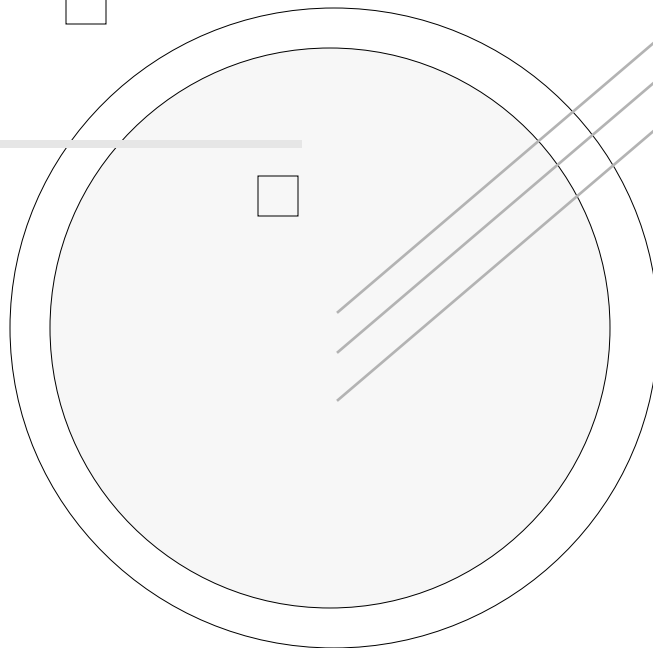


SunNet Manager 2.2.3 Installation Guide

for Solaris 2.4/x86



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Preface

This manual explains how to install the SunNet™ Manager 2.2.3/x86 and AnswerBook™ software from the product CD-ROM on to your machine.

Who Should Use This Book

This book is written for users installing SunNet Manager 2.2.3/x86 software. It assumes you are familiar with the Solaris™ operating system environment.

How This Book Is Organized

This book contains the following chapters and appendices:

- Chapter 1, “Pre-Installation Notes and Requirements,” provides information you should have before installing SunNet Manager software, and information on getting help.
- Chapter 2, “Planning for AnswerBook Installation,” provides information to help prepare you for installing the AnswerBook package.
- Chapter 3, “Installing SunNet Manager 2.2.3/x86 Software,” explains how to install SunNet Manager software on the system from which you will manage the network—your manager station.
- Chapter 4, “Installing Agent Software on Remote Systems,” explains how to install agent software on remote systems.
- Chapter 5, “Installing SNMP Version 2,” explains how to install and remove the software for SNMP Version 2 support.

-
- Appendix A, “Removing SunNet Manager Software,” contains the procedure for removing the SunNet Manager software from the machine upon which it was installed.

Conventions Used in This Manual

This section describes the conventions used in this manual.

Operating System Terminology

This manual contains references to the Solaris 2.4.

The Solaris 2.4 environment includes:

- SunOS 5.4 Operating System
- x86 platforms running Solaris 2.4/x86
- OpenWindows™ 3.3 or later application development platform

Command Line Examples

All command line examples in this manual use the C-shell environment. If you use either the Bourne or Korn shells, refer to `sh(1)` and `ksh(1)` man pages for information about the equivalent commands in these environments to the C-shell.

Typographic Conventions

The following table describes the type changes and symbols used in this book.

Table P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. system% You have mail.
AaBbCc123	What you type, contrasted with on-screen computer output	system% su Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	To delete a file, type <code>rm filename</code> .

Table P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
<i>AaBbCc123</i>	Book titles, new words or terms, or words to be emphasized	These are called <i>class</i> options. You <i>must</i> be root to do this.
%	System prompt for an ordinary user account	hostname%
#	System prompt for the root (superuser) account	hostname#
The instruction, "Enter"	A combination of typing a value, then pressing the Return key	Enter the path name.

Mouse Conventions

This book assumes that you are using a standard Sun workstation three-button mouse. The mouse buttons are called SELECT (left), ADJUST (middle), and MENU (right).

Click means to press and quickly release a mouse button.

Press indicates you should hold the button down until an action is completed — such as a menu appearing.

Related Documents

The SunNet Manager documentation set includes the following documents:

- *SunNet Manager 2.2.3 Installation Guide for Solaris 2.4/x86* (this document)
- *SunNet Manager 2.2.3/x86 Important Product Information (IPI)*
- *SunNet Manager 2.2.3 User's Guide*
- *SunNet Manager 2.2.3 Programmer's Guide*
- *SunNet Manager 2.2.3 Reference Manual*

You may want to have your Solaris 2.4 documentation available as a reference if you need additional information on procedures in this manual.

Pre-Installation Notes and Requirements



This chapter provides a checklist of installation requirements and other information you may need for installing SunNet Manager 2.2.3/x86 software. It also provides information on getting help if you need it.

Installation Requirements

Note – See the *SunNet Manager 2.2.3/x86 Important Product Information (IPI)* for definitive compatibility information, hardware and software requirements, and other important information that was not available when this book was published.

This checklist is provided to help you gather information you must have to complete the installation procedures. You must be able to answer yes or fill in the appropriate information on the lines provided. If you have problems with your installation, you will need this information when you call for help.

1. Does your machine have at least 32 Mbytes of memory? _____
2. Is your machine running Solaris 2.4 system software? _____
3. Is your machine running OpenWindows 3.3 or later software? _____

4. The installation medium is a CD-ROM.
 - Do you have access to a local or remote CD-ROM drive? _____
(The remote drive can be attached to a SunOS 4.1.x machine.)
 - If remote, what is the hostname of the machine to which the CD-ROM drive is attached? _____
5. In which directory will you install the SunNet Manager 2.2.3/x86 software? (The default directory is /opt.) _____

Note – Throughout this book, /opt is referenced. /opt is the default installation directory for the SunNet Manager 2.2.3 product. If the SunNet Manager 2.2.3 product is going to be installed in a directory other than /opt, all references should be changed accordingly.

6. Use the following command to check for disk space usage:

```
hostname% df -k /opt
```

Table 1-1 lists the amount of free disk space required to install the SunNet Manager 2.2.3/x86 and AnswerBook packages:

Table 1-1 Required Free Space

Package Name	Required Free Space (Mb)
SunNet Manager 2.2.3/x86	15
AnswerBook (nil option)	less than 1
AnswerBook (heavy option)	27

Is enough free disk space available in your installation directory? _____

Following installation, you need 10-15 Mb of disk space for your SNM runtime database. The size of this database depends on the number of elements you manage.

- 7. Do you have the superuser password for both the machine where the software is to be installed and the machine with the CD drive, if different? _____
- 8. Does superuser have read, write, and execute access to the installation directory (where SunNet Manager 2.2.3 and the AnswerBook software are being installed)? _____

Does the user have read and execute permission? _____
- 9. If you are going to install the Sun SNMP agent, have you determined what its read and write community names will be? _____

The Simple Network Management Protocol (SNMP) agent allows your management system to communicate with other SNMP-based systems. If you install the Sun SNMP agent, you need to specify the read and write community names for the agent. The defaults are, respectively, "public" and "private." Community names are equivalent to passwords and are used to authorize read and write access. Although many sites use "public" for read access, you should choose the write community name with the same care as a system root password. The community names are stored in the `/etc/opt/SUNWconn/snm/snmpd.conf` file, which should be readable only by root.

Getting Help

If you have problems installing or using the SunNet Manager 2.2.3/x86 software, call your authorized service provider and have the following information ready:

- Model number of the machine
- Serial number of the machine
- Solaris release number
- Release number of the SunNet Manager product (2.2.3/x86)

You can display information needed for help calls by entering the following command:

```
hostname% showrev
```

Your screen will show information similar to the following:

```
Hostname: bissot  
Hostid: 3741f9d6  
Release: 5.4  
Kernel architecture: i86pc  
Application architecture: i386  
Hardware provider: <vendor's name>  
Domain: netsRus  
Kernel version: SunOS 5.4 generic July 1994
```

Planning for AnswerBook Installation



The AnswerBook requires some planning and decision-making before you install it. This chapter provides the information you need to plan your AnswerBook installation. Please read it carefully before you begin the installation.

The AnswerBook package provides on-line access to the following SunNet manager documents:

- *SunNet Manager 2.2.3 Installation Guide for Solaris 2.4/x86*
- *SunNet Manager 2.2.3 User's Guide*
- *SunNet Manager 2.2.3 Reference Manual*
- *SunNet Manager 2.2.3 Programmer's Guide*

Installing the AnswerBook package is entirely optional. You may choose to install it at the same time you install the other SunNet Manager 2.2.3/x86 software packages, or you may install it at a later time. You may also choose not to install the AnswerBook package.

If you choose to install the AnswerBook package, you must select one of two installation options. If you choose the *heavy* installation, you can merge the SunNet Manager 2.2.3 AnswerBook with the Solaris 2.4 AnswerBook and others already installed on your system. For information about merging AnswerBooks, see the Solaris 2.4 documentation.

Before you install your software determine whether you will install the AnswerBook package and which installation option you prefer. Table 2-1 describes the installation options available and lists the disk space and installation time required for each.

Table 2-1 Installation Options

Option	Description	Disk Space (Mbytes)	Installation Time
nil	Leave all files on CD-ROM. Performance is slow, but adequate for occasional use.	Less than 1	1 minute
heavy	Store all files on hard disk. Performance is optimized. This configuration is recommended if the AnswerBook package is to be shared by multiple systems.	27	2-3 minutes

Note – If you do not specify the *heavy* installation option, you *must* leave the CD-ROM in the CD-ROM drive so that the AnswerBook is available.

The installation procedure creates a configuration file that contains the installation locations of the AnswerBook product. If your machine is rebooted in the future and you have chosen the *nil* installation option, you must make sure the CD-ROM is remounted on the same mount point you used during the initial installation.

Note – Some of the files used by the AnswerBook product are of a special type that are not recognized by the packaging tools, including `pkgadd`. If you choose the *heavy* installation option, the packaging tools may report a partial failure as the final installation status. *A partial failure does not mean that the installation has failed.*

For more information about AnswerBook, refer to the *Solaris 2.4 System Administrator's Guide to AnswerBook*, part number 801-5273-10.

Installing SunNet Manager

2.2.3/x86 Software



<i>Overview</i>	<i>page 3-1</i>
<i>Inserting and Accessing the CD-ROM</i>	<i>page 3-2</i>
<i>Installing SunNet Manager Software</i>	<i>page 3-6</i>
<i>Finishing Installation</i>	<i>page 3-19</i>
<i>The Next Step...</i>	<i>page 3-23</i>

This chapter provides instructions for installing SunNet Manager software on the system from which you will manage the network—the machine on which you will run the SNM Console.

