

Best Practices and Troubleshooting Guide

vCenter Chargeback Manager 2.0.0

This document supports the version of each product listed and supports all subsequent versions until the document is replaced by a new edition. To check for more recent editions of this document, see <http://www.vmware.com/support/pubs>.

EN-000764-00

vmware[®]

You can find the most up-to-date technical documentation on the VMware Web site at:

<http://www.vmware.com/support/>

The VMware Web site also provides the latest product updates.

If you have comments about this documentation, submit your feedback to:

docfeedback@vmware.com

Copyright © 2011 VMware, Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/go/patents>.

VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware, Inc.
3401 Hillview Ave.
Palo Alto, CA 94304
www.vmware.com

Contents

About the Guide	5
1 Best Practices for Installing and Configuring vCenter Chargeback Manager	7
Best Practices for Installing vCenter Chargeback Manager	7
Best Practices for Adding vCenter Server in vCenter Chargeback Manager	8
Best Practices for Creating Database Users that vCenter Chargeback Manager Uses	9
Best Practices for Upgrading vCenter Servers Added to vCenter Chargeback Manager	9
2 Troubleshooting vCenter Chargeback Manager	11
Troubleshooting Utility	11
Troubleshooting Issues in vCenter Chargeback Manager	12
Index	27

About the Guide

The *vCenter Chargeback Manager Best Practices and Troubleshooting Guide* provides information about various best practices for installing, configuring, and using VMware® vCenter Chargeback Manager. It also provides troubleshooting information for issues commonly encountered by users when installing, configuring, and using vCenter Chargeback Manager.

Intended Audience

This information is intended for anyone who wants to install, configure, and use vCenter Chargeback Manager. The information in this book is written for experienced system administrators who are familiar with Windows, VMware vSphere®, and basic database administration.

Best Practices for Installing and Configuring vCenter Chargeback Manager

1

Following the best practices listed here helps ensure that you set up and use your vCenter Chargeback Manager environment in an efficient and secure manner.

This chapter includes the following topics:

- [“Best Practices for Installing vCenter Chargeback Manager,”](#) on page 7
- [“Best Practices for Adding vCenter Server in vCenter Chargeback Manager,”](#) on page 8
- [“Best Practices for Creating Database Users that vCenter Chargeback Manager Uses,”](#) on page 9
- [“Best Practices for Upgrading vCenter Servers Added to vCenter Chargeback Manager,”](#) on page 9

Best Practices for Installing vCenter Chargeback Manager

vCenter Chargeback Manager communicates with various servers and databases. It must be installed in an efficient manner to ensure that the resources are used correctly and the entire set up is secure.

Perform the following tasks before installing vCenter Chargeback Manager:

- Create a database for vCenter Chargeback Manager. Ensure that you provide sufficient database size or configure the database such that additional space can be provisioned as and when required.
- Create a database user that vCenter Chargeback Manager and the data collector can use to connect to the database.

In Oracle Database, assign the following system roles and privilege to the user:

- CONNECT
- RESOURCE
- CREATE TRIGGER
- CREATE TABLE
- CREATE VIEW
- CREATE PROCEDURE
- CREATE SEQUENCE

In SQL Server, assign the privileges to the database user by running the following command:

```
CREATE ROLE CB_ADMIN_ROLE;  
GRANT ALTER ON SCHEMA :: DBO TO CB_ADMIN_ROLE;  
GRANT REFERENCES ON SCHEMA :: DBO TO CB_ADMIN_ROLE;  
GRANT INSERT ON SCHEMA :: DBO TO CB_ADMIN_ROLE;  
GRANT SELECT ON SCHEMA :: DBO TO CB_ADMIN_ROLE;
```

```

GRANT DELETE ON SCHEMA :: DBO TO CB_ADMIN_ROLE;
GRANT UPDATE ON SCHEMA :: DBO TO CB_ADMIN_ROLE;
GRANT EXECUTE ON SCHEMA :: DBO TO CB_ADMIN_ROLE;
GRANT CREATE TABLE to CB_ADMIN_ROLE;
GRANT CREATE VIEW to CB_ADMIN_ROLE;
GRANT CREATE PROCEDURE to CB_ADMIN_ROLE;
GRANT CREATE FUNCTION TO CB_ADMIN_ROLE;
GO
sp_addrolemember CB_ADMIN_ROLE, <db_username>

```

- Create a VPN tunnel between the machine on which you want to install the load balancer and the machine on which you want to install the vCenter Chargeback Manager server. This will ensure that the communication between the load balancer and the vCenter Chargeback Manager server is secured.

Perform the following tasks when installing vCenter Chargeback Manager:

- Install the load balancer in the DMZ perimeter of your network.
- Install vCenter Chargeback Manager server in an internal secured network.
- Generate an SSL certificate for the vCenter Chargeback Manager.

