



CHAPTER 5

Troubleshooting Problems with Application Networking Manager Installation

This chapter describes how to troubleshoot problems with Cisco Application Networking Manager (ANM) and includes the following sections:

- [Difficulties with Product Installation, page 5-1](#)
- [Login Problems After Installation, page 5-2](#)
- [Starting Cisco Application Networking Manager, page 5-5](#)
- [Stopping Cisco Application Networking Manager, page 5-7](#)
- [Checking Why ANM Does Not Start, page 5-7](#)
- [Changing the Web Idle Session Timeout, page 5-8](#)
- [Reconfiguring After HA Installation, page 5-8](#)
- [Backing Up and Restoring Data in Standalone Mode, page 5-9](#)
- [Backing Up and Restoring Data in HA Mode, page 5-11](#)

Difficulties with Product Installation

Installation difficulties can result from ANM back-end installation interactions with preexisting Linux Red Hat Package Manager components (RPMs). RPM libtool is a well-known example as shown in the following error message:

```
Installing libcurl17112-7.11.2-8.cf.rhel4.i386.rpm, heartbeat-2.0.2-1.i386.rpm,  
libtool-libs-1.5.6-4.EL4.1.i386.rpm, heartbeat-pils-2.0.2-1.i386.rpm,  
net-snmp-libs-5.1.2-11.EL4.6.i386.rpm, heartbeat-stonith-2.0.2-1.i386.rpm
```

```
error: Failed dependencies:
```

```
libtool-libs = 1.5.6-4.EL4.1.c4.4 is needed by (installed)  
libtool-1.5.6-4.EL4.1.c4.4.i386
```

```
Error: rpm install failed (1536)
```

```
Done
```

Finished

To work around this problem, enter the `rpm -e RPM1 RPM2` command where *RPM1*, *2*, and so on to denote the name of each RPM that you want removed. Once you have verified that all unwanted RPMs are removed, retry the installation.

Login Problems After Installation

If you experience problems logging in to ANM after installing the product, there may be several reasons:

- After installation, you attempt to log in and receive an error message that there is no ANM server license installed on the machine. See the [“Acquiring and Uploading a Cisco Application Networking Manager License”](#) section on page 4-1 for more information on using your PAK to get a license file.
- ANM can take some time to fully initialize. As a worst (but unlikely) case, you might need to wait up to 5 minutes for initialization to complete. Choose the case that most likely resembles the problem you are having:
 - If, after waiting, you cannot log into the ANM login window, you might need to restart ANM. See the [“Restarting ANM”](#) section on page 5-3.
 - If the login window will not display, you can collect installation data by running the standalone Lifeline package. You can then send that package to your technical support representative. See the [“Checking Why ANM Does Not Start”](#) section on page 5-7.
 - If you have lost or cannot remember your password, you can reset the ANM admin password by following the steps in the [“Resetting the ANM Admin Password”](#) section on page 5-2.

Resetting the ANM Admin Password

This section describes how to reset the ANM admin password and includes these topics:

- [Resetting the ANM admin Password in Standalone Mode, page 5-2](#)
- [Resetting the ANM admin Password in HA Mode, page 5-3](#)



Note Resetting the ANM admin password also resets the default organization authentication type to use local ANM authentication. For more information and a detailed procedure, see the [“Administering the Cisco Application Networking Manager”](#) chapter in the *User Guide for the Cisco Application Networking Manager 5.2.3*.

Resetting the ANM admin Password in Standalone Mode

You can reset the admin password in standalone mode.

Procedure

-
- Step 1** From the Linux command line, log in as the root user on the ANM host, as described in the [“Becoming the Root User”](#) section on page 1-6.
 - Step 2** Change your directory to `/opt/CSCOanm/etc` from the command line by entering `cd /opt/CSCOanm/etc`.

Step 3 To reset the password, from the command line, enter the following command:

```
echo admin-password > .resetPassword
```

where *admin-password* is your new admin password.



Note Make sure that you insert a period before `resetPassword` as shown in [Step 3](#).

