



CHAPTER 12

Migrating to Solaris 8 and Cisco MGC 9.2 and Up

This chapter describes scenarios for migrating to the Solaris 8 operating system and Cisco MGC Release 9.2(2) software and up.

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Conditions for Migration

Your hardware and software environment must meet the following conditions before you can use the procedures provided below to migrate your software to Solaris 8:

1. Your system must have at least 2 disks.
2. The disks in the system must be at least 18 GB in size.
3. Your system must not be running a 32-bit kernel. To verify this do the following:
 - a. Enter the following UNIX command:

```
# isainfo -b
```

If the system returns the following, proceed to 3b. Otherwise, the procedure is complete.

32

- b. Enter the following to check the current kernel type:

```
# /usr/sbin/eeprom | grep boot-file
```

If the system returns the following, proceed to 3c. Otherwise the procedure is complete.

```
boot-file=/platform/sun4u/kernel/unix
```

- c. The system is booting a 32-bit kernel. Check to see if the system is capable of booting a 64-bit kernel:

```
# halt
ok boot -r -D kernel/sparcv9/unix
```

- d. If so, run the following to empty the boot-file variable:

```
# eeprom boot-file=""
```

or

```
# eeprom boot-file="kernel/sparcv9/unix"
```

4. You (or the person doing the upgrade) must be an experienced Solaris system administrator. You must be familiar with system administration tasks such as mounting file systems and running **tar** to save and restore files.

The following table lists the conditions and corresponding tasks you must know before the upgrade or migration:

Table 12-1 Conditions for Upgrading or Migrating to Solaris 8 and Cisco MGC 9.2(2) and Up

Condition	Action
If you are upgrading the disk drive but not upgrading the software...	Follow the procedure in the “ Replacing Hard Disks on an Existing Solaris 8 Platform ” section on page 12-17.
If the system is running Solaris 8 and DiskSuite...	You must shut down and remove DiskSuite from the system. See the “ Removing the Solstice DiskSuite ” section on page 2-36 prior to installing the new operating system version.

Cautions and Notes

Before starting the upgrade, consider the following cautions and note:



Caution

Before starting the upgrade, make sure the Cisco MGC software is shut down, and the system administrator is logged in as **root**.



Caution

Always start the migration or upgrade from the standby box.

**Caution**

Verify the existing system status and make sure there are no major alarms. You must first resolve alarms that are found before proceeding with the upgrade or migration.

**Note**

The Cisco PGW 2200 PSTN Gateway (hereafter referred to as Cisco PGW 2200) is the new name for the Cisco VSC 3000 and Cisco SC 2200. Some parts of this document may use these older names.

Required Software

You must have the following software:

- Cisco Installation CD, which includes the new release of the Cisco MGC software.
- Solaris 8 Software CD, Disk 1 of 2, 10/01 (or 2/02)
- Solaris 8 Software CD, Disk 2 of 2, 10/01 (or 2/02)
- Software Supplement for the Solaris 8 Operating Environment 10/01 (or 2/02) CD-ROM

If Veritas Volume Manager is not running on the platform, the following software is also required for the backout procedure:

- Cisco Installation CD, which includes the version of the Cisco MGC software that was originally installed on your system.
- Operating Environment Installation CD, part number 704-6914-10
- Solaris 2.6 5/98 CD

Backing Up System Data

To back up system data:

Step 1 Enter the following command:

```
cd /opt/CiscoMGC/var/log
mkdir Solaris8
cd Solaris8
```

Step 2 Use an editor (such as vi) create a file called `sys_tarfiles` and add the following list of files to `sys_tarfiles`:

```
vi sys_tarfiles
```

**Note**

Each of the following files must be on a separate line with no leading or trailing space or tab characters.

If an individual file in the list does not exist, an error is generated. This error can be safely ignored.

Use `ls /etc/hostname.*` to determine which hostname files exist, and adjust the following list if necessary.

