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About This Book

The vCenter CapacityIQ Installation Guide describes how to install the VMware vCenter™ CapacityIQ virtual appliance.

Intended Audience

CapacityIQ is a capacity planning and management tool for VMware Infrastructure environments. This book is intended for administrators of VMware Infrastructure who are familiar with virtual machine technology and datacenter operations, and who are also responsible for administering CapacityIQ. This book offers instructions for installing CapacityIQ and information that helps resolve installation issues.

Document Feedback

VMware welcomes your suggestions for improving our documentation. If you have comments, send your feedback to docfeedback@vmware.com.

VMware CapacityIQ Documentation

The complete documentation set for VMware CapacityIQ consists of the following documents.

- CapacityIQ Installation Guide. Explains installation of CapacityIQ.
- CapacityIQ 1.0 Release Notes. Late-breaking news and descriptions of known issues and workarounds.
- CapacityIQ online help. Conceptual and procedural information to help you complete a task.
- CapacityIQ Admin Portal help. Conceptual and procedural information to help you complete an administrative task.

The vCenter CapacityIQ landing page provides release notes that contain current information about the release. You can find the landing page, as well as documentation for VMware Infrastructure, at http://www.vmware.com/support/pubs.
Technical Support and Education Resources

The following technical support resources are available to you. To access the current version of this book and other books, go to http://www.vmware.com/support/pubs.

Online and Telephone Support
To use online support to view your product and contract information, register your products and submit technical support requests, go to http://www.vmware.com/support.

Customers with appropriate support contracts should use telephone support for the fastest response on issues. Go to http://www.vmware.com/support/phone_support.html.

Support Offerings
To find out how VMware support offerings can help meet your business needs, go to http://www.vmware.com/support/services.

VMware Professional Services
VMware Education Services courses offer extensive hands-on labs, case study examples and course materials designed to be used as on-the-job reference tools. Courses are available onsite, in the classroom and live online. For onsite pilot programs and implementation best practices, VMware Consulting Services provides offerings to help you assess, plan, build and manage your virtual environment. To access information about education classes, certification programs and consulting services, go to http://www.vmware.com/services.
About vCenter CapacityIQ

VMware vCenter™ CapacityIQ helps VMware Infrastructure system administrators monitor and manage the capacity of virtualized environments.

Install CapacityIQ as a VirtualCenter plug-in. CapacityIQ ensures that virtualized infrastructure capacity is efficient and predictable.

The what-if scenario feature of CapacityIQ allows administrators who are managing capacity to model changes to the virtualized environment and assess the effect of a change without implementation costs or time-consuming trial and error.

This chapter includes the following topics:

- “CapacityIQ Main Tasks,” on page 7
- “CapacityIQ Architecture,” on page 8
- “Licensing CapacityIQ,” on page 9
- “Administrator Process Overview,” on page 9

CapacityIQ Main Tasks

CapacityIQ collects performance information about managed objects, such as hosts and virtual machines in the virtual infrastructure. CapacityIQ stores the information in the CapacityIQ database.

You query the database to understand available capacity in the virtual infrastructure. CapacityIQ performs these tasks.

1. Collects performance statistics about managed objects in the virtual infrastructure
2. Stores the statistics in the CapacityIQ database and builds a performance history for each object
3. Collects and stores inventory history for each object such as moving a virtual machine from one host to another
4. Retrieves and presents the statistics on demand through the CapacityIQ user interface
5. Allows you to filter the information presented and to modify the date range of data viewed to target specific objects, time periods, or types of activity
6. Allows you to create scenarios to model potential changes to the virtual infrastructure
CapacityIQ Architecture

CapacityIQ is a virtual appliance that you install on the VirtualCenter Server. A virtual appliance is a virtual machine image that contains software designed to run inside a virtual machine.

CapacityIQ does not affect the performance of VMware Infrastructure. All of the data processing that CapacityIQ performs is done within the CapacityIQ virtual appliance.

You must have one CapacityIQ virtual appliance instance for each VirtualCenter Server instance.