Step 4 Restart ANM. For more information, see the “[Restarting ANM](#)” section on page 5-3.

Step 5 After ANM displays the login window, log in using the admin user and whatever password you specified in [Step 3](#).

Resetting the ANM admin Password in HA Mode

You can reset the admin password in HA mode. You cannot log in to ANM and perform a failover from the Admin page on the user interface. You must be on the standby host and want it to become the active host.

Procedure

Step 1 Log in as the root user on the ANM standby host, as described in the “[Becoming the Root User](#)” section on page 1-6.

Step 2 To change your directory to `/opt/CSCOanm/etc`, from the command line, enter the following command:

```
cd /opt/CSCOanm/etc
```

Step 3 To reset the password, from the command line, enter the following command:

```
echo admin-password > .resetPassword
```

where *admin-password* is the new admin password.



Note Be sure to insert a period before `resetPassword` as shown in [Step 3](#).

Step 4 To switch your HA hosts, from the command line enter the following command:

```
/opt/CSCOanm/bin/anm-ha active
```

Step 5 Restart ANM. For more information, see the “[Restarting ANM](#)” section on page 5-3.

Step 6 After ANM displays the login window, log in using the admin user and whatever password you specified in [Step 3](#).

Restarting ANM

You can restart ANM.

Procedure

Step 1 From the Linux command line, change to the **root** by entering the `% su -` command.

- Step 2** To restart ANM, from the command line, enter the `/opt/CSCOanm/bin/anm-tool restart-services` command.
- Step 3** To check the ANM process status, from the command line, enter the `/opt/CSCOanm/bin/anm-tool info-services` command.
- Step 4** Check that the status that appears next to the following list for the six processes all display as running or changed:
- `anm`—Data Center Manager, which holds the GUI back-end, remote managed objects (RMO), and logging services. Note the following operating requirements for the ANM process:
 - The ANM process reads and manipulates the `/var/log/messages*` files in the `adm` group.
 - The ANM process listens to specific reserved ports (less than port 1023) using port forwarding in the iptables as follows:
 - `http(80)`—Listens at 8980
 - `https(443)` —Listens at 10443
 - `snmptrap(162)` —Listens to 6120
 See the “ANM Ports Reference” section on page 4-9 for details on how ANM uses specific ports for its processes.
 - `ip-disc`—IP Discovery, which handles IP address discovery.
 - `dal`—Device Access Layer, which handles communication and generates CLI commands to the network element.
 - `licman`—License Manager, which handles network element and server licensing.
 - `anm-fw-mon`—Firewall Monitor, which handles the firewall status and port forwarding at the firewall level.
 - `MySQL`— ANM database process, which manages the configuration and event management databases.



Note In HA mode, the processes `anm`, `dal`, and `ip-disc` are not running on the standby node.



Note You might need to repeat [Step 3](#) and [Step 4](#) a few times while the processes go from initializing to running or changed. It can take up to 5 minutes to complete the initialization.

- Step 5** Log into ANM after all five processes have a status of running or changed.
- If all five processes do not eventually have a status of running or changed, or if it is still not possible to log in even though the processes have the desired status, try reinstalling ANM.
- To reinstall ANM, follow the procedure in the “[Information About Installing the ANM Server Software](#)” section on page 2-1.
- If you still cannot log in to ANM, contact the Technical Assistance Center. Before doing so, you need the following information:
- `/var/log/messages` log file.
 - Lifeline file, which is created by entering the `/opt/CSCOanm/bin/anm-sysinfo -a` command as root, and is found at `/tmp/anm-lifeline.tar.gz`.

- Log of the install session. See the [“Obtaining the Install Session Log”](#) section on page 5-5 for the procedure.

Obtaining the Install Session Log

To obtain the install session log, copy the `/var/lib/anm/console/anm-install.txt` file and forward it to your Cisco technical support representative.

This file is created during the installation and contains useful information.



Note

In the unlikely event that you cannot find the `anm-install.txt` in the `/var/lib/anm` directory, then you can find it in the `/tmp` directory with the name `anm-install.txt.xxxx` where `xxxx` represents a 4-digit number.

