C H A P T E R **2**

Installing Application Networking Manager Server Software

This chapter describes how to install or uninstall the Application Networking Manager (ANM) software on the server. This chapter includes the following sections:

Information About Installing the ANM Server Software

You can install ANM on the server in either high availability or standalone mode. High availability (or *fault tolerance*) ensures that your network services and applications are always available.

During the ANM installation, the following items are installed:

- MySQL (a Sun RDBMS)—If your system contains a different version of MySQL than the one used by ANM, it is replaced with the version used by ANM during installation.
- Linux System Users—The following ANM user accounts are created on the Linux filesystem: anm and anm-mysql.

You can enable HTTP during installation. By default, the HTTP enable field displays [False]. You enable HTTP by changing that value to **True**. If HTTP is disabled during installation, you can enable HTTP by entering the **/opt/CSCOanm/bin/anm-tool configure** command at the command line.

For more information, see the "Changing Configuration Property Values" section in the online help or Chapter 18, "Troubleshooting Cisco Application Networking Manager Problems" of the *User Guide for the Cisco Application Networking Manager 5.2.5*.

Information About ANM High Availability

ANM high availability (HA) consists of two peer hosts, an active (primary) and a standby (secondary or backup host). Both peers in an ANM HA system *must* be running the same version of ANM.

Each host must have at least two network interfaces:

- A primary interface, which is normally used to access the host.

- A heartbeat interface, which is used as a redundant network element in case the primary host fails. The heartbeat interfaces of the two hosts must be connected through a crossover Ethernet connection, which must be a physical connection, configured on its own (private) subnet.

ANM does not configure the primary and heartbeat IP addresses for the primary (Node 1) and secondary (Node 2) ANM servers. You must manually configure these addresses. Typically, the heartbeat IP address is not on the same subnet as the subnet that connects the nodes to your network.

Guidelines and Restrictions

This topic includes the following guidelines and restrictions:

- The heartbeat interfaces on Node 1 and Node 2 should be configured on a private subnet that only includes each node's individual IP addresses.

- You must designate eth0 as the primary interface and eth1 as the heartbeat interface. For more information about high availability, see the "Installing ANM in HA Mode" section on page 2-3.

- When you install ANM, you need to provide values for high availability parameters. Because there are no default values for the high availability parameters, you cannot specify *interactive=0* during installation.

- The parameter *interactive=0* conflicts with *ha=1* and should *not* be used during the installation.

- Both peers in an ANM HA system must be running on the same software version of ANM as well as the same underlying operating system, either 32-bit or 64-bit Server Edition (Linux 2.6 Kernel). Do not attempt an ANM HA pair between a 32-bit and 64-bit Server Edition (Linux 2.6 Kernel) running system.

Installing ANM in Standalone Mode

You can install ANM on the server in standalone mode. During the installation of ANM, you must specify an admin password.

Guidelines and Restrictions

The ANM software image includes a 90-day evaluation period, which means that you can begin using ANM immediately without installing a license. However, you must install the permanent licenses before the evaluation period expires to continue using ANM (see the "Acquiring and Uploading a Cisco Application Networking Manager License" section on page 4-1).

Prerequisites

Ensure that your system meets the requirements listed in the "Server Requirements" section on page 1-3.

Procedure

Step 1   Insert the CD-ROM into the drive of the Linux server and mount to the /cdrom directory from the command line.

Step 2   After you have logged in, change to the /cdrom directory or the directory to which you mounted the CD.

Step 3   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 4   (Optional) Change the access mode of the installation file by entering the following command:

chmod a+x anm-5.2.5.bin

Step 5   Start the installation script by entering the following command:

./anm-5.2.5.bin [**--interactive=0|1**] [**--admin-password=***admin-password*]

The **--interactive** keyword specifies whether there is an interaction during ANM installation. Enter **0** to specify that there will be no possible interaction. Enter **1** to specify that there will be an interaction. The default value is **1**. Note that *admin-password* is required only for noninteractive mode.

The installation begins and status messages appear on your login window. When Done appears, the installation script has finished.

Step 6   (Optional) From the command line, install the license on the ANM server by entering the following command:

/opt/CSCOanm/bin/anm-license install */path/ANMxxxxxxxxxxxxxxxx.lic*

where *path* is the location of the license file and *ANMxxxxxxxxxxxxxxxx.lic* is the name of the license file.

> **Note**   ANM includes a 90-day evaluation period that does not require a license (see Guidelines and Restrictions).

Step 7   Unmount the CD-ROM, and then continue to the "Getting Started with Application Networking Manager" section on page 4-1.

