Cisco TelePresence Server on Virtual Machine

Installation Guide

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General Information

About the Cisco TelePresence Server on Virtual Machine

You can deploy the Cisco TelePresence Server on Virtual Machine on these platforms:

- 8 vCPUs (co-residency supported).
- 30 vCPUs (co-residency not supported). 30 vCPUs is supported on any server with 16 physical cores and hyperthreading enabled.
- High density deployment requiring the Multiparty Media 400v platform (co-residency not supported).

These deployments have different processing capacities and licensing requirements.

Cisco TelePresence Conductor is required to manage the Cisco TelePresence Server on Virtual Machine.

Licensing

For software licensing information, refer to the Cisco TelePresence Server datasheet.


Co-residency support

Co-residency with Cisco TelePresence Conductor is supported on 8 vCPU platforms.

The TelePresence Server can co-reside with other VMs occupying the same host, subject to the following conditions:

- No oversubscription of CPU. 1:1 allocation of vCPUs to physical cores must be used.
- No oversubscription of RAM. 1:1 allocation of vRAM to physical memory.
- Sharing disk storage subsystem is supported, subject to correct performance characteristics (latency, BW).

Related documents

For information on configuring TelePresence Conductor for your deployment, refer to the appropriate TelePresence Conductor deployment guide on the Conductor installation and configuration guides page.

- In networks where the TelePresence Conductor is trunked to Cisco Unified CM, refer to Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide, XC2.4, Unified CM 10.x.
- In networks where the TelePresence Conductor is trunked to Cisco VCS refer to Cisco TelePresence Conductor with Cisco TelePresence Video Communication Server Deployment Guide, XC2.0, X6.0 and later.
## Platform licensing comparison

Table 1: TelePresence Server screen licenses per call for each call type

<table>
<thead>
<tr>
<th>Call type description</th>
<th>Screen licenses required per call</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main video</strong></td>
<td><strong>Audio</strong></td>
</tr>
<tr>
<td>-</td>
<td>Mono</td>
</tr>
<tr>
<td>360p30†</td>
<td>Mono</td>
</tr>
<tr>
<td>360p30†</td>
<td>Stereo</td>
</tr>
<tr>
<td>480p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>480p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>720p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>720p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>720p60</td>
<td>Stereo</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>Three-screen 720p30</td>
<td>Multichannel</td>
</tr>
<tr>
<td>Three-screen 720p30</td>
<td>Multichannel</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>Dual-screen 1080p30</td>
<td>Stereo</td>
</tr>
<tr>
<td>Three-screen 1080p</td>
<td>Multichannel</td>
</tr>
<tr>
<td>Three-screen 1080p</td>
<td>Multichannel</td>
</tr>
<tr>
<td>Four-screen 1080p</td>
<td>Stereo</td>
</tr>
</tbody>
</table>
Table 2: TelePresence Server conferencing capacity on various platforms

<table>
<thead>
<tr>
<th>Screen licenses required per call</th>
<th>Maximum calls by hardware type (with licenses to provide 100% of capacity)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8 Cores VM MD</td>
</tr>
<tr>
<td>1/52</td>
<td>200*</td>
</tr>
<tr>
<td>⅛</td>
<td>33</td>
</tr>
<tr>
<td>¼</td>
<td>16</td>
</tr>
<tr>
<td>½</td>
<td>12</td>
</tr>
<tr>
<td>⅓</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>1½</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

* 200 is the maximum number of calls that is possible on a TelePresence Server. Requires Cisco TelePresence Conductor XC2.3.

† Requires TelePresence Conductor XC2.2 or later.

‡ To achieve the maximum number of calls, Cisco TelePresence Server on Virtual Machine must be the only VM hosted on the Multiparty Media 400v or 30 vCPU / High Density VM. It cannot be co-resident with any other UC application (unlike the 8-core option that runs at 2.4GHz minimum and can be co-resident).

‡‡ Media 400v is configured with 30 vCPUs as per the High Density configuration but it has a higher capacity.