Obtaining the Upgrade Session Log

To obtain the upgrade session log, copy the `/var/lib/anm/console/anm-upgrade.txt` file and forward it to your Cisco Technical Support team.

This file is created during the upgrade and contains useful information.



Note

In the unlikely event that you cannot find the `anm-install.txt` in the `/var/lib/anm` directory, then you can find it in the `/tmp` directory with the name `anm-install.txt.xxxx` where `xxxx` represents a 4-digit number.

Starting Cisco Application Networking Manager

You can start ANM after it has been stopped (see the [“Stopping Cisco Application Networking Manager”](#) section on page 5-7).

Procedure

- Step 1** From the Linux command line, log in as the root user as described in the [“Becoming the Root User”](#) section on page 1-6. You are presented with a prompt.
- Step 2** To start ANM, enter the following command:
- ```
/opt/CSCOanm/bin/anm-tool start-services
```
- Step 3** (Optional) After ANM has started, you can check the status of ANM processes by entering the following command:

```
/opt/CSCOanm/bin/anm-tool info-services
```

The following example illustrates the status of the processes for a standalone ANM:

```
/opt/CSCOanm/bin/anm-tool info-services
The monit daemon 4.8.1 uptime: 0m
```

```
Process 'dcm' running
Process 'dal' running
Process 'ip-disc' running
```

```

Process 'licman' running
Process 'anm-fw-mon' running
Process 'mysql' running
System 'rjeyacha-lnx' running

```

## Java Processes:

```

licman : Running (8721) [2009-11-17 23:21:06]
dcm : Running (8734) [2009-11-17 23:21:06]
dal : Running (8723) [2009-11-17 23:21:06]
ip-disc : Running (8732) [2009-11-17 23:21:06]

```

## Other Processes:

```

anm-fw-mon: Running (8738) [2009-11-17 23:21:06]
mysql : Running (8605) [2009-11-17 23:20:58]

```

The following example illustrates the status of the processes for an active node in ANM HA mode:

```

/opt/CSCOanm/bin/anm-tool info-services
The monit daemon 4.9 uptime: 13h 14m

```

```

Process 'heartbeat' running
Process 'dcm' running
Process 'dal' running
Process 'ip-disc' running
Process 'licman' running
Process 'anm-fw-mon' running
Process 'mysql' running
System 'anm50.cisco.com' running

```

## Java Processes:

```

licman : Running (11874) [2010-08-30 23:52:36]
dcm : Running (21307) [2010-08-31 05:44:13]
dal : Running (21314) [2010-08-31 05:44:13]
ip-disc : Running (21145) [2010-08-31 05:44:09]

```

## Other Processes:

```

anm-fw-mon: Running (11858) [2010-08-30 23:52:36]
mysql : Running (28565) [2010-08-31 11:06:13]

```

Process on the standby server.

The following example illustrates the status of the processes for a standby node in ANM HA mode:

```

/opt/CSCOanm/bin/anm-tool info-services
The monit daemon 4.8.1 uptime: 21h 16m

```

```

Process 'dcm' running
Process 'dal' running
Process 'ip-disc' running
Process 'licman' running
Process 'anm-fw-mon' running
Process 'mysql' running
System 'rjeyacha-lnx' running

```

## Java Processes:

```

licman : Running (21345) [2009-11-19 00:18:24]
dcm : Running (21380) [2009-11-19 00:18:24]
dal : Running (21364) [2009-11-19 00:18:24]
ip-disc : Running (21347) [2009-11-19 00:18:24]

```

```
Other Processes:
anm-fw-mon: Running (21367) [2009-11-19 00:18:24]
mysql : Running (21456) [2009-11-19 00:18:26]
```

## Stopping Cisco Application Networking Manager

You can stop ANM.

