

Enterprise Manager™: Managing Configuration Files

Version 3.1



IT agility. Your way.

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Acknowledgments

Chapter 1

Configuration data storage

Topics:

- [About storing configuration data](#)
-

About storing configuration data

The configuration details of managed devices (including Enterprise Manager™ itself) are contained in a compressed *user configuration set (UCS)* file with the extension of `.ucs`. This file contains all of the information required to restore a device's configuration, and consists of these elements:

- System-specific configuration files
- License
- User account and password information
- DNS zone files
- NameSurfer configuration
- SSL certificates and keys

Enterprise Manager saves UCS files to a *UCS archive*. You can create a task to save UCS archives for devices at regularly scheduled intervals. Archives that are created and saved on a schedule are called, *rotating archives*. When the system creates rotating archives, it compares the most recently stored UCS archive file to the current configuration on the device at the specified interval. If there are any differences, Enterprise Manager stores a copy of the current configuration in a UCS archive. If there are no differences, Enterprise Manager does not store an additional copy of the current configuration, which leaves you room to store a higher number of unique historical UCS archives. When Enterprise Manager reaches the maximum number of archives specified to store, it deletes the oldest archive in the rotating archive list. By default, Enterprise Manager stores up to 10 rotating archives each, for itself and every managed device.

Another option for archive storage is to create an archive of a specific UCS for a device, referred to as a *pinning* an archive. Enterprise Manager also creates a pinned archive of a device's current configuration before it installs new software. Pinned archives are stored until you delete them.

About configuration data for device management

In addition to storing UCS archives of the configuration for each managed device and itself, Enterprise Manager™ also stores configuration data required specifically for managing devices. This archive is called an *advanced UCS archive* and includes:

- Device properties information
- Device certificates
- Custom alerts
- Certificate lists
- Historical information, such as the task list and alert history list
- Rotating archive schedules

Creating an advanced UCS archive for device management files

Enterprise Manager™ stores all of the information required to manage devices in your network and you have the option of creating a UCS archive of this information. Creating a UCS archive for this information ensures that you have a complete backup file for the Enterprise Manager in the event that a system restore is required.



Important: *Creating a UCS archive of may involve a large amount of data. Before proceeding, verify first that you have adequate disk space available on the Enterprise Manager system and that*

there are no tasks currently running. The following script may take several minutes to complete, depending on the number of UCS archives and amount of imported data that is stored on the Enterprise Manager system.

1. At the command line of the Enterprise Manager for which you want to create a backup UCS archive, log in as `root`.
2. Type the following command, where `<archive_name>` is the path and file name for the archive:
`em-backup <archive_name>.ucs.`
 The script begins archiving all of the configuration and imported data for each managed device in its network.
3. When the process completes, move the `<archive_name>.ucs` file to a remote system for safe storage.

Creating a rotating UCS archive schedule

A device must be listed on the Device List screen before you can create a rotating archive schedule for it.

It is best practice to create a rotating archive schedule for each device in your network so that you always have a copy of a recent configuration. The UCS archive provides your network with added stability in the event that a configuration change results in a need for a system restore. You can create a customized schedule for a specific device, or create several schedules and assign any number of devices to each schedule.

1. On the Main tab, click **Enterprise Management > Tasks > Schedules > Archive Collection**.
 The Archive Collection screen opens.
2. Click the **Create** button.
 The New Scheduled Task screen opens.
3. In the **Archive File Name** field, type a name for the rotating archive schedule.
4. From the **Check for Changes** list, select the frequency that you want Enterprise Manager to check for configuration changes.
 Depending on your selection, the screen refreshes to display associated options.
5. Click **Finished** to save the settings.

The Archive Collection list screen opens and the new rotating archive schedule appears in the list. If a device in the **Assigned** list changes its configuration during the interval you specified, Enterprise Manager creates an archive of the device's configuration and adds it to the rotating archives on the Archives Collection screen.

Modifying a rotating UCS archive schedule

1. On the Main tab, click **Enterprise Manager > Tasks > Schedules**.
 The Archive Collection screen opens.
2. Click the name of the archive schedule that you want to modify.
 The Properties screen opens.
3. From the **Check for Changes** list, select the frequency that you want Enterprise Manager to check for configuration changes.
 Depending on your selection, the screen refreshes to display associated options.