SunNet Manager software is provided on CD-ROM. The software consists of management tools and applications, agent software, agent and manager services and libraries, configuration files, and on-line help and man pages. In addition, the SunNet Manager documentation is provided in AnswerBook form. The software is contained in *packages*, which you install from the CD-ROM by running the `/usr/sbin/pkgadd` program.

Overview

The following is a summary of the steps to install SunNet Manager 2.2.3/x86 software. Complete procedures for these steps are given following this section.

Before starting installation, make sure that you have verified installation requirements as specified in “Installation Requirements” on page 1-1.

- 1. Insert the product CD-ROM in a local or remote CD drive.**
- 2. Install SunNet Manager software using** `/usr/sbin/pkgadd`.
- 3. Finish installation.**

Finishing installation includes:

- Updating the Network Information Service (NIS/NIS+) maps/tables, if you are running NIS/NIS+;
- Modifying your PATH to point to the SNM executables;
- Setting up access to on-line help and man pages for SunNet Manager;
- Verifying installation.

Inserting and Accessing the CD-ROM

To install the SunNet Manager software you must have either a local CD-ROM drive or a drive that is accessible over a network.

This section describes how to insert the CD-ROM in the drive and, if you are using a remote CD-ROM drive, how to export or share the CD-ROM filesystem.

Note – Your target machine for *installing* the SunNet Manager software must always be a system running Solaris 2.4.

▼ Inserting Your CD-ROM

In SunOS 5.x, to add a CD-ROM device, connect the device to the machine's SCSI bus and to a power source. Power up the device, then halt your machine by entering `init 0`. At the ok prompt enter `boot -r`.

1. **Remove the CD-ROM from its plastic case and place the CD-ROM in its caddy. Refer to Figure 3-1.**

When the CD-ROM is properly inserted into the caddy, the label is visible.

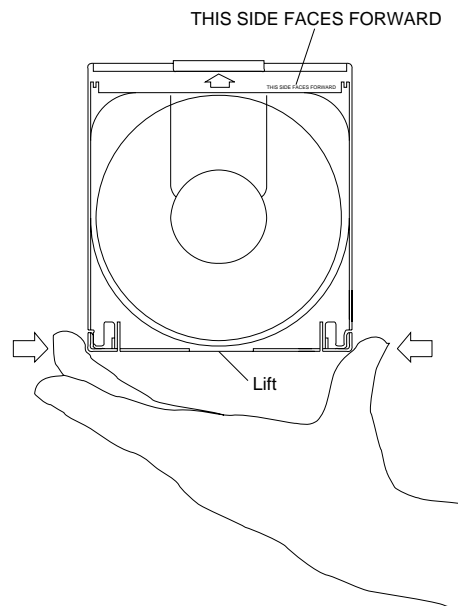


Figure 3-1 Insert the CD-ROM into the Caddy

2. **Insert the caddy into the drive slot. (Make sure the CD drive is powered on.) Refer to Figure 3-2.**

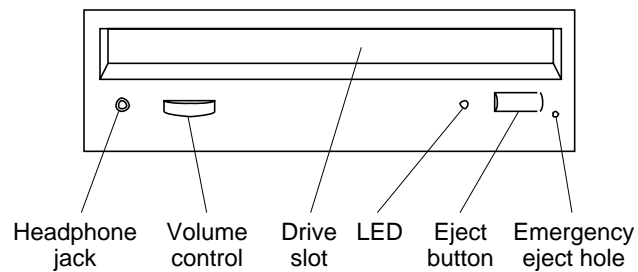


Figure 3-2 CD Device Showing Drive Slot

Proceed to the following section if you are accessing a locally installed CD drive.

Note – Unless noted otherwise, you must log in as or become root to perform all of the following procedures.

▼ **Mounting the CD-ROM from a Local CD Drive**

There is no explicit mounting of the CD-ROM filesystem for a locally-attached CD drive under Solaris 2.4. As a default, volume management is enabled for Solaris 2.4. When you insert the CD into the drive, the CD-ROM filesystem is automatically mounted.

Go to “Installing SunNet Manager Software” on page 3-6.

▼ **Mounting the Remote CD-ROM on the Local Machine**

Sharing from a Remote Solaris 2.4 System

Perform the following steps on the *remote* machine:

- 1. If they are not already running, start the NFS daemons by entering the following commands:**

```
hostname# /usr/lib/nfs/nfsd 8
hostname# /usr/lib/nfs/mountd
```

- 2. Share the directory from the remote machine by entering the command:**

```
hostname# share -F nfs -o ro /cdrom/sunnet_manager_x86_2_2_3
```

- 3. Ensure that the machine is exporting the directory by entering the share command. The screen should show the /cdrom/sunnet_manager_x86_2_2_3 directory:**

```
hostname# share
. . .
-      /cdrom/sunnet_manager_x86_2_2_3      ro      " "
. . .
```

It takes a few minutes for this shared directory to become available over the network.

Having exported or shared the CD-ROM, you can now mount it on your local machine. Perform the following step for remote Solaris 2.4 systems on the local machine:

```
hostname# cd /net/<remote_machine>/cdrom/sunnet_manager_x86_2_2_3
```

- **If the automounter is not running on your machine, do the following on your local machine:**
 - 1. Make a directory on which to mount the CD-ROM if it does not already exist:**

```
hostname# mkdir /cd
```

- 2. Mount the remote directory on /cd:**

For remote Solaris 2.4 systems enter:

```
hostname# mount -r -F nfs
<remote_machine>:/cdrom/sunnet_manager_x86_2_2_3 /cd
```

Installing SunNet Manager Software

Whether you have a directly connected or remotely accessed CD-ROM player, you can now run the `pkgadd` command. The running of `pkgadd` for SunNet Manager can take 15 minutes when installing from a directly connected CD-ROM player, or minutes longer for a remotely accessed CD-ROM player on a busy network.

1. Invoke the `pkgadd` command.

- a. If you want to install the packages in the default directory, `/opt`, enter the following command:

```
hostname# /usr/sbin/pkgadd -d <pathname>
```

The replacement for `<pathname>` depends on your method of accessing your CD-ROM player. The possibilities are as follows:

- If you statically mount (using the `mount` command) your CD-ROM directory, whether it be local or remote, use `/cd`.
- If you are running Solaris 2.4, have `vold` running (the default case), and have a local CD-ROM player, use `/cdrom/sunnet_manager_x86_2_2_3`.
- If you use the automounter and are accessing a remote CD-ROM player connected to a remote Solaris 2.x machine that is not running `vold`, use `/net/<remote_hostname>/cd`.
- If you use the automounter and are accessing a remote CD-ROM player connected to a Solaris 2.2 or later machine that *is* running `vold`, use `/net/<remote_hostname>/cdrom/sunnet_manager_x86_2_2_3`.

- b. If you want to install the packages in a directory other than the default, enter the following command:**

```
hostname# /usr/sbin/pkgadd -d <pathname> -a none
```

...where *<pathname>* is the pathname you would supply for the command shown in Step 1a.

With the latter command, `pkgadd` prompts you for the destination directory prior to installing each package. Be sure to enter the same base directory for each SNM package you install. If you choose a heavy-option AnswerBook installation, you do not have use your SNM base directory for AnswerBook.

After invoking either of the above commands, you receive a list of packages available for installation:

```
The following packages are available:
 1  SUNWab86      SunNet Manager 2.2.3/x86 AnswerBook
    (all) 38.8
 2  SUNW86nma    SunNet Manager Agents & Libraries
    (i386) 2.2.3
 3  SUNW86nmc    SunNet Manager Core Tools
    (i386) 2.2.3
 4  SUNW86nmp    SunNet Manager SNMP daemon
    (i386) 2.2.3

Select package(s) you wish to process (or 'all' to process
all packages). (default: all) [?,??,q]:
```

If you install SNM in other than the default directory, you must set the `SNMHOME` environment variable before starting SNM. See "If You Installed SNM in a Non-Default Directory..." on page 3-23 for instructions on setting this variable.

2. Press Return to accept the default to install all packages.
You receive the following display:

```
Processing package instance <SUNWab86> from </cd>
```

```
SunNet Manager 2.2.3/x86 AnswerBook  
(all) 38.8
```

```
<Copyright notice>
```

```
Using </opt or other directory> as the package base directory.
```

```
The installation options are as follows:
```

```
Option: Description:
```

- ```

1. nil: less than 1 Megabyte disk space required [slowest performance].
2. heavy: 453 Megabytes disk space required [best performance].
Enter the number of an installation option from the list above (1 or 2).
```

```
Select an installation option: 1
```



### 3. Enter your choice for Answerbook, 1 or 2.

The following is the output if you select 1 for the nil option.

```
Installation option: nil selected.

The next request for input asks you to specify the parent directory of
AnswerBook
Make sure to choose a parent directory on a file system big enough to
accommodate all the files to be moved for the INSTALL OPTION you selected.

Specify the parent of the AnswerBook home directory: <your directory choice>
Processing package information.
Processing system information.
Verifying package dependencies.
Verifying disk space requirements.
Checking for conflicts with packages already installed.
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?] y

Installing SunNet Manager 2.2.3 AnswerBook as <SUNWab86>

Installation of part 1 of 1 is complete.
Executing postinstall script.

Installation of <SUNWab86> was successful.
```

You then receive the display for the next package:

```
Processing package instance <SUNW86nma> from </cd>

SunNet Manager Agents & Libraries
(i386) 2.2.3

<Copyright notice>

You will now need to answer a few questions to configure
SunNet Manager for your workstation.

Some of the SNM daemons create log files which can grow to over 1 Meg
each in size (depending on the number of nodes being managed). The
directory where they reside should allow for appropriate free space.

Please enter the location for the SNM log files
[/var/opt/SUNWconn/snm]:
```

**4. Press Return to accept the default location (/var/opt/SUNWconn/snm) for SNM log files or enter an absolute pathname if you do not want the default.**

The installation script responds:

```
You have entered the following values:

 SNM Log File location: /var/opt/SUNWconn/snm (or your own choice)

Is this correct (y/n) [y]:
```

**5. Press Return to accept the log file location as displayed by the script or enter n and enter the log file location you want.**

After you accept or enter a log file location, the script proceeds:

```
Processing package information.
Processing system information.
 3 package pathnames are already properly installed.
Verifying disk space requirements.
Checking for conflicts with packages already installed.

The following files are already installed on the system and are being
used by another package:
 /etc/inet/inetd.conf
 /etc/inet/services
 /etc/rpc

Do you want to install these conflicting files [y,n,?,q]
```

**6. Enter y to install the specified files.**

To run correctly, SNM needs to modify the files specified by the script.