Best Practices for Adding vCenter Server in vCenter Chargeback Manager

To obtain the resource utilization data for the virtual machines in a vCenter Server hierarchy, you must add the vCenter Server to vCenter Chargeback Manager.

Perform the following tasks to ensure that adding a vCenter Server to vCenter Chargeback Manager does not impact the functioning of the vCenter Server:

- Create a user in vCenter Server that vCenter Chargeback Manager can use to communicate with the vCenter Server.
- Create a clone of the Read only role in vCenter Server and add the following privileges to this role:
 - **Storage views.View**
 - **Global.Licenses**
 - **Extension.Register extension**
 - **Extension.Unregister extension**
 - **Extension.Update extension**
 - **Profile-driven storage.Profile-driven storage view**; if you are using vCenter Server 5.0
- Assign the cloned role with the additional privileges to the vCenter Server user on the root folder of the vCenter Server.
- Create a user in the vCenter Server database that data collectors can use to authenticate in to the database and fetch the relevant data. Ensure that this user has only read privilege in the database.
- When adding a vCenter Server to vCenter Chargeback Manager, do not use the Administrator vCenter Server user and the database user that vCenter Server uses to communicate with the vCenter Server database.
- Register only one vCenter Chargeback Manager instance as a vSphere plug-in with a vCenter Server.

Best Practices for Creating Database Users that vCenter Chargeback Manager Uses

vCenter Chargeback Manager provides data collectors that communicate with the vCenter Server database and vCloud Director database.

The vCenter Chargeback Manager data collector communicates with the vCenter Server database and replicates the necessary information in the vCenter Chargeback Manager database. The Cloud Director Data Collector communicates with the vCloud Director database and fetches the relevant information to integrate a Cloud Director instance with a vCenter Chargeback Manager instance.

These data collectors use a database user to authenticate in to the corresponding database and fetch the required information. These data collectors only read data from the corresponding databases and do not write any data in to them. Therefore, create separate users in these databases with only read privileges that the data collectors can use.

Best Practices for Upgrading vCenter Servers Added to vCenter Chargeback Manager

You can add one or more vCenter Servers, which are of the same version or different versions, to vCenter Chargeback Manager.

vCenter Servers added to vCenter Chargeback Manager can be upgraded to a higher version. However, you must perform the following tasks to ensure that the vCenter Chargeback Manager and the data collectors do not fail during the vCenter Server upgrade.

NOTE If you have registered vCenter Chargeback Manager as a vSphere plug-in for a vCenter Server, then after upgrading the vCenter Server the plug-in might not show the vendor name. This does not impact the functioning of the plug-in.

Procedure

- 1 If you have added only one vCenter Server to vCenter Chargeback Manager, then stop the data collector services.

If you have more than one vCenter Server added to vCenter Chargeback Manager, then stopping the data collector services is not recommended. In this case, the data collector fails to connect to the vCenter Server database during the upgrade and the corresponding jobs fail. However, after the vCenter Server is started post-upgrade, the data collector jobs are restarted automatically.
- 2 Upgrade the vCenter Server.
- 3 Check whether the vCenter Server service is running correctly post-upgrade.
- 4 Start the data collector services.
- 5 Check the **Data Collectors** page of the **Settings** tab in vCenter Chargeback Manager to see whether the data collector jobs are running successfully.

Troubleshooting vCenter Chargeback Manager

2

VMware provides a troubleshooting utility and few troubleshooting tips for some of the common issues that you might face when installing and using vCenter Chargeback Manager.

This chapter includes the following topics:

- [“Troubleshooting Utility,”](#) on page 11
- [“Troubleshooting Issues in vCenter Chargeback Manager,”](#) on page 12

Troubleshooting Utility

vCenter Chargeback Manager provides a troubleshooting utility that is bundled with the application and can be used to collect event and system logs.

The utility when run generates a ZIP file with the name `vCenter-CB-TroubleshootInfo-date.zip` and stores it in a user-specified destination folder. The ZIP file contains the following files:

- A `.csv` file for each table in the vCenter Chargeback Manager database schema that stores event-related information.
- The system logs, `Application.log` and `System.log`.
- Configuration files for the installer, vCenter Chargeback Manager (including the Apache Tomcat Server), data collectors, and the load balancer.
- Log files for the installer, vCenter Chargeback Manager (including the Apache Tomcat Server), data collectors, and the load balancer.

Run the Troubleshooting Utility

You must run the troubleshooting utility to collect the required logs for troubleshooting the application.

Prerequisites

The user running the utility must belong to the Administrators group.

