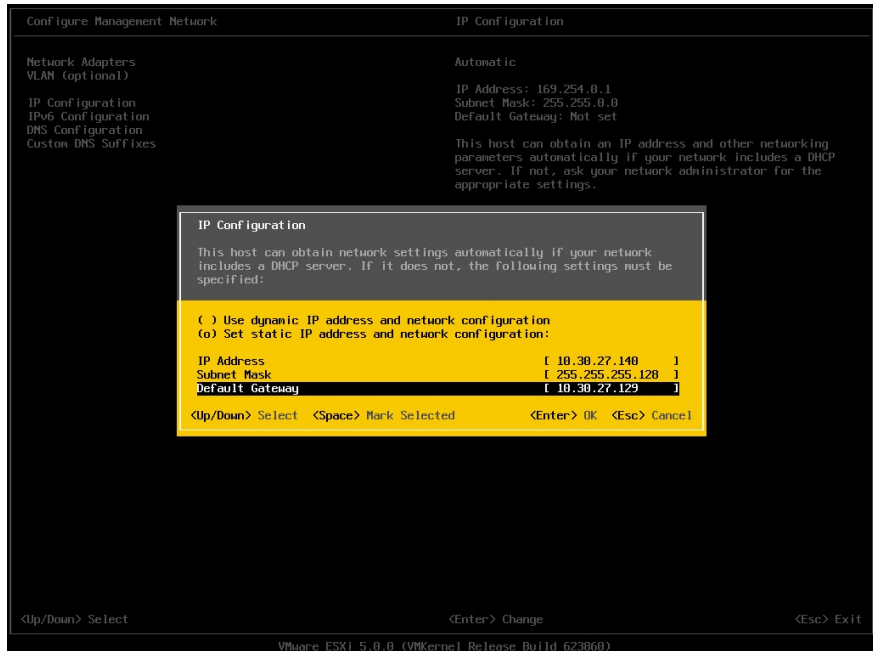
The default username is `root` and password is `password`.

Figure 4: ESXi System Customization Menu



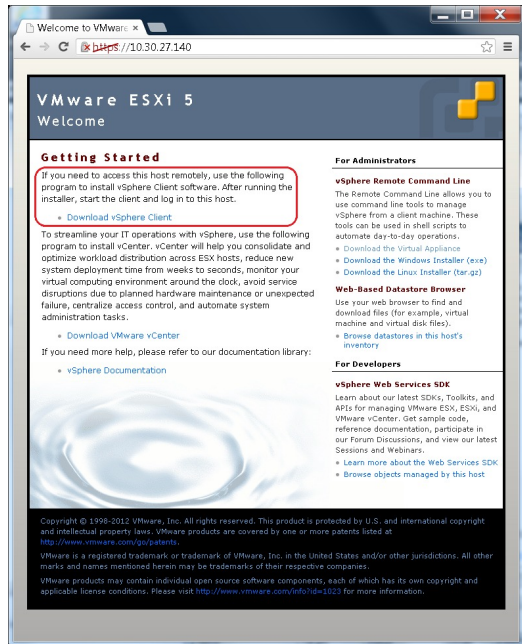
- Step 3** Choose **Configure Password** to change the password.
- Step 4** Assign a static IP address to ESXi. Enter the Configure Management Network menu, and follow the instructions on screen to change “IP Configuration” as shown in the figure below.

Figure 5: Assign Static IP Address to ESXi Host



- Step 5** Connect your PC to the data network, and verify that you can browse to the ESXi IP address that you configured in the previous step. Verify the web page as shown in the figure below.

Figure 6: ESXi Host



- Step 6** If not already installed on your PC, download and install the vSphere client. Internet access is required to download the vSphere client.