After you install the “conflicting” files, the script proceeds:

```
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?] y
```

**7. Enter y to continue with installation.**

The script responds:

```
Installing SunNet Manager Agents & Libraries as <SUNW86nma>

Installing part 1 of 1.

<List of files>

Modifying /etc/inet/inetd.conf
Modifying /etc/inet/services
Modifying /etc/rpc
[verifying class <sed>]
Executing postinstall script.

updating /etc/opt/SUNWconn/snm/snm.conf

Updating /etc/inet/inetd.conf to reflect SNM's installation directory

/var/opt/SUNWconn/snm created

Instructing inetd to re-read config file

If you're running NIS/NIS+, you need to update the services map/table.
See the SNM 2.2.3 Installation Guide, Chapter 3

Installation of <SUNW86nma> was successful.
```

Following installation of the SUNW86nma package, the script continues:

```
Processing package instance <SUNW86nmc> from </cd>

SunNet Manager Core Tools
(i386) 2.2.3

<Copyright notice>

You will now need to answer a few questions to configure
SunNet Manager for your workstation.

By default, SNM database files are placed under the directory
/var/opt/SUNWconn/snm. A minimum of 10Mb to 15Mb of free space is
recommended for this usage.

Please enter the location for the SNM databases [/var/opt/snm]:
```

- 8. Press Return to accept the SNM database location as displayed by the script or enter n and enter the location you want.**  
After you accept or enter a database location, the script proceeds:

```
You have entered the following values:

 SNM Database location: /var/opt/SUNWconn/snm (or your own choice)

Is this correct (y/n) [y]:
```

**9. Press Return to accept the database location as displayed by the script or enter n and enter the database location you want.**

After you accept or enter a database location, the script proceeds:

```
Processing package information.
Processing system information.
 10 package pathnames are already properly installed.
Verifying package dependencies.
Verifying disk space requirements.
Checking for conflicts with packages already installed.
Checking for setuid/setgid programs.

The following files are being installed with setuid and/or setgid
permissions or are overwriting files which are currently
setuid/setgid:
 /opt/SUNWconn/snm/bin/snm_discover <setuid root>

Do you want to install these setuid/setgid files [y,n,?,q] y
```

**10. Enter y to install the specified file.**

The `snm_discover` program is an important part of the SNM product.

Following this, you receive:

```
This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?] y
```

**11. Enter y to continue with installation.**

Following your y input, the script proceeds:

```
Installing SunNet Manager Core Tools as <SUNW86nmc>
<List of files>
Installation of <SUNW86nmc> was successful.
Processing package instance <SUNW86nmp> from </cd>
SunNet Manager SNMP daemon
(i386) 2.2.3
<Copyright notice>
You will now need to answer a few questions to configure
the SNMP agent for your workstation.
Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private
You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.
New read community name? [public]:
```

**12. Press Return to accept the default read community name (public), or enter a new read community name.**

The script proceeds:

```
New write community name? [private]:
```

**13. Press Return to accept the default write community name (private), or enter a new write community name.**

After accepting read/write community name defaults or entering names that you want, you receive:

```
You should also change the system specific information.
The discover tool uses the description information when
creating icons. (ex. i86pc, ipx, sun3, sc2000)

New system description? [Sun SNMP Agent, i86pc]:
```

The `pkgadd` script attempts to find out your machine architecture. Most customers, particularly those running Sun platforms, will be able to press Return to accept the default.

The script proceeds:

```
New system contact? [System administrator]:

New system location? [System administrator's office]:
```

**14. Enter a name and location for the preceding two prompts.**

The values you specify here are for your own use and for the use of other network administrators. Enter names and locations according to the conventions followed in your network. If you have no conventions, enter information that will be meaningful on your network.

After entering a contact and location, you receive:

```
You have entered the following values:

SNMP read community name: public
SNMP write community name: private
SNMP system description: Sun SNMP Agent, i86pc
SNMP system contact: System administrator
SNMP system location: System administrator's office

Is this correct (y/n) [y]:
```



**15. Press Return to accept the SNMP information as displayed by the script or enter n and enter the values you want.**

After you confirm the SNMP information, the script proceeds:

```
Processing package information.
Processing system information.
 8 package pathnames are already properly installed.
Verifying disk space requirements.
Checking for conflicts with packages already installed.
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?] y
```

**16. Enter y to continue with installation.**

Following your y input, the script proceeds:

```
Installing SunNet Manager SNMP daemon as <SUNW86nmp>

Installing part 1 of 1.
/etc/init.d/init.snmpd
/etc/opt/SUNWconn/snm/snmpd.conf
/opt/SUNWconn/snm/agents/snmpd
/opt/SUNWconn/snm/agents/snmpd.conf
/opt/SUNWconn/snm/agents/snmpv2d
/opt/SUNWconn/snm/agents/snmpv2d.conf.t
/opt/SUNWconn/snm/agents/sun.mib
[verifying class <none>]
/etc/rc2.d/K25snmpd <linked pathname>
/etc/rc3.d/S25snmpd <linked pathname>
Executing postinstall script.

Updating /etc/opt/SUNWconn/snm/snmpd.conf with community name
information...

Updating /etc/init.d/init.snmpd with snmpd agent location...

Starting snmpd.

Installation of <SUNW86nmp> was successful.
```

Many customers are puzzled when `pkgadd` returns to its initial display upon completion: "Am I really finished?" The answer is "Yes." When you see the list of packages that you saw when you first invoked `pkgadd`, enter `q` to quit the command.

When `pkgadd` is finished, it returns to its initial display of packages. You enter `q` to exit the command. (Pressing Return to re-run `pkgadd` does no harm, but is a waste of your time.)

**17. When you finish running `pkgadd`, eject the CD-ROM, using one of the following sets of commands:**

**a. Enter the following to eject the caddy:**

```
hostname# cd /
hostname# eject
```

Upon completion of `pkgadd`, you can use `pkgchk (1M)` to confirm the correct installation of your packages. The `pkgchk` command takes one or more package names as an argument.

---

**Note** – `pkgchk` will return an error condition on packages `SUNW86nma` (`inetd.conf`, `snm.conf`, and `rpc`) and `SUNW86nmp` (`init.snmpd` and `snmpd.conf`). These packages are flagged as errors because post-installation has updated the actual file size.

---

## Finishing Installation

Finishing installation includes these tasks:

- Updating NIS/NIS+ maps/tables, if you are running NIS/NIS+
- Setting up access to on-line help and man pages
- Defining the `SNMHOME` variable, if you installed in a non-default directory

---

**Note** – If you installed SunNet Manager software on a server, you can run the Console from a client. To do so, run the `getagents` or `pkgadd` program as described in the next chapter, and specify that you are using an NFS mount. Because of local site variations, you may need to modify environment variables on the client before all the resources are available to the various SunNet Manager applications.

---

## Updating NIS Maps or NIS+ Tables

If you are running NIS/NIS+, you must manually update the NIS services and `rpc.bynumber` maps or the equivalent tables in NIS+.

To update the NIS/NIS+ maps/tables:

1. On the master NIS/NIS+ server, log in as or become superuser:

```
hostname% su
Password: enter your superuser password
```

2. Edit the file `/etc/services` by adding the following lines:

```
snmp 161/udp # Simple Network Mgmt Protocol
snmp-trap 162/udp snmptrap # SNMP trap (event) messages
```

**3. Edit the file `/etc/rpc` by adding the following lines, if they do not already exist in the file:**

|          |        |             |
|----------|--------|-------------|
| event    | 100101 | na.event    |
| logger   | 100102 | na.logger   |
| sync     | 100104 | na.sync     |
| diskinfo | 100105 | na.diskinfo |
| iostat   | 100106 | na.iostat   |
| hostperf | 100107 | na.hostperf |
| activity | 100109 | na.activity |
| lpstat   | 100111 | na.lpstat   |
| hostmem  | 100112 | na.hostmem  |
| sample   | 100113 | na.sample   |
| ping     | 100115 | na.ping     |
| rpcnfs   | 100116 | na.rpcnfs   |
| hostif   | 100117 | na.hostif   |
| etherif  | 100118 | na.etherif  |
| ippath   | 100119 | na.ippath   |
| iproutes | 100120 | na.iproutes |
| layers   | 100121 | na.layers   |
| snmp     | 100122 | na.snmp     |
| traffic  | 100123 | na.traffic  |
| layers2  | 100131 | na.layers2  |
| etherif2 | 100135 | na.etherif2 |
| hostmem2 | 100136 | na.hostmem2 |
| iostat2  | 100137 | na.iostat2  |
| snmpv2   | 100138 | na.snmpv2   |

**4. Make the changes effective:**

- a. If you are running NIS, update the maps using the `ypmake` command, then push the maps out to the slave NIS servers using the `yppush` command.**
- b. If you are running NIS+, update the tables using the `nisaddent` command.**

---

**Note** – Refer to your system administration documentation if you need additional information on these commands.

---

If you executed `su -` or logged in to the console as root, use this command to look for the `inetd` process:

```
ps -af | grep inetd
```

**5. Look for and kill the `inetd` process by entering the following commands:**

```
hostname# ps -ef | grep inetd
hostname# kill -HUP <processnumber>
```

where `<processnumber>` is the `inetd` process number returned.

## *Setting up Access to SNM Executables, On-line Help, and man Pages*

To allow access to SunNet Manager executables, append the path of those executables—the default is `/opt/SUNWconn/bin`—to your `PATH` variable in your shell startup file.

For a C-shell, in your `$HOME/.cshrc` file enter:

```
setenv PATH ${PATH}:/opt/SUNWconn/bin
```

For a Bourne or Korn shell, in your `$HOME/.profile` file enter:

```
set PATH=${PATH}:/opt/SUNWconn/bin
export PATH
```

Context-sensitive help is available for the SunNet Manager Console and tools. In order to use the SunNet Manager on-line help, you need to put the SunNet Manager help directory in a `HELPPATH` environment variable in your shell startup file. If you installed SunNet Manager in `/opt/SUNWconn/snm`, use one of the following commands.