Add the following file names to `sys_tarfiles`:

```
/etc/default
/etc/hostname.hme0
/etc/hostname.hme1
/etc/inet/hosts
/etc/inet/netmasks
/etc/inet/ntp.conf
/etc/nsswitch.conf
/etc/shadow
/etc/resolv.conf
/etc/defaultrouter
/etc/passwd
/etc/group
/etc/hosts.equiv
```

Step 3 Save the `sys_tarfiles` file. Enter the following command:

```
tar cvf sys.tar -I sys_tarfiles
```

This completes the procedures for backing up system data. Continue to the following section, [Backing Up the Main Memory Database](#).

Backing Up the Main Memory Database

To back up the main memory database:

Step 1 Save the main memory database information. Create a backup database by entering the following command:



Note Steps 1, 2, and 3 require that you are logged in as **mgcusr**.



Note Some commands are specific to the main memory database and must be in your execution path; if it is not, then you must specify the full path to the command. This path will differ, depending on whether your system is running Cisco MGC Software Release 7.x or 9.x. Both sets of commands are listed below. Choose the one that is appropriate for your system.

```
/opt/CiscoMGC/local/backupDb.sh /opt/CiscoMGC/etc/export.ttdb
```

Step 2 Type the following commands to create a migration file and press **Enter**:

a. For systems running Release 7.x of the Cisco MGC software:

```
/opt/TimesTen32/32/bin/ttMigrate -c DSN=howdydb /opt/CiscoMGC/etc/migrate.ttdb
```

b. For systems running Release 9.x of the Cisco MGC software:

```
/opt/TimesTen4.1/32/bin/ttMigrate -c DSN=howdydb /opt/CiscoMGC/etc/migrate.ttdb
```

Step 3 Create a main memory database version file which is used when the new Cisco MGC software is installed. Start by running the main memory database version command. Then create a file with the version information, as shown in the following example. The version command will produce an output line similar to the following:

```
# TimesTen Release 6.7.8 build time July 4, 1776 12:13:14
# The version file should have the number "678" (no dots) and nothing else.
# Create the file like this: echo "678" >/opt/CiscoMgc/etc/version.ttdb
# Replace 678 with the version information shown in the version command
# Again, the version command will differ depending on the MGC release.
```

- a. Enter the following commands for systems running Release 7.x of the Cisco MGC software:

```
rm -f /opt/CiscoMGC/etc/version.ttdb
/opt/TimesTen32/32/bin/ttVersion
[ output = "TimesTen Release x.y.z build time... ]
echo "xyz" >/opt/CiscoMGC/etc/version.ttdb # Replace xyz with
# version output
```

- b. Enter the following commands for systems running Release 9.x of the Cisco MGC software:

```
rm -f /opt/CiscoMGC/etc/version.ttdb
/opt/TimesTen4.1/32/bin/ttVersion
[ output = "TimesTen Release x.y.z build time... ]
echo "xyz" >/opt/CiscoMGC/etc/version.ttdb # Replace xyz with
# version output
```

- Step 4** Verify whether the backup is successful. Enter the following commands to make sure the **export.ttdb**, **migrate.ttdb**, and **version.ttdb** main memory database files are present:

```
cd /opt/CiscoMGC/etc
ls *.ttdb
```

This completes the procedures for backing up the main memory database. Continue to the following section, [Backing Up the Cisco MGC Configuration Files](#).

Backing Up the Cisco MGC Configuration Files

To back up the Cisco MGC configuration files:



Note

You should be logged in as **root** to do this procedure.

- Step 1** Save the MGC configuration data.

If you are using Cisco MNM or BAMS, save the `snmpd.cnf` file (located in `/opt/CiscoMGC/snmp`) before the migration starts. Enter the following command:

```
cp /opt/CiscoMGC/snmp/snmpd.cnf /opt/CiscoMGC/dialPlan
```

- Step 2** Type the following command to move to the Cisco MGC directory and press **Enter**:

```
cd /opt/CiscoMGC
tar cvf /opt/CiscoMGC/var/log/Solaris8/MGC.tar ./etc ./dialPlan
```

- Step 3** Use the following command to verify that configuration files were successfully backed up (the `MGC.tar` and `sys.tar` files must be present):

```
cd /opt/CiscoMGC/var/log/Solaris8
ls
```

- Step 4** At this point, all the required data has been saved in tar files in `/opt/CiscoMGC/var/log/Solaris 8`.

