Upgrading the STORM

What's new for SN08

In this document and in the other STORM documents, we use the term STORM Integrated Array (STORM-IA) to refer to the STORM installation that uses two STORM SAM-XTS shelves. We continue to use the term STORM SAM-XTS to refer to the hardware platform, and to identify the shelf type.

The SAM21 Shelf Views have been updated to reflect the shelf configuration in STORM-IA installations where appropriate. Because the STORM-IA uses two STORM SAM-XTS shelves, the SAM21 Shelf does not contain a STORM card in this configuration. For more information, refer to the following documents:

- *SAM21 Shelf Controller Basics*, NN10025-111
- *STORM Basics*, NN10024-111

In SN08, the document *Upgrading the Carrier Voice over IP Network*, NN10440-450 replaces the following documents:

- *ATM Solutions Upgrades*, NN10261-450
- *IP Solutions Upgrades*, NN10344-450

What's new for SN07

Procedure Electronic Software Delivery (ESD) for STORM describes how to install a STORM software load for customers with an ESD agreement with Nortel Networks.

References to SN06 were updated to SN07. However, there was no development in the SN07 time frame so the STRM006 software is the current software load for the SN07 release. In previous releases, readers were directed to *Upgrading the Call Agent*, NN10065-461 for the network element upgrade order. The reference has been corrected to the *Solutions Upgrade*, NN10261-450 or NN10344-450.

What's new for SN06

May 2004, Standard 03.04

This document did not change for this release.

March 2004, Preliminary 03.03

Information about mounting and demounting volumes in DIRP was added to the procedures for busying and rtsing SD00 and SD01 drives.

September 2003, Standard 03.02

SN06 and newer STORM installations are available as two rack mount servers, STORM SAM-XTS, for the hardware platform. SN05 and older installations use two STORM cards, STORM cPCI, and a disk array device. Software upgrade for both hardware platforms is supported and described in this document.

Upgrade strategy

The Call Agent depends on the services provided by STORM. Upgrade of the STORM requires coordination with the call processing software on the Call Agent. Some offices are configured with a USP - Compact. For these offices, the STORM upgrade must also be coordinated with the USP - Compact.

Call Agent

The Call Agent relies on the network file system (NFS) mounts that STORage Management (STORM) exports. As each STORM is removed from service for rebooting, the exported NFS mounts become unavailable to the Call Agent card. To prevent a possible call processing service interruption, telephone operating company personnel must busy the disk device in the call processing application before removing each STORM from service. This requirement and procedure is detailed in this upgrade document.

Refer to Mount points for an illustration and information about the STORM exports and Call Agent mount points.

USP - Compact

When a STORM is removed from service, the corresponding USP - Compact card cannot provide service. Signaling System Number 7 (SS7) traffic is diverted to the mate USP - Compact.

CAUTION
Possible service interruption
First verify that both USP - Compact cards and all SS7 links are in service, and no alarms are active on the USP - Compact cards before locking a STORM card or rebooting the STORM server.

To prevent an SS7 outage, Nortel Communication Server Local Area Network (CS LAN) IP Engineering requirements state that STORM and USP - Compact cards on the same shelf must have their Ethernet connections going to the same CS LAN router. If the STORM and USP - Compact cards on the same shelf route their Ethernet connections to separate routers, both USP - Compact cards lose connectivity to their respective STORM cards during a router upgrade, which results in a complete SS7 outage.

Required information

The following information is required to complete the upgrade:

- IP addresses or hostnames for the STORM units

  Note: Procedure Boot new STORM load includes information about how to query a Call Agent to determine the IP address of the STORM unit that is used by the Call Agent.

- A web browser with SSL capability. The browser installed on the CS 2000 SAM21 Manager client machine or the GWC Manager client machine is acceptable.
- Once the software load is available to the STORM host, either as a local CDROM or a transferred file, the upgrade requires 15 minutes for each host.

Software

Software media depends on the STORM platform.

STORM SAM-XTS units used in STORM-IA

Software for the STORM rack mount configuration is available on CDROM. During the upgrade, the software is transferred from the

CDROM to the STORM over HTTP, HTTPS, FTP, anonymous FTP, a local file, or the local CDROM drive.

Note: In this document and in the other STORM documents, we use the term STORM Integrated Array (STORM -IA) to refer to the STORM installation that uses two STORM SAM-XTS shelves. We continue to use the term STORM SAM-XTS to refer to the hardware platform, and to identify the shelf type.

STORM cPCI

Software for the STORM card is delivered as a fileset on the CS 2000 Core Manager using either file transfer protocol (FTP) or digital audio tape (DAT).

Software version

Software for the STORM cPCI platform is provided in the form of maintenance releases based on the SN04 release. Upgrade from MNCL to the next MNCL is described in this document. Software for the STORM SAM-XTS units (used in STORM-IA) is offered in NCLs and MNCLs. Upgrade from an NCL to an MNCL or MNCL to the next MNCL is also described in this document.

Regardless of platform, the software version is available from the file name:

Example
4.0.0.0212180958

M.m.i.YYMMDDhhmm

- M
  is the major version
- m
  is the minor version
- i
  is the issue version
- YY
  is the year of the build
- MM
  is the month of the build
- DD
  is the day of the build

- hh

  is the hour of the build

- mm

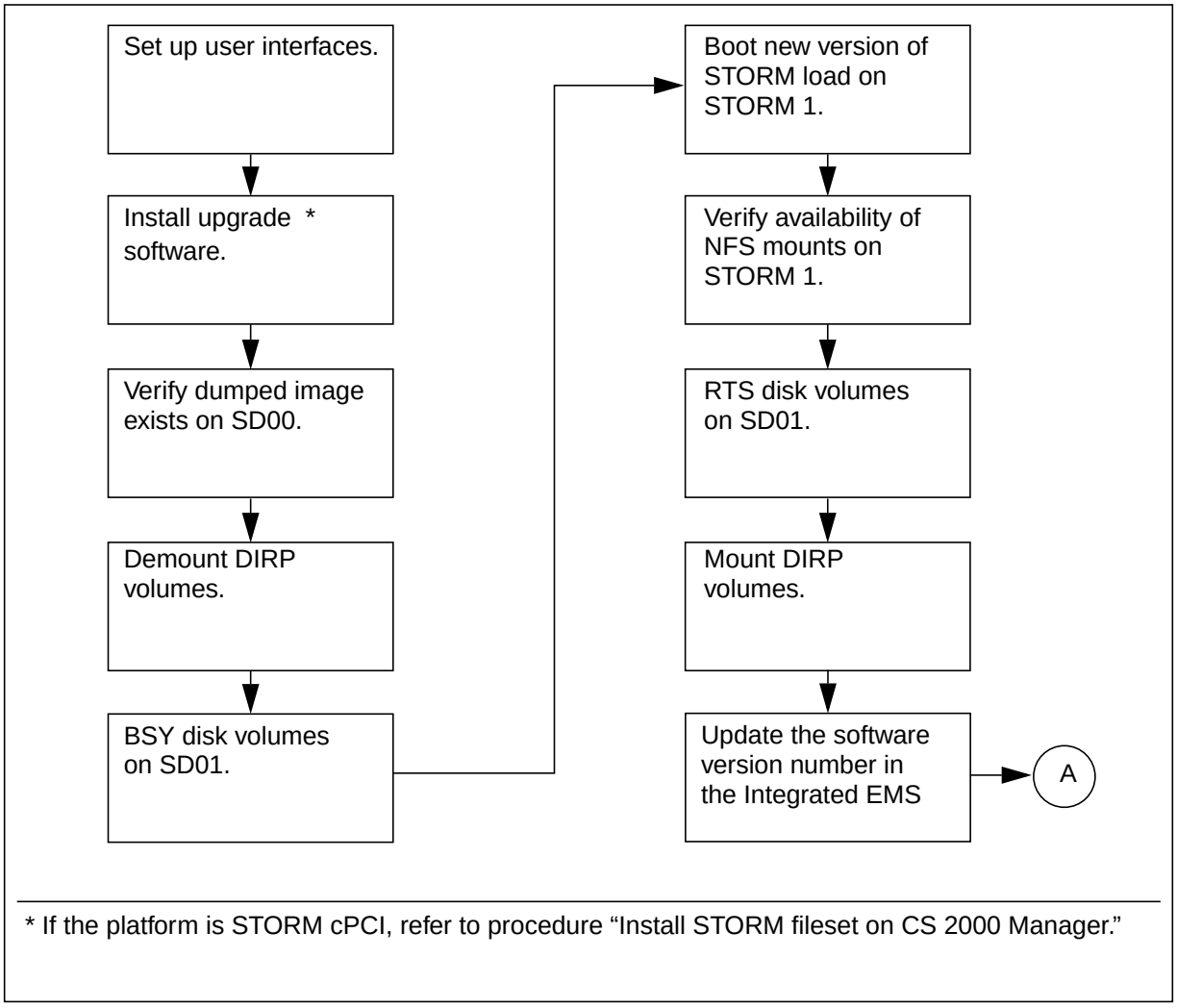
  is the minute of the build

Upgrade sequence

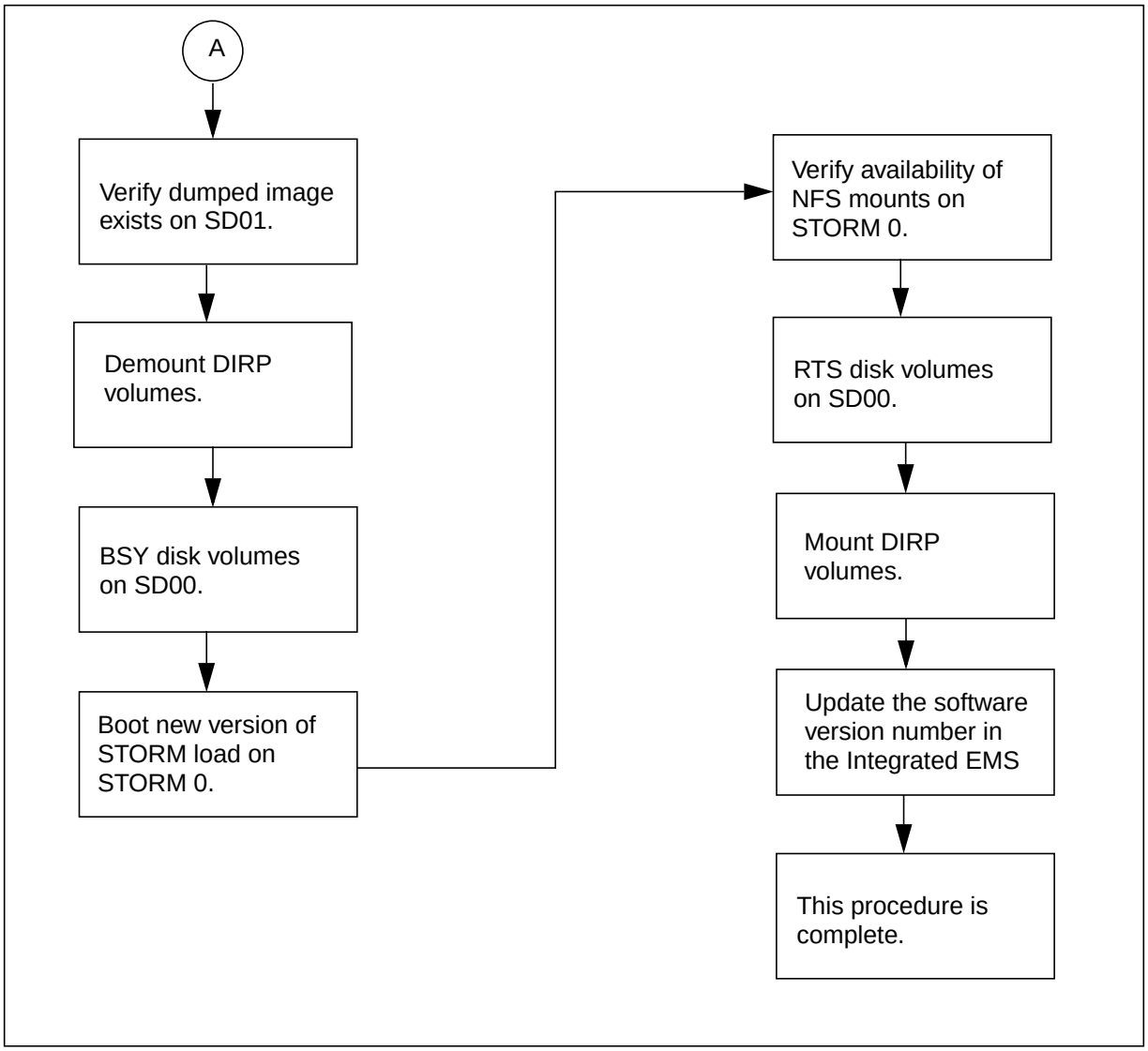
Before upgrading the Call Agent software, upgrade the STORM software. Refer to *Upgrading a Carrier Voice over IP Network*, NN10440-450 for the sequence of upgrading components.

The following flowchart shows an overview for performing an in-service maintenance upgrade of STORM software, beginning with the second STORM unit, STORM 1, followed by the first STORM unit, STORM 0.

STORM in-service software upgrade overview



STORM in-service software upgrade overview



Upgrade abort procedure

Refer to the STORM Upgrade procedure, except set the boot load back to its original load file name when STORM is removed from service.

Firmware flash upgrade

For the STORM cPCI platform, each card in the SAM21 shelf stores its own firmware in flash memory. New firmware loads for each card are delivered with the Shelf Controller tape.

Execute procedure STORM Firmware Flash to upgrade the current STORM firmware version with each new load release.

Additional information

Review the release notes delivered with the software media for the latest changes and requirements.

STORM SAM-XTS

SN07 software for the STORM SAM-XTS units (used in STORM-IA) is based on the SN06 STORM SAM-XTS software. The release notes are labelled STRM006. The release notes for SN06 MNCLs are labelled STRMM006.

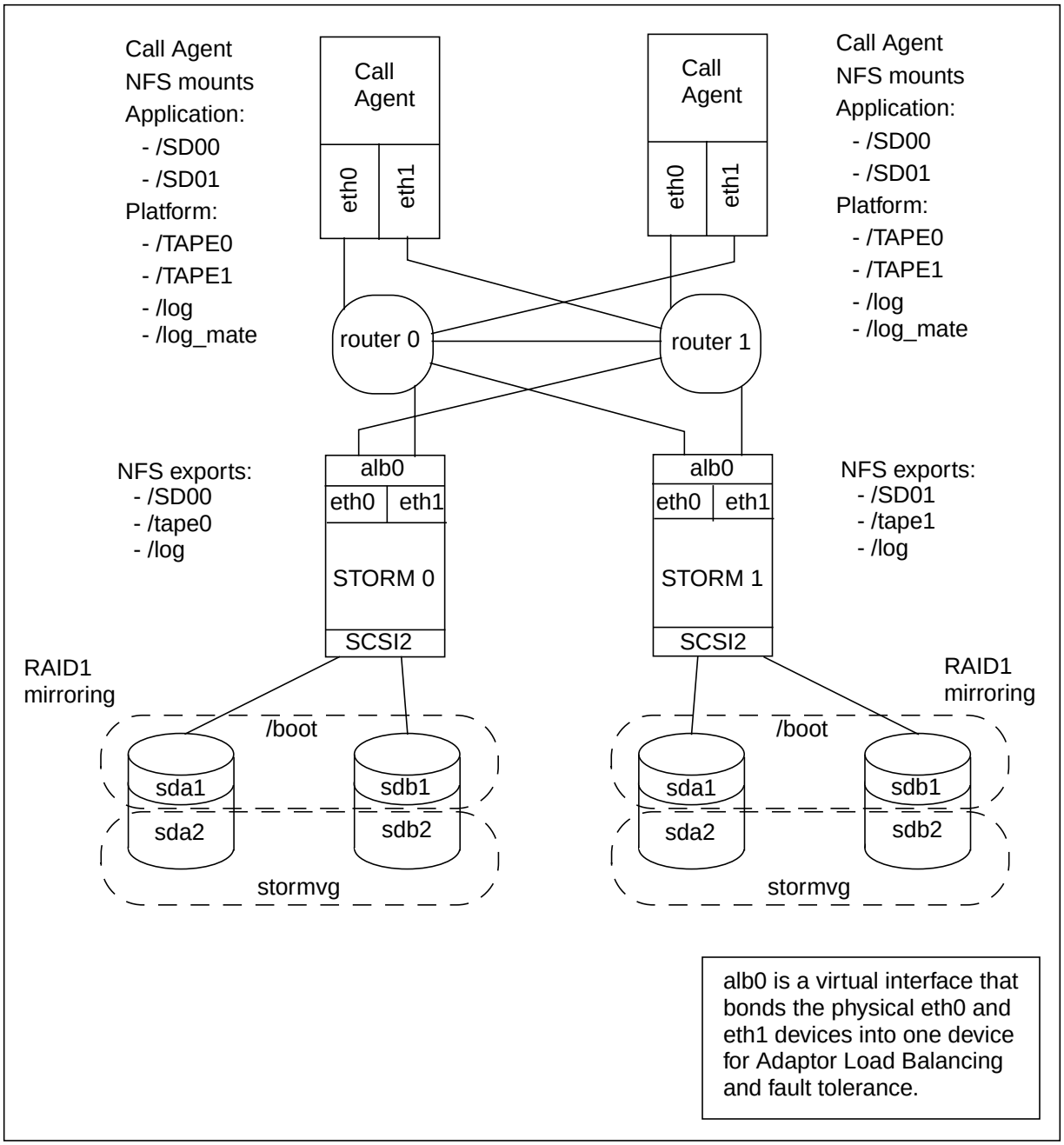
STORM cPCI

The software for this platform is based on the SN04 release and new software is delivered as MNCLs for the SN04 release. The release notes are labelled STRMM004.