For a C-shell, in your `$HOME/.cshrc` file enter:

```
setenv HELPPATH ${HELPPATH}:/opt/SUNWconn/snm/help
```

For a Bourne or Korn shell, in your `$HOME/.profile` file enter:

```
set HELPPATH=${HELPPATH}:/opt/SUNWconn/snm/help
export HELPPATH
```

To get on-line help on SunNet Manager windows, menus, fields, and buttons, point the cursor to the appropriate item on the screen and press the F1 or Help key on the keyboard (see the following Note). A pop-up Help window is displayed that contains information about the item. You can then move the pointer to another screen item in a SunNet Manager screen and press the Help key again. When you are done with the Help window, click SELECT on the Help window pushpin to dismiss the window.

---

**Note** – To invoke on-line help, you must use the key that is mapped as the Help key. The `xmodmap` command in the `.xinitrc` file in your home directory is used to modify keyboard mappings. If the line `xmod -e 'keysym F1 = Help'` is not commented out in the `.xinitrc` file, you should use the F1 key to display the pop-up Help window. If the line `xmodmap $HOME/.xmodmap` exists in the `.xinitrc` file, you should check the `.xmodmap` file in your home directory for any lines that remap the Help key.

---

To use the SunNet Manager man pages, you need to put the SunNet Manager man page directory in a `MANPATH` environment variable in your shell startup file. If you installed SunNet Manager in `/opt/SUNWconn/snm`, use one of the following commands.

For a C-shell, in your `$HOME/.cshrc` file enter:

```
setenv MANPATH ${MANPATH}:/opt/SUNWconn/man
```

For a Bourne or Korn shell, in your `$HOME/.profile` file enter:

```
set MANPATH=${MANPATH}:/opt/SUNWconn/man
export MANPATH
```

The preceding examples assumed you installed SNM in its default location. If you installed the product in a directory other than `/opt`, specify the non-default directory when you assign a value to `PATH` or `MANPATH`.

### *If You Installed SNM in a Non-Default Directory...*

If you installed SNM in a directory other than `/opt`, you must set the `SNMHOME` environment variable to the directory where SNM is stored. For example, if you installed SNM in `/usr2`, enter assign a value to `SNMHOME` as follows:

For a C-shell, in your `$HOME/.cshrc` file enter:

```
setenv SNMHOME /usr2/SUNWconn/snm
```

Then, as the `.cshrc` owner, enter:

```
hostname# source $HOME/.cshrc
```

For a Bourne or Korn shell, in your `$HOME/.profile` file enter:

```
set SNMHOME=/usr2/SUNWconn/snm
export SNMHOME
```

Then, as the `.profile` owner, enter:

```
hostname# . $HOME/.profile
```

Remember that, for all shell types, for root, `$HOME` is your root (`/`) directory.

If you have a `$HOME/.SNMdefaults` file left over from a previous version of SunNet Manager and have installed version 2.2.3 in a different directory from the one used for the previous version, change the values of the `snm.console.schemaPath_2.x` and `snm.console.iconPath_2.x` parameters to reflect the non-default directory.

### *The Next Step...*

Proceed to Chapter 4, “Installing Agent Software on Remote Systems,” for instructions on installing agents (the remote data collection programs) on remote systems.

## ≡ 3

---

After you have installed SNM agents, the next step is start the SNM Console and create a management database of network elements that you intend to manage. See Chapter 2 of the *SunNet Manager 2.2.3 User's Guide* for instructions on performing these tasks.



# *Installing Agent Software on Remote Systems*



|                                                     |                  |
|-----------------------------------------------------|------------------|
| <i>Do You Need to Install Agents?</i>               | <i>page 4-1</i>  |
| <i>Overview of Agent Installation</i>               | <i>page 4-3</i>  |
| <i>Using the pkgadd Program to Install Agents</i>   | <i>page 4-3</i>  |
| <i>Using the getagents Script to Install Agents</i> | <i>page 4-11</i> |
| <i>The Next Step...</i>                             | <i>page 4-33</i> |

This chapter provides instructions for installing SunNet Manager agent software on remote systems.

## *Do You Need to Install Agents?*

Depending on your network management needs, you do not have to install agents on machines in order to make effective use of SunNet Manager. All platforms that run on TCP/IP networks support protocols that enable the SNM Console machine to obtain useful data from machines without agents.

The Console has the capability to manage agent-less machines through its proxy feature, working in conjunction with the `ping` and `hostperf` agents running on the Console machine. The proxy feature allows agents running on one machine—the Console machine or any machine running SNM agents—to respond as if they were running on another machine. This feature is described in detail in Chapter 1 of the *SunNet Manager 2.2.3 Reference Manual*.

Through use of the `hostperf` and `ping proxy` agents you can obtain the following information from a remote machine:

From the `hostperf` agent:

- number of CPU interrupts
- disk usage
- number of input and output packets
- percentage of CPU usage

All of the above items are expressed per unit of time.

From the `ping` agent:

- the reachability of a remote host
- round-trip time for a packet sent to a remote host

The information returned by the `ping` agent is analogous to that returned by the `ping -s` command.

You can use the `hostperf` and `ping` agents to send both data and event requests. You can save, browse, graph, and strip-chart data from a machine without agents in the same way that you manipulate data returned from a machine with host-resident agents.

Good reasons to install agents, rather than relying on the `hostperf` and `ping` proxies, are:

- You can obtain a far greater breadth and depth of information on each machine.
- You do not have a single point-of-failure (that is, the machine running the proxy agents).

If you install the SNMP agents, you gain the ability to set, as well as obtain, the values of parameters on a remote machine.

Proxy agents have uses other than obtaining data from machines that are not running SNM agents. For example, they allow you to use SNM to manage networks that use protocols other than TCP/IP or let you manage remote networks. Their ability to allow you to obtain data from agent-less machines is offered here as a consideration for your decision as to whether to install agents.

## Overview of Agent Installation

The platform running the SunNet Manager Console (the “manager station”) is the focal point for collecting and analyzing information. It gets the information from data collection programs (*agents*) usually running on remote machines.

SunNet Manager 2.2.3 software provides agents for x86 platforms running Solaris 2.4 systems. You install agents on remote Solaris 2.x systems by running the `/usr/sbin/pkgadd` program or the `getagents` script.

## Using the `pkgadd` Program to Install Agents

The following is the recommended procedure (rather than use of `getagents`) for installing agents on a x86 platform running Solaris 2.4 system.

---

**Note** – Use this procedure if you are installing agents only and are not installing the software on a system that will be used as a SunNet Manger Console.

---

When you run the `/usr/sbin/pkgadd` program to install agents, you follow the same instructions as you did to install the SunNet Manager software, except that you only add the Agents & Libraries (`SUNW86nma`) and SNMP daemon (`SUNW86nmp`) packages, if you want to install the SNMP agent.

To install agents using the `pkgadd` program:

- 1. Go to the machine you want to install the agents on.**
- 2. Obtain access to the CD-ROM, as described in the section, “Inserting and Accessing the CD-ROM” on page 3-2.**
- 3. Invoke the `pkgadd` command.**
  - a. If you want to install the packages in the default directory (`/opt`) using the local CD-ROM, enter the following command:**

```
hostname# /usr/sbin/pkgadd -d /cdrom/sunnet_manager_x86_2_2_3
```

---

**Note** – If you are installing the software packages from a remote CD-ROM, the required path is `/cd/sunnet_manager_x86_2_2_3`.

---

**b. If you want to install the packages other than the default directory using the local CD-ROM, enter the following command:**

```
hostname# /usr/sbin/pkgadd -d /cdrom/sunnet_manager_x86_2_2_3 -a
none
```

With the latter command, `pkgadd` prompts you for the destination directory prior to installing each package. Be sure to enter the same base directory for both of the SNM packages you will install. If you install in other than `/opt`, see “If You Installed SNM in a Non-Default Directory...” on page 3-23 for instructions on what to do following package installation.

After invoking either of the above commands, you receive a list of packages available for installation:

```
The following packages are available:
 1 SUNWab86 SunNet Manager 2.2.3/x86 AnswerBook
 (all) 38.8
 2 SUNW86nma SunNet Manager Agents & Libraries
 (i386) 2.2.3
 3 SUNW86nmc SunNet Manager Core Tools
 (i386) 2.2.3
 4 SUNW86nmp SunNet Manager SNMP daemon
 (i386) 2.2.3

Select package(s) you wish to process (or 'all' to process
all packages). (default: all) [?,??,q]:
```

**4. Enter 2 and 4, as shown above, to install the SNM agents and the SNM SNMP daemon. (Enter 2 only if you do not want to install the SNMP daemon.)**

You then receive the following display:

```
Processing package instance <SUNW86nma> from </cd>
```

```
SunNet Manager Agents & Libraries
(i386) 2.2.3
```

*<Copyright notice>*

You will now need to answer a few questions to configure SunNet Manager for your platform.

Some of the SNM daemons create log files which can grow to over 1 Meg each in size (depending on the number of nodes being managed). The directory where they reside should allow for appropriate free space.

Please enter the location for the SNM log files  
[/var/opt/SUNWconn/snm]:

**5. Press Return to accept the default location (/var/opt/SUNWconn/snm) for SNM log files or enter an absolute pathname if you do not want the default.**

The installation script responds:

```
You have entered the following values:
```

```
SNM Log File location: /var/opt/SUNWconn/snm (or your own choice)
```

```
Is this correct (y/n) [y]:
```

**6. Press Return to accept the log file location as displayed by the script or enter n and enter the log file location you want.**

After you accept or enter a log file location, the script proceeds:

```
Processing package information.
Processing system information.
 3 package pathnames are already properly installed.
Verifying disk space requirements.
Checking for conflicts with packages already installed.

The following files are already installed on the system and are being
used by another package:
 /etc/inet/inetd.conf
 /etc/inet/services
 /etc/rpc

Do you want to install these conflicting files [y,n,?,q] y
```

**7. Enter y to install the specified files.**

To run correctly, SNM needs to modify the files specified by the script.