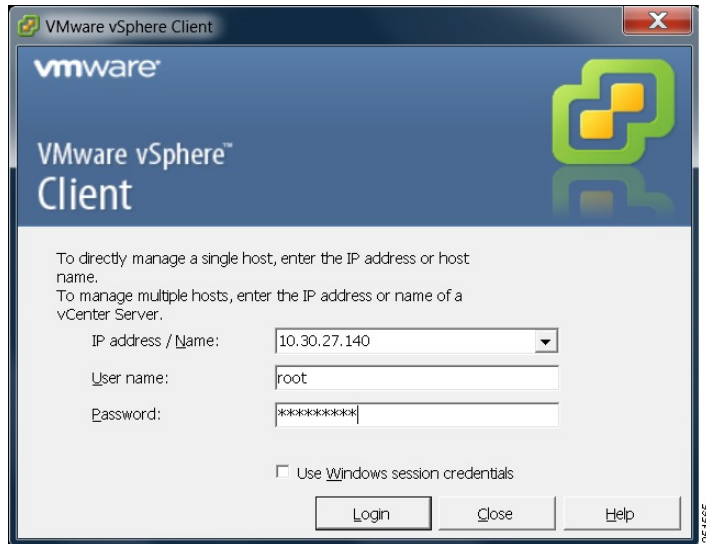
Access and Configure ESXi Host

Some Business Edition applications require the services of a valid NTP server. Follow these steps to access the ESXi host, configure NTP, configure fault tolerance for network interface cards (NICs) using the NIC teaming feature, view preinstalled applications, and browse the datastore to verify the preloaded collaboration application software.

Procedure

- Step 1** Launch the vSphere client application and type the IP address of the ESXi host.

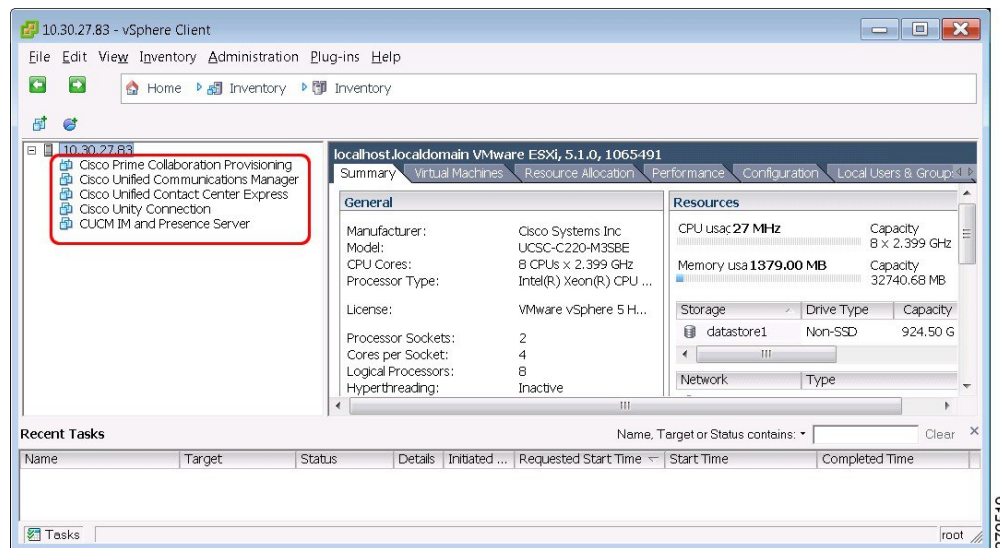
Figure 7: Access ESXi Host Using vSphere Client



- Step 2** Use the login credentials that you previously configured during ESXi system customization.
- Step 3** (optional) The VMware license is not preinstalled, and you may be presented with a 60 day evaluation license warning. You may also receive this warning if you performed a factory reset to the UCS server. In these cases, follow these steps to apply the license. You may also verify the license status using these steps:
- Locate the envelope marked “Cisco VMware vSphere Hypervisor” in the shipping box.
 - Locate the card titled “Right to Use Notification” in the envelope.
 - Note the Master serial number, which is the license activation key.
 - Navigate to **Configuration > Software > Licensed Features**, and click **Edit**.
 - Select **Assign a new license key to this host**.
 - Click **Enter Key...**
 - Type in the Master serial number.
 - Click **OK** to close configuration dialogs and apply the license.

Figure 8: Configuring and Managing ESXi Host and Virtual Machine

Note Notice the preinstalled applications listed in the left pane of the following figure.



Step 4 Add the NTP server:

- Navigate to **Configuration > Software > Time Configuration**.
- Click **Properties** to launch the **Time Configuration** screen.
- Update the Time Click **Options...**
- Select NTP Settings.
- Click **Add** and type the IP address of NTP server.
- Click **OK**, and select General, select Start and stop with host, and click Start button, followed by click OK to close the configuration screens.

