



## CHAPTER 8

# Sun Solaris 2.6 Operating System Installation

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The following sections in this chapter provide instructions on how to load the Solaris 2.5.1 or Solaris 2.6 operating system on the Netra t 100/105, t 1120/1125 and t 1400/1405 machines.

- [Installing the Sun Solaris 2.6 and 2.5\(1\) Operating System, page 8-1](#)
- [Installing the Solaris Patch Cluster, page 8-16](#)
- [Installing the Alarm Software, page 8-20](#)
- [PCI Card Configuration, page 8-25](#)
- [Configuring a Second Ethernet Interface, page 8-26](#)
- [Configuring a Second Disk Drive, page 8-27](#)
- [Replacing Hard Disks for Existing Solaris 2.6 Platforms, page 8-63](#)
- [Troubleshooting, page 8-66](#)

There are points in this procedure when your entries will depend on the target machine model, disk drive size or the operating system type. You will be alerted and informed where to look for the required information.

If the Sun Solaris operating system is already installed on your hardware platform, you can skip this chapter and go to [Chapter 7, “Cisco MGC Software Release 9.1\(5\) Installation.”](#)

## Installing the Sun Solaris 2.6 and 2.5(1) Operating System

The procedures in this chapter require a working knowledge of the system administration procedures for the Sun Solaris (UNIX) 2.6 operating system.



**Note**

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Allow at least two hours for the installation of the Sun Solaris 2.6 or 2.5 (1) operating system.

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**Note**

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During the installation of either software package on the Netra t 1120/1125 machines, leave the front panel open. The CD-ROM drive will automatically eject the CD.

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**Note**

Due to a known Sun bug, when installing Solaris on a Netra t 100/105, the CD-ROM will become disabled prior to the installation the Cisco patch packages. You must have a copy of patch 107665-01.tar.Z locally or have the ability to install the patch by some means other than the CD-ROM. This patch will re-enable the CD-ROM. The recommended form of installation is through a network. The required patch is also included in the Solaris 2.6 patch cluster.

## Booting from a Local CD-ROM on Netra t 1120/1125, t 1400/1405 and t 100/105

To boot the system from a local CD-ROM drive:

- Step 1** Load the disk labeled Operating Environment Installation CD (p/n: 704-6914-10) into the CD-ROM drive.
- Step 2** If the system is currently running, login in as **root** and bring the system to the ok prompt by entering the following command:
- ```
# init 0
```
- Step 3** From the ok prompt, enter the following command to boot the system from the CD-ROM drive:

**Note**

If the target machine is a Netra t 100/105, you must set the OpenBoot PROM environment parameters to the default settings prior to booting the system from the CD-ROM.

Enter the following command if the target machine is a Netra t 100/105: ok **set-defaults**

```
ok boot cdrom
```

If the target machine has never had an operating system installed, a screen similar to the following is displayed when the CD-ROM boot has completed:

**Note**

The SunOs Release 5.7 Version that is displayed in the following screen refers to the release version of the Operating Environment CD.

```
Boot device: /pci@1f,4000/scsi@3/disk@6,0:f File and args:
SunOS Release 5.7 Version Generic_106541-06 [UNIX(R) System V Release 4.0]
Copyright (c) 1983-1999, Sun Microsystems, Inc.
Solaris Web Start 3.0 installer
No frame buffer found.
```

```
Command line install is available in English only.
```

```
English has been selected as the language in which to perform the install.
Starting the Web Start 3.0 Solaris installer
```

```
Solaris installer is searching the system's hard disks for a
location to place the Solaris installer software.
```

```
The default root disk is /dev/dsk/c0t0d0.
The Solaris installer needs to format
/dev/dsk/c0t0d0 to install Solaris.
```

```
WARNING: ALL INFORMATION ON THE DISK WILL BE ERASED!
```

```
Do you want to format /dev/dsk/c0t0d0? [y,n,?,q]
```

If an operating system has been previously installed on the machine, a screen similar to the following is displayed with two warnings:

```
Command line install is available in English only.
```

```
English has been selected as the language in which to perform the install.  
Starting the Web Start 3.0 Solaris installer.
```

```
Solaris installer is searching the system's hard disks for a  
location to place the Solaris installer software.
```

```
This system appears to contain a version of Solaris.  
The Solaris installer does not allow upgrading. If you  
choose to use this installer an initial install will be  
required. Any information on your system's disks could be erased.
```

```
Would you like to use this installer? [y,n,?]
```

**Step 4** In either case, select **y** and press **Enter** to continue until the following text is displayed:

```
Enter a swap partition size between 320Mb and 17269Mb, default = 512Mb [?]
```

Type **320** (4 GB disk drives) or **2040** (9 GB, 18 GB, and 36 GB disk drives) for swap partition size and press **Enter**. It is not necessary to enter “MB” after the number; the system assumes that the entry is in megabytes.

A screen similar to the following is displayed:

```
You have selected /dev/dsk/c0t0d0 with a swap size of 2040/320 to be used by the Solaris  
installer.
```

```
WARNING: ALL INFORMATION ON THE DISK WILL BE ERASED!  
Is this OK [y,n,?,q]
```

**Step 5** Select **y** and press **Enter** to begin the installation.

A screen similar to the following is displayed:

```
The system will copy the necessary files for the CD-ROM and reboot.
```

This process takes approximately 10 minutes to run and does not require user intervention. A screen similar to the following is displayed:

```
Welcome to the Web Start Solaris Command Line installation!  
The following questions will gather information about this system.  
This information will be used to configure:
```

```
Network  
Name Service  
Date and Time  
Root Password  
Power Management
```

```
<Press Return to continue>
```

**Step 6** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Please enter a host name, which identifies this system on the network. The name must be  
unique within the domain in which it resides; creating a duplicate host name will cause  
problems on the network after you install Solaris.
```

A host name must be at least two characters; it can contain letters, digits, and minus signs (-).

Enter host name: <host-name>

**Step 7** Type the hostname of the target Netra machine, then press **Enter**.

A screen similar to the following is displayed:

Please specify whether your system will be networked. Specify Yes if the system is connected to the network by one of the Solaris or vendor network/communication Ethernet cards that are supported on the Solaris CD. See your hardware documentation for the current list of supported cards.

Specify No if the system is connected to a network/communication card that is not supported or not connected to a network.

Is this machine networked (y/n) [n]?

**Step 8** Select **y** and press **Enter** to specify that this machine is networked.

A screen similar to the following is displayed:

Please enter the Internet Protocol (IP) Address for this system. It must be unique and follow your site's address conventions, or a system/network failure could result.

IP Addresses contain four sets of numbers separated by periods (for example 129.200.9.1).

Enter this machine's IP Address:

**Step 9** Enter the IP address assigned to this system in dotted decimal format, then press **Enter**.

A screen similar to the following is displayed:

Please specify the netmask of your subnet. A default netmask is shown; do not accept the default unless you are sure it is correct for your subnet. A netmask must contain four sets of numbers separated by periods (for example 255.255.255.0).

Enter the subnet netmask [255.255.255.0]:

**Step 10** Refer to [Table 1-6 on page 1-5](#) for the specific IP netmask for the subnet and type it here, then press **Enter**.



**Warning** Do not accept the default netmask unless you are sure it is correct for your subnet.

A screen similar to the following is displayed:

Please provide name service information. Select the name service that will be used by this system, or None if your system will either, not use a name service at all, or if it will use a name service not listed here

Available name services:

1. NIS+
2. NIS
3. DNS
4. None

Please enter the number corresponding to the type of name service you would like [ ]:

**Step 11** Select **4** for **None** and press **Enter** to specify your default time zone. You can specify a default time zone in one of three ways described in the screen displayed above.

A screen similar to the following is displayed:

```
Please select how to specify your default time zone.
```

```
Specify Time Zone by:
```

1. Geographic region
2. Offset from GMT
3. Time zone file

```
Please enter the number corresponding to how you would like to specify
the time zone [1]:
```

- Step 12** Select the means of defining your default time zone then press **Enter**. The screens that follow will prompt you for appropriate input until the following screen is displayed:

```
The default date and time is (current date and time of defined time zone). Do you want to
use this date and time (y/n) [y]?
```

- Step 13** You can accept the date and time information as shown by pressing **Enter**, or you can select **n** and press **Enter** to be prompted to enter different values. If the information is correct, press **Enter**.

The next screen allows you enter a root password for the system. You will be prompted to enter it a second time for verification.

```
Type in an alphanumeric string to be used as the root password for the computer you are
setting up.
```

```
Enter the root password []:
```

- Step 14** Refer to [Table 1-6 on page 1-5](#) for the root password for this system and enter it here. Press **Enter** to continue. You will now be prompted to confirm the root password.

A screen similar to the following is displayed:

```
Retype the above password for confirmation.
```

```
Enter the root password again []:
```

- Step 15** Re-type the root password for this system, then press **Enter**.

A screen similar to the following is displayed:

```
Do you want Power Management turned on (y/n) [n]?
```

- Step 16** Select **n** to disable Power Management, then press **Enter**.

A screen similar to the following is displayed:

```
You can choose to be asked the preceding question every time you reboot the system.
Alternatively, you can choose never to be asked about Power Management again.
```

```
Ask about Power Management at each reboot (y/n) [n]?
```

- Step 17** Select **n**, then press **Enter**.

A screen similar to the following is displayed:

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

```
Host Name:                host-name
IP Address:                IP_address
System part of a subnet:  Yes
Netmask:                  IP_netmask
Name Service:              NONE
Time Zone:                time_zone
Power Management:
```

```
Turn Power Management Off
Do not ask about Power Management at reboot.
```

Enter 'y' to apply these values and proceed to the next stage of the installation, or 'n' to return to the beginning and make changes (y/n):

- Step 18** Select **n** if these values are not correct, then press **Enter** to return to [Step 6](#). If these values are correct, select **y**, then press **Enter**. Continue on to “[Installing the Solaris 2.6 or 2.5.1 Operating System on Netra t 1120/1125, t 1400/1405 and t 100/105](#)” section on page 8-6.

## Installing the Solaris 2.6 or 2.5.1 Operating System on Netra t 1120/1125, t 1400/1405 and t 100/105

This section provides the procedure for installing the Solaris 2.6 or 2.5.1 operating system.



### Note

This procedure covers 9 GB, 18 GB, and 36 GB disk drives (see [Step 11](#)) for Solaris 2.6. The 36 GB disk drive is not supported in Solaris 2.5.1.

The following screen is displayed upon the acceptance of [Step 18](#) above.

```
keyserv: failed to generate host's netname when establishing root's key.

Solaris Web Start will now gather information to install software for Solaris.

Please wait while initial values are loaded...

Available operating environments:

1. Solaris 2.5.1 Hardware: 11/97
2. Solaris 2.6 5/98

Select the number corresponding to the operating environment you would
like to install [1]:
```

To install the Solaris operating system:

- Step 1** Select the number or the desired installation software, then press **Enter**.

A screen similar to the following is displayed:

```
You have selected:

Solaris OS: Solaris 2...

Enter 'y' if this is correct, or 'n' if it is incorrect:
```

- Step 2** If the display represents the software that you have chosen, select **y** and press **Enter** to accept. If the display is not correct, select **n** and select the correct Solaris installation software.

A screen similar to the following is displayed:

```
Please insert the Solaris 2... CD.
<Press Return after the CD has been inserted>
```

**Step 3** The Operating Environment Installation CD will be ejected automatically from the machine at this time. Remove it from the CD-ROM drive and load the appropriate Solaris operating system software CD, then press **Enter**.

A screen similar to the following is displayed:

```
Reading CD for Solaris 2...
```

```
Please wait while the system is initializing...
```

```
To install basic Solaris products into their default directory locations, select Default Install.
```

```
Custom install provides a choice of which Solaris products to install. For each product, it also provides an option to further customize the products install.
```

```
Types of install available:
```

1. Default Install
2. Custom Install

```
Select the number corresponding to the type of install you would like [1]:
```

**Step 4** Select **2** for Custom Install and press **Enter** to continue.



---

**Note** If you are installing Solaris 2.5.1, skip to [Step 9](#).

---

A screen similar to the following is displayed:

```
Select the software localizations you want to install. The English version of Solaris will be installed by default.
```

```
Enable locale German ( de ) (y/n) [n]?
```

**Step 5** Select **n** and press **Enter**.

A screen similar to the following is displayed:

```
Enable locale Spanish ( es ) (y/n) [n]?
```

**Step 6** Select **n** and press **Enter**.

A screen similar to the following is displayed:

```
Enable locale French ( fr ) (y/n) [n]?
```

**Step 7** Select **n** and press **Enter**.

A screen similar to the following is displayed:

```
Enable locale Italian ( it ) (y/n) [n]?
```

**Step 8** Select **n** and press **Enter**.

A screen similar to the following is displayed:

```
Enable locale Swedish ( sv ) (y/n) [n]?
```

**Step 9** Select **n** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Available locales:
```

1. English (Australia) ( en\_AU )
2. English (Canada) ( en\_CA )

3. English (Ireland) ( en\_IE )
4. English (New Zealand) ( en\_NZ )
5. English (UK) ( en\_UK )
6. English (United States) ( en\_US )
7. English (POSIX C) ( C )

Select the number corresponding to the desired system locale [6]:

**Step 10** Select the number corresponding to the appropriate locale and press **Enter**.

A screen similar to the following is displayed:

Available software groups:

1. Entire Solaris Software Group Plus OEM
2. Entire Solaris Software Group
3. Developer Solaris Software Group
4. End User Solaris Software Group
5. Core Solaris Software Group

Select the number corresponding to the desired Solaris software group [2]:

**Step 11** Select **1** for “Entire Solaris Software Group Plus OEM” and press **Enter**.

One of the following screens will be displayed. You should take note of the disk drive size on the target machine. The columns in the following steps are labeled for 4, 9, and 36 GB disk drives. There are two separate columns for 18 Gigabyte disk drives. One column is for the Solaris installation for VSC applications and one is for the Solaris installation for BAMS applications. Refer to the columns in [Step 20](#) when asked to define the disk partitions.

A screen similar to the following is displayed:

Please wait while the system is initializing...

Select which disks you want to lay out the file systems on.  
Required disk space: 2,705 MB

4 GB disk drive		9 GB disk drive		18 GB disk drive		36 GB disk drive	
Available Disks:		Available Disks:		Available Disks:		Available Disks:	
Disk	Size	Disk	Size	Disk	Size	Disk	Size
c0t1d0	4092 MB	c0t0d0	8633 MB	c0t0d0	17269 MB	c0t0d0	34730 MB
		c0t1d0	8633 MB	c0t1d0	17269 MB	c0t1d0	34730 MB

Enter 'y' to lay out file systems on the specified disk. This will erase all existing data on the disk. Enter 'n' to leave the disk unmodified.

Layout file systems on disk c0t0d0 (bootdisk) (y/n) [y]?

**Step 12** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed on systems using two or more disk drives:

Layout file systems on disk c0t1d0 (y/n) [n]?

**Step 13** If the target machine is a t 100/105 for BAMS applications, select **y** and press **Enter**, otherwise select **n** and press **Enter** to continue.

