



Upgrading the MG 9000

This document contains upgrade and downgrade information and procedures for the MG 9000 cards and the MG 9000 Manager.

When to use this document

Use this document when it is necessary to upgrade the MG 9000 Manager and the MG 9000. Separate upgrade procedures are provided in this document that fit different upgrade scenarios as noted below:

- downgrading the software in the MG 9000 Manager and MG 9000
- upgrading the MG 9000 Manager software to a maintenance release
- upgrading the MG 9000 cards individually
- upgrading the MG 9000 cards by card type
- upgrading all the MG 9000 cards

When upgrading the MG 9000 Manager and MG 9000 from SN06.x to SN08 or from SN07 to SN08, use the MG 9000 upgrade procedures presented in the *Upgrading a Carrier Voice over IP Network*, NN10440-450.

Tools and utilities

The MG 9000 and the MG 9000 Manager software support software upgrades and downgrades. Procedures in this document support these activities. The MG 9000 and MG 9000 Manager support patching through the network patch manager (NPM). Procedures for patching the MG 9000 and the MG 9000 Manager are provided in *Upgrading a Carrier Voice over IP Network*, NN10440-450.

The MG 9000 Manager provides a tool to upgrade the software in the intelligent DCC, ITX, ITP, DS-512 (ABI), DS1, MTA, and xDSL cards. A single card or multiple cards can be upgraded using this tool.

In addition, the software in the xDSL and MTA cards can be downloaded into the cards using the Software Download tool available from the xDSL and MTA Card Views in the MG 9000 Manager.

Procedures for downloading software into the xDSL and MTA cards are provided in this document.

MG 9000 Manager client system requirements

Recommended minimum configurations for the MG 9000 Manager client are provided in the following table.

MG 9000 Manager client minimum configurations

Client platform	Configuration
Windows client	<ul style="list-style-type: none"> Windows NT 4.0 (SP5 or later), Windows 2000 (SP2 or later), or Windows XP Pentium III 1 GHz or higher display resolution of 1280 x 1024 with 256 colors 256 MB RAM 200 MB hard drive space 10BaseT/100BaseT Ethernet network connection Java Web Start (JWS) 1.4.2_05 and higher <p>If the Windows PC supports more Succession client applications than just the MG 9000 Manager client application, the following minimum configuration is required:</p> <ul style="list-style-type: none"> Windows 2000 (SP2 or later), or Windows XP Pentium III 2.5 GHz or higher display resolution of 1280 x 1024 with 256 colors 1 Ghz RAM 30 Gb hard drive space 10BaseT/100BaseT Ethernet network connection Java Runtime Environment (JRE) 1.4.1_02 and higher Java Web Start (JWS) 1.4.2_05 and higher
Solaris client	<ul style="list-style-type: none"> Solaris 7 or Solaris 8 with Sun recommended patches for Java Runtime Environment (JRE) 1.4.1_02 Ultra 5 400 MHz or higher display resolution of 1280 x 1024 with 256 colors 256 MB RAM 200 MB hard drive space 10BaseT/100BaseT Ethernet network connection

MG 9000 Manager client minimum configurations

Client platform	Configuration
Windows or Solaris client	<p>Third party software</p> <ul style="list-style-type: none">• Netscape 6.0 and higher or Internet Explorer 5.5, 6.0 and higher• Java Web Start (JWS) 1.4.2_05 and higher <p>Note: Access to some functions requires the use of SSH compatible client software for access to secure telnet and ftp services (using SSH standard). SSH clients are supplied bundled with some operating systems, but may need to be obtained separately. Sources for SSH clients include, but are not limited to the following:</p> <ul style="list-style-type: none">• PUTTY - freeware• OpenSSH - freeware• SSH Inc. - commercial• Secure CRT - commercial• WinSCP - freeware <p>Nortel Networks does not supply or recommend a particular supplier.</p>

Applying software fixes

When it is necessary to apply software fixes, the following methods are available:

- Maintenance Release upgrade process: refer to the procedure [Upgrading the MG 9000 Manager software to a maintenance release on page 19](#)
- Patching
 - SN08 patching of the MG 9000 Manager is handled as noted in [Patching MG 9000 Manager software on page 57](#)

Upgrading the MG 9000 Manager

The following procedures are included in this section:

- [Configuring MG 9000 Manager client software on page 6](#)
- [Retrieving MG 9000 Manager software using Electronic Software Delivery on page 12](#)
- [Upgrading the MG 9000 Manager software to a maintenance release on page 19](#)
- [Downgrading the MG 9000 and MG 9000 Manager from SN08 to SN06.2 or SN07 on page 32](#)
- [Patching MG 9000 Manager software on page 57](#)

Configuring MG 9000 Manager client software

When to use this procedure

Use these procedures for upgrading software on a PC client or Sun client.

The following procedures are included in this section:

- Installing the MG 9000 Manager Sun client software
- Uninstalling the MG 9000 Manager Sun client software
- Installing the MG 9000 Manager Windows PC client software
- Removing an MG 9000 Manager JWS application from cache

Prerequisites

There are no prerequisites.

Action

MG 9000 Manager client configuration

Installing the MG 9000 Manager Windows PC client software

At the Windows PC client

- 1 From a web browser, launch Succession OAM&P Applications Launch Point page at:
<http://<SN08 MG9KEM Midtier Server IP or hostname>>. Click on Application Launcher.

The Application Launch Point window appears containing one link for SN08. Click on the SN08 “MG9000 Element Manager” link. The Application Launch Point window appears. Click on the “MG9000 Element Manager” link. Enter the username and password in the login when prompted.

Note: When starting the MG 9000 Manager from a Microsoft Windows platform, Windows may ask for a Security Certificate Approval. Windows does not display the Security Certificate Approval window on top of all other open windows. It may become necessary to iconify all open windows to see the Security Certificate Approval window. The security settings in the browser determine if the user will be asked for certificate approval.

- 2 Use the following figure and the information in the following table to determine the next step.

Java™ Web Start could not be detected in this browser. Ensure that Java™ Web Start is installed before you launch these applications. Please see the [Java™ Web Start Install Guide](#) for installation details.

If Java Web Start (JWS) software	Do
is already installed in the client machine	step 8
is not installed in the client machine, as evidenced by the preceding message	step 3

- 3 Select the link “Java™ Web Start Install Guide” to visit “Client Software Installation” page.
- 4 Visit “Java 2 Runtime Environment Install Guide” under “Microsoft Windows” section for online documentation.
- 5 Visit “Java 2 Runtime Environment Software Download” under “Microsoft Windows” section to download Java Runtime Environment.
- 6 Save j2re-1_4_2_05-windows-i586-i.exe and execute the JRE software.
- 7 Follow the instructions in JRE software to install JRE 1.4.2_05
- 8 The PC client is setup to launch MG 9000 Manager SN07 client applications.
- 9 This procedure is complete.

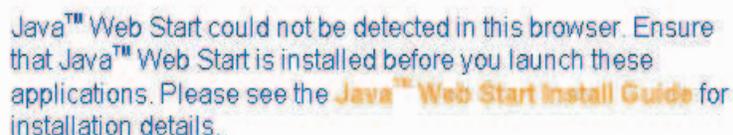
Installing the MG 9000 Sun client software

At the client workstation

- 1 From a web browser, launch Succession OAM&P Applications Launch Point page at:
http://<SN08 MG9KEM Midtier Server IP or hostname>. Click on Application Launcher.

The Application Launch Point window appears with a link for SN08. Click on the SN08 “MG9000 Element Manager” link. Enter the username and password in the login when prompted.

- 2 Use the following figure and the information in the following table to determine the next step.



Java™ Web Start could not be detected in this browser. Ensure that Java™ Web Start is installed before you launch these applications. Please see the [Java™ Web Start Install Guide](#) for installation details.

If Java Web Start (JWS) version 1.4.2_05 software	Do
is already installed in the client machine	step 14
is not installed in the client machine, as evidenced by the preceding message	step 3

- 3 Select the link “Java™ Web Start Install Guide” to visit “Client Software Installation” page.
- 4 Visit “Java 2 Runtime Environment Install Guide” under “Sun Solaris” section for online documentation.
- 5 Visit “Java 2 Runtime Environment Software Download” under “Sun Solaris” section to download Java Runtime Environment.
- 6 Save j2re-1_4_2_05-solaris-sparc.sh to your home directory.
- 7 Change execute permissions


```
$ chmod +x j2re-1_4_2_05-solaris-sparc.sh
```
- 8 Execute JRE, this will create a JRE subdirectory called j2re1.4.2_05 in your home directory. Remember the path of this directory as you will need this path later when configuring JWS.


```
$ ./ j2re-1_4_2_05-solaris-sparc.sh
```
- 9 Follow the instructions in JRE software to install JRE 1.4.2_05

- 10 In your j2re1.4.2_05 subdirectory there is a zip file called javaws-1_4_2_05-solaris-sparc-i.zip. Copy this zip file to your home directory.
- 11 Install JWS by unzipping the zip file and executing “install.sh”.

```
$ unzip ./javaws-1_4_2_05-solaris-sparc-i.zip  
$ ./install.sh
```
- 12 Accept the license agreement and enter the path to JRE from step 8.
- 13 Follow the remaining online directions.
- 14 The Sun Solaris client is now setup to launch MG9KEM SN08 client applications.
- 15 Exit the browser and launch the browser again for settings to take effect.
- 16 This procedure is complete.