Procedure

- 1 Run the trouble shooting utility by running the following command from the command prompt.

```
cd Installation_Directory\vCenter-CB-Tools\troubleshooting\bin
vCenterCB-support.bat
```

You can also run this utility by selecting **Collect vCenter Chargeback Manager Logs** from the **Start > Programs > VMware > VMware vCenter Chargeback > vCenter Chargeback Manager Tools** menu.

- 2 Provide the folder name and directory path where the generated logs have to be stored when prompted.

- 3 You can choose to collect the system event logs.
The Application log and System log is collected.
- 4 Enter the number of stand-alone data collector instances (not embedded) installed on the same machine.
- 5 If you have any standalone data collector instance running, you must provide the path of each such data collector installation.

Troubleshooting Issues in vCenter Chargeback Manager

VMware provides troubleshooting tips that enable you to fix or workaround some of the issues that might occur when installing and using vCenter Chargeback Manager.

Changed Timezone Setting Is Not Reflected

vCenter Chargeback Manager uses the timezone set on the machine. In the case of a cluster installation, the timezone set on the machine on which the load balancer service is running is used.

Problem

After the timezone is changed on the machine, the corresponding change is not reflected in vCenter Chargeback Manager.

Solution

- ◆ Restart the vCenter Chargeback Manager service for this change to be reflected.

Changes to Chargeback Hierarchy Are Not Reflected in the Concurrent User-Sessions

Multiple users can access a vCenter Chargeback Manager instance simultaneously. Changes made by a user are visible in concurrent user-sessions.

Problem

Creation, deletion, and renaming of a chargeback hierarchy by a user are not automatically reflected in the concurrent user-sessions. Any other change to the chargeback hierarchy, such as adding or deleting an entity, might not reflect immediately in the concurrent user-sessions.

Solution

- 1 Log out from vCenter Chargeback Manager.
- 2 Log in again to vCenter Chargeback Manager.
The changes made in the concurrent user sessions are reflected in vCenter Chargeback Manager.
- 3 Refresh the hierarchy to view the changes made to the hierarchy in the concurrent user sessions.

You can refresh a chargeback hierarchy by clicking the refresh button next to the chargeback hierarchy or by loading another chargeback hierarchy and then reloading the required chargeback hierarchy.

Changes to the vCenter Server Hierarchy Are Not Reflected in vCenter Chargeback Manager

Changes made to the vCenter Server hierarchy are not reflected in vCenter Chargeback Manager immediately.

Problem

Any change made to the vCenter Server hierarchy is not reflected in vCenter Chargeback Manager immediately.

Solution

- ◆ Click the refresh button next to the vCenter Server hierarchy in vCenter Chargeback Manager.

The refresh button is displayed only if there is a change in the vCenter Server hierarchy that is not reflected in the chargeback hierarchy.

The tab can be refreshed by user actions, such as clicking another tab of the application and then clicking the **Manage Hierarchy** tab.

NOTE In the case of a vCloud Director Org, the hierarchy changes are reflected every 10 minutes because the corresponding events are processed by the Cloud Director Data Collector every 10 minutes.

Data Collector Service Fails and Stops Automatically

Data collector service fail and stop and do not start automatically.

Problem

Data collector service fails and stops automatically. Also, the data collector does not start automatically.

Cause

The data collector is unable to connect to the database.

Solution

- 1 Check whether the database service is started and running.
- 2 Check whether the database is reachable over the network.
- 3 Check whether the database details are configured correctly on the data collector.

Check whether the database details, such as the database URL and database user name and password, are entered correctly for each data collector installed. These details can be configured from the **Data Collectors** page of the **Settings** tab.

- 4 If you have installed the data collector on a virtual machine, check whether VMware Tools is installed on the virtual machine.

The data collector service fails to start on a virtual machine if VMware Tools is not installed on the virtual machine.

- 5 Restart the data collector service.

Installer Throws the SQL Driver Not Found Error

When installing or upgrading vCenter Chargeback Manager, the installer throws an SQL driver-related error.

Problem

The vCenter Chargeback Manager installer fails and displays a Connection Failed error with the following message:

Reason for failure:SQL JDBC Driver not found.

Cause

You might be running the installer from a shared location on the network.

Solution

- 1 Copy the installer files on to the local machine.

- 2 Run the installer from the local machine.

The installer fails if run from a remote location. An alternative is to map the shared location of the installer to a network drive and then run the installer.

Non-English Characters Are Not Correctly Stored in the vCenter Chargeback Manager Database

You can store data with non-English characters in the vCenter Chargeback Manager database.

Problem

The vCenter Chargeback Manager database might be deployed in a non-English locale or synchronized with a vCenter Server database that contains non-English data. However, the vCenter Chargeback Manager database does not store the non-English characters correctly. Therefore, this information is not displayed correctly in the application.