### Procedure

- 
- Step 1** From the Linux command line, log in as the root user as described in the [“Becoming the Root User” section on page 1-6](#).
- Step 2** Enter the `/opt/CSCOanm/bin/anm-tool stop-services` command at the prompt to stop ANM.
- 

## Checking Why ANM Does Not Start

If ANM does not start after an installation or upgrade, use the standalone Lifeline package to collect data to forward to your support team.

Make sure that you have an ANM server license installed on your machine. See the [“Acquiring and Uploading a Cisco Application Networking Manager License” section on page 4-1](#) for more information on using your PAK to get a license file.

### Procedure

- 
- Step 1** From the Linux command line, log in as the root user as follows:



#### Caution

As the root user, you can adversely affect your operating environment if you are unaware of the effects of the commands that you use. If you are an inexperienced Linux user, you should limit your activities as the root user to the tasks described in this procedure.

---

- If you are not logged in, log in as the root user by entering the following:

```
>login: root
```

```
>Password: root-password
```

- If you are already logged in, but not as the root user, use the `su -` command to change your login to root by entering the following:

```
su -
```

```
Password: root-password
```

- Step 2** If this is an ANM HA system, enter the `/opt/CSCOanm/bin/anm-ha check` command on both hosts to check for common configuration errors.

An example of output that finds no errors is as follows:

```

/opt/CSCOanm/bin/anm-ha check
ANM config: local = (1 rh23.cisco.com 192.168.65.23 12.12.12.2)
ANM config: peer = (2 rh25.cisco.com 192.168.65.25 12.12.12.1)
ANM config: VIP = 192.168.65.88
Info: Interface: eth0 192.168.65.23/255.255.255.128
Info: Interface: eth1 12.12.12.2/255.255.255.0

Verifying ...

Detected 0 warning(s)
Detected 0 error(s)
ANM configuration seems reasonable
Done.

```

Although this command may not find a problem, it is not a comprehensive check and errors may still exist. If after entering the command an error is detected, you need to fix the problem. Also, if the output of this command includes a warning, you need to determine whether the warning is explainable and can be fixed. For example, the reason you cannot perform a **ping** command on the peer host may be because the peer host is down.

- Step 3** Collect critical data that can be forwarded to your support representative by entering the `/opt/CSCOanm/bin/anm-sysinfo -a` command.
- This command creates the `/tmp/anm-lifeline.tar.gz` file.
- Step 4** Forward this file to your support representative.
- 

## Changing the Web Idle Session Timeout

To change the web idle session timeout settings, see the [“Changing Configuration Attributes After Installing Cisco Application Networking Manager”](#) section on page 4-6 and the [“Example ANM Advanced Options Configuration Session”](#) section on page 4-9.

## Reconfiguring After HA Installation

If you receive errors when attempting to change the HA properties configuration values after installing ANM, check the node ID to be sure the active and standby values are not reversed.



# Backing Up and Restoring Data in Standalone Mode

You can back up a standalone ANM server configuration and restore it if necessary.

**Caution**

During the backup and restore procedures, you must log in as the root user. As the root user, you can adversely affect your operating environment if you are unaware of the effects of the commands that you use. If you are an inexperienced Linux user, you should limit your activities as the root user to the tasks described in the procedures.

**Guidelines and Restrictions**

If you restore the ANM database from a backup repository and a virtual context that is in the repository has been removed from the network element, ANM removes that context from the database and the context does not appear in the ANM user interface.

This section includes the following topics:

- [Backing Up Data in Standalone Mode, page 5-9](#)
- [Restoring Data in Standalone Mode, page 5-10](#)

## Backing Up Data in Standalone Mode

You can back up your standalone ANM server data.

**Prerequisites**

MySQL must be running to perform the backup.

**Procedure**

- 
- Step 1** From the Linux command line, log in as the root user as follows:
- If you are not logged in, log in as the root user:  

```
>login: root
```

  

```
>Password: root-password
```
  - If you are already logged in, but not as the root user, use the **su -** command to change your login to root:  

```
su -
```

  

```
Password: root-password
```
- Step 2** Verify that the ANM server is running by entering the following command:  

```
/opt/CSCOanm/bin/anm-tool info-services
```
- Step 3** Back up the ANM configuration by entering the following command:  

```
/opt/CSCOanm/bin/anm-tool backup backup_filename
```

  
where *backup\_filename* is the name of the ANM backup file.