The virtual appliance includes the following components as illustrated in Figure 1-1.

**CapacityIQ Administrative Server** The CapacityIQ administrative server provides a user interface for the CapacityIQ system administrator to configure and maintain the virtual appliance. The user interface is called the Admin Portal.

**CapacityIQ Server** The CapacityIQ server hosts an operating system and the CapacityIQ application. A monitoring feature called watchdog tracks whether CapacityIQ processes are operating normally. The watchdog logs exceptions such as services stopping and starting. Events are posted in `ciq_watchdog.log`.

**Database Server** The CapacityIQ virtual appliance includes its own database. The database server stores data collected from objects managed in VirtualCenter.

**Data Collector** The data collector collects inventory and performance data. Configure the data collector to access the VirtualCenter Server through port 443 on the VirtualCenter Server.

Each instance of VI Client installed on the VirtualCenter Server can use CapacityIQ. CapacityIQ does not require changes to your VirtualCenter setup, such as modifying the logging levels.

Figure 1-1. CapacityIQ Architecture Components

CapacityIQ begins collecting performance data shortly after installation. Updates to performance statistics in the CapacityIQ database occur using standard VMware Infrastructure APIs. Data collection remains continuous unless you stop CapacityIQ.

The dashboard begins to populate within an hour or so after you install CapacityIQ. To get meaningful information in views and reports, wait until you have collected at least three days of performance data.
Licensing CapacityIQ

CapacityIQ and VirtualCenter licensing are separate. The VMware Infrastructure Management Installer does not install CapacityIQ. You can download a free evaluation version of CapacityIQ that you can use for 60 days. To use CapacityIQ for more than a trial period, purchase a full product license.

You can obtain CapacityIQ licenses for an evaluation or as a full license.

Evaluation license
An evaluation license allows you to try CapacityIQ and make a buying decision. Download an evaluation license from the VMware downloads Web site. After 60 days, you receive a warning of expiration starting seven days before the evaluation license expires.

Full license
A full license gives you access to CapacityIQ and all updates and is renewable yearly. A full license migrates when CapacityIQ is upgraded to a new version.

For more information about licensing, see the VMware licensing portal.

Administrator Process Overview

The person administering CapacityIQ is responsible for installation, maintenance, and troubleshooting.

Setup

The initial setup includes the following tasks.

1. In VI Client, import the CapacityIQ appliance.
2. Deploy the CapacityIQ appliance, which means that CapacityIQ goes through an initialization sequence. This includes entering account credentials for the Virtual Appliance services and Admin Portal access.
3. Configure the network and timezone settings.
4. Open a browser and log in to the CapacityIQ Admin Portal.
5. Configure the settings to register CapacityIQ with VirtualCenter.
6. Apply the CapacityIQ license.
7. Verify the installation.

It takes a few minutes for the Dashboard to populate with data.

Maintenance

After initial setup is complete, perform ongoing administrator tasks on an as-needed basis.

- Stop or restart CapacityIQ, for example, during a VirtualCenter maintenance cycle.
- Check the status of CapacityIQ on the Admin Portal Status page.
- Apply patches and updates to the CapacityIQ application.
- Manage license changes and renewals.
- Back up and restore CapacityIQ.
- Troubleshoot any problems and send diagnostic data to VMware Technical Support.
Install the CapacityIQ Virtual Appliance

Only the CapacityIQ administrator performs installation and setup tasks. Installation includes importing the appliance using the VI Client interface, deploying the appliance by running a Linux-based installation script, and configuration of the virtual appliance.

Procedure

1. CapacityIQ Installation Requirements on page 11
   Before you install CapacityIQ, be sure your VMware Infrastructure environment meets these requirements.

2. Deploy the Virtual Appliance on page 13
   You use the VI Client user interface to deploy the CapacityIQ appliance. VMware distributes the appliance as a .zip file that includes an Open Virtualization Format (OVF) file.

3. Configure the Virtual Appliance on page 13
   After you import the CapacityIQ OVF file, configure the virtual appliance.

4. Configure Network and Timezone Settings on page 14
   When the configuration process completes, you can optionally configure network and timezone settings.

