

Installation

- Power On and Initial Setup, page 1
- Customize ESXi Host for Remote Access, page 4
- Access and Configure ESXi Host, page 7
- Deploy Virtual Machines, page 11
- Install Applications on Virtual Machines, page 13

Power On and Initial Setup

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 Locater LED, and KVM Console as marked in Figure 3.



Figure 2: Cisco Integrated Management Controller



351574

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

System Customization	Configure Password	
Configure Password Configure Lockdown Node	Hostnane: localhost	
Configure Management Network Restart Management Network Test Management Network	IP Address: 169.254.0.1	
Restore Network Settings Restore Standard Switch	To view or modify this host's management network settings in detail, press <enter>.</enter>	
Configure Keyboard Troubleshooting Options		
View System Logs		
View Support Information		
Reset System Configuration		
	<pre></pre>	0673
VMware ESXi 5.0.0 (VMKer	nel Release Build 623860)	37

- 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

Configure Managenent N		
Network Adapters VLAN (optional) IP Configuration IPVG Configuration DMS Configuration Custon DMS Suffixes		Automatic IP Address: 169.254.0.1 Subnet Mask: 255.255.0.0 DeFault Gateway: Not set This host can obtain an IP address and other networking parameters automatically if your network includes a DHCP server. IF not, ask your network administrator for the appropriate settings.
	IP Configuration This host can obtain network setting includes a DHCP server. If it does n specified: () Use dynamic IP address and networ (o) Set static IP address and networ	s autonatically if your network ot, the following settings nust be rk configuration c configuration:
	IP Address Subnet Mask Default Gateway (Up/Down) Select (Space) Mark Select	[10.30.27.140] [255.255.255.255.128] [10.30.27.129] ad (Enter> 0K (Esc> Concel
<up down=""> Select</up>		

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.

VMware vSphere Client **vm**ware[•] VMware vSphere" Client To directly manage a single host, enter the IP address or host name. To manage multiple hosts, enter the IP address or name of a vCenter Server IP address / Name: 10.30.27.140 • root User name: Password: **** Use Windows session credentials Login Close Help

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:
 - a) Locate the envelope marked "Cisco VMware vSphere Hypervisor" in the shipping box.
 - b) Locate the card titled "Right to Use Notification" in the envelope.
 - c) Note the Master serial number, which is the license activation key.
 - d) Navigate to Configuration > Software > Licensed Features, and click Edit.
 - e) Select Assign a new license key to this host.
 - f) Click Enter Key....
 - g) Type in the Master serial number.
 - h) 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.

🛃 10.30.27.83 - vSphere Client			- • •
Eile Edit View Inventory Adm	ninistration <u>P</u> lug-ins <u>H</u> elp		
🖸 🖸 🙆 Home 🕨 🚮 I	nventory 🕨 🗊 Inventory		
8 6			
Cisco Prime Collaboration Pr Cisco Unified Communicatio	ovisioning ns Manager Summary Virtual M	n VMware ESXi, 5.1.0, 1065491 lachines Resource Allocation Pe	erformance Configuration Local Users & Group II
Cisco Unified Contact Cente	r Express General		Resources
CUCM IM and Presence Ser	Ver Manufacturer: Model: CPU Cores: Processor Type: License: Processor Sockets: Cores per Socket: Logical Processors: Hyperthreading:	Cisco Systems Inc UCSC-C220-M3SBE 8 CPUs X 2.399 GHz Intel(R) Xeon(R) CPU VMware vSphere 5 H 2 4 8 Inactive	CPU usa; 27 MHz Capacity 8 × 2.399 GHz Memory usa 1379.00 MB Capacity 32740.68 MB Storage Drive Type Capacity datastore1 Non-SSD 924.50 G IIII Network Type
Recent Tasks		Name, T	Farget or Status contains: • Clear ×
Name Target	Status Details Ini	itiated Requested Start Time 🤝	Start Time Completed Time
Tasks			root //

- **Step 4** Add the NTP server:
 - a) Navigate to Configuration > Software > Time Configuration.
 - b) Click **Properties** to launch the **Time Configuration** screen.
 - c) Update the Time Click Options.....
 - d) Select NTP Settings.
 - e) 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:
 - a) Navigate to Configuration > Hardware > Networking.
 - b) Click Properties for "Standard Switch: vSwitch0," as shown in the figure below.
 - c) In the configuration screen vSwitch0 Properties, select the tab Network Adapters.
 - d) Click Add... to add the NIC that is connected to data network.
 - e) 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