Cause

If you are using Oracle Database for the vCenter Chargeback Manager database, the character set configured on the database might not be supporting non-English data.

Solution

Configure the Oracle Database to use the Unicode (AL32UTF8) character set.

Report Does Not Display the Disk Read and Disk Write Information

A vCenter Chargeback Manager report displays the disk read and write information and the corresponding cost if the disk read and disk write computing resources are selected when the report is generated.

Problem

Although the disk read and disk write computing resources are selected when generating a report, the disk read and disk write information and the corresponding costs are not displayed in the report.

Cause

A probable reason might be that the statistics collection level is not properly set on the vCenter Server.

Solution

- ◆ On the vCenter Server, check whether the statistics collection level is correctly set.

For vCenter Server 2.5 Update 3, vCenter Server 2.5 Update 4, and vCenter Server shipped with vSphere 4.0 and later, the statistics collection level must be set to 3 or above for the average disk read and write counters to be available.

Report Does Not Display the Memory Usage Value and the Corresponding Cost

A vCenter Chargeback Manager report displays the memory usage and cost information if the memory computing resource is selected when the report is generated.

Problem

Although the memory computing resource was selected when generating a report, the memory usage and cost information is not displayed in the report.

Cause

A probable reason might be that the statistics collection level is not properly set on the vCenter Server.

Solution

- ◆ On the vCenter Server, check whether the statistics collection level is correctly set.

For vCenter Server 2.5 Update 3 and Update 4, the statistics collection level must be set to 2 or above for the average memory consumed counter to be available. For vCenter Server 4.0 and later, the statistics collection level can be set to 1 or above.

Report Does Not Display the Network Transmitted and Network Received Information

A vCenter Chargeback Manager report displays the network bandwidth usage and cost information if the network transmitted and network received computing resources are selected when the report is generated.

Problem

Although the network transmitted and network received computing resources are selected when generating a report, the network bandwidth usage and cost information is not displayed in the report.

Cause

A probable reason might be that the statistics collection level is not properly set on the vCenter Server.

Solution

- ◆ On the vCenter Server, check whether the statistics collection level is correctly set.

For vCenter Server 2.5 Update 3 and Update 4, and vCenter Server shipped with vSphere 4.0 and later, the statistics collection level must be set to 3 or above for the average network transmitted and received counters to be available.

Service Temporarily Unavailable Error

To access and use the vCenter Chargeback Manager, all the related services must be running.

Problem

When accessing vCenter Chargeback Manager, the Service Temporarily Unavailable error is thrown.

Cause

A probable reason might be that the relevant services are not running.

Solution

Check whether all the services related to the vCenter Chargeback Manager are running. Ensure that at least the load balancer and vCenter Chargeback Manager services are running. If you have just started the system or virtual machine on which vCenter Chargeback Manager is installed, you might have to wait for few minutes for the relevant services to start before accessing the application.

Status of Failed Data Collector Is Not Reflected Immediately on the System Health Tab

The System Health tab of the vCenter Chargeback Manager lets you monitor the overall system health. The tab shows the status of the various servers, databases, and data collectors.

Problem

If a data collector fails, the **System Health** tab of the vCenter Chargeback Manager does not show the status of the data collector as failed immediately.

Cause

The data collector heart beat is set to 30 seconds. If the data collector fails, vCenter Chargeback Manager waits for at least 90 seconds before updating the status of the data collector in the application. Therefore, the **System Health** tab does not reflect the failed status of the data collector immediately.

Solution

There is no workaround or solution for this issue.

Storage Synchronization Job Fails

The storage synchronization job run by the data collector fails.

Problem

The storage synchronization job of the data collector fails and the vCenter Server storage information is not synchronized in the vCenter Chargeback Manager database. The job state is reported as failed. This might result in the storage usage and corresponding cost reported as zero.

Cause

A probable reason might be that the VirtualCenter Management Webservices service is stopped. If you are using vCenter Server 5.0, then probably the VMware vSphere Profile-Driven Storage service is not running.

Solution

- 1 On the machine on which vCenter Server is installed, check whether the VirtualCenter Management Webservices service is started and running.

If you are using vCenter Server 5.0, then check whether the VMware vSphere Profile-Driven Storage service is started and running.

Ensure that the services are running for all the vCenter Server instances that are added to the vCenter Chargeback Manager. The service might fail to run due to port conflict with another service. The service uses port 8080 for HTTP communication and port 8443 for HTTPS communication by default. The default port for VMware vSphere Profile-Driven Storage service is 31000.