Mount points

The following figures show the structure of the STORM platforms, the exported files ystems, and the Call Agent mount points for those exported files ystems.

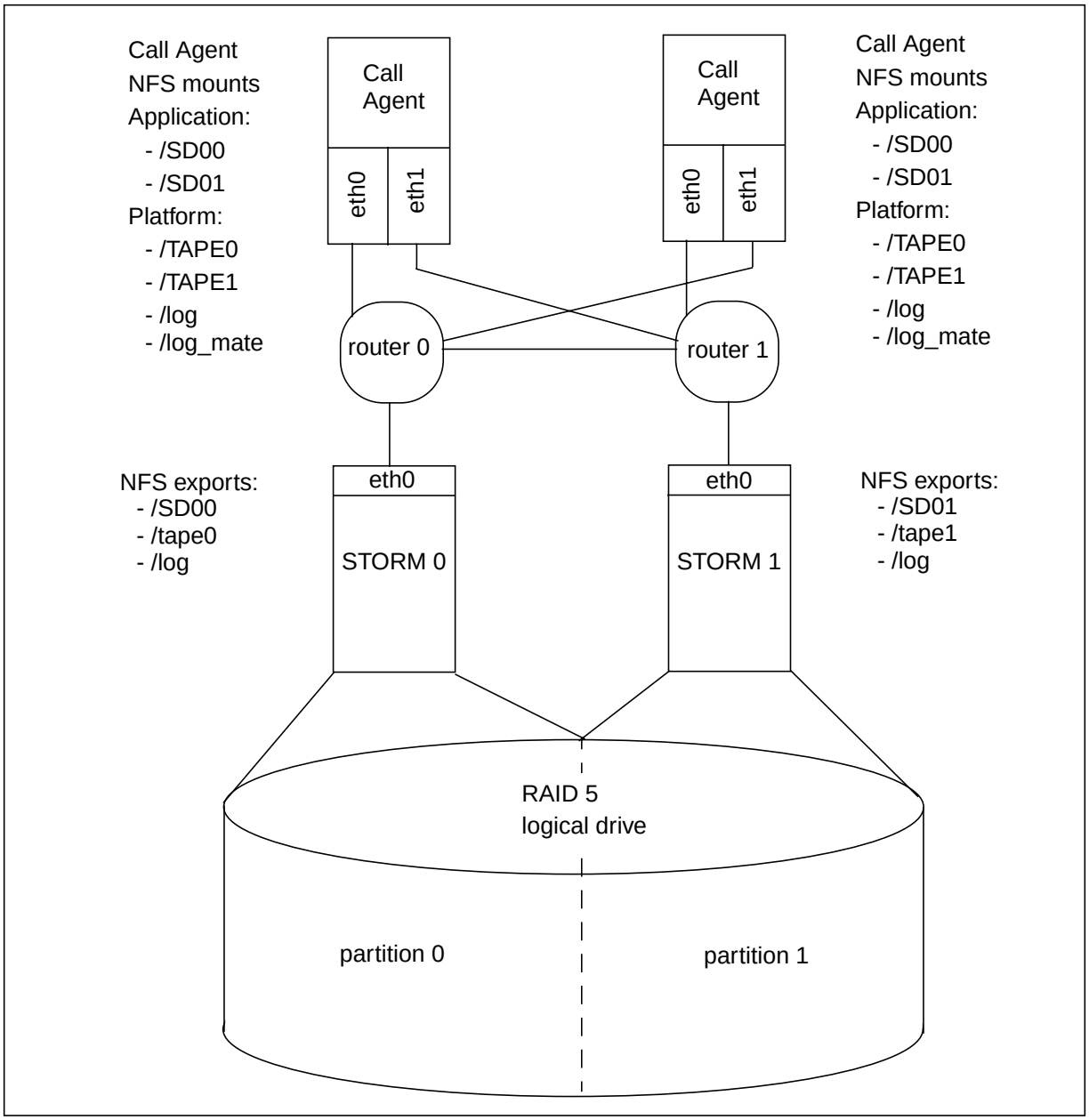
STORM SAM-XTS mounts



Note 1: STORM-IA uses the STORM SAM-XTS hardware platform.

Note 2: This figure does not reflect the mounts to the Universal Signaling Point (USP) - Compact.

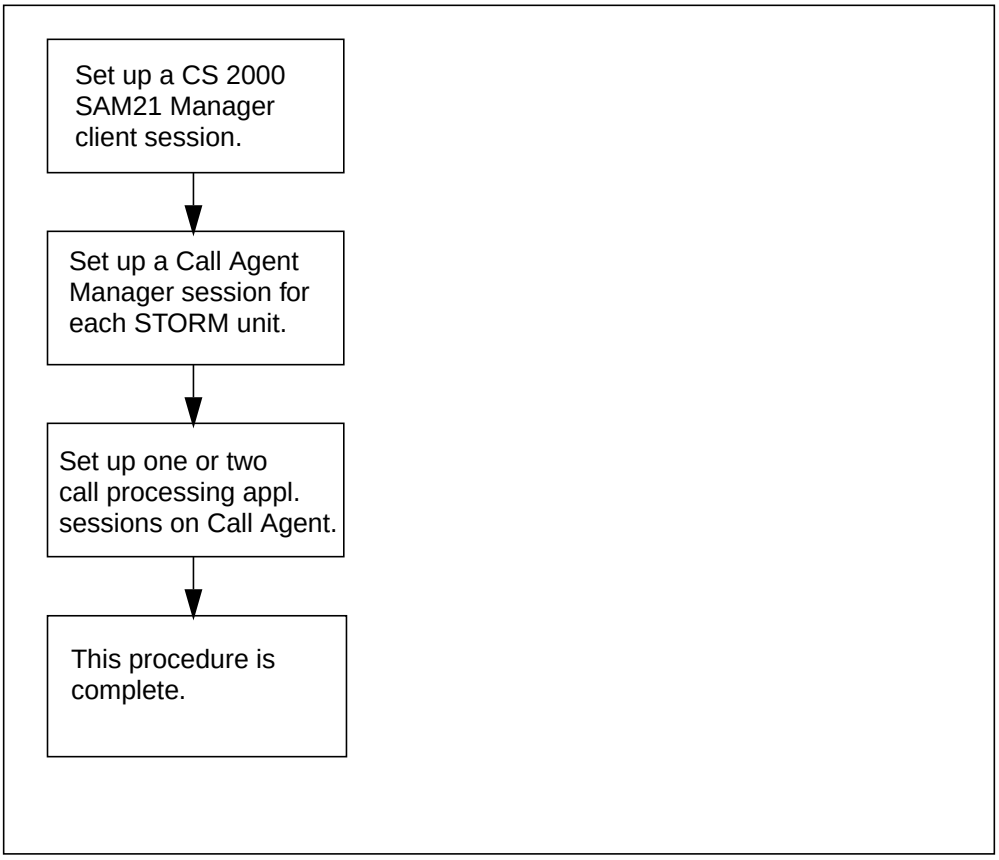
STORM cPCI mounts



Note: This figure does not reflect the mounts to the Universal Signaling Point (USP) - Compact.

Set up user interfaces

Perform the following procedures to establish all necessary console sessions.



For assistance with these steps, refer to the “Interface setup” section of *Upgrading the Call Agent*, NN10065-461.

Electronic Software Delivery (ESD) for STORM

STORM software loads are available for electronic transfer from Nortel to a customer dropbox. Use this procedure to obtain STORM software loads for the STORM SAM-XTS units used in STORM-IA.

Audience

This procedure is intended for use by telephone operating company personnel who have an ESD agreement with Nortel. When the agreement was established, the telephone operating company furnished Nortel with the location of an electronic dropbox and a username and password pair for delivering software loads. When Nortel delivers a software load to the dropbox, an electronic mail notification is sent to the email address specified by the telephone operating company when the ESD agreement was established.

When to use this procedure

Use this procedure after receiving electronic notification for the following software load:

STRMM00n0.n.R.NCL.NAP.vault.nn.D.tar.gz

n
is an integer value such as 6 and is part of the product order code

vault
is a string that identifies the Nortel software vault that holds the software

nn
is an integer value that indicates the repository version of the software

Action

At a CS 2000 Management Tools server terminal

1 Make a temporary directory to store the ESD software:

```
$ mkdir /data/iso_esd
```

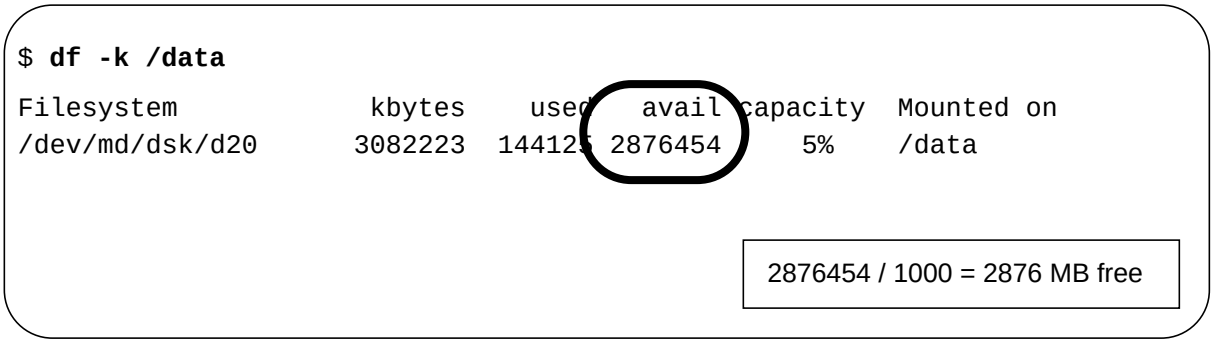
2 Change directory to the newly created location:

```
$ cd /data/iso_esd
```

3 Ensure that enough disk space is available for the ESD software, 10 MB is recommended.

```
$ df -k /data
```

The free space on the device that /data is mounted is printed. The value for "avail" is the number of free kilobytes. Divide that number by 1000 to determine the number of free megabytes.



4 Transfer the ESD software files from the dropbox on the repository server. The repository server is the machine owned by the telephone operating company that was selected to be the destination for the ESD software files:

```
$ ftp <repository_server>
```

Log in and change directory to the dropbox location on the repository server.

5 Change the transfer mode to binary.

```
ftp> bin
```

6 Retrieve the ESD software load:

```
ftp> get <esd_filename>.tar.gz
```

Example
ftp> get STRMM006.6.R.NCL.NAP.VAULT.3.D.tar.gz

Note: Determine the actual ESD filename from the Nortel notification, or listing the contents of the dropbox with the **ls** command.

7 Repeat step 6 for all ESD software loads recorded in the notification from Nortel and then end the FTP session:

```
ftp> bye
```

8 Extract the ESD software load from the tape archive format:

```
$ gtar xvzf <esd_filename>.tar.gz
```

Example
$ gtar xvzf STRMM006.6.R.NCL.NAP.VAULT.3.D.tar.gz

The ESD software load is uncompressed, and a new directory named after the ESD software filename is created. The directory name is the name of the ESD filename without the .tar.gz suffix.

The contents of the ESD software load are placed in this new directory.

Note: *The STORM software load has an .iso.tape suffix. This file is not an AIX tape file though. It is an ISO9660 CDROM image.*

9 This step and the remainder of the procedure applies to NCL ESD software loads only.

Become the root user:

```
$ su - root
```

A prompt for the root password is presented. Enter the root password.

10 Change directory to the newly created directory:

```
$ cd <esd_filename>
```

Example
$ cd STRMM006.6.R.NCL.NAP.VAULT.3.D

11 The ESD software is formatted as an ISO 9660 image. Use the mount_iso.ksh script to mount the ISO 9660 image:

```
# /opt/nortel/sspfs/Scripts/mount_iso.ksh mount
/data/iso_esd/<esd_filename>/<iso_image>.iso
```

Example
 # mount_iso.ksh mount
/data/iso_esd/STRMM006.6.R.NCL.NAP.VAULT.3.D/STORM_SN06_MNCL_4.0.iso.tape

A response is printed to the terminal. Use the response to determine if the command was successful:

mount_iso.ksh command responses

Response	Meaning
You MUST unmount an image before removing the image file. If the file is deleted while the OS has it mounted, it can be harmful to the runtime applications on this unit	This response indicates success.
Provided full path to ISO image does not exist	Verify the location and name of the ISO 9660 image, such /data/iso_esd/STRMM006.../image.iso, and retry.

mount_iso.ksh command responses (Continued)

Response	Meaning
ISO Image Already Mounted	Enter **mount_iso.ksh umount** to unmount whatever ISO 9660 image is currently mounted, and retry.
Error creating the image device location	This response indicates an operating system error with the loopback file driver. Retry the command, and if it fails a second time, contact Nortel support personnel.
ERROR MOUNTING <ESD_filename>	This response indicates that either the ISO 9660 file is corrupt, or the `/tmpmnt` directory has been deleted.

The contents of the ESD software file are available in directory `/tmpmnt`.

12 To install the software now, list the contents of the `/tmpmnt` directory (**ls /tmpmnt**) and ensure that `load.tgz` is there.

13 Secure copy the software load to the `/storm` directory on each STORM unit:

```
# scp /tmpmnt/load.tgz root@<storm_0_ip>:/storm
# scp /tmpmnt/load.tgz root@<storm_1_ip>:/storm
```

A request for the root password of the STORM unit is made after each secure copy request. Enter the root password and press the Return key. If the command fails, ensure that the IP address of the STORM unit is valid.

14 Unmount the ESD file:

```
# mount_iso.ksh umount
```

15 In procedure Install upgrade software on page 15, specify “Local File” as the Protocol, and specify /storm/load.tgz as the location of the software load.

16 This procedure is complete.

Install upgrade software

Installation of the software load depends on the hardware platform. Refer to the appropriate section.

STORM cPCI

If this upgrade is for the STORM cPCI platform, refer to procedure Install STORM fileset on CS 2000 Core Manager and then proceed to Verify an image dump exists.

STORM SAM-XTS units used in STORM-IA

The software for the STORM SAM-XTS units (used in STORM-IA) is delivered on CDROM. If access to the STORM unit is available, insert the CDROM into the CDROM tray on the front of the STORM unit.

If access to the STORM unit is not possible, determine the next best option:

- local File

  Copy the contents of the CDROM to a file on the local workstation and then use the secure copy program, **scp**, to transfer the data on the workstation to the STORM unit.

  Example
  UNIX> scp load.tgz root@<storm0host>:/storm/load.tgz

- anonymous FTP

  FTP

  These two options require that the CDROM contents be copied to a workstation or server that provides an FTP service. If the workstation or server is configured to allow anonymous FTP, use anonymous FTP to avoid sending username and password information in cleartext across the network.