After you install the “conflicting” files, the script proceeds:

```
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?] y
```

**8. Enter y to continue with installation.**

The script responds:

```
Installing SunNet Manager Agents & Libraries as <SUNW86nma>

Installing part 1 of 1.

<List of files>

Modifying /etc/inet/inetd.conf
Modifying /etc/inet/services
Modifying /etc/rpc
[verifying class <sed>]
Executing postinstall script.

updating /etc/opt/SUNWconn/snm/snm.conf

Updating /etc/inet/inetd.conf to reflect SNM's installation directory

/var/opt/SUNWconn/snm created

Instructing inetd to re-read config file

If you're running NIS/NIS+, you need to update the services map/table.
See the SNM 2.2.3 Installation Guide, Chapter 3

Installation of <SUNW86nma> was successful.
```

If you specified the installation of packages 2 and 4 at the first `pkgadd` prompt (in Step 3), following installation of the `SUNW86nma` package, the script continues as shown below. If you entered only 2, to install only the `SUNW86nma` package, skip to Step 13:

```
Processing package instance <SUNW86nmp> from </cd>

SunNet Manager SNMP daemon
(i386) 2.2.3

<Copyright notice>

You will now need to answer a few questions to configure
the SNMP agent for your platform.

Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private

You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.

New read community name? [public]:
```

**9. Press Return to accept the default read community name (public), or enter a new read community name.**

The script proceeds:

```
New write community name? [private]:
```



**10. Press Return to accept the default write community name (private), or enter a new write community name.**

After accepting read/write community name defaults or entering names that you want, you receive:

```
You should also change the system specific information.
The discover tool uses the description information when
creating icons. (ex. i86pc, ipx, sun3, sc2000)

New system description? [Sun SNMP Agent, i86pc]:
```

The `pkgadd` script attempts to find out your machine architecture. Most customers, particularly those running Sun machines, will be able to press Return to accept the default.

The script proceeds:

```
New system contact? [System administrator]:

New system location? [System administrator's office]:
```

**11. Enter a name and location for the preceding two prompts.**

The values you specify here are for your own use and for the use of other network administrators. Enter names and locations according to the conventions followed in your network. If you have no conventions, enter information that will be meaningful on your network.

After entering a contact and location, you receive:

```
You have entered the following values:

SNMP read community name: public
SNMP write community name: private
SNMP system description: Sun SNMP Agent, i86pc
SNMP system contact: System administrator
SNMP system location: System administrator's office

Is this correct (y/n) [y]:
```

### 12. Enter *y* to continue with installation.

Following your *y* input, the script proceeds:

```
Installing SunNet Manager SNMP daemon as <SUNW86nmp>

Installing part 1 of 1.
/etc/init.d/init.snmpd
/etc/opt/SUNWconn/snm/snmpd.conf
/opt/SUNWconn/snm/agents/snmpd
/opt/SUNWconn/snm/agents/snmpd.conf
/opt/SUNWconn/snm/agents/snmpv2d
/opt/SUNWconn/snm/agents/snmpv2d.conf.t
/opt/SUNWconn/snm/agents/sun.mib
[verifying class <none>]
/etc/rc2.d/K25snmpd <linked pathname>
/etc/rc3.d/S25snmpd <linked pathname>
Executing postinstall script.

Updating /etc/opt/SUNWconn/snm/snmpd.conf with community name
information...

Updating /etc/init.d/init.snmpd with snmpd agent location...

Starting snmpd.

Installation of <SUNW86nmp> was successful.
```

### 13. Exit the *pkgadd* program.

When *pkgadd* is finished, it returns to its initial display of packages. You enter *q* to exit the command.

If you are running NIS/NIS+, you must manually add the agent entries to */etc/rpc* and */etc/services* on the NIS/NIS+ master. To update the *rpc.bynumber* and *services* maps on both the master and the server, see the “Updating NIS Maps or NIS+ Tables” on page 3-19 for instructions.

You have installed the agents, and they are ready to be run and managed on this system.

## Using the `getagents` Script to Install Agents

This section contains an overview of the `getagents` script, information on copying scenarios, and the following procedures:



---

**Caution** – Agents from an earlier release of SunNet Manager can **not** be installed on a x86 platform.

---

- Running the `getagents` script using an NFS mount on Solaris 2.x systems (page 4-13)
- Running the `getagents` script using an NFS mount on SunOS 4.x systems (page 4-18)
- Running the `getagents` script using `rcp` on Solaris 2.x systems (page 4-23)
- Running the `getagents` script using `rcp` on SunOS 4.x systems (page 4-28)

---

**Note** – Use of `pkgadd`, as described in “Using the `pkgadd` Program to Install Agents” on page 4-3, is the recommended way of installing agents on Solaris 2.x machines, rather than the use of `getagents`, as described here.

---

### Overview of the `getagents` Script

The `getagents` script allows a platform to run SunNet Manager agents and proxy agents by editing system files (similar to what the installation script does) and copying agents, libraries, and the SNMP proxy agent schema from the manager station to another machine. The script makes backups of all system files that are modified.

Specifically, the `getagents` script:

- Copies the agents, schema files, libraries, and native SNMP agent files from the manager station.
- On a machine running Solaris 2.x, creates the `/var/opt/SUNWconn/snm` directory for SunNet Manager log files. On a machine running SunOS 4.x, creates the `/var/adm/snm` directory for SunNet Manager log files. (For a description of these log files, see the `snm.conf(5)` man page.)
- Under SunOS 4.x only, creates symbolic links from the `libnetmgt.sa.2.0` and `libnetmgt.so.2.0` shared library files to `/usr/lib`. These files are used by SunNet Manager agent and manager applications.

If the link creation fails, an error message is printed, and you'll need to make the links yourself.

---

**Note** – Shared library files (or links to them) should be placed in `/usr/lib`. If you put them somewhere else, run `ldconfig(8)` with the library path names.

---

- On a machine running Solaris 2.x, creates a `/etc/opt/SUNWconn/snm/snm.conf` file if none exists, or updates the old one. On a machine running SunOS 4.x, creates a `/etc/snm.conf` file if none exists, or updates the old one. For a description of the `snm.conf` file, see `snm.conf(5)`.
- Adds SunNet Manager agent entries to `/etc/rpc`—see `rpc(5)`.
- Adds SNMP definitions to the `/etc/inet/services` file for Solaris 2.x systems, or to the `/etc/services` file for SunOS 4.x systems.

If you are running NIS/NIS+, you must manually add the agent entries to `/etc/rpc` and `/etc/services` on the NIS/NIS+ master. To update the `rpc.bynumber` and `services` maps on both the master and the server, see the “Updating NIS Maps or NIS+ Tables” on page 3-19 for instructions.

- Updates `/etc/inet/inetd.conf` under Solaris 2.x, or `/etc/inetd.conf` under SunOS 4.x and asks `inetd(8C)` to re-read its configuration file. See the `inetd.conf(5)` man page.
- Creates a sample database file you can add to your management database on the manager station.
- On a machine running Solaris 2.x, creates the `/var/opt/SUNWconn/snm/snmp.hosts` and `/var/opt/SUNWconn/snm/snmp.traps` files for use by the SNMP proxy agent. On a machine running SunOS 4.x, creates the `/var/adm/snm/snmp.hosts` and the `/var/adm/snm/snmp.traps` files for use by the SNMP proxy agent.

## *Copying Scenarios*

There are various ways the manager station can make files available to other machines. Two common approaches are NFS and `rcp(1)`. NFS is the recommended method, but not an option at every site. If `rcp` is used, the `.rhosts` file on the manager station must contain the name of the remote

(agent) machine, allowing the agent machine root access to the manager machine. Once you have installed the agents, you may remove the agent machine name from the manager's `.rhosts` file to restore security.

Since the `getagents` script copies files across the network, it needs to know what access method is going to be used for the copy. The three basic scenarios are:

- The system has the SunNet Manager distribution NFS mounted from the manager station. You don't want to copy the agents because you're going to run the agents over the mount.
- The system has the SunNet Manager distribution NFS mounted from the manager station. You *want* to copy the agents because you're going to run the agents from a different file system.
- The SunNet Manager distribution is not NFS mounted, so `rsh` is needed to copy the agents.

The programs do not use copy methods such as `tftp(1)`.

### *Running the `getagents` Script Using an NFS Mount for Solaris 2.x Systems*

In the following procedure, the local machine (`agenthost`) has the SunNet Manager distribution files NFS mounted from the manager (`mgrhost`) station.

To run the `getagents` script using an NFS mount:

- 1. Log in as root on the manager station. Enter the following commands to export the filesystem and start the NFS daemons, if they are not already running:**

```
mgrhost# share -F nfs -o ro /opt/SUNWconn/snm
mgrhost# /usr/lib/nfs/nfsd 8
mgrhost# /usr/lib/nfs/mountd
```

- 2. Log in as root to the machine that will run the agents (this machine will be referred to as the "local machine").**
- 3. Create a mountpoint on the local machine.**

**4. Mount the SunNet Manager software on your local machine from the manager station (by default, in /opt/SUNWconn/snm):**

```
agenthost# mount <mgrhost>:/opt/SUNWconn/snm <mountpoint>
```

**5. Run the `getagents` script from the `bin` directory under the mountpoint you created on the local machine.**

The `getagents` script starts and asks for the name of the directory where the agents will be installed.

```
<mountpoint>/bin/getagents

-- SunNet Manager 2.2.3 agent installation --
Copyright (c) 1990-1995 by Sun Microsystems, Inc.

What is the name of the root directory where agents will be installed?
Agents will be installed into the 'agents' subdirectory of the directory
you specify. Type 'NFS' if you intend to run the agents via an NFS
mount. [/opt/SUNWconn/snm]
```

**6. To run the agents over an NFS mount, enter `NFS`; to install the agents on the local system, press Return to accept the default, `/opt/SUNWconn/snm`, or enter another path name.**

**Note** - If you enter `NFS`, the `getagents` script asks for the name of the root directory under which the SunNet Manager agents and libraries are located. Go to Step 9.

The `getagents` script asks if you want to create the agents directory.

```
/opt/SUNWconn/snm/agents doesn't exist, should I create it? [y]
```

**7. Press Return to accept the default, y.**

The `getagents` script asks for the name of the host where the agents are located.

```
OK, /opt/SUNWconn/snm/agents was made.
```

```
What is the name of the host where the agents are? Type Return if you
have the directory NFS mounted: [localhost]
```

**8. Press Return to accept the default, localhost.**

The `getagents` script asks for the name of the root directory under which the agents and libraries are located.

```
What is the name of the root directory under which the SunNet Manager
agents and libraries are located? []
```

**9. Enter the name of the mountpoint you created in Step 3.**

If the Sun SNMP agent is not installed on your manager station, SNMP questions are not asked.

The `getagents` script creates library links, then asks if you want to install the Sun SNMP agent.

```
Would you like to install the Sun SNMP agent? [y]
```

**10. Press Return to accept the default, *y*, to install the Sun SNMP agent, or enter *n* for no, if you do not want to install the Sun SNMP agent.**

---

**Note** – If you enter *n*, the `getagents` script creates the `/etc/opt/SUNWconn/snm/snm.conf` file, then asks for the location of the database files. Go to Step 14.