A screen similar to the following is displayed:

File System operations:

1. Print the current partition table
2. Modify a disk's partition table
3. Done



Select the number corresponding to a file system operation, or 'Done' to proceed with the install [3]:

**Step 14** Select **2** and press **Enter** to set up the disk partitions.

A screen similar to the following is displayed:

```

4 GB HDD                      9 GB HDD                      18 GB HDD
Available disks:              Available disks:              Available disks:

1.  c0t1d0                    1.  c0t0d0                    1.  c0t0d0
    /                          /                          /
    swap                       swap                       swap
    /export/home               /export/home               /export/home
    599 MB                     667 MB                     668 MB
    320 MB                     2040 MB                    2040 MB
    3173 MB                    5296 MB                    14561 MB

2.  Done                      2.  c0t1d0   Not Selected    2.  c0t1d0   Not Selected
3.  Done                      3.  Done   3.  Done

```

18 GB HDD for BAMS

Available disks:

```

1.  c0t0d0
    /                          668 MB
    swap                       2040 MB
    /export/home               14561 MB

```

2. c0t1d0

3. Done

36 GB HDD

Available disks:

```

1.  c0t0d0
    /                          665 MB
    swap                       2040 MB
    /export/home               32023 MB

```

2. c0t1d0 Not Selected

3. Done

Select a disk to modify, or Done to return to the previous menu [3]:

**Step 15** Select **1** to modify the partitions on disk c0t0d0 and press **Enter**.

A screen similar to the following is displayed:

4 GB Disk Drive

```

Disk Name      c0t1d0
TotalSpace    4092
Used Space    4092
Free Space    0
Round Error   0

#  Slice Name  Slice Size  Minimum Size
0.  /          599 MB     597 MB
1.  swap       320 MB     320 MB
3.  Unused
4.  Unused

```

```

5. Unused
6. Unused
7. /export/home 3173 MB 0 MB

```

```
8. Done
```

18 GB Disk Drive

```

Disk Name      c0t0d0
Total Space    17269
Used Space     17269
Free Space     0
Round Error    0

```

#	Slice Name	Slice Size	Minimum Size
0.	/	668 MB	665 MB
1.	swap	2040 MB	2040 MB
3.	Unused		
4.	Unused		
5.	Unused		
6.	Unused		
7.	/export/home	14561 MB	0 MB

```
8. Done
```

9 GB disk drive

```

Disk Name      c0t0d0
TotalSpace    8633
Used Space     8633
Free Space     0
Round Error    0

```

#	Slice Name	Slice Size	Minimum Size
0.	/	667 MB	665 MB
1.	swap	2040 MB	2040 MB
3.	Unused		
4.	Unused		
5.	Unused		
6.	Unused		
7.	/export/home	5926 MB	0 MB

```
8. Done
```

36 GB Disk Drive

```

Disk Name      c0t0d0
TotalSpace    34730
Used Space     34728
Free Space     2
Round Error    0

```

#	Slice Name	Slice Size	Minimum Size
0.	/	665 MB	665 MB
1.	swap	2040 MB	2040 MB
3.	Unused		
4.	Unused		
5.	Unused		
6.	Unused		
7.	/export/home	32023 MB	0 MB

```
8. Done
```

Select a slice to modify, or Done to return to the previous menu [8]:



**Note** Partition 1 (swap) was already defined in [Step 5](#) of “[Booting from a Local CD-ROM on Netra t 1120/1125, t 1400/1405 and t 100/105](#)” section on page 8-2.

When defining the partition size, it is not necessary to enter "MB" after the number. The system assumes that the entry is in megabytes.

**Solaris 2.6:** To remove partition 7 in Solaris 2.6, proceed to [Step 16](#) and [Step 17](#).

**Solaris 2.5.1: Do not remove partition 7** when installing Solaris 2.5.1. Instead, proceed to [Step 18](#).

On the 4 GB disk drives, it will be necessary to redefine the root (/) partition after all other partitions have been defined. At this point, the system will allow the minimum partition size for the root to be smaller than originally defined.

**Step 16** Select 7 and press **Enter** to remove partition 7.

A screen similar to the following is displayed:

```
Enter new slice name:
```

**Step 17** Press **Enter** to remove the name associated with partition 7.

The display shows that partition 7 is "Unused."

Repeat [Step 18](#), [Step 19](#), and [Step 20](#) to define partitions 4, 5 and 6. Use the appropriate column in [Step 20](#) for partition names and sizes.

**Step 18** Select the number of the partition to be defined and press **Enter**.

A screen similar to the following is displayed:

```
Enter new slice name:
```

**Step 19** Type the partition name and press **Enter**.

A screen similar to the following is displayed:

```
Enter new slice size (in MB) [default]:
```

**Step 20** Type the partition size and press **Enter**. Each time a partition is defined the changes are displayed on the screen. The tables below show the end result of defining the drive partitions for each drive size. Repeat [Step 18](#), [Step 19](#), and [Step 20](#) as necessary to define the remaining partitions.

**Table 8-1**

4 GB Disk Drive		
Slice No.	Slice Name	Slice Size (MB)
0.	/	151
1	swap	320
3	/var	251
4	unused	

9 GB Disk Drive		
Slice No.	Slice Name	Slice Size (MB)
0.	/	665
1	swap	2040
3	unused	0
4	/opt	2560

Table 8-1

4 GB Disk Drive		
5	/opt	1170
6	/usr	600
7	/home	1600

9 GB Disk Drive		
5	/var	1025
6	/usr	2287
7	unused	0

Table 8-2

18 GB Disk Drive		
Slice No.	Slice Name	Slice Size (MB)
0.	/	668
1	swap	2040
2	overlap	17269
3	unused	0
4	/opt	11040
5	/var	1024
6	/usr	2435
7	unused	0

18 GB Disk Drive for BAMS Disk 0		
Slice No.	Slice Name	Slice Size (MB)
0.	/	665
1	swap	2040
3	unused	0
4	/opt	17269
5	/var	1000
6	/opt/CiscoBAMS /CDRS/archive	11000
7	/export/home	500

Disk 1		
Slice No.	Slice Name	Slice Size (MB)
0	/opt/CiscoBAMS /data	17269

Table 8-3

36 GB Disk Drive		
Slice No.	Slice Name	Slice Size (MB)
0.	/	665
1	swap	2040
2	overlap	34730
3	unused	0
4	/opt	29950
5	/var	1024
6	/usr	1024
7	unused	0

Select a slice to modify, or **Done** to return to the previous menu:

**Step 21** Select the number corresponding to **Done** and press **Enter** to end partitioning. One of the following screens will be displayed:

```

4 GB Disk Drive
Available disks:
1. c0t1d0
    /           151 MB
    swap       320 MB
    /var       251 MB
    /opt       1170 MB
    /usr       600 MB
    /home     1600 MB

2. Done

18 GB disk drive
Available disks:
1. c0t0d0
    /           668 MB
    swap       2040 MB
    /opt      11040 MB
    /var       1024 MB
    /usr      2435 MB

2. c0t1d0 Not Selected

3. Done

9 GB Disk Drive
Available disks:
1. c0t0d0
    /           665 MB
    swap       2040 MB
    /opt       2616 MB
    /var       1024 MB
    /usr      2287 MB

2. c0t1d0 Not Selected

3. Done

18 GB Disk Drive For BAMS Software
Available disks:
1. c0t0d0
    /           1000 MB
    swap       2040 MB
    /opt       1729 MB
    /usr       1000 MB
    /opt/CiscoBAMS/CDR/archive 11000 MB
    /export/home 500 MB

2. c0t1d0
   /opt/CiscoBAMS/data 17269 MB

3. Done

36 GB Disk Drive
Available disks:

```

- ```

1. c0t0d0
   /           665 MB
   swap       2040 MB
   /opt       29950 MB
   /var       1024 MB
   /usr       1024 MB

2. c0t1d0 Not Selected

3. Done

```

Select a disk to modify, or Done to return to the previous menu [3]:

- Step 22** If the target machine is a t 100/105 for BAMS application, select **2** to modify the partitions on c0t1d0 and press **Enter**. Go back to [Step 18](#) and follow the steps to define partition 0 of disk c0t1d0, as shown in [Step 21](#), above. When you have completed defining the partition, select **3 (Done)** and press **Enter** to continue.

A screen similar to the following is displayed:

File System operations:

- ```

1. Print the current partition table
2. Modify a disk's partition table
3. Done

```

Select the number corresponding to a file system operation, or 'Done' to proceed with the install [3]:

- Step 23** Select **3** and press **Enter** to continue.

A screen similar to the following is displayed:

The following items will be installed:

```

Solaris OS:           Solaris 2...
Software Locales:    none
System Locale:       English (United States) ( en_US )
Solaris Software Group: Entire Solaris Software Group Plus OEM

```

Enter 'y' to accept these values and start the installation, or 'n' to return to the beginning and make changes (y/n):

- Step 24** If these values are not correct, select **n** then press **Enter** to return to [Step 1](#). If these values are correct select **y**, then press **Enter** to continue.

This process will take approximately 30 minutes to run and does not require user intervention. The following screen will be displayed:

Installing...

```

Installing Solaris software group
|-1%-----25%-----50%-----75%-----100%|
Installing Additional Software
|-1%-----25%-----50%-----75%-----100%|

```

Installation details:

Product	Result	More Info
1. Solaris 2... 5/98	Installed	Available
2. Additional Software	Installed	Available

3. Done

Enter the number corresponding to the desired selection for more information, or Done to continue [3]:

**Step 25** Select **3** and press **Enter** to continue.

A screen similar to the following is displayed:

The system needs to reboot to complete installation.

<Press Return to reboot>

**Step 26** Press **Enter** to reboot the system. The Solaris Software CD is automatically ejected from the CD-ROM drive. Remove it now.

**Step 27** If you wish to define the default gateway, after the system has rebooted, log in as **root** and enter the following command:

```
# route add default default router IP address 2
```

Refer to [Table 1-6 on page 1-5](#) for the default router IP address

**Step 28** To make this permanent, create a file called `/etc/defaultrouter` and put the default gateway IP address on the first and only line of the file by entering the following command:

```
# echo default router IP address > /etc/defaultrouter
```



**Note**

There is a known bug with the Netra t 100/105 machine. After the installation of the operating system, the CD-ROM becomes inaccessible. If you are loading the patches over the network by mounting a remote directory, then you need only enter the commands stated in [Step 30](#) before proceeding to the next section. If you are loading the patches via CD, it will be necessary to connect to a network, download the patch and install it, as shown in [Step 29](#), before continuing. The patch is included in package `CSCOh007.pkg` and is also available on [www.sunsolve.sun.com](http://www.sunsolve.sun.com).

**Step 29** Download the `107665-01.tar.Z` patch file to the `/var/tmp` directory and install the patch by using the following commands:

```
# cd /var/tmp
# zcat 107665-01.tar.Z | xf -
# cd 107665-01
# ./installpatch .
# cd ..
# rm -rf 107665-01
```

**Step 30** The Netra t 100/105 is shipped with OBP environment parameters which are different from the defaults. Enter the following commands to set the environment variables:

```
# init 0
ok setenv pcib-probe-list 1,2,3
ok setenv output-device ttya
ok setenv input-device ttya
```

**Step 31** Reboot the machine with the following command:

```
ok boot -r
```

This completes the installation of the Solaris operating system. Proceed to “[Installing the Solaris Patch Cluster](#)” to install the Solaris patches.

## Installing the Solaris Patch Cluster

In the following sections, procedures are provided for installing the patch cluster on the target machine. Proceed to “[Installing the Solaris 2.6 Patch Cluster on Netra t 1120/1125, t 1400/1405 and t 100/105](#)” section on page 8-16 for Solaris 2.6 Patch installation.

For Solaris 2.5.1 patch installation, proceed to “[Installing the Solaris 2.5.1 Patch Cluster on Netra t 1120/1125 and t 1400/1405](#)” section on page 8-18.

### Installing the Solaris 2.6 Patch Cluster on Netra t 1120/1125, t 1400/1405 and t 100/105

To install the Solaris 2.6 patch cluster:

- Step 1** CD-ROM installation: Load the Cisco MGC Solaris Patches CD into the CD-ROM drive. Enter the following command to install the Solaris 2.6 operating system patches:

```
# pkgadd -d /cdrom/cdrom0/CSCOh007.pkg
```



**Note** Make sure that the CSCOh007 package version number is 1.0.7 or later.

A screen similar to the following is displayed:

```
The following packages are available:
 1  CSCOh007      Virtual Switch Controller Solaris 2.6 patch cluster
                    (sparc) 1.0(0)E
```

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

- Step 2** Press **Enter** to accept the default response of **all** and continue.

A screen similar to the following is displayed:

```
Processing package instance <CSCOh007> from </cdrom/ciscomgc_install/CSCOh007.pkg>
```

```
Virtual Switch Controller Solaris 2.6 patch cluster
(sparc) 1.0(0)F
Cisco System, Inc.
```

```
The selected base directory </opt/sun_install> must exist before
installation is attempted.
```

```
Do you want this directory created now [y,n,?,q]
```

- Step 3** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Using </opt/sun_install> as the package base directory.
## Processing package information.
## Processing system information.
```



```

    1 package pathname is 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:
* /opt/sun_install <attribute change only>

* - conflict with a file which does not belong to any package.

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

```

**Step 4** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```

## 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 <CSC0h007> [y,n,?]

```

**Step 5** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

Installing Virtual Switch Controller Solaris 2.6 patch cluster as <CSC0h007>

```

## Executing preinstall script.
Platform is SUNW,Ultra-60

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/checkPackages2.6
/opt/sun_install/checkPatches2.6
/opt/sun_install/installPatches2.6
/opt/sun_install/packages2.6
/opt/sun_install/patch_optional2.6
/opt/sun_install/patch_order2.6
/opt/sun_install/patch_required2.6
/var/tmp/105181-19.tar.Z
/var/tmp/105210-27.tar.Z
.
.
.
/var/tmp/108199-01.tar.Z
/var/tmp/108201-01.tar.Z
[ verifying class <none> ]
## Executing postinstall script.

!!
!! You must now change directories to /opt/sun_install and
!! run the installPatches2.6 script as root.
!!

```

Installation of <CSC0h007> was successful.

**Step 6** Complete the installation of the Solaris 2.6 software patch by entering the following commands:

```

# cd /opt/sun_install
# ./installPatches2.6 .

```

A screen similar to the following is displayed:

```
*** InstallPatches2.6 begins Thu Mar 16 10:49:01 GMT 2000 ***

Platform is SUNW,Ultra-60
Changed to /var/tmp directory
Uncompressing 106125-08 ...
Extracting 106125-08 ...
Extraction of patch 106125-08 successful
Installing 106125-08 ...
.
.
.
Uncompressing 105591-07 ...
Extracting 105591-07 ...
Extraction of patch 105591-07 successful
Installing 105591-07 ...
*** InstallPatches2.6 ends Thu Mar 16 11:07:38 GMT 2000 ***
```

**Step 7** Eject the CD by entering the following commands:

```
# cd /
# eject
```

**Step 8** Edit the /etc/default/kbd file to change the break sequence of the target machine. The line in the file to be changed is as follows:

```
# KEYBOARD_ABORT=enable
```

Change the previous line by removing the # comment and changing the word **enable** to **alternate**, as follows:

```
# KEYBOARD_ABORT=alternate
```

**Step 9** Reboot the machine by entering the following command:

```
# init 6
```

---

This completes the Solaris operating system and patch installation. Proceed to the [“Installing the Alarm Software”](#) section on page 8-20.

## Installing the Solaris 2.5.1 Patch Cluster on Netra t 1120/1125 and t 1400/1405

To install the the Solaris 2.5.1 patch cluster on the target machine:

**Step 1** Load the Cisco MGC Solaris Patches CD into the CD-ROM drive. Enter the following command to install the Solaris 2.5.1 operating system patches:

```
# pkgadd -d /cdrom/cdrom0/CSCOh0008.pkg
```

A screen similar to the following is displayed:

```
The following packages are available:
 1 CSCOh008      Virtual Switch Controller Solaris 2.5.1 patch cluster
                  (sparc) 1.0(0)A

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

**Step 2** Press **Enter** to accept the default response of **all** and continue.

A screen similar to the following is displayed:

```
Processing package instance <CSCOh008> from </var/tmp/CSCOh008.pkg>

Virtual Switch Controller Solaris 2.5.1 patch cluster
(sparc) 1.0(0)A
Cisco System, Inc.

The selected base directory </opt/sun_install> must exist before
installation is attempted.

Do you want this directory created now [y,n,?,q]
```

**Step 3** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Using </opt/sun_install> as the package base directory.
## Processing package information.
## Processing system information.
  1 package pathname is 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:
* /opt/sun_install <attribute change only>

* - conflict with a file which does not belong to any package.

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

**Step 4** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
## 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 <CSCOh008> [y,n,?]
```

**Step 5** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Installing Virtual Switch Controller Solaris 2.5.1 patch cluster as <CSCOh008>

## Executing preinstall script.
Platform is SUNW,Ultra-60

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/installPatches2.5.1
/opt/sun_install/patch_order2.5.1
/var/tmp/103461-33.tar.Z
/var/tmp/103558-15.tar.Z
.
.
.
/var/tmp/107986-01.tar.Z
/var/tmp/108658-01.tar.Z
```

```
[ verifying class <none> ]
## Executing postinstall script.

!!
!! You must now change directories to /opt/sun_install and
!! run the installPatches2.5.1 script as root.
!!