- HTTPS

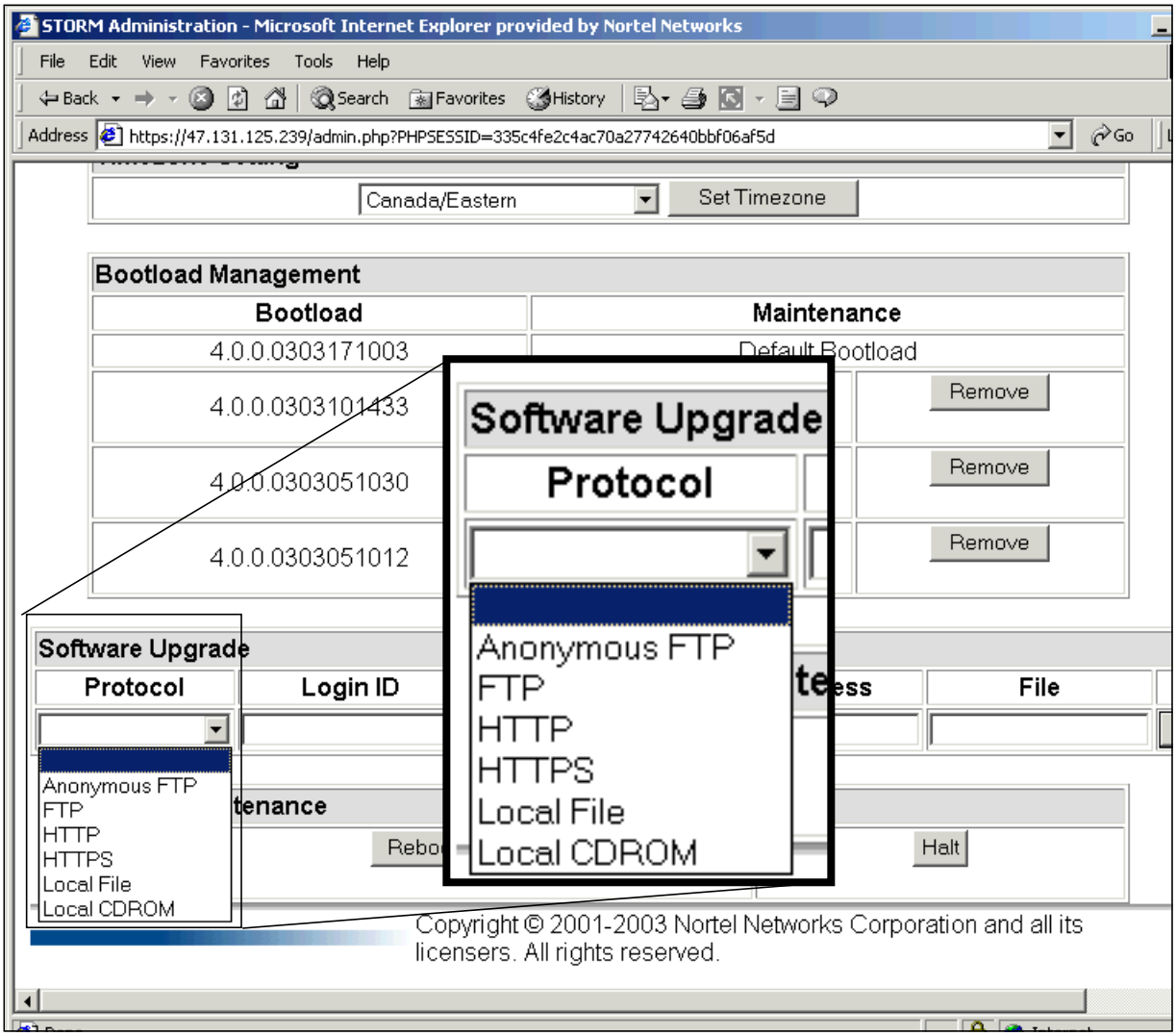
  HTTP

  These two options require that the CDROM contents be copied to a workstation or server that provides an HTTP or HTTPS service.

At the STORM Manager interface

1 Select the Admin panel.

2 Select the desired access method from the Protocol drop down menu.

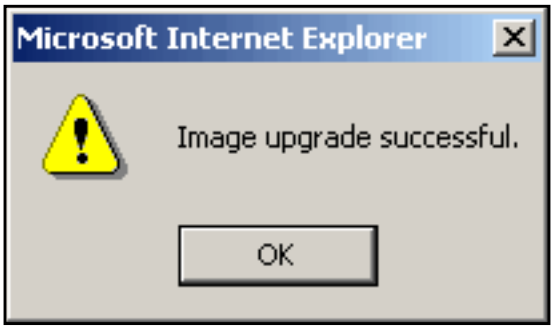


3 Determine the next action:

If Protocol choice is	Do
Local CDROM	Click the Upgrade button.
Local File	Provide the location of the `load.tgz` file in the File textbox and click the Upgrade button. For example, `/storm/load.tgz`.

If Protocol choice is	Do
HTTP or HTTPS	Enter the address of the web server in the IP address text box. Enter the relative path to the `load.tgz` in the File textbox. Click the Upgrade button.
Anonymous FTP	Enter the address of the FTP server in the IP address textbox. Enter the relative path to the `load.tgz` file in the File textbox. Click the Upgrade button.
FTP	Enter your username in the Login ID textbox. Enter your password in the Password textbox. Enter the address of the FTP server in the IP address textbox. Enter the relative path to the `load.tgz` file in the File textbox. Click the Upgrade button.

4 Verify that the load files were successfully copied by clicking OK on the popup window.



Note: Refer to Troubleshooting if the popup window does not indicate success.

5 Click the Upgrade button.

6 This procedure is complete.

Additional information

By default, the STORM unit retains previous bootloads. Bootloads may be manually removed by clicking the Remove button. Bootloads are also managed automatically by the STORM software.

If a bootload image upgrade is requested and too little disk space is available in the `/boot` directory, the STORM software deletes the oldest bootload from the `/boot` directory and performs the requested

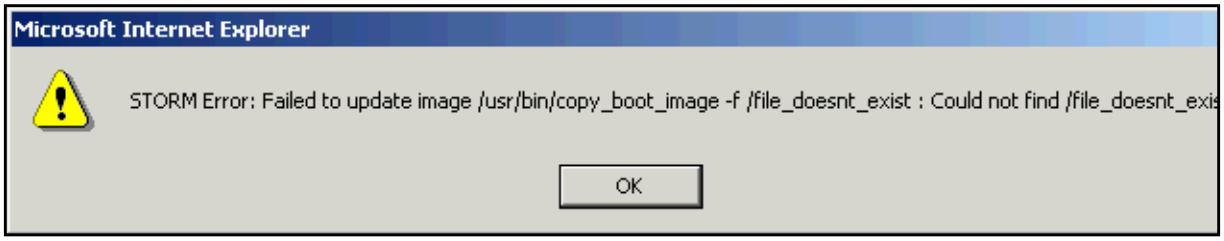
bootload image upgrade. STORM will not delete the bootload that is set to the default bootload.

Troubleshooting

Review the message in the popup window.

If “Local File” is selected and the path to the file is incorrect, the STORM Manager indicates that it could not find the file.

Could not find <filename>

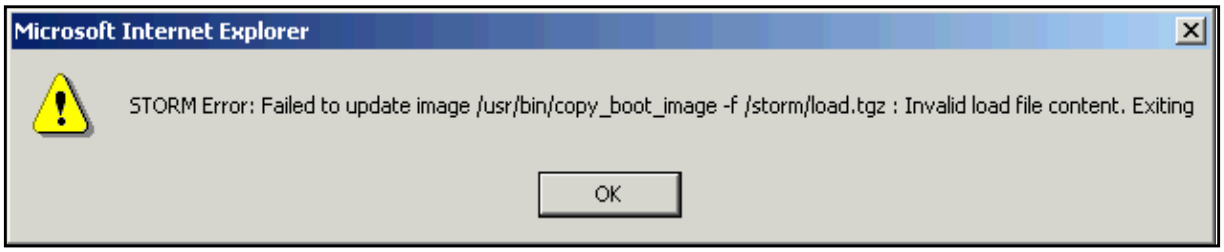


If the CDROM is not placed in the CDROM drive and an attempt is made to upgrade software with the “Local CDROM” option, the following window appears. Verify that the CDROM is in the drive. If the CDROM is inserted, verify that the STORM Manager is connected to the correct STORM unit.

Failed to mount the cdrom

If the bootload is corrupt, the STORM software indicates that the bootload contains invalid content.

Invalid content

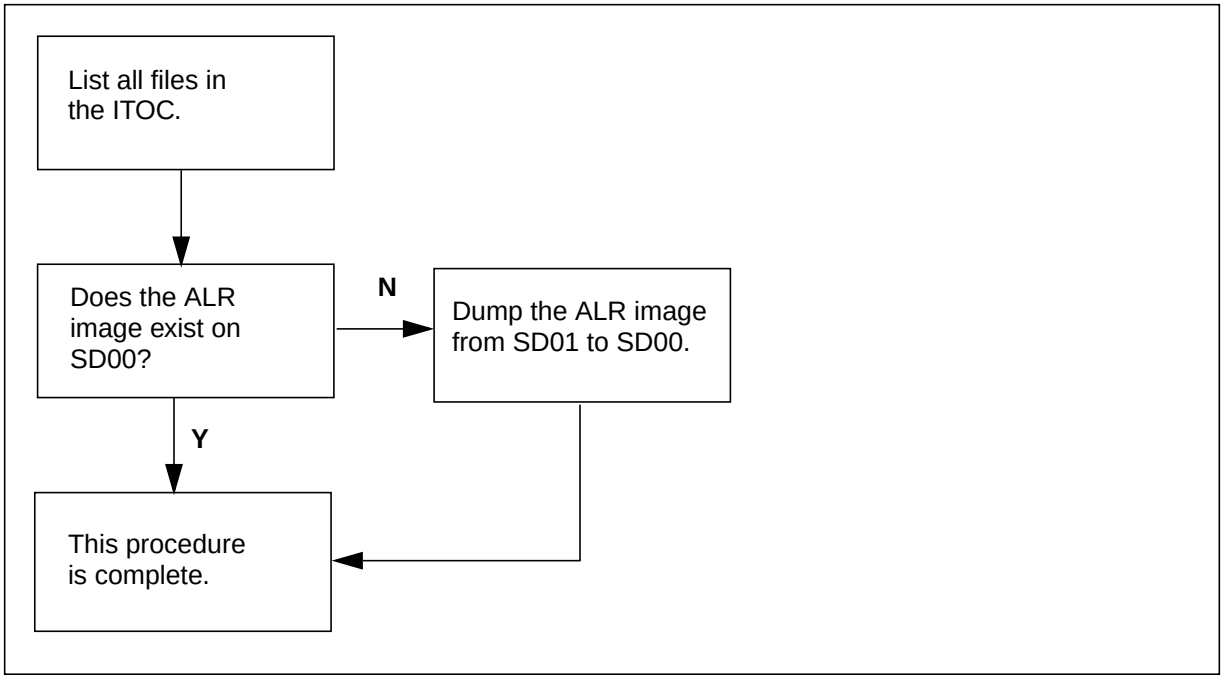


Verify an image dump exists

Perform the following procedures to ensure that a bootable call processing application image for the Call Agent exists on disk SD00. Also ensure that the image is set to AutoLoadRoute (ALR). If the CS 2000 - Compact is configured with Message Controller cards, then a Message Switch image must also be available.

If a current call processing application image does not exist on both STORM units, taking an office image can require several hours. Taking a Message Switch image will also increase the time required to complete this upgrade.

Verifying dumped image exists on SD00



At the MAP

1 Use the **LBF** command to list all files registered in the ITOC:

```
>ITOCCI;LBF CM
Image Table Of Contents:
   A Registered          Generic Device       File
   L Date       Time                          Name
   R MM/DD/YYYY HH:MM:SS
-- - ------------------- -------------------- -----------
 0 * 06/23/2003 10:47:53 SD00IMAGE            CSNN05BE
 1   06/18/2003 08:23:45 SD01IMAGE            CSSN05BC
>
>%% IF THE CS 2000 - COMPACT IS CONFIGURED WITH MESSAGE
>%% CONTROLLER CARDS, ALSO CHECK FOR A MESSAGE SWITCH LOAD.
>
>LBF MS

Image Table Of Contents:
   A Registered          Generic Device       File
   L Date       Time                          Name
   R MM/DD/YYYY HH:MM:SS
-- - ------------------- -------------------- -----------
 0   06/26/2003 04:24:33 SD00ADUMP0           S030626040517_MS
 1 * 06/25/2003 10:47:05 SD01ADUMP1           S030625102716_MS
```

Note: Verify that the “Generic Device” is on SD00 and that there is an asterisk in the ALR column. In the figure, the Message Switch dump S030625102716_MS is not on SD00, but it can be copied to SD00ADUMP0 and have the ALR set to it with the **SBF** command.

2 Verify that the ALR image exists on disk volume SD00.

If an image	Do
exists on SD00 and ALR is set	Proceed to procedure Busy disk device.
does not exist on SD00 or ALR is not set	step 3

3 Take an image by using the dump command.

>DUMP <filename> <sd00_volume_name> UPDATE NODE CM

Wait for the image dump to finish.

Note: If the office has autodump enabled, use the **AUTODUMP MANUAL CM** command instead.

4 Set the ALR to the new image:

```
>SA CM <filename>
```

5 Use the **LBF** command to verify that the image is registered in the ITOC and that it is the ALR image.

6 This procedure is complete.

Demount DIRP volumes

Active volumes for all DIRP subsystems must be moved off SD01 as described in the following procedure. In the examples, only JF and DLOG are shown. View the tuples in table DIRPSSYS to determine which subsystems are configured.

At the MAP

1 Enter the DIRP level:

>MAPCI NODISP;MTC;IOD;DIRP

2 Query the subsystem to determine which files are active and which files are standby:

>QUERY JF FILES
>QUERY DLOG FILES

The response indicates which files and volumes each subsystem is using. In this example, JF and DLOG both have active files on SD01.

```
>QUERY JF FILES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
JF        0     1      12      1  NONE         NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD01JF          0     0 0 23 NO  844B 0027 4071

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE
>QUERY DLOG FILES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
DLOG      1     1      11      2  NONE         NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD01DLG         4     4 0 20 NO  840B 0001 3072

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE
```

3 Demount all the volumes on SD01 for the subsystems that are not active:

```
>DMNT DLOG SD01DLG0
>DMNT DLOG SD01DLG1
>DMNT DLOG SD01DLOG2
```

Each command provides a confirmation prompt and indicates that the volume will be removed as soon as possible:

```
Regular Volume SD01DLG0 will be taken out of
DIRP as soon as possible.
```

Note: *For the example, SD01DLG3 cannot be demounted since the active file uses that volume.*

4 Rotate the subsystems to a standby volume on SD00:

```
>ROTATE JF
>ROTATE DLOG
```

Note: The ROTATE command accepts REGULAR, PARALEL, or BOTH options. PARALEL is intentionally misspelled.