---

The `getagents` script displays several messages and information about community names, and then asks for the read community name.

```
Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private
```

```
You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.
```

```
New read community name? [public]
```

**11. Press Return to accept the default read community name, *public*, or enter a new read community name.**

The `getagents` script asks if you want to change the default write community name.

```
New write community name? [private]
```



**12. Press Return to accept the default write community name, private, or enter a new write community name.**

The `getagents` script displays information about the `init.snmpd` script, and asks if you want the script to be added to the `/etc/init.d` directory now.

```
To run the Sun SNMP agent at each reboot, the init.snmpd
startup/shutdown script needs to be added to the
/etc/init.d directory.
```

```
Would you like to add this script? [y]?
```

**13. Press Return to accept the default, y, or enter n for no. If you enter n, be sure to manually add the script after the installation; see the `snmpd` man page for instructions on how to add the script.**

The `getagents` script creates the `/etc/opt/SUNWconn/snm/snm.conf` file, then asks for the location of the database files.

```
Creating /etc/opt/SUNWconn/snm/snm.conf ... done.
```

```
By default, SunNet Manager database and log files are placed under the
directory /var/opt/SUNWconn/snm which will be created during this installation.
A minimum of 10Mb to 15Mb of free space in the default database
location is recommended. If you would like to put the databases in an
alternate directory by default, a link will be created from /var/opt/SUNWconn/snm
to the new location. The current usage for /var/opt/SUNWconn/snm is:
```

| Filesystem                     | kbytes | used | avail | capacity | Mounted on        |
|--------------------------------|--------|------|-------|----------|-------------------|
| <code>/dev/dsk/c0t3d0s0</code> | 20570  | 1139 | 17373 | 6%       | <code>/var</code> |

```
Would you like the databases to be written to a new default directory? [n]
```

- 14. Press Return to accept the default location for the database files, /var/opt/SUNWconn/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the database files.** The `getagents` script asks for the location of the log files.

```
Some of the SunNet Manager daemons create log files that can grow over
1 Mb each in size, depending on the number of nodes you are managing.
The default directory for these log files is /var/opt/snm. Here is the
current usage for /var/opt/SUNWconn/snm:
```

| Filesystem        | kbytes | used | avail | capacity | Mounted on |
|-------------------|--------|------|-------|----------|------------|
| /dev/dsk/c0t3d0s0 | 20570  | 1139 | 17373 | 6%       | /var       |

```
Would you like the log files to be written somewhere else (like
/usr/snm/logs)? [n]
```

- 15. Press Return to accept the default location for the log files, /var/opt/SUNWconn/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the log files.** The `getagents` script creates `snmp` files, updates other files, and displays a message that it has finished.

You have installed the agents, and they are ready to be run and managed on this system.

### *Running the `getagents` Script Using an NFS Mount from SunOS 4.x Systems*

---

**Note** - This `getagents` script is not available for SNM 2.2.3/x86 platforms.

---

In the following procedure, the local machine (`agenthost`) has the SunNet Manager distribution files NFS mounted from the manager (`mgrhost`) station.

To run the `getagents` script using an NFS mount:

- 1. Log in as root on the SunOS 4.x manager station.**

2. Using an editor of your choice, edit the `/etc/exports` file by adding the following:

```
.
.br/>/usr/snm -ro
or
<enter the default location of snm>
```

3. At your prompt enter the following:

```
mgrhost# exportfs -a
```

4. Log in as root on the Solaris 2.4/x86 platform that will run the agents (this machine will be referred to as the “local machine”).
5. Create a mountpoint on the local machine.
6. Mount the SunNet Manager software on your local machine from the manager station (by default, in `/usr/snm`):

```
agenthost# mount mgrhost:/usr/snm mountpoint
```

7. Run the `getagents` script from the `bin` directory under the mountpoint you created on the local machine.

The `getagents` script starts and asks for the name of the directory where the agents will be installed.

```
mountpoint/bin/getagents
```

```
-- SunNet Manager 2.2.3/x86 agent installation --
Copyright (c) 1990-1995 by Sun Microsystems, Inc.
```

```
What is the name of the root directory where agents will be installed?
Agents will be installed into the 'agents' subdirectory of the directory
you specify. Type 'NFS' if you intend to run the agents via an NFS
mount. [/usr/snm]
```

**8. To run the agents over an NFS mount, enter NFS; to install the agents on the local system, press Return to accept the default, /usr/snm, or enter another path name.**

**Note** – If you enter NFS, the `getagents` script asks for the name of the root directory under which the SunNet Manager agents and libraries are located. Go to Step 11.

The `getagents` script asks if you want to create the `agents` directory.

```
/usr/snm/agents doesn't exist, should I create it? [y]
```

**9. Press Return to accept the default, y.**

The `getagents` script asks for the name of the host where the agents are located.

```
OK, /usr/snm/agents was made.
```

```
What is the name of the host where the agents are? Type Return if you
have the directory NFS mounted: [localhost]
```

**10. Press Return to accept the default, localhost.**

The `getagents` script asks for the name of the root directory under which the agents and libraries are located.

```
What is the name of the root directory under which the SunNet Manager
agents and libraries are located? []
```

**11. Enter the name of the mountpoint you created in Step 3.**

The `getagents` script creates library links, then asks if you want to install the Sun SNMP agent.

```
Backing up old library links in /usr/lib ... done.
Creating library links into /usr/lib ... done.
Would you like to install the Sun SNMP agent? [y]
```

**12. Press Return to accept the default, y, to install the Sun SNMP agent, or enter n for no, if you do not want to install the Sun SNMP agent.**

**Note** – If you enter n, the `getagents` script creates the `/etc/snm.conf` file, then asks for the location of the database files. Go to Step 16.

The `getagents` script displays several messages and information about community names, and then asks for the read community name.

```
Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private
```

```
You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.
```

```
New read community name? [public]
```

**13. Press Return to accept the default read community name, public, or enter a new read community name.**

The `getagents` script asks if you want to change the default write community name.

```
New write community name? [private]
```

**14. Press Return to accept the default write community name, private, or enter a new write community name.**

The `getagents` script displays lines that must be added to the `/etc/rc.local` file, and asks if you want them to be added now.

```
To run the Sun SNMP agent at each reboot, the following lines
need to be added to the end of /etc/rc.local:
```

```
if [-f /etc/snmpd.conf -a -x /usr/etc/snmpd]; then
 /usr/etc/snmpd -c /etc/snmpd.conf && echo `Starting snmpd.`
fi
```

```
Would you like me to do this? [y]
```

**15. Press Return to accept the default, y, or enter n for no. If you enter n, be sure to manually update the file after the installation.**

The `getagents` script creates the `/etc/snm.conf` file, then asks for the location of the database files.

```
Creating /etc/snm.conf ... done.
```

```
By default, SunNet Manager database and log files are placed under the
directory /var/adm/snm which will be created during this installation.
A minimum of 10Mb to 15Mb of free space in the default database
location is recommended. If you would like to put the databases in an
alternate directory by default, a link will be created from /var/adm/snm
to the new location. The current usage for /var/adm/snm is:
```

| Filesystem               | kbytes       | used        | avail        | capacity  | Mounted on  |
|--------------------------|--------------|-------------|--------------|-----------|-------------|
| <i>/dev/dsk/c0t3d0s0</i> | <i>20570</i> | <i>1139</i> | <i>17373</i> | <i>6%</i> | <i>/var</i> |

```
Would you like the databases to be written to a new default directory? [n]
```

- 16. Press Return to accept the default location for the database files, /var/adm/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the database files.**  
The `getagents` script asks for the location of the log files.

```
Some of the SunNet Manager daemons create log files that can grow over
1 Mb each in size, depending on the number of nodes you are managing.
The default directory for these log files is /var/adm/snm. Here is the
current usage for /var/adm/snm:
```

| Filesystem        | kbytes | used | avail | capacity | Mounted on |
|-------------------|--------|------|-------|----------|------------|
| /dev/dsk/c0t3d0s0 | 20570  | 1139 | 17373 | 6%       | /var       |

```
Would you like the log files to be written somewhere else (like
/usr/snm/logs)? [n]
```

- 17. Press Return to accept the default location for the log files, /var/adm/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the log files.**  
The `getagents` script creates `snmp` files, updates other files, and displays a message that it has finished.

You have installed the agents, and they are ready to be run and managed on this system.

### *Running the `getagents` Script using `rcp` for Solaris 2.x Systems*

The following procedure uses `rcp` to copy agents from `mgrhost` (the manager station) to `agenthost` (the “local host”).

To run the `getagents` script using `rcp`:

- 1. Set up the manager station to allow root access across the network for the host(s) that will be running `getagents` (add “agenthost” to list of trusted hosts).**

```
mgrhost# cat >>/.rhosts
agenthost
^D
```

**2. Copy getagents from the manager station to the local machine.**

```
mgrhost# rlogin agenthost
Password:
SunOS Release 5.1 (AGENTHOST): December 1992

agenthost# rcp mgrhost:/opt/SUNWconn/snm/bin/getagents /tmp
```

**3. Run the getagents script. (The following instructions assume that you have copied getagents to /tmp on the local host, although you may copy it to any directory.)**

The getagents script starts and asks for the name of the directory where the agents will be installed.

```
agenthost# /tmp/getagents

-- SunNet Manager 2.2.3 agent installation --
Copyright (c) 1990-1995 by Sun Microsystems, Inc.

What is the name of the root directory where agents will be installed?
Agents will be installed into the 'agents' subdirectory of the directory
you specify. Type 'NFS' if you intend to run the agents via an NFS
mount. [/opt/SUNWconn/snm]
```

**4. Press Return to accept the default, /opt/SUNWconn/snm.**

The getagents script asks if you want to create this directory.



**5. Press Return to accept the default, *y* (for yes, create the directory).**

The `getagents` script asks for the name of the host where the agents are located.

```
OK, /opt/SUNWconn/snm/agents was made.
```

```
What is the name of the host where the agents are? Type Return if you
have the directory NFS mounted: [localhost]
```

**6. Enter the name of the manager station.**

The `getagents` script asks for the name of the root directory on the manager station under which the agents and libraries are located.

```
What is the name of the root directory on mgrhost under which the
SunNet Manager agents and libraries are located? [opt/SUNWconn/snm]
```

**7. Press Return to accept the default, */opt/SUNWconn/snm*.**

If the Sun SNMP agent is not installed on your manager station, SNMP questions are not asked.