Installation of <CSCOh008> was successful.
```

**Step 6** Enter the following commands to complete the installation of the Solaris 2.5.1 software patches:

```
# cd /opt/sun_install
# ./installPatches2.5.1 .
```

A screen similar to the following is displayed:

```
Platform is SUNW,Ultra-60
Changed to /var/tmp directory
Uncompressing 103630-15 ...
Extracting 103630-15 ...
Extraction of patch 103630-15 successful
Installing 103630-15 ...
.
.
.
Uncompressing 107524-01 ...
Extracting 107524-01 ...
Extraction of patch 107524-01 successful
Installing 107524-01 ...
*** InstallPatches2.5.1 ends Thu Mar 16 19:58:02 GMT 2000 ***
```

**Step 7** Eject the CD by entering the following commands:

```
# cd /
# eject
```

**Step 8** Reboot the machine by entering the following command:

```
# init 6
```

---

This completes the Solaris operating system and patch installation. Proceed to [“Installing the Alarm Software” section on page 8-20](#).

## Installing the Alarm Software

The driver for the alarm software is not part of the standard Solaris installation. It must be installed separately, according to the following procedure. If you are installing Solaris on a Netra t 1400/1405 or t 100/105 platform, proceed to [“Installing Lights Out Management Software” section on page 8-21](#) for Lights Out Management software installation. If you are installing Solaris on a Netra t 1120/1125 platform, proceed to [“Installing the Alarm Card Software for Netra t 1120/1125” section on page 8-23](#) for alarm card software installation.

## Installing Lights Out Management Software

To install Lights Out Management software:

- Step 1** Load the Cisco MGC Solaris Patches CD into the CD-ROM drive. Install the Lights out Management software by entering the following commands at the # prompt:

```
# cd /var/tmp
# tar xvf /cdrom/cdrom0/lomsw.tar
# pkgadd -d . SUNWlomm SUNWlomr SUNWlomu
```

A screen similar to the following is displayed, along with copyright and trademark information:

```
Processing package instance <SUNWlomm> from </cdrom/netra_t_server_lom/Product>

LOMlite manual pages
(sparc.sun4u) 1.1.0,REV=1999.10.20.13.34
    Copyright 1999 Sun Microsystems, Inc. All Rights Reserved.
    Manufactured in the United States of America.
    2550 Garcia Avenue, Mountain View, California, 94043-1100 U.S.A.

Copyright 1999 Sun Microsystems Inc. Tous droits reserves.
Fabrique aux Etats-Unis, 2550 Garcia Avenue, Mountain View, Californie
94043-1100 USA
```

The Lights Out Management Manual Pages will be installed at this time, followed by the LOMlite driver.

A screen similar to the following is displayed:

```
Using </> as the package base directory.
## Processing package information.
## Processing system information.
    5 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 <attribute change only>

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

- Step 2** Select **y** and press **Enter** to install all the packages.

A screen similar to the following is displayed:

```
## 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 <SUNWlomr> [y,n,?]
```

- Step 3** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Installing LOMlite driver as <SUNWlomr>

## Installing part 1 of 1.
/etc/init.d/lomlited
/etc/init.d/tsaldog
/kernel/drv/lom.conf
/kernel/drv/sparcv9/lom
```

```
[ verifying class <none> ]
/etc/rc0.d/K80tsaldog <linked pathname>
/etc/rc2.d/S25tsaldog <linked pathname>
/etc/rc2.d/S75lomlited <linked pathname>
i.drivers: INFO: Starting ...
i.drivers: Adding /cdrom/netra_t_server_lom/Product/SUNWlomr/reloc/kernel/drv/lom
Identified drivers: lom
i.drivers: Installing drivers ...
Driver: lom ... devlinks ... add_drv(1M) ...
i.drivers: Finished
[ verifying class <drivers> ]
```

...

The LOMlite Utilities will then install followed by its copyright and trademark information.

LOMlite Utilities

(sparc.sun4u) 1.1.0,REV=1999.10.20.13.34

Copyright 1999 Sun Microsystems, Inc. All Rights Reserved.

Manufactured in the United States of America.

2550 Garcia Avenue, Mountain View, California, 94043-1100 U.S.A.

Copyright 1999 Sun Microsystems Inc. Tous droits reserves.

Fabrique aux Etats-Unis, 2550 Garcia Avenue, Mountain View, Californie

94043-1100 USA

...

Using </> as the package base directory.

## Processing package information.

## Processing system information.

16 package pathnames are already properly installed.

## Verifying disk space requirements.

## Checking for conflicts with packages already installed.

## Checking for setuid/setgid programs.

Installing LOMlite Utilities as <SUNWlomu>

## Installing part 1 of 1.

/etc/lomlited.conf

/usr/include/lom\_io.h

/usr/include/tsalarm\_io.h

/usr/lib/locale/de/LC\_MESSAGES/lom.cat

/usr/lib/locale/de/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/es/LC\_MESSAGES/lom.cat

/usr/lib/locale/es/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/fr/LC\_MESSAGES/lom.cat

/usr/lib/locale/fr/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/it/LC\_MESSAGES/lom.cat

/usr/lib/locale/it/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/ko/LC\_MESSAGES/lom.cat

/usr/lib/locale/ko/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/sv/LC\_MESSAGES/lom.cat

/usr/lib/locale/sv/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/zh/LC\_MESSAGES/lom.cat

/usr/lib/locale/zh/LC\_MESSAGES/tsalarm.cat

/usr/lib/locale/zh\_TW/LC\_MESSAGES/lom.cat

/usr/lib/locale/zh\_TW/LC\_MESSAGES/tsalarm.cat

/usr/sbin/258-7691-15.hex

/usr/sbin/lomctl

/usr/sbin/lominfo

/usr/sbin/lomlited

/usr/sbin/lomprog

/usr/sbin/tsctl

```

/usr/sbin/tsdog
/usr/sbin/tsmonitor
/usr/sbin/tsstate
/usr/sbin/tsunlock
[ verifying class <none> ]

```

Installation of <SUNWlomu> was successful.

**Step 4** Eject the CD by entering the following commands:

```

# cd /
# eject

```

This completes the installation of the Lights Out Management software. Proceed to the following:

- If your target machine will be using a Serial Asynchronous Interface Port (SAIP) Card, proceed to the “PCI Card Configuration” section on page 8-25.
- If your target machine is using a second Ethernet interface, proceed to the “Configuring a Second Ethernet Interface” section on page 8-26.
- If your target machine is not using either of the above options, proceed to the “Configuring a Second Disk Drive” section on page 8-27.

## Installing the Alarm Card Software for Netra t 1120/1125

To install the Alarm Card software:

**Step 1** Load the Netra t 11xx CD into the CD-ROM drive, log in as **root** and enter the following commands:

```

# cd /cdrom/cdrom0
# pkgadd -d .

```

A screen similar to the following is displayed:

```

The following packages are available:
 1 SUNWtsalm    TS91 Alarm and Monitor Manpages
                   (sparc.sun4u) 1.0,REV=1.1
 2 SUNWtsalr    TS91 Alarm and Monitor driver
                   (sparc.sun4u) 1.0,REV=1.1
 3 SUNWtsalu    TS91 Alarm and Monitor Utilities
                   (sparc.sun4u) 1.0,REV=1.1
Select package(s) you wish to process (or 'all' to process
all packages). (default: all) [?,??,q]:

```

**Step 2** Press Enter to install all the packages.

A screen similar to the following is displayed:

```

Processing package instance <SUNWtsalm from </cdrom/netrat_11xx_1_0

TS91 Alarm and Monitor Manpages
(sparc.sun4u) 1.0,REV=1.1
  Copyright 1997 Sun Microsystems, Inc. All Rights Reserved.
  Manufactured in the United States of America.
  2550 Garcia Avenue, Mountain View, California, 94043-1100 U.S.A.

Copyright 1997 Sun Microsystems Inc. Tous droits reserves.
Fabrique aux Etats-Unis, 2550 Garcia Avenue, Mountain View, Californie 94043-1100 USA
...

```

```

Installing TS91 Alarm and Monitor Manpages as <SUNWtsalm
...
Installation of <SUNWtsalm was successful.

Processing package instance <SUNWtsalr from </cdrom/netrat_11xx_1_0
TS91 Alarm and Monitor driver
(sparc.sun4u) 1.0,REV=1.1
    Copyright 1997 Sun Microsystems, Inc. All Rights Reserved.
    Manufactured in the United States of America.
    2550 Garcia Avenue, Mountain View, California, 94043-1100 U.S.A.
Do you want to continue with the installation of <SUNWtsalr [y,n,?]

```

**Step 3** Enter **y** to continue the installation.

A screen similar to the following is displayed:

```

Installing TS91 Alarm and Monitor driver as <SUNWtsalr
...
Installation of <SUNWtsalr was successful.

Processing package instance <SUNWtsalu from </cdrom/netrat_11xx_1_0

TS91 Alarm and Monitor Utilities
(sparc.sun4u) 1.0,REV=1.1
    Copyright 1997 Sun Microsystems, Inc. All Rights Reserved.
    Manufactured in the United States of America.
    2550 Garcia Avenue, Mountain View, California, 94043-1100 U.S.A.

...
Installation of <SUNWtsalu was successful.

The following packages are available:
 1 SUNWtsalm      TS91 Alarm and Monitor Manpages
                   (sparc.sun4u) 1.0,REV=1.1
 2 SUNWtsalr     TS91 Alarm and Monitor driver
                   (sparc.sun4u) 1.0,REV=1.1
 3 SUNWtsalu     TS91 Alarm and Monitor Utilities
                   (sparc.sun4u) 1.0,REV=1.1

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

```

**Step 4** Enter **q** to quit the installation when it is finished.**Step 5** Eject the CD from the CD-ROM drive.

```

# cd /
# eject

```

---

This completes the installation of the Alarm Card software. Proceed to the following:

- If your target machine will be using a Serial Asynchronous Interface Port (SAIP) Card, proceed to the [“PCI Card Configuration” section on page 8-25](#).
- If your target machine is using a second Ethernet interface, proceed to the [“Configuring a Second Ethernet Interface” section on page 8-26](#).
- If your target machine is not using either of the above options, proceed to the [“Configuring a Second Disk Drive” section on page 8-27](#).



# PCI Card Configuration

If the target machine will be using a Serial Asynchronous Interface Port (SAIP) Card, do the following procedure to install the SAIP drivers:

**Step 1** Load the SAI/P CD into the CD-ROM drive. Enter the following commands at the # prompt to install the SAI/P software:

```
# cd /cdrom/cdrom0/saip_2.0_u1/Solaris_2.6/Packages
# pkgadd -d .
```

A screen similar to the following is displayed, along with copyright and trademark information:

```
The following packages are available:
 1 SUNWsaip      Serial Asynchronous Interface Driver (PCI)
                   (sparc) 2.0,REV=1998.10.19
 2 SUNWsaipu    Serial Asynchronous Interface Utilities (PCI)
                   (sparc) 2.0,REV=1998.10.19
```

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

**Step 2** Press **Enter** to install all the packages.

A screen similar to the following is displayed:

```
Processing package instance <SUNWsaip> from
</cdrom/sun_saip/saip_2.0_u1/Solaris_7/Packages>
```

```
Serial Asynchronous Interface Driver (PCI)
(sparc) 2.0,REV=1998.10.19
Copyright 1998 Sun Microsystems, Inc. All rights reserved.
Using </> as the package base directory.
## Processing package information.
## Processing system information.
 9 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.
```

```
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 <SUNWsaip> [y,n,?] y
```

**Step 3** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Installing Serial Asynchronous Interface Driver (PCI) as <SUNWsaip>
```

```
## Installing part 1 of 1.
/etc/init.d/saip
/etc/opt/SUNWconn/bin/saipconfig <symbolic link>
/etc/opt/SUNWconn/bin/saipd <symbolic link>
/etc/opt/SUNWconn/saip/bin/saipconfig
.
.
.
Installation of <SUNWsaipu> was successful.
```

```
The following packages are available:
```

```

1 SUNWsaip      Serial Asynchronous Interface Driver (PCI)
                 (sparc) 2.0,REV=1998.10.19
2 SUNWsaipu    Serial Asynchronous Interface Utilities (PCI)
                 (sparc) 2.0,REV=1998.10.19

```

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

Step 4 Select q and press Enter to quit the installation when it has finished.

**Step 4** Enter the following commands to eject the CD from the CD-ROM drive:

```
# cd /
# eject
```

**Step 5** Reboot the system by using the **-r** function.

```
# reboot -- -r
```

---

PCI card configuration is now complete. If you have a second Ethernet interface, proceed to the [“Configuring a Second Ethernet Interface”](#) section on page 8-26. Otherwise, go to the [“Configuring a Second Disk Drive”](#) section on page 8-27

## Configuring a Second Ethernet Interface

A second Ethernet interface is optional to the base configuration and must be configured separately. To configure a second Ethernet interface:

**Step 1** Enter the following command to add the IP address and hostname of the second Ethernet interface to the `/etc/hosts` file:

```
# echo IP address of hme1 hostname of hme1 >> /etc/hosts
```

**Step 2** Enter the following command to create a new file named `/etc/hostname.hme1`. Place the hostname for the second Ethernet interface on the first and only line.

```
# echo hme1 hostname > /etc/hostname.hme1
```

**Step 3** If the IP address of the second Ethernet interface is on a network that is different from the first Ethernet interface and this network has a subnet mask, edit the file `/etc/netmasks` to add the netmask for the new network. Follow the example in the header of the file.

**Step 4** To complete the configuration, you must now reboot the machine by using the **-r** option. Enter the following command:

```
# reboot -- -r
```

**Step 5** When the machine finishes rebooting, log in as **root** and enter the command **ifconfig -a**. Verify that the new interface, `hme1`, appears in the output.

```
# ifconfig -a
```

Text similar to the following is displayed.




---

**Note** The IP addresses are for demonstration purposes only. Actual addresses will differ in each application.

---

```

lo0: flags=849<UP,LOOPBACK,RUNNING,MULTICAST> mtu 8232
    inet 127.0.0.1 netmask ff000000
hme0: flags=863<UP,BROADCAST,NOTRAILERS,RUNNING,MULTICAST> mtu 1500
    inet 172.24.235.53 netmask ffffffff broadcast 172.24.235.255
    ether 8:0:20:9a:76:6c
hme1: flags=863<UP,BROADCAST,NOTRAILERS,RUNNING,MULTICAST> mtu 1500
    inet 172.24.237.53 netmask ffffffff broadcast 172.24.237.255
    ether 8:0:20:9a:76:6c

```

This completes the configuration of a second Ethernet interface. Proceed to [“Configuring a Second Disk Drive” section on page 8-27](#).

## Configuring a Second Disk Drive

There are three options at this stage of the installation process:

- If there is no second disk drive, the installation is complete; you should stop here and move on to installing the Cisco MGC software.
- If there is a second disk drive, it can be used as a mirror of the first to increase the availability of the system. Go to the section [“Installing the Sun StorEdge Volume Manager 2.6”](#), below, for installation procedures.
- **Or** a second disk drive can be used as log and spool disk to off-load tasks from the first disk. This will increase the performance of the machine. Go to [“Installing Log and Spool File Systems” section on page 8-48](#) for installation procedures.

## Installing the Sun StorEdge Volume Manager 2.6

Follow the procedures for installing the Volume Manager only if you wish to mirror the boot disk onto a second disk drive, **instead** of using it for the log and spool file systems. Use the procedures in this section to install the Sun StorEdge 2.6 Volume Manager software, encapsulate, and mirror the hard drives.



### Caution

If you are planning to run **mgcrestore**, make sure you are installing the same version of Volume Manager that was installed on your system when **mgcbakcup** was run. Or, if Volume Manager was not installed on your system when **mgcbakcup** was run, you must first run **mgcrestore** before installing Volume Manager.

### Step 1

Load the Cisco MGC Solaris Patches CD into the CD-ROM drive. Enter the following command to install the Solaris 2.6 operating system patches:

```
# pkgadd -d /cdrom/cdrom0/CSC0h006.pkg
```

A screen similar to the following is displayed:

The following packages are available:

```

1 CSC0h006      Virtual Switch Controller Volume Manager 2.6 package installation and
patches
                (sparc) TJB_ELAN_2000_01_04_23_16_GMT

```

Select package(s) you wish to process (or 'all' to process

```
all packages). (default: all) [?,??,q]:
```

**Step 2** Press **Enter** to accept the default response of **all**.

A screen similar to the following is displayed:

```
Processing package instance <CSCOh006> from </var/tmp/CSCOh006.pkg>

Virtual Switch Controller Volume Manager 2.6 package installation and patches
(sparc) TJB_ELAN_2000_01_04_23_16_GMT
Cisco System, Inc.

The selected base directory </opt/sun_install> must exist before installation is
attempted.

Do you want this directory created now [y,n,?,q]
```

**Step 3** Select **y** and press **Enter** to create this directory.

A screen similar to the following is displayed:

```
Using </opt/sun_install> as the package base directory.
## Processing package information.
## Processing system information.
   1 package pathname is 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:
* /opt/sun_install <attribute change only>

* - conflict with a file which does not belong to any package.

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

**Step 4** Select **y** and press **Enter** to continue installation.

A screen similar to the following is displayed:

```
## 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 <CSCOh006> [y,n,?]
```

**Step 5** Select **y** and press **Enter** to continue installation.

A screen similar to the following is displayed:

```
Installing Virtual Switch Controller Volume Manager 2.6 package installation and patches
as <CSCOh006>

## Executing preinstall script.
Platform is SUNW,Ultra-80

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/installVM
/opt/sun_install/install_rootdg
/opt/sun_install/install_vscdg
/opt/sun_install/removeVM
/opt/sun_install/remove_rootdg
/opt/sun_install/remove_vscdg
/var/tmp/106606-04.tar.Z
```

```
[ verifying class <none> ]
## Executing postinstall script.