Removing an MG 9000 Manager JWS application from cache

At the MG 9000 Manager client PC

- 1 Access the Java Web Start Application Manager by selecting Start->Programs->Java Web Start. The Java Web Start Application Manager appears.
- 2 Select View->Downloaded Applications from the menu bar.
- 3 Select an MG 9000 Manager JWS application to be deleted.
- 4 Select Application->Remove Application from the menu bar.
- 5 This procedure is complete.

The following procedure is provided as an optional method for accessing a JWS application on a Sun workstation.

Accessing JWS application on a Sun workstation

At the client workstation

- 1 Change directory to where the Java Web Start application is installed and enter the following command

```
> cd <path/javaws>
```
- 2 To launch the Java Web Start application manager, type

```
> javaws &
```
- 3 Select View->Downloaded Applications from the menu bar.

4 This procedure is complete.

Retrieving MG 9000 Manager software using Electronic Software Delivery

Purpose of this procedure

These procedures describe how to transfer MG 9000 Manager software loads from Nortel Networks to a customer drop box using the Electronic Software Delivery (ESD) method, and how to make the transferred loads available for installation on the MG 9000 Manager.

When to use this procedure

Use this procedure after receiving electronic notification for MG 9000 Manager software loads.

Prerequisites

Your operating company must have an ESD agreement with Nortel Networks. When the agreement was established, the operating company furnished Nortel Networks with the location of an electronic drop box and a user name and password pair for delivering software loads. When Nortel Networks delivers a software load to the drop box, an electronic mail notification is sent to the e-mail address specified by the telephone operating company when the ESD agreement was established.

Action

Retrieving MG 9000 Manager software using Electronic Software Delivery

At the MG 9000 Manager server requiring software loads

- 1 Become the root user by typing
 - Note:** If this is an N240 cluster (two-server) configuration, perform the following step in the inactive node.
 - # su - root**
- 2 Get the MG 9000 Manager ISO image file into the root directory of the MG 9000 Manager server by performing the following steps
 - a Change to the root directory by typing
 - # cd /**

- 4 Mount the image by performing the following
 - a Enter the command line interface by typing

```
# cli
```

The system responds with the following

```
Command Line Interface
```

```
1 - View
2 - Configuration
3 - Other
X - exit
```

```
select -
```

- b Select option 3.

The system responds with the following

```
Other
```

```
1 - Log Rotation
2 - capt_files (Capture Various SSPFS
Files/Logs For Debugging Purposes)
3 - sun_explorer (Execute the Sun Explorer
Data Gathering Tool)
4 - mount_image (Mount A Generic Iso Image To
The SSPFS Unit)
5 - umount_image (Un-Mount A Generic Iso
Image From The SSPFS Unit)
6 - disp_sspfspatch (Display the patching
status of the SSPFS unit)
X - exit
```

```
select -
```

c Select option 4

The system responds with the following

```
=== Executing "mount_image"
Enter Full Path To ISO Image:
```

d Enter the full path to the ISO image by typing

```
# /mg9kem_8_<version_number>.iso
```

Example

```
# /mg9kem_8_501.iso
```

The system responds with the following

```
Is is very important for the user of this
command to know that if you mount an iso
image. It is a MUST that you umount 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
```

```
=== "mount_image" completed successfully
```

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

cli command responses

Response	Meaning and action
Is is very important for the user of this command to know that if you mount an iso image. It is a MUST that you umount 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 image by entering ls -l /*.iso
ISO Image Already Mounted	Perform step 6 to unmount the image.

cli command responses

Response	Meaning and action
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 Networks 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/.

- e To exit each menu level, type
 - # x
- 5 Access the MG 9000 Manager packages and copy them to a permanent location.
 - a List the contents of the tmpmnt directory by typing
 - # **ls -l /tmpmnt**
 The system responds with the following


```
total 93520
-r--r--r-- 1 root root 25888256 Dec 9 12:42
NTMG9KM_8_501_0.PKG
-r--r--r-- 1 root root 21303808 Dec 9 12:42
NTMG9KS_8_501_0.PKG
-r--r--r-- 1 root root 690176 Dec 9 12:42
NTOMCLTR_8_501_0.PKG
```
 - b Copy the packages in tmpmnt directory to a permanent location by typing
 - # **cp /tmpmnt/*.PKG /opt/nortel/**
 - c Verify the package files are on directory /opt/nortel by typing
 - # **cd /opt/nortel**
 List the contents of all files with .PKG suffix by typing
 - # **ls -l *PKG**

6 Unmount the MG 9000 Manager ISO image by performing the following

a Enter the command line interface by typing

```
# cli
```

The system responds with the following

```
Command Line Interface
```

```
1 - View
2 - Configuration
3 - Other
X - exit
```

```
select -
```

b Select option 3.

The system responds with the following

```
Other
```

```
1 - Log Rotation
2 - capt_files (Capture Various SSPFS
Files/Logs For Debugging Purposes)
3 - sun_explorer (Execute the Sun Explorer
Data Gathering Tool)
4 - mount_image (Mount A Generic Iso Image To
The SSPFS Unit)
5 - umount_image (Un-Mount A Generic Iso
Image From The SSPFS Unit)
6 - disp_sspfspatch (Display the patching
status of the SSPFS unit)
X - exit
```

```
select -
```

c Select option 5.

The system responds with the following

```
=== Executing "umount_image"
=== "umount_image" completed successfully
```

d To exit each menu level, type

```
# x
```

- e Verify the MG 9000 Manager packages no longer exist in the tmpmnt directory by changing to the /tmpmnt directory and listing the contents

```
# cd /tmpmnt
```

```
# ls -l
```

The system responds with the following

```
total 0
```

- f Change to the root directory by typing

```
# cd /
```

- g List the contents of the directory containing files with a .iso extension by typing

```
# ls -l *.iso
```

- h Remove the EM ISO file by typing

```
# rm /mg9kem_8_<version_number>.iso
```

Example

```
# rm /mg9kem_8_501.iso
```

- 7 This procedure is complete.

Upgrading the MG 9000 Manager software to a maintenance release

When to use this procedure

Use the following procedure when upgrading the MG 9000 Manager software to a maintenance release (MR).

When a maintenance release is made available to the customer, data on the MG 9000 Manager which is at the SN08 format, must be moved into the MR format to maintain provisioned data.

The MR process is different depending on whether you have a High Availability (HA)-Cluster or non Cluster setup.

- non Cluster setup - a simplex configuration with a single N240 server or two T1400's configured to run the MG 9000 Manager software
- HA-Cluster setup - a duplex configuration with two N240 servers that share one cluster IP address

Use the MR process that applies to your MG 9000 Manager setup.

Prerequisites

There are no prerequisites.

Action

Upgrading MG 9000 Manager software to a maintenance release in a non Cluster setup (simplex configuration)

At the MG 9000 Manager

- 1 Prior to proceeding with this MR upgrade procedure, perform a backup of the entire Oracle database. Refer to “Performing a data backup on a Sun server” in *Upgrading a Carrier Voice over IP Network*, NN10440-450.
- 2 Upgrade the hardware, if necessary. Ensure the connection from the MG 9000 Manager to the MG 9000 is up.
- 3 To stop the GUI clients, click on File->Exit from the GUI to exit.
- 4 Telnet into the server running the MG 9000 Manager mid-tier application and log in as root at the servers during the MR process.
- 5 Stop the mid-tier server by typing

```
# servstop MG9KMIDTIER_08
```

Process information will be displayed

```
Shutting MG 9K Midtier Server down ...
Midtier shutdown complete
```
- 6 Stop the Performance Collector and Formatter (PCF) OM collection application by typing

```
# servstop MG9KOMC_08
```

Process information will be displayed

```
Shutting OM Collector down ...
OM Collector shutdown complete
```
- 7 Stop the master server by typing

```
# servstop MG9KSERVER_08
```

Process information will be displayed

```
Shutting MG 9K Server down ...
Server shutdown complete
```
- 8 If required, upgrade to the MR Succession Solaris Platform Foundation Software (SSPFS) Platform software, if any. Refer to “Upgrading SSPFS Software” in *Upgrading a Carrier Voice over IP Network*, NN10440-450. Back up the MG 9000 file system and save all data in the /data/mg9kem/persistdata directory. This includes the SSPFS load on the servers running the MG 9000 Manager master and mid-tier applications.

- 9 Remove the old MG 9000 Manager server package by typing

```
> pkgrm NTmg9ks08
```

The following package is currently installed:

```
NTmg9ks08      Succession MG 9000 Manager Server
                (sparc) NTMG9KS_08_11_0
```

Do you want to remove this package?

- 10 Install and start the MR release MG 9000 Manager server application and initialize the database by performing the following steps:
- a Telnet into the server running the MG 9000 Manager server application and log in as root.
 - b Use the following table to determine the next step.

If installing the master server software from	Do
CD-ROM	step c
electronic software delivery (ESD)	step d

- c Add in the MR server package from CD-ROM by typing

```
> pkgadd -d
/cdrom/cdrom0/<MG9K_MR_server_package_name>.
pkg
```

The following packages are available:

```
1 NTmg9ks08 Succession MG 9000 Manager Server
                (sparc) NTMG9KS_08_44_0
```

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

(default: all) [?,??,q]:1

Go to step [e](#).

