



CHAPTER 14

Using ACE Appliance Device Manager Troubleshooting Tools

Use the following diagnostic tools to help troubleshoot ACE Appliance Device Manager problems:

- [Generating a Diagnostic Package, page 14-1](#)
- [Manipulating ACE Appliance Files, page 14-6](#)
- [Checking the ACE Appliance DM GUI Status, page 14-11](#)



Note

When you use the ACE CLI to configure named objects (such as a real server, virtual server, parameter map, class map, health probe, and so on), consider that the Device Manager (DM) supports object names with an alphanumeric string of 1 to 64 characters, which can include the following special characters: underscore (_), hyphen (-), dot (.), and asterisk (*). Spaces are not allowed.

If you use the ACE CLI to configure a named object with special characters that the DM does not support, you may not be able to configure the ACE using DM.

Generating a Diagnostic Package

Diagnosing network or system-related problems that happen in real time can consume a considerable amount of time and lead to frustration even for a system expert. When a critical problem occurs within the ACE Appliance Device Manager system, you can use the troubleshooting and diagnostics tools provided by the Lifeline feature to report ACE Appliance Device Manager data to the Cisco support line and generate a diagnostic package. Support engineers and developers can subsequently reconstruct your system and debug the problem using the information captured in the Lifeline package.



Note

To troubleshoot problems related to the ACE appliance, use the **debug** and **show** commands supported in the command line interface (CLI). For a list of the ACE appliance **show** commands, see the *Cisco 4700 Series Application Control Engine Appliance Command Reference*. For more detailed descriptions of hardware and software show commands, see the *Cisco 4700 Series Application Control Engine Appliance Administration Guide*.

Lifeline takes a snapshot of the running system configuration, status, buffers, logs, thread dumps, messages, and so on. It gathers a period of historical network and system events that have been recorded directly preceding the event. If required, Lifeline can back up and package the ACE Appliance Device Manager database or a file subdirectory or trace and package a period of traffic flow packets for a specified virtual context.

**Tip**

Do not attempt to use Lifeline without first discussing it with Cisco support.

The following sections describe how to use the Lifeline feature:

- [Guidelines for Using Lifeline, page 14-2](#)
- [Creating a Lifeline Package from the ACE Appliance DM GUI, page 14-3](#)
- [Downloading a Lifeline Package, page 14-3](#)
- [Deleting a Lifeline Package, page 14-4](#)
- [Creating a Lifeline Package from the ACE Appliance CLI, page 14-5](#)

Guidelines for Using Lifeline

Depending upon the ACE Appliance Device Manager problem you are troubleshooting, Lifelines can be created when unwanted events occur. Under such circumstances, available resources could be extremely low (CPU and memory could be nearly drained). You should be aware of the following:

- Create a Lifeline package after you encounter a problem that might require customer support assistance. The package is meant to be viewed by customer support.
- Lifeline collects debug data from diagnostic generators based on priority – most important to least important. When the total data size reaches 200MB, the collector stops collecting, and data from generators with lower priorities can be lost. For details on content, size, time, state, and any dropped data, see the Readme file included in each Lifeline package.
- Lifeline collects the last 25 MB of data from the file and truncates the beginning content.
- Lifelines are automatically packaged by the system in zip files. The naming convention for a lifeline package is “lifeline-yyMMdd-hhmmss.zip”. For example, lifeline-060622-152140.zip is a Lifeline package created at 3:21:40 PM, June 22, 2006.
- Only one Lifeline package is created at a time. The system will reject a second request made before the first Lifeline has been packaged.
- Lifeline times out in 60 minutes.
- A maximum of 5 Lifeline packages are stored at a time. Files are stored on the RAM disk. You can safely delete these packages after downloaded them to store in another location. If you do not delete them, the Lifeline manager performs the cleanup, automatically removing the oldest package first.
- The disk monitor notes when your disk space reaches 80%. Ensure you delete or download your packages so that additional packages can be created.

Creating a Lifeline Package from the ACE Appliance DM GUI

Assumptions

- The ACE appliance is running.
- You have reviewed the guidelines for managing lifelines (see [Guidelines for Using Lifeline, page 14-2](#)).
- You have opened a case with Cisco technical support.

Procedure



Note Your user role determines whether you can use this option.

- Step 1** Select **Admin > Tools > Lifeline Management**.
- Step 2** Enter a description for the package (required). This can include information about why the package is being created, who requested the package, and so forth.
- Step 3** To create a package, click **Save**. A zip file is created in the following format: lifeline-yyMMdd-hhmmss.zip, and displays in the Lifelines pane. The package size, name, and generation date display in the Edit Lifeline window.



Note Do not perform any ACE appliance maintenance until the package is created.

After the package is created, you can:

- Click **Download** to save the package to a directory on your computer—See [Downloading a Lifeline Package, page 14-3](#).
- Click **Add** to return to the add mode from the Edit mode.
- Click **Delete** to delete the package—See [Deleting a Lifeline Package, page 14-4](#).