!!
!!  !!
!! You must now change directories to /opt/sun_install and          !!
!! run the installVM script as root.                                !!
!!  !!
!!

Installation of <CSCOh006> was successful.
```

- Step 6** Change directories to /opt/sun\_install, eject the CD and run the VM script by entering the following commands at the # prompt. If the installation was performed using an nfs mount then disregard the eject command below.

```
# cd /opt/sun_install
# eject
# ./installVM
```

A screen similar to the following is displayed:

```
Install the "Sun StorEdge Volume Manager 2.6 Software" CD into the CD-ROM drive
Press Enter when ready
```

- Step 7** Press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
Sun StorEdge Volume Manager
(sparc) 2.6,REV=2.5.3
Copyright 1998 Sun Microsystems, Inc. All rights reserved.

Copyright (c) 1990-1997 VERITAS Software Corporation.
ALL RIGHTS RESERVED.
THIS SOFTWARE IS THE PROPERTY OF AND IS LICENSED BY VERITAS SOFTWARE,
AND/OR ITS SUPPLIERS.
## 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.

The following files are already installed on the system and are being
used by another package:
    /etc <attribute change only>

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

- Step 8** Select **y** and press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
## Checking for setuid/setgid programs.

The following files are being installed with setuid and/or setgid
permissions:
    /usr/sbin/vxprint <setuid root>

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

- Step 9** Select **y** and press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
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 <SUNWvxxvm> [y,n,?]
```

**Step 10** Select **y** and press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
Copyright (c) 1990-1997 VERITAS Software Corporation.
ALL RIGHTS RESERVED.
THIS SOFTWARE IS THE PROPERTY OF AND IS LICENSED BY VERITAS SOFTWARE,
AND/OR ITS SUPPLIERS.
Using </opt> as the package base directory.
## 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 <SUNWvxxva> [y,n,?]
```

**Step 11** Select **y** and press **Enter** to continue installation.

A screen similar to the following is displayed:

```
Installation of <SUNWvmmman> was successful.
Ejecting CDROM
Changed to /var/tmp directory
Uncompressing 106606-04 ...
Extracting 106606-04 ...
Extraction of patch 106606-04 successful
Installing 106606-04 ...
Create vxassist file
Create vxaltstale file
Edit S95vxxvm-recover script

!!
!! The system must be rebooted before running 'vxinstall' !!
!! as root to continue the Volume Manager installation.  !!
!!

Do you want to reboot now (y/n)?
```

**Step 12** Select **y** and press **Enter** to reboot.

A screen similar to the following is displayed:

```
REBOOTING
#
INIT: New run level: 6
The system is coming down. Please wait.
System services are now being stopped.
Print services stopped.
Stopping the syslog service.
syslogd: going down on signal 15
Jan 6 12:56:21 snmpdx: received signal 15
The system is down.
```

**Step 13** When the reboot is complete, log in as **root** and boot to the **#** prompt.

**Step 14** Enter the following command at the **#** prompt:

```
# vxinstall
```

A screen similar to the following is displayed:

```
VxVM uses license keys to control access. If you have a SPARCstorage
Array (SSA) controller or a Sun Enterprise Network Array (SENA) controller
attached to your system, then VxVM will grant you a limited use license
automatically. The SSA and/or SENA license grants you unrestricted use
of disks attached to an SSA or SENA controller, but disallows striping
and RAID-5 on non-SSA and non-SENA disks. If you are not running a
SPARCstorage Array controller, or a Sun Enterprise Network Array controller,
then you must obtain a license key to operate.
Licensing information:
System host ID: ##?##?###
Host type: SUNW,Ultra-80
SPARCstorage Array or Sun Enterprise Network Array: No arrays found (license is required)
Some licenses are already installed. Do you wish to review them
[y,n,q,?] (default: y) n
```

**Step 15** Type **n** and press **Enter**.

A screen similar to the following is displayed:

```
Do you wish to enter another license key [y,n,q,?] (default: n) y
```

**Step 16** Type **y** and press **Enter** to enter the license key.

A screen similar to the following is displayed:

```
Please enter your key:
```

**Step 17** Type the key number, with spaces, and press **Enter**.

A screen similar to the following is displayed:

```
vrts:vxlicense: INFO: Feature name: CURRSET [95]
vrts:vxlicense: INFO: Number of licenses: 1 (non-floating)
vrts:vxlicense: INFO: Expiration date: Sun Jun 04 04:00:00 2006 (2340.6 days from now)
vrts:vxlicense: INFO: Release Level: 20
vrts:vxlicense: INFO: Machine Class: All
vrts:vxlicense: INFO: Key successfully installed in /etc/vx/elm/95.

Do you wish to enter another license key [y,n,q,?] (default: n)
```




---

**Note** When you receive the Sun StorEdgeVolume Manager key you will also get a RAID5 key. This key is included in the package from Sun but is not required for the installation.

---

**Step 18** Press **Enter** to accept the default answer **no**.

A screen similar to the following is displayed:

```
Volume Manager Installation
Menu: VolumeManager/Install
```

```
The Volume Manager names disks on your system using the controller
and disk number of the disk, substituting them into the following
pattern:
```

```
c<controller>t<disk>d<disk>
```

```
If the Multipathing driver is installed on the system then for the
disk devices with multiple access paths, the controller number
represents a multipath pseudo controller number. For example, if a
disk has 2 paths from controllers c0 and c1, then the Volume Manager
displays only one of them such as c0 to represent both the
```

controllers.

Some examples would be:

```
c0t0d0 - first controller, first target, first disk
c1t0d0 - second controller, first target, first disk
c1t1d0 - second controller, second target, first disk
```

The Volume Manager has detected the following controllers on your system:

```
c0:
```

Hit RETURN to continue.

**Step 19** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Installation
Menu: VolumeManager/Install
```

You will now be asked if you wish to use Quick Installation or Custom Installation. Custom Installation allows you to select how the Volume Manager will handle the installation of each disk attached to your system.

Quick Installation examines each disk attached to your system and attempts to create volumes to cover all disk partitions that might be used for file systems or for other similar purposes.

If you do not wish to use some disks with the Volume Manager, or if you wish to reinitialize some disks, use the Custom Installation option. Otherwise, we suggest that you use the Quick Installation option.

Hit RETURN to continue.

**Step 20** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Installation Options
Menu: VolumeManager/Install
```

```
1 Quick Installation
2 Custom Installation

? Display help about menu
?? Display help about the menuing system
q Exit from menus
```

Select an operation to perform:

**Step 21** Select **2** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom
```

The c0t0d0 disk is your Boot Disk. You can not add it as a new disk. If you encapsulate it, you will make your root filesystem and other system areas on the Boot Disk into volumes. This is required if you wish to mirror your root filesystem or system swap area.



```
Encapsulate Boot Disk [y,n,q,?] (default: n)
```

**Step 22** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Enter disk name for c0t0d0 [<name>,q,?] (default: rootdisk)
```

**Step 23** Type **rootdiska** and press **Enter** to continue.

A screen similar to the following is displayed:

```
The c0t0d0 disk has been configured for encapsulation.
```

```
Hit RETURN to continue.
```

**Step 24** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom/c0
Generating list of attached disks on c0....
```

```
<excluding root disk c0t0d0
```

```
The Volume Manager has detected the following disks on controller c0:
```

```
c0t1d0
```

```
Hit RETURN to continue.
```

**Step 25** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Installation options for controller c0
Menu: VolumeManager/Install/Custom/c0
```

```
1      Install all disks as pre-existing disks. (encapsulate)
2      Install all disks as new disks. (discards data on disks!)
3      Install one disk at a time.
4      Leave these disks alone.

?      Display help about menu
??     Display help about the menuing system
q      Exit from menus
```

```
Select an operation to perform:
```

**Step 26** Select **4** to leave the disks alone and press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom
```

```
The following is a summary of your choices.
```

```
c0t0d0 Encapsulate
```

```
Is this correct [y,n,q,?] (default: y)
```

**Step 27** Press **Enter** to accept the default answer, **yes** and continue. The system now must be shut down and rebooted in order to continue the reconfiguration.

A screen similar to the following is displayed:

```
Shutdown and reboot now [y,n,q,?] (default: n)
```

**Step 28** Select **y** and press **Enter** to shut down and reboot the system. Wait for the computer to shut down and reboot twice, then proceed to the next section.

**Step 29** Once the system has rebooted twice, at the # prompt, log in as **root** and run the `install_rootdg` script as shown below:




---

**Note** This process takes approximately 28 minutes to run and does not require user intervention.

---

```
# cd /opt/sun_install
# ./install_rootdg
```

```
The following is displayed.
Determine the device names for the disks
Platform is SUNW,Ultra-60
A-DSK0: c0t0d0
B-DSK0: c0t1d0
Initialize device c0t1d0
Succeeded
Add rootdiskb to rootdg, device is c0t1d0
Succeeded
Mirror all the volumes of A-DSK0 to B-DKS0 and make root
bootable
Mirroring root to rootdiskb
Success
Mirroring var to rootdiskb
Success
Mirroring opt to rootdiskb
Success
Mirroring swap to rootdiskb
Success
Mirroring usr to rootdiskb
Success
```

**Step 30** Edit the `/etc/init.d/syssetup` file to enable a core dump. These lines are located at the end of the file. Remove the comment symbol (`#`) from the beginning of the lines. The completed edit should be the same as shown below.

```
# Default is to not do a savecore
#
if [ ! -d /var/crash/`uname -n` ]
then mkdir -m 0700 -p /var/crash/`uname -n`
fi
        echo 'checking for crash dump...\c '
savecore /var/crash/`uname -n`
        echo ''
```

**Step 31** Re-install the CSCOh007 package to install Volume Manager 2.6 patch 106606-04. See [“Installing the Solaris 2.6 Patch Cluster on Netra t 1120/1125, t 1400/1405 and t 100/105”](#) section on page 8-16.

**Step 32** At the # prompt, type `init 6` and press **Enter** to reboot the system.

```
# init 6
```

This completes the Operation System installation process.

**Note**

After the installation of the Sun StorEdge Volume Manager Software, you will receive the following error messages during the boot process:

```
WARNING: forceload of drv/scsi failed
WARNING: forceload of drv/ssd failed
WARNING: forceload of drv/sf failed
WARNING: forceload of drv/pln failed
WARNING: forceload of drv/soc failed
WARNING: forceload of drv/social failed
```

These error messages are acceptable and will not affect the operation of the MGC application.

## Removing the Sun StorEdge Volume Manager 2.6

To remove Volume Manager:

- Step 1** Load the CD containing the CISCO patch packages into the CD-ROM drive. Install the CSCOh000.pkg package by entering the following commands:

```
# pkgadd -d /cdrom/cdrom0/CSCOh000.pkg
```

A screen similar to the following is displayed:

The following packages are available:

```
  1 CSCOh000      Media Gateway Controller Volume Manager 3.1 package installation and
patches
                (sparc) 1.0(3)A
```

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

- Step 2** Press **Enter** to accept the default response of **all**.

A screen similar to the following is displayed:

```
Processing package instance <CSCOh000> from </tftpboot/CiscoMGC_Install/CSCOh000.pkg>
```

```
Media Gateway Controller Volume Manager 3.1 package installation and patches
(sparc) 1.0(3)A
```

```
Cisco System, Inc.
```

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

```
## Processing package information.
```

```
## Processing system information.
```

```
  2 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:
```

```
* /opt/sun_install/pkg_admin
```

```
* /opt/sun_install/rm_Veritas2.6
```

```
* - conflict with a file which does not belong to any package.
```

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

**Step 3** Select **y** and press **Enter** to create this directory.

A screen similar to the following is displayed:

```
## 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 <CSCOh000> [y,n,?] y
```

**Step 4** Select **y** and press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
## 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 <CSCOh006> [y,n,?]
```

**Step 5** Select **y** and press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
Installing Media Gateway Controller Volume Manager 3.1 package installation and patches as
<CSCOh000>

## Executing preinstall script.
Platform is SUNW,Ultra-60

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/installVM3.1
/opt/sun_install/pkg_admin
/opt/sun_install/rm_Veritas2.6
[ verifying class <none> ]
## Executing postinstall script.

Installation of <CSCOh000> was successful.
```

**Step 6** Change directories to `/opt/sun_install`, eject the CD and run the script to remove Volume Manager 2.6 by entering the following commands at the `#` prompt. If the installation was performed using an nfs mount, disregard the eject command below.

```
# cd /opt/sun_install
# eject
# ./rm_Veritas2.6
```

A screen similar to the following is displayed:

```
!!
!!   !!
!!           This script will completely remove   !!
!!           Sun StorEdge Volume Manager 2.6 (Veritas 2.6)                                   !!
!!                               from this system   !!
!!   !!
!!           It requires that the machine   !!
!!           be rebooted several times during the procedure.                                  !!
!!   !!
!! Do you wish to continue? (y/n):  !!
!!   !!
!!
```

**Step 7** Select **y** and press **Enter** to continue removing Volume Manager 2.6.

A screen similar to the following is displayed:

```
Removing Sun StorEdge Volume Manager 2.6
```

```
This operation will convert the following file systems from
volumes to regular partitions: root swap usr var opt
```

```
Replace volume rootvol with c0t0d0s0.
```

```
This operation will require a system reboot. If you choose to
continue with this operation, system configuration will be updated
to discontinue use of the volume manager for your root and swap
devices.
```

```
Do you wish to do this now [y,n,q,?] (default: y)
```

**Step 8** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Restoring kernel configuration...
```

```
A shutdown is now required to install the new kernel.
You can choose to shutdown now, or you can shutdown later, at your
convenience.
```

```
Do you wish to shutdown now [y,n,q,?] (default: n) y
```

**Step 9** Select **y** and press **Enter** to shut down and reboot the system.

A screen similar to the following is displayed:

```
shutdown -g0 -y -i6
```

```
Shutdown started. Tue Mar 6 17:22:23 EST 2001
```

```
During the reboot sequence the following warning will be displayed:
VxVM general startup...
```

```
Volume Manager: Removing c0t0d0 from Volume Manager control.
vxvm:vxlg: ERROR: disassociating disk-media rootdiska:
Cannot remove last disk in disk group
```

```
The removal of rootdiska from rootdg failed. It will be marked as
reserved so no space from it is accidentally allocated
```

```
This message can be ignored. After this process has been completed it will not be
displayed again.
```

**Step 10** When the system has completed rebooting, log in as **root** and remove the Sun StorEdge Volume Manager Packages by entering the following commands:

```
# cd /opt/sun_install
# pkgrm -a pkg_admin -n SUNWvmmman SUNWvxva SUNWvxvm
```

A screen similar to the following is displayed:

```
Removal of <SUNWvmmman> was successful.
Removal of <SUNWvxva> was successful.
```

```
Checking for system volumes:
swap ...
```

```
Stopping vxconfigd...
```

```

Unloading vxspec driver...
Removing //kernel/drv/vxspec
Unloading vxio driver...
Removing //kernel/drv/vxio
Unloading vxdmp driver...
Removing //kernel/drv/vxdmp
Removing changes to //etc/devlink.tab...
Removing changes to //etc/system...
Removing files under /var/vxvm...
Removing vxconfigd...