Creating a pinned archive

Pinning an archive captures a particular configuration for a specific device and is useful for system restoration, or to compare configurations for the purpose of troubleshooting. Pinned archives are saved in the Enterprise Manager database until you remove them. You can use a pinned archive to revert a configuration change for a device.

1. On the Main tab, click **Enterprise Management > Devices > Device List**.
The Device List screen opens.
2. Click the name of the device for which you want to create a new pinned archive.
The Device Properties screen opens.
3. On the menu bar, click **Archives**.
The Archives screen opens for the selected device.
4. Select the check box for one or more archives that you want to pin.
5. Click the **Pin Archive** button.
6. In the **File Name** field, type a name for the pinned archive you are creating.
7. In the **Description** field, type any note that you want to appear next to the pinned archive in the Pinned Archives list.
8. From the **Private Keys** list, select an option to include or exclude private SSL keys when storing this archive.

If you choose not to store the private keys on Enterprise Manager when a configuration archive is created, you must manually restore the keys in the event that you have to restore the archive.
9. Click **Create**.
Enterprise Manager creates a pinned archive of the selected device and displays it on the Device Properties Archive screen. The pinned archive is retained until you delete it.

Pinning an existing UCS archive

You can pin any archive contained in a device's archive list.

1. On the Main tab, click **Enterprise Management > Devices > Device List**.
The Device List screen opens.
2. Click the name of the device for which you want to create a pinned archive.
The Device Properties screen opens.
3. On the menu bar, click **Archives**.
The Device Archives screen opens.
4. Select the check box next to the archive you want to pin.
5. Click the **Pin Archive** button.
Enterprise Manager pins the selected archive and retains it until you delete it.

Changing the maximum number of rotating or pinned archives

By default, Enterprise Manager™ saves 10 rotating archives and 10 pinned archives per device. You have the option to increase or decrease the number of archives stored by default. If you decrease the number saved, you free disk space on the Enterprise Manager device. If you increase the number, you have less disk space for storing other data.

1. On the Main tab, click **Enterprise Management > Options > Archives**.
The Archive Option screen opens.
2. In the **Maximum Rotating Archives** or **Maximum Pinned Archives** type a new value.
3. Click **Save Changes**.

If you reduced the maximum number of rotating archives and the current number of stored archives exceeds the new value, the system deletes the oldest archives until the number of stored matches the new limit. If you set a lower pinned archive limit, the system does not delete currently pinned archives to match the new maximum; you must delete pinned archives manually.

Configuration data storage

Chapter 2

Restoring configuration data

Topics:

- [About restoring configuration data](#)
-

About restoring configuration data

You can use a saved archive to restore a managed device in your network in the event that a system failure occurs, or if you want to roll back to a previous configuration. Centrally restoring configurations for devices saves you time because you are not required to log on to each individual device. If you have stored a UCS archive for Enterprise Manager itself, you use this same process to restore that configuration.

Restoring a UCS archive of a configuration

You must have a stored UCS archive to restore a configuration for a managed device (including Enterprise Manager™ itself).

Restoring an archive to a managed device overwrites that device's current configuration.

1. On the Main tab, click **Enterprise Management > Devices > Device List**.
The Device List screen opens.
2. Click the name of the device for which you want to restore a configuration.
3. On the menu bar, click **Archives**.
The Device Archives screen opens.
4. Click the name of the archive that you want to restore.
5. Click **Restore** to restore the configuration archive to the selected device.

The UCS archive is device-specific. You can restore a configuration only to the device from which it was saved.

The selected configuration overwrites the device's previous configuration.

Restoring an advanced UCS archive for device management files

If you created a backup for the Enterprise Manager™ that includes all of the information required to manage your devices, you can restore that configuration.

Restoring a UCS configuration archive enables you to continue managing devices in your network after a system failure.

