



Installing Collection Manager

This chapter describes how to install Collection Manager and the connected database. The chapter also explains how to run Collection Manager.



Note

For a typical installation and configuration, see the *Collection Manager Quick Start Guide*.

This chapter includes the following sections:

- [System Requirements, page 3-2](#)
- [How to Install Collection Manager, page 3-6](#)
- [Configuring the External MySQL Server, page 3-11](#)
- [Uninstalling the Collection Manager Software, page 3-11](#)
- [Upgrading Collection Manager to Version 5.1.0, page 3-13](#)

System Requirements

The Collection Manager has the following system requirements:

- [Supported Platforms](#), page 3-2
- [Checking System Prerequisites](#), page 3-2
- [Hardware Requirements](#), page 3-3
- [Red Hat Linux Requirements](#), page 3-4
- [CentOS Linux Requirements](#), page 3-4
- [Distribution Content](#), page 3-5
- [Default Configuration Settings](#), page 3-5

Supported Platforms

You can install Collection Manager on any of the following platforms:

- Intel machine running 64-bit versions of Red Hat Enterprise Linux 5.x, Red Hat Enterprise Linux 6.0, Red Hat Enterprise Linux 6.1, Red Hat Enterprise Linux 6.2, and Red Hat Enterprise Linux 6.3. (See the “[Red Hat Linux Requirements](#)” section on page 3-4.)
- Intel machine running 64-bit versions of CentOS 5.x, 6.x. (See the “[CentOS Linux Requirements](#)” section on page 3-4.)
- Intel machine (64-bit) running VMware Server or VMware ESX VMware-VMvisor-Installer-4.0.0-164009.x86_64.iso.
- Any Cisco Unified Computing System
- All the configurations use a 32-bit Java Virtual Machine (JVM).



Caution

Collection Manager must run on a dedicated server. The local database for Collection Manager is also located on that server. You cannot run the Cisco Subscriber Manager or other software applications on the same server that contains the database.

Checking System Prerequisites

The Collection Manager distribution contains a script, **check_prerequisites.sh**, located in the `install_scripts` directory. The script helps to determine if a system meets the requirements for installing a Collection Manager.

```
check_prerequisites.sh [ --cmhome=CMHOME ]
```

[Table 3-1](#) provides a list of the `check_prerequisites.sh` script options.

Table 3-1 *check_prerequisites.sh* Script Options

<code>--cmhome=CMHOME</code>	Intended home directory for Collection Manager installation
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The main prerequisites checked are:

- CPU speed
- Amount of RAM
- Operating System version (Red Hat Enterprise Linux 5 or 6, CentOS 5 or 6)
- Additional required and optional packages
- Free space for the Collection Manager
- Names for all network interface cards (NICs)
- Locale and time zone formats

Hardware Requirements

The minimum hardware requirements for Collection Manager are:

- 500-MHz CPU
- Minimum 2 GB RAM per CPU
- Hard disk:
 - One hard disk (18 GB minimum)
- 100BASE-T network interface



Note

The minimum hardware requirements apply only to small deployments. Medium or large deployments have higher hardware requirements. Your network design expert is the best source of information on the required hardware for a particular deployment.

Red Hat Linux Requirements

The following information applies to running the Collection Manager using Red Hat Linux.

- [Software and Environment, page 3-4](#)
- [Setting the Locale and Time Zone, page 3-4](#)

Software and Environment

Collection Manager Version 5.0.0 requires the following software when running on Red Hat Linux:

- Red Hat Linux 5.x:
 - glibc-2.5-12 or later
 - compat-libstdc++-33-3.2-61 or later
 - kernel-2.6.18-8.el5 or later
 - RHEL 5.x
 - Minimum patch level required—Update 5.8 and earlier.
- Red Hat Enterprise Linux 6.3

Installing Red Hat Linux

For Red Hat Linux installations, perform the following steps:

- Apply the latest recommended patches from Red Hat.
- Reserve at least 8 GB on the partition where you want to install Collection Manager. Collection Manager uses this disk space for CSV storage and persistent buffers.
- If you are using database periodic delete, enable the scmscm user to schedule and run cron jobs.
- If you use Red Hat Enterprise Linux 6.x, confirm that the desired database is compatible with Red Hat Enterprise Linux 6.x.

Setting the Locale and Time Zone

For correct Collection Manager and Sybase operation, use the locale U.S. English (en_US).