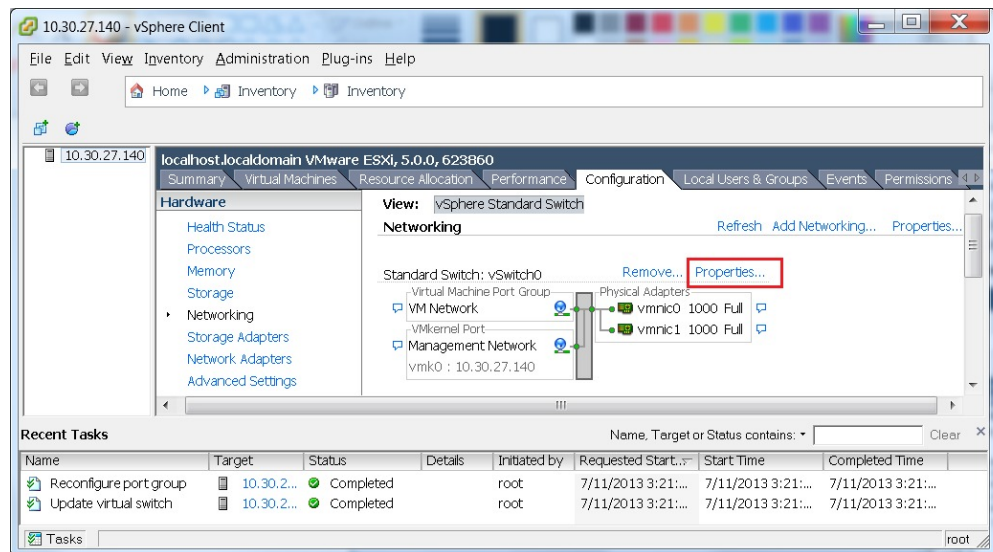
Step 5 Configure fault tolerance by using the NIC teaming feature in VMware:

- Navigate to **Configuration > Hardware > Networking**.
- Click **Properties** for "Standard Switch: vSwitch0," as shown in the figure below.
- In the configuration screen **vSwitch0 Properties**, select the tab **Network Adapters**.
- Click **Add...** to add the NIC that is connected to data network.
- Follow the interactive configuration dialogs and close the configuration screens until you see two or more NICs are added to vSwitch0, as shown in the figure below.

Note By default, only one NIC is enabled in ESXi and identified as vmnic0.

Note If connecting teamed NICs to a Cisco switch channel-group, ensure that the NIC teaming load balancing policy is set to **Route based on IP hash**. For more information about this policy and other aspects of hypervisor networking for Cisco Collaboration applications, see *Deploying Expressway with Business Edition* at http://www.cisco.com/c/dam/en/us/td/docs/voice_ip_comm/cucm/BE6000/InstallationGuide/10_01/Deploying_Expressway_with_Business_Edition.pdf

Figure 9: Fault Tolerance for Business Edition Network Connectivity

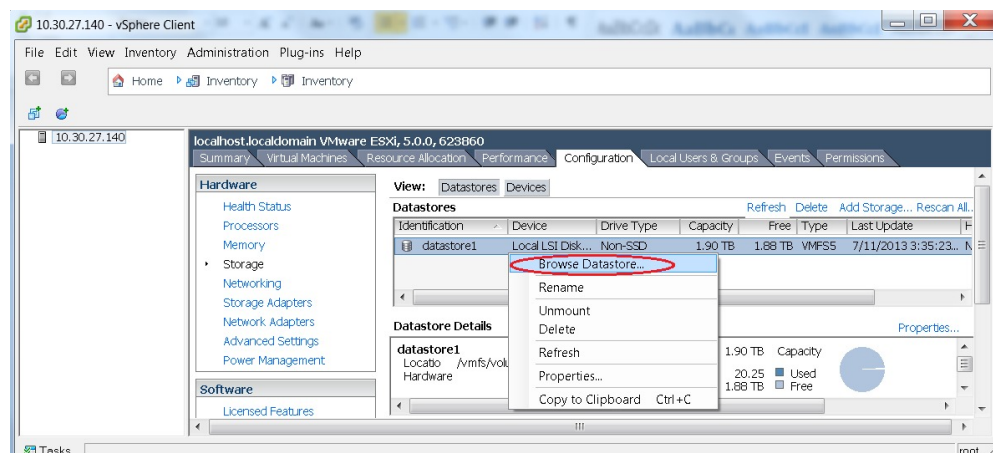


The ESXi host is now ready for deploying virtual machines, which will host individual collaboration applications. Software for these applications are preloaded on the datastore of the Business Edition server.