**Note:** The table above assumes that calls of one type are being used to reach these maximum values. To calculate the total number of licenses required for a variety of concurrent calls, sum the screen licenses required for each concurrent call.
Prerequisites

Recommended platform

Recommended hardware on which to run Cisco TelePresence Server on Virtual Machine:

- Cisco UCS C220 running the tested reference configuration (TRC#3) as specified at the following location: http://docwiki.cisco.com/wiki/UC_Virtualization_Supported_Hardware#C220_M3S_.28SFF.29_TRC.233
- Cisco UCS C240 running the tested reference configuration (TRC#1) as specified at the following location: http://docwiki.cisco.com/wiki/UC_Virtualization_Supported_Hardware#C240_M3S_.28SFF.29_TRC.231
- Cisco UCS C220 running the tested reference configuration (TRC#2) as specified at the following location: http://docwiki.cisco.com/wiki/UC_Virtualization_Supported_Hardware#C220_M3S_.28SFF.29_TRC.232

**Note:** the Cisco UCS C220 TRC#2 platform does not support hyperthreading. This hardware configuration has 8 physical CPUs, so only the 8 vCPU configuration may be deployed on this platform as we do not support oversubscription of CPUs.

- Cisco Multiparty Media 400v, which is a Cisco UCS C220 with the following configuration:

  **Table 3: Cisco Multiparty Media 400v platform configuration**

<table>
<thead>
<tr>
<th>SKU</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCSC-C220-M3S</td>
<td>UCS C220 M3 SFF w/o CPU mem HDD PCIe PSU w/ rail kit</td>
<td>1</td>
</tr>
<tr>
<td>UCS-CPU-E52667B</td>
<td>3.30 GHz E5-2667 v2/130W 8C/25MB Cache/DDR3 1866MHz</td>
<td>2</td>
</tr>
<tr>
<td>UCS-MR-1X082RY-A</td>
<td>8GB DDR3-1600-MHz RDIMM/PC3-12800/dual rank/1.35v</td>
<td>8</td>
</tr>
<tr>
<td>A03-D300GA2</td>
<td>300GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted</td>
<td>2</td>
</tr>
<tr>
<td>UCSC-PSU-450W</td>
<td>450W power supply for C-series rack servers</td>
<td>2</td>
</tr>
<tr>
<td>UCSC-RAID-MZ-220</td>
<td>Cisco UCS RAID SAS 2008M-8i Mezz Card for C220 (0/10/10)</td>
<td>1</td>
</tr>
<tr>
<td>R2XX-RAID1</td>
<td>Enable RAID 1 Setting</td>
<td>1</td>
</tr>
<tr>
<td>N20-BBLKD</td>
<td>UCS 2.5 inch HDD blanking panel</td>
<td>6</td>
</tr>
<tr>
<td>UCSC-HS-C220M3</td>
<td>Heat Sink for UCS C220 M3 Rack Server</td>
<td>2</td>
</tr>
<tr>
<td>UCSC-PCIF-01F</td>
<td>Full height PCIe filler for C-Series</td>
<td>1</td>
</tr>
<tr>
<td>UCSC-PCIF-01H</td>
<td>Half height PCIe filler for UCS</td>
<td>1</td>
</tr>
<tr>
<td>UCSC-RAIL1</td>
<td>Rail Kit for C220 C22 C24 rack servers</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** The Cisco Multiparty Media 400v requires Hypervisor version ESXi 5.5.

CPU requirements

There are two deployment configurations for Cisco TelePresence Server on Virtual Machine: 8 Cores Cisco TelePresence Server and High Density Cisco TelePresence Server.
The number of cores in the first option refers to the number of physical cores required, that is, the 8 Cores option requires 8 physical CPU cores (preferably with hyperthreading enabled, but not required). The TelePresence Server on Virtual Machine must have exclusive access to all the processing capacity provided by these physical cores, even when hyperthreading is enabled.

**Note:** We recommend that you enable hyperthreading where possible as it gives the TelePresence Server a small performance advantage. Additionally, the TelePresence Server must have exclusive access to the stated number of physical cores and you may not share them with other virtual machines.

The High Density deployment configuration uses 30 virtual CPUs to give a higher port count than the 8 Cores Virtual Machine. You can deploy it on servers with at least 16 physical CPU cores with Hyperthreading enabled. When you deploy it on the Multiparty Media 400v platform (3.3 GHz processor) the port count is increased further. This platform should be exclusively dedicated for the Cisco TelePresence Server on Virtual Machine.

**Example with 8 physical CPU cores and hyperthreading enabled:** You may deploy the 8 Cores option but not the High Density option. In this example, the 8 Cores TelePresence Server is using all 16 logical cores and you may not use any of them for other applications.

**Examples with 16 physical CPU cores and hyperthreading enabled:** You may deploy either the High Density option or the 8 Cores option. In the High Density case, you may not share the CPU capacity with other applications. In the 8 Cores case, you must dedicate half the CPU capacity (8 physical = 16 logical CPUs) to the TelePresence Server VM, but you can use the other half for other VMs.