5. CapacityIQ Configuration on page 14
   Configuring CapacityIQ includes registering CapacityIQ, installing the license, and optionally installing a custom SSL certificate.

6. Grant Access to CapacityIQ on page 17
   After you configure CapacityIQ, restart VI Client. To grant users access to CapacityIQ, assign CapacityIQ privileges to the role of each VI Client user who will be working with CapacityIQ.

7. Verify Installation on page 17
   Verify that CapacityIQ is properly installed so that you can start working with CapacityIQ.

CapacityIQ Installation Requirements

Before you install CapacityIQ, be sure your VMware Infrastructure environment meets these requirements.

VirtualCenter/ESX Requirements

For a list of the VirtualCenter and ESX Server versions that CapacityIQ supports, see the CapacityIQ release notes.

A single instance of the CapacityIQ virtual appliance supports capacity analysis for up to 200 hosts and 2000 virtual machines. CapacityIQ installs even if you exceed that number, but might not perform as expected. Do not exceed your license capacity.
CapacityIQ Virtual Appliance Requirements

Table 2-1 lists the requirements for the CapacityIQ virtual appliance.

<table>
<thead>
<tr>
<th>Component</th>
<th>Minimum Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>1vCPU on a 2.4GHz or faster CPU</td>
</tr>
<tr>
<td>Memory</td>
<td>3GB</td>
</tr>
<tr>
<td>Disk space</td>
<td>approximately 110GB</td>
</tr>
<tr>
<td>ESX host</td>
<td>ESX 3.0.2</td>
</tr>
</tbody>
</table>

The CapacityIQ virtual appliance uses the Community ENTerprise (CentOS) 5.2 operating system.

CapacityIQ Port Requirements

Table 2-2 describes CapacityIQ port access requirements for TCP connection. Configure your external firewalls so that these ports are open.

**NOTE** Customization of server ports is not supported.

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Must be open to enable SSH access to the CapacityIQ virtual appliance</td>
</tr>
<tr>
<td>80</td>
<td>Admin Portal HTTP server port (forwards to port 8080)</td>
</tr>
<tr>
<td>443</td>
<td>Admin Portal HTTPS server port (forwards to port 9443)</td>
</tr>
<tr>
<td>5480</td>
<td>HTTPS server port for the VMware Studio version of the Admin Portal</td>
</tr>
<tr>
<td>8080</td>
<td>CapacityIQ HTTP port</td>
</tr>
<tr>
<td>8443</td>
<td>CapacityIQ HTTPS port</td>
</tr>
</tbody>
</table>

Table 2-3 describes the local listening ports that CapacityIQ requires. These ports do not require an opening in your firewall.

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5432</td>
<td>PostgreSQL server port. Listens to connections from localhost only.</td>
</tr>
<tr>
<td>5488, 5489</td>
<td>Ports that the VMware Studio version of the Admin Portal use</td>
</tr>
<tr>
<td>8005, 9005</td>
<td>Apache Tomcat management ports for the Admin Portal</td>
</tr>
<tr>
<td>8080, 8443</td>
<td>These CapacityIQ ports are listening ports as well as ports that are required for TCP connection</td>
</tr>
<tr>
<td>9080</td>
<td>Admin Portal HTTP server port</td>
</tr>
<tr>
<td>9443</td>
<td>Admin Portal HTTPS server port</td>
</tr>
</tbody>
</table>
Admin Portal Supported Browsers

Access the CapacityIQ Admin Portal using these browsers.

- Internet Explorer 6.0.x and 7.0.x
- Mozilla Firefox 2.0.x and 3.0.x

Deploy the Virtual Appliance

You use the VI Client user interface to deploy the CapacityIQ appliance. VMware distributes the appliance as a .zip file that includes an Open Virtualization Format (OVF) file.

Prerequisites

You are in VI Client and your assigned role and permissions allow you to import a virtual appliance.

Procedure

1. Download and open the CapacityIQ .zip file.
2. Select File > Virtual Appliance > Import.
3. Open the .zip file and locate the OVF folder.