Step 6 Browse the datastore:

- Navigate to **Configuration > Hardware > Storage**.
- Click **Datastore** to list the datastores in the Business Edition server.
- Select a datastore, then right-click and select **Browse Datastore** as shown in the figure below.

Figure 10: Browse Datastore to View Preloaded Collaboration Software, License, and Open Virtualization Archive Files



- Step 7** (Optional) Cisco recommends that you archive the OVA-ISO directory because, in the case of merchandise returned for troubleshooting, the new UCS server may have a blank datastore.
-

What to Do Next

Install virtual machines.

Preloaded Files on Datastore

Cisco Business Edition servers are shipped with selected Collaboration software, license files that are preloaded on the datastore. Consider the following points for a basic understanding of the preloaded file types:

ISO

An ISO file is a DVD image containing application install files.

OVA

Open Virtualization Archive (OVA) is used to package and distribute the virtual machine.

Some OVA files may include a prepared disk that includes preinstalled software (for example, `cpc-provisioning-9.5.0-245-small.ova`).

Some OVA files do not have application software preinstalled. In this case, you must install the software using the ISO file that is provided on datastore (for example, `cucm_9.1_vmv8_v1.7.ova` and associated ISO file `Bootable_UCSInstall_UCOS_9.1.2.10000-28.sgn.iso`).



Note

For preloaded files in the Export Restricted or Export Unrestricted software, see the relevant Release Note.

Deploy Virtual Machines

Follow this procedure to deploy virtual machines for applications that are listed in the preloaded files. For preloaded files in the Export Restricted or Export Unrestricted software, see the relevant Release Note here: <http://www.cisco.com/c/en/us/support/unified-communications/business-edition-6000/products-release-notes-list.html>.

The OVA template file defines the virtual machine for specific applications.

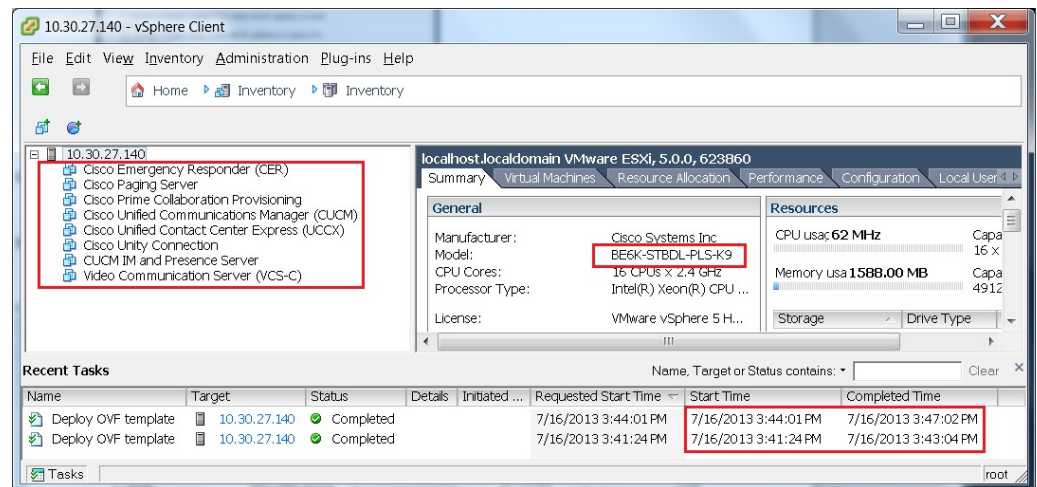
Note the following:

- OVAs are deployed in seconds, and a preinstalled OVA may take 10-15 minutes to deploy.
- The figure below shows the view of vSphere client after deployment of various collaboration applications virtual machines. You can also see the time that is taken to deploy the last two virtual machines.
- The example in the figure below is for the High Density (HD) server model, which can host four collaboration applications plus Prime Collaboration Provisioning. The Medium Density (MD) server model of a Business Edition server can also host four collaboration applications plus Prime Collaboration Provisioning.