Installing ANM in HA Mode

You can install ANM on the server in HA mode, which requires two hosts. One host takes an *active* role and the other host takes a *standby* role. The active host provides ANM functionality. If something happens to the active host, the standby takes over after a brief delay. All active sessions are lost when the standby server takes over; therefore, you need to log in again. To install ANM in HA mode, complete the following steps on *both* servers. To prepare for the questions that are part of the installation, see the "Information About ANM High Availability" section on page 2-2.

Guidelines and Restrictions

This topic includes the following guidelines and restrictions:

*   The ANM software image includes a 90-day evaluation period, which means that you can begin using ANM immediately without installing a license. However, you must install the permanent licenses before the evaluation period expires to continue using ANM (see the "Acquiring and Uploading a Cisco Application Networking Manager License" section on page 4-1).

- During the installation of ANM 5.2.5, you must specify an admin password. Because you are installing ANM in HA mode, you must also specify a MySQL password.

  ✎ **Note** The MySQL password *must* be the same on both HA nodes.

- Table 2-1 describes the installation parameters. Use these parameters as described in the "Installing ANM in HA Mode" section on page 2-3.

  ✎ **Note** All parameter values shown in Table 2-1 must be identical on both servers except for the HA Node ID parameter.

Table 2-1　　　*ANM High Availability Installation Parameter Descriptions*

Installation Parameter	Description
Database Password	Password for the MySQL database.
HA Node 1 Uname	Name of Node 1, which can be returned by entering the **uname -n** command on the host.
HA Node 2 Uname	Name of Node 2, which can be returned by entering the **uname -n** command on the host.
HA Node 1 Primary IP	IP address that Node 1 uses for normal (nonheartbeat related) communication. This IP address must be on the same subnet as the primary IP address of Node 2.
HA Node 2 Primary IP	IP address that Node 2 uses for normal (nonheartbeat related) communication. This IP address must be on the same subnet as the primary IP address of Node 1.
HA Node 1 Heartbeat IP	IP address associated with the crossover network interface of Node 1. This IP address must be on the same subnet as the heartbeat IP address of Node 2. Typically, this subnet is private.
HA Node 2 Heartbeat IP	IP address associated with the crossover network interface of Node 2. This IP address must be on the same subnet as the heartbeat IP address Node 1. Typically, this subnet is private.
HA Virtual IP	Virtual IP address that is associated with the active host. This IP address must be on the same subnet as the primary IP addresses of both Node 1 and Node 2. You manually create the IP address during the ANM HA installation. We recommend that the IP address be in the same subnet of the primary IP address of the active/standby node.
HA Node ID	Predetermined node ID of the node, which must be either 1 or 2.

Prerequisites

Ensure that your HA system hosts meet the requirements listed in the "Server Requirements" section on page 1-3.

Procedure

Step 1   Insert the CD-ROM into the drive of the Linux server and mount to the /cdrom directory.

Step 2   From the command line, change to the /cdrom directory or the directory to which you mounted the CD.

Step 3   Log in as the root user as described in the "Becoming the Root User" section on page 1-6.

Step 4   (Optional) Change the access mode of the installation file by entering the following command:

chmod a+x anm-5.2.5.bin

Step 5   Start the installation script by entering the following command:

./anm-5.2.5.bin --ha=1

The **--ha=1** keyword specifies this as an HA installation. The default value for HA is 0. HA installations are interactive; if you enter **--interactive=0**, the installation will fail. The installation begins and status messages appear in your login window.

An HA installation requires that two hosts be configured. You must configure the hosts identically, but you can have unique hostnames (except for the node ID).

⚠

Caution   Each host must have a unique hostname, or an error will result. You can use the **uname -n** command to verify that the names are unique.

Step 6   When you see a series of prompts that request information, do the following:

    a.   Enter the MySQL database password in the space provided.

    b.   Enter the name of Node 1 in the space provided.

    c.   Enter the name of Node 2 in the space provided.

    d.   Enter the IP address of the primary network interface card (NIC) on Node 1 in the space provided.

    e.   Enter the IP address of the primary NIC on Node 2 in the space provided.

    f.   Enter the IP address of the HeartBeat NIC on Node 1 in the space provided.

    g.   Enter the IP address of the HeartBeat NIC on Node 2 in the space provided.

    h.   Enter the virtual IP address of the Node 1–Node 2 pair in the space provided.

    i.   Enter the node ID of the node that you are configuring in the space provided. For Node 1, enter **1**. For Node 2, enter **2**.

    j.   Wait for the Done prompt to appear, at which point the installation script has finished.

    k.   (Optional) Install the ANM license on the ANM server by entering the following command:

      /opt/CSCOanm/bin/anm-license install /*path/ANMxxxxxxxxxxxxxxxx.lic*

      where *path* is the location of the license file and *ANMxxxxxxxxxxxxxxxx.lic* is the name of the license file.