CentOS Linux Requirements

Install Collection Manager Version 5.0.0 on a 64 bit machine. Collection Manager requires one of the following software versions when running on CentOS:

- CentOS Linux 5.x:
 - kernel-2.6.18-8.el5
 - glibc-2.5-12
 - compat-libstdc++-33-3.2.3-61
- CentOS Linux 6.x:
 - kernel-2.6.32-71.el6.x86_64

- glibc-2.12-1.7.el6.x86_64
- glibc-2.12-1.7.el6.i686
- compat-libstdc++-33-3.2.3-69.el6.x86_64

**Note**

CentOS is supported only on Collection Manager software Release 3.6.5 and later.

Distribution Content

Collection Manager installation kit contains scripts for installing Collection Manager.

It also contains:

- Scripts to support file gathering

Default Configuration Settings

Configure the settings for Collection Manager during installation.

These settings include:

- Adapters to enable and their locations
- Priority Queue parameters
- Target adapters for each type of RDR (by RDR tag value)
- Various logging policies

**Note**

Permit only qualified personnel to change these settings.

**Note**

Contact the Cisco Account Team for sizing related details required to help you plan your deployment.

How to Install Collection Manager

This section describes how to install Collection Manager Version 3.1.0 or later:

- [Getting Collection Manager Software, page 3-6](#)
- [Collection Manager Software Ports, page 3-6](#)
- [Installing the Collection Manager Software, page 3-7](#)



Note

You can install the Collection Manager on Red Hat Linux or CentOS Linux.

Getting Collection Manager Software

To download Collection Manager software:

- Step 1** Go to the Cisco Product/Technology Support Download Software page for the Cisco Service Control Collection Manager at:
- <http://software.cisco.com/download/release.html?mdfid=279573187&flowid=7155&softwareid=282767641&release=5.0.0&reind=AVAILABLE&rellifecycle=&reltype=latest>



Note

Optionally, you can go to the same Cisco Service Control Collection Manager software download page from Cisco.com by navigating to **Cisco Product/Technology Support > Download Software > Service Exchange > Cisco Service Control > Cisco Service Control Management Suite > Cisco Service Control Collection Manager**.

- Step 2** Enter your Cisco CCO password when prompted.
- Step 3** Download the SCMS-CM Installation software package for your specific operating system.
- Step 4** Extract the package into a temporary directory.

For example:

```
# mkdir /usr/tmp/cm_install_temp
# cd /usr/tmp/cm_install_temp
# tar xvf ../cm_full_package.tar
```

Collection Manager Software Ports

[Table 3-2](#) describes the TCP/UDP ports on which Collection Manager software and associated components listen. This table helps a network administrator to understand the behavior of the software and its adherence to security policies.

Table 3-2 Ports on Which Collection Manager Listens Constantly

Port Number	Description
33000	The SCE devices use this port to send RDRs for data collection.
33001	Internal collection manager. Note Access is required only from the local machine; external access can be blocked.
9092	HTTP technician interface.
1099—1120	RMI. Used as the management interface between the data collector and the Service Control management server.
22000	FTP server of Collection Manager. Note FTP transactions can listen on other ports (22001 to 22100) for data transfer. The protocol negotiates the port number.
7787	Internal logging of the management user log. Note Access is required only from the local machine; external access can be blocked.
14375	The Cisco SCA BB console uses this port to send symbol definitions (values.ini) to Collection Manager.

The device listens constantly on the ports in the table. If you cannot enable access on these port numbers, certain operations can fail. Some operations (such as file transfer) cause a device to temporarily open ports other than the listed ports. However, these ports close automatically when the operation that opens additional ports ends.

Installing the Collection Manager Software

This section describes how to install Collection Manager.

Information About the `install-cm.sh` Script

To install Collection Manager server, use the `install-cm.sh` script.

`install-cm.sh` Options

The usage message for the `install-cm.sh` script is:

```
Usage: install-cm.sh [-h] (-d CMDIR | -o | -p)
```

```
Options: -d CMDIR    select directory for ~scmscm
              (must not exist and must be on 8 GB free partition)
        -o    upgrade the existing installation
              while preserving the current configuration
              (can't be used with -d)
        -h    print this help and exit
        -p    Checking pre-requisites before installing Collection Manager
```

Description of the options:

```
-d CMDIR
```

Used to designate the directory of the newly created scmscm user's home. Should be the name of a non-existing directory, whose parent resides on a partition where at least 8 GB is free. As an alternate to this option, you can specify -o :

-o

Use this option when you wish to upgrade the existing installation while preserving the current configuration. (can't be used with -d)

Actions install-cm.sh Performs

The **install-cm.sh** script performs the following actions:

- If needed, creates an scmscm user and a scmscm group.
- Optionally, creates the home for this user
- Populates the home of scmscm with Collection Manager files and scripts
- Installs the extra component private JRE in the `~scmscm/cm/lib` directory.
- Creates boot script symbolic links for the scmscm user in `/etc/init.d` and `/etc/rcX.d`



Note All Collection Manager scripts run in the Bash shell environment. No other shells are supported.