🕗 10.30.27.140 - vSphere	e Client	(7.00m ·)					X
<u>Eile E</u> dit Vie <u>w</u> Invent	tory Administration	lug-ins <u>H</u> elp					
🖸 🖬 💁 Hom	e 🕨 🛃 Inventory 🕨 l	🗊 Inventory					
5 S							
10.30.27.140 loc SL	alhost.localdomain VM ummary Virtual Machine	ware ESXi, 5.0.0, 623860 es Resource Allocation) Performance	Configuration Lo	cal Users & Groups V	Events Permission	1s ₫ Þ
Hai	rdware	View: VSphere	Standard Swite	th			*
	Health Status Processors Memory Storage Networking Storage Adapters Network Adapters	Standard Switch: Virtual Machine VM Network VMKernel Port Management I vmk0: 10.30	Networking Refresh Add Networking Properties Standard Switch: vSwitch0 Remove Properties				≡
	Advanced Settings						-
Recent Tasks				Name, Target o	r Status contains: •	Cl	ear ×
Name	Target Sta	itus Details	Initiated by	Requested Start	Start Time	Completed Time	
 Reconfigure port group Update virtual switch 	p 🚺 10.30.2 🔮	Completed Completed	root root	7/11/2013 3:21: 7/11/2013 3:21:	7/11/2013 3:21: 7/11/2013 3:21:	7/11/2013 3:21: 7/11/2013 3:21:	
🖉 Tasks							root

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:

- a) Navigate to Configuration > Hardware > Storage.
- b) Click Datastore to list the datastores in the Business Edition server.
- c) 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

.0.30.27.140 - vSphere	Client	B	S * ABOD AND	G Armed A		X
e Edit View Invento	ry Administration Plug-ins Help					
🖾 🔄 Home	🕨 🛃 Inventory 🔹 🗊 Inventory					
et 🗧						
	Summary Virtual Machines	Resource Allocation Perform	ance Configuration Local Users &	à Groups Events P	ermissions	
	Health Status	Datastores		Refresh Delete	Add Storage Resca	an All
	Processors	Identification 🗠 D	evice Drive Type Capa	city Free Type	Last Update	F
	Memory	🔋 datastore1 🛛 Lo	ocal LSI Disk Non-SSD 1.9	TB 1.88 TB VMFS	5 7/11/2013 3:35:2	3 N
	 Storage 	<	Browse Datastore >			
	Networking		Rename			
	Storage Adapters	•	Unmount	_		4
	Network Adapters	Datastore Details	Delete		Properties	s
	Advanced Settings	datastore1	Refresh	1.90 TB Capacity		*
	Power Management	Locatio /vmfs/vol.	Deservation	20.25 Lised		H
	Software	Hardware	Properues	1.88 TB Free		-
	Licensed Features	•	Copy to Clipboard Ctrl+C)	Þ.
	<	1	III			•

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).



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-7000/ 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.

🕜 10.30.27.140 - vSphere Client								
<u>File Edit View</u> Inventory <u>A</u> dministration <u>P</u>	lug-ins <u>H</u> elp							
🖸 🔝 🏠 Home 🕨 🚮 Inventory 🕨 🕻	🗊 Inventory							
d								
Image:	loca Su	alhost.localdo mmary Virtu	main VMware ESXi, 5.0. al Machines Resource A	0 , 623860 location Per	formance	Configuration	Local User ₫	1 🖻
Cisco Prime Collaboration Provisioning Cisco Unified Communications Manager (CL)	UCM) G	eneral			Resources			
 Gisco Unified Contact Center Express (UCC Gisco Unity Connection CUCM IM and Presence Server Video Communication Server (VCS-C) 	CX) M M C Pi	anufacturer: odel: PU Cores: rocessor Type:	Cisco Systen BE6K-STBDL 16 CPUs × 2 Intel(R) Xeor	ns Inc -PLS-K9 4 GHz n(R) CPU	CPU usac 6 Memory us	2 MHz a 1588.00 MB	Capa 16 × Capa 4912	
	U	cense:	VMware ∨Spl	nere 5 H	Storage	 Drive 	е Туре	-
	•		III		-		•	
Recent Tasks			Name	, Target or Sta	tus contains:	•	Clear	×
Name Target Sta	atus Detail	s Initiated	Requested Start Time 🗢	Start Time		Completed Tim	e	
Image: Point of the state of the	Completed Completed		7/16/2013 3:44:01 PM 7/16/2013 3:41:24 PM	7/16/2013 3: 7/16/2013 3:	:44:01 PM :41:24 PM	7/16/2013 3:4 7/16/2013 3:4	7:02 PM 3:04 PM	
Tasks							root	t /