- Step 4** Copy the backup file to a safe, remote (nonlocal) location, such as a different computer, a USB flash or external drive, or CD-RW disk.
- 

## Restoring Data in Standalone Mode

You can restore your standalone ANM server configuration data.

### Guidelines and Restrictions

This topic includes the following guidelines and restrictions:

- You must restore the data on the same version of ANM server on which you performed the backup. Restoring data to a different version of the ANM server is not supported. Data backed up from a Linux running the 32-bit Server Edition can be restored on a Linux running the 64-bit Server Edition and vice versa providing both are on the same version of ANM.
- The restore procedure includes using a backup of your current ANM server configuration to restore the ANM configuration. You can also use a backup file that you created from another ANM server (operating in standalone or HA mode) or from ANM Virtual Appliance to restore the ANM configuration.

For information about creating a backup from an ANM Server, see the [“Backing Up Data in Standalone Mode” section on page 5-9](#).

For information about creating a backup from ANM Virtual Appliance that you use on an ANM server, see the [“Installing the ANM Software Upgrade” section on page 3-4](#)).



**Note** If you use a backup that you created from another ANM server or from ANM Virtual Appliance to restore the ANM server configuration, at the end of the upgrade process, you must install the appropriate ANM on the server because the license is tied to an ANM server’s MAC address.

---

### Procedure

---

- Step 1** From the Linux command line, log in as the root user as follows:
- If you are not logged in, log in as the root user:
 

```
>login: root
>Password: root-password
```
  - If you are already logged in, but not as the root user, use the **su -** command to change your login to root:
 

```
su -
Password: root-password
```
- Step 2** Verify that the ANM server is running by entering the following command:
- ```
/opt/CSCOanm/bin/anm-tool info-services
```

Step 3 If the backup file to be used to restore the ANM server resides on a remote device (such as a network server, USB flash, external drive, or CD-RW disk), copy the backup file to the ANM server.

Step 4 Restore the data by entering the following command:

```
/opt/CSCOanm/bin/anm-tool restore [path/]backup_filename
```

The command arguments are as follows:

- *path/*—(Optional) Path to the backup file. The path is not required if you copied the backup file to the bin directory where the restore script resides.
- *backup_filename*—Name of the backup file to use to restore the ANM server configuration.

ANM automatically restarts.

Step 5 If the backup file used to restore the ANM server configuration was created on another ANM server or on ANM Virtual Appliance, perform the following steps:

- a. Install the appropriate license for the server. Skip this step if the backup was created from the server you just upgraded (see the [“Using ANM License Manager to Manage ANM Server or Demo Licenses”](#) section in the *User Guide for the Cisco Application Networking Manager 5.2.3* or in the online help).
- b. If the port information and configuration attributes of the backup are different than the values of the original ANM server configuration, you need to modify the port information and configuration attributes to match the original ANM server configuration (see the [“Changing Configuration Attributes After Installing Cisco Application Networking Manager”](#) section on page 4-6).
- c. If the backup was created on an ANM server configured to operate in HA mode, you must set the configuration to standalone mode by doing the following:

1. Enter the following command:

```
/opt/CSCOanm/bin/anm-tool -ha=0 configure
```

A series of prompts appears.

2. At the “Check existing configuration files?” prompt, enter n (no). Leave all other options at their default values unless you need to modify any of them.
3. At the “Commit these values?” prompt, enter y (yes).

Backing Up and Restoring Data in HA Mode

You can back up an HA ANM server configuration and restore it if necessary.



Caution

During the backup and restore procedures, you must log on as the root user. As the root user, you can adversely affect your operating environment if you are unaware of the effects of the commands that you use. If you are an inexperienced Linux user, you should limit your activities as the root user to the tasks described in the procedures.

Guidelines and Restrictions

If you restore the ANM database from a backup repository and a virtual context that is in the repository has been removed from the network element, ANM removes that context from the database and the context does not appear in the ANM user interface.