Removing files under //etc/vx...
Removal of <SUNWvxvm> was successful.

```

This completes the Solaris Operating System installation process.

**Note**

After the removal of the Sun StorEdge Volume Manager Software, you will receive the following error messages during the boot process:

```

WARNING: forceload of drv/scsi failed
WARNING: forceload of drv/ssd failed
WARNING: forceload of drv/sf failed
WARNING: forceload of drv/pln failed
WARNING: forceload of drv/soc failed
WARNING: forceload of drv/socal failed

```

This error message is acceptable and will not affect the operation of the MGC application. These error messages can be removed by editing the /etc/system file and removing the lines at the end of the file that begin with "forceload: drv/..."

## Installing Veritas Volume Manager 3.1

Perform the procedures in this section **only** if you wish to mirror the boot disk onto the second disk drive instead of using it for the Log and Spool file systems. Use the procedures in this section to install the Sun StorEdge 2.6 Volume Manager software, encapsulate, and mirror the hard drives.

**Caution**

If you are planning to run **mgcrestore**, make sure you are installing the same version of Volume Manager that was installed on your system when **mgcbakcup** was run. Or, if Volume Manager was not installed on your system when **mgcbakcup** was run, you must first run **mgcrestore** before installing Volume Manager.

**Note**

If you have not already loaded package CSCOh000.pkg from the previous section, then do so by following [Step 1](#). Otherwise, start this procedure with [Step 4](#).

**Step 1**

Load the Cisco MGC Solaris Patches CD into the CD-ROM drive. Install the Solaris 2.6 operating system patches by entering the following commands:

```
# pkgadd -d /cdrom/cdrom0/CSCOh000.pkg
```

A screen similar to the following is displayed:

```
The following packages are available:
  1 CSCOh000      Media Gateway Controller Volume Manager 3.1 package installation and
                  patches
                  (sparc) 1.0(3)A

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

**Step 2** Press **Enter** to accept the default response of **all**.

A screen similar to the following is displayed:

```
Processing package instance <CSCOh000> from </tftpboot/CiscoMGC_Install/CSCOh000.pkg>

Media Gateway Controller Volume Manager 3.1 package installation and patches
(sparc) 1.0(3)A
Cisco System, Inc.
Using </opt/sun_install> as the package base directory.
## Processing package information.
## Processing system information.
  2 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 <CSCOh000> [y,n,?] y
```

**Step 3** Select **y** and press **Enter** to have this directory created.

A screen similar to the following is displayed:

```
Installing Media Gateway Controller Volume Manager 3.1 package installation and patches as
<CSCOh000>

## Executing preinstall script.
Platform is SUNW,Ultra-60

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/installVM3.1
/opt/sun_install/pkg_admin
/opt/sun_install/rm_Veritas2.6
[ verifying class <none> ]
## Executing postinstall script.
Installation of <CSCOh000> was successful.
```

**Step 4** Change directories to `/opt/sun_install`, eject the CD and run the `installVM3.1` script by entering the following commands at the `#` prompt. If the installation was performed using an `nfs` mount, disregard the `eject` command below.

```
# cd /opt/sun_install
# eject
# ./installVM3.1

The following screen is displayed:
Install the "Foundation Products 2000-08 for Solaris" CD into the CD-ROM driver
Press Enter when ready
```

**Step 5** Press **Enter** to continue the installation.

A screen similar to the following is displayed:

```
Changing directories to /cdrom/cdrom0/Solaris_2_6/pkg
Current directory /cdrom/foundation_products_2000_08_sun/Solaris_2_6/pkg
Installing Volume Manager Packages
```

```
Processing package instance <VRTSvxvm> from
</cdrom/foundation_products_2000_08_sun/Solaris_2_6/pkg>
```

```
VERITAS Volume Manager, Binaries
(sparc) 3.1,REV=07.21.2000.07.59
Copyright (c) 1990-2000 VERITAS Software Corporation.
ALL RIGHTS RESERVED.
THIS SOFTWARE IS THE PROPERTY OF AND IS LICENSED BY VERITAS SOFTWARE,
AND/OR ITS SUPPLIERS.
```

```
This package, VxVM 3.1, is supported on Solaris 2.6, 7,
and 8. You appear to be running Solaris 2.6. Press
ENTER to install VxVM 3.1 for Solaris 2.6, or enter
another Solaris version number if you are certain that you
want to install the drivers for a different release of
Solaris.
```

```
Install for which version of Solaris?
[8, 7, 2.6] (default: 2.6):
```

**Step 6** Press **Enter** to accept the default answer, **Solaris 2.6**, and continue the installation.

A screen similar to the following is displayed:

```
Installing VxVM for Solaris 2.6
```

```
The following Sun patch(s) are required for Solaris 2.6.
Sun patch(s):
```

```
105223
105357
```

```
Continue installation? [y,n,q,?] (default: n): y
```

**Step 7** These patches are already installed on the system. Select **y** and press **Enter** to continue installation. After a long list of files are installed for the VRTSvxvm package, the following screen is displayed:

```
## Executing postinstall script.
```

```
Installation of <VRTSvxvm> was successful.
```

```
Processing package instance <VRTSvmsa> from
</cdrom/foundation_products_2000_08_sun/Solaris_2_6/pkg>
```

```
VERITAS Volume Manager Storage Administrator
(sparc) 3.1,REV=07.26.2000.17.55
Copyright (c) 2000 VERITAS Software Corporation.
ALL RIGHTS RESERVED.
THIS SOFTWARE IS THE PROPERTY OF AND IS LICENSED BY VERITAS SOFTWARE,
AND/OR ITS SUPPLIERS.
```

```
Where should this package be installed? (default: /opt) [?,q]
```

**Step 8** Press **Enter** to accept the default answer, **/opt**, and continue the installation. The following lines are appended to the display:

```
Should the Volume Manager Storage Administrator Server be installed on this
system?
```



```
(The Volume Manager Storage Administrator Client will be installed regardless)
(default: y) [y,n,?,q]
```

**Step 9** Select **y** and press **Enter** to continue the installation. After another list of files are installed for the VRTSvmsa package, the following screen is displayed:

```
## Executing postinstall script.

Installation of <VRTSvmsa> was successful.

Processing package instance <VRTSvmman> from
</cdrom/foundation_products_2000_08_sun/Solaris_2_6/pkggs>

VERITAS Volume Manager, Manual Pages
(sparc) 3.1,REV=07.21.2000.07.59
Copyright (c) 1990-2000 VERITAS Software Corporation.
ALL RIGHTS RESERVED.
THIS SOFTWARE IS THE PROPERTY OF AND IS LICENSED BY VERITAS SOFTWARE,
AND/OR ITS SUPPLIERS.
Using </opt> as the package base directory.
## Processing package information.
## Processing system information.
## Verifying disk space requirements.

Installing VERITAS Volume Manager, Manual Pages as <VRTSvmman>

## Installing part 1 of 1.
/opt/VRTSvxvm/man/man1m/libvxvm3c.3x
/opt/VRTSvxvm/man/man1m/vxapslice.1m
/opt/VRTSvxvm/man/man1m/vxassist.1m
.
.
.

Installation of <VRTSvmman> was successful.
Create vxassist file
Create vxaltstale file
Edit S95vxvm-recover script

!!
!!   !!
!! The system must be rebooted before running vxinstall                          !!
!! as root to continue the Volume Manager installation.                          !!
!!   !!
!!

Do you want to reboot now (y/n)?y
```

**Step 10** Select **y** and press **Enter** to reboot. After another list of files are installed for the VRTSvmsa package, the following screen is displayed:

```
REBOOTING

Remember to remove your Volume Manager CD from the CD-ROM drive

INIT: New run level: 6
The system is coming down. Please wait.

You can now remove the Veritas CD from the CD-ROM.
```

**Step 11** When the reboot is complete, log in as **root** and boot the system at the # prompt.

```
Enter the following command at the # prompt:
# vxinstall
```

VxVM uses license keys to control access. If you have a SPARCstorage Array (SSA) controller or a Sun Enterprise Network Array (SENA) controller attached to your system, then VxVM will grant you a limited use license automatically. The SSA and/or SENA license grants you unrestricted use of disks attached to an SSA or SENA controller, but disallows striping, RAID-5, and DMP on non-SSA and non-SENA disks. If you are not running an SSA or SENA controller, then you must obtain a license key to operate.

```
Licensing information:
  System host ID: 80b7fc9b
  Host type: SUNW,Ultra-60
  SPARCstorage Array or Sun Enterprise Network Array: No arrays found
```

No valid licenses found.

Are you prepared to enter a license key [y,n,q,?] (default: y) y

Note: If you are upgrading from Veritas 2.6 the system will recognize your existing key and ask if you wish to review them. If you are not upgrading you must enter your license here.

**Step 12** Press **Enter** to accept the default answer **yes**. The following screen is displayed:

Please enter your key:

**Step 13** Type the key number, with spaces, and press **Enter**.

A screen similar to the following is displayed:

```
vrts:vxlicense: INFO: Feature name: VxVM [95]
vrts:vxlicense: INFO: Number of licenses: 1 (non-floating)
vrts:vxlicense: INFO: Expiration date: Sun Jun 04 04:00:00 2006 (1914.7 days from now)
vrts:vxlicense: INFO: Release Level: 20
vrts:vxlicense: INFO: Machine Class: All
vrts:vxlicense: INFO: Key successfully installed in /etc/vx/elm/95.
```

Do you wish to enter another license key [y,n,q,?] (default: n)




---

**Note** When you receive the Sun StorEdgeVolume Manager key you will also get a RAID5 key. This key is included in the package from Sun but is not required for the installation.

---

**Step 14** Press **Enter** to accept the default answer **no**.

A screen similar to the following is displayed:

Generating list of attached controllers....

```
Volume Manager Installation
Menu: VolumeManager/Install
```

The Volume Manager names disks on your system using the controller and disk number of the disk, substituting them into the following pattern:

```
c<controller>t<disk>d<disk>
```

If the Multipathing driver is installed on the system then for the disk devices with multiple access paths, the controller number represents a multipath pseudo controller number. For example, if a disk has 2 paths from controllers c0 and c1, then the Volume Manager displays only one of them such as c0 to represent both the controllers.

Some examples would be:

```
c0t0d0 - first controller, first target, first disk
c1t0d0 - second controller, first target, first disk
c1t1d0 - second controller, second target, first disk
```

The Volume Manager has detected the following controllers on your system:

```
c0:
```

Hit RETURN to continue.

**Step 15** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Installation
Menu: VolumeManager/Install
```

You will now be asked if you wish to use Quick Installation or Custom Installation. Custom Installation allows you to select how the Volume Manager will handle the installation of each disk attached to your system.

Quick Installation examines each disk attached to your system and attempts to create volumes to cover all disk partitions that might be used for file systems or for other similar purposes.

If you do not wish to use some disks with the Volume Manager, or if you wish to reinitialize some disks, use the Custom Installation option. Otherwise, we suggest that you use the Quick Installation option.

Hit RETURN to continue.

**Step 16** Press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Installation Options
Menu: VolumeManager/Install
```

```
1      Quick Installation
2      Custom Installation

?      Display help about menu
??     Display help about the menuing system
q      Exit from menus
```

Select an operation to perform: 2

**Step 17** Select **2** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom
```

The c0t0d0 disk is your Boot Disk. You can not add it as a new disk. If you encapsulate it, you will make your root file system and other system areas on the Boot Disk into volumes. This is required if you wish to mirror your root file system or system swap area.

```
Encapsulate Boot Disk [y,n,q,?] (default: n) y
```

**Step 18** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Enter disk name for [<name>,q,?] (default: rootdisk) rootdiska
```

**Step 19** Type **rootdiska** and press **Enter** to continue.

A screen similar to the following is displayed:

```
The c0t0d0 disk has been configured for encapsulation.
```

```
Hit RETURN to continue.
```

Step 22 Press Enter to continue. The following screen will be displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom/c0
Generating list of attached disks on c0....
```

```
<excluding root disk c0t0d0>
```

```
The Volume Manager has detected the following disks on controller c0:
```

```
c0t1d0
```

```
Hit RETURN to continue.
```

Press Enter to continue. The following screen is displayed:

```
Installation options for controller c0
Menu: VolumeManager/Install/Custom/c0
```

```
1      Install all disks as pre-existing disks. (encapsulate)
2      Install all disks as new disks. (discards data on disks!)
3      Install one disk at a time.
4      Leave these disks alone.

?      Display help about menu
??     Display help about the menuing system
q      Exit from menus
```

```
Select an operation to perform: 4
```

**Step 20** Select **4** to leave the disks alone and press **Enter** to continue.

A screen similar to the following is displayed:

```
Volume Manager Custom Installation
Menu: VolumeManager/Install/Custom
```

```
The following is a summary of your choices.
```

```
c0t0d0  Encapsulate
```

```
Is this correct [y,n,q,?] (default: y)
```

**Step 21** Press **Enter** to accept the default answer **yes** and continue.

The system must be shut down now and rebooted in order to continue the reconfiguration.

A screen similar to the following is displayed:

```
Shut down and reboot now [y,n,q,?] (default: n) y
```

- Step 22** Select **y** and press **Enter** to shut down and reboot the system. Wait for the computer to shut down and reboot twice, then proceed to the next step.
- Step 23** Log in as **root** at the **#** prompt and run the `install_rootdg` script as shown below:



**Note** This process takes approximately 28 minutes to run and does not require user intervention.

```
# cd /opt/sun_install
# ./install_rootdg
```

A screen similar to the following is displayed:

```
Determine the device names for the disks
Platform is SUNW,Ultra-60
A-DSK0: c0t0d0
B-DSK0: c0t1d0
Initialize device c0t1d0
Succeeded
Add rootdiskb to rootdg, device is c0t1d0
Succeeded
Mirror all the volumes of A-DSK0 to B-DKS0 and make root
bootable
Mirroring root to rootdiskb
Success
Mirroring var to rootdiskb
Success
Mirroring opt to rootdiskb
Success
Mirroring swap to rootdiskb
Success
Mirroring usr to rootdiskb
Success
```

- Step 24** Edit the `/etc/init.d/syssetup` file to enable a core dump. These lines are located at the end of the file. Remove the comment symbol (**#**) from the beginning of the lines. The completed edit should be the same as shown below.

```
# Default is to not do a savecore
#
if [ ! -d /var/crash/`uname -n` ]
then mkdir -m 0700 -p /var/crash/`uname -n`
fi
        echo 'checking for crash dump...\c '
savecore /var/crash/`uname -n`
        echo ''
```

- Step 25** At the **#** prompt, type **init 6** and press **Enter** to reboot the system.

```
# init 6
```

This completes the Sun StorEdge Volume Manager Software installation.



**Note** After the installation of the Sun StorEdge Volume Manager Software you will receive the following error messages during the boot process:

```
WARNING: forcload of drv/scsi failed
WARNING: forcload of drv/ssd failed
```

```
WARNING: forceload of drv/sf failed
WARNING: forceload of drv/pln failed
WARNING: forceload of drv/soc failedWARNING: forceload of drv/socal failed
```

These error messages are acceptable and will not affect the operation of the MGC application.

## Removing Veritas Volume Manager 3.1

To remove Veritas Volume Manager 3.1:

- Step 1** Change directories to /opt/sun\_install, eject the CD and run the script to remove Volume Manager 3.1 by entering the following commands at the # prompt.

```
# cd /opt/sun_install
# eject
# ./rm_Veritas3.1
```

The following screen is displayed:

```
!!
!!
!!           This script will completely remove           !!
!!           Veritas Volume Manager 3.1 from this system   !!
!!
!!           It requires that the machine                 !!
!!           be rebooted several times during the procedure. !!
!!
!! Do you wish to continue? (y/n):                          !!
!!
!!
```

- Step 2** Select **y** and press **Enter** to continue removing Volume Manager 3.1.

A screen similar to the following is displayed:

```
Removing Sun StorEdge Volume Manager 3.1
```

```
This operation will convert the following file systems from
volumes to regular partitions: root swap usr var opt
```

```
Replace volume rootvol with c0t0d0s0.
```

```
This operation will require a system reboot. If you choose to
continue with this operation, system configuration will be updated
to discontinue use of the volume manager for your root and swap
devices.
```

```
Do you wish to do this now [y,n,q,?] (default: y)
```

- Step 3** Select **y** and press **Enter** to continue.

A screen similar to the following is displayed:

```
Restoring kernel configuration...
```

```
A shutdown is now required to install the new kernel.
You can choose to shutdown now, or you can shutdown later, at your
convenience.
```

```
Do you wish to shut down now [y,n,q,?] (default: n) y
```

- Step 4** Select **y** and press **Enter** to shut down and reboot the system.

A screen similar to the following is displayed:

```
shutdown -g0 -y -i6

Shutdown started.    Tue Mar  6 17:22:23 EST 2001

During the reboot sequence the following warning will be displayed:
VxVM general startup...