**Caution**

These files must now be moved to a blank tape and remote machine so they can be recovered after Solaris 8 is installed. You are responsible for providing the mechanism and storage location.

- a. **Local tape drive:** Use the following procedure to store the files on a local tape drive.

```
cd /opt/CiscoMGC/var/log/Solaris8
tar cvf /dev/rmt/0 MGC.tar sys.tar
```

- b. **Remote file server:** Using the ftp utility, transfer the MGC.tar and sys.tar files from the /opt/CiscoMGC/var/log/Solaris8 directory to a remote file server. Make sure to use the binary mode of ftp and verify the files are successfully transfer to the remote file server before continuing.

File back up is now complete. Continue to the next section, [Installing Solaris 8](#).

Installing Solaris 8

At this point, the system data and MGC Configuration data have been saved in tar files on a tape and remote file server.

To install Solaris 8:

- Step 1** Shut down the system, using the following command:

```
/usr/sbin/shutdown -g0 -i0
```

- Step 2** Wait for the system to return to the boot prompt then load the Solaris 8 Operating System CD.

**Note**

If you are replacing the hard disks, you should power off the system, label, and remove the existing disks using proper anti-static procedures. Install the new disk drives in the same slots the new origin disk drives were located. Finally, power up the system. Refer to the Sun System Manual for your platform.

- Step 3** Boot the system from the CD-ROM.

- Step 4** Install the Solaris 8 operating system. Refer to the [“Installing the Solaris 8 Operating System”](#) section on page 2-15 and follow the procedures up to [Step 27](#) on page 2-31.

**Note**

After the Cisco MGC 9.2(2) is installed, you should configure the **second disk** first, then install the Solaris 8 Patch Cluster (CSCO0h015).

**Caution**

Do not format or modify the second disk drive. Unless the disk drives were replaced in [Step 2](#) above, the second disk contains the original Solaris 2.6 system if Veritas Volume Manager is being used. The second disk will be used as a fallback in case of a failure in the Solaris 8 upgrade.

Once the Solaris 8 Operating System is installed, continue to the following section, [Restoring Data Files](#).

Restoring Data Files

There are two methods to restore data that was saved in the section [Backing Up the Cisco MGC Configuration Files](#), page 12-5.

The first method, described in the “[Restoring Data Files from Remote Server or Local Tape Drive](#)” section on page 12-7, retrieves the files from the tar file that was saved to the remote server or local tape drive.

The second method, described in the “[Restoring Data Files from the Log Partition of the Second Disk](#)” section on page 12-8, retrieves the files from the log partition on the second disk. This can only be used if the second disk is set up as the log and spool partitions.

Restoring Data Files from Remote Server or Local Tape Drive

Follow these instructions to restore the system data (sys.tar) and MGC configuration files (MGC.tar) on the platform once Solaris 8 is up and running on the primary disk:

Step 1 Log in as **root** and type the following command to move the MGC configuration files to the /tmp directory. Press **Enter**.

```
# cd /tmp
```

Step 2 Type the following commands to create a mount point. Press **Enter**.

```
# mkdir saved
# cd /tmp/saved
```

Step 3 Store data files:

a. Local tape drive: Enter the following command to store the files on a local tape drive.

```
# tar xvf /dev/rmt/0
```

b. Remote file server: Using the ftp utility, transfer the MGC.tar and sys.tar files from the remote file server to the /tmp/saved directory. Make sure to use the binary mode of ftp and verify the files are successfully transfer to the remote file server before continuing.