- d Add in the MR server package from ESD by typing

```
> pkgadd -d
/data/loads/<MG9K_MR_server_package_name>.
pkg
```

The following packages are available:

```
1 NTmg9ks08 Succession MG 9000 Manager Server
                (sparc) NTMG9KS_08_44_0
```

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

(default: all) [?,??,q]:1

e Change to the following directory

```
> /opt/nortel/mg9ksrv_08/bin
```

f Configure the MG 9000 Manager server by typing

```
> ./mg9kconfig.sh
```

The system responds with the following message:

```
Setup has detected configuration settings
from a previous installation.
```

```
*****
Setup Server As           : MASTER
Master Server IP Address  : 47.xxx.xx.207
SESM IP Address           : 47.xxx.xx.220
Security Authentication Host: 47.xxx.xx.220
Oracle IP Address         : 47.xxx.xx.8
Image Server              : 47.xxx.xx.207
Image Server User ID      : maint
SuperCore Gige Image Directory: /swd/mg9k
SuperCore IMA Image Directory: /swd/mg9k
SuperCore OC3 Image Directory: /swd/mg9k
ITP Image Directory       : /swd/mg9k
ITX Image Directory       : /swd/mg9k
ABI Image Directory       : /swd/mg9k
DS1 Image Directory       : /swd/mg9k
*****
Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n]=>y
```

11 Start the MR MG 9000 Manager server application by typing

```
> servstart MG9KSERVER_08
```

12 Install and start the MR release mid-tier application by performing the following steps:

a Telnet into the server running the MG 9000 Manager mid-tier application and log in as root on the MG 9000 mid-tier server.

b Remove the old mid-tier package by typing

```
> pkgrm NTmg9km08
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
                Midtier Server
                (sparc) NTMG9KM_8_44_0
Do you want to remove this package? y
```

- c Use the following table to determine the next step.

If installing the mid-tier server software from	Do
CD-ROM	step d
electronic software delivery (ESD)	step e

- d Add in the MR mid-tier package from the CD-ROM by typing

```
> pkgadd -d
/cdrom/cdrom0/<MG9K_MR_midtier_package_name>
.pkg
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
    Midtier Server
    (sparc) NTMG9KM_8_44_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

Go to step [f](#)

- e Add in the MR mid-tier package from ESD by typing

```
> pkgadd -d
/data/loads/<MG9K_MR_midtier_package_name>.p
kg
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
    Midtier Server
    (sparc) NTMG9KM_8_44_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

- f Change to the following directory

```
> /opt/nortel/mg9kmtr_08/bin
```

- g Configure the mid-tier by typing

```
> ./mg9kconfig.sh
```

```
Setup has detected configuration settings
from a previous installation.
*****
Master Server IP Address : 47.142.84.210
Security Authentication Host : 47.142.84.211
*****
```

```

Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n] => y

```

h Start the MR mid-tier application by typing

```
> servstart MG9KMIDTIER_07
```

13 Install and start the SN08 MR OM collection application on the server where the mid-tier application is running by performing the following:

a Remove the old SN08 OM collector package by typing

```
> pkgrm NTomclt08
```

```

The following packages are available:
1 NTomcltm08 Succession Operational
Measurement Collector
      (sparc) NTOMCLTR_8_441_0
Do you want to remove this package? y

```

b Use the following table to determine the next step.

If installing the OM Collec- tor software from	Do
---	----

CD-ROM	step c
--------	------------------------

electronic software delivery (ESD)	step d
------------------------------------	------------------------

c Add in the MR OM Collector package from the CD-ROM by typing

```
> pkgadd -d  
/cdrom/cdrom0/<NTmg9k_MR_OM_collector_packag  
e_name>.pkg
```

```

The following packages are available:
1 NTomclt08 Succession Operational
Measurement Collector
      (sparc) NTOMCLTR_08_42_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1

```

Go to step [e](#).

d Add in the MR OM Collector package from ESD by typing

```
> pkgadd -d  
/data/loads/<MG9K_MR_OM_Collector_package_name>.pkg
```

The following packages are available:

1 NTomclt08 Succession Operational

Measurement Collector

(sparc) NTOMCLTR_08_42_0

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

(default: all) [?,??,q]:1

e Start the MR OM collector by typing

```
> servstart <omcollector>
```

- 14** Install the new MR release GUI client. Refer to procedure [Installing the MG 9000 Sun client software on page 9](#) for a Sun workstation, or to procedure [Installing the MG 9000 Manager Windows PC client software on page 7](#) for a Windows PC.
- 15** Reconnect any SN08 third party application that retrieves alarms for delivery to Operations Support System (OSS) fault management systems.
- 16** This procedure is complete.

Upgrading MG 9000 Manager software to a maintenance release in an HA-Cluster setup

At the MG 9000 Manager

- 1 Upgrade the hardware, if necessary. Ensure the connection from the MG 9000 Manager to the MG 9000 is up.
- 2 To stop the GUI clients, click on File->Exit from the GUI to exit.
- 3 Telnet into the active server through the cluster IP address and log in as root.

All MR upgrades are performed on the standby node while the active node is providing service. After the standby node of the cluster is upgraded and configured, perform a failover so the standby node becomes active. After determining that both nodes are functional, the newly active node with the MR update can be cloned to the standby node. This will ensure both nodes or units of the cluster have the same data image.

- 4 Determine which of the cluster nodes is in standby so it can be upgraded with the MR.
- 5 Telnet to the cluster IP address, log in as root and type:

```
# bash
```

The cluster prompt changes showing the unit and the status of the unit.

```
mgem_ha_srv-unit0(active):/>
```

- 6 Remove the old MG 9000 Manager server application on standby unit by typing

```
> pkgrm NTmg9ks08
```

```
The following package is currently installed:
NTmg9ks08      Succession MG 9000 Manager Server
                (sparc) NTMG9KS_8_44_0
Do you want to remove this package? Y
```

- 7 Install the MR release on the standby unit for the MG 9000 Manager server application by performing the following steps:
 - a Use the following table to determine the next step.

If installing the master server software from	Do
CD-ROM	step b
electronic software delivery (ESD)	step c

- b** Add in the MG 9000 Manager server package from CD-ROM by typing

```
> pkgadd -d
/cdrom/cdrom0/<MG9K_MR_server_package_name>.
pkg
```

```
The following packages are available:
1 NTmg9ks08 Succession MG 9000 Manager Server
      (sparc) NTMG9KS_8_441_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

Go to step [d](#).

- c** Add in the MG 9000 Manager MR server package from ESD by typing

```
> pkgadd -d
/data/loads/<MG9K_MR_midtier_package_name>.p
kg
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
      Midtier Server
      (sparc) NTMG9KM_8_44_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

- d Configure the MG 9000 Manager server application by typing

```
> /opt/nortel/mg9ksrv_08/bin/mg9kconfig.sh
```

The system responds with the following message:

```
*****
Setup Server As                : MASTER
Master Server IP Address      : 47.xxx.xx.207
SESM IP Address               : 47.xxx.xx.220
Security Authentication Host  : 47.xxx.xx.220
Oracle IP Address             : 47.xxx.xx.8
Image Server                   : 47.xxx.xx.207
Image Server User ID          : maint
SuperCore Gige Image Directory: /swd/mg9k
SuperCore IMA Image Directory: /swd/mg9k
SuperCore OC3 Image Directory: /swd/mg9k
ITP Image Directory           : /swd/mg9k
ITX Image Directory           : /swd/mg9k
ABI Image Directory           : /swd/mg9k
DS1 Image Directory           : /swd/mg9k
*****
```

Is the above information correct?

Press the enter key to accept the default
(y/n)?

Default: [n]=>y

- 8 Install the MR release MG 9000 Manager mid-tier server application on the standby unit by performing the following steps:

- a Remove the old mid-tier package by typing

```
> pkgrm NTmg9km08
```

The following packages are available:

```
1 NTmg9km08 Succession MG 9000 Manager
    Midtier Server
    (sparc) NTMG9KM_8_44_0
```

Do you want to remove this package? y

- b Use the following table to determine the next step.

If installing the mid-tier server software from	Do
CD-ROM	step c
electronic software delivery (ESD)	step d

- c** Add in the MR mid-tier package from CD-ROM by typing

```
> pkgadd -d
/cdrom/cdrom0/<MG9K_MR_midtier_package_name>
.pkg
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
    Midtier Server
    (sparc) NTMG9KM_8_441_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

Go to step [e](#)

- d** Add in the MR mid-tier package from ESD by typing

```
> pkgadd -d
/data/loads/<MG9K_MR_midtier_package_name>.p
kg
```

```
The following packages are available:
1 NTmg9km08 Succession MG 9000 Manager
    Midtier Server
    (sparc) NTMG9KM_8_44_0
Select package(s) you wish to process (or
'all' to process all packages).
(default: all) [?,??,q]:1
```

- e** Configure the mid-tier by typing

```
> /opt/nortel/mg9ksrv_08/bin/mg9kconfig.sh
```

```
Setup has detected configuration settings
from a previous installation.
*****
Master Server IP Address      : 47.xxx.xx.209
Security Authentication Host  : 47.xxx.xx.208
*****
```

```
Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n] => y
```

- 9 Install and start the SN08 MR OM collection application on the standby unit by performing the following:

- a Remove the old SN08 OM collector package by typing

```
> pkgrm NTomclt08
```

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

```
1 NTomcltm08 Succession Operational
Measurement Collector
```

```
(sparc) NTOMCLTR_8_44_0
```

```
Do you want to remove this package? y
```

- b Use the following table to determine the next step.

If installing the OM Collector software from	Do
--	----

CD-ROM	step c
--------	------------------------

electronic software delivery (ESD)	step
------------------------------------	------

- c Add in the MR OM collector package from the CD-ROM by typing

```
> pkgadd -d
/cdrom/cdrom0/<NTmg9k_MR_OM_collector_package_name>.pkg
```

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

```
1 NTomclt08 Succession Operational
Measurement Collector
```

```
(sparc) NTOMCLTR_8_441_0
```

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