    Volume Manager: Removing rootdiska from Volume Manager control.
vxvm:vxvg: ERROR: disassociating disk-media rootdiska:
    Cannot remove last disk in disk group

    The removal of rootdiska from rootdg failed. It will be marked as
    reserved so no space from it is accidentally allocated
```




---

**Note** This message can be ignored. After this process is completed, it will not be displayed again.

---

**Step 5** When the system completes rebooting, log in as **root** and remove the Sun StorEdge Volume Manager Packages by entering the following commands:

```
# cd /opt/sun_install
# pkgrm -a pkg_admin -n VRTSvmman VRTSvmsa VRTSvxvm
```

A screen similar to the following is displayed:

```
Removal of <VRTSvmman> was successful.
Attempting to stop vmsa_server
Removing files under /var/opt/vmsa...

Removal of <VRTSvmsa> was successful.

Checking for system volumes:
    swap    ...

Stopping vxconfigd...
Stopping the host information RPC daemon
Unloading vxspec driver...
Removing //kernel/drv/vxspec
Unloading vxio driver...
Removing //kernel/drv/vxio
Unloading vxdmp driver...
Removing //kernel/drv/vxdmp
Removing changes to //etc/devlink.tab...
Removing changes to //etc/system...
Removing files under /var/vxvm...
Removing vxconfigd...

Removing files under //etc/vx...

Removal of <VRTSvxvm> was successful.
```

---

This completes the operating system installation process.




---

**Note** After the removal of the Sun StorEdge Volume Manager Software you will still receive the following error messages during the boot process:

WARNING: forcload of drv/scsi failed  
 WARNING: forcload of drv/ssd failed  
 WARNING: forcload of drv/sf failed  
 WARNING: forcload of drv/pln failed  
 WARNING: forcload of drv/soc failed  
 WARNING: forcload of drv/socal failed

These error message are acceptable and will not affect the operation of the MGC application. They can be removed by editing the /etc/system file and removing the lines at the end of the file that begin with "forcload: drv/..."

## Installing Log and Spool File Systems



**Note** This section applies to the PGW Host only.



**Note** If the Cisco MGC software is installed, follow the procedure in the [“If the Cisco MGC Software is Already Installed on the Platform”](#) section on page 8-48 to install the Log and Spool File Systems and make sure that the Log and Spool data in the directory is backed up. Otherwise, all the data in log and spool will be lost and no data can be written to the log and spool directory.

The following procedure configures the second disk of a PGW Host for use by the Cisco MGC Software as storage for log, alarm, measurement, and CDR files. The second disk is divided into two partitions. The first partition is the log partition and uses 40% of the disk. The second partition is the spool partition which uses 60% of the disk. [Table 8-4](#) shows a sample partition table for the second disk of a Netra t 1400 with 36 GB disk drives.

**Table 8-4 36 GB Disk 1 Partition Table (PGW with Log and Spool Package)**

Slice No.	PGW Host	
	Slice Name	Slice Size (GB)
0.		0.00
1		0.00
2	overlap	33.92
3	/opt/CiscoMGC/var/log	13.57
4	/opt/CiscoMGC/var/spool	20.35
5		0.00
6		0.00
7		0.00

### If the Cisco MGC Software is Already Installed on the Platform

If the Cisco MGC software is already installed on your platform, start Log and Spool software installation by following the procedures listed below.



**Note**

If the Cisco MGC was installed in a base directory other than the default /opt/CiscoMGC, adjust the following procedures to use the correct base directory.

**Note**

If the Cisco MGC software is **not** installed on your platform, you should skip this procedure and begin Log and Spool installation from the [“If the Cisco MGC Software is Not Installed on the Platform” section on page 8-56](#).

- Step 1** Save the existing log and spool directories. Log in to the platform as **root** and enter the following command to stop the Cisco MGC software:

```
# /etc/init.d/CiscoMGC stop
```

- Step 2** Enter the following commands to rename the existing log and spool directories:

```
# cd /opt/CiscoMGC/var
# mv log log.save
# mv log/*.seq log.save
# mv spool spool.save
```

- Step 3** Load the Cisco PGW Solaris 2.6 Patch CD into the CD-ROM drive. From the /var/tmp directory of the target Netra machine, install the Log and Spool Software by entering the following command:

```
# cd /var/tmp
# pkgadd -d /cdrom/cdrom0/CSCOh005.pkg
```

The following screen is displayed:

```
The following packages are available:
 1 CSCOh005      Virtual Switch Controller VSC log and spool package
                  (sparc) 2.0(3)
```

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

- Step 4** Press **Enter** to accept the default answer **all**.

The following screen is displayed:

```
Processing package instance <CSCOh005 from </var/tmp/CSCOh005.pkg
```

```
Virtual Switch Controller VSC log and spool package
(sparc) 2.0(3)
Cisco System, Inc.
Using </opt/sun_install as the package base directory.
## Processing package information.
## Processing system information.
 1 package pathname is 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 <CSCOh005> [y,n,?]
```

- Step 5** Type **y** and press **Enter** to continue.

The following screen is displayed:

```

Installing Media Gateway Controller VSC log and spool package as <CSCOh005>

## Executing preinstall script.
Platform is SUNW,Ultra-80
This is a known platform

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/format_log_spool_start.cmd
/opt/sun_install/install_log_spool
/opt/sun_install/query_2nd_disk.cmd
[ verifying class <none> ]
## Executing postinstall script.

!!
!! You must now change directories to /opt/sun_install and
!! run the ./install_log_spool script as root.
!!

```

**Step 6** Change directories to /opt/sun\_install and run the install\_log\_spool script.

```

# cd /opt/sun_install
# ./install_log_spool

Platform is SUNW,Ultra-80
Searching for disks...done

FORMAT MENU:
    disk          - select a disk
    type          - select (define) a disk type
    partition     - select (define) a partition table
    current       - describe the current disk
    format        - format and analyze the disk
    repair        - repair a defective sector
    label         - write label to the disk
    analyze       - surface analysis
    defect        - defect list management
    backup        - search for backup labels
    verify        - read and display labels
    save          - save new disk/partition definitions
    volname       - set 8-character volume name
    !<cmd>        - execute <cmd>, then return
    quit
format> disk

AVAILABLE DISK SELECTIONS:
    0. c0t0d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
       /pci@1f,4000/scsi@3/sd@0,0
    1. c0t1d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
       /pci@1f,4000/scsi@3/sd@1,0
Specify disk (enter its number): 1
selecting c0t1d0
[disk formatted]
format> current
Current Disk = c0t1d0
<SUN36G cyl 24620 alt 2 hd 27 sec 107>
/pci@1f,4000/scsi@3/sd@1,0

format> q
2nd Disk device is:    c0t1d0
Disk type is:         SUN36G

```

```
Number of Cylinders : 24620
```

```
Enter absolute path of the desired mount point for the
log directory or press enter to accept
the default [/opt/CiscoMGC/var/log]:
```

- Step 7** Press **Enter** to accept the default mount point for the log directory, or change it if the Cisco MGC software was installed in a different location.

The following screen is displayed:

```
Log directory mount point is /opt/CiscoMGC/var/log
```

```
Enter absolute path of the desired mount point for the
spool directory or press enter to accept
the default [/opt/CiscoMGC/var/spool]:
```

- Step 8** Press **Enter** to accept the default mount point for the spool directory, or change it if the Cisco MGC software was installed in a different location.

The following screen is displayed:

```
Spool directory mount point is /opt/CiscoMGC/var/spool
```

```
Number of cylinders for log partition: 9848
```

```
Start: 0
Start: 9847
```

```
Number of cylinders for spool partition: 14772
```

```
Start: 9848
Start: 24619
```

```
Build partition table for c0t1d0 ...
Searching for disks...done
selecting c0t1d0
[disk formatted]
```

```
FORMAT MENU:
```

```
disk      - select a disk
type      - select (define) a disk type
partition - select (define) a partition table
current   - describe the current disk
format    - format and analyze the disk
repair    - repair a defective sector
label     - write label to the disk
analyze   - surface analysis
defect    - defect list management
backup    - search for backup labels
verify    - read and display labels
save      - save new disk/partition definitions
inquiry   - show vendor, product and revision
volname   - set 8-character volume name
!<cmd>    - execute <cmd>, then return
quit
```

```
format> p
```

```
PARTITION MENU:
```

```
0 - change `0' partition
1 - change `1' partition
2 - change `2' partition
3 - change `3' partition
4 - change `4' partition
```

```

5      - change `5' partition
6      - change `6' partition
7      - change `7' partition
select - select a predefined table
modify - modify a predefined partition table
name   - name the current table
print  - display the current table
label  - write partition map and label to the disk
!<cmd> - execute <cmd>, then return
quit
partition> 0
Part    Tag    Flag    Cylinders    Size    Blocks
  0     root    wm      0 - 725      1.00GB  (726/0/0)  2097414

Enter partition id tag[root]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 1
Part    Tag    Flag    Cylinders    Size    Blocks
  1     swap    wu     726 - 3629   4.00GB  (2904/0/0)  8389656

Enter partition id tag[swap]: unassigned
Enter partition permission flags[wu]: wm
Enter new starting cyl[726]: 0
Enter partition size[8389656b, 2904c, 4096.51mb, 4.00gb]: 0c
partition> 3
Part    Tag    Flag    Cylinders    Size    Blocks
  3     unassigned    wm      0            0      (0/0/0)      0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 0c
partition> 4
Part    Tag    Flag    Cylinders    Size    Blocks
  4     unassigned    wm    3630 - 23156  26.90GB  (19527/0/0)  56413503

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[3630]: 0
Enter partition size[56413503b, 19527c, 27545.66mb, 26.90gb]: 0c
partition> 5
Part    Tag    Flag    Cylinders    Size    Blocks
  5     var     wm    23157 - 23882  1.00GB  (726/0/0)  2097414

Enter partition id tag[var]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[23157]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 6
Part    Tag    Flag    Cylinders    Size    Blocks
  6     usr     wm    23883 - 24608  1.00GB  (726/0/0)  2097414

Enter partition id tag[usr]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[23883]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 7
Part    Tag    Flag    Cylinders    Size    Blocks
  7     unassigned    wm    24609 - 24619  15.52MB  (11/0/0)    31779

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm

```

```

Enter new starting cyl[24609]: 0
Enter partition size[31779b, 11c, 15.52mb, 0.02gb]: 0c
partition> 2
Part      Tag      Flag      Cylinders      Size      Blocks
  2      backup    wm        0 - 24619      33.92GB   (24620/0/0) 71127180

Enter partition id tag[backup]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[71127180b, 24620c, 34730.07mb, 33.92gb]: 24620c
partition> 3
Part      Tag      Flag      Cylinders      Size      Blocks
  3      unassigned  wm         0              0        (0/0/0)      0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 9848c
partition> 4
Part      Tag      Flag      Cylinders      Size      Blocks
  4      unassigned  wm         0              0        (0/0/0)      0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 9848
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 14772c
partition> p
Current partition table (unnamed):
Total disk cylinders available: 24620 + 2 (reserved cylinders)

Part      Tag      Flag      Cylinders      Size      Blocks
  0      unassigned  wm         0              0        (0/0/0)      0
  1      unassigned  wm         0              0        (0/0/0)      0
  2      unassigned  wm        0 - 24619      33.92GB   (24620/0/0) 71127180
  3      unassigned  wm        0 - 9847      13.57GB   (9848/0/0) 28450872
  4      unassigned  wm     9848 - 24619  20.35GB   (14772/0/0) 42676308
  5      unassigned  wm         0              0        (0/0/0)      0
  6      unassigned  wm         0              0        (0/0/0)      0
  7      unassigned  wm         0              0        (0/0/0)      0

partition> l

partition> q

FORMAT MENU:
  disk      - select a disk
  type      - select (define) a disk type
  partition - select (define) a partition table
  current   - describe the current disk
  format    - format and analyze the disk
  repair    - repair a defective sector
  label     - write label to the disk
  analyze   - surface analysis
  defect    - defect list management
  backup    - search for backup labels
  verify    - read and display labels
  save      - save new disk/partition definitions
  inquiry   - show vendor, product and revision
  volname   - set 8-character volume name
  !<cmd>    - execute <cmd>, then return
  quit

format> q

```

```

unknown disk type, assuming the speed is 10000 rpm
Build log filesystem at /dev/rdisk/c0t1d0s3 ...
mkfs -F ufs /dev/rdisk/c0t1d0s3 28450872 107 27 8192 1024 251 1 166 8192 t 0 -1 8 107
Cylinder groups must have a multiple of 16 cylinders with the given parameters
Rounded cgsiz up to 256
/dev/rdisk/c0t1d0s3:      28450872 sectors in 9848 cylinders of 27 tracks, 107 sectors
      13892.0MB in 308 cyl groups (32 c/g, 45.14MB/g, 5632 i/g)
super-block backups (for fsck -F ufs -o b=#) at:
 32, 92592, 185152, 277712, 370272, 462832, 555392, 647952, 740512, 833072,
 925632, 1018192, 1110752, 1203312, 1295872, 1388432, 1480992, 1573552,
 1666112, 1758672, 1851232, 1943792, 2036352, 2128912, 2221472, 2314032,
 2406592, 2499152, 2591712, 2684272, 2776832, 2869392, 2958368, 3050928,
 3143488, 3236048, 3328608, 3421168, 3513728, 3606288, 3698848, 3791408,
 3883968, 3976528, 4069088, 4161648, 4254208, 4346768, 4439328, 4531888,
 4624448, 4717008, 4809568, 4902128, 4994688, 5087248, 5179808, 5272368,
 5364928, 5457488, 5550048, 5642608, 5735168, 5827728, 5916704, 6009264,
 6101824, 6194384, 6286944, 6379504, 6472064, 6564624, 6657184, 6749744,
 6842304, 6934864, 7027424, 7119984, 7212544, 7305104, 7397664, 7490224,
 7582784, 7675344, 7767904, 7860464, 7953024, 8045584, 8138144, 8230704,
 8323264, 8415824, 8508384, 8600944, 8693504, 8786064, 8875040, 8967600,
 9060160, 9152720, 9245280, 9337840, 9430400, 9522960, 9615520, 9708080,
 9800640, 9893200, 9985760, 10078320, 10170880, 10263440, 10356000, 10448560,
 10541120, 10633680, 10726240, 10818800, 10911360, 11003920, 11096480,
 11189040, 11281600, 11374160, 11466720, 11559280, 11651840, 11744400,
 11833376, 11925936, 12018496, 12111056, 12203616, 12296176, 12388736,
 12481296, 12573856, 12666416, 12758976, 12851536, 12944096, 13036656,
 13129216, 13221776, 13314336, 13406896, 13499456, 13592016, 13684576,
 13777136, 13869696, 13962256, 14054816, 14147376, 14239936, 14332496,
 14425056, 14517616, 14610176, 14702736, 14791712, 14884272, 14976832,
 15069392, 15161952, 15254512, 15347072, 15439632, 15532192, 15624752,
 15717312, 15809872, 15902432, 15994992, 16087552, 16180112, 16272672,
 16365232, 16457792, 16550352, 16642912, 16735472, 16828032, 16920592,
 17013152, 17105712, 17198272, 17290832, 17383392, 17475952, 17568512,
 17661072, 17750048, 17842608, 17935168, 18027728, 18120288, 18212848,
 18305408, 18397968, 18490528, 18583088, 18675648, 18768208, 18860768,
 18953328, 19045888, 19138448, 19231008, 19323568, 19416128, 19508688,
 19601248, 19693808, 19786368, 19878928, 19971488, 20064048, 20156608,
 20249168, 20341728, 20434288, 20526848, 20619408, 20708384, 20800944,
 20893504, 20986064, 21078624, 21171184, 21263744, 21356304, 21448864,
 21541424, 21633984, 21726544, 21819104, 21911664, 22004224, 22096784,
 22189344, 22281904, 22374464, 22467024, 22559584, 22652144, 22744704,
 22837264, 22929824, 23022384, 23114944, 23207504, 23300064, 23392624,
 23485184, 23577744, 23666720, 23759280, 23851840, 23944400, 24036960,
 24129520, 24222080, 24314640, 24407200, 24499760, 24592320, 24684880,
 24777440, 24870000, 24962560, 25055120, 25147680, 25240240, 25332800,
 25425360, 25517920, 25610480, 25703040, 25795600, 25888160, 25980720,
 26073280, 26165840, 26258400, 26350960, 26443520, 26536080, 26625056,
 26717616, 26810176, 26902736, 26995296, 27087856, 27180416, 27272976,
 27365536, 27458096, 27550656, 27643216, 27735776, 27828336, 27920896,
 28013456, 28106016, 28198576, 28291136, 28383696,