Step 4 Type the following command and press **Enter** to extract the saved data. These files should be placed in the /tmp/saved directory.

```
# tar xvf /tmp/saved/sys.tar      # Extract system files
```



Note Verify all the restored system files through more or vi.

Step 5 Type the following commands and press **Enter** to create an MGC directory and extract Cisco MGC data files:

```
# cd /opt
# mkdir CiscoMGC                # Create MGC directory
# cd /opt/CiscoMGC
# cp /tmp/saved/MGC.tar MGC.tar
# tar xvf MGC.tar                # Extract MGC data files
```

- Step 6** Verify that both etc and dialPlan directories are present.
- Step 7** Type the following command and press Enter to reboot the platform:

```
# /usr/sbin/shutdown -g0 -i6
```



Note If you have installed the Solaris DiskSuite package (CSCO016) on your system, the messages below are displayed during system boot-up. They are normal Solaris DiskSuite start-up messages and do not indicate any problem with your system.

```
WARNING force load of misc /md-trans failed
WARNING force load of misc /md-raid failed
WARNING force load of misc /md-hotspares failed
WARNING force load of misc /md-sp failed
```

This completes the procedures for restoring the system data (sys.tar) and MGC configuration files (MGC.tar). Continue to the following section, [“Installing the Cisco MGC Software and Patches”](#) section on page 12-9.

Restoring Data Files from the Log Partition of the Second Disk

The following procedure will restore system data and Cisco MGC configuration files from the log partition of the second disk when Solaris 8 is up and running on the primary disk. It can only be used if the second disk contains the MGC log and spool partitions (i.e /opt/CiscoMGC/var/log and /opt/CiscoMGC/var/spool):

- Step 1** Login as root and enter the following command to move to the /tmp directory:

```
# cd /tmp
```

- Step 2** Enter the following command to create a mount point:

```
# mkdir saved
```

- Step 3** Enter the following command to mount saved data on /tmp/saved:

```
# mount -F ufs /dev/dsk/c0t1d0s3 /tmp/saved
```

- Step 4** Enter the following command to extract saved system files:

```
# tar xvf /tmp/saved/Solaris8/sys.tar
```

- Step 5** Enter the following commands to create an MGC directory:

```
# cd /opt
# mkdir CiscoMGC
# cd /opt/CiscoMGC
```

- Step 6** Enter the following command to extract the MGC data files:

```
# tar xvf /tmp/saved/Solaris8/MGC.tar
```

- Step 7** Unmount the /tmp/saved partition:

```
# umount /tmp/saved
```

Step 8 Type the following command and press **Enter** to reboot the platform:

```
# /usr/sbin/shutdown -g0 -i6
```



Note If you have installed the Solaris DiskSuite package (CSCO016) on your system, the messages below are displayed during system boot-up. They are normal Solaris DiskSuite start-up messages and do not indicate any problem with your system.

```
WARNING force load of misc /md-trans failed
WARNING force load of misc /md-raid failed
WARNING force load of misc /md-hotspares failed
WARNING force load of misc /md-sp failed
```

This completes the procedures for restoring the system data (sys.tar) and MGC configuration files (MGC.tar). Proceed to [“Installing the Cisco MGC Software and Patches”](#) to install the Cisco MGC software.

Installing the Cisco MGC Software and Patches

The Cisco MGC software must be installed. For installation procedures, refer to the [“Installing the Cisco MGC Software 9.2\(x\) and Higher Releases”](#) section on page 3-3.

For the most recent released Cisco MGC patches, refer to the *Release Notes for the Cisco Media Gateway Controller Software Release 9.2(2)* located at the following url:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/re1note/rn922.htm>



Caution

Make sure to stop the older software version in the active box before starting the newly-installed Cisco MGC 9.2(2) software. Use the command `/etc/init.d/CiscoMGC stop` to stop the older software version in the active box.

After installing the latest Cisco MGC software release and patches, you can now start the Cisco MGC software by entering the following command:

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

Once the Cisco MGC Software is verified to be operating properly, proceed to migrate on the box that has the older software version by following the procedures starting with [“Backing Up System Data”](#) section on page 12-3.