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-7000/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

🚱 10.30.2	7.140 - vSphere Client				X
File Edit	t View Inventory Administration Plug-	ns Help			
	💧 Home 🕨 🛃 Inventory 🕨 🗊 In	ventory			
		3 <i>p</i>			
	30.27.140 Lisco Emergency Responder (CER) Lisco Paging Server Lisco Prime Collaboration Provisioning	Cisco Unified Commu Getting Started Sur	unications M mmary Re	Manager (CU Isource Allocation Perfor	mar ⊄ Þ
	Disco Unitied Communications Manader (CUCM) Power Guest	Power On Power Off	Ctrl +B Ctrl +E	puter that, like a	
	Snapshot Open Console	Suspend Reset	Ctrl +Z Ctrl +T	nstalled on a virtual i system.	
	Edit Settings Add Permission Ctrl+P	Shut Down Guest Restart Guest	Ctrl +D Ctrl +R	n isolated computing achines as desktop or g environments, or to	
	Report Performance	consolidate server ap	oplications.	he same host can run	
	Rename Open in New Window Ctrl+Alt+N	many virtual machine	S.		
	Remove from Inventory Delete from Disk	Basic Tasks			
		Power on the v Edit virtual made	rirtual macl	hine ngs	-
		•			
🖉 Fasks					root /

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-7000/products-release-notes-list.html).

Cisco Unified Communication Hardware Options Resources	s Manager (CUCM) - Virtual Mac	hine Properties
C Show All Devices	Add Remove	Connected
Hardware S Memory 4 □ CPUs 22 Video card V VMCI device R ○ SCSI controller 0 L □ Hard disk 1 V □ CD/DVD drive 1 (edi [Network adapter 1 V ₽ Floppy drive 1 F	kummary 1096 MB 2 3 1 deo card SI Logic Parallel SI Logic Parallel 1 hual Disk datastore1] 0 M Network Ioppy drive 1	Device Type C Client Device Note: To connect this device, you must power on the virtual machine and then click the Connect CD/DVD button in the C Host Device No Devices available C Datastore ISO File [datastore1] OVA-ISO/Bootat Browse Mode C Paesthoro who IDF: C Find date IDF Virtual Device Node C [10E (1:0) CD/DVD drive :

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

- a) In the Device Type section, select the Datastore ISO File radio button.
- b) Browse to the datastore and select the ISO file for the application.
- c) 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.
 - a) Go to the following URL and generate the platformconfig.xml file: http://www.cisco.com/web/cuc_afg/ index.html.
 - b) 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

Show All Devices	Add	Remove	Device Status
			✓ Connect at power on
 Memory CPUs Video card VMCI device SCSI controller 0 Hard disk 1 CD/DVD drive 1 Network adapter 1 	4096 MB 2 Video card Restricted LSI Logic Parallel Virtual Disk CD-ROM 1 VM Network		Device Type Client Device Note: To connect this device, you must power on the virtual machine and then Host Device No Physical Devices Available Use existing floppy image in datastore:
E Floppy drive 1	[datastore1] AFG/		[datastore1] AFG/UCM.flp Browse C Create new floppy image in datastore: Browse Browse

- **Step 6** To begin installation of each application, follow these steps: Installation will continue automatically for the time listed in Step 2.
 - a) Power on the virtual machine and open the console using the right-click menu shown in Figure 12.
 - b) Follow the interactive installation procedure on console.
 - c) 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 7000 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).



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:
 - a) In the Platform Installation Wizard window, select Proceed.
 - b) In the Apply Patch window, select No.
 - c) In the Basic Install window, select Continue.
 - d) 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.