1. At the command line of the Enterprise Manager you want to restore, log in as `root`.
2. Copy the Enterprise Manager UCS archive, that you previously created with the `em-backup` script, to the Enterprise Manager system that you want to restore.
3. Type the following command, where `<archive_name>` is the path and file name for the archive:
`em-restore <archive_name>.ucs`
The script begins the process of restoring all of the configuration and imported data for each managed device in its network.
4. When the process completes, delete the `<archive_name>.ucs` file from Enterprise Manager, and reboot the system.

Chapter 3

Searching and comparing configurations

Topics:

- *About searching and comparing configuration data*

About searching and comparing configuration data

When you use Enterprise Manager™ to save UCS archive configurations, you can easily compare configurations between devices and view the differences between them. You can also search devices for specific configuration elements.

Searching UCS archives for specific configuration elements

You can search all configuration files to find particular objects or settings for any managed device in your network.



Tip: When you search for a specific configuration file element, you filter the results after all matching objects are found. If you have a large number of managed devices, the search time may be lengthy. To reduce the search time, you can limit the search to a specific device or set of configuration files by typing a character string in the **Matching Objects** field above the **Matching Objects** list before you type a word in the **Keyword** field. Then, when you click the **Search** button, the system looks at only the configuration files listed in the **Matching Objects** list.

1. In the navigation pane, click **Enterprise Management Configurations**.
The Search Configuration screen opens.
2. In the **Keyword** field, type an alphanumeric string of characters for the term you want to search for in each configuration file.
3. Click **Search**.
The Matching Objects display the configuration files that contain the string you typed.
4. In the **Matching Objects** field, type a term on which to filter the results and click the **Filter** button.
5. Click the name of the configuration file displayed in the **Matching Objects** list to view its contents.
6. To clear the configuration file list, click **Reset**.

Comparing device configurations

Comparing UCS archives help you locate differences between configurations can help you troubleshoot issues, or help you identify required changes.



Tip: In addition to comparing two stored configurations, you can also compare the current configuration for a device to an archived UCS configuration for that device, or to a current or stored configuration for another device. Although you can compare current configurations for devices, it is a best practice to create a UCS rotating archive schedule for each managed device in your network.

1. On the Main tab, click **Enterprise Management > Tasks**.
The Task List screen opens.
2. For the **Configuration Archives** setting, select **Compare Archive**.
3. Click the **Next** button.
4. From the **Device List**, you can select a group of devices to narrow the number of devices displayed.
5. From the **Device** list, select the device that contains the configuration that you want to compare.

The Configuration Archives table refreshes to display configurations associated with the device that you selected.

6. In the Configuration Archives table, select the configuration name that you want to compare to another configuration.
7. Click **Next**.
8. From the **Device** list, you can select another device as a source or you can leave the source the same to compare another stored UCS archive to the previously selected UCS archive.
9. In the Configuration Archives table, select the configuration that you want to compare to the previously selected configuration.
10. Click **Next**.
11. Review the task and make any necessary changes.
12. Click **Start Task**.

If **File Not Found** displays in the **Comparison** column, it indicates that the system did not detect the file at the specified location, or the file does not exist. Check the path and file name if you did not expect this result.

The Task List Properties screen opens. When the **Progress** setting displays as finished, the screen refreshes to display details in the Task Summary table.

13. To view additional settings, select **Advanced** from the **Task Properties** list.
14. To filter the Task Summary table, select an option from the **Summary Filter** list.
The Task Summary table refreshes and displays the results based on the filter that you selected.

Modifying configuration comparison settings

When you perform an archive comparison task, Enterprise Manager™ compares certain configuration files by default. You can use this procedure to modify the list of files, or add additional files to compare.

1. On the Main tab, click **Enterprise Management > Options > Archives**.
The Archive Options screen opens.
2. To add a file, in the **File Name** field, type the name of the additional configuration file that you want Enterprise Manager to compare during an archive comparison task.
3. Click the **Add** button.
4. To remove a file, for the **Files to Compare** setting, click the name of the file and click the **Remove** button.
5. When you have finished making modifications, click the **Save Changes** button.

Enterprise Manager compares the archive files you selected to compare, during the archive comparison task.

Searching and comparing configurations

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