After the two boxes are migrated and you successfully performed the failover test, you can configure the second disk by using the procedure in the [“Configuring a Second Disk”](#) section on page 12-9 on the two boxes.

Configuring a Second Disk

After installing the Cisco MGC Software and the post-migration testing is successful, the second disk can be configured as a mirror of the first disk or as additional storage for the Cisco MGC Software.

**Note**

Always start with the standby box. After the standby box is configured, perform switchover on the active box (using the **sw-over::confirm** command). Perform the same procedure on the new standby box.

Solstice DiskSuite Installation

To mirror the first disk to the second disk using DiskSuite, follow the procedure in the section [Installing the Solstice DiskSuite \(CSCOh016\)](#), page 2-32.

Log and Spool Software Installation

To use the second disk as additional storage for the Cisco MGC Software, the following procedure should be followed.

Step 1 Log in to the platform as **root** and stop the Cisco MGC Software.

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

Step 2 Rename the existing log and spool directories.

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

Step 3 Follow the procedure in “[Installing the Log and Spool File Systems \(CSCOh005\)](#)” section on page 2-37 to install the Log/Spool package (CSCOh005).

Step 4 Move the data from saved directories to the new partitions on disk 1.

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

Step 5 Remove the save directories.

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

Step 6 Change the owner, group, and file permissions of the var and spool directories to match the /opt/CiscoMGC/var directory.

```
# 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 7 Start the Cisco MGC Software.

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

The Log and Spool software installation is now complete.

Installing the Alarm Software



Note

You must install this software if your site design requires using an external alarm relay unit.

If you are installing Solaris 8 on a Netra t 1120/1125, use the procedure in the [“Alarm Card Software Installation for Netra t 1120/1125”](#) section on page 2-50 for alarm card software installation. For all other platforms, use the procedure in the [“Installing Lights Out Management Software”](#) section on page 2-47.

Installing the Solaris 8 Patch Cluster (CSCO0h015)



Note

Always start with the standby box. After the standby box is configured, perform switchover on the active box (using the `sw-over::confirm` command). Perform the same procedure on the newly-standby box.

Refer to [“Installing the Solaris 8 Patch Cluster \(CSCO0h015\)”](#) section on page 2-51 for installation procedures.

Restoring the SNMP Configuration on PGW for Cisco MNM and BAMS



Note

Perform the following procedure on both the active and standby boxes.

To restore the SNMP configuration:

Step 1 Copy back the saved `snmpd.cnf` file. Enter the following command:



Note

You should be logged in as `mgcusr` to do this procedure.

```
cp /opt/CiscoMGC/dialPlan/snmpd.cnf /opt/CiscoMGC/snmp
```

Step 2 Determine the process ID. From the Sun Solaris command line, enter the following command:

```
ps -ef | grep snmpdm
```

Text similar to the following is displayed:

```
root 565 1 0 Mar 20 ? 0:01 /opt/CiscoMGC/bin/snmpdm -d
mgcusr 7463 23729 0 12:33:04 pts/13 0:00 grep snmpdm
```

The process ID of the snmpdm daemon is the second field on the line that ends with snmpdm -d. In this example, the process ID of the SNMP daemon is 565.

Step 3 Terminate and restart the SNMP daemon. Enter the following command:



Note Switch to **root** to do this command.