Build spool filesystem at /dev/rdisk/c0t1d0s4 ...
mkfs -F ufs /dev/rdisk/c0t1d0s4 42676308 107 27 8192 1024 251 1 166 8192 t 0 -1 8 107
Cylinder groups must have a multiple of 16 cylinders with the given parameters
Rounded cgsiz up to 256
/dev/rdisk/c0t1d0s4:      42676308 sectors in 14772 cylinders of 27 tracks, 107 sectors
      20838.0MB in 462 cyl groups (32 c/g, 45.14MB/g, 5632 i/g)
super-block backups (for fsck -F ufs -o b=#) at:
 32, 92592, 185152, 277712, 370272, 462832, 555392, 647952, 740512, 833072,
 925632, 1018192, 1110752, 1203312, 1295872, 1388432, 1480992, 1573552,
 1666112, 1758672, 1851232, 1943792, 2036352, 2128912, 2221472, 2314032,
 2406592, 2499152, 2591712, 2684272, 2776832, 2869392, 2958368, 3050928,
 3143488, 3236048, 3328608, 3421168, 3513728, 3606288, 3698848, 3791408,
 3883968, 3976528, 4069088, 4161648, 4254208, 4346768, 4439328, 4531888,

```

```

4624448, 4717008, 4809568, 4902128, 4994688, 5087248, 5179808, 5272368,
5364928, 5457488, 5550048, 5642608, 5735168, 5827728, 5916704, 6009264,
6101824, 6194384, 6286944, 6379504, 6472064, 6564624, 6657184, 6749744,
6842304, 6934864, 7027424, 7119984, 7212544, 7305104, 7397664, 7490224,
7582784, 7675344, 7767904, 7860464, 7953024, 8045584, 8138144, 8230704,
8323264, 8415824, 8508384, 8600944, 8693504, 8786064, 8875040, 8967600,
9060160, 9152720, 9245280, 9337840, 9430400, 9522960, 9615520, 9708080,
9800640, 9893200, 9985760, 10078320, 10170880, 10263440, 10356000, 10448560,
10541120, 10633680, 10726240, 10818800, 10911360, 11003920, 11096480,
11189040, 11281600, 11374160, 11466720, 11559280, 11651840, 11744400,
11833376, 11925936, 12018496, 12111056, 12203616, 12296176, 12388736,
12481296, 12573856, 12666416, 12758976, 12851536, 12944096, 13036656,
13129216, 13221776, 13314336, 13406896, 13499456, 13592016, 13684576,
13777136, 13869696, 13962256, 14054816, 14147376, 14239936, 14332496,
14425056, 14517616, 14610176, 14702736, 14791712, 14884272, 14976832,
15069392, 15161952, 15254512, 15347072, 15439632, 15532192, 15624752,
15717312, 15809872, 15902432, 15994992, 16087552, 16180112, 16272672,
16365232, 16457792, 16550352, 16642912, 16735472, 16828032, 16920592,
17013152, 17105712, 17198272, 17290832, 17383392, 17475952, 17568512,
17661072, 17750048, 17842608, 17935168, 18027728, 18120288, 18212848,
18305408, 18397968, 18490528, 18583088, 18675648, 18768208, 18860768,
18953328, 19045888, 19138448, 19231008, 19323568, 19416128, 19508688,
19601248, 19693808, 19786368, 19878928, 19971488, 20064048, 20156608,
20249168, 20341728, 20434288, 20526848, 20619408, 20708384, 20800944,
20893504, 20986064, 21078624, 21171184, 21263744, 21356304, 21448864,
21541424, 21633984, 21726544, 21819104, 21911664, 22004224, 22096784,
22189344, 22281904, 22374464, 22467024, 22559584, 22652144, 22744704,
22837264, 22929824, 23022384, 23114944, 23207504, 23300064, 23392624,
23485184, 23577744, 23666720, 23759280, 23851840, 23944400, 24036960,
24129520, 24222080, 24314640, 24407200, 24499760, 24592320, 24684880,
24777440, 24870000, 24962560, 25055120, 25147680, 25240240, 25332800,
25425360, 25517920, 25610480, 25703040, 25795600, 25888160, 25980720,
26073280, 26165840, 26258400, 26350960, 26443520, 26536080, 26625056,
26717616, 26810176, 26902736, 26995296, 27087856, 27180416, 27272976,
27365536, 27458096, 27550656, 27643216, 27735776, 27828336, 27920896,
28013456, 28106016, 28198576, 28291136, 28383696, 28476256, 28568816,
28661376, 28753936, 28846496, 28939056, 29031616, 29124176, 29216736,
29309296, 29401856, 29494416, 29583392, 29675952, 29768512, 29861072,
29953632, 30046192, 30138752, 30231312, 30323872, 30416432, 30508992,
30601552, 30694112, 30786672, 30879232, 30971792, 31064352, 31156912,
31249472, 31342032, 31434592, 31527152, 31619712, 31712272, 31804832,
31897392, 31989952, 32082512, 32175072, 32267632, 32360192, 32452752,
32541728, 32634288, 32726848, 32819408, 32911968, 33004528, 33097088,
33189648, 33282208, 33374768, 33467328, 33559888, 33652448, 33745008,
33837568, 33930128, 34022688, 34115248, 34207808, 34300368, 34392928,
34485488, 34578048, 34670608, 34763168, 34855728, 34948288, 35040848,
35133408, 35225968, 35318528, 35411088, 35500064, 35592624, 35685184,
35777744, 35870304, 35962864, 36055424, 36147984, 36240544, 36333104,
36425664, 36518224, 36610784, 36703344, 36795904, 36888464, 36981024,
37073584, 37166144, 37258704, 37351264, 37443824, 37536384, 37628944,
37721504, 37814064, 37906624, 37999184, 38091744, 38184304, 38276864,
38369424, 38458400, 38550960, 38643520, 38736080, 38828640, 38921200,
39013760, 39106320, 39198880, 39291440, 39384000, 39476560, 39569120,
39661680, 39754240, 39846800, 39939360, 40031920, 40124480, 40217040,
40309600, 40402160, 40494720, 40587280, 40679840, 40772400, 40864960,
40957520, 41050080, 41142640, 41235200, 41327760, 41416736, 41509296,
41601856, 41694416, 41786976, 41879536, 41972096, 42064656, 42157216,
42249776, 42342336, 42434896, 42527456, 42620016,

```

Remove any existing entry in /etc/vfstab for c0t1d0s3 or c0t1d0s4

Adding entries to /etc/vfstab

```
Mounting /opt/CiscoMGC/var/log
```

```
Mounting /opt/CiscoMGC/var/spool
Success!!!
```

Copying old contents of log and spool to new partitions.

**Step 9** Move the data from the saved directories to the new partitions on disk 1. Enter the following commands:

```
# cd /opt/CiscoMGC/var
# mv log.save/* log
# mv log.save/*.*.seq log
*mv spool.save/* spool
```

**Step 10** Remove the save directories. Enter the following commands:

```
# cd /opt/CiscoMGC/var
# rmdir log.save spool.save
```

**Step 11** Change the owner, group, and file permissions of the var and spool directories to match the /opt/CiscoMGC/var directory. Enter the following commands:

```
# cd /opt/CiscoMGC/var
# ls -ld . log spool
drwxrwxr-x 5 mgcusr mgcgrp 1024 May 8 23:43 .
drwxr-xr-x 3 root root 512 May 8 23:42 log
drwxr-xr-x 3 root root 3584 May 8 22:54 spool
# chown mgcusr:mgcgrp log spool
# chmod 775 log spool
# ls -ld . log spool
drwxrwxr-x 5 mgcusr mgcgrp 1024 May 8 23:43 .
drwxrwxr-x 3 mgcusr mgcgrp 512 May 8 23:42 log
drwxrwxr-x 3 mgcusr mgcgrp 3584 May 8 22:54 spool
```

**Step 12** Start the Cisco MGC software. Enter the following command:

```
# /etc/init.d/CiscoMGC start
```

---

This completes the installation of the Log and Spool File system on a platform that already has the Cisco MGC software installed.

## If the Cisco MGC Software is Not Installed on the Platform

If the Cisco MGC software is not yet installed on your platform, start Log and Spool software installation by following these procedures:

**Step 1** Load the Cisco PGW Solaris 2.6 Patch CD into the CD-ROM drive. From the /var/tmp directory of the target Netra machine, install the Log And Spool Software by entering the following command:

```
# cd /var/tmp
# pkgadd -d /cdrom/cdrom0/CSCOh005.pkg
```

The following screen is displayed:

```
The following packages are available:
 1 CSCOh005      Virtual Switch Controller VSC log and spool package
                  (sparc) 2.0(3)
```

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



**Step 2** Press **Enter** to accept the default answer **all**.

The following screen is displayed:

```
Processing package instance <CSCOh005 from </var/tmp/CSCOh005.pkg

Virtual Switch Controller VSC log and spool package
(sparc) 2.0(3)
Cisco System, Inc.
Using </opt/sun_install as the package base directory.
## Processing package information.
## Processing system information.
  1 package pathname is 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 <CSCOh005> [y,n,?]
```

**Step 3** Type **y** and press **Enter** to continue.

The following screen is displayed:

```
Installing Media Gateway Controller VSC log and spool package as <CSCOh005>

## Executing preinstall script.
Platform is SUNW,Ultra-80
This is a known platform

NOTICE: Architecture checks passed

## Installing part 1 of 1.
/opt/sun_install/format_log_spool_start.cmd
/opt/sun_install/install_log_spool
/opt/sun_install/query_2nd_disk.cmd
[ verifying class <none> ]
## Executing postinstall script.

!!
!! You must now change directories to /opt/sun_install and
!! run the ./install_log_spool script as root.
!!
```

**Step 4** Change directories to `/opt/sun_install` and run the `install_log_spool` script.

```
# cd /opt/sun_install
# ./install_log_spool

Platform is SUNW,Ultra-80
Searching for disks...done

FORMAT MENU:
  disk      - select a disk
  type      - select (define) a disk type
  partition - select (define) a partition table
  current   - describe the current disk
  format    - format and analyze the disk
  repair    - repair a defective sector
  label     - write label to the disk
  analyze   - surface analysis
```

```

defect      - defect list management
backup     - search for backup labels
verify    - read and display labels
save      - save new disk/partition definitions
volname   - set 8-character volume name
!<cmd>   - execute <cmd>, then return
quit
format> disk

```

```

AVAILABLE DISK SELECTIONS:
  0. c0t0d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
     /pci@1f,4000/scsi@3/sd@0,0
  1. c0t1d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
     /pci@1f,4000/scsi@3/sd@1,0
Specify disk (enter its number): 1
selecting c0t1d0
[disk formatted]
format> current
Current Disk = c0t1d0
<SUN36G cyl 24620 alt 2 hd 27 sec 107>
/pci@1f,4000/scsi@3/sd@1,0

```

```

format> q
2nd Disk device is:   c0t1d0
Disk type is:        SUN36G
Number of Cylinders : 24620

```

```

Enter absolute path of the desired mount point for the
log directory or press enter to accept
the default [/opt/CiscoMGC/var/log]:

```

- Step 5** Press **Enter** to accept the default mount point for the log directory or change it if you plan on installing the Cisco MGC software in a different location.

The following screen is displayed:

```
Log directory mount point is /opt/CiscoMGC/var/log
```

```

Enter absolute path of the desired mount point for the
spool directory or press enter to accept
the default [/opt/CiscoMGC/var/spool]:

```

- Step 6** Press **Enter** to accept the default mount point for the spool directory or change it if you plan on installing the Cisco MGC software in a different location.

The following screen is displayed:

```
Spool directory mount point is /opt/CiscoMGC/var/spool
```

```

Number of cylinders for log partition: 9848
  Start: 0
  Start: 9847

```

```

Number of cylinders for spool partition: 14772
  Start: 9848
  Start: 24619

```

```

Build partition table for c0t1d0 ...
Searching for disks...done
selecting c0t1d0
[disk formatted]

```

```

FORMAT MENU:
  disk      - select a disk
  type      - select (define) a disk type
  partition - select (define) a partition table
  current   - describe the current disk
  format    - format and analyze the disk
  repair    - repair a defective sector
  label     - write label to the disk
  analyze   - surface analysis
  defect    - defect list management
  backup    - search for backup labels
  verify    - read and display labels
  save      - save new disk/partition definitions
  inquiry   - show vendor, product and revision
  volname   - set 8-character volume name
  !<cmd>    - execute <cmd>, then return
  quit

format> p

PARTITION MENU:
  0 - change `0' partition
  1 - change `1' partition
  2 - change `2' partition
  3 - change `3' partition
  4 - change `4' partition
  5 - change `5' partition
  6 - change `6' partition
  7 - change `7' partition
  select - select a predefined table
  modify - modify a predefined partition table
  name    - name the current table
  print   - display the current table
  label   - write partition map and label to the disk
  !<cmd> - execute <cmd>, then return
  quit

partition> 0
Part      Tag      Flag      Cylinders      Size      Blocks
  0        root      wm         0 - 725        1.00GB    (726/0/0) 2097414

Enter partition id tag[root]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 1
Part      Tag      Flag      Cylinders      Size      Blocks
  1        swap     wu        726 - 3629     4.00GB    (2904/0/0) 8389656

Enter partition id tag[swap]: unassigned
Enter partition permission flags[wu]: wm
Enter new starting cyl[726]: 0
Enter partition size[8389656b, 2904c, 4096.51mb, 4.00gb]: 0c
partition> 3
Part      Tag      Flag      Cylinders      Size      Blocks
  3        unassigned  wm         0              0          (0/0/0)    0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 0c
partition> 4
Part      Tag      Flag      Cylinders      Size      Blocks
  4        unassigned  wm        3630 - 23156   26.90GB   (19527/0/0) 56413503

```

```

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[3630]: 0
Enter partition size[56413503b, 19527c, 27545.66mb, 26.90gb]: 0c
partition> 5
Part      Tag      Flag      Cylinders      Size      Blocks
  5        var      wm      23157 - 23882      1.00GB      (726/0/0)      2097414

Enter partition id tag[var]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[23157]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 6
Part      Tag      Flag      Cylinders      Size      Blocks
  6        usr      wm      23883 - 24608      1.00GB      (726/0/0)      2097414

Enter partition id tag[usr]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[23883]: 0
Enter partition size[2097414b, 726c, 1024.13mb, 1.00gb]: 0c
partition> 7
Part      Tag      Flag      Cylinders      Size      Blocks
  7  unassigned      wm      24609 - 24619      15.52MB      (11/0/0)      31779

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[24609]: 0
Enter partition size[31779b, 11c, 15.52mb, 0.02gb]: 0c
partition> 2
Part      Tag      Flag      Cylinders      Size      Blocks
  2        backup      wm      0 - 24619      33.92GB      (24620/0/0)      71127180

Enter partition id tag[backup]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[71127180b, 24620c, 34730.07mb, 33.92gb]: 24620c
partition> 3
Part      Tag      Flag      Cylinders      Size      Blocks
  3  unassigned      wm      0              0          (0/0/0)      0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 0
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 9848c
partition> 4
Part      Tag      Flag      Cylinders      Size      Blocks
  4  unassigned      wm      0              0          (0/0/0)      0

Enter partition id tag[unassigned]: unassigned
Enter partition permission flags[wm]: wm
Enter new starting cyl[0]: 9848
Enter partition size[0b, 0c, 0.00mb, 0.00gb]: 14772c
partition> p
Current partition table (unnamed):
Total disk cylinders available: 24620 + 2 (reserved cylinders)

Part      Tag      Flag      Cylinders      Size      Blocks
  0  unassigned      wm      0              0          (0/0/0)      0
  1  unassigned      wm      0              0          (0/0/0)      0
  2  unassigned      wm      0 - 24619      33.92GB      (24620/0/0)      71127180
  3  unassigned      wm      0 - 9847      13.57GB      (9848/0/0)      28450872
  4  unassigned      wm      9848 - 24619      20.35GB      (14772/0/0)      42676308
  5  unassigned      wm      0              0          (0/0/0)      0
  6  unassigned      wm      0              0          (0/0/0)      0

```

```
7 unassigned   wm           0           0           (0/0/0)           0
```

```
partition> l
```

```
partition> q
```

```
FORMAT MENU:
```

```
disk           - select a disk
type           - select (define) a disk type
partition      - select (define) a partition table
current        - describe the current disk
format         - format and analyze the disk
repair         - repair a defective sector
label          - write label to the disk
analyze        - surface analysis
defect         - defect list management
backup         - search for backup labels
verify         - read and display labels
save           - save new disk/partition definitions
inquiry        - show vendor, product and revision
volname        - set 8-character volume name
!<cmd>        - execute <cmd>, then return
quit
```