The command requires confirmation.

```
>ROTATE JF
ACTIVE FILE WILL BE CLOSED IF POSSIBLE (ROTACLOS).
SENDING REQUEST TO SUBSYSTEM
Please confirm (“YES”,”Y”,”NO”, or “N”):
>Y
REQUEST SENT TO SUBSYSTEM, CHECK DIRP LOG FOR DETAILS
>ROTATE DLOG
ACTIVE FILE WILL BE CLOSED IF POSSIBLE (ROTACLOS).
SENDING REQUEST TO SUBSYSTEM
Please confirm (“YES”,”Y”,”NO”, or “N”):
>Y
REQUEST SENT TO SUBSYSTEM, CHECK DIRP LOG FOR DETAILS
```

5 Query the subsystem again to verify that the active files are on SD00:

```
>QUERY JF FILES
>QUERY DLOG FILES
```

The response indicates that the JF and DLOG subsystems have rotated to using SD00JF and SD00DLG0. If the subsystem does

not rotate away from SD01, wait one minute, query again, and then issue the ROTATE command again if necessary.

```
>QUERY JF FILES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
JF        0     1      13      1  NONE         NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD00JF          0     0 0  0 NO  8410 0006 706E

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE

>QUERY DLOG FILES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
DLOG      1     1      13      2  NONE         NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD00DLG0        2     2 0 23 NO  8404 0002 106D

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE
```

6 Demount any remaining volumes on SD01:

```
>DMNT JF SD01JF
>DMNT DLOG SD01DLG3
```

7 Query the subsystem again to verify that no volumes on SD01 are used:

```
>QUERY JF ALL
>QUERY DLOG ALL
```

The response indicates that the JF and DLOG subsystems are not using any volumes on SD01.

```
>QUERY JF ALL
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
JF        0     1      13      1  NONE        NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD00JF          0     0 0  0 NO  8410 0006 706E

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE

REGULAR VOLUME(S)
VOL# VOLNAME  STATE         IOC CRD PORT VOL FSEG ROOM VLID FILES
   0 SD00JF   READY         N/A N/A N/A   16  125  125 8410 A

REGULAR SPACE
VOL# VOLNAME  STATE         SEGS   EXP UNEXP TOTAL
   0 SD00JF   READY          125     0     0   125
>QUERY DLOG ALL
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
DLOG      1     1      13      2  NONE        NO

REGULAR
FILE(S)  STATE VOLUME   RECCOUNT BLOCK E  V V_B VLID FNUM FRN#
ACTIVE   AVAIL SD00DLG0        8     8 0 23 NO  8404 0002 106D

PARALLEL
FILE              STATE VOLUME   BLOCK E  V V_B VLID FNUM FRN#
                   NONE

REGULAR VOLUME(S)
VOL# VOLNAME  STATE         IOC CRD PORT VOL FSEG ROOM VLID FILES
  20 SD00DLG3 READY         N/A N/A N/A   11  118  118 840B
  21 SD00DLG2 READY         N/A N/A N/A    6  118  118 8406
  22 SD00DLG1 READY         N/A N/A N/A    5  118  118 8405
  23 SD00DLG0 READY         N/A N/A N/A    4  117  117 8404 A

REGULAR SPACE
VOL# VOLNAME  STATE         SEGS   EXP UNEXP TOTAL
  20 SD00DLG3 READY          118     0     0   118
  21 SD00DLG2 READY          118     0     0   118
  22 SD00DLG1 READY          118     0     0   118
  23 SD00DLG0 READY          117     0     0   117
```

8 Repeat from step 2 for any additional DIRP subsystems.

9 Quit the DIRP level:

```
>QUIT ALL
```

10 This procedure is complete.

Busy disk device

Perform the following procedure to ensure that the call processing application does not attempt to access the STORM unit that is ready to be upgraded.

At the MAP

1 Busy all disk volumes on device SD01:

```
>DISKADM SD01;BSY ALL
------------------
BSY command Result
------------------
Count of BSY passed:  14
Count of BSY failed:  0
>
```

2 If all the devices pass the busy command, proceed to Boot new STORM load. If the devices do not pass, determine which application has open files, and perform maintenance on those applications so that the application closes the files.

3 This procedure is complete.

Boot new STORM load

Refer to the correct procedure path based on the hardware platform.

STORM SAM-XTS

Use this procedure path for a STORM SAM-XTS unit used in a STORM-IA.

At the Call Agent Manager

1 Quit the maintenance application and then use the mount command to determine the IP address of the STORM unit that provides SD01:

```
> quit all
[mtc@ip_address mtc]$ mount
```

```
[mtc@10.40.44.67 mtc]$ mount
/dev/ram0 on / type ext2 (rw)
proc on /proc type proc (rw)
devpts on /dev/pts type devpts (rw,mode=0622)
47.131.125.238:/nfsserv/3pc/mtc/tape0 on /TAPE type nfs (rw,rsize=4096...
47.131.125.239:/nfsserv/3pc/mtc/tape1 on /TAPE1 type nfs (rw,rsize=409...
47.131.125.238:/nfsserv/3pc/cs/sd00 on /3PC/sd00 type nfs (rw,rsize=409...
47.131.125.239:/nfsserv/3pc/cs/sd01 on /3PC/sd01 type nfs (rw,rsize=409...
47.131.125.238:/nfsserv/3pc/mtc/log0 on /var/log_mate type nfs (rw,rsi...
47.131.125.239:/nfsserv/3pc/mtc/log1 on /var/log type nfs (rw,rsize=409...
```

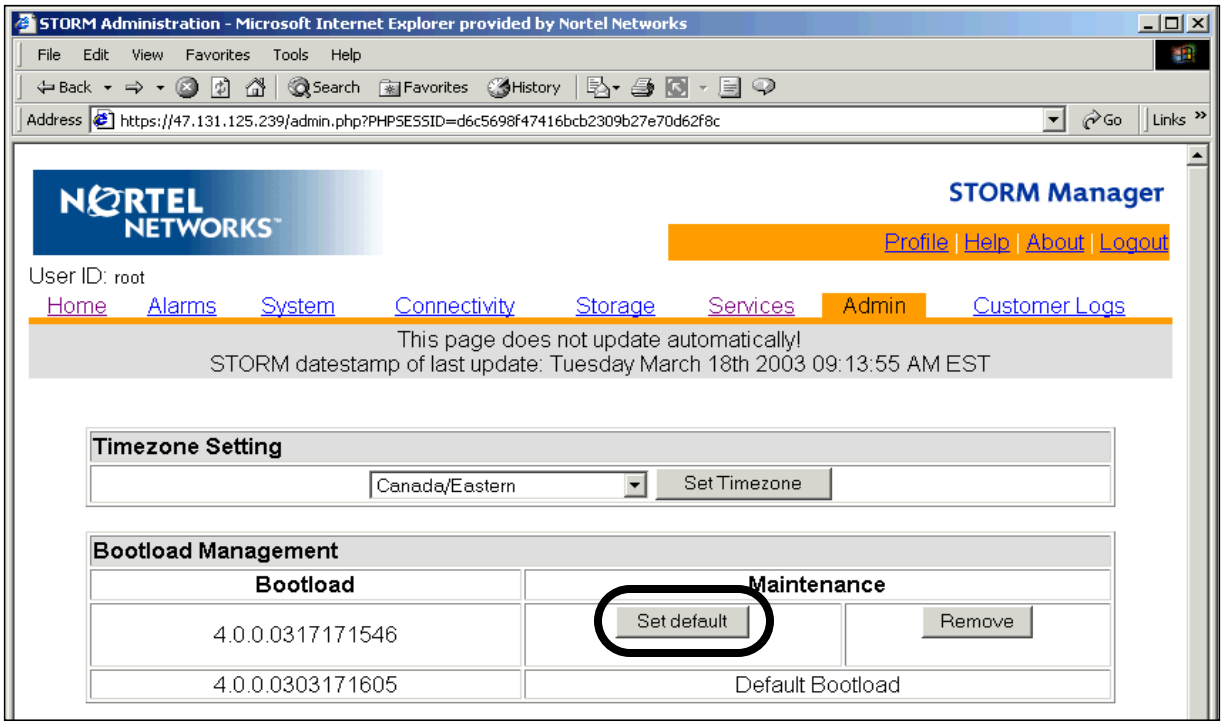
2 Determine the IP address of the STORM unit that provides SD01. The IP address is the first field in the circled information above.

At the STORM Manager

3 Ensure that the IP address from step 2 matches the IP address of the STORM unit in the location field of the web browser.

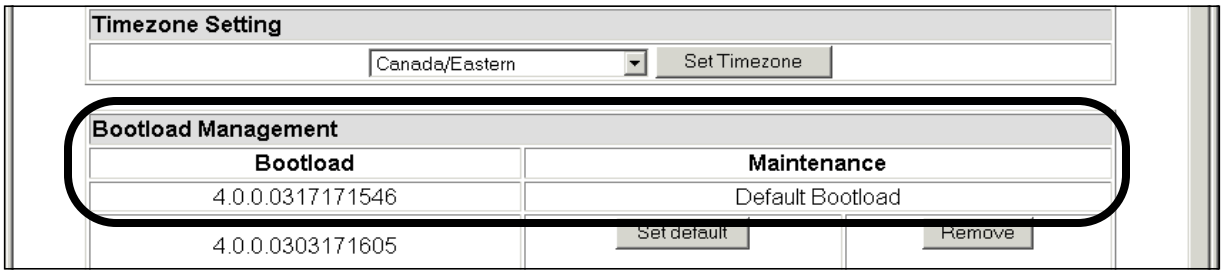
4 Change the default bootload to the upgrade software installed in procedure Install upgrade software on page 15 by clicking the Set default button on the Admin page.

Bootload management



5 Verify that the change succeeds by reviewing the Bootload Management section and noticing that the upgrade bootload is set to the Default Bootload.

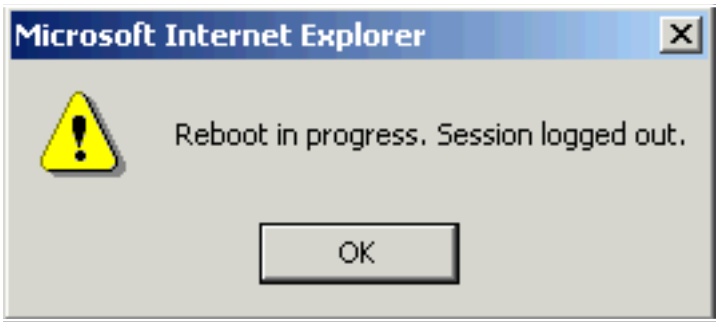
Upgrade bootload is set



6 Click the Reboot button to reboot the unit and load the upgrade software.

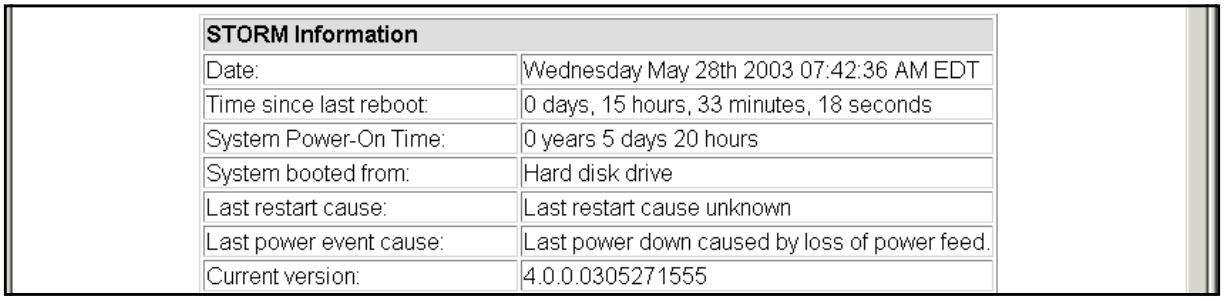
7 Confirm the reboot by clicking OK on the popup window.

8 The STORM Manager ends the session and the STORM unit reboots.



9 Wait for the STORM unit to reboot and then login to the STORM Manager again.

When the login succeeds, ensure that the "System booted from:" field on the Home panel tab indicates "Hard disk drive" and that the "Current version:" field indicates the new bootload. If the "System booted from:" field indicates "CDROM drive," then remove the CDROM from the unit and reboot the unit again from the Admin panel tab.



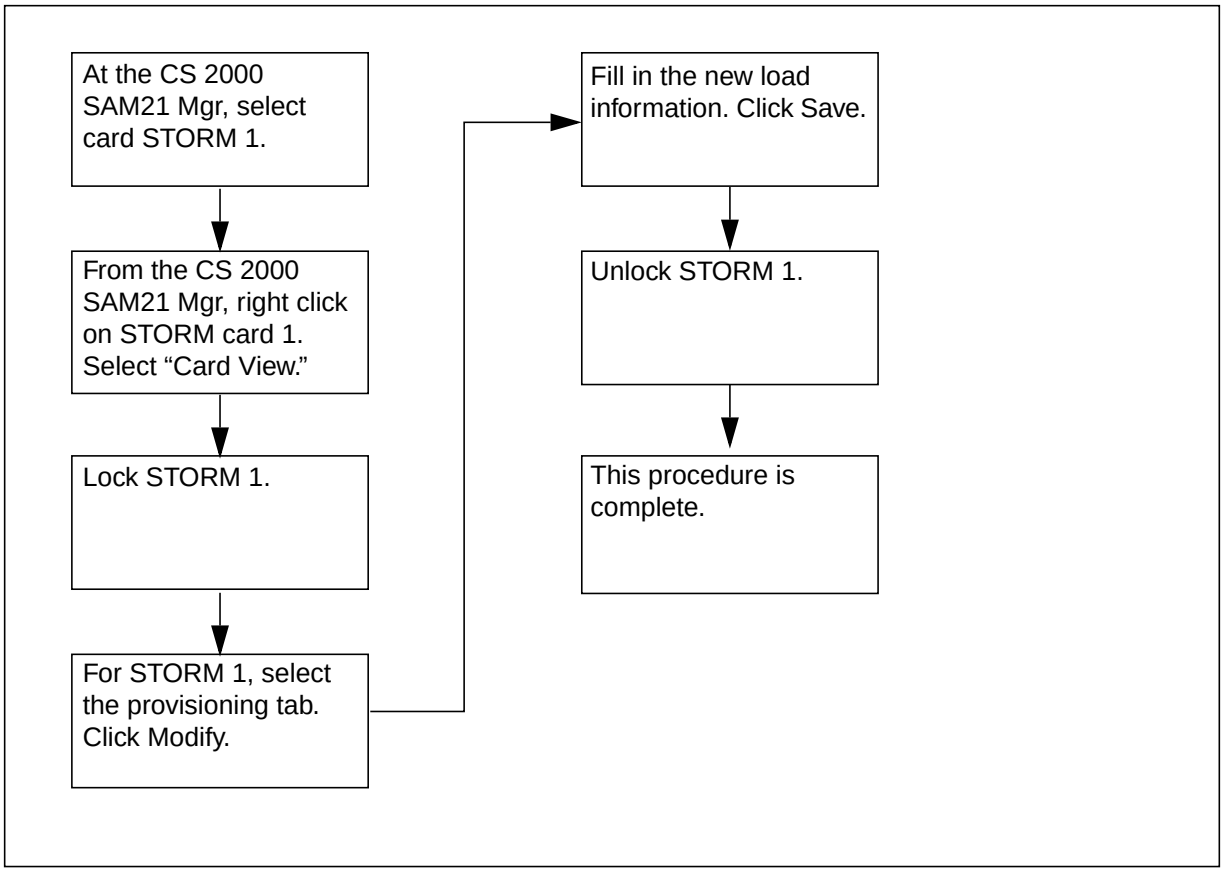
STORM Information	
Date:	Wednesday May 28th 2003 07:42:36 AM EDT
Time since last reboot:	0 days, 15 hours, 33 minutes, 18 seconds
System Power-On Time:	0 years 5 days 20 hours
System booted from:	Hard disk drive
Last restart cause:	Last restart cause unknown
Last power event cause:	Last power down caused by loss of power feed.
Current version:	4.0.0.0305271555

10 Verify that no alarms exist and that operation is normal.

11 This procedure is complete.

STORM cPCI

Perform the following procedures to reboot STORM 1 with the new software load.



At the Call Agent Manager

1 Quit the maintenance application and then use the mount command to determine the IP address of the STORM unit that provides SD01.