### Other requirements

- VT is enabled in the BIOS before installing VMware ESXi.
- VMware version is ESXi 5.0 Update 1, ESXi 5.1, or ESXi 5.5.
- The VM host “Virtual Machine Startup/Shutdown” is configured to “Allow Virtual machines to start and stop automatically with the system”, and that the TelePresence Server on Virtual Machine has been moved to the Automatic startup section.
- Your UCS system is configured with RAID 5.
- Only one network interface is configured.

**Note:** The Cisco Multiparty Media 400v requires Hypervisor version ESXi 5.5.

### Specifications-based system minimum requirements

If using a specifications-based system, the requirements are:

- 2 x Intel Xeon processor E5-2600 series with 2.4GHz or faster processor.
- At least 12 GB RAM to be dedicated to Cisco TelePresence Server on Virtual Machine.
- At least 53 GB of local or SAN storage.
- IOPS (input/output operations per second) and storage performance must meet or exceed the following requirements:
Table 4: Storage performance requirements

<table>
<thead>
<tr>
<th>Mean # IOPS</th>
<th>Mean read latency</th>
<th>Mean write latency</th>
<th>Peak read latency</th>
<th>Peak write latency</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4ms</td>
<td>10ms</td>
<td>15ms</td>
<td>15ms</td>
</tr>
</tbody>
</table>

- 1 GigE NIC.
- The OVA is pre-configured to have 12GB of RAM, and 8 or 30 vCPUs.
- No oversubscription of resources is allowed, even if hyperthreading is enabled.
- VMware version is ESXi 5.0 Update 1, ESXi 5.1, or ESXi 5.5.
- VMware client to access Hypervisor directly or through Virtual Center to deploy the OVA.

Note: The Cisco Multiparty Media 400v requires Hypervisor version ESXi 5.5.

**Before installing Cisco TelePresence Server on Virtual Machine**

Before deploying the Cisco TelePresence Server on Virtual Machine OVA, make sure your environment meets the following conditions:

- Your server is powered up.
- Your server is connected to the network.
- VMware is installed and running on your server.
- **Cisco_ts_VirtualMachine_<version>.ova** is downloaded.
Installing the TelePresence Server

This process guides you through installing the virtual machine (VM); it assumes that you are using vSphere client, but you could use vCenter.

Configuring the VM host

Ensure that the VM host is configured with a valid NTP server – the same NTP server that will be specified in Cisco TelePresence Server on Virtual Machine.

1. Select the host.
2. Go to the Configuration tab.
3. Select Time configuration.
4. Select Properties.
   If the date and time were red on the previous page, then set the date and time manually to the current time.
5. Click Options.
7. Click Add.
8. Enter the IP address of the NTP server.
9. Click OK.
10. Select the Restart NTP service to apply changes check box.
11. Click OK.
12. Click OK.

Deploying OVA to host

These instructions represent a typical installation; not all of the steps listed may be necessary, depending on your deployment environment. The Deploy OVF Template wizard dynamically changes to reflect the host configuration.

- Note: The same process is used to deploy the 8 Cores or High Density option, except for the Configuration option on the Deployment Configuration screen of the wizard (step 7 below).

1. Log in to vSphere to access the ESXi Host.
2. Select File > Deploy OVF Template.
3. Click Browse, find the location of the .ova file, click Open and then click Next.
4. On the OVF Template Details page, click Next.
5. If an End User License Agreement page appears, read the EULA, click Accept and then click Next.
6. On the Name and Location page, enter a Name for this Cisco TelePresence Server on Virtual Machine guest, for example "Cisco_ts_VirtualMachine", and select the Inventory Location where the virtual machine will reside.
7. On the Deployment Configuration page, for an 8 vCPU virtual machine select 8 Cores Cisco TelePresence Server or for 28 High Density port capacity, select High Density Cisco TelePresence Server and then click Next.
8. On the Host / Cluster page, select which host or cluster will run the deployed virtual machine and click Next.

9. On the Resource Pool page, select the resource pool in which you want to run the deployed virtual machine and click Next.

10. On the Storage page, select the datastore onto which the TelePresence Server files will be deployed and then click Next.

11. On the Disk Format page, select Thick Provision Lazy Zeroed and click Next. Thin Provision is not supported as VM performance may degrade during resizing of a partition.

12. On the Network Mapping page, select the network mapping that applies to your infrastructure and then click Next (default is VM Network).