```
(default: all) [?,??,q]:1
```

Make the standby unit to be active now by causing the old active unit to failover and switch states with the standby unit that has currently been upgraded.

To create a failover, telnet to the cluster IP address, login into active unit and type:

```
> swact
```

Note: The failover can take around 5 minutes or more

Go to step [10](#).

- d Add in the MR OM Collector package from ESD by typing

```
> pkgadd -d
/data/loads/<MG9K_MR_OM_Collector_package_name>.pkg
```

The following packages are available:

```
1 NTomclt08 Succession Operational
Measurement Collector
(sparc) NTOMCLTR_08_42_0
```

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

(default: all) [?,??,q]:1

Make the standby unit to be active now by causing the old active unit to failover and switch states with the standby unit that has currently been upgraded.

To create a failover, telnet to the cluster IP address, login into active unit and type:

```
> swact
```

Note: The failover can take around 5 minutes or more

- 10 Install the new MR release GUI client. Refer to procedure [Installing the MG 9000 Sun client software on page 9](#) for a Sun workstation, or to procedure [Installing the MG 9000 Manager Windows PC client software on page 7](#) for a Windows PC. Connect the client by pointing to the virtual IP address of the cluster.
- 11 Verify the newly active unit recovers by typing the following command while logged into the cluster IP address

```
> servquery -status all
```
- 12 Launch the MG 9000 Manager client.
- 13 Reconnect any SN08 third party application that retrieves alarms for delivery to Operations Support System (OSS) fault management systems.
- 14 Once it is determined that the newly active node with the MR update is fully functional, mirror the newly active node to the standby node so both nodes have the same image. Perform procedure "Cloning the image of one node in a cluster to the other node" in *Upgrading a Carrier Voice over IP Network*, NN10440-450.
- 15 This procedure is complete.

Downgrading the MG 9000 and MG 9000 Manager from SN08 to SN06.2 or SN07

When to use this procedure

When it is necessary to downgrade the MG 9000 and MG 9000 Manager from SN08 to SN06.2 or SN07, perform this downgrade procedure.

Before continuing, consider the following service impacts:

- Earlier releases of the MG 9000 Manager cannot run in tandem with the SN08 MG 9000 Manager.
- If the customer wants to run an SN06.2 MG 9000 Manager (and thus not an SN08 MG 9000 Manager), both the SSPFS and MG 9000 Manager must be at SN06.2. Different platform version of MG 9000 Manager and SSPFS cannot be mixed.
- During a downgrade, the GWC cannot be downgraded until all MG 9000 network elements that subtend it are downgraded.
- When collection interval is set to 5/30 minutes, if an MG 9000 network element is downgraded to an older release, then OM collection is disabled for the downgraded NE. The downgraded NE cannot collect performance data.
- If an MG 9000 has been placed within a Community of Interest (COI) to support Internodal ESA, and it is downgraded, an error message appears notifying the user that the downgrade cannot continue until the network element is removed from the COI.
- If NTNY53AB Global Line cards (GLC) have been installed in an SN08 MG 9000, any attempt to downgrade to SN06.2 or SN07 will render the NTNY53AB non-functional. The NTNY53AB GLC cards must be deprovisioned and removed before attempting the downgrade.

SN06.2 MG 9000 loads do not support P-phone and postGroundStart line service for GLC cards. When downgrading to an SN06.2 MG 9000 load, P-phone and postGroundStart lines provisioned on the GLC cards must be provisioned prior to attempting the downgrade.

Prerequisites

There are no prerequisites.

Action

Downgrading the MG 9000 and the t1400 or N240 simplex configuration MG 9000 Manager from SN08 to SN06.2

At the MG 9000 Manager server

- 1 If the cards are currently on version SN08, perform a downgrade on all the cards on the NE to go back to their SN06.2 version using the procedure “Upgrading the MG 9000 to SN08 using the CLI mg9kuptool” in *Upgrading a Carrier Voice over IP Network*, NN10440-450. When using the mg9kuptool, select the SN06.2 loads appropriate for each card when configuring the downgrade. Wait for the entire downgrade to complete before proceeding.
- 2 Stop the MG 9000 Manager server application. To stop the server, type

```
> servstop MG9KSERVER_08
```
- 3 Stop the MG 9000 Manager mid-tier application. To stop the application, type

```
> servstop MG9KMIDTIER_08
```
- 4 Drop the SN08 tablespace by typing

```
> /opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_drop.sh
```
- 5 To verify the MG 9000 mid-tier and server applications are stopped, type

```
> servquery -status all
```
- 6 To remove the master server SN08 software, type

```
> pkgrm NTmg9ks08
```

To continue, respond to the prompt with Y.
- 7 To remove the mid-tier server SN08 software, type

```
> pkgrm NTmg9km08
```

To continue, respond to the prompt with Y.
- 8 Downgrade both the mid-tier server and the master server to the SN06.2 SSPFS platform.
Details about downgrading the SSPFS platform are provided in procedures “Performing a full system restore on an SSPFS-based server” in *ATM/IP Fault Management*, NN10408-900.

9 At the workstation dedicated as the MG 9000 Manager master server, install the master server software using the following steps:

- a Login as root (superuser) and insert the Succession MG 9000 Manager software CD into the CD-ROM drive. This server is also running the OpenOrb NamingService.
- b At the prompt (#), use pkgadd to install the server portion (NTmg9ks062.pkg) of the software. To directly install the software from the CD-ROM use the following commands to read the CD-ROM and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
# ls
# pkgadd -d
/cdrom/cdrom0/NTmg9ks_6_2_xx_0.pkg
```

The system responds with the following:

The following packages are available:

```
1 NTmg9ks62      Succession MG 9000 Manager
                  Server(sparc) 6_2.44
```

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

- c Enter "1" and press return to begin the server installation process.

Note: The following message may appear requiring a Y in response to the prompt:

```
The following files are already installed on
the system and are being used by another
package: /opt/Nortel<attribute change only>
Do you want to install these conflicting
files [y,n,?,q]
```

After the installation is complete, a message appears reporting that the installation was successful.

- d The package is processed and the following information is displayed.

```
Processing package instance <NTmg9ks62> from
</NTmg9ks62.pkg>
Succession MG 9000 Manager Server (sparc)
6_2.44
```

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Note: Verify that the “Installation of <NTmg9ks62> was successful.” If there are any errors please contact your next level of support.

Eject the CD-ROM.

- e To configure the master server, type

```
> /opt/nortel/mg9ksrv_06_2/bin/mg9kconfig.sh
```

```
Setup has detected configuration settings  
from a previous installation.
```

```
*****  
**
```

```
Setup Server As : MASTER  
Master Server IP Address : 47.xxx.xx.215  
SESM IP Address 47.xxx.xx.220  
Security Authentication Host : 47.xxx.xx.215  
Oracle IP Address : 47.xxx.xx.220  
Initialize Database : YES  
Maintenance Release Upgrade : NO
```

```
*****  
**
```

```
Is the above information correct?  
Press the enter key to accept the default  
(y/n)?
```

```
Default: [n] =>
```

Note: The database is not initialized until the server is restarted.

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- f To start the master server, enter the following command:

```
# /opt/nortel/mg9ksrv_06_2/bin/mg9kserver  
start
```

Note: Messages may appear indicating that a “patch failed to stay up.” These messages can be ignored.

- 10 At the workstation dedicated as the MG 9000 Manager mid-tier server, install the mid-tier server software by performing the following steps:
- a Login as root (superuser) and insert the CD containing the Succession MG 9000 Manager software into the CD-ROM drive.

- b** Collect the current configuration by typing

```
# /opt/nortel/mg9kmtr_06/bin/mg9kmidtier
config
```

Enter 4 and press Return from the list to display the current settings.

- c** Enter 5 and press Return to exit the Configuration menu.

- d** At the prompt (#) use pkgadd to install the mid-tier portion (NTmg9km62.pkg) of the software. If you are directly installing from the CD-ROM use the following command to read the CD-ROM, and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
# ls
# pkgadd -d
/cdrom/cdrom0/NTmg9km_6_2_xx_0.pkg
```

where xx is the release number.

The system responds with the following information.

```
The following packages are available:
1  NTmg9km62 Succession MG 9000 Manager
Midtier Server (sparc) 6_2.44
```

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

- e** Enter 1 and press Return to begin the server installation process.

The system responds as follows:

```
Executing checkinstall script.Using </opt> as
the package base directory.Processing package
information.Processing system information.1
package pathname is already properly
installed.
```

Note: If a message appears with a confirmation prompt to overwriting conflicting files, respond Y. If existing files are not overwritten, the MG 9000 Manager mid-tier server upgrade cannot continue.

```
Verifying disk space requirements.Checking
for conflicts with packages already
installed.Checking for setuid/setgid
programs.
```

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

Do you want to continue with the installation of <NTmg9km62> [y,n,?]

y

Note: Verify that “Installation of <NTmg9km_6_2_xx_0> was successful.” If there are any errors please contact your next level of support.

- f** The installation continues automatically and installs all the mid-tier server files in /opt/nortel/mg9kmtr_06_2 subdirectory as noted in the system response.

Installing Succession MG 9000 Manager Midtier Server as <NTmg9km62>

Installing part 1 of 1.

.
.
.

Configuring system, please wait ...

Installation of <NTmg9km62> was successful.
The Installation is complete.

After the installation is complete, a message appears reporting that the installation was successful.

- g** Eject the CD from the CD-ROM drive.

- h** To configure the mid-tier server, type

/opt/nortel/mg9kmtr_06_2/bin/mg9kconfig.sh

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- i** The system responds as follows.

Setup has detected configuration settings from a previous installation. If you choose to continue, your username and password from the previous installation will be used.