```
kill -9 <SNMP-daemon-process-ID>
```



Note The SNMP daemon restarts automatically after termination.

This completes the procedure for restoring snmp configuration file on PGW for Cisco MNM and BAMS.

Falling Back to Solaris 2.6

If the disk drives were replaced during the migration to Solaris 8, follow the procedures in the [“Falling Back to Solaris 2.6 If Hard Drives Were Replaced During the Upgrade”](#) section on page 12-12.

If the disk drives were not replaced during the migration to Solaris 8 and Veritas Volume Manager was used to mirror the disk drives, follow the procedures in the [“Falling Back to Solaris 2.6 on the Second Disk Drive”](#) section on page 12-12.

Otherwise, if neither of the above options can be used to back out to the Solaris 2.6 operating system and the original MGC software configuration has to be restored, follow the procedures in the [“Restoring the Original Cisco MGC Software”](#) section on page 12-17.

Falling Back to Solaris 2.6 If Hard Drives Were Replaced During the Upgrade

If you replaced the hard disks as part of the upgrade to the Solaris 8 operating system and now need to fall back to Solaris 2.6, do the following procedure:

-
- Step 1** Stop the operating system and power down the platform.
- ```
/usr/sbin/shutdown -g0 -i5
```
- Step 2** Remove the new disk drives and install the original disk drives in their original locations using proper anti-static procedures. Refer to the Sun System manual for your platform.
- Step 3** Power up the system.
- 

## Falling Back to Solaris 2.6 on the Second Disk Drive

If the upgrade is not successful, you can fall back to the original Solaris 2.6 environment, as follows:

**Step 1** Stop the operating system.

```
/usr/sbin/shutdown -g0 -i0
```

**Step 2** From the **ok** prompt, boot the secondary boot disk.

```
ok boot disk1
```

**Step 3** Log in as **mgcusr** and verify that the system boots Solaris 2.6 and the MGC software starts properly.

```
% uname -r
5.6
```



**Note** “5.6” indicates that the system is running the Solaris 2.6 operating system.

```
% mm1
mm1> rtrv-ne
```

Verify that the correct version of the MGC software is running.

**Step 4** Log in again as **root** and start **vxdiskadm**.

```
vxdiskadm
```

A screen similar to the following is displayed:

```
Volume Manager Support Operations
Menu: VolumeManager/Disk

1 Add or initialize one or more disks
2 Encapsulate one or more disks
3 Remove a disk
4 Remove a disk for replacement
5 Replace a failed or removed disk
6 Mirror volumes on a disk
7 Move volumes from a disk
8 Enable access to (import) a disk group
9 Remove access to (deport) a disk group
10 Enable (online) a disk device
11 Disable (offline) a disk device
12 Mark a disk as a spare for a disk group
13 Turn off the spare flag on a disk
list List disk information

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

Select an operation to perform
```

**Step 5** Type **4** to remove a disk for replacement.

```
Remove a disk for replacement
Menu: VolumeManager/Disk/RemoveForReplace
```

Use this menu operation to remove a physical disk from a disk group, while retaining the disk name. This changes the state for the disk name to a "removed" disk. If there are any initialized disks that are not part of a disk group, you will be given the option of using one of these disks as a replacement.

**Step 6** Type **list** to list all disks

```

Enter disk name [<disk>,list,q,?] list

Disk group: rootdg

DM NAME DEVICE TYPE PRIVLEN PUBLLEN STATE
dm rootdiska - - - - NODEVICE
dm rootdiskb c0t1d0s2 sliced 4711 35363560 -

```

**Step 7** Type **rootdiska** at the following prompt:

```

Enter disk name [<disk>,list,q,?] rootdiska

The following volumes will lose mirrors as a result of this
operation:

 opt rootvol swapvol usr var

No data on these volumes will be lost.

The requested operation is to remove disk rootdiska from disk group
rootdg. The disk name will be kept, along with any volumes using
the disk, allowing replacement of the disk.

Select "Replace a failed or removed disk" from the main menu
when you wish to replace the disk.

```

**Step 8** Type **Enter** at the following prompt to continue:

```

Continue with operation? [y,n,q,?] (default: y)

Removal of disk rootdiska completed successfully.

```

**Step 9** Type **n** at the following prompt and then **q** to quit **vxdiskadm**:

```

Remove another disk? [y,n,q,?] (default: n) n

Volume Manager Support Operations
Menu: VolumeManager/Disk

1 Add or initialize one or more disks
2 Encapsulate one or more disks
3 Remove a disk
4 Remove a disk for replacement
5 Replace a failed or removed disk
6 Mirror volumes on a disk
7 Move volumes from a disk
8 Enable access to (import) a disk group
9 Remove access to (deport) a disk group
10 Enable (online) a disk device
11 Disable (offline) a disk device
12 Mark a disk as a spare for a disk group
13 Turn off the spare flag on a disk
list List disk information

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

```

Select an operation to perform: **q**

Goodbye.

**Step 10** Use the **vxdisk** command to verify that **rootdiska** is removed.