Step 1 Change the directory to install-scripts under the distribution kit root.

Step 2 Run the `install-cm.sh` script.

After running the script, a user-driven configuration manager presents options for the basic configuration of Collection Manager.

Step 3 Choose whether to enable the verbose mode. If enabled, verbose mode displays a detailed installation log on the console. The default value is **no**.

Do you want to enable verbose mode (for detailed installation) (yes/no) [no]:

Step 4 You can choose to set up the Collection Manager database at the time of installation or configure it at a later time. The default value is **yes**.

Would you like to configure the database? (yes/no) [yes]:

Step 5 If you choose to configure Collection Manager database:

- a. Select the number corresponding to the relational database management system of the connecting database:

Enter the DB type:

```
1 - Oracle
2 - MySQL
3 - Sybase
4 - Insight
5 - exit
```

Enter your choice: 1

- b. Enter the following server information or press **enter** to leave at the default shown.

```
Enter Oracle server host (current is localhost) :
Enter Oracle server listening port (current is 1521) :
Enter Oracle server instance id (current is apricot) :
Enter CM schema user name (current is pqb_admin) :
Enter CM schema user password (current is pqb_admin) :
```



```

Testing the DB connection...
PASS:db is up
DB connection succeeded.
Updating the time zone...
Note: restart the CM for the change to take place.

```

```
Done installation.
```

NOTE: The user name created for SCMS-CM is scmscm. You may want to set a password for this account now.

Step 6 Restart Collection Manager for the database configuration to take effect.

Step 7 To start Collection Manager, choose *yes*:

```
Would you like to start CM now? (yes/no)[yes]:
```

The most basic installation of Collection Manager software is done.

Step 8 (Optional) Set a password.

Run the following command to set the password for the scmscm user:

```
passwd scmscm
```



Note Be sure to record the password that you choose.

Step 9 (Optional) Increase the amount of memory allocated to the TA adapter.

An application that uses the TA adapter may require an increase in the amount of allocated memory. The need to increase memory depends on the number of subscribers Collection Manager manages. To increase the memory allocation:

- a. Open the file `~scmscm/cm/config/cm.conf`.
- b. Locate the setting containing **TAAdapter** in the `[adapter_mem]` section.
- c. Change the default value (512 MB) to a larger value.
For example, to allocate 1024 MB of memory, set the value to **-Xmx1024M**.
- d. Save and close the file.



Note For information about calculating the TA Adapter memory, see the [“TA Adapter Memory Requirements” section on page 2-9](#).

Step 10 (Optional) Increase the amount of memory allocated to the RAG adapter.

An application that uses the RAG adapter can require an increase in the amount of allocated memory. The need to increase memory depends on the number of subscribers Collection Manager manages and on the RAG Adapter configuration. To change the setting:

- a. Open the file `~scmscm/cm/config/cm.conf`.
- b. Locate the setting containing **RAGAdapter** in the `[adapter_mem]` section.
- c. Change the default value (512 MB) to a larger value.
For example, to allocate 1024 MB of memory, set the value to **-Xmx1024M**.
- d. Save and close the file.

**Note**

To use an external database, configure a *dbpack* to connect Collection Manager to the database. See [Chapter 5, “Managing Databases and the Comma-Separated Value Repository”](#) for instructions.

**Note**

The **app_conf_dir** values of the JDBC (*jdbcadapter.conf*) and TA (*taadapter.conf*) adapter configuration files point to the most recent directory of the desired applications by default.

**Note**

On Red Hat Enterprise Linux, make sure that *scmscm* user has read permission to generate the Cisco Service Control Collection Manager support files along with the */var/log/messages** files.

- Step 11** (Optional) Increase the amount of memory allocated to the Custom adapter. The default value is 512 MB. Applications that use Custom adapter may require more memory allocated, depending on the number of subscribers the Cisco Service Control Collection Manager manages and on the Custom Adapter configuration.

To change the allocated memory:

- a. Open the file `~scmscm/cm/config/cm.conf`.
- b. Locate the setting containing CustomAdapter in the [adapter_mem] section.
- c. Change the default value to a higher value. For example, to allocate 1024 MB of memory, set the value to `-Xmx1024M`.
- d. Save and close the file.

- Step 12** (Optional) Install and activate the periodic delete procedures for the database tables. (For information about configuring the behavior of periodic delete, see the [“Managing the Periodic Deletion of Old Records”](#) section on page 5-3.)

**Note**

If reports are sent to the database, and you do not install and activate the periodic delete procedures, the disk might overflow.