For instructions about how to complete deployment of the virtual appliance, see the VI Client online help and documentation. The network switch that you select must have access to the VirtualCenter Server.

The virtual appliance appears in the VI Client inventory panel as a virtual machine.

What to do next

Configure the virtual appliance.

Configure the Virtual Appliance

After you import the CapacityIQ OVF file, configure the virtual appliance.

Prerequisites

You imported the OVF file. The appliance appears as a virtual machine in the VI Client inventory panel.

Procedure

1. Select the virtual appliance icon in the VI Client inventory panel.
2. Start the virtual machine by powering it on.
3. Click the Console tab.

   The deployment process begins.

4. When prompted, specify the following items.
   - A password to accompany the default user name, which is ciqadmin
   - A root user name and password

   When the process completes, the appliance console interface displays the URL to the Admin Portal.

The virtual appliance is configured.

What to do next

On the Console tab, configure the network and timezone settings.
Configure Network and Timezone Settings

When the configuration process completes, you can optionally configure network and timezone settings.

Prerequisites

You deployed and configured the CapacityIQ virtual appliance, and you are on the Console tab in the console interface.

NOTE The CapacityIQ virtual appliance uses DHCP (Dynamic Host Configuration Protocol) by default, and time synchronizes with the ESX host on which it is running. Time settings use VMware Tools to synchronize.

Procedure

1. Navigate to Configure Network.

2. Select an IP address for the ESX host where vCenter CapacityIQ will be installed.
   - Use a DHCP server to select an IP address by domain name, such as ciq.vmware.com.
   
   NOTE CapacityIQ does not provide an interface to set the host name.

   - Use a static IP address for the vCenter CapacityIQ address. Static IP is the recommended choice.

   Either choice works. This choice is left to administrator preference or policies in your organization.

3. Navigate to Set Timezone, select the time zone from the drop-down menu, and click OK.
   
   Select the time zone that matches local time for the VirtualCenter Server where the CapacityIQ virtual appliance is installed.

You configured the network and timezone settings. You are finished working in VI Client for now.

What to do next

Configure CapacityIQ. Open a browser window and navigate to the URL that appears in the console interface to start the Admin Portal.

CapacityIQ Configuration

Configuring CapacityIQ includes registering CapacityIQ, installing the license, and optionally installing a custom SSL certificate.

Register CapacityIQ

Register the CapacityIQ appliance to establish communications and credentials for the VirtualCenter Server to which CapacityIQ connects.

Prerequisites

Open a browser window and log in to the Admin Portal with the user name ciqadmin and the password you selected during installation. The Admin Portal is accessible using the IP address shown in the virtual appliance console interface.
Procedure

1. Review the settings that appear on the Setup page.

2. (Optional) Click **Register** to change the vCenter CapacityIQ address selection and configure the registration settings.
   
   You might have already set up the vCenter CapacityIQ address setting when you configured network settings after you completed the installation. This address must be able to access the VirtualCenter Server.

3. In the vCenter CapacityIQ - Register dialog box, specify the Client connection type.
   - Select HTTPS for a more secure connection.
   - **NOTE** HTTPS uses a self-signed SSL certificate unless you install a customized certificate.
   - Select HTTP if speed is more important than security.

4. Enter the Server address, User name, and Password for the VirtualCenter Server for which you want to analyze capacity.
   
   **NOTE** The user name and password must give you administrator privileges. The credentials are verified each time CapacityIQ starts up. If a change occurs, such as an expired password, you must update the credentials on the Admin Portal **Setup** tab.

5. Click **Apply** to complete the setup.
   
   The vCenter CapacityIQ - Register dialog box closes.

   The Registration Status updates to Registered and vCenter Connection Status updates to Connected. Other fields on the Status page update after you make entries on other pages in the Admin Portal.

What to do next

Install the CapacityIQ license.

Install License

Install the CapacityIQ license on the License page of the Admin Portal.

Prerequisites

Log in to the Admin Portal.

Procedure

1. Type your CapacityIQ license key in the space provided and click **Apply**.
   
   The License information area populates.