13. On the Ready to Complete page, confirm the deployment settings.

14. Select the Power on after deployment check box.
15. Click **Finish**.  
A progress indicator shows the deployment progress. When it has finished, the TelePresence Server is deployed as a guest on the VM Host.
Configuring the TelePresence Server

Task 1: Assign an IP address

1. Open the TelePresence Server's console in one of the following ways:
   - Select the VM guest, eg. "Cisco_ts_VirtualMachine", and then select the Console tab
   - Right-click the VM guest and select Open Console from the context menu
   The VM guest will take some time to boot, create its second hard disk partition, and then reboot before displaying the TelePresence Server console. The console is ready for input when you see the TS: > prompt.
   ```
   DWS watcher is 5143
   DWS log
   validating image, please wait...
   image validation complete
   Warning: normal pt 58
   120814.621 SYSTEM : Info : Cisco TelePresence Server on Virtual Machine with 8 vCPUs 4.0(ishell initshell init.47) (Build 13.2(1.47)) starting
   (DWS:2103) starting
   Serial: 00067F93
   120814.621 CONFIGURATION : Event logging to serial console now disabled
   TS: >
   ```
   2. Enter the command help static
   3. Enter a static command, using the syntax described in the console help, to configure a static IP address.
      For example, `static 192.168.1.2 255.255.255.0 192.168.1.1` assigns the address 192.168.1.2 to the TelePresence Server, with subnet mask 255.255.255.0 and default gateway 192.168.1.1.
   4. Restart the TelePresence Server.

Task 2: Log in to the Cisco TelePresence Server on Virtual Machine

To log in to the web interface of the device:

1. Use your browser to navigate to the IP address or hostname of the unit.
2. Enter the user name admin with no password, and click Log in.
   The Status page is displayed.

Note: We recommend that you change the admin account to use a password as soon as possible. To do that, go to Configuration > Change password.

Task 3: Apply license or feature keys

Repeat the following procedure for your license key and any feature keys you wish to install. The procedure is license key specific but is exactly the same for feature keys.

1. Go to Configuration > Upgrade.
2. Locate the Feature management area.
3. Type the license key exactly as you received it, including any dashes.
4. Click Add key. The key is verified against the device serial number, and then appears in the "License keys" list in the web interface.
5. Keep a record of the license key in case you need it again. For example, if you get locked out of the device and do not have a configuration backup. (Keys are stored in the configuration.xml file, but the file does not contain the names of the keys.)

Task 4: (Optional) Configure DNS settings

1. Go to Network > DNS.
2. Enter a Host name if required.
3. Add the details of your Name server(s).
4. Click Update DNS configuration.
Configuring the TelePresence Server for administration by TelePresence Conductor

Task 5: Create an administrator account for TelePresence Conductor

For the TelePresence Conductor to communicate with the TelePresence Server it must use credentials for a user that has administrator rights. We recommend that you create a dedicated administrator level user for this task.

1. Go to the web interface of the TelePresence Server you want to configure and log in as an administrator.
2. Go to User > Add New User.
3. Enter the following in the relevant fields:

<table>
<thead>
<tr>
<th>User ID</th>
<th>Enter a username for the TelePresence Conductor to use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Enter a name for this user.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter a password for the TelePresence Conductor to use.</td>
</tr>
<tr>
<td>Access rights</td>
<td>Select Administrator.</td>
</tr>
</tbody>
</table>

4. Click Add user.
Task 6: Enable encryption and encrypted SIP (TLS)

To verify that the Encryption key is installed or to install the key, perform the following tasks:

1. Go to Configuration > Upgrade.
2. Go to the Feature management section and verify that the Encryption key is installed. If the key is not installed, enter the key into the Add key field and click Add key.

![Feature management table]

To verify that TLS is enabled on the TelePresence Server:

1. Go to Network > Services.
2. Ensure that Encrypted SIP (TLS) is checked.
3. Ensure that SIP (TCP) and SIP (UDP) are not checked.
4. Ensure that HTTPS is enabled on port 443.