This section includes the following topics:

- [Backing Up Data in HA Mode, page 5-12](#)
- [Restoring Data in HA Mode, page 5-12](#)

Backing Up Data in HA Mode

You can back up your ANM server data when you have two servers operating in HA mode.

Prerequisites

MySQL must be running to perform the backup.

Procedure

-
- Step 1** From the Linux command line of the active ANM server, log in as the root user as follows:
- If you are not logged in, log in as the root user:
 - >**login:** **root**
 - >**Password:** *root-password*
 - If you are already logged in, but not as the root user, use the **su -** command to change your login to root:
 - # **su -**
 - # **Password:** *root-password*
- Step 2** Verify that the ANM server is running by entering the following command:
- ```
/opt/CSCOanm/bin/anm-tool info-services
```
- Step 3** Back up the ANM configuration by entering the following command:
- ```
/opt/CSCOanm/bin/anm-tool backup backup_filename
```
- where *backup_filename* is the name of the ANM backup file.
- Step 4** Copy the backup file to a safe, remote (nonlocal) location, such as a different computer, a USB flash or external drive, or CD-RW disk.
- Step 5** Repeat Steps 1 to 4 on the standby ANM server.
-

Restoring Data in HA Mode

You can restore ANM server configuration data.

Guidelines and Restrictions

This topic includes the following guidelines and restrictions:

- You must restore the data on the same version of the ANM server on which you performed the backup. Restoring data to a different version of the ANM server is not supported. Data backed up from a Linux running the 32-bit Server Edition can be restored on a Linux running the 64-bit Server Edition and vice versa if both are on the same version of ANM.
- At the end of the restore process, you must install the ANM license that is applicable to the upgraded server. If the backup you use during the restore process belongs to a different host, you must install the appropriate license because an ANM license is tied to the MAC address of a server.

Procedure

-
- Step 1** From the Linux command line of the active and standby ANM servers, log in as the root user as follows:
- If you are not logged in, log in as the root user:

```
>login: root
```



```
>Password: root-password
```
 - If you are already logged in, but not as the root user, use the **su -** command to change your login to root:

```
# su -
```



```
# Password: root-password
```
- Step 2** Verify that both ANM servers are running by entering the following command on both servers:

```
/opt/CSCOanm/bin/anm-tool info-services
```
- Step 3** From the standby ANM server, stop the server by entering the following command:

```
/opt/CSCOanm/bin/anm-tool stop-services
```
- Step 4** From the active ANM server, perform the following steps:
- a. If the backup file to be used to restore the ANM server resides on a remote device (such as a network server, USB flash, external drive, or CD-RW disk), copy the backup file to the ANM server.
 - b. Restore the data on the server by entering the following command:

```
/opt/CSCOanm/bin/anm-tool restore [path/]backup_filename
```

The command arguments are as follows:

 - path*—(Optional) Path to the backup file. The path is not required if you copied the backup file to the bin directory where the restore script resides.
 - backup_filename*—Name of the backup file to use to restore the ANM server configuration.

ANM automatically restarts.
 - c. If the backup used to restore the server was made on the same server, skip to [Step 5](#). If the backup file used to restore the ANM server configuration was created on another ANM server or on ANM Virtual Appliance, then perform the following tasks:
 1. Reinstall the ANM license that was originally installed on the server (see the [“Using ANM License Manager to Manage ANM Server or Demo Licenses”](#) section in the *User Guide for the Cisco Application Networking Manager 5.2.3* or in the online help).

2. If the port information and configuration attributes of the backup are different than the values of the original ANM server configuration, you must modify the port information and configuration attributes to match the original ANM server configuration (see the [“Changing Configuration Attributes After Installing Cisco Application Networking Manager”](#) section on page 4-6).

Step 5 From the standby ANM server, perform the following steps:

a. Start the standby server by entering the following command:

```
/opt/CSCOanm/bin/anm-tool start-services
```

b. Repeat Steps 4a. to 4c.