- 2 In vSphere Client, check whether the storage details are listed for the vCenter Server on the **Storage Views** tab.
- 3 Ensure that the **Storage views.View** permission is assigned on the root folder of the vCenter Server to the vCenter Server user, whose details are provided when adding the vCenter Server to vCenter Chargeback Manager.

Text and Messages on the vCenter Chargeback Manager User Interface Are Not Correctly Displayed

When accessing a vCenter Chargeback Manager instance that is installed on a non-English locale, the Web browser encoding must be set correctly.

Problem

vCenter Chargeback Manager is installed on a non-English locale and accessed by using a Web browser from an English locale. However, the texts on the application user interface and the messages displayed by the application do not appear correctly.

Cause

The Web browser encoding is not set correctly on the client machine.

Solution

Set the Web browser encoding to Unicode (UTF-8) on the client machine for the texts and messages to appear correctly in the user interface.

Unable to Access the vCenter Chargeback Manager

The vCenter Chargeback Manager services must be running for you to access the application.

Problem

Although you have provided the correct URL, you are unable to access the application.

Cause

The issue might occur due to multiple reasons.

- The application-related services are not started or not running.
- Windows Firewall is enabled on the machine on which vCenter Chargeback Manager and the load balancer is installed and running.

Solution

- 1 Check whether all the relevant services are running.

The following services must be started and running:

- VMware vCenter Chargeback Manager Service
- VMware vCenter Chargeback Manager Load Balancer Service
- VMware vCenter Chargeback Manager DataCollector

- 2 If Windows Firewall is enabled, ensure that port exceptions are added for the HTTP, load balancer, and HTTPS ports that are configured for vCenter Chargeback Manager during the installation.

Ensure that you set an inbound rule for these port. That is, allow access to the machine through these ports.

Unable to Add an LDAP Server

vCenter Chargeback Manager lets you configure one or more LDAP servers in the application.

Problem

When configuring the LDAP server in vCenter Chargeback Manager, an error is thrown and the operation fails. The error is similar to the following message:

An error occurred. Entity not found in LDAP server.

Cause

A probable cause is that you are adding a sever that is a child domain of a primary LDAP server and not provided the base DN.

Solution

If you are adding an LDAP server that is a child domain of a primary LDAP server, then you must specify the base DN. vCenter Chargeback Manager cannot automatically fetch the correct base DN in this case.

Unable to Add vCenter Server in vCenter Chargeback Manager

You must add a vCenter Server in vCenter Chargeback Manager before you can add entities from the vCenter Server to a hierarchy in vCenter Chargeback Manager.

Problem

When adding a vCenter Server to vCenter Chargeback Manager, the add operation fails.

Cause

The issue might occur due to multiple reasons.

- The vCenter Server is not running.
- The vCenter Server is not reachable on the network.
- The proxy settings on the Web browser are inappropriate.

Solution

- 1 Check whether the vCenter Server is started and running.
- 2 Check whether the vCenter Server is reachable over the network.
- 3 Check whether the proxy settings on the Web browser are correct.

If you have configured the proxy server settings on the Web browser and included the IP address of the vCenter Chargeback Manager machine in the bypass proxy list (No Proxy for or Exceptions), ensure that the complete IP address or the FQDN of the vCenter Chargeback Manager machine is entered in the list and not a partial address. For example, if the IP address of the machine is 90.0.1.1 and the host name is chargeserver, you must provide the full IP address and not 90.0.*.* or the FQDN chargeserver.example.com.

Unable to Configure Another VMware Cloud Director Setup with vCenter Chargeback Manager

A vCenter Chargeback Manager instance can communicate with a VMware Cloud Director setup through the VMware Cloud Director Data Collector.

Problem

A VMware Cloud Director Data Collector is registered with vCenter Chargeback Manager for a VMware Cloud Director setup. However, you are unable to configure another VMware Cloud Director Data Collector with the same vCenter Chargeback Manager instance but different VMware Cloud Director setup.

Cause

A vCenter Chargeback Manager instance can communicate with only a single VMware Cloud Director setup. You can have multiple VMware Cloud Director Data Collector instances registered with this vCenter Chargeback Manager instance. However, each data collector instance must communicate with the same VMware Cloud Director setup. You can modify the VMware Cloud Director setup details in vCenter Chargeback Manager and the corresponding VMware Cloud Director Data Collector.

Solution

- 1 Stop all the VMware Cloud Director Data Collector instances.

- 2 Modify the host and database information for the VMware Cloud Director setup in the **VMware Cloud Director** tab on the Cloud Data Collectors page in vCenter Chargeback Manager.