```
*****
IP Address           : 47.xxx.xxx.215
SSL enabled          : true
Security Authentication Host : 47.xxx.xx.235
*****
```

```
Is the above information correct?  
Press the enter key to accept the default  
(y/n)?  
Default: [n] =>
```

Enter Y to accept the default values.

```
> Y
```

j Enter the following command to start the mid-tier server.

```
# /opt/nortel/mg9kmtr_06_2/bin/mg9kmidtier  
start
```

Press the Enter key again for the login prompt to appear.

11 This procedure is complete.

Downgrading the N240 HA cluster configuration MG 9000 Manager from SN08 to SN06.2

At the MG 9000 Manager server

- 1 If the cards are currently on version SN08, perform a downgrade on all the cards on the NE to go back to their SN06.2 version using the procedure “Upgrading the MG 9000 to SN08 using the CLI mg9kuptool” in *Upgrading a Carrier Voice over IP Network*, NN10440-450. When using the mg9kuptool, select the SN06.2 loads appropriate for each card when configuring the downgrade. Wait for the entire downgrade to complete before proceeding.
- 2 Use the information in the following table to determine the next step.

If the inactive side is currently running	Do
SN06.2	step 8
SN08	step 3

- 3 On the inactive side, remove the master server SN08 software by typing


```
> pkgrm NTmg9ks08
```

 To continue, respond to the two prompts with Y.
- 4 On the inactive side, remove the mid-tier server SN08 software by typing


```
> pkgrm NTmg9km08
```

 To continue, respond to the two prompts with Y.
- 5 On the inactive side, downgrade both the mid-tier server and the master server to the SN06.2 SSPFS platform.

Note 1: Ensure the master server is restarted before mid-tier server.

Note 2: If the mid-tier server comes up before the master server, it will go through a restart loop until the master server comes up.

Details about downgrading the SSPFS platform are provided in procedures “Performing a full system restore on an SSPFS-based server” in *ATM/IP Fault Management*, NN10408-900.

- 6 On the inactive side, install the master server software using the following steps:

- a Login as root (superuser) and insert the Succession MG 9000 Manager software CD into the CD-ROM drive. This server is also running the OpenOrb NamingService.
- b At the prompt (#), use pkgadd to install the server portion (NTmg9ks062.pkg) of the software. To directly install the software from the CD-ROM use the following commands to read the CD-ROM and list the contents to read the release number:

```
# cd /cdrom/cdrom0/  
# ls  
# pkgadd -d  
/cdrom/cdrom0/NTmg9ks_6_2_xx_0.pkg
```

The system responds with the following:

The following packages are available:

```
1 NTmg9ks62      Succession MG 9000 Manager  
                  Server(sparc) 6_2.44
```

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

- c Enter "1" and press return to begin the server installation process.

Note: The following message may appear requiring a Y in response to the prompt:

```
The following files are already installed on  
the system and are being used by another  
package: /opt/Nortel<attribute change only>  
Do you want to install these conflicting  
files [y,n,?,q]
```

After the installation is complete, a message appears reporting that the installation was successful.

- d The package is processed and the following information is displayed.

```
Processing package instance <NTmg9ks62> from  
</NTmg9ks62.pkg>  
Succession MG 9000 Manager Server (sparc)  
6_2.44
```

```
Copyright (c) 1998-2003 Nortel Networks All  
Rights Reserved
```

Note: Verify that the “Installation of <NTmg9ks62> was successful.” If there are any errors please contact your next level of support.

Eject the CD-ROM.

- e To configure the master server, type

```
> /opt/nortel/mg9ksrv_06_2/bin/mg9kconfig.sh
```

```
Setup has detected configuration settings
from a previous installation.
```

```
*****
```

```
**
```

```
Setup Server As : MASTER
```

```
Master Server IP Address : 47.xxx.xx.215
```

```
SESM IP Address 47.xxx.xx.220
```

```
Security Authentication Host : 47.xxx.xx.215
```

```
Oracle IP Address : 47.xxx.xx.220
```

```
Initialize Database : YES
```

```
Maintenance Release Upgrade : NO
```

```
*****
```

```
**
```

```
Is the above information correct?
```

```
Press the enter key to accept the default
```

```
(y/n)?
```

```
Default: [n] =>
```

Note: The database is not initialized until the server is restarted.

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- 7 On the inactive side, install the mid-tier server software by performing the following steps:
- a Login as root (superuser) and insert the CD containing the Succession MG 9000 Manager software into the CD-ROM drive.
 - b At the prompt (#) use pkgadd to install the mid-tier portion (NTmg9km62.pkg) of the software. If you are directly installing from the CD-ROM use the following command to read the CD-ROM, and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
```

```
# ls
```

```
# pkgadd -d
```

```
/cdrom/cdrom0/NTmg9km_6_2_xx_0.pkg
```

where xx is the release number.

The system responds with the following information.

```
The following packages are available:
1   NTmg9km62 Succession MG 9000 Manager
Midtier Server (sparc) 6_2.44
```

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

- c Enter 1 and press Return to begin the server installation process.

The system responds as follows:

```
Executing checkinstall script.Using </opt> as
the package base directory.Processing package
information.Processing system information. 1
package pathname is already properly
installed.
```

Note: If a message appears with a confirmation prompt to overwriting conflicting files, respond Y. If existing files are not overwritten, the MG 9000 Manager mid-tier server upgrade cannot continue.

```
Verifying disk space requirements.Checking
for conflicts with packages already
installed.Checking for setuid/setgid
programs.
```

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

```
Do you want to continue with the installation
of <NTmg9km62> [y,n,?]
```

```
# Y
```

Note: Verify that “Installation of <NTmg9km_6_2_xx_0> was successful.” If there are any errors please contact your next level of support.

- d The installation continues automatically and installs all the mid-tier server files in /opt/nortel/mg9kmtr_06_2 subdirectory as noted in the system response.

```
Installing Succession MG 9000 Manager Midtier
Server as <NTmg9km62>
```

```
## Installing part 1 of 1.
.
.
.
Configuring system, please wait ...
Installation of <NTmg9km62> was successful.
The Installation is complete.
```

After the installation is complete, a message appears reporting that the installation was successful.

- e** To configure the mid-tier server, type

```
# /opt/nortel/mg9kmtr_06_2/bin/mg9kconfig.sh
```

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- f** The system responds as follows.

```
Setup has detected configuration settings
from a previous installation. If you choose
to continue, your username and password from
the previous installation will be used.
```

```
*****
IP Address           : 47.xxx.xxx.215
SSL enabled          : true
Security Authentication Host : 47.xxx.xx.235
*****
```

```
Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n] =>
```

Enter Y to accept the default values.

```
> Y
```

- g** Install and configure the SN06.2 OM Collector software by performing procedure “Installing OM Collector software” in the SN06.2 version of *MG 9000 Performance Management*, NN10140-711.

- h** Eject the CD from the CD-ROM drive.

- 8** On the active side, stop the MG 9000 Manager server application. To stop the server, type

```
> servstop MG9KSERVER_08
```

- 9 On the active side, stop the MG 9000 Manager mid-tier application. To stop the application, type

```
> servstop MG9KMIDTIER_08
```
- 10 Drop the SN08 tablespace by typing

```
> /opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_drop.sh
```
- 11 Telnet to the cluster IP address, login to the active unit and perform a failover of the system by typing

```
> init 6
```
- 12 This procedure is complete.

Downgrading the t1400 or N240 simplex configuration MG 9000 Manager from SN08 to SN07

At the MG 9000 Manager server

- 1 If the cards are currently on version SN08, perform a downgrade on all the cards on the NE to go back to their SN07 version using the procedure “Upgrading the MG 9000 to SN08 using the CLI mg9kuptool” in *Upgrading a Carrier Voice over IP Network*, NN10440-450. When using the mg9kuptool, select the SN07 loads appropriate for each card when configuring the downgrade. Wait for the entire downgrade to complete before proceeding.
- 2 Stop the MG 9000 Manager server application. To stop the server, type

```
> servstop MG9KSERVER_08
```
- 3 Stop the MG 9000 Manager mid-tier application. To stop the application, type

```
> servstop MG9KMIDTIER_08
```
- 4 Drop the SN08 tablespace by typing

```
> /opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_drop.sh
```
- 5 To verify the MG 9000 mid-tier and server applications are stopped, type

```
> servquery -status all
```
- 6 Restore the SN07 tablespace data from the file that was saved during the SN08 upgrade process by typing

```
> /opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_restore.sh <name of the file where the SN07 data was backed up>
```

Refer to procedure “Upgrading MG 9000 Manager software from SN06.2 or SN07 to SN08” step 1e, in *Upgrading a Carrier Voice over IP Network*, NN10440-450.
- 7 To remove the master server SN08 software, type

```
> pkgrm NTmg9ks08
```

To continue, respond to the prompt with Y.

- 8 To remove the mid-tier server SN08 software, type

```
> pkgrm NTmg9km08
```

To continue, respond to the prompt with Y.
- 9 Downgrade both the mid-tier server and the master server to the SN07 SSPFS platform.