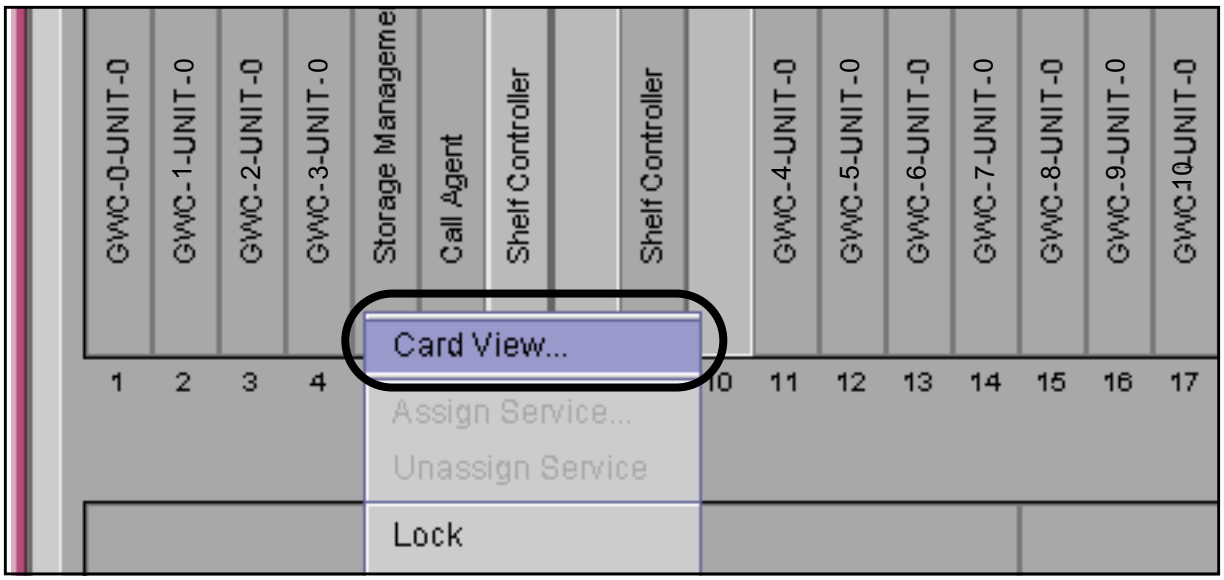
```
> quit all
[mtc@ip_address mtc]$ mount
```

```
[mtc@10.40.44.67 mtc]$ mount
/dev/ram0 on / type ext2 (rw)
proc on /proc type proc (rw)
devpts on /dev/pts type devpts (rw,mode=0622)
47.142.226.11:/nfsserv/3pc/mtc/tape0 on /TAPE type nfs (rw,rsize=4096...
47.142.226.12:/nfsserv/3pc/mtc/tape1 on /TAPE1 type nfs (rw,rsize=409...
47.142.226.11:/nfsserv/3pc/cs/sd00 on /3PC/sd00 type nfs (rw,rsize=409...
47.142.226.12:/nfsserv/3pc/cs/sd01 on /3PC/sd01 type nfs (rw,rsize=409...
47.142.226.11:/nfsserv/3pc/mtc/log0 on /var/log_mate type nfs (rw,rsi...
47.142.226.12:/nfsserv/3pc/mtc/log1 on /var/log type nfs (rw,rsize=409...
```

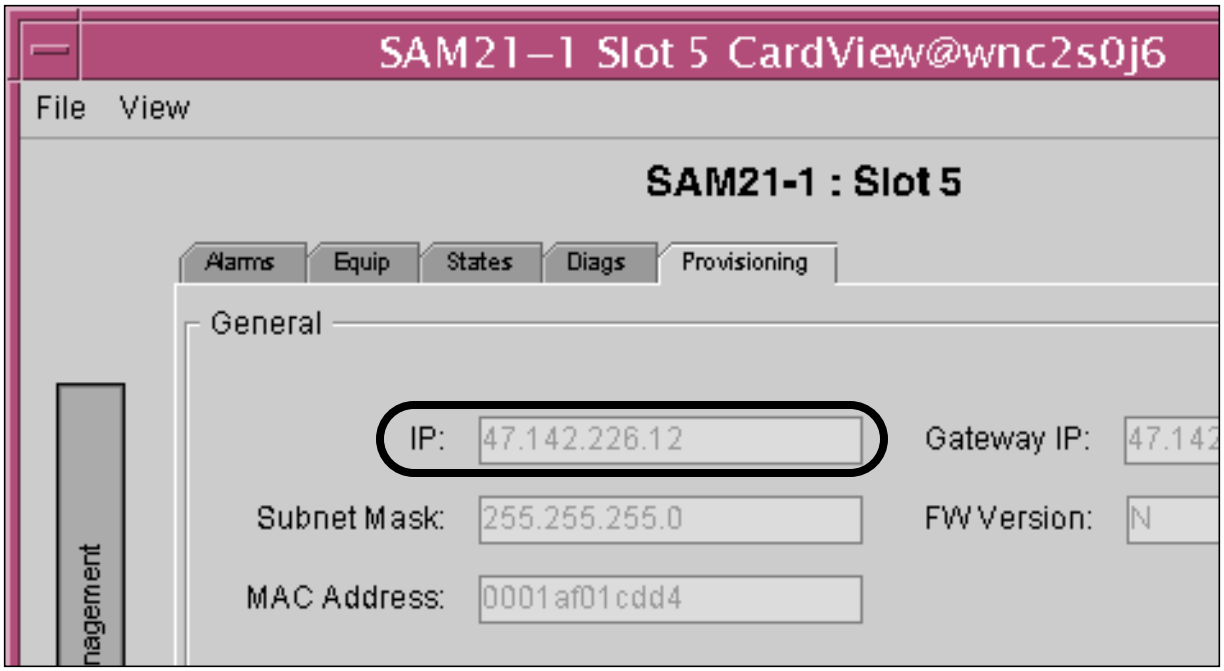
2 Determine the IP address of the STORM unit that provides SD01.

At the CS 2000 SAM21 Manager client

3 Right-click the STORM card icon and select Card View from the card context menu to open the Card View window.



4 From the Card View window, select the Provisioning tab and verify that the IP address in the card view matches the IP address from the mount command.



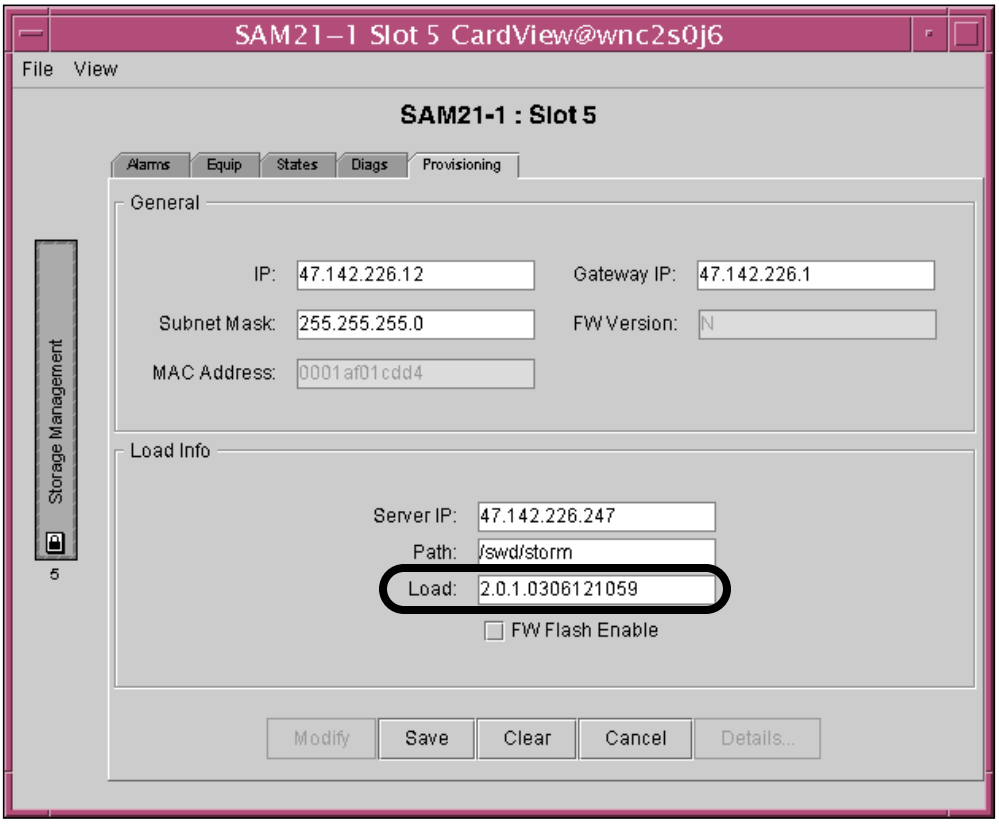
5 Determine the next action.

If the IP addresses	Do
match	step 6
do not match	Close the Card View window and select the STORM unit in the other SAM21 Shelf View.

6 Click the States tab from the Card View window and click Lock.

7 Click the Provisioning tab and click the Modify button to change the software load information.

8 Provision the new software load name.



9 Optionally enable automatic firmware flash by clicking the FW Flash Enable checkbox.

If this checkbox is selected and upgrade firmware is available for the STORM card, the Shelf Controller detects that the STORM card is locked and applies the upgrade firmware during the unlock. After the firmware is applied, it is not applied during each unlock. If no upgrade firmware is available, the checkbox has no effect.

10 Click Save to commit the change.

11 Click the States tab and click the Unlock button to boot the new software load. Monitor the boot in the History area and verify that the boot succeeds.

12 This procedure is complete.

Verify NFS availability

Perform the following procedure to ensure that the NFS mounts on STORM 1 are accessible.

At the Call Agent Manager

1 Query the NFS mounts:

```
> CoreMtc
> Sys
> QueryNFS
```

2 Verify that all mounts are accessible:

```
 CallAgent      SYS      CON      APPL             Unit: 0
    .            .        .        .

Sys                        Jam:  Link0:  Link1:  BLnk: FC: Appl:
 0 Quit      Unit0  Act    no    . Inact . Act    .    .   insync .
 2 QryCPU    Unit1  Inact  no    . Inact . Act    .    .   insync .
 3 QryDsk
 4 QryMem    NFS mount report retrieved on Fri Aug 23 12:54:26 2002:
 5 QryZmb
 6 QryNFS     Number of accessible mounts: 6 / 6
 7 QryLd
 8 QryNTP      Local Name                                    Accessible
 9 QryCpUtl    /TAPE                                            Y
10             /var/log                                         Y
11             /3PC/sd00                                        Y
12             /TAPE1                                           Y
13 LogQuery    /var/log_mate                                    Y
14 Alarm       /3PC/sd01                                        Y
15 QueryIP
16             Alarm Description: Number of accessible mounts
17 Help          Minor threshold: 5
18 Refresh       Major threshold: 3
  mtc          Critical threshold: 2
Time  12:55  >
```

3 Determine the next action.

If	Do
all mounts are available	Proceed to procedure Return to service disk device.
all mounts are not available	Verify that the STORM booted successfully. Query the NFS mounts again. If the mounts are not available, use the STORM Manager to diagnose the fault. If the STORM Manager is not available and the platform is STORM cPCI, review the states tab of the Card View window from the CS 2000 SAM21 Manager. If the mounts remain inaccessible, contact Nortel support personnel.

4 This procedure is complete.

Return to service disk device

Perform the following procedure to return to service all disk volumes on SD01.

At the MAP

1 Return to service all disk volumes on SD01:

>DISKADM SD01;RTS ALL;QUIT ALL

```
>DISKADM SD01;RTS ALL;QUIT ALL
RTS command Result
------------------
Count of RTS passed:  14
Count of RTS failed:  0.
>
```

2 If all volumes do not return to service, contact Nortel support personnel.

3 This procedure is complete.

Mount DIRP volumes

At the MAP

1 Enter the DRIP level and mount any DIRP volumes that were demounted:

```
>MAPCI;MTC;IOD;DIRP
>MNT JF SD01JF
>MNT DLOG SD01DLG0
>MNT DLOG SD01DLG1
>MNT DLOG SD01DLG2
>MNT DLOG SD01DLG3
```

2 Query all the subsystems and verify that the volumes on SD01 and SD00 are available:

```
>QUERY JF VOLUMES
>QUERY DLOG VOLUMES
```

```
>QUERY JF VOLUMES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
JF        0     1      13      1  NONE         NO

REGULAR VOLUME(S)
VOL# VOLNAME  STATE         IOC CRD PORT VOL FSEG ROOM VLID FILES
   0 SD00JF   READY         N/A N/A N/A   16  125  125 8410 A
  23 SD01JF   READY         N/A N/A N/A   11  120  120 844B
>
>QUERY DLOG VOLUMES
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
DLOG      1     1      13      2  NONE         NO

REGULAR VOLUME(S)
VOL# VOLNAME  STATE         IOC CRD PORT VOL FSEG ROOM VLID FILES
  16 SD01DLG3 READY         N/A N/A N/A   10  107  118 844A
  17 SD01DLG2 READY         N/A N/A N/A    9  119  119 8449
  18 SD01DLG1 READY         N/A N/A N/A    8  119  119 8448
  19 SD01DLG0 READY         N/A N/A N/A    7  119  119 8447
  20 SD00DLG3 READY         N/A N/A N/A   11  118  118 840B
  21 SD00DLG2 READY         N/A N/A N/A    6  118  118 8406
  22 SD00DLG1 READY         N/A N/A N/A    5  118  118 8405
  23 SD00DLG0 READY         N/A N/A N/A    4  117  117 8404 A
>
```

3 Quit the DIRP level:

```
>QUIT ALL
```

4 This procedure is complete.

Upgrade the software version number in the Integrated EMS

Edit the object properties in the IEMS for the STORM network element you just upgraded to reflect the new software version. Refer to either of the procedures that follow to upgrade the software version in the Device Version field.

- Editing and viewing object properties using Java Web Client
- Editing and viewing object properties using Web Client

Upgrade the second STORM unit

If the office requires soak time, allow the first unit to soak before upgrading the second unit.

The upgrade procedure for the second STORM unit is similar to the upgrade of the first STORM unit.

Repeat the previous instructions, except verify that the second STORM unit is upgraded.

In procedure Verify an image dump exists, ensure that a call processing application image exists on SD01 and is set to ALR so that when the second STORM unit, providing SD00, is being upgraded, the call processing application maintains access to an application image.

In procedure Busy disk device, ensure that volumes on SD00 are demounted in DIRP and that device SD00 is busied in DISKADM.

In procedure Boot new STORM load, determine the IP address of the STORM unit that exports `/3PC/sd00` and ensure that the same STORM unit that is locked has the same IP address.

Procedure Verify NFS availability requires no modification.

In procedure Return to service disk device, verify that SD00 is returned to service and that volumes on SD00 are remounted at the DIRP level.

This upgrade is complete.

STORM Firmware Flash

Follow this procedure to upgrade the current STORM firmware version with each new load release. This procedure is only applicable to the STORM cPCI platform.

CAUTION
Possible service interruption
Follow the procedure for verifying image availability, disk busying, NFS availability checks, and disk return to service during this procedure.

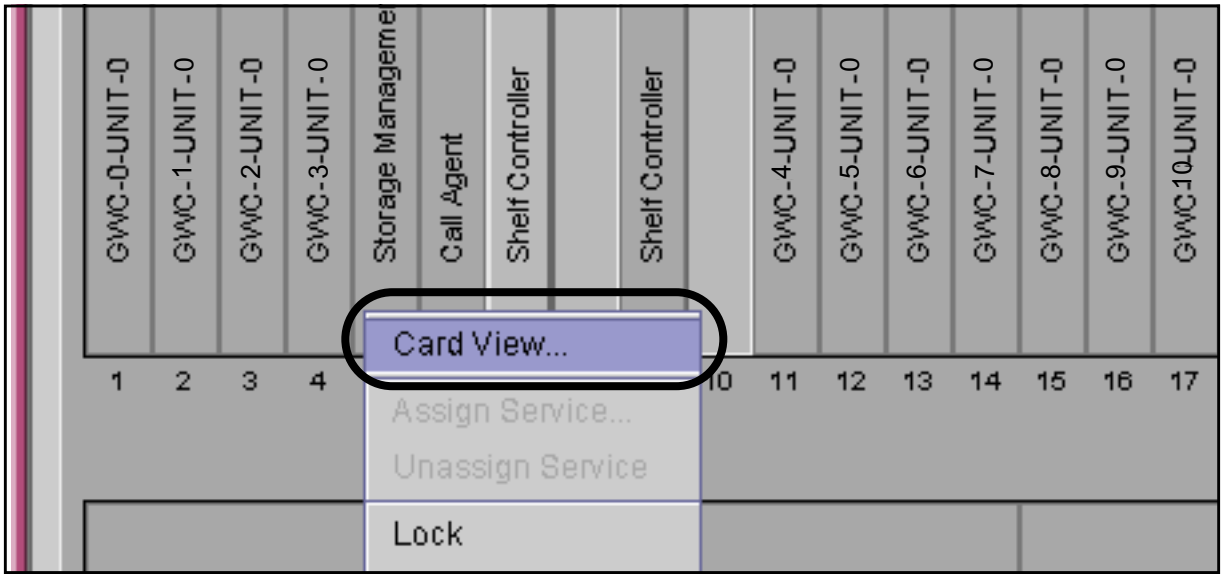
Refer to the procedures in this document for assistance.

Enabling the STORM firmware flashing

At the CS 2000 SAM21 Manager client workstation

1 From the Shelf View, right click on the STORM card (Slot 5) and select Card View from the context menu, as the following figure shows.