```
vxdisk list
```

**Step 11** Shut down and boot from disk1.

```
init 0
ok boot disk1
```

**Step 12** Log in as root and run vxdiskadm.

```
vxdiskadm
```

**Step 13** Type **5** to replace a failed disk.

```
Replace a failed or removed disk
Menu: VolumeManager/Disk/ReplaceDisk
```

```
Use this menu operation to specify a replacement disk for a disk
that you removed with the "Remove a disk for replacement" menu
operation, or that failed during use. You will be prompted for
a disk name to replace and a disk device to use as a replacement.
You can choose an uninitialized disk, in which case the disk will
be initialized, or you can choose a disk that you have already
initialized using the Add or initialize a disk menu operation.
```

**Step 14** Type **list** at the following prompt:

```
Select a removed or failed disk [<disk>,list,q,?] list
```

```
Disk group: rootdg
```

| DM NAME      | DEVICE | TYPE | PRIVLEN | PUBLEN | STATE   |
|--------------|--------|------|---------|--------|---------|
| dm rootdiska | -      | -    | -       | -      | REMOVED |

**Step 15** Type **rootdiska** at the following prompt:

```
Select a removed or failed disk [<disk>,list,q,?] rootdiska
```

**Step 16** Type **list** at the following prompt:

```
Select disk device to initialize [<address>,list,q,?] list
```

| DEVICE | DISK      | GROUP  | STATUS |
|--------|-----------|--------|--------|
| c0t0d0 | -         | -      | error  |
| c0t1d0 | rootdiskb | rootdg | online |

```
Type c0t0d0 to select disk device to initialize
```

```
The following disk device has a valid VTOC, but does not appear to have
been initialized for the Volume Manager. If there is data on the disk
that should NOT be destroyed you should encapsulate the existing disk
partitions as volumes instead of adding the disk as a new disk.
Output format: [Device_Name]
```

```
c0t0d0
```

**Step 17** Type **n** and **Enter** when asked to encapsulate the disk. Type **y** and **Enter** when asked if you wish to initialize the disk. Type **y** and **Enter** when asked to continue:

```
Instead of encapsulating, initialize? [y,n,q,?] (default: n) y
```

```
The requested operation is to initialize disk device c0t0d0 and
to then use that device to replace the removed or failed disk
rootdiska in disk group rootdg.
```

```
Type Y at the following prompt:
Continue with operation? [y,n,q,?] (default: y) y

Replacement of disk rootdiska in group rootdg with disk device
c0t0d0 completed successfully.
```

This will begin recovery of the disk and the mirrors will re-synchronize automatically.

**Step 18** Type **n** and **Enter** when asked to replace another disk the disk. Type **q** and **Enter** to quit:

```
Replace another disk? [y,n,q,?] (default: n) n
```

```
Volume Manager Support Operations
Menu: VolumeManager/Disk
```

```
1 Add or initialize one or more disks
2 Encapsulate one or more disks
3 Remove a disk
4 Remove a disk for replacement
5 Replace a failed or removed disk
6 Mirror volumes on a disk
7 Move volumes from a disk
8 Enable access to (import) a disk group
9 Remove access to (deport) a disk group
10 Enable (online) a disk device
11 Disable (offline) a disk device
12 Mark a disk as a spare for a disk group
13 Turn off the spare flag on a disk
list List disk information

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

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

Goodbye.