Details about downgrading the SSPFS platform are provided in procedures “Performing a full system restore on an SSPFS-based server” in *ATM/IP Fault Management*, NN10408-900.
- 10 At the workstation dedicated as the MG 9000 Manager master server, install the master server software using the following steps:
 - a Login as root (superuser) and insert the Succession MG 9000 Manager software CD into the CD-ROM drive. This server is also running the OpenOrb NamingService.
 - b At the prompt (#), use pkgadd to install the server portion (NTmg9ks07.pkg) of the software. To directly install the software from the CD-ROM use the following commands to read the CD-ROM and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
# ls
# pkgadd -d
/cdrom/cdrom0/NTmg9ks_07_xx_0.pkg
```

The system responds with the following:
The following packages are available:

1 NTmg9ks07 Succession MG 9000 Manager
Server(sparc) 07.44

Select package (s) you wish to process (or
'all' to process all packages). (default:
all) [?,??,q]:
 - c Enter “1” and press return to begin the server installation process.

Note: The following message may appear requiring a Y in response to the prompt:

```
The following files are already installed on
the system and are being used by another
package: /opt/Nortel<attribute change only>
Do you want to install these conflicting
files [y,n,?,q]
```

After the installation is complete, a message appears reporting that the installation was successful.

- d** The package is processed and the following information is displayed.

```
Processing package instance <NTmg9ks07> from
</NTmg9ks07.pkg>
Succession MG 9000 Manager Server (sparc)
07.44
```

```
Copyright (c) 1998-2003 Nortel Networks All
Rights Reserved
```

Note: Verify that the “Installation of <NTmg9ks62> was successful.” If there are any errors please contact your next level of support.

Eject the CD-ROM.

- e** To configure the master server, type

```
> /opt/nortel/mg9ksrv_07/bin/mg9kconfig.sh
```

```
Setup has detected configuration settings
from a previous installation.
```

```
*****
**
```

```
Setup Server As : MASTER
Master Server IP Address : 47.xxx.xx.215
SESM IP Address 47.xxx.xx.220
Security Authentication Host : 47.xxx.xx.215
Oracle IP Address : 47.xxx.xx.220
Initialize Database : YES
Maintenance Release Upgrade : NO
```

```
*****
**
```

```
Is the above information correct?
Press the enter key to accept the default
(y/n)?
```

```
Default: [n] =>
```

Note: The database is not initialized until the server is restarted.

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- f To start the master server, enter the following command:

```
# servstart MG9KSERVER_07
```

Note: Messages may appear indicating that a “patch failed to stay up.” These messages can be ignored.

- 11 At the workstation dedicated as the MG 9000 Manager mid-tier server, install the mid-tier server software by performing the following steps:

- a Login as root (superuser) and insert the CD containing the Succession MG 9000 Manager software into the CD-ROM drive.

- b At the prompt (#) use pkgadd to install the mid-tier portion (NTmg9km07.pkg) of the software. If you are directly installing from the CD-ROM use the following command to read the CD-ROM, and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
```

```
# ls
```

```
# pkgadd -d
```

```
/cdrom/cdrom0/NTmg9km_07_XX_0.pkg
```

where xx is the release number.

The system responds with the following information.

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

```
1  NTmg9km07 Succession MG 9000 Manager  
Midtier Server (sparc) 6_2.44
```

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

- c Enter 1 and press Return to begin the server installation process.

The system responds as follows:

```
Executing checkinstall script.Using </opt> as  
the package base directory.Processing package  
information.Processing system information.1  
package pathname is already properly  
installed.
```

Note: If a message appears with a confirmation prompt to overwriting conflicting files, respond Y. If existing files are not overwritten, the MG 9000 Manager mid-tier server upgrade cannot continue.

```
Verifying disk space requirements. Checking
for conflicts with packages already
installed. Checking for setuid/setgid
programs.
```

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

```
Do you want to continue with the installation
of <NTmg9km07> [y,n,?]
```

```
# y
```

Note: Verify that “Installation of <NTmg9km_07_xx_0> was successful.” If there are any errors please contact your next level of support.

- d** The installation continues automatically and installs all the mid-tier server files in /opt/nortel/mg9kmtr_07 subdirectory as noted in the system response.

```
Installing Succession MG 9000 Manager Midtier
Server as <NTmg9km07>
```

```
## Installing part 1 of 1.
```

```
.
.
.
```

```
Configuring system, please wait ...
```

```
Installation of <NTmg9km07> was successful.
The Installation is complete.
```

After the installation is complete, a message appears reporting that the installation was successful.

- e** Eject the CD from the CD-ROM drive.

f To configure the mid-tier server, type

```
# /opt/nortel/mg9kmtr_07/bin/mg9kconfig.sh
```

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

g The system responds as follows.

```
Setup has detected configuration settings
from a previous installation. If you choose
to continue, your username and password from
the previous installation will be used.
```

```
*****
IP Address           : 47.xxx.xxx.215
SSL enabled          : true
Security Authentication Host : 47.xxx.xx.235
*****
```

```
Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n] =>
```

Enter Y to accept the default values.

```
> Y
```

h Enter the following command to start the mid-tier server.

```
# servstart MG9KMIDTIER_07
```

Press the Enter key again for the login prompt to appear.

i Install and configure the SN07 OM Collector software by performing procedure “Installing OM Collector software” in the SN07 version of *MG 9000 Performance Management*, NN10140-711.

12 This procedure is complete.

Downgrading the N240 HA cluster configuration MG 9000 Manager from SN08 to SN07

At the MG 9000 Manager server

- 1 If the cards are currently on version SN08, perform a downgrade on all the cards on the NE to go back to their SN07 version using the procedure “Upgrading the MG 9000 to SN08 using the CLI mg9kuptool” in *Upgrading a Carrier Voice over IP Network*, NN10440-450. When using the mg9kuptool, select the SN06.2 loads appropriate for each card when configuring the downgrade. Wait for the entire downgrade to complete before proceeding.
- 2 Use the information in the following table to determine the next step.

If the inactive side is currently running	Do
SN07	step 8
SN08	step 3

- 3 On the inactive side, remove the master server SN08 software by typing


```
> pkgrm NTmg9ks08
```

 To continue, respond to the two prompts with Y.
- 4 On the inactive side, remove the mid-tier server SN08 software by typing


```
> pkgrm NTmg9km08
```

 To continue, respond to the two prompts with Y.
- 5 On the inactive side, downgrade both the mid-tier server and the master server to the SN07 SSPFS platform.

Details about downgrading the SSPFS platform are provided in procedures “Performing a full system restore on an SSPFS-based server” in *ATM/IP Fault Management*, NN10408-900.
- 6 On the inactive side, install the master server software using the following steps:
 - a Login as root (superuser) and insert the Succession MG 9000 Manager software CD into the CD-ROM drive. This server is also running the OpenOrb NamingService.

- b** At the prompt (#), use `pkgadd` to install the server portion (NTmg9ks07.pkg) of the software. To directly install the software from the CD-ROM use the following commands to read the CD-ROM and list the contents to read the release number:

```
# cd /cdrom/cdrom0/  
# ls  
# pkgadd -d  
/cdrom/cdrom0/NTmg9ks_07_xx_0.pkg
```

The system responds with the following:

The following packages are available:

```
1 NTmg9ks07      Succession MG 9000 Manager  
                  Server(sparc) 07.44
```

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

- c** Enter “1” and press return to begin the server installation process.

Note: The following message may appear requiring a Y in response to the prompt:

```
The following files are already installed on  
the system and are being used by another  
package: /opt/Nortel<attribute change only>  
Do you want to install these conflicting  
files [y,n,?,q]
```

After the installation is complete, a message appears reporting that the installation was successful.

- d The package is processed and the following information is displayed.

```
Processing package instance <NTmg9ks07> from
</NTmg9ks07.pkg>
Succession MG 9000 Manager Server (sparc)
07.44

Copyright (c) 1998-2003 Nortel Networks All
Rights Reserved
```

Note: Verify that the “Installation of <NTmg9ks07> was successful.” If there are any errors please contact your next level of support.

Eject the CD-ROM.

- e To configure the master server, type

```
> /opt/nortel/mg9ksrv_06_2/bin/mg9kconfig.sh

Setup has detected configuration settings
from a previous installation.
*****
**
Setup Server As : MASTER
Master Server IP Address : 47.xxx.xx.215
SESM IP Address 47.xxx.xx.220
Security Authentication Host : 47.xxx.xx.215
Oracle IP Address : 47.xxx.xx.220
Initialize Database : YES
Maintenance Release Upgrade : NO
*****
**
Is the above information correct?
Press the enter key to accept the default
(y/n)?
Default: [n] =>
```

Note: The database is not initialized until the server is restarted.

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- 7 On the inactive side, install the mid-tier server software by performing the following steps:
- a Login as root (superuser) and insert the CD containing the Succession MG 9000 Manager software into the CD-ROM drive.

- b** At the prompt (#) use `pkgadd` to install the mid-tier portion (NTmg9km07.pkg) of the software. If you are directly installing from the CD-ROM use the following command to read the CD-ROM, and list the contents to read the release number:

```
# cd /cdrom/cdrom0/
# ls
# pkgadd -d
/cdrom/cdrom0/NTmg9km_07_XX_0.pkg
```

where `xx` is the release number.

The system responds with the following information.

```
The following packages are available:
1  NTmg9km07 Succession MG 9000 Manager
Midtier Server (sparc) 07.44
```

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

- c** Enter 1 and press Return to begin the server installation process.

The system responds as follows:

```
Executing checkinstall script.Using </opt> as
the package base directory.Processing package
information.Processing system information.1
package pathname is already properly
installed.
```

Note: If a message appears with a confirmation prompt to overwriting conflicting files, respond Y. If existing files are not overwritten, the MG 9000 Manager mid-tier server upgrade cannot continue.

```
Verifying disk space requirements.Checking
for conflicts with packages already
installed.Checking for setuid/setgid
programs.
```

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

```
Do you want to continue with the installation
of <NTmg9km07> [y,n,?]
```

```
# Y
```

Note: Verify that “Installation of <NTmg9km_07_xx_0> was successful.” If there are any errors please contact your next level of support.