Figure 11: Deployed Virtual Machines for Applications Viewed in vSphere Client



Note In Release 10.5(1) and later, five applications are preinstalled. If you are deploying virtual machines using any of these five applications, you can skip the following procedure.



Procedure

- Step 1** On the vSphere Client, navigate to **File > Deploy OVF Template**. The Deploy OVF Template screen is launched.
- Step 2** Browse and select the source OVA template file on your PC. For application and filename mapping, see the Release Note pertaining to Export Restricted software here: <http://www.cisco.com/c/en/us/support/unified-communications/business-edition-6000/products-release-notes-list.html>.
- Step 3** Continue to click **Next** to accept license agreements and default values.
- Step 4** Configure your deployment:
 - For Cisco Unified Communications Manager, Cisco Unity Connection and IM and Presence Service, select 1000 Users.
 - For Cisco Unified Contact Center Express, select 100 Agents.
 - For Cisco Emergency Responder, select 12000 user node – C200 only from the drop-down menu.
- Step 5** Specify a meaningful name for the VM.

What to Do Next

After deploying all required virtual machines, install individual collaboration applications.

Install Applications on Virtual Machines

Follow this procedure to install and set up the applications on their designated virtual machines.

The approximate time that is required for each application is as follows:

- Cisco Unified Communications Manager: 60 minutes
- Cisco Unity Connection: 60 minutes
- Cisco Unified Communications Manager IM and Presence Service: 45 minutes
- Cisco Prime Collaboration: 30 minutes
- Cisco Unified Contact Center Express: 60 minutes
- Cisco Emergency Responder: 45 minutes
- Video Communication Server: 60 minutes
- Cisco Paging Server: 15 minutes



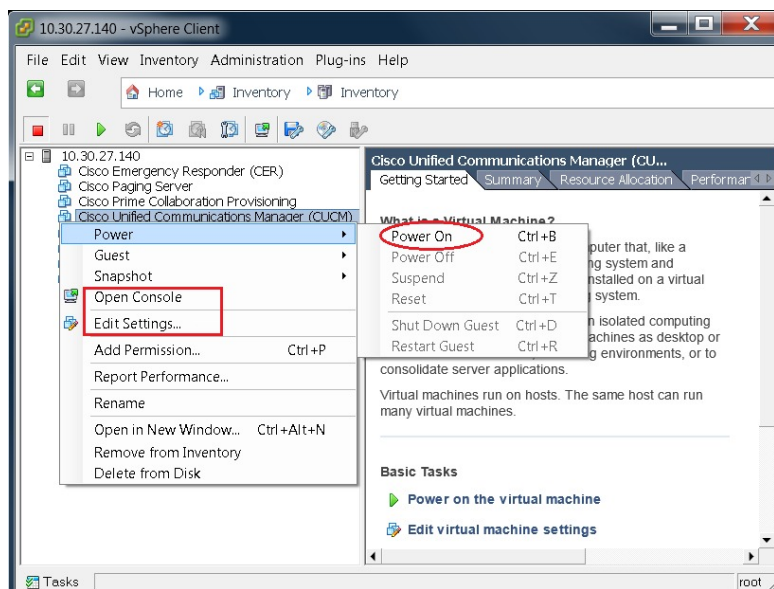
Note

- Do not install Unified Communications Manager and Cisco Unity Connection simultaneously, because they use the same ISO image.
 - You can install multiple applications concurrently to save time.
 - In Release 10.5(1) and later, the time it takes to install preinstalled applications is approximately 20 minutes less.
-

Procedure

- Step 1** Contact the data network administrator and make sure that you collect the network information that is described in “Preparation.”
- Step 2** Plan the sequence of installing the applications to minimize the time that is required.
- Step 3** Using vSphere client, select an application’s virtual machine. The client changes the panel name to application name, and adds one more tab named “Getting Started”. Right click to open the action menu as shown in the figure below.