---

**Note** Allow enough time to let both disks synchronize. Depending on the system, it may take 5 to 6 hours.

---

**Step 19** Use the **vxprint** command to make sure disk0 is re-mirrored to disk1. When this is complete, shut down the platform and boot.

```
vxprint -ht

init 0
ok boot
```

**Step 20** Repeat [Step 3](#) to verify that the correct software is running.

---

## Restoring the Original Cisco MGC Software

If the neither of the previous two sections can be used to back out to the system, use the following procedure to restore the original MGC software configuration to the platform.

- 
- Step 1** Install Solaris 2.6 Operating System using the procedures in the [“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.
  - Step 2** Restore the data files using the procedures in [“Restoring Data Files from Remote Server or Local Tape Drive”](#) section on page 12-7.
  - Step 3** Install the original Cisco MGC Software using the procedures in the [“Installing the Cisco MGC Software Release 9.1\(5\)”](#) section on page 7-3.
- 

## Replacing Hard Disks on an Existing Solaris 8 Platform

This chapter describes the scenario for replacing the hard disks on an existing platform running the Solaris 8 operating system and Cisco MGC 9.2(2) software.

### Backup Procedure



#### Caution

Before restoring the mgcbackup file, you must first install the same Cisco MGC software release and the patch level that was originally on the platform. You must also install the same version of DiskSuite and the Cisco Security Package (CSCOsh013.pkg) if these were originally on the platform. For installation procedures, refer to the [“Installing the Solstice DiskSuite \(CSCOsh016\)”](#) section on page 2-32 and [“Installing the Cisco Security Package \(CSCOsh013\)”](#) section on page 3-16.

To back up the system:

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

```
/etc/init.d/CiscoMGC stop
```
  - Step 2** Back up the system.
    - 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 local directory. Use the mgcbackup utility to list the filename of the last backup, 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 is created, in a year-month-day format, such as 20011130.
- *hhmmss* is the time the backup file is created, in an hour-minute-second format, such as 115923.

```
/opt/CiscoMGC/local/mgcbakup -l
```



**Caution** You must now move the backup file 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 3** Stop the operating system and power down the platform.

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

System backup is now complete.

## Hard Disk Replacement Procedure



**Caution** Be sure to follow the appropriate anti-static procedures when performing this procedure.

To replace the hard disk:

**Step 1** Label the hard disks with their current locations and remove them from the system. Refer to your platform's Sun System manual for the proper procedure.

**Step 2** Install the new hard disks in the same slots as the existing hard disks. Refer to your platform's Sun System manual for the proper procedure.

## Loading the Solaris 8 operating system

Power on the platform and follow the procedures in the [“Installing the Solaris 8 Operating System”](#) section on page 2-15 through the [“Installing the Solaris 8 Patch Cluster \(CSCOh015\)”](#) section on page 2-51 to install the Solaris 8 operating system.

## Installing the Cisco MGC Software

**Caution**

Install DiskSuite and the same Cisco MGC release and Cisco Security Package (CSCOh013.pkg) patch level if they were originally on the box.

Install the same release and patch level of Cisco MGC software that was originally on the box, using the procedures provided in the “[Installing the Cisco MGC Software 9.2\(x\) and Higher Releases](#)” section on page 3-3.

## Restoring the System

**Step 1** To restore the system:

- a. **Local Tape Backup:** Using the mgcrestore utility, enter the following command to restore the system from the local tape drive:

```
/opt/CiscoMGC/local/mgcrestore -d /dev/rmt/0
```

- b. **Remote File Server Backup:** Using the ftp program, retrieve the file created in [Step 2b](#) of the [Backup Procedure, page 12-17](#) section, and place it in the /opt/CiscoMGC/var/log directory. Using the mgcrestore utility, restore the system.

```
/opt/CiscoMGC/local/mgcrestore -d /opt/CiscoMGC/var/spool -f filename
```

where *filename* is the filename created in [Step 2b](#) of the section [Backup Procedure, page 12-17](#).

**Step 2** Start the Cisco MGC software.

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

The hard disk replacement on an existing platform running the Solaris 8 operating system and Cisco MGC 9.2(2) software is now complete.