![TCP and UDP services]

5. Click Apply changes.
Task 7: Configure SIP settings

1. Go to Configuration > SIP Settings.
2. Enter the following values into the relevant fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outbound call configuration</strong></td>
<td>Select <em>Call direct</em> from the drop-down list.</td>
</tr>
<tr>
<td><strong>Outbound address</strong></td>
<td>Leave blank.</td>
</tr>
<tr>
<td><strong>Outbound domain</strong></td>
<td>Leave blank.</td>
</tr>
<tr>
<td><strong>Username</strong></td>
<td>Leave blank.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>Leave blank.</td>
</tr>
<tr>
<td><strong>Outbound transport</strong></td>
<td>Select <em>TLS</em> from the drop-down list.</td>
</tr>
<tr>
<td><strong>Advertise Dual IPv4/IPv6</strong></td>
<td>Leave as <em>Disabled</em>, unless your deployment uses both IP addressing schemes.</td>
</tr>
<tr>
<td><strong>Negotiate SRTP using SDES</strong></td>
<td>Select <em>For Secure Transport (TLS) only</em> from the drop-down list.</td>
</tr>
<tr>
<td><strong>Use local certificate for outgoing connections and registrations</strong></td>
<td>Check the box. This checkbox is not on all TelePresence Server models: it only appears on the 7010 and MSE 8710 models.</td>
</tr>
</tbody>
</table>

3. Click *Apply changes*. 
(Optional) Migrating the TelePresence Server to a new host

vMotion has been tested and TelePresence Server will move (migrate) successfully. If you need to move TelePresence Server to a new host you must perform a host migration via vMotion.

We recommend that a vMotion move is carried out when there is low conference activity on the TelePresence Server.
(Optional) Change the number of vCPUs

1. Open your VMware client and access the ESXi host.
2. Right-click the TelePresence Server virtual machine and select Power > Power Off.
3. Right-click the TelePresence Server virtual machine and select Edit Settings.…
4. On the Hardware tab, click CPUs.
5. From the Number of cores per socket list, select the required number of virtual CPUs (vCPUs).

6. Click OK.
7. Right-click the TelePresence Server virtual machine and select Power > Power On.
(Optional) Change the RAM allocation

1. Open your VMware client and access the ESXi host.
2. Right-click the TelePresence Server virtual machine and select Power > Power Off.
3. Right-click the TelePresence Server virtual machine and select Edit Settings….
4. On the Hardware tab, click Memory.
5. In the Memory Size field, select the required amount of memory; the minimum requirement is 12 GB.

![Test-vTS - Virtual Machine Properties](image)

**Note:** 12 GB vRAM should map to 12 GB physical RAM since oversubscription is not supported.

6. Click OK.
7. Right-click the TelePresence Server virtual machine and select Power > Power On.
Checking for updates

It is a good idea to regularly check for updates to the device’s main software image on the Cisco web site. This section describes how to upgrade the device using the web interface.

To check for, and download, updates:

1. Log in to the web interface and go to Status > Status.
2. Make a note of the software version that is currently installed.
3. Go to the support section of the web site and check if a more recent release is available.

   Note: the upgrade file for Cisco TelePresence Server on Virtual Machine has a .tgz extension, while the original install file has a .ova extension

4. If a more recent release is available, download it and save it locally.

Upgrade instructions

1. In a web browser, navigate to the web interface of the device.
2. Sign in as an administrator.
   The username is admin and there is no password on a new unit.
3. Go to Configuration > Upgrade.
4. In the Main software image section, locate the New image file field. Browse to and select the new image file.
5. Click Upload software image.
   The web browser uploads the file to the device, which may take a few minutes.

   Note: Do not browse away from the Upgrade page, or refresh the page, during the upload process – this will cause the upload to fail.

   A pop-up window displays to show upload progress. When complete, close the message. The web browser refreshes automatically and displays the message Main image upload completed.
6. Click Shut down TelePresence Server. This option will now change to Confirm TelePresence Server shutdown. Click to confirm.
7. Click Restart TelePresence Server and upgrade.
   The unit will reboot and upgrade itself; this can take up to 25 minutes.

   Note: You may be logged out due to inactivity. If this happens, log in again, go to Configuration > Shutdown and click Restart TelePresence Server and upgrade.

8. Go to the Status page to verify that your device is using the new version.
9. If necessary, restore your configuration; refer to the online help for details.
Troubleshooting and technical support information

Using the event log to help solve a problem

You can use the event log to produce debugging information to assist technical support in solving any problems. Event logging capture filter topics are set by default to Errors, warnings and information. Do not change the capture filter topic level without the guidance of technical support.

Getting more help

If you experience any problems when configuring or using the TelePresence Server, consult the online help available from the user interface.

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.

Checking VMware compatibility

If you are using third party hardware for hosting the Cisco TelePresence Server on Virtual Machine application, check the hardware compatibility. This can be done using the VMware compatibility guide tool available from http://www.vmware.com/resources/compatibility/search.php.