You must modify the following properties:

- VMware Cloud Director database host
 - VMware Cloud Director database name
 - VMware Cloud Director database username
 - VMware Cloud Director database port
 - VMware Cloud Director database password
- 3 Delete all the hierarchies imported in to vCenter Chargeback Manager from the original VMware Cloud Director setup.
 - 4 Run the following database commands.


```
delete from cb_vcloud_unprocessed_event
delete from cb_vsm_server
delete from cb_vsm_network
delete from cb_vsm_ip
delete from cb_server_property where
server_property_name='cbEventListRawView.lastProcessTime'
delete from cb_server_property where server_property_name like '%vclastProcessTime-%'
```
 - 5 Restart the VMware Cloud Director Data Collector instances.

Unable to Connect to the vCenter Chargeback Manager Database

vCenter Chargeback Manager can function only if it can connect to the vCenter Chargeback Manager database.

Problem

vCenter Chargeback Manager is unable to connect to the corresponding vCenter Chargeback Manager database. A database connection failed error is displayed.

Cause

This issue can occur due to multiple reasons.

- The database service is not started and running.
- The database is not reachable over the network.
- The port number for the SQL Server named database instance has changed.
- The number of server processes for the Oracle Database has exceeded the set maximum limit.

Solution

- 1 Check whether the database service is started and running.
- 2 Check whether the database machine is reachable over the network.

- 3 If you are using SQL Server for the vCenter Chargeback Manager database and using the port number of the named database instance to connect to it, ensure that the port is a dedicated or static port for the database instance.
 - a Modify the database configuration to use dedicated ports for the named database instances.
In SQL Server, the default configuration is to use dynamic ports for named database instances.
 - b Configure the database named instance with the formerly configured port number.
 - c Restart the database service and the vCenter Chargeback Manager services, including the data collector services.

- 4 If you are using Oracle Database for vCenter Chargeback Manager database, then you must set the maximum limit of server appropriately.

vCenter Chargeback Manager and each data collector registered with it connect to the vCenter Chargeback Manager database. In the case of a cluster installation the number of connections to the database is higher. To ensure the smooth functioning of vCenter Chargeback Manager, the Oracle Database must be configured to allow a larger number of server process to run.

 - a In the Oracle Database, run the following command from the SQL prompt.

```
ALTER SYSTEM SET PROCESSES=NNN SCOPE=SPFILE;
```

Here, *NNN* is the maximum limit for server processes. The default value is 150.
 - b Restart the Oracle Database service and the corresponding Oracle TNS Listener service.
 - c Restart the vCenter Chargeback Manager and data collector services.

Unable to Connect to the vCenter Server Database

vCenter Chargeback Manager data collector must connect to the vCenter Server database to synchronize the vCenter Chargeback Manager database.

Problem

- The vCenter Chargeback Manager data collector is unable to connect to the vCenter Server database.
- vCenter Chargeback Manager is unable to connect to the vCenter Server database when adding the vCenter Server.

Cause

This issue can occur due to multiple reasons.

- The database service is not started and running.
- The database is not reachable over the network.
- The port number for the SQL Server named database instance has changed.
- TCP/IP protocol is not enabled for the vCenter Server database.
- The password for the database user is incorrect.

Solution

- 1 Check whether the database service is started and running.
- 2 Check whether the database machine is reachable over the network.

- 3 If you are using SQL Server for the vCenter Server database and using the port number of the named database instance to connect to it, ensure that the port is a dedicated or static port for the database instance.
In SQL Server, the default configuration is to use dynamic ports for named database instances. You must modify it to use dedicated ports. You must also configure the database named instance with the formerly configured port number. If you configure the database named instance with a different static port, ensure that you make the necessary changes in vCenter Chargeback Manager so that the connection to the vCenter Server database is restored.
- 4 If you are using SQL Server or SQL Express for the vCenter Server database, ensure that the TCP/IP protocol is enabled for the vCenter Server database.
The TCP/IP protocol is enabled by default. You can use the SQL Server Configuration Manager to check whether the TCP/IP protocol is enabled for the database.
Use the SQL Server Surface Area Configuration tool to ensure that the SQL Server Browser Service and Database Engine Service & Remote Connections services are running.
- 5 If the password for the vCenter Server database user is changed, the same must be updated in vCenter Chargeback Manager.
You can change the database user and password details from the **vCenter Servers** page of the **Settings** tab.
Do not use the vCenter Server database user account that vCenter Server uses to connect to the database.

Unable to Email Report

Although the report is generated and can be successfully archived or exported, the email report operation fails.

Problem

vCenter Chargeback Manager fails to send the report through email. The following error might be displayed: Check if the email settings are properly configured. If not, configure them before sending an email.

Cause

Probable causes for the failure of the email report operation are:

- The SMTP server is not configured.
- The SMTP server is not reachable.
- A third-party application is blocking vCenter Chargeback Manager from sending email.