2. Verify that the License information is correct.
   
   For example:

<table>
<thead>
<tr>
<th>License Type</th>
<th>License type is Demo if you installed an evaluation version, or Valid for a full license.</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Capacity</td>
<td>This value is based on the number of physical CPUs you are using. For example, if you have 689 ESX physical hosts that are visible to VirtualCenter, you might have a license capacity of 1000 to allow for growth.</td>
</tr>
<tr>
<td>License Used</td>
<td>The number of licenses that are deployed.</td>
</tr>
<tr>
<td>License Remaining</td>
<td>License Remaining is the License Capacity minus License Used.</td>
</tr>
</tbody>
</table>
You have installed and verified the license. The CapacityIQ License field on the Setup page updates.

**What to do next**

Install the SSL certificate if you plan to use one. Otherwise, grant access to CapacityIQ.

### Request and Install a Custom SSL Certificate

By default, CapacityIQ installs a self-signed SSL certificate on the virtual appliance. The self-signed certificate generates security warnings. If you do not want to use the self-signed security certificate, you can install a custom SSL certificate for CapacityIQ at the command line. This task is optional and does not affect CapacityIQ functionality. If you are familiar with SSL certificate handling, you can use other methods.

**Procedure**

1. Log in to the CapacityIQ virtual appliance by using an SSH client such as PuTTY to access the ciq-admin command-line interface.
2. Open a command-line prompt.
3. Enter the `ciq-admin` command to create the certificate request.

Use the following syntax.

```bash
ciq-admin ssl genkey
--org-unit <organizationUnit> --org-name <organizationName>
--city <city name> --state <state/province name> --country <two-letter country code>
[--use IP] [--validity <certificate validity in days>]
```

The certificate signing request (CSR) appears on your screen.

**NOTE** Type your entries with care. You cannot regenerate the CSR without restarting the process. If you must start over, include the `--force` flag to regenerate the CSR.

```bash
ciq-admin ssl genkey --force
--org unit ...<certificate validity in days>]
```

4. Copy the CSR and send it to a certifying authority to obtain your SSL certificate.

The certificate must be in X509 or .PK7 format.

5. When you have the authorized certificate, upload the certificate file to the virtual appliance using a file-copying tool of your choice.

This step must be completed correctly. If it is not, you might not be able to install the certificate.

6. Use the `install --cert` option of the `ciq-admin` command to install the certificate.

```bash
ciq-admin ssl install --cert <filename>
```

7. Confirm the certificate details.

The certificate details appear in the SSL certificate information area of the HTTPS page in the Admin Portal. The custom certificate replaces the default self-signed certificate that CapacityIQ installed. Installing the custom certificate restarts CapacityIQ and the ciqadmin processes.

On the Setup page in the Admin Portal, the CapacityIQ HTTPS certificate field updates with the new certificate name and certificate expiration date.
What to do next
Grant access to CapacityIQ.

Grant Access to CapacityIQ

After you configure CapacityIQ, restart VI Client. To grant users access to CapacityIQ, assign CapacityIQ privileges to the role of each VI Client user who will be working with CapacityIQ.

Prerequisites
You have registered CapacityIQ, installed the license, and optionally installed a custom SSL certificate if you plan to use one.

Procedure

◆ Restart VI Client.

The CapacityIQ icon appears in the VI Client toolbar. A new CapacityIQ privilege is added in the VI Client All Privileges list.

NOTE You or the VMware Infrastructure administrator must assign the CapacityIQ privilege to the role of each person using CapacityIQ.

On the Setup page of the Admin Portal, the Registration Status updates to Registered and vCenter Connection Status updates to Connected.

What to do next
Verify that installation is complete.

Verify Installation

Verify that CapacityIQ is properly installed so that you can start working with CapacityIQ.

Prerequisites
You installed the virtual appliance and configured settings on the Admin Portal.

Procedure

1 Log in to VirtualCenter and locate the CapacityIQ icon on the VI Client toolbar.
2 Click the icon to open CapacityIQ.
3 Look at the inventory panel and verify that the objects you expect to see in the inventory panel appear.