The `getagents` script continues and installs the agents. The `getagents` script then asks if you want to install the Sun SNMP agent.

```
Getting the agents ... done.
```

```
Here are the agents now in agenthost:/opt/SUNWconn/snm/agents -
na.activity na.hostif na.ippath na.lpstat na.snmp-trap
na.diskinfo na.hostmem2 na.iproutes na.ping na.sync
na.etherif2 na.hostperf na.layers2 na.rpcnfs na.traffic
na.event na.iostat2 na.logger na.snmp
```

```
Getting the libraries.
```

```
Would you like to install the Sun SNMP agent? [y]
```

**8. Press Return to accept the default, *y*, to install the Sun SNMP agent, or enter *n* for no, if you do not want to install the Sun SNMP agent.**

**Note** – If you enter *n*, the `getagents` script creates the `/etc/opt/SUNWconn/snm/snm.conf` file, then asks for the location of the database files. Go to Step 14.

The `getagents` script displays several messages and information about community names, and then asks for the read community name.

```
Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private
```

```
You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.
```

```
New read community name? [public]
```

**9. Press Return to accept the default read community name, *public*, or enter a new read community name.**

The `getagents` script asks if you want to change the default write community name.

```
New write community name? [private]
```

**10. Press Return to accept the default write community name, private, or enter a new write community name.**

The `getagents` script displays information about the `init.snmpd` script, and asks if you want the script to be added to the `/etc/init.d` directory now.

```
To run the Sun SNMP agent at each reboot, the init.snmpd
startup/shutdown script needs to be added to the
/etc/init.d directory.
```

```
Would you like to add this script? [y]?
```

**11. Press Return to accept the default, y, or enter n for no. If you enter n, be sure to manually add the script after the installation; see the `snmpd` man page for instructions on how to add the script.**

The `getagents` script creates the `/etc/opt/SUNWconn/snm/snm.conf` file, then asks for the location of the database files.

```
Creating /etc/opt/SUNWconn/snm/snm.conf ... done.
```

```
By default, SunNet Manager database and log files are placed under the
directory /var/opt/SUNWconn/snm which will be created during this installation.
A minimum of 10Mb to 15Mb of free space in the default database
location is recommended. If you would like to put the databases in an
alternate directory by default, a link will be created from /var/opt/SUNWconn/snm
to the new location. The current usage for /var/opt/SUNWconn/snm is:
```

| Filesystem                     | kbytes             | used              | avail              | capacity        | Mounted on        |
|--------------------------------|--------------------|-------------------|--------------------|-----------------|-------------------|
| <code>/dev/dsk/c0t3d0s0</code> | <code>20570</code> | <code>1139</code> | <code>17373</code> | <code>6%</code> | <code>/var</code> |

```
Would you like the databases to be written to a new default directory? [n]
```

- 12. Press Return to accept the default location for the database files, /var/opt/SUNWconn/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the database files.**  
The `getagents` script asks for the location of the log files.

```
Creating /var/opt/SUNWconn/snm ... done.
```

```
Some of the SunNet Manager daemons create log files that can grow over 1 Mb each in size, depending on the number of nodes you are managing. The default directory for these log files is /var/opt/SUNWconn/snm. Here is the current usage for /var/opt/SUNWconn/snm:
```

| Filesystem        | kbytes | used | avail | capacity | Mounted on |
|-------------------|--------|------|-------|----------|------------|
| /dev/dsk/c0t3d0s0 | 20570  | 1139 | 17373 | 6%       | /var       |

```
Would you like the log files to be written somewhere else (like /usr/snm/logs)? [n]
```

- 13. Press Return to accept the default location for the log files, /var/opt/SUNWconn/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the log files.**  
The `getagents` script creates `snmp` files, updates other files, and displays a message that it has finished.

You have installed the agents, and they are ready to be run and managed on this system.

---

**Note** - If you previously modified the `.rhosts` file on the manager station to temporarily allow root access to other hosts, you should now remove the entries to prevent future security breaches.

---

### *Running the `getagents` Script using `rcp` for SunOS 4.x Systems*

The following procedure uses `rcp` to copy agents from `mgrhost` (the manager station) to `agenthost` (the “local host”).

To run the `getagents` script using `rcp`:

1. **Set up the manager station to allow root access across the network for the host(s) that will be running `getagents` (add “agenthost” to list of trusted hosts).**

```
mgrhost# cat >>/.rhosts
agenthost
^D
```

If `/.rhosts` does not exist, enter `touch /.rhosts` prior to the preceding command.

2. **Copy `getagents` from the manager station to the local machine.**

```
mgrhost# rlogin agenthost
Password:
SunOS Release 4.1.1 (AGENTHOST) #1: Wed May 6 12:30:46 PDT 1992

agenthost# rcp mgrhost:/opt/SUNWconn/snm/bin/getagents /tmp
```

3. **Run the `getagents` script. (The following instructions assume that you have copied `getagents` to `/tmp` on the local host, although you may copy it to any directory.)**

The `getagents` script starts and asks for the name of the directory where the agents will be installed.

```
agenthost# /tmp/getagents

-- SunNet Manager 2.2.3 agent installation --
Copyright (c) 1990-1995 by Sun Microsystems, Inc.

What is the name of the root directory where agents will be installed?
Agents will be installed into the 'agents' subdirectory of the directory
you specify. Type 'NFS' if you intend to run the agents via an NFS
mount. [/usr/snm]
```

**4. Press Return to accept the default, /usr/snm.**

The `getagents` script asks if you want to create this directory.

**5. Press Return to accept the default, y (for yes, create the directory).**

The `getagents` script asks for the name of the host where the agents are located.

```
OK, /usr/snm/agents was made.
```

```
What is the name of the host where the agents are? Type Return if you
have the directory NFS mounted: [localhost]
```

**6. Enter the name of the manager station.**

The `getagents` script asks for the name of the root directory on the manager station under which the agents and libraries are located.

```
What is the name of the root directory on mgrhost under which the
SunNet Manager agents and libraries are located? [opt/SUNWconn/snm]
```

**7. Press Return to accept the default, /opt/SUNWconn/snm.**

The `getagents` script continues and installs the agents. The `getagents` script then asks if you want to install the Sun SNMP agent.

```
Getting the agents ... done.
```

```
Here are the agents now in agenthost:/usr/snm/agents -
na.activity na.hostif na.ippath na.lpstat na.snmp
na.diskinfo na.hostmem na.iproutes na.ping na.snmp-trap
na.etherif na.hostperf na.layers na.rpcnfs na.sync
na.event na.iostat na.logger na.sample na.traffic
```

```
Getting the libraries ... done.
```

```
Creating library links into /usr/lib ... done.
```

```
Would you like to install the Sun SNMP agent? [y]
```

---

**8. Press Return to accept the default, *y*, to install the Sun SNMP agent, or enter *n* for no, if you do not want to install the Sun SNMP agent.**

---

**Note** – If you enter *n*, the `getagents` script creates the `/etc/snm.conf` file, then asks for the location of the database files. Go to Step 12.

---

The `getagents` script displays several messages and information about community names, and then asks for the read community name.

```
Access to SNMP devices is controlled via community names.
The default community names for this SNMP agent installation will be:
 read: public
 write: private

You should change the write community name to a site specific
name to control access to this system via the SNMP agent.
You may also modify the read community name if desired.

New read community name? [public]
```

**9. Press Return to accept the default read community name, *public*, or enter a new read community name.**

The `getagents` script asks if you want to change the default write community name.

```
New write community name? [private]
```

**10. Press Return to accept the default write community name, private, or enter a new write community name.**

The `getagents` script displays lines that must be added to the `/etc/rc.local` file, and asks if you want them to be added now.

```
To run the Sun SNMP agent at each reboot, the following lines
need to be added to the end of /etc/rc.local:
```

```
if [-f /etc/snmpd.conf -a -x /usr/etc/snmpd]; then
 /usr/etc/snmpd -c /etc/snmpd.conf && echo `Starting snmpd.`
fi
```

```
Would you like me to do this? [y]
```

**11. Press Return to accept the default, y, or enter n for no. If you enter n, be sure to manually update the file after the installation.**

The `getagents` script creates the `/etc/snm.conf` file, then asks for the location of the database files.

```
Creating /etc/snm.conf ... done.
```

```
By default, SunNet Manager database and log files are placed under the
directory /var/adm/snm which will be created during this installation.
A minimum of 10Mb to 15Mb of free space in the default database
location is recommended. If you would like to put the databases in an
alternate directory by default, a link will be created from /var/adm/snm
to the new location. The current usage for /var/adm/snm is:
```

| Filesystem        | kbytes | used | avail | capacity | Mounted on |
|-------------------|--------|------|-------|----------|------------|
| /dev/dsk/c0t3d0s0 | 20570  | 1139 | 17373 | 6%       | /var       |

```
Would you like the databases to be written to a new default directory? [n]
```



- 12. Press Return to accept the default location for the database files, /var/adm/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the database files.**  
The `getagents` script asks for the location of the log files.

```
Creating /var/adm/snm ... done.

Some of the SunNet Manager daemons create log files that can grow over
1 Mb each in size, depending on the number of nodes you are managing.
The default directory for these log files is /var/adm/snm. Here is the
current usage for /var/adm/snm:
Filesystem kbytes used avail capacity Mounted on
/dev/dsk/c0t3d0s0 20570 1139 17373 6% /var

Would you like the log files to be written somewhere else (like
/usr/snm/logs)? [n]
```

- 13. Press Return to accept the default location for the log files, /var/adm/snm, or enter y to specify a different location. If you enter y, you will be prompted for the location for the log files.**  
The `getagents` script creates `snmp` files, updates other files, and displays a message that it has finished.

You have installed the agents, and they are ready to be run and managed on this system.

---

**Note** - If you previously modified the `.rhosts` file on the manager station to temporarily allow root access to other hosts, you should now remove the entries to prevent future security breaches.

---

## *The Next Step...*

After you have installed SNM agents, the next step is to start the SNM Console and create a management database of network elements that you intend to manage. See Chapter 2 of the *SunNet Manager 2.2.3 User's Guide* for instructions on performing these tasks.



## Installing SNMP Version 2



|                                           |                 |
|-------------------------------------------|-----------------|
| <i>SNMP Version 2 Support</i>             | <i>page 5-1</i> |
| <i>Installing SNMPv2</i>                  | <i>page 5-2</i> |
| <i>Deinstalling SNMPv2</i>                | <i>page 5-4</i> |
| <i>Adding SNMPv2 to the NIS/NIS+ Maps</i> | <i>page 5-4</i> |
| <i>SNMPv2 Community Strings</i>           | <i>page 5-5</i> |

### 5.1 SNMP Version 2 Support

SunNet Manager provides a proxy agent that supports Simple Network Management Protocol Version 2 (SNMPv2). The SNMPv2 proxy agent allows you to get data and event information from and set attribute values for devices that are managed via SNMPv2.