VMware checklist

1. Check the accessibility to the VM host server (by ping, physical console access, ssh remote access, KVM-over-IP console, and so on)
2. Check the network connectivity of the VMkernel (by executing the vmkping command using Tech Support Mode to verify network connectivity from the VMkernel NIC level)
3. If you are having problems connecting to the vSphere Client management console, execute the command /sbin/services.sh from an SSH session to restart the ESXi management agent
4. Check the utilization of the VM host server (CPU utilization, memory utilization, disk access speed, storage access speed, network access status, power utilization, and so on). If any specific application causes high utilization, stop or restart this application to isolate the overall VM host performance level.
Alternatively execute the command esxtop from Tech Support Mode to list all system processes running on the ESXi host application.

5. Check the ESXi server file log (hostd.log) under the folder /var/log/vmware
   This log contains common error logs such as iSCSI naming error, authentication error, host convertibility error, and so on.

6. Verify that there is adequate disk space available on the volume that is storing the database files to ensure correct operation of the database. If there is not adequate space available on the physical volume that stores the database files, free up disk space.

7. Validate the authentication to the vCenter Server database. The vCenter Server service may not be able to authenticate with the database in the following circumstances:
   - There are permission issues with the database when importing from one instance to another
   - The password on the account you are using to authenticate to the database has changed but the password in the registry has not changed as well
   - The vCenter Server database user is not granted correct permissions

### Analyzing the cause of VMware issues

Table 5: VMware issues and possible root causes

<table>
<thead>
<tr>
<th>Potential source of issue</th>
<th>Symptoms to look for</th>
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| Storage                   | Look for the VM store application image stored either on the local drive, SAN or NFS. VMs often freeze or hang up if the application failed to access the storage. Possible error messages are:  
  - vCenter Server does not start  
  - vCenter Server is slow to respond  
  - vCenter Server fails after an indefinite amount of time |
| Network                   | Any network failure or locking causes a connection failure between the VM and the virtual network. Also, if using NFS or iSCSI, storage may cause application failures because the application cannot access the file system. |
| DNS                       | DNS server failures or communication failures between DNS and the VM server may cause the VMware application or the Cisco TelePresence Server on Virtual Machine application to fail. |
| vCenter Server            | If vCenter is not operating properly, even though the Cisco TelePresence Server on Virtual Machine application is still up and running, you may lose connection to the application from the network. |
| Host application          | Check any critical alarms on the VM application for events on the host or application level (check the event information from vSphere Client). |

### Known sources of issues with Cisco TelePresence Server on Virtual Machine

**VM Image Fails to Boot**

If the VM image fails to boot, check the VT (Virtualization Technology) setting in BIOS. This needs to be enabled for hosting VMs. If it is not set, set it and re-install ESXi then load the .ova file.
Guest console in vSphere 5 fails to run on some Microsoft platforms

When attempting to open a console screen from vSphere for the VM:

- Error message: “The VMRC console has disconnected...attempting to reconnect.”
- Screen remains black

The following operating systems are at risk:

- Windows 7 64 bit – reported on VMware forum (http://communities.vmware.com/thread/333026)
- Windows Server 2008 R2 (64-bit)

Raid Controller Synchronization

If the VMware system is synchronizing its RAID disks, disk performance is seriously degraded. We strongly recommend that you do not install Cisco TelePresence Server on Virtual Machine on VM platforms where RAID disks are in a degraded or synchronizing state.

TelePresence Server Displays Different Serial Number/MAC address on Reboot

This situation can occur if multiple network interfaces are configured. Only one network interface is supported.

Collecting logs from the host

If VMware is causing problems on a Cisco TelePresence Server on Virtual Machine host, we recommend that you collect logs from the host for analysis:

1. Using the vSphere client (or the vCenter Server managing this ESXi host) connect to the ESXi host on which the Cisco TelePresence Server on Virtual Machine is running
2. Go to File > Export > Export System logs, choose the appropriate ESXi host and go with the default settings

After you have downloaded the logs analyze them, or have them analyzed to determine the issue.

More information on exporting logs can be found at Collecting diagnostic information for VMware ESX/ESXi using the vSphere Client (653).

Restoring default configuration (factory reset)

Very rarely, it may become necessary to run the reset_config command on a TelePresence Server. This resets the configuration of the TelePresence Server to its original default settings.

**Note:** This command removes the IP address and other network configurations, the installed licenses and the configured users.

To restore the default configuration:

1. Restart the TelePresence Server
2. Within 30 seconds after reboot, enter reset_config at the console
The configuration reset is complete.
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