Related Topics

- [Generating a Diagnostic Package, page 14-1](#)
- [Downloading a Lifeline Package, page 14-3](#)
- [Deleting a Lifeline Package, page 14-4](#)

Downloading a Lifeline Package

Use this procedure to download a package for saving to your local drive.

Assumption

You have created a package (see [Creating a Lifeline Package from the ACE Appliance DM GUI, page 14-3](#)).

Procedure**Note**

Your user role determines whether you can use this option.

Step 1 Select **Admin > Tools > Lifeline Management**.

Step 2 Select the package from the list.

Step 3 Click **Download**.

The File Download window displays.

Step 4 Click **Save**.

The package is sent to your Web browser, where you can save the package.

Related Topics

- [Generating a Diagnostic Package, page 14-1](#)
- [Creating a Lifeline Package from the ACE Appliance DM GUI, page 14-3](#)
- [Deleting a Lifeline Package, page 14-4](#)

Deleting a Lifeline Package

Use this procedure to delete a package. You should delete packages you no longer need to free disk space for additional files.

Procedure**Note**

Your user role determines whether you can use this option.

Step 1 Select **Admin > Tools > Lifeline Management**.

Step 2 Select the package from the list, then click **Delete**.

A message requests you confirm the deletion.

Step 3 Click **OK** to delete the package.

Related Topics

- [Generating a Diagnostic Package, page 14-1](#)
- [Creating a Lifeline Package from the ACE Appliance DM GUI, page 14-3](#)
- [Downloading a Lifeline Package, page 14-3](#)

Creating a Lifeline Package from the ACE Appliance CLI

If you encounter issues with the ACE appliance Device Manager GUI (for example, when the Device Manager GUI is inoperative), use the **dm lifeline** CLI command from Exec mode to create and upload a lifeline to a remote TFTP server. The **dm lifeline** CLI command is useful when a lifeline cannot be generated from the ACE appliance Device Manager GUI.

**Note**

See the [“Checking the ACE Appliance DM GUI Status” procedure on page 14-11](#) for information on using the `dm status` CLI command to verify the health of the ACE appliance Device Manager.

Assumptions

- The ACE appliance is running.
- You have opened a case with Cisco technical support.
- You are the global administrator; the **dm lifeline** CLI command is only available to the global administrator.
- The TFTP server is reachable and is able to receive files from the ACE appliance.

Procedure**Note**

Your user role determines whether you can use this option.

Step 1 Log into the ACE by entering the login username and password at the following prompt:

```
switch login: admin  
Password: xxxxxx
```

Step 2 Enter the **dm lifeline tftp** CLI command using the following syntax:

```
dm lifeline tftp <host> [port]
```

The keywords, arguments, and options are:

- **host**—Specifies the TFTP network server.
- *port*—(Optional) Port number.

A file is created and uploaded to the specified TFTP server in the following format: `anm-lifeline.tar.gz`. The file is copied to the root directory of the TFTP server.

Manipulating ACE Appliance Files

File Browser provides access to the ACE appliance to download or upload multiple files for viewing or tracking. This tool can be also be used to rename files or view logs or other files that help you manage your network or locate problems on the ACE appliance. You can also use this feature to copy an existing context package capture buffer to a remote server.

- [About File Browser, page 14-6](#)
- [Downloading Files, page 14-7](#)
- [Uploading Files, page 14-7](#)
- [Renaming Files, page 14-8](#)
- [Deleting Files, page 14-9](#)
- [Viewing Files, page 14-9](#)

**Note**

To manage license files, use the Licenses screen in the Config tab (**Config > Virtual Contexts > System > Licenses**). To manage Lifeline packages, use the Lifeline screen in the Admin tab (**Admin > Tools > Lifeline Management**).

About File Browser

When using File Browser, keep the following in mind:

- All predefined admin roles, the Server-Appln-Maintenance role, and any customized user roles that include Copy Configuration and permissions greater than monitor have access to the File Browser.
- The object selector contains names of virtual directories that map to real directories on the ACE appliance. Although these names are consistent with the CLI **dir** command, the actual directory names on disk are different.
- Select the folder to display its contents. Select the directory name to reload the specific directory.
- There is a size limit imposed on files that are viewed. in File Browser. ACE Appliance Device Manager displays only the first 100 KB and truncates the remaining file.

Related Topics

- [Downloading Files, page 14-7](#)
- [Uploading Files, page 14-7](#)
- [Renaming Files, page 14-8](#)
- [Deleting Files, page 14-9](#)
- [Viewing Files, page 14-9](#)

Downloading Files

Use this feature to download multiple files from the ACE appliance for viewing or tracking. For example, you may want to download logs and view them.



Note Your user role determines whether you can use this option.