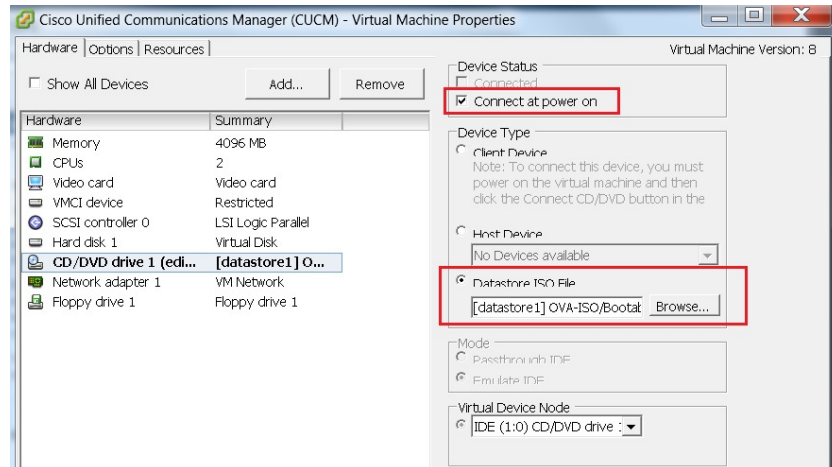
Figure 12: Select an Application VM to Edit Settings, Associate the ISO with the VM, Power On, and Take Any Other Administrative Action



- Step 4** For VMs that are deployed using blank OVA templates, you need to edit the settings of virtual machines to connect the ISO image of application software at power on. Note that Unified Communications Manager and Cisco Unity Connection use same ISO file (see the Preloaded files for Cisco Business Edition 6000 here:

<http://www.cisco.com/c/en/us/support/unified-communications/business-edition-6000/products-release-notes-list.html>).

Figure 13: Edit Virtual Machine Settings to Connect ISO Image of Application Software



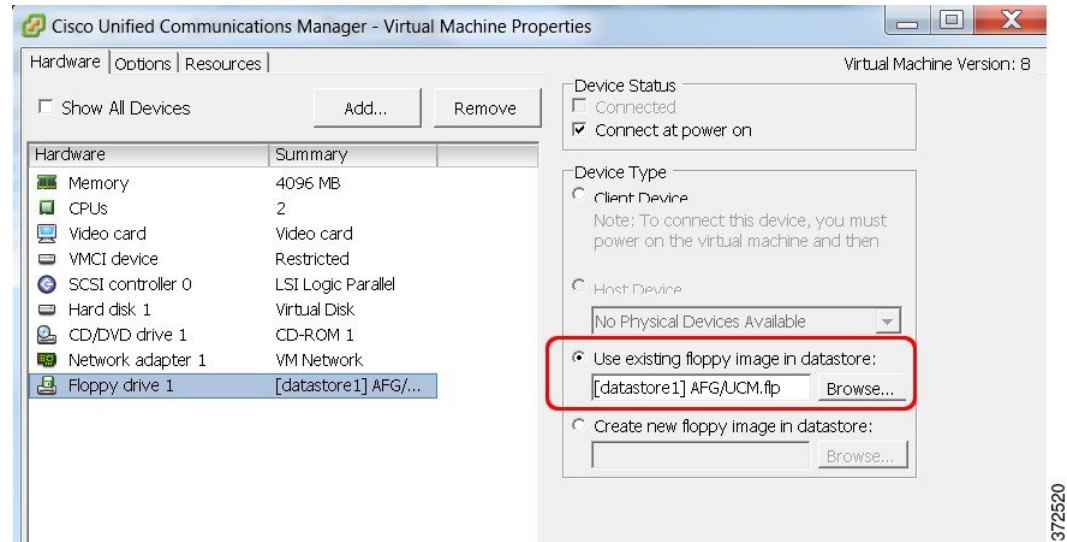
- In the Device Type section, select the Datastore ISO File radio button.
- Browse to the datastore and select the ISO file for the application.
- Make sure to check the box **Connect at Power On** as shown in the figure below.

Step 5 Select **Edit Settings** from the right-click menu as shown in Figure 12. The Virtual Machines Properties editing screen appears, as shown in the Figure 13.

- Go to the following URL and generate the `platformconfig.xml` file: http://www.cisco.com/web/cuc_afg/index.html.
- Using any freeware virtual floppy application, convert the `platformconfig.xml` file to `*.flp` image and copy this `*.flp` image to the Answer File Generator directory in the datastore.

- c) Make sure that the floppy drive settings are changed accordingly to pick up the *.flp file from the datastore.