Solution

- 1 Check whether the SMTP server is configured in the application.
If the SMTP server is configured, then an email address is displayed in the **Email Setting** section of the General page of the **Settings** tab.
- 2 Check whether the SMTP server is reachable over the network.
- 3 Check whether any third-party application, such as an anti-virus application, is blocking vCenter Chargeback Manager from sending emails.
If there is such an application running and has the option of excluding some applications from being blocked, include the application `tomcat6.exe` in the excludes list.

Unable to Fetch the Primary Group of a LDAP User

Only the groups and users defined under the specified DN in the Active Directory hierarchy can be viewed from and added to vCenter Chargeback Manager.

Problem

Although you can view an LDAP user added to vCenter Chargeback Manager, you are unable to add the primary group of the LDAP user to the application.

Cause

A probable reason might be that the primary group does not come under the provided base DN.

Solution

Modify the base DN of the LDAP server added to the application such that the primary group is defined under it in the Active Directory hierarchy.

Unable to Log In to vCenter Chargeback Manager as an LDAP User

Logging in to vCenter Chargeback Manager by using an LDAP user account fails.

Problem

Although the LDAP Server is configured in vCenter Chargeback Manager, an LDAP user is unable to log in to vCenter Chargeback Manager.

Cause

The issue might occur due to multiple reasons.

- The LDAP user or group is not added to vCenter Chargeback Manager.
- vCenter Chargeback Manager is unable to communicate with the LDAP Server.
- The base DN of LDAP Server is changed in vCenter Chargeback Manager.
- The SSL Certificate for the LDAP Server has changed.
- The LDAP user name contains special characters.

Solution

- 1 Check whether the LDAP user or the LDAP group to which the user belongs is added to vCenter Chargeback Manager.

You can add and manage user from the **Users** page of the **Users & Roles** tab.

- 2 Ensure that the vCenter Chargeback Manager is able to communicate with the LDAP Server over the network.

Also check whether the LDAP Server is started and running correctly.

- 3 If the base DN for the LDAP Server is changed, then the LDAP users and group that are added to vCenter Chargeback Manager but do not exist in the LDAP hierarchy under the current base DN cannot log in to vCenter Chargeback Manager.

To enable log in for such users, you must modify the base DN for the LDAP server configuration in vCenter Chargeback Manager and might have to re-add these users and groups.

- 4 If you have enabled LDAPS (that is LDAP over SSL), you must have a valid SSL certificate for the LDAP Server on the vCenter Chargeback Manager machine.

If the SSL certificate for the LDAP Server is changed, then you must import the new SSL certificate on to the vCenter Chargeback Manager machine. To import the new SSL certificate, perform the following tasks:

- a Log in to vCenter Chargeback Manager as a super user.
 - b Click **Settings**.
 - c Click **LDAP Servers**.
 - A table listing the LDAP Servers configured in vCenter Chargeback Manager is displayed.
 - d Select the LDAP Server for which you want to import the new SSL certificate and click **Edit**.
 - e Enter the user name and password, and click **Save**.
 - Ensure that **Enable LDAPS** is selected.
 - A dialog requesting you to view and instal the new SSL certificate is displayed.
 - f Install the new SSL certificate.
- 5 If the LDAP user contains special characters in the user name, then to log in to vCenter Chargeback Manager as such a user, replace each special character with an underscore (_) in the user name.

Unable to Perform any Operation in vCenter Chargeback Manager

Any operation performed in vCenter Chargeback Manager fails with an error.

Problem

In an active user session, when any operation is performed in vCenter Chargeback Manager, the UI throws an error similar to the following:

An error has occurred. Please contact the administrator or try later.

Unable to log in to vCenter Chargeback Manager.

Cause

A probable cause could be that the database server on which the vCenter Chargeback Manager database is created has ran out of disk space.

Solution

Inform your system administrator or database administrator about the disk space issue.

Unable to Use Custom SSL Certificates

vCenter Chargeback Manager can be accessed through a Web browser using either the HTTP protocol or HTTPS protocol.

Problem

Prior to vCenter Chargeback 1.5, the application was shipped with a default SSL certificate that was generated using OpenSSL. However, to use custom SSL certificates for secure communication, you must replace the certificate related files in your installation directory.

Solution

- 1 Replace the security-related files, `default.cert` and `default.key`, with the custom SSL files.

The `default.cert` and `default.key` files are stored in the following directory:

```
Installation_Directory/Apache2.2/conf/ssl
```

- 2 In the `Installation_Directory/Apache2.2/conf/httpd.conf` file, modify the SSL certificate file-related entries.

```
SSLCertificateFile conf/ssl/default.cert
SSLCertificateKeyFile conf/ssl/default.key
```

In the above entries, replace the default security-related file names with the custom SSL file names.