SunNet Manager 2.2.3 also provides an SNMP agent for Sun platforms called the `snmpv2d` daemon. The SunNet Manager 2.2.3 Console communicates with the `snmpv2d` daemon through the SNMP proxy agent. The `snmpv2d` daemon also allows Sun platforms to be managed by other SNMPv2 and SNMP stations. For more information about the `snmpv2d` daemon, see the `snmpv2d` (8) manual page.

---

**Note** – SNM 2.2.3 support for SNMPv2 functionality is discussed in the *SunNet Manager 2.2.3 Reference Manual*. This chapter describes installation and removal of SNMPv2 software.

---

## 5.2 Installing SNMPv2

SNMPv2 can be installed as an agent (`snmpv2d`), a manager (`na.snmpv2`), or both. The files necessary for SNMPv2 installation are installed as part of the SunNet Manager 2.2.3 packages, `SUNW86nma` and `SUNW86nmp`, respectively. The installation steps are the same for both agents and managers. Before installing SNMPv2, you must first install the above SunNet Manager 2.2.3 packages (see Chapter 3, “Installing SunNet Manager 2.2.3/x86 Software,” for details). After the SNM 2.2.3 packages have been successfully installed, you must create the three configuration files needed by the `v2install` script. These configuration files include:

- `agents` — contains the names of the hosts on which the `snmpv2d` agent will be installed.
- `mgrs.v1` — contains the names of the hosts that will be running SNMPv1 managers (`na.snmp`).
- `mgrs.v2` — contains the names of the hosts that will be running SNMPv2 managers (`na.snmpv2`).

See the `v2install(1)` manual page for detailed information about these files.

As root, create the configuration files in the `agents` directory where SunNet Manager 2.2.3 was installed. By default, this is the `/opt/SUNWconn/snm/agents` directory. Following is an example of how to create the configuration files:

```
hostname# cd /opt/SUNWconn/snm/agents
hostname# vi agents mgrs.v1 mgrs.v2
```

Run the `v2install` script as shown below, where `<hostname>` refers to the name of the machine where the SNMPv2 manager resides.

```
hostname# v2install <hostname>
```

Invoking the `v2install` script creates the configuration files needed by `snmpv2d` and `na.snmpv2` for authentication. The files will be created in the `./configs/<nodename>/agent` and `./configs/<nodename>/manager` directories, where `<nodename>` refers to the name of the machine where the `v2install` script is invoked. The `v2install` script copies the current hosts configuration files into the `/etc/opt/SUNWconn/snm/agent` and `/etc/opt/SUNWconn/snm/manager` directories, and then, if the current host is in the agents configuration file, starts up `snmpv2d`. You then need to copy the configuration files to all machines that will be using SNMPv2. The following example assumes that `/etc` has been exported on all of the necessary machines.

```
hostname# ls configs
augusta poppyhills pebblebeach spyglass
hostname# ls configs/poppyhills
agent manager
hostname# cp -r configs/augusta/* /net/augusta/etc/opt/SUNWconn/snm
hostname# cp -r configs/pebblebeach/* /net/pebblebeach/etc/opt/SUNWconn/snm
hostname# cp -r configs/spyglass/* /net/spyglass/etc/opt/SUNWconn/snm
```

You should now install the corresponding SunNet Manager 2.2.3 package on each of the machines. You should *not* run the `v2install` script again, as it creates a random string which is used between machines for authentication. Make sure you use the configuration files created by one execution of `v2install`.

On the machines on which the `SUNW86nmp` package was installed, as root, run the following commands to start `snmpv2d`:

```
hostname# /etc/init.d/init.snmpd stop
hostname# /etc/init.d/init.snmpd start
Starting snmpv2d ...
```

### 5.3 Deinstalling SNMPv2

After SNMPv2 has been installed on a system, the v2 daemon will be run each time the system is restarted. If you wish to run the SNMPv1 daemon, there are two ways this can be accomplished. If you just want to temporarily disable SNMPv2, but want to keep the configuration, then all you need to do is rename the `snmpv2d.conf` file, and start `snmpd` as follows:

```
hostname# cd /etc/opt/SUNWconn/snm/agent
hostname# mv snmpv2d.conf <snmpv2d.conf.temp>
hostname# /etc/init.d/init.snmpd stop
hostname# /etc/init.d/init.snmpd start
```

When the `snmp` startup script is run, it checks for the existence of the `snmpv2d.conf` file. If it finds it, then it runs `snmpv2d`, otherwise it will run `snmpd`. If you want to completely remove SNMPv2 support, a script (`v2deinstall`) has been included to deinstall SNMPv2. The `v2deinstall` script will remove all SNMPv2 configuration files, and restart `snmpd`. To run the script, type the following:

```
hostname# cd /opt/SUNWconn/snm/agents
hostname# v2deinstall
```

### 5.4 Adding SNMPv2 to the NIS/NIS+ Maps

In order for SNM to use SNMPv2, the `rpc.bynumber` NIS/NIS+ maps/tables must be updated to include the following entry for SNMPv2:

```
snmpv2 100138 na.snmpv2
```

Refer to Chapter 3, “Installing SunNet Manager 2.2.3/x86 Software,” for information on how to update the NIS/NIS+ maps/tables.

---

## 5.5 *SNMPv2 Community Strings*

The SNMP read and write community strings are used to distinguish between SNMPv1 and SNMPv2 requests. When the `v2install` script is run, its configuration file `mgrs.v1` is used to determine the v1 community strings. These by default were read: `public/group`, and write: `private/secret/TopSecret`.

When these strings are setup in a SunNet Manager components properties sheet, SNMPv1 requests will be sent and received.

To use SNMPv2 requests, the properties sheet needs to specify the v2 clustername to be used for the request. By default with the `v2install` script, the clustername will be the hostname of the machine that is responding to the request. The cluster records can be found in the file `/etc/opt/SUNWconn/snm/manager/mgr.cnf`.





# Removing SunNet Manager Software



This appendix provides the procedure for removing SunNet Manager software from a local machine. If you have mounted SunNet Manager via NFS, follow this same procedure, however, you will need access to the NFS server to remove some of the files.

You might remove SunNet Manager software if you need to free up some disk space on a particular system, or if you want to reinstall SunNet Manager.

You remove SunNet Manager software by running the `pkgrm` program to remove the packages you installed.

To remove SunNet Manager software:

1. Enter `su` and the password to become root.
2. Start the `pkgrm` removal program:
  - a. If you installed all the SunNet Manager packages, enter this command:

```
hostname# /usr/sbin/pkgrm SUNW86nmc SUNW86nma SUNW86nmp
```

---

**Note** – When removing multiple SNM packages it is important to remove the SNM Core Tools package (`SUNW86nmc`) first. If it is not, a dependency failure message is generated. This is a non-fatal error, but can lead to confusion.

---

**b. If you did not install the SNMP agent, enter this command:**

```
hostname# pkgrm SUNW86nmc SUNW86nma
```

The `pkgrm` removal program starts the removal script and asks if you want to remove the `SUNW86nmc` package.

**3. Enter `y` to remove the `SUNW86nmc` package.**

The `pkgrm` removal program begins removing the `SUNW86nmc` package and asks if you want to continue with the removal.

```
Removing installed package instance <SUNW86nmc>.

This package contains scripts which will be executed with super-user
permission during the process of removing this package.

Do you want to continue with the removal of this package [y, n,?,q]
```

**4. Enter `y` to continue removing the `SUNW86nmc` package.**

The `pkgrm` removal program asks if you want to remove the SunNet Manager database files.

```
Verifying package dependencies.
Processing package information.
Executing preremove script.
Do you want to remove the SNM database files in /var/opt/SUNWconn/snm (y/n) [n]:
```

**5. Press Return to accept the default, `n`, so that your database files will not be removed, or enter `y` if you want to remove the database files.**

The `pkgrm` removal program removes the `SUNW86nmc` package, and asks if you want to remove the `SUNW86nma` package.

**6. Enter `y` to remove the `SUNW86nma` package.**

The `pkgrm` removal program begins removing the `SUNW86nma` package and asks if you want to continue with the removal.

```
Removing installed package instance <SUNW86nma>.

This package contains scripts which will be executed with super-user
permission during the process of removing this package.

Do you want to continue with the removal of this package [y, n,?,q]
```

**7. Enter `y` to continue removing the `SUNW86nma` package.**

The `pkgrm` removal program asks if you want to remove the SunNet Manager log files.

```
Verifying package dependencies.
Processing package information.
Executing preremove script.
Do you want to remove the SNM log files in /var/opt/SUNWconn/snm (y/n) [y]:
```

**8. Press Return to accept the default, `y`, so that your log files will be removed, or enter `n` if you do not want to remove the log files.**

The `pkgrm` removal program removes the `SUNW86nma` package, and asks if you want to remove the `SUNW86nmp` package.

---

**Note** – If you did not choose to remove the `SUNW86nmp` package when you started `pkgrm`, the `pkgrm` removal program returns your system prompt. Go to Step 11.

---

**9. Enter `y` to remove the `SUNW86nmp` package.**

The `pkgrm` removal program begins removing the `SUNW86nmp` package and asks if you want to continue with the removal.

```
Removing installed package instance <SUNW86nmp>.

This package contains scripts which will be executed with super-user
```

```
permission during the process of removing this package.
```

```
Do you want to continue with the removal of this package [y, n,?,q]
```

**10. Enter `y` to continue removing the SUNW86nmp package.**

The `pkgrm` removal program removes the SUNW86nmp package, and returns your system prompt.

**11. If you have removed SunNet Manager software from every system on your network, and you are running NIS/NIS+, edit the `/etc/rpc` and `/etc/services` files on the master NIS/NIS+ server and make the changes effective, as follows:**

**a. Edit the `/etc/rpc` file to remove the section “SunNet Manager agents.”**

**b. Edit the `/etc/services` file to remove the following lines:**

```
snmp 161/udp # Simple Network Mgmt Protocol
snmp-trap 162/udp snmptrap # SNMP trap (event) messages
```

**c. If you are running NIS, update the maps using the `ypmake` command, then push the maps out to the slave NIS servers using the `yppush` command.**

**d. If you are running NIS+, use the `nisaddent` command.**

---

**Note** – Refer to your system administration documentation if you need additional information on these commands.

---

You have removed the SunNet Manager software from your system. If you want to remove the SNM AnswerBook, enter a `pkgrm` command with SUNWab86 as its argument.

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---

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