- d** The installation continues automatically and installs all the mid-tier server files in /opt/nortel/mg9kmtr_07 subdirectory as noted in the system response.

```
Installing Succession MG 9000 Manager Midtier
Server as <NTmg9km07>
```

```
## Installing part 1 of 1.
```

```
.
.
.
```

```
Configuring system, please wait ...
```

```
Installation of <NTmg9km07> was successful.
The Installation is complete.
```

After the installation is complete, a message appears reporting that the installation was successful.

- e** Eject the CD from the CD-ROM drive.
- f** To configure the mid-tier server, type

```
# /opt/nortel/mg9kmtr_07/bin/mg9kconfig.sh
```

If previous installation settings are detected, the installation will ask if the previous settings should be accepted.

- g** The system responds as follows.

```
Setup has detected configuration settings
from a previous installation. If you choose
to continue, your username and password from
the previous installation will be used.
```

```
*****
IP Address           : 47.xxx.xxx.215
SSL enabled          : true
Security Authentication Host : 47.xxx.xx.235
*****
```

```
Is the above information correct?
Press the enter key to accept the default
(y/n)?
```

```
Default: [n] =>
```

Enter Y to accept the default values.

```
> Y
```

- h** On the inactive side, install and configure the SN07 OM Collector software by performing procedure “Installing OM Collector software” in the SN07 version of *MG 9000 Performance Management*, NN10140-711.
- 8** On the active side, stop the MG 9000 Manager server application. To stop the server, type
- ```
> servstop MG9KSERVER_08
```
- 9** On the active side, stop the MG 9000 Manager mid-tier application. To stop the application, type
- ```
> servstop MG9KMIDTIER_08
```
- 10** On the active side, drop the SN08 tablespace by typing
- ```
>
/opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_drop.s
h
```
- 11** On the active side, restore the SN07 tablespace data from the file that was saved during the SN08 upgrade process by typing
- ```
>  
/opt/nortel/mg9ksrv_08/bin/mgems_ora_ts_restor  
e.sh <name of the file where the SN07 data was  
backed up>
```
- Refer to procedure “Upgrading MG 9000 Manager software from SN06.2 or SN07 to SN08” step 1e, in *Upgrading a Carrier Voice over IP Network*, NN10440-450.
- 12** Telnet to the cluster IP address, login to the active unit and perform a failover of the system by typing
- ```
> init 6
```
- 13** This procedure is complete.

---

## Patching MG 9000 Manager software

---

The MG 9000 Manager server, mid-tier, and OM Collector are patched using the Network Patching Manager (NPM) patching system. The user must restart the server, mid-tier, and OM Collector applications through the NPM following application or removal of patches.

For information and procedures for patching the MG 9000 Manager software using the NPM, refer to the Succession Patching chapter in *Upgrading a Carrier Voice over IP Network*, NN10440-450.

The following logs are generated when the MG 9000 Manager server shuts down or starts:

- MGEM700 - The element manger server is starting.
- MGEM702 - The mid-tier server is now starting.
- MGEM703 - The mid-tier server is shutting down.
- OMC700 - The OM Collector process was started.
- OMC701 - The OM Collector process is shutting down.



# Upgrading the MG 9000

---

This section provides a description of the upgrade process and the software upgrade tool in the MG 9000 Manager used to upgrade software in the cards in the MG 9000. The following procedures for upgrading the MG 9000 are included in this section:

- [Installing MG 9000 loads into the CS 2000 Management Tools Manager from CDROM on page 60](#)
- [Deliver and install MG 9000 loads using Electronic Software Delivery on page 63](#)
- [Provisioning a floating IP address on page 70](#)
- information on the process and tools used to upgrade software in the MG 9000 cards
  - [Upgrading software in MG 9000 cards on page 73](#)
  - [Software Upgrade View on page 75](#)
  - [Software upgrade errors and problem resolution on page 82](#)
  - [Upgrade Wizard overview on page 88](#)
- upgrade procedures by type
  - [Card upgrade with user intervention on page 99](#)
  - [Card upgrade without user intervention on page 104](#)
  - [MG upgrades on page 108](#)
- [Downloading software into the MTA card on page 110](#)
- [Downloading software into the xDSL card on page 112](#)
- [Upgrade history on page 114](#)
- [Patching the MG 9000 on page 117](#)

---

## Installing MG 9000 loads into CS 2000 Core Mgr from CDROM

---

### Purpose of this procedure

This procedure describes how to install the MG 9000 software loads onto the CS 2000 Core Manager (SDM) from CDROM.

### When to use this procedure

This procedure is to be used when a Maintenance Non-computing Load (MNCL) software release or standard NCL is delivered to the customer site.

### Prerequisites

When supporting an upgrade from SN06.2 or SN07 to SN08, ensure the SN06.2 or SN07 loads are currently in the SDM/CBM in the event there is a need to perform a software downgrade from SN08 to SN06.2 or SN07.

### Action

#### Installing MG 9000 loads into the CS 2000 Management Tools Manager from CDROM

##### *At the CS 2000 Management Tools Manager*

- 1 Insert the CDROM into the CDROM tray. If the unit is a Netra 240 in a cluster configuration, use the active Netra 240 unit. The active unit is identified by a lit USER LED on the front of the unit.  
  
The CDROM label for the SAM21 Shelf Controller software includes the product code, MG9K0080, on the lower half of the label.

##### *At the CS 2000 Management Tools console or terminal window*

- 2 Log in and then use the su command to gain root privilege.  

```
login: username
Password: <password>
Last login: Fri Jun 30 12:48:18 from <otherhost>
su - root
Password: <password>
```
- 3 Execute the platform\_load\_install.sh script by typing  

```
/opt/nortel/sspfs/Scripts/platform_load_inst
all.sh
```

The system responds with the following.

```
Welcome to the Platform Installation Tool
Version 3.2
```

```
=====
RPM INSTALLATION/REMOVAL
=====
1) Install RPM from CDROM 2) Install RPM from
 Disk
3) Uninstall RPM 4) Query all RPMs

OTHER
=====
C) Change Rotation Parameters P) View Rotation
 Parameters
V) MG9K Platform Version X) Exit
Installed
```

Please choose one of the following:

- 4** To install the software type **1** and press the Return key.  
The screen clears and the contents of the .rpm package are displayed.  
**Note:** If the message `There is no cd in the CDROM drive, please check drive is displayed`, ensure that the CDROM is inserted in the tray for this unit.
- 5** To proceed with the software installation, type **Y**.  
The software is extracted from the .rpm package. The .rpm package is transferred to the CS 2000 Core Manager.
- 6** Enter the root password for the CS 2000 Core Manager. The software is installed on the CS 2000 Core Manager.
- 7** Enter the Eject command to eject the CD from the CDROM drive.  
**# eject**
- 8** Log out of the CS 2000 Management Tools server.
- 9** Change the ownership of all files in the /swd/mg9k directory to imaging userid by performing the following steps:
  - a** Login as root to the SDM/CBM as root.



---

## Deliver and install MG 9000 loads using Electronic Software Delivery

---

### Purpose of this procedure

This procedure describes how to transfer MG 9000 software loads from Nortel Networks to a customer drop box using the Electronic Software Delivery (ESD) method, and how to install the transferred load onto the CS 2000 Core Manager.

**Note:** For information on how to install MG 9000 load from CD-ROM, refer to procedure [Installing MG 9000 loads into the CS 2000 Management Tools Manager from CDROM on page 60](#).

### When to use this procedure

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

- MG9KC0080.n.V.NCL.NAP.VAULT.nn.D.tar.gz - for standard NCL release
- MG9KW0080.n.V.NCL.NAP.VAULT.nn.D.tar.gz - for standard International NCL release
- MG9K0M080.n.V.NCL.NAP.VAULT.nn.D.tar.gz - for maintenance (MNCL) release

*where*

**n**

is an integer value such as 7 and is part of the product order code

**vault**

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

**nn**

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

### Prerequisites

Your operating company must have an ESD agreement with Nortel Networks. When the agreement was established, the operating company furnished Nortel Networks with the location of an electronic drop box and a user name and password pair for delivering software loads. When Nortel Networks delivers a software load to the drop box, an electronic mail notification is sent to the e-mail address specified by the telephone operating company when the ESD agreement was established.

## Action

### *At a CS 2000 Management Tools server terminal*

- 1 Make a temporary directory to store the ESD software by typing  
**\$ mkdir /data/iso\_esd**  
and pressing the Enter key.
- 2 Change directory to the newly created location by typing  
**\$ cd /data/iso\_esd**  
and pressing the Enter key.
- 3 Ensure that enough disk space is available for the ESD software (500 MByte is recommended) by typing  
**\$ df -k /data**  
and pressing the Enter key.

*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.*

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

| Filesystem      | kbytes  | used   | avail   | capacity | Mounted on |
|-----------------|---------|--------|---------|----------|------------|
| /dev/md/dsk/d20 | 3082223 | 144125 | 2876454 | 5%       | /data      |

```
2876454 / 1000 = 2876 MB free
```

- 4 Transfer the ESD software files from the drop box on the repository server by typing  
**\$ ftp <repository\_server>**  
and pressing the Enter key.  
*where*  
**<repository\_server>**  
is the machine owned by the telephone operating company that was selected to be the destination for the ESD software files

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

- 5 Change the transfer mode to binary by typing

```
ftp> bin
```

and pressing the Enter key.