```
format> q
```

```
unknown disk type, assuming the speed is 10000 rpm
```

```
Build log filesystem at /dev/rdisk/c0t1d0s3 ...
```

```
mkfs -F ufs /dev/rdisk/c0t1d0s3 28450872 107 27 8192 1024 251 1 166 8192 t 0 -1 8 107
```

```
Cylinder groups must have a multiple of 16 cylinders with the given parameters
```

```
Rounded cgsz up to 256
```

```
/dev/rdisk/c0t1d0s3: 28450872 sectors in 9848 cylinders of 27 tracks, 107 sectors
13892.0MB in 308 cyl groups (32 c/g, 45.14MB/g, 5632 i/g)
```

```
super-block backups (for fsck -F ufs -o b=#) at:
```

```
32, 92592, 185152, 277712, 370272, 462832, 555392, 647952, 740512, 833072,
925632, 1018192, 1110752, 1203312, 1295872, 1388432, 1480992, 1573552,
1666112, 1758672, 1851232, 1943792, 2036352, 2128912, 2221472, 2314032,
2406592, 2499152, 2591712, 2684272, 2776832, 2869392, 2958368, 3050928,
3143488, 3236048, 3328608, 3421168, 3513728, 3606288, 3698848, 3791408,
3883968, 3976528, 4069088, 4161648, 4254208, 4346768, 4439328, 4531888,
4624448, 4717008, 4809568, 4902128, 4994688, 5087248, 5179808, 5272368,
5364928, 5457488, 5550048, 5642608, 5735168, 5827728, 5916704, 6009264,
6101824, 6194384, 6286944, 6379504, 6472064, 6564624, 6657184, 6749744,
6842304, 6934864, 7027424, 7119984, 7212544, 7305104, 7397664, 7490224,
7582784, 7675344, 7767904, 7860464, 7953024, 8045584, 8138144, 8230704,
8323264, 8415824, 8508384, 8600944, 8693504, 8786064, 8875040, 8967600,
9060160, 9152720, 9245280, 9337840, 9430400, 9522960, 9615520, 9708080,
9800640, 9893200, 9985760, 10078320, 10170880, 10263440, 10356000, 10448560,
10541120, 10633680, 10726240, 10818800, 10911360, 11003920, 11096480,
11189040, 11281600, 11374160, 11466720, 11559280, 11651840, 11744400,
11833376, 11925936, 12018496, 12111056, 12203616, 12296176, 12388736,
12481296, 12573856, 12666416, 12758976, 12851536, 12944096, 13036656,
13129216, 13221776, 13314336, 13406896, 13499456, 13592016, 13684576,
13777136, 13869696, 13962256, 14054816, 14147376, 14239936, 14332496,
14425056, 14517616, 14610176, 14702736, 14791712, 14884272, 14976832,
15069392, 15161952, 15254512, 15347072, 15439632, 15532192, 15624752,
15717312, 15809872, 15902432, 15994992, 16087552, 16180112, 16272672,
16365232, 16457792, 16550352, 16642912, 16735472, 16828032, 16920592,
17013152, 17105712, 17198272, 17290832, 17383392, 17475952, 17568512,
17661072, 17750048, 17842608, 17935168, 18027728, 18120288, 18212848,
18305408, 18397968, 18490528, 18583088, 18675648, 18768208, 18860768,
18953328, 19045888, 19138448, 19231008, 19323568, 19416128, 19508688,
19601248, 19693808, 19786368, 19878928, 19971488, 20064048, 20156608,
20249168, 20341728, 20434288, 20526848, 20619408, 20708384, 20800944,
```

```

20893504, 20986064, 21078624, 21171184, 21263744, 21356304, 21448864,
21541424, 21633984, 21726544, 21819104, 21911664, 22004224, 22096784,
22189344, 22281904, 22374464, 22467024, 22559584, 22652144, 22744704,
22837264, 22929824, 23022384, 23114944, 23207504, 23300064, 23392624,
23485184, 23577744, 23666720, 23759280, 23851840, 23944400, 24036960,
24129520, 24222080, 24314640, 24407200, 24499760, 24592320, 24684880,
24777440, 24870000, 24962560, 25055120, 25147680, 25240240, 25332800,
25425360, 25517920, 25610480, 25703040, 25795600, 25888160, 25980720,
26073280, 26165840, 26258400, 26350960, 26443520, 26536080, 26625056,
26717616, 26810176, 26902736, 26995296, 27087856, 27180416, 27272976,
27365536, 27458096, 27550656, 27643216, 27735776, 27828336, 27920896,
28013456, 28106016, 28198576, 28291136, 28383696,

```

```
Build spool filesystem at /dev/rdisk/c0t1d0s4 ...
```

```
mkfs -F ufs /dev/rdisk/c0t1d0s4 42676308 107 27 8192 1024 251 1 166 8192 t 0 -1 8 107
```

```
Cylinder groups must have a multiple of 16 cylinders with the given parameters
```

```
Rounded cgsiz up to 256
```

```
/dev/rdisk/c0t1d0s4: 42676308 sectors in 14772 cylinders of 27 tracks, 107 sectors
```

```
20838.0MB in 462 cyl groups (32 c/g, 45.14MB/g, 5632 i/g)
```

```
super-block backups (for fsck -F ufs -o b=#) at:
```

```

32, 92592, 185152, 277712, 370272, 462832, 555392, 647952, 740512, 833072,
925632, 1018192, 1110752, 1203312, 1295872, 1388432, 1480992, 1573552,
1666112, 1758672, 1851232, 1943792, 2036352, 2128912, 2221472, 2314032,
2406592, 2499152, 2591712, 2684272, 2776832, 2869392, 2958368, 3050928,
3143488, 3236048, 3328608, 3421168, 3513728, 3606288, 3698848, 3791408,
3883968, 3976528, 4069088, 4161648, 4254208, 4346768, 4439328, 4531888,
4624448, 4717008, 4809568, 4902128, 4994688, 5087248, 5179808, 5272368,
5364928, 5457488, 5550048, 5642608, 5735168, 5827728, 5916704, 6009264,
6101824, 6194384, 6286944, 6379504, 6472064, 6564624, 6657184, 6749744,
6842304, 6934864, 7027424, 7119984, 7212544, 7305104, 7397664, 7490224,
7582784, 7675344, 7767904, 7860464, 7953024, 8045584, 8138144, 8230704,
8323264, 8415824, 8508384, 8600944, 8693504, 8786064, 8875040, 8967600,
9060160, 9152720, 9245280, 9337840, 9430400, 9522960, 9615520, 9708080,
9800640, 9893200, 9985760, 10078320, 10170880, 10263440, 10356000, 10448560,
10541120, 10633680, 10726240, 10818800, 10911360, 11003920, 11096480,
11189040, 11281600, 11374160, 11466720, 11559280, 11651840, 11744400,
11833376, 11925936, 12018496, 12111056, 12203616, 12296176, 12388736,
12481296, 12573856, 12666416, 12758976, 12851536, 12944096, 13036656,
13129216, 13221776, 13314336, 13406896, 13499456, 13592016, 13684576,
13777136, 13869696, 13962256, 14054816, 14147376, 14239936, 14332496,
14425056, 14517616, 14610176, 14702736, 14791712, 14884272, 14976832,
15069392, 15161952, 15254512, 15347072, 15439632, 15532192, 15624752,
15717312, 15809872, 15902432, 15994992, 16087552, 16180112, 16272672,
16365232, 16457792, 16550352, 16642912, 16735472, 16828032, 16920592,
17013152, 17105712, 17198272, 17290832, 17383392, 17475952, 17568512,
17661072, 17750048, 17842608, 17935168, 18027728, 18120288, 18212848,
18305408, 18397968, 18490528, 18583088, 18675648, 18768208, 18860768,
18953328, 19045888, 19138448, 19231008, 19323568, 19416128, 19508688,
19601248, 19693808, 19786368, 19878928, 19971488, 20064048, 20156608,
20249168, 20341728, 20434288, 20526848, 20619408, 20708384, 20800944,
20893504, 20986064, 21078624, 21171184, 21263744, 21356304, 21448864,
21541424, 21633984, 21726544, 21819104, 21911664, 22004224, 22096784,
22189344, 22281904, 22374464, 22467024, 22559584, 22652144, 22744704,
22837264, 22929824, 23022384, 23114944, 23207504, 23300064, 23392624,
23485184, 23577744, 23666720, 23759280, 23851840, 23944400, 24036960,
24129520, 24222080, 24314640, 24407200, 24499760, 24592320, 24684880,
24777440, 24870000, 24962560, 25055120, 25147680, 25240240, 25332800,
25425360, 25517920, 25610480, 25703040, 25795600, 25888160, 25980720,
26073280, 26165840, 26258400, 26350960, 26443520, 26536080, 26625056,
26717616, 26810176, 26902736, 26995296, 27087856, 27180416, 27272976,
27365536, 27458096, 27550656, 27643216, 27735776, 27828336, 27920896,
28013456, 28106016, 28198576, 28291136, 28383696, 28476256, 28568816,
28661376, 28753936, 28846496, 28939056, 29031616, 29124176, 29216736,
29309296, 29401856, 29494416, 29583392, 29675952, 29768512, 29861072,

```

```

29953632, 30046192, 30138752, 30231312, 30323872, 30416432, 30508992,
30601552, 30694112, 30786672, 30879232, 30971792, 31064352, 31156912,
31249472, 31342032, 31434592, 31527152, 31619712, 31712272, 31804832,
31897392, 31989952, 32082512, 32175072, 32267632, 32360192, 32452752,
32541728, 32634288, 32726848, 32819408, 32911968, 33004528, 33097088,
33189648, 33282208, 33374768, 33467328, 33559888, 33652448, 33745008,
33837568, 33930128, 34022688, 34115248, 34207808, 34300368, 34392928,
34485488, 34578048, 34670608, 34763168, 34855728, 34948288, 35040848,
35133408, 35225968, 35318528, 35411088, 35500064, 35592624, 35685184,
35777744, 35870304, 35962864, 36055424, 36147984, 36240544, 36333104,
36425664, 36518224, 36610784, 36703344, 36795904, 36888464, 36981024,
37073584, 37166144, 37258704, 37351264, 37443824, 37536384, 37628944,
37721504, 37814064, 37906624, 37999184, 38091744, 38184304, 38276864,
38369424, 38458400, 38550960, 38643520, 38736080, 38828640, 38921200,
39013760, 39106320, 39198880, 39291440, 39384000, 39476560, 39569120,
39661680, 39754240, 39846800, 39939360, 40031920, 40124480, 40217040,
40309600, 40402160, 40494720, 40587280, 40679840, 40772400, 40864960,
40957520, 41050080, 41142640, 41235200, 41327760, 41416736, 41509296,
41601856, 41694416, 41786976, 41879536, 41972096, 42064656, 42157216,
42249776, 42342336, 42434896, 42527456, 42620016,

```

Remove any existing entry in /etc/vfstab for c0t1d0s3 or c0t1d0s4

Adding entries to /etc/vfstab

Mounting /opt/CiscoMGC/var/log

Mounting /opt/CiscoMGC/var/spool

Success!!!

This completes the installation of the Log and Spool File system on a platform that does not yet have the Cisco MGC software installed.

## Replacing Hard Disks for Existing Solaris 2.6 Platforms

This chapter describes the scenario for replacing the hard disks of an existing platform running Solaris 2.6 and Cisco MGC 9.1(x) and 7.4(x) software.



### Note

If you are running Cisco MGC Software release 7.4(11), then you must install patch CSCgp067 or a patch that supersedes it before using this procedure.



### Note

If you are running Cisco MGC Software release 7.4(12), then you must install patch CSCOs011 or a patch that supersedes it before using this procedure.



### Note

If you are running Cisco MGC software release 9.1(5), then you must install patch CSCOs004 or a patch that supersedes it before using this procedure.

## Backup Procedure



### Caution

When restoring the **mgcbackup** file, you must first install the same Cisco MGC software release version and patch level that was originally installed on the platform. The same release version of the Volume Manager and the Cisco Security Package (CSCO013.pkg) must also be installed first if they were originally installed on the platform.

**Step 1** Log in as **root** and stop the Cisco MGC application.

```
# /etc/init.d/CiscoMGC stop
```

a. Local tape backup: Using the mgcbackup utility, back up the system to the local tape drive.

```
# /opt/CiscoMGC/local/mgcbackup -d /dev/rmt/0
```

b. **Remote file server backup:** Using the mgcbackup utility, back up the system to a local directory. Use the mgcbackup utility to list the filename of the last backup and then use ftp to transfer the file to a remote file system.

```
# /opt/CiscoMGC/local/mgcbackup -d /opt/CiscoMGC/var/log
```



### Note

The backup file is stored in the specified directory path in the following format:mgc\_hostname\_yyyymmdd\_hhmmss\_backup.tar

Where:

- hostname is the name of the Cisco MGC host, such as MGC-01.
- yyyymmdd is the date the backup file was created, in a year-month-day format, such as 20011130.
- hhmmss is the time the backup file was created, in an hour-minute-second format, such as 115923.

```
# /opt/CiscoMGC/local/mgcbackup -l
```



### Caution

The backup file must now be moved to a remote filer server using the ftp program so it can be recovered after Solaris 8 is installed on the new disk. You are responsible for providing the mechanism and storage location.

**Step 2** Halt the operating system and power down the platform.

```
# /usr/sbin/shutdown -g0 -i5
```



## Replacing Hard Disks

To replace hard disks:

- 
- Step 1** Label the hard disks with their current locations and remove them from the system. Refer to the Sun System Manual for your platform for the proper procedure. Be sure to follow proper antistatic procedures.
- Step 2** Install the new hard disks in the same slots as the existing hard disks. Refer to the Sun System Manual for your platform for the proper procedure. Be sure to following proper antistatic procedures.
- 

## Loading the Solaris 2.6 operating system

Power on the platform and follow the procedures starting from the [“Booting from a Local CD-ROM on Netra t 1120/1125, t 1400/1405 and t 100/105”](#) section on page 8-2 through [“Configuring a Second Disk Drive”](#) section on page 8-27 to install the Solaris 2.6 operating system.

## Installing the Cisco MGC Software

Install the same release and patch level of Cisco MGC Software that was originally on the box using the [“Installing the Cisco MGC Software Release 9.1\(5\)”](#) section on page 7-3.

## Restoring System Files



### Caution

Before restoring system files, install the same version of Volume Manager and the Cisco Security Package (CSCOh013.pkg) if they were originally installed on the platform. See the [“Installing Veritas Volume Manager 3.1”](#) section on page 8-38 and the

### Step 1

To restore system files:

- a. **Local tape backup:** Using the `mgcrestore` utility, restore the system files from the local tape drive.

```
# /opt/CiscoMGC/local/mgcrestore -d /dev/rmt/0
```

- b. **Remote file server backup:** Using the `ftp` program, retrieve the files and place them in the `/opt/CiscoMGC/var/log` directory. Using the `mgcrestore` utility, restore the system files:

```
# /opt/CiscoMGC/local/mgcrestore -d /opt/CiscoMGC/var/spool -f filename
```

Where *filename* is the filename created in the [“Backup Procedure”](#) section on page 8-64.

### Step 2

Enter the following command to start the Cisco MGC Software:

```
# /etc/init.d/CiscoMGC start
```

---

This completes the Solaris 2.6 operating system installation. Continue to [Chapter 7, “Cisco MGC Software Release 9.1\(5\) Installation.”](#) If you have questions or need assistance, see the “[Obtaining Documentation, Obtaining Support, and Security Guidelines](#)” section on page xvii.

## Troubleshooting

### Symptom: Netra t 100/105 will not boot from CD-ROM

Solution:

At the ok prompt, type set-defaults to reset the OpenBoot PROM. Be sure to enter the environment variable settings shown in Section 3.2 Step 30 at the end of the installation procedure.

### Symptom: Installation program will not accept swap file size input

Solution:

If target machine will boot to the hard disk drive, use the format command to delete the existing partitions.

If the target machine will not boot to the hard disk drive, boot from the CD-ROM by typing boot cdrom -s at the ok prompt. Follow the instructions to reformat the disk. This procedure takes approximately 1.5 hours.

### Symptom: CD-ROM on Netra t 100/105 is not accessible after OS installation

Solution:

Install the latest revision of the patch and reboot the target machine. This patch can be downloaded from [Sunsolve.sun.com](http://Sunsolve.sun.com). It is also included in Cisco patch package CSCOh007.pkg.