✎

    Note   ANM includes a 90-day evaluation period that does not require a license (see Guidelines and Restrictions).

Step 7   Unmount the CD-ROM and repeat the previous steps on the other HA host. After your standby host is installed, continue to the "Getting Started with Application Networking Manager" section on page 4-1.

Note   Some ANM processes will run on a standby ANM host. For more information, see the "Configuring High Availability" chapter in the online help or in the *User Guide for the Cisco Application Networking Manager 5.2.5*.

Uninstalling Application Networking Manager

This section describes how you can uninstall the ANM application from the standalone or HA-mode.

Guidelines and Restrictions

This topic includes the following guidelines and restrictions:

- Make sure that you uninstall ANM before you install it again.
- During the uninstall process, you are given the opportunity to save the current list of ANM users to the server. If you plan to reinstall ANM and utilize the same users, save the list of users.
- Uninstalling ANM also uninstalls MySQL.

This section includes the following topics:

Uninstalling ANM in Standalone Mode

You can uninstall the Application Networking Manager application from the standalone mode.

Prerequisites

This topic includes the following prerequisites:

- Make sure that your current working directory is *not* /opt/CSCOanm or one of its subdirectories when performing the uninstall. Uninstalling ANM results in the /opt/CSCOanm directory being removed.
- Cisco recommends that you back up your current license file and ANM configuration before uninstalling ANM (see the "Backing Up and Restoring Data in Standalone Mode" section on page 5-9).
- If you are using the ANM plug-in to integrate ANM with VMware vCenter Server, make sure that the plug-in is unregistered before you uninstall ANM. For information about using ANM with VMware vCenter Server and unregistering the plug-in, see the *User Guide for the Cisco Application Networking Manager 5.2.5* and Appendix B, "Using ANM With Virtual Data Centers".

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   Uninstall ANM by entering the following command:

/opt/CSCOanm/bin/anm-tool uninstall

Step 3   Type **Yes** when you are prompted for confirmation to uninstall.

Step 4   When prompted to preserve the current list of ANM users, enter one of the following:

- **Yes**—The current list of users is saved on the server for use with the subsequent ANM installation.

- **No**—The current list of users is not saved.

✎

Note   These users are the anm and anm-mysql Linux user accounts that are created on the Linux filesystem during the installation of ANM; they are not the user accounts that are used to log in to ANM. If you have local custom scripts based on the user IDs of these Linux user accounts, you should preserve them to avoid having to remap them after performing an ANM upgrade.

When the uninstallation is complete, the /opt/CSCOanm directory, RPMs, and application files are deleted.

Uninstalling ANM From HA Mode

You can uninstall the Application Networking Manager application from the HA mode.

Prerequisites

This topic includes the following prerequisites:

- Make sure that your current working directory is *not* /opt/CSCOanm or one of its subdirectories when performing the uninstall. Uninstalling ANM results in the /opt/CSCOanm directory being removed.

- We recommend that you back up your current license file and ANM configuration before uninstalling ANM (see the "Backing Up and Restoring Data in HA Mode" section on page 5-11).

- If you are using the ANM plug-in to integrate ANM with VMware vCenter Server, make sure that the plug-in is unregistered before you uninstall ANM. For information about using ANM with VMware vCenter Server and unregistering the plug-in, see the *User Guide for the Cisco Application Networking Manager 5.2.5* and Appendix B, "Using ANM With Virtual Data Centers."

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   From the standby server, uninstall ANM by entering the following command:

/opt/CSCOanm/bin/anm-tool uninstall

Step 3   From the active server, uninstall ANM by entering the following command:

/opt/CSCOanm/bin/anm-tool uninstall

Step 4   Type **Yes** when you are prompted for confirmation to uninstall.

Step 5   When prompted to preserve the current list of ANM users, enter one of the following:

- **Yes**—The current list of users is saved on the server for use with the subsequent ANM installation.

- **No**—The current list of users is not saved.

Note These users are the anm and anm-mysql Linux user accounts that are created on the Linux filesystem during the installation of ANM; they are not the user accounts used to log in to ANM. If you have local custom scripts based on the user IDs of these Linux user accounts, you should preserve them to avoid having to remap them after performing an ANM upgrade.

When the uninstallation is complete, the /opt/CSCOanm directory RPMs and application files are deleted.