- 3 Restart the vCenter Chargeback Manager service.

Solution

Starting with vCenter Chargeback 1.5, you can generate your own SSL certificate after installing the application. vCenter Chargeback uses this SSL certificate. You need not copy any files, if you generate an SSL certificate using the utility provided with the application. You can generate your own SSL certificates by using the **Generate SSL Certificate** option from the **Start > Programs > VMware > vCenter Chargeback Manager > vCenter Chargeback Manager Tools** menu.

Unable to View the vCenter Chargeback Manager Plug-In in the vSphere Client

vCenter Chargeback Manager can be registered as a plug-in with a vCenter Server when you add the vCenter Server to the application. You can then access vCenter Chargeback Manager from the vSphere Client when you log in to the vCenter Server.

Problem

Although vCenter Chargeback Manager is registered as a plug-in when adding the vCenter Server to vCenter Chargeback Manager, the plug-in does not appear in the vSphere Client when accessing the vCenter Server.

Cause

This issue might occur due to multiple reasons.

- vCenter Chargeback Manager is not registered as a plug-in with the vCenter Server.
- The vSphere Client is unable to communicate with vCenter Chargeback Manager.
- The SSL certificate for the vCenter Chargeback Manager was not accepted on the vSphere Client.
- The vSphere Client was open and connected to the vCenter Server when the application was registered with the vCenter Server instance.
- You logged in to the vCenter Server by specifying `localhost` as the IP address of the vCenter Server.

Solution

- 1 Check whether the application has been registered as a plug-in with the vCenter Server.

This information can be obtained from the vCenter Servers page of the **Settings** tab of the application. The **Plugin Registered** column in the table on this page should have the value `true` for this vCenter Server. If the value is `false`, edit this vCenter Server entry and select the **Register As vSphere Client Plugin** option.

- 2 Check whether the vCenter Chargeback Manager service is running. Try accessing the vCenter Chargeback Manager through a Web browser from the machine on which the vSphere Client is installed.
- 3 Check whether the vSphere Client machine and the vCenter Chargeback Manager machine are on the same network domain.

- 4 Check whether the SSL certificate for the vCenter Chargeback Manager is installed on the vSphere Client machine.

After you register vCenter Chargeback Manager as a plug-in with a vCenter Server, when you log in to the vCenter Server by using vSphere Client, a Security Warning message is displayed for the SSL certificate. You must either install the certificate or click **Ignore** on the message window. If you click **Cancel**, you must restart the vSphere Client and accept the certificate.

- 5 Specify the IP address or DNS name of the vCenter Server machine when logging in using vSphere Client.
If the vCenter Server and the vSphere Client are on the same machine, then when you log in to the vCenter Server through the vSphere Client, you must specify the actual IP address or DNS name of the machine and not use localhost.

vCenter Chargeback Manager Sends Packets to Unknown Network

vCenter Chargeback Manager sends packets with an unknown destination IP.

Problem

Packets with unknown destination IP are detected in the network. These packets might be originating from vCenter Chargeback Manager.

Solution

Check whether the IP address is same as the multicast address configured in the Apache Tomcat server (the vCenter Chargeback Manager load balancer). This address is configured in the `server.xml` file in `<Installation_Directory>\apache-tomcat\conf\`

If the address is same as the mutlicast address, you can configure the mutlicast address as per your network requirements. You must restart the load balancer after changing the multicast address. The multicast service must run for the load balancer to function correctly.

Index

B

- best practices
 - adding vCenter Server **8**
 - creating database users for data collectors **9**
 - installing vCenter Chargeback Manager **7**
 - upgrading vCenter Server **9**

M

- modify VMware Cloud Director setup
 - information **18**

T

- troubleshooting
 - about **11**
 - common issues **12**
 - running troubleshooting utility **11**
 - utility **11**
- troubleshooting issue **18**
- troubleshooting issues
 - add LDAP server **17**
 - add vCenter Server **18**
 - custom SSL certificate **23**
 - data collector failure **13**
 - data collector status **15**
 - database connection failure **19, 20**
 - deleting vCenter Server **23**
 - email report failure **21**
 - fetch primary LDAP group **22**
 - GUI display issue **16**
 - hierarchy changes **12**
 - install failure **13**
 - LDAP user login **22**
 - packets sent to unknown network **25**
 - report data display issue **14, 15**
 - service unavailable **15**
 - storage information missing **16**
 - storage synchronization job failure **16**
 - storing localized data in database **14**
 - timezone setting change **12**
 - unable to access application **17**
 - vCenter Chargeback Manager plug-in **24**
 - vCenter Server hierarchy changes **12**

U

- utilities, troubleshooting **11**

V

- vCenter Chargeback Manager, best practices **7**