Procedure

- Step 1** Select **Admin > Tools > File Browser**.
- Step 2** Use the drop-down list to select a directory and locate the files you want to download. Traverse the folder structure until you locate the files.
- Step 3** Select the file names in the content pane, then click **Download**.
The File Download window displays.
- Step 4** Save the file to your computer.
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Related Topics

- [Uploading Files, page 14-7](#)
- [Viewing Files, page 14-9](#)
- [Renaming Files, page 14-8](#)
- [Deleting Files, page 14-9](#)
- [About File Browser, page 14-6](#)

Uploading Files

Use this feature to upload files from your PC to the ACE appliance for viewing or tracking.



Note Your user role determines whether you can use this option.

Procedure

- Step 1** Select **Admin > Tools > File Browser**.
- Step 2** Use the drop-down list to select a directory. Traverse the folder structure until you locate the folder in where you want to upload the file.
- Step 3** Click **Upload**.
- Step 4** Click **Browse** to select the file names to upload from your PC, then click **OK**.
The files are uploaded to your ACE appliance.
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Related Topics

- [Downloading Files, page 14-7](#)
- [Viewing Files, page 14-9](#)
- [Renaming Files, page 14-8](#)
- [Deleting Files, page 14-9](#)
- [About File Browser, page 14-6](#)

Renaming Files

Use this feature to rename files on the ACE appliance.

**Note**

Your user role determines whether you can use this option.

Procedure

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- Step 1** Select **Admin > Tools > File Browser**.
- Step 2** Use the drop-down list to select a directory and locate the files you want to rename. Traverse the folder structure until you locate the file.
- Step 3** Select a file you want to rename. You can only rename one file at a time.
- Step 4** Click **Rename**.
- Step 5** Enter the new name of the file and click **OK**.
- The file is renamed on your ACE appliance.
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Related Topics

- [Uploading Files, page 14-7](#)
- [Downloading Files, page 14-7](#)
- [Viewing Files, page 14-9](#)
- [Deleting Files, page 14-9](#)
- [About File Browser, page 14-6](#)

Deleting Files

Use this feature to delete files from the ACE appliance.



Note Your user role determines whether you can use this option.

Procedure

- Step 1** Select **Admin > Tools > File Browser**.
- Step 2** Use the drop-down list to select a directory and locate the files you want to delete. Traverse the folder structure until you locate the files.
- Step 3** Select the file names in the content pane, then click **Delete**.
A window appears requesting confirmation for the deletion.
- Step 4** Click **OK** to delete the named files.
The files are removed from your ACE appliance.
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Related Topics

- [Uploading Files, page 14-7](#)
- [Downloading Files, page 14-7](#)
- [Viewing Files, page 14-9](#)
- [Renaming Files, page 14-8](#)
- [About File Browser, page 14-6](#)

Viewing Files

Use this feature to view files from the ACE appliance. You may want to view logs or other files that help you manage your network. Files larger than 100K are truncated when viewing.



Note Your user role determines whether you can use this option.

Procedure

- Step 1** Select **Admin > Tools > File Browser**.
- Step 2** Use the drop-down list to select a directory and locate the files you want to view. Traverse the folder structure until you locate the files.
- Step 3** Select the file names in the content pane, then click **View**.
A new window appears below the existing browser.
- Step 4** To remove the viewed files from the screen and return to the file browser content pane, click **UnView**.
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Related Topics

- [Uploading Files, page 14-7](#)
- [Downloading Files, page 14-7](#)
- [Renaming Files, page 14-8](#)
- [Deleting Files, page 14-9](#)
- [About File Browser, page 14-6](#)

Checking the ACE Appliance DM GUI Status

If you find that the ACE appliance Device Manager GUI appears to be inoperative, enter the **dm status** CLI command in Exec mode to verify the health of the Device Manager. The **dm status** command output indicates the status of the Device Manager: whether it is running or stopped. This status is reflected in the DM and MySQL fields of the status output.

**Note**

You must be the global administrator to access the **dm status** CLI command. This command is only available to the global administrator.

For example, enter:

```
switch/Admin# dm status
DM ROOT:
DM HOME: /opt/CSCOanm
JAVA_HOME: /opt/CSCOanm/jre
MYSQL_HOME: /opt/CSCOanm/mysql
java is /opt/CSCOanm/jre/bin/java
```

```
DM : STOPPED (1230)
MySQL : STOPPED (1187)
```

If you see that the status is “STOPPED,” restart the Device Manager using the **dm reload** command. You must be the global administrator to access the **dm reload** command. Restarting the Device Manager does not impact ACE functionality; however, it may take a few minutes for the Device Manager to reinitialize as it reads the ACE CLI configuration.

Reenter the **dm status** CLI command in Exec mode to verify that the status of the Device Manger is “RUNNING.”

For example, enter:

```
switch/Admin# dm status
DM ROOT:
DM HOME: /opt/CSCOanm
JAVA_HOME: /opt/CSCOanm/jre
MYSQL_HOME: /opt/CSCOanm/mysql
java is /opt/CSCOanm/jre/bin/java
```

```
DM : RUNNING (1230)
MySQL : RUNNING (1187)
```