CapacityIQ starts collecting data. As it becomes available, data populates the Dashboard. This process might take a few minutes.

NOTE If you were already logged in to VI Client when you registered CapacityIQ, reconnect VI Client to see the CapacityIQ icon.
You periodically perform maintenance tasks such as applying updates to CapacityIQ, stopping and restarting CapacityIQ services, or downloading log files for VMware Technical Support.

Monitor the status of CapacityIQ services to see whether services are running normally on the Admin Portal Status page.

For information about these tasks, see the online help in the CapacityIQ Admin Portal.

This chapter includes the following topics:

- Applying Updates, on page 19
- Convert Evaluation License, on page 19

**Applying Updates**

VMware Update Manager does not manage updates to CapacityIQ. Periodically monitor the VMware CapacityIQ Web site to determine whether an update or patch is available.

Before you apply an update, perform a backup of the virtual appliance.

**CAUTION** You cannot roll back a CapacityIQ update. During the update process, the current session might terminate. If the session terminates, restart CapacityIQ, log in again, and verify that the update was applied.

For information about applying updates, see the Admin Portal online help.

**Convert Evaluation License**

You can convert an evaluation license to a fully valid license without losing data in the CapacityIQ database.

**Prerequisites**

Purchase a fully-licensed version from the VMware store at http://vmware.com/vmwarestore/.

**Procedure**

- On the License page of the Admin Portal, type the new license key in the License key field and click Apply.

When the conversion process is complete, the new license information appears. The new number of days until expiration appears in the CapacityIQ License field on the Admin Portal Setup page.

For information about updating an existing valid license, see the CapacityIQ Admin Portal online help.
This information can help you with problems you might encounter when you install CapacityIQ.

This chapter includes the following topics:

-  “DHCP Address Avoidance at Startup,” on page 21
-  “VI Client Restart Required After Registration,” on page 22
-  “No Data During Initial Startup,” on page 22
-  “Wrong Time Zone Setting,” on page 22
-  “System Time Synchronization,” on page 23
-  “Virtual Appliance Password Forgotten,” on page 23
-  “No Volume Groups Found,” on page 24
-  “DHCP Not Available Causes Network Connection Failure,” on page 24
-  “Cannot Remove SSH Keys,” on page 24

**DHCP Address Avoidance at Startup**

When CapacityIQ starts for the first time, it attempts to obtain a DHCP address for the VirtualCenter Server that is hosting the appliance.

**Problem**

After startup, you can configure a static IP address, but the first attempt to use a DHCP address is problematic in some environments. The workaround is to disable the virtual appliance network interface card (NIC) before you start the virtual appliance. To configure a static IP address, see “Configure Network and Timezone Settings,” on page 14.

**Solution**

1. Deploy the virtual appliance.
   
   For instructions, see “Configure the Virtual Appliance,” on page 13.

2. Select the CapacityIQ virtual machine in the inventory panel but do not start the machine yet.

3. Right click and select **Edit Settings**.

4. On the **Hardware** tab of the Virtual Machine Properties dialog box, select **Network card 1**.

5. In the Device Status area of the Virtual Machine Properties dialog box, deselect **Connect at Power on** and click **OK**.

6. Power on the virtual machine.
7 Click the Console tab.
   The installation script runs.
8 When the script completes, configure a static IP address.
9 Reverse the change to the NIC settings for Network card 1 by selecting Connect at Power on.
10 Restart the virtual machine.

**VI Client Restart Required After Registration**

After you register CapacityIQ with VI Client on the Admin Portal Setup tab, you must restart VI Client.

**Problem**

If you do not restart VI Client after registration, the CapacityIQ button does not appear in the VI Client toolbar.

**Cause**

VI Client requires the restart to discover a new plug-in.

**Solution**

1 Install and register CapacityIQ at a time when it is convenient to restart VI Client.
2 Restart VI Client.

**No Data During Initial Startup**

When you first open CapacityIQ, it might take up to an hour for the dashboard to populate with data.