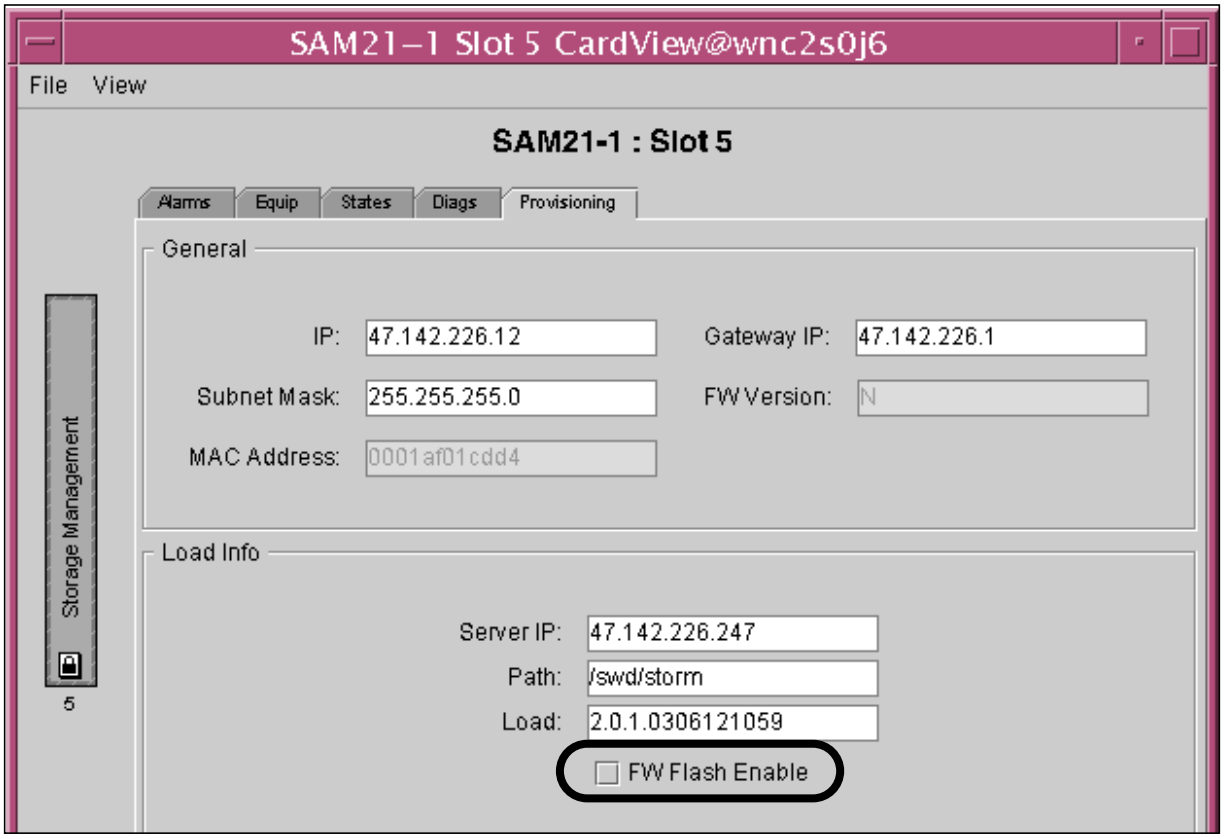
STORM Card View option



2 Select the Provisioning tab in the Card View window.

The Provisioning window displays.

STORM Provisioning window without FW Flash enabled



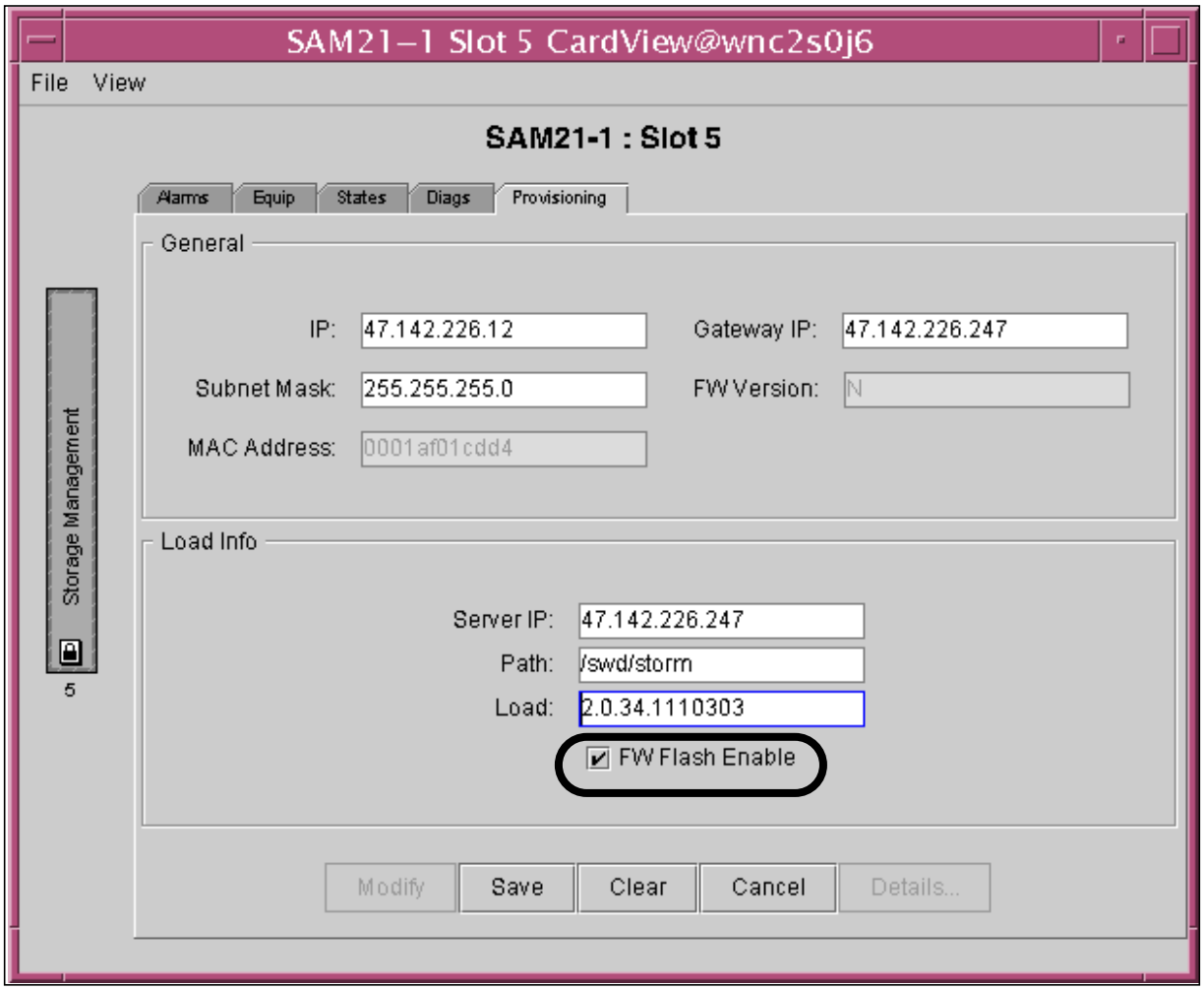
3 If the FW Flash Enable option under the “Load Info” category is already checked, skip to step 6.

Otherwise, if the FW Flash Enable option is not checked, continue to the next step.

4 Click the Modify button at the bottom of the Provisioning window.

5 Then click the FW Flash Enable button, immediately followed by the Save button, as the following figure shows.

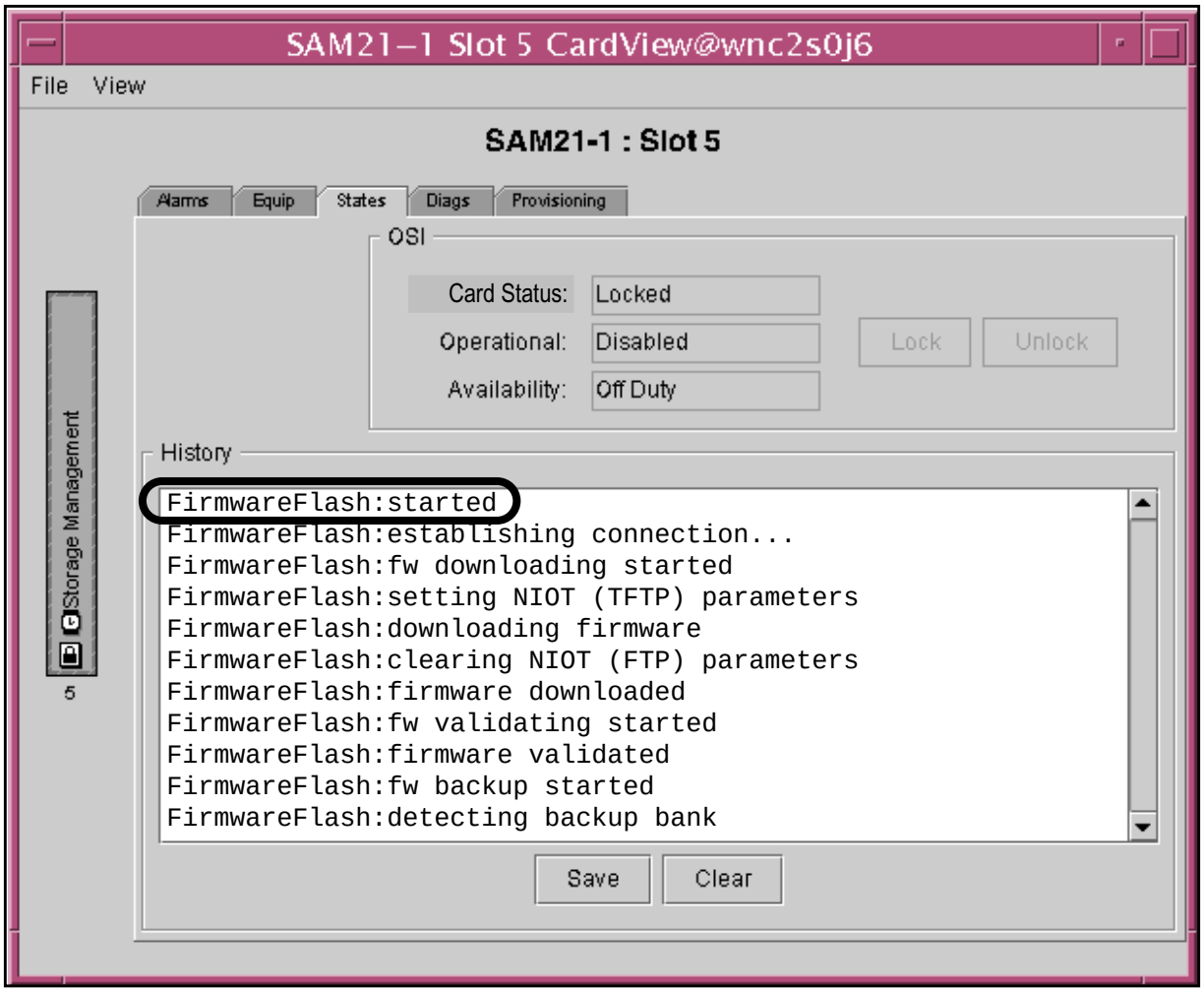
STORM Provisioning window with FW Flash enabled



The following responses indicate that a firmware flash is in progress:

- *an icon representing firmware flash appears in the shelf view*
- *FirmwareFlash progress messages scroll in the History panel in the States window*

STORM FW Flash in progress

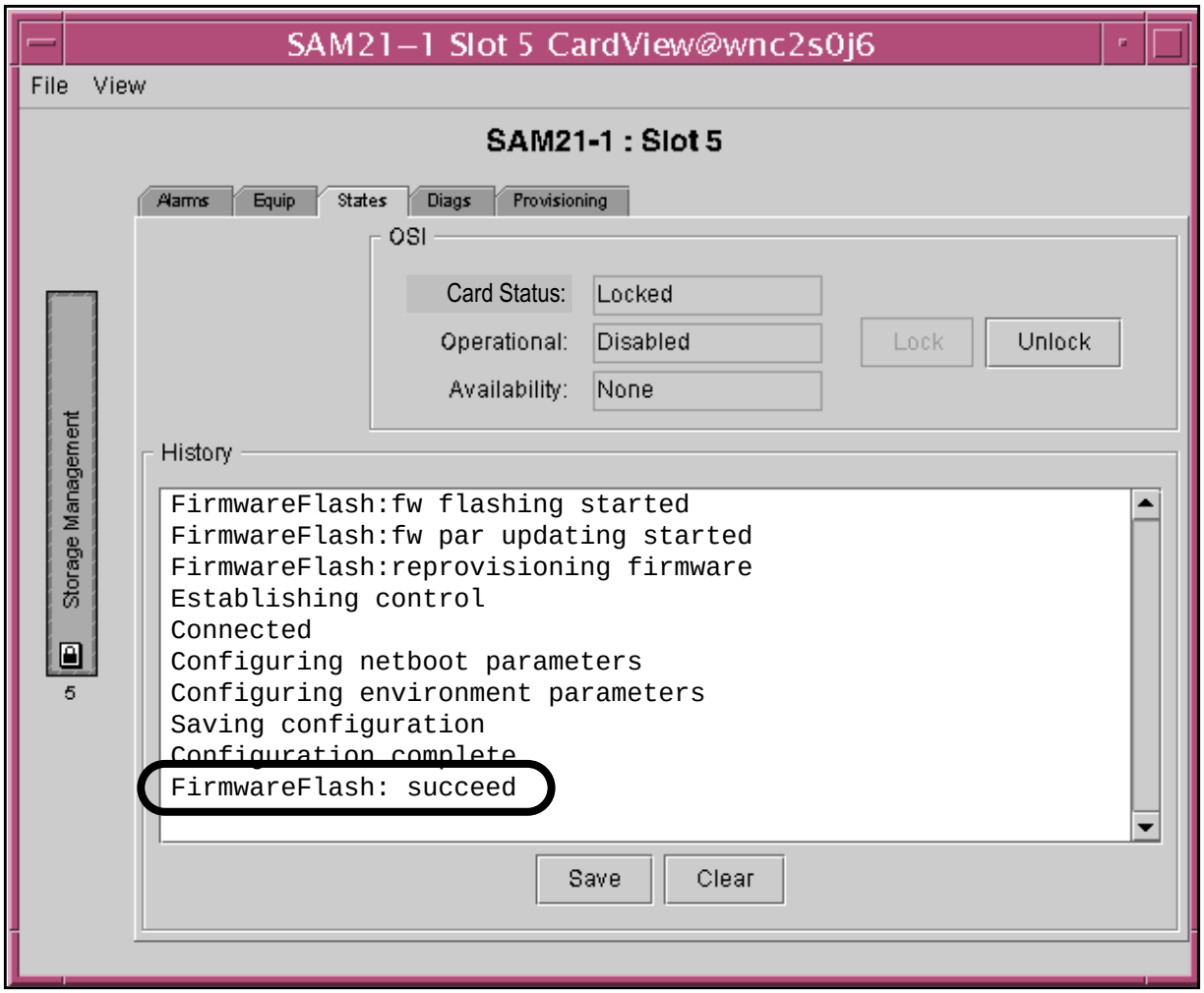


6 To verify that the STORM firmware flash completed without errors, check the progress text in the History panel of the States window.

The following responses indicate that a firmware flash has completed its execution:

- *the firmware flash icon disappears from the shelf view*
- *the Availability state of the STORM card in the States window displays “locked-disabled-none”*
- *progress message “FirmwareFlash: succeed” displays in the History panel in the States window*

STORM FW Flash completed



This procedure is complete.

Firmware flash is applied automatically the next time a new STORM firmware load is available, and the STORM card is unlocked and locked.