Figure 14: Edit Virtual Machine Settings to Connect Floppy Drive to Read Configuration Settings from FLP File



- Step 6** To begin installation of each application, follow these steps: Installation will continue automatically for the time listed in Step 2.
- Power on the virtual machine and open the console using the right-click menu shown in Figure 12.
 - Follow the interactive installation procedure on console.
 - Accept the defaults and provide the information that you collected in Step 1. Installation is complete and successful when you are able to do a successful login on console.
 - For Prime Collaboration, Installation starts after typing setup for the “localhost login:”. After that, the installation script asks for network information and various credentials (passwords for admin, root, globaladmin) information. Installation continues for 30 minutes.
 - For a VCS server, installation starts after using first-time username password as admin and TANDBERG. Type y when asked “Run install wizard [n]:” and continue with interactive installation.

Note If you require detailed installation guidance, see the Installation Guide of the applications on the Cisco Business Edition 6000 Support Documents website, listed in “For More Information”.

What to Do Next

After installing all required applications, access applications using a web browser and perform initial setup of some applications.

Examples of Application Installation

The following are steps to install Cisco Unified Communications Manager (a blank OVA) and Cisco Video Communications Server (a preinstalled OVA).



Note If the application is preinstalled and the FLP file is copied in the Answer File Generator directory, as described in previous section, installation will happen automatically without installer intervention

Install Cisco Unified Communications Manager

Procedure

- Step 1** Power on and open the console of the virtual machine, as illustrated in Figure 12.
- Step 2** On the DVD Found window, select **No** for media check.
- Step 3** In the Product Deployment Selection window, select **Cisco Unified Communications Manager**, then select **OK**. Finally, select Yes in the next Proceed with Install window.
- Note** Enterprise License Manager is also deployed as part of this installation.
- Step 4** Perform the following steps:
- In the Platform Installation Wizard window, select **Proceed**.
 - In the Apply Patch window, select **No**.
 - In the Basic Install window, select **Continue**.
 - Select **Timezone** in the next window followed by **Auto Negotiation** for Ethernet connection, and the default size for MTU.
- Step 5** Select **No** for DHCP.
The Static Network Configuration window appears.
- Step 6** Enter the hostname, (such as CUCM), IP address, IP mask, and gateway address; then select **OK**. Select **Yes** for DNS Client, followed by entering DNS server information in next window.
- Step 7** The next two windows prompt you to set up administrative login information and organization information, followed by confirming whether the server is the first node; in most cases, select **Yes**.
- Step 8** In the next windows, select **No** for network connectivity test, and again provide the hostname, IP address and security password. Finally, provide a valid reachable NTP server.
- Step 9** The next two windows prompt you to set a security password and SMTP server information. Finally, application user information is required, followed by the last window Platform Configuration Confirmation. Select **OK** to continue the installation, which will last for approximately 60 minutes without any user interaction on the console. After you see the login prompt on the console, access the Unified Communications Manager IP address in a web browser.
-

Install Cisco Video Communications Server

Procedure

- Step 1** Power on and open the console of the virtual machine, as illustrated in Figure 12.
 - Step 2** At the login prompt, enter admin for username and TANDBERG for the password.
 - Step 3** At the Run Install Wizard prompt, type Y and press Enter.
 - Step 4** To change password, type Y and press **Enter**, and at the prompt type the new password and click **Enter**.
 - Step 5** The next series of prompts are for network information. Select the IP Protocol (the default is IPv4), provide the IP address, subnet mask, and default gateway address. Finally, select the ethernet speed of the LAN (the default is auto).
 - Step 6** For the Run SSH (Secure shell) daemon, type Y and press **Enter**.
 - Step 7** At the Restart Now prompt, type Y and press **Enter**.
 - Step 8** After the system reboots, access the Cisco Video Communication Server in a web browser.
-



Initial Configuration

- [Browse, Setup, and Apply Licenses](#), page 21
- [Where To Go From Here](#), page 22
- [For More Information](#), page 22

Browse, Setup, and Apply Licenses

Follow these steps to access each application, perform first-time setup for some applications, and apply the licenses.