- a. Install the periodic delete procedures.
Log in as the *scmscm* user, start Collection Manager. Wait 1 - 2 minutes for the creation of the database tables. Run the script:

```
~scmscm/db_maint/create_periodic_del_procs.sh
```

- b. Activate the automatic invocation of the periodic delete procedures by running the following command:

```
~scmscm/scripts/dbperiodic.sh --load
```

- Step 13** Start Collection Manager by running the `~scmscm/cm/bin/cm start`.

The script performs the following actions:

- Starts all the adapters enabled in Collection Manager.
- Populates the `IMEI_DEVICETYPE` table with default values. This occurs when the table is not created and no records exist in the table.

- Populates the OSFP_TYPES table with default values upon starting or restarting Collection Manager if the OSFP detection is enabled.
 - Populates the DEVICE_TYPES table with default values upon starting or restarting Collection Manager if the device counting or device based tethering detection is enabled.
 - Populates the OS_TYPES table with default values upon starting or restarting Collection Manager and if OS based tethering detection is enabled.
 - Populates the VIDEO_MONITOR_TYPES table with default values upon starting or restarting Collection Manager if the video monitoring is enabled.
-

Configuring the External MySQL Server

You can configure Collection Manager to operate with an external server operating the MySQL Server 4.1 software and later. To do this, log in to the MySQL Server and manually create a schema and a user with necessary privileges before configuring Collection Manager.

Log in to the server using root privileges and execute the following MySQL commands to create pqb_admin with root privileges:

```
create database apricot;
```

```
create user 'pqb_admin' identified by 'pqb_admin';
```

```
grant all privileges on *.* to 'pqb_admin'@'localhost' identified by 'pqb_admin' with grant option;
```

```
grant all privileges on *.* to 'pqb_admin'@'<CM_server_IP>' identified by 'pqb_admin' with grant option;
```

```
grant all privileges on *.* to 'pqb_admin'@'%' identified by 'pqb_admin' with grant option;
```

This set of privileges will grant root privilege to the pqb_admin user. Redefine user privileges to restrict user access.

Uninstalling the Collection Manager Software

The following section describes how to uninstall the Collection Manager:

- [Uninstalling Collection Manager Software, page 3-11](#)

Uninstalling Collection Manager Software

To uninstall Collection Manager software, perform the following steps:

- Step 1** Log in as the root user.
- Step 2** Uninstall Collection Manager software.

Change the directory to install-scripts under the distribution kit root directory, and enter:

```
./uninstall.sh --cm
```

Upgrading Collection Manager to Version 5.1.0

You can upgrade to Cisco Service Control Collection Manager Release 5.1.0 from Cisco Service Control Collection Manager Release 4.1.0, 4.2.0 and 5.0.0. To upgrade to Release 5.1.0 from a version earlier than 4.1.x, please follow the compatibility matrix section of [Cisco Service Control Application for Broadband Download Guide, Release 5.1.x](#).

To upgrade the database with 5.1.0 compatibility, perform the following steps:

Step 1 Download the Collection Manager software, as described in the [Getting Collection Manager Software, page 3-6](#).

Step 2 Change directory to install-scripts under the distribution kit root.

Step 3 Log in as the scmscm user, stop the Collection Manager server:

```
$ ~scmscm/cm/bin/cm stop
```

Step 4 Log in as **root** user, run the **install-cm.sh** script:

```
# ./install-cm.sh -o
```

After running the script, a user-driven configuration manager presents options to configure the Cisco Service Control Collection Manager.

Step 5 Choose whether to enable the verbose mode. If enabled, verbose mode displays a detailed installation log on the console. The default value is *no*.

```
Do you want to enable verbose mode (for detailed installation) (yes/no)[no]: no
```

Step 6 Choose whether you want to upgrade the Cisco Service Control Collection Manager tables to the latest schema. The default value is *yes*.

```
Do you want to upgrade the CM Tables to latest Schema? (It will take time if the table have huge data) (yes/no) [yes]: yes
```



Note

You must upgrade the tables to the latest schema before starting the Collection Manager process. If the **no** option is selected, you must run the '~scmscm/scripts/ upgradeRDRTables.sh --upgrade' script as a scmscm user manually. After the upgrade, when the Collection Manager comes up for the first time, the database tables that are new in Version 5.1.0 are created automatically. Existing tables are updated with the data type changes and new columns.

Step 7 (Optional) Choose whether to start the Cisco Service Control Collection Manager. The default value is *yes*. If you do not want to start the Cisco Service Control Collection Manager, choose *no*.

```
Would you like to start CM now? (yes/no) [yes]: yes
```



Note

If you enter *no*, manually start the Cisco Service Control Collection Manager using the ~scmscm/cm/bin/cm start command.



Note

Effective from 4.2.0, scmscm/cm/config/apps/scabb/latest/dbtables.xml file will be upgraded.