Install STORM fileset on CS 2000 Core Manager

At the CS 2000 Core Manager frame

1 Insert the DAT in slot 2 or slot 13.

At the SDM window

2 Log in to the CS 2000 Core Manager as the root user if not already logged in.

```
AIX Version 4
(C) Copyrights by IBM and by others 1982, 1996.
login: root
root's Password: <password>
```

3 Enter the SDM maintenance level by typing

#sdmmtc

4 Enter the Software Installation Menu level by typing

>swim

```
    SDM        CON     NET     APPL    SYS      HW    CLLI: 3S50_SDM
     .          .       -       .       .       .     Host: hostname

SWIM
 0 Quit         Product Code                          Version
 2 Apply        CS2E0008                              8.0
 3 Details
 4 Fixes     Fix Fileset Description         Version         Status
 5 Config    NCGL CCA Image SN08             7.11.1.0        NEW
 6 Options   SAM21 Platform v11             11.0.20.0       NEW
 7 History   STORM v2                       2.0.705.0       NEW
 8                                Product Fileset Status: 1 to 3 of 3
 9
10
11
12 Up
13 Down
14 Search
15
16 View
17 Help
18 Refresh
  maint
Time  09:43  >
```

5 Retrieve the fileset from tape by typing

>source dat_no

dat_no
is 0 or 1. Use 0 if the DAT is in slot 2 and 1 if the DAT is in slot 13.

6 Select the new software load from the Apply menu by typing

>select fileset_no

fileset_no
is an integer value and represents the new software fileset such as “1.”

```
    SDM         CON      NET      APPL     SYS       HW     CLLI: 3S50_SDM
     .           .        -        .        .        .      Host: hostname
                                                              Fault Tolerant

Apply
 0 Quit       Source: the directory /home/swd.
 2            Filter: OFF
 3 Source        # Fileset Description          Current        Available
 4 Reload        1 STORM v2                    2.0.602.2      2.0.705.0
 5 Eject
 6                                  Filesets on the source: 1 to 1 of 1
 7 Select
 8 Apply
 9 Upgrade
10
11
12 Up
13 Down
14 Search
15 Filter
16 View
17 Help
18 Refresh
  root
Time  09:41  >
```

7 Upgrade the software by typing

>upgrade

8 This procedure is complete.

STORM disk upgrade

Use this procedure to upgrade the storage capacity of a STORM SAM-XTS unit. (STORM SAM-XTS units are used in STORM-IA.) This procedure is not required for a software upgrade.

Materials

Two Small Computer System Interconnect (SCSI) disk drives. Use the part number from the following list:

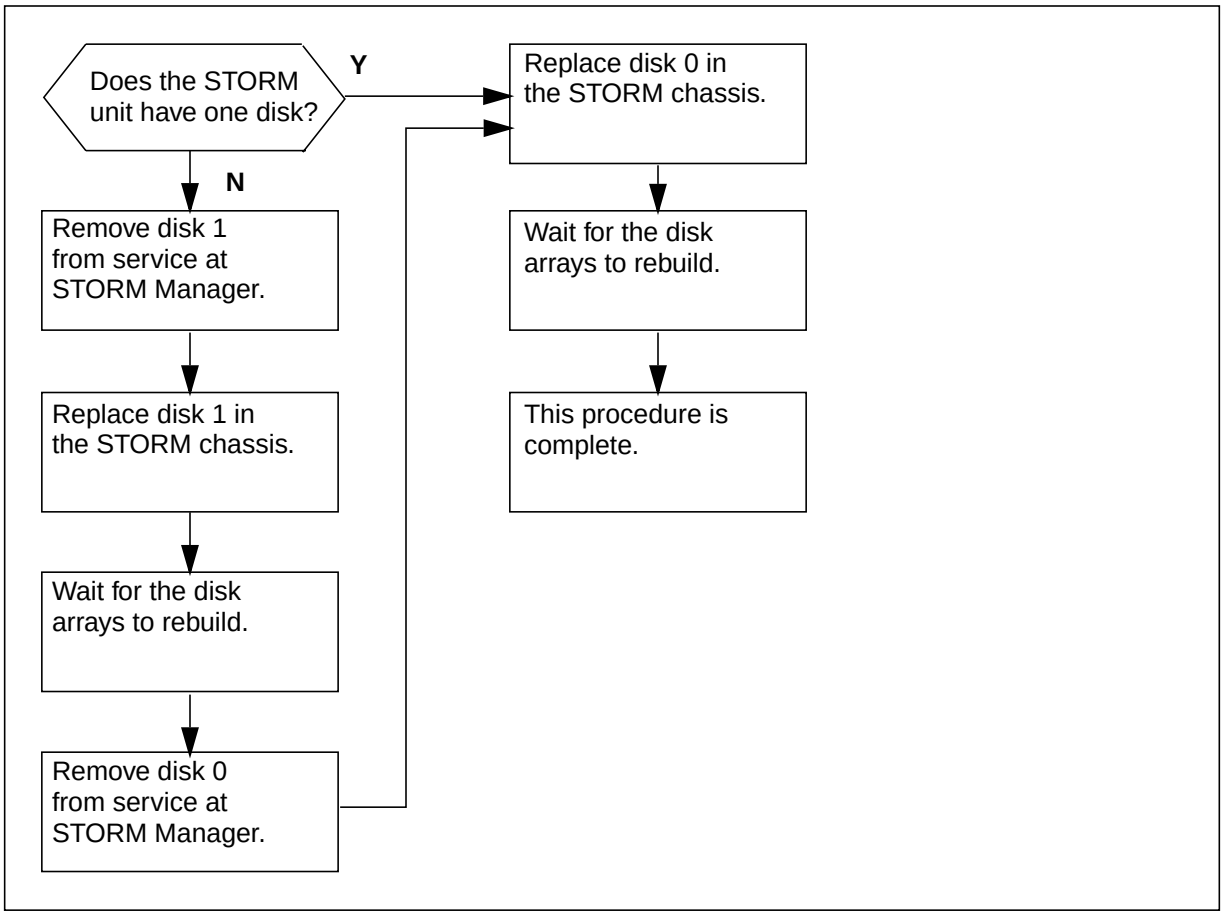
- two NTRX51GT - 72 Gigabyte disk drive

  or

- two disks provided by Nortel personnel

Procedure overview

Refer to the following figure for an overview to the required steps.



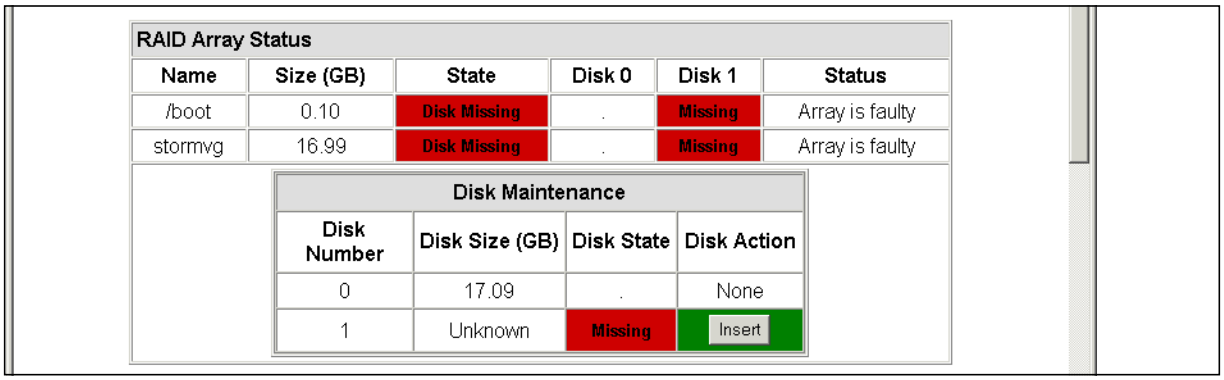
Procedure

At the STORM Manager

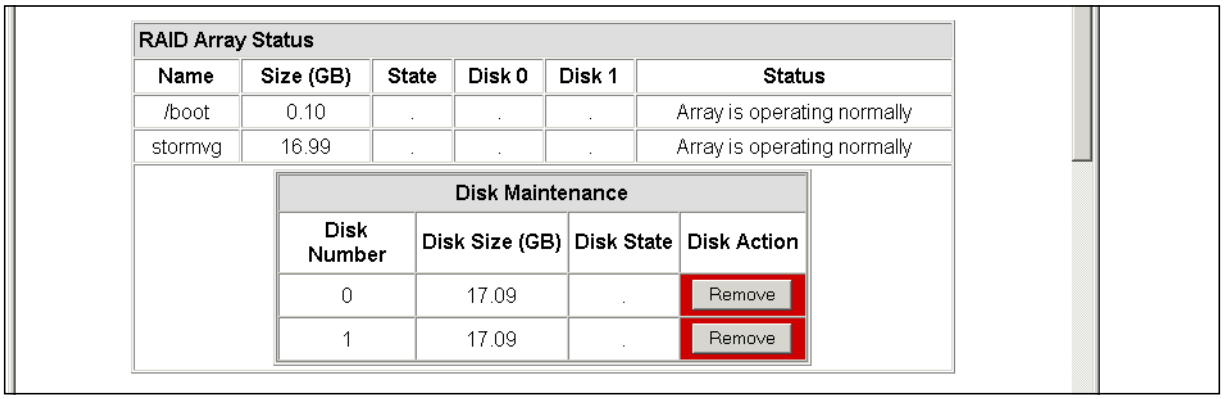
1 Click on the Storage panel tab. Determine if the STORM unit has one disk or two disks. Refer to figures Storage panel for a STORM with one disk and Storage panel for a STORM with two disks.

If the STORM unit has	Do
one disk	Proceed to step 5.
two disks	Proceed to step 2.

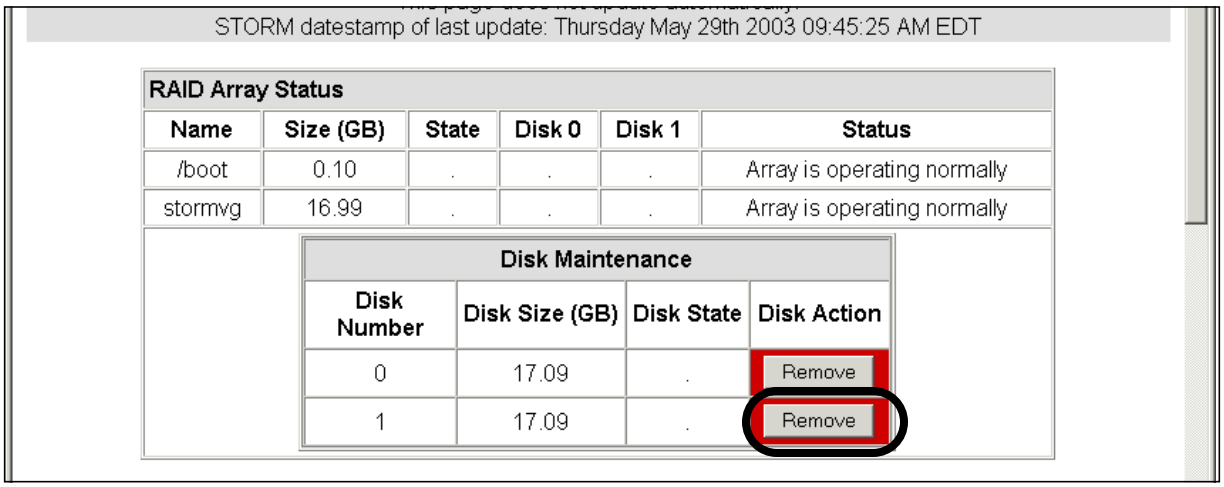
Storage panel for a STORM with one disk



Storage panel for a STORM with two disks



2 Remove disk 1 from service by clicking the Remove button for Disk Number 1.



A warning dialog window opens and requests confirmation.

3 Confirm the warning dialog.

A dialog window opens to indicate that the request is being processed. Wait for the window to close. A second dialog window opens to indicate that the request completed successfully. Click Ok on the dialog window. The Storage panel window refreshes. The Disk State changes to Missing, 3 STM301 log reports, and 2 major alarms are generated by the STORM unit. The data on the STORM unit is no longer being mirrored, but storage is still available for reading and writing to clients.

At the STORM chassis

4 A red LED on the STORM chassis is lit to indicate the disk to remove. If the STORM chassis is wired to an external alarm system, a major alarm is indicated with a red LED.

Unlatch disk 1 from the chassis by turning the latch 90 degrees, clockwise, from the horizontal position to the vertical position. Disk 1 is on the left side of the chassis. Remove disk 1 from the chassis.

5 Insert the first replacement drive into the disk 1 chassis slot and secure the drive by engaging the latch.

Once the drive is replaced, the STORM unit begins to rebuild the array. During the rebuild, the LED for the disk alternates between red and green. If the STORM chassis is wired to an external alarm system, a minor alarm is indicated with an orange LED.

If the disk is inserted into the STORM chassis and the LED for the disk remains solid red, reinsert the disk drive.

At the STORM Manager

6 Reload the Storage panel page.

The RAID Array Status table indicates that the array is rebuilding. The Disk Maintenance table indicates unequal sized disks. Four STM301 log reports indicate that a disk has been inserted to each of the arrays and each array is being rebuilt. Two major alarms clear and two minor alarms are raised.

RAID Array Status

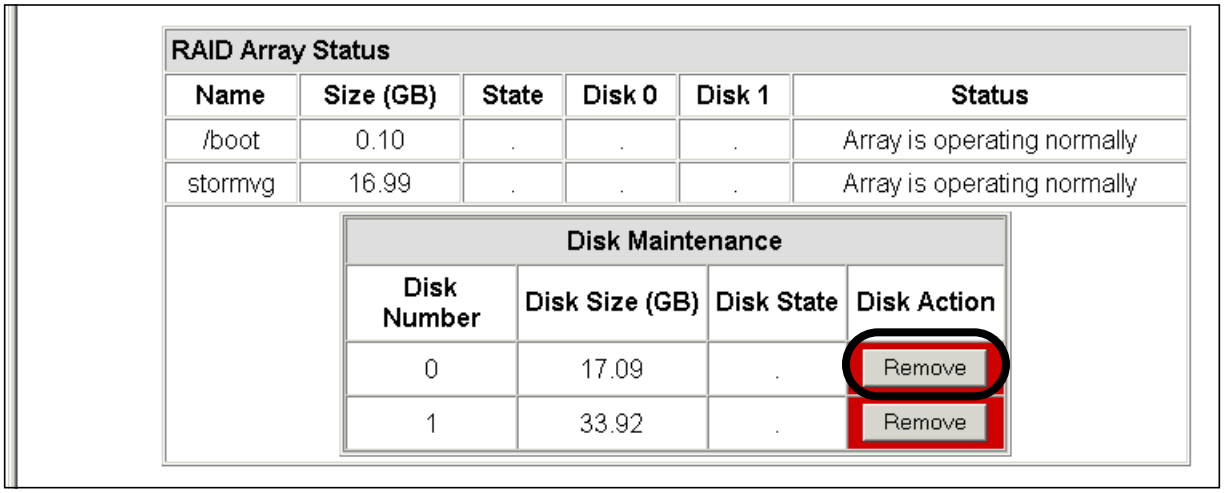
Name	Size (GB)	State	Disk 0	Disk 1	Status
/boot	0.10	.	.	.	Array is operating normally
stormvg	16.99	Rebuilding	.	disk1-p2 : Rebuild	Complete (%): 2.49 / Rebuilt/Total (GB): 0.42/16.99 / Speed (MB/sec): 8.95 / Time Remaining (min): 31.58

Disk Maintenance

Disk Number	Disk Size (GB)	Disk State	Disk Action
0	17.09	.	None
1	33.92	Rebuild	None

Wait the suggested time indicated in the Time Remaining field for the rebuild to complete. Click the Reload button on the web browser to refresh the data and ensure that the rebuild is complete. Two STM301 log reports are generated and all STORM alarms clear when the rebuild completes.

7 After the rebuild completes an no alarms are present at the Alarms panel, click on the Remove button for Disk Number 0.



A warning dialog window opens and requests confirmation.

8 Confirm the warning dialog.

A dialog window opens to indicate that the request is being processed. Wait for the window to close. A second dialog opens to indicate that the request completed successfully. The Storage panel window refreshes. The disk state changes to Missing, 4 STM301 log reports, and 2 major alarms are generated by the STORM unit. The data is no longer being mirrored, but the storage remains available for reading and writing by clients.

At the STORM chassis

9 A red LED on the STORM chassis is lit to indicate the disk to remove. If the STORM chassis is wired to an external alarm system, a major alarm is indicated with a red LED.

Unlatch disk 0 from the chassis by turning the latch 90 degrees, clockwise, from the horizontal position to the vertical position. Disk 0 is on the right side of the STORM chassis. Remove disk 0 from the chassis.