Procedure

- Step 1** To access the administration portal for each individual application, browse to the IP address of application. Consider the following information:
- **Paging Server:** Collect information about the application URL from the virtual machine console. The default first-time username and password are admin and changeMe.
 - **Cisco Prime Collaboration Provisioning:** Browse to the IP address and use globaladmin as the username.
- Step 2** Some applications come with a preinstalled demo license for a 60 day evaluation period. Two applications have the following exceptions:
- **Cisco Prime Collaboration:** Download the license, tool and readme file from datastore. Use the instructions in the readme file to apply the license (a permanent license with no expiration).
 - **Cisco Unified Contact Center Express:** Demo licenses have a 30 day evaluation period. You must extract the demo license files from the ISO file. After you have demo license files on your PC, browse to the ESXi portal of Unified Contact Center Express and follow the instructions to apply the demo license.
- Step 3** After purchasing the license, you should receive the Product Authorization Key (PAK) through email from Cisco. The PAK should then be registered to “Product License Registration” to receive license key in form of a software file.
- Step 4** Apply license keys in the application using the administration portal:

- Prime Collaboration Provisioning: No PAK is needed because the product comes with a permanent license that needs to be installed.
- Paging Server: No PAK is needed because the product comes with a permanent license for basic paging.
- Unified Communications Manager and Cisco Unity Connection: Browse the IP Address of Unified Communications Manager and click **Cisco Prime License Manager**. Select **License > Install License File** and follow instructions.
Note Cisco Prime License Manager (ELM) is automatically installed as part of the Unified Communications manager installation.
- Cisco VCS, Expressway, TS, and Conductor: After registering the PAK for VCS, the customer receives two keys (Release key and Option key). In the administration portal, select **Maintenance > Option keys**. Apply the Release key first, and then apply the Option key.

Step 5 When you need to upgrade the software version, use the Cisco Product Upgrade Tool (PUT).

Note A valid UCCS subscription is required to use the PUT to download upgrade images.

Related Topics

[Product License Registration](#)

[Cisco Product Upgrade Tool \(PUT\)](#)

Where To Go From Here

After you verify successful installation, see the *Prime Collaboration Provisioning Guide for Cisco Business Edition 6000* in the Cisco Business Edition 6000 Support Documents. Use this guide to start the initial configuration of Unified Communications Manager, Cisco Unity Connection and IM and Presence Service applications.

For More Information

- Cisco Business Edition 6000 Main website
<http://www.cisco.com/go/be6000>
- Cisco Business Edition 6000 Support Documents
http://www.cisco.com/en/US/products/ps11369/tsd_products_support_series_home.html
- Cisco Business Edition 6000 Support Community
<http://supportforums.cisco.com/community/netpro/small-business/voiceandconferencing/be6000>
- Cisco BE6000 Install and Upgrade Guides
http://www.cisco.com/en/US/products/ps11369/prod_installation_guides_list.html



APPENDIX A

Business Edition 6000 Application Requirements

Cisco BE6000 UC Applications	Scale	vCPU	vRAM	vDisk
Cisco Unified Communications Manager	1000 Users	2	4 GB	1x80GB
Cisco Unity Connection	1000 Users	1 Note One vCPU should be reserved for ESXi scheduler if Cisco Unity Connection is deployed in a VM.	4 GB	1x160GB
UCM IM and Presence Service	1000 Users	1	2 GB	1x80GB
Cisco Prime Collaboration Provisioning	1000 Users	1	2 GB	1x90GB
Cisco Unified Contact Center Express	100 Agents	2	8 GB	1x146GB
Cisco Emergency Responder	1000 Users	2	4 GB	1x80GB
Cisco Telepresence Video Communication Server (Expressway)	100 Video or 200 Audio sessions	2	4 GB	1x128GB

Cisco BE6000 UC Applications	Scale	vCPU	vRAM	vDisk
Cisco Conductor	30 MCU / TS resources and 2400 Call session	2	4 GB	1x128GB
Paging Server	1000 users	1	4 GB	1x80GB
Cisco Unified Attendant Console	Varies by Edition	1	4 GB	1x72GB

**Note**

VMware Hypervisor ESXi 5.1 reserves 2GB RAM.

For more information, see *Cisco Unified Communications for Midsize Businesses: Virtualization Options Solution Overview* and *Cisco Business Edition 6000 Co-Residency Policy Requirements Overview* at <http://www.cisco.com/go/be6000>.