**Problem**

The dashboard might appear blank when you first open CapacityIQ.

**Cause**

CapacityIQ needs time to collect the initial inventory and performance data and display the data on the dashboard.

**Solution**

- Check the vCenter Connection Status on the Setup page of the Admin Portal to verify that CapacityIQ is running. Wait for the information to appear on the dashboard.

**Wrong Time Zone Setting**

Setting the time zone incorrectly during installation of the CapacityIQ appliance results in time stamping errors for views and reports.

**Problem**

If the time zone you select during installation does not match the time zone on the VirtualCenter Server where the CapacityIQ appliance is installed, the data you collect won’t represent the time zone you are in.

**Cause**

Data might be collected across numerous time zones that use standard or Daylight Savings Time. To allow you to view data as if it came from one time zone, CapacityIQ uses the Set Timezone setting to adjust the date and time associated with the collected inventory and performance data. Daily and weekly data are time stamped with the date and time of the VirtualCenter Server location where CapacityIQ is installed. Data for monthly and greater intervals uses UTC time.
Solution
1 In VI Client, select the VMware CapacityIQ appliance in the inventory panel.
2 Click the Console tab.
3 Select Set Timezone.
4 Select the correct time zone from the drop-down menu and click OK.

System Time Synchronization
Synchronize the time of CapacityIQ with the time of the ESX Server that is hosting CapacityIQ.

Problem
If CapacityIQ is not synchronized with the ESX Server, the system time is not synchronized with time on other systems in your datacenter.

Cause
You disabled the time synchronization feature.

Solution
1 In VI Client, select the CapacityIQ virtual machine and right-click to select Edit Settings.
2 In the Virtual Machine Properties dialog box, click the Options tab.
3 Select the VMware Tools setting.
4 Under Advanced options, check Synchronize guest time with host.
5 Click OK.

Virtual Appliance Password Forgotten
If you forget your password for logging in to the Admin Portal, reset the password. Make a record of the new password.

Problem
You manage the CapacityIQ administrator password on the Account page in the Admin Portal. If you forget your password, you cannot log in to the Admin Portal to update to a new password.

Solution
1 In VI Client, start up the virtual appliance and go to the console for the CapacityIQ virtual machine.
2 Press any key to display the GRUB menu in the console.
3 On the GRUB menu, select CentOS (2.6.18-92.e15).
4 Type e to edit the line.
   A list of items in the CentOS configuration file appears.
5 Select the line that starts with kernel and type e to edit the line.
6 At the end of the line, press the spacebar and type single to indicate single-user mode.
7 Press Enter to exit edit mode.
8 On the GRUB screen, type b to boot into single-user mode.
   The virtual appliance boots in single-user mode.
9 Run the `passwd root` command to change the root password.

10 Run the `shutdown -r now` command to restart the virtual appliance.

   When the virtual appliance starts, you can log in using the new password.

### No Volume Groups Found

During installation, you might see a `No volume groups found` error message on the Console.

**Problem**

This error message is from the Linux Logical Volume Manager.

**Cause**

CapacityIQ uses CentOS, which by default uses logical volumes, but CapacityIQ is configured not to use them.

**Solution**

- Ignore this message.

### DHCP Not Available Causes Network Connection Failure

During installation, you might see an error message on the Console that your network connection fails because DHCP is unavailable.

**Problem**

The CapacityIQ virtual appliance is configured for DHCP by default.

**Cause**

If DHCP is not available, an error appears after ten attempts to connect with DHCP.

**Solution**

- Ignore the message, continue the installation, and reconfigure the network connection for static IP later.

### Cannot Remove SSH Keys

During installation, you might see the `rm: cannot remove [...]/ssh_host_*',: No such file or directory` error message on the Console.

**Problem**

SSH keys for the self-signed certificate generate when you first start the virtual appliance.

**Cause**

SSH keys must be unique. The installation process assumes that you already have existing SSH keys installed for the virtual appliance and tries to remove them. Because no SSH keys are installed, the error message appears.

**Solution**

- Ignore this message.
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