10 Insert the second replacement drive into the disk 0 chassis slot and secure the drive by engaging the latch.

Once the drive is replaced, the STORM unit begins to rebuild the array. During the rebuild, the LED for the disk alternates between red and green. If the STORM chassis is wired to an external alarm system, a minor alarm is indicated with an orange LED.

If the disk is inserted into the STORM chassis and the LED for the disk remains solid red, reinsert the disk drive.

At the STORM Manager

11 Reload the Storage panel page.

The RAID Array Status table indicates an additional array for the `stormvg` volume group and that the array is rebuilding. This new array is equal to the size of the disks, minus the size of the original `stormvg` volume group. The Disk Maintenance table indicates equal sized disks. Five STM301 log reports indicate that a disk has been inserted into each of the arrays (3) and each array is being rebuilt (2). The two major alarms clear and three minor alarms are raised.

RAID Array Status

Name	Size (GB)	State	Disk 0	Disk 1	Status
/boot	0.10	Rebuilding	disk0-p1 : Rebuild	.	Array is waiting to start rebuild
stormvg	16.99	Rebuilding	disk0-p2 : Rebuild	.	Array is waiting to start rebuild
stormvg	16.82	Rebuilding	.	disk1-p5 : Rebuild	Complete (%): 3.89 / Rebuilt/Total (GB): 0.65/16.82 / Speed (MB/sec): 9.93 / Time Remaining (min): 27.78

Disk Maintenance

Disk Number	Disk Size (GB)	Disk State	Disk Action
0	33.92	Rebuild	None
1	33.92	Rebuild	None

Wait for the rebuild to complete. Three STM301 log reports are generated when the rebuild completes.

12 After the rebuild completes, ensure no alarms are present.

13 This procedure is complete.

Additional information

Each time a disk upgrade is completed, an additional array is created, and the number of alarms and logs generated during this procedure increases. All additional arrays are added to the `stormvg` volume group. Increase the amount of storage available to file systems by clicking the link for the file system name and increasing the size. Refer to Increasing file system size in *STORM Configuration Management*, NN10110-511.

Editing and viewing object properties using Java Web Client

Application

Use this procedure to edit or view the properties of objects that are displayed in the IEMS topology using Java Web Client.

Prerequisites

None

Action

At the IEMS workstation

1 Launch the IEMS Java Web Start Client. Refer to Launching IEMS Java Web Start Client in *Integrated EMS Basics*, NN10329-111.

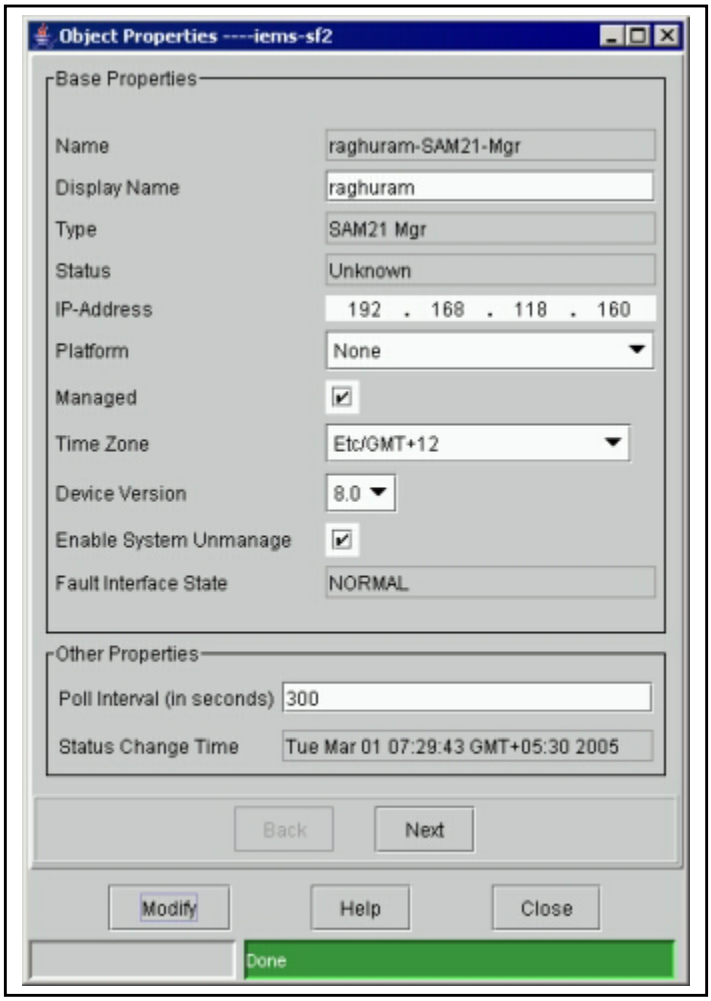
2 Select the required object in the Integrated EMS Topologies tree under Applications.

Note: The properties of an object from the Inventory panel of Integrated EMS tree can also be viewed. To view the Inventory object properties, select the object in the Integrated Topologies tree under Applications to open the Inventory view. Double-click the required row in the Inventory view.

3 Right-click the map symbol and select the **Managed Object Properties** menu item or double-click the map symbol to open the Object Properties window.

Note: The object properties displayed can differ for each component.

A window similar to the following figure opens.



4 Modify the object properties listed in the table below if required.

Managed object properties in Java Web Client

Field	Description
Name	Displays a unique name for the object
Display Name	Edit the name displayed in the topology for the object
Type	Displays the type of object (element manager, EMS, EMS platform or NE)
Status	Displays the status of the object

Managed object properties in Java Web Client (Continued)

Field	Description
IP-Address	Edit the IP address of the object
Platform	Select the platform where the object resides from the drop-down list
Managed	Indicates whether the object is managed or unmanaged
Time Zone	Select the time zone of the geographical location where the object exists from the drop-down list
Device Version	Select the device version of the managed object from the drop-down list
Enable System Unmanage	Enable or disable the System_Unmanaged state. Refer to the System_Unmanaged state section of Configuring the Message Overload Controller parameters in *Integrated EMS Fault Management*, NN10334-911.
Poll Interval	Edit the Poll Interval for status updates
Status Change Time	Displays the last status change time of the object
Note: For the following objects, only the Display Name and the Managed field can be modified. • SDM platform, APS EMS application, CS 2000 Core, Call Agent Core, IMX/CSE MX, Media Proxy, Media Gateway 7480/15000, MSS 15000	

5 Select your next step.

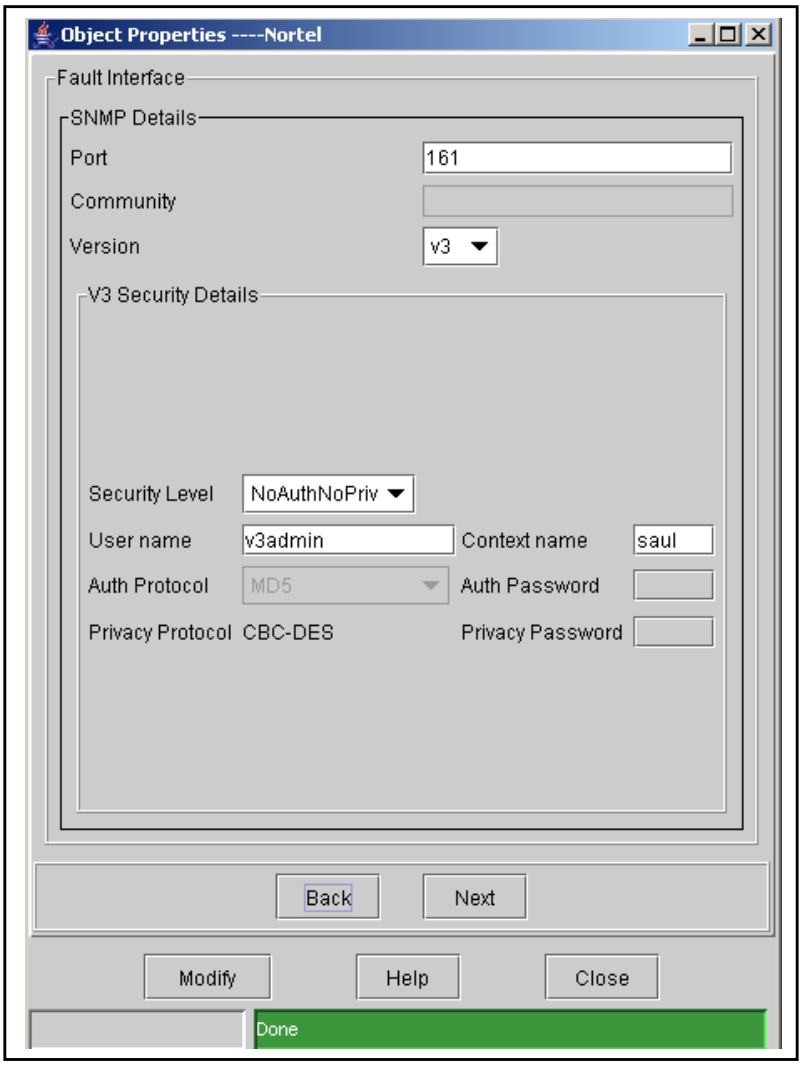
If	Do
you do not want to modify any other properties	go to step 6
you want to view or modify the fault interface or performance interface properties	go to step 8

6 Click the **Modify** button to update the changes.

7 Go to step 16.

8 Click the **Next** button to proceed to the Fault Interface window.

A window similar to the following figure opens.



9 Edit or view the fault interface properties of the object as required.

Note: The Details panel dynamically changes according to the fault interface of the EMS/NE.

10 Select your next step.

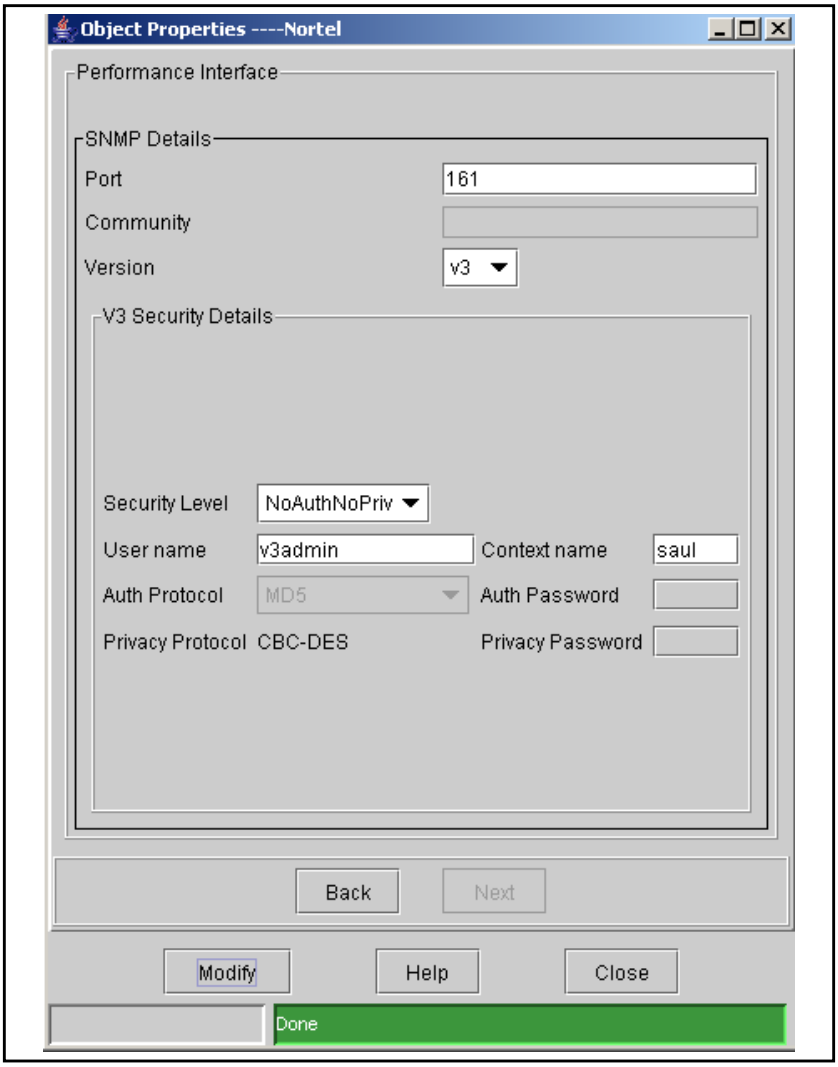
If	Do
you do not want to modify any other properties	step 11
you want to view or modify the performance interface properties	step 13

11 Click the **Modify** button to update the changes.

12 Go to step 16.

13 Click the **Next** button to proceed to the Performance Interface window.

A window similar to the following figure opens.



14 Edit or view the performance interface properties of the object as required.

15 Click the **Modify** button to update the changes.

16 You have completed this procedure.

Editing and viewing object properties using Web Client

Application

Use this procedure to modify or view the properties of an object in the IEMS topology using Web Client.

Prerequisites

None

Action

At the IEMS workstation

1 Launch the IEMS Web Client. Refer to Launching the IEMS Web Client in *IEMS Basics*, NN10329-111.

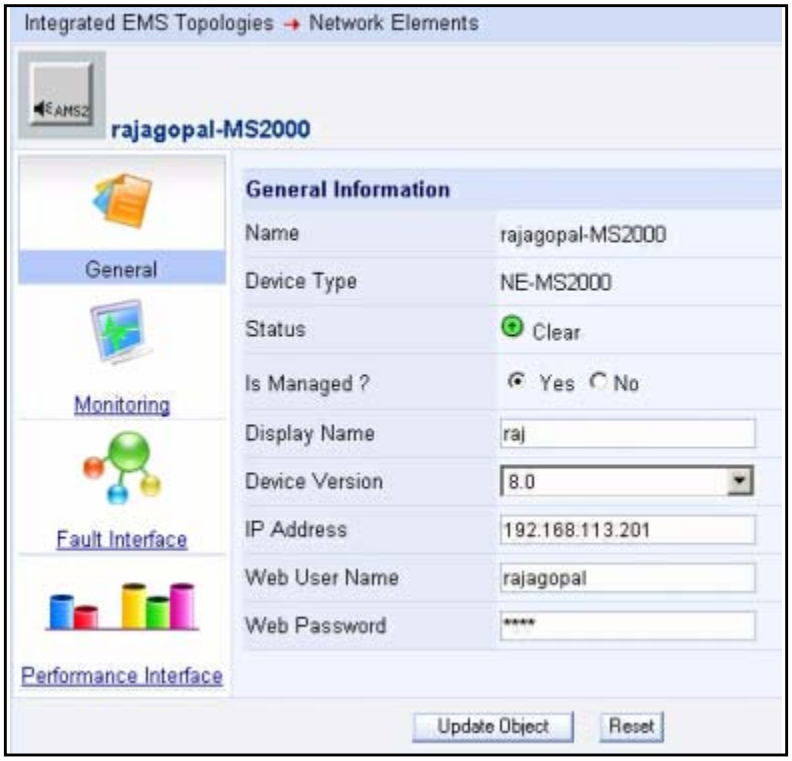
2 Select the **Integrated EMS Topologies** tab.

3 Navigate to the required topology node in the Integrated EMS Topologies tree.

4 Click the map symbol label to open the **General Information** window.

Note: The object properties displayed can differ for each component.

A window similar to the following figure opens.



5 Select each vertical tab and modify the object properties listed in the table below if required.

Managed object properties in Web Client

Field	Description
General	
Name	Displays the unique object name of the managed object
Device Type	Displays the type of object (element manager, EMS, EMS platform or NE)
Status	Displays the status of the object
Is Managed?	Indicates whether the object is managed or unmanaged
Display Name	Displays the name or label displayed in map symbol
Device Version	Select the version of the device from the drop-down list
IP Address	Modify the IP address of the object
Web User name	Enter your web user name
Web Password	Enter your web password
Monitoring	
Last Status Update Time	Displays the time when the status of the managed object last changed
Last Status Change Time	Displays the time when the status of the managed object last changed
Status Polling Interval (secs)	Modify the Poll Interval for status updates

Managed object properties in Web Client (Continued)

Field	Description
Fault Interface	
If the details are present for the selected object, the details can be modified.	
Performance Interface	
If the details are present for the selected object, the details can be modified.	

6 Click the **Update Object** button to update the changes.

7 You have completed this procedure.