- 6 Retrieve the ESD software load by typing

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

and pressing the Enter key.

where

**<esd\_filename>**

is the ESD filename for the MG 9000 software load

**Example**

```
ftp> get MG9KC0080.70.V.NCL.NAP.VAULT.8.D.tar.gz
```

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

- 7 Repeat step 6 for all ESD software loads recorded in the notification from Nortel Networks.

- 8 End the FTP session by typing

```
ftp> bye
```

and pressing the Enter key.

- 9 Extract the ESD software load from the tape archive format by typing

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

and pressing the Enter key.

where

**<esd\_filename>**

is the ESD filename for the MG 9000 software load

**Example**

```
$ gtar xvzf MG9KC0080.70.V.NCL.NAP.VAULT.8.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.*

- 10** Access the newly created directory by typing
- ```
$ cd <esd_filename_directory>
```
- and pressing the Enter key.
- where*
- <esd_filename_directory>**
is the new directory created to store the extracted software load
- Example**
- ```
$ cd MG9KC0080.70.V.NCL.NAP.VAULT.8.D
```
- 11** Become the root user by typing
- ```
$ su - root
```
- and pressing the Enter key.
- 12** When prompted, enter the root password.
- 13** The ESD software is formatted as an ISO 9660 image. Mount the ISO 9660 image (using the mount_iso.ksh script) by typing
- ```
/opt/nortel/sspfs/Scripts/mount_iso.ksh mount /data/iso_esd/<esd_directory>/<iso_image>.img.tape
```
- and pressing the Enter key.
- where*
- <esd\_directory>**  
is the directory created in step [9](#)
- <iso\_image>**  
is the name of the iso image
- Note:** A space is required after the word mount and before the word /data.
- Example**
- ```
# mount_iso.ksh mount /data/iso_esd/MG9KC0080.70.V.NCL.NAP.VAULT.8D/GN070_load.iso.tape
```

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

mount_iso.ksh command responses

Response	Meaning and action
Is is very important for the user of this command to know that if you mount an iso image. It is a MUST that you umount 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 as /data/iso_esd/MG9KC008.../...img.tape, and retry.
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 Networks support personnel.
ERROR MOUNTING <ESD_filename>	This response indicates that either the ISO 9660 file is corrupt, or the /tmpmnt/noarch directory has been deleted.

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

- 14** Use the following table to determine your next step.

If you want to install the software	Do
later	go to step 15
now	go to step 16

- 15** Copy the contents to a location on the CS 2000 Management Tools server by typing

```
# cp /tmpmnt/noarch/*.* <directory_name>
```

and pressing the Enter key.

where

<directory_name>

is a directory on the CS 2000 Management Tools server, for example /data/iso_esd

Note: Ensure that you have write permission to this directory, and that the same file permissions are set at the old and copied locations.

When installing the software at the later date, complete step [16](#), but in sub-step [e](#), specify the new location of the software instead of typing /tmpmnt/noarch.

Continue with step [17](#).

- 16** Complete the following steps to install the software on the CS 2000 Core Manager.
- a** List the contents of the /tmpmnt/noarch directory by typing

```
# ls /tmpmnt/noarch
```

and pressing the Enter key.
Record the name of the .rpm file.
 - b** Execute the installation script by typing

```
# platform_load_install.sh
```

and pressing the Enter key.
 - c** When prompted, select the option "Install RPM from Disk" by typing

```
> 2
```

and pressing the Enter key.
 - d** When prompted, enter the .rpm filename and press the Enter key.

- e When prompted, enter the location of the .rpm file by typing
/tmpmnt/noarch
and pressing the Enter key.
The system installs the software on the CS 2000 Core Manager.
After the load file is installed on the CS 2000 Core Manager, the transferred .rpm package is deleted from the CS 2000 Core Manager.
 - f Exit the installation program by typing
x
and pressing the Enter key.
- 17** Unmount the ESD file by typing
mount_iso.ksh umount
and pressing the Enter key.
- 18** This procedure is complete.

Provisioning a floating IP address

Purpose of this procedure

The MG 9000 Manager assigns the floating IP address to the card being upgraded dynamically. The floating IP address is provisioned from the MG 9000 Manager as described in the following procedure. Provisioning a floating IP address should be performed during initial installation and commissioning. The floating IP address is persisted in the MG 9000 Manager data.

Note: Before beginning, ensure you have the correct privileges to perform this procedure.

Contact your network administrator to obtain a new IP address when a new floating IP address must be provisioned.

When to use this procedure

This procedure is provided only if the need arises to change, correct, or add the floating IP address.

Prerequisites

There are no prerequisites.

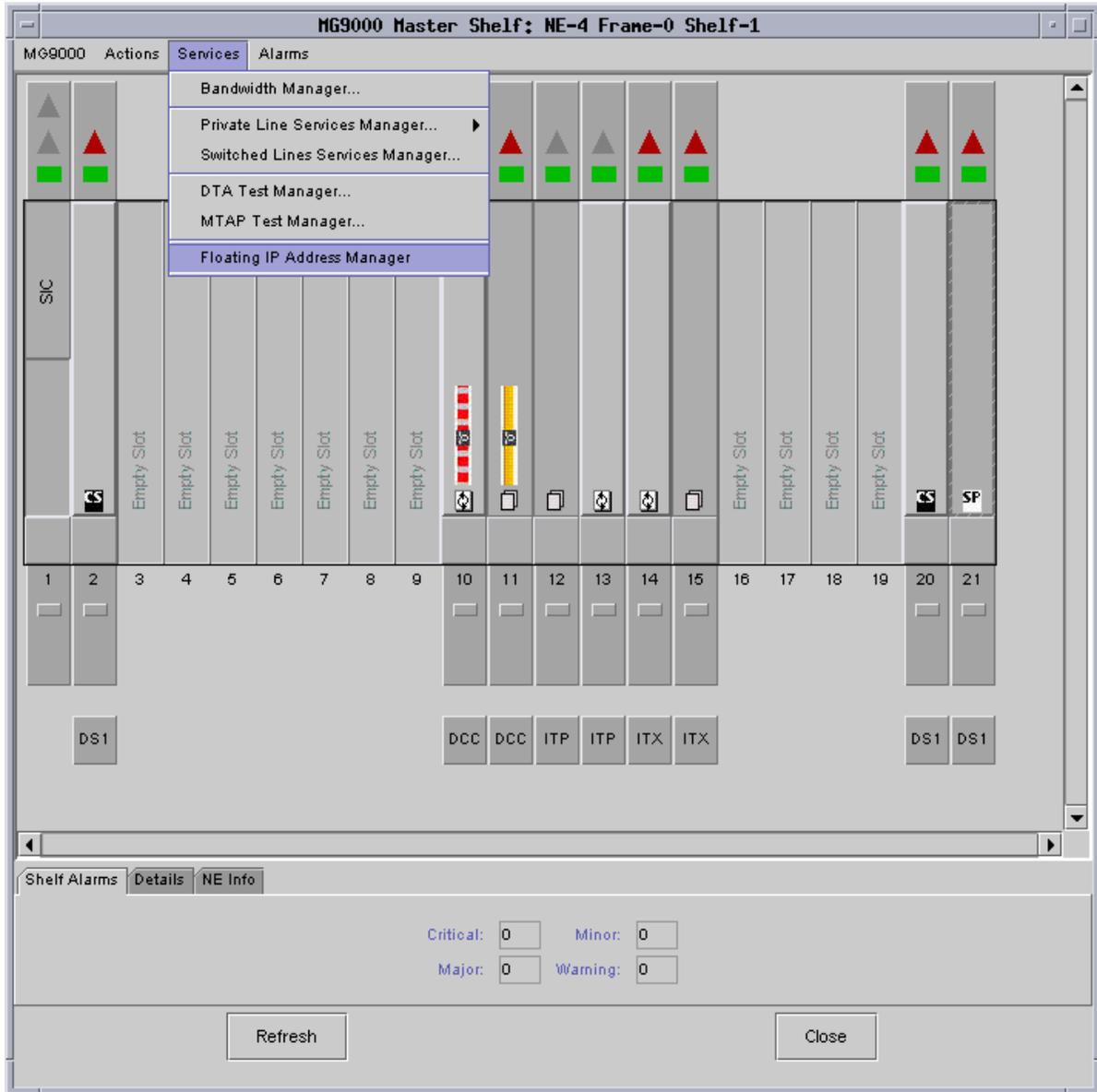
Action

Provisioning a floating IP address

At the MG 9000 Manager

- 1 Verify whether a floating IP address has already been provisioned at the MG 9000 Manager by selecting Services->Floating IP Address Manager from the menu bar of any Frame, Shelf, or Card View. This address must be in the same subnet as the MG 9000.
- 2 To provision a floating IP address in the MG 9000 Manager if necessary, perform the following steps:
 - a From any Frame, Shelf, or Card view select the menu Services. From within Services select Floating IP Address Manager, as shown in the following figure.

Floating IP Address Manager accessed from Shelf View



- b** Enter the IP address in the Floating IP Address Manager and select Apply. The address will be displayed under existing IP addresses. When finished, select Close.

Floating IP Address Manager View



- c** If the floating IP address must be replaced, delete the entry first. To delete an entry select the entry, select the Delete check box, then press Apply. When finished select Close.
 - d** If the floating IP address is correct, select Close.
- 3** This procedure is complete. If this is part of an upgrade, return to the upgrade checklist to continue with the upgrade process.

Upgrading software in MG 9000 cards

This section provides an overview of upgrading software in MG 9000 cards.

The MG 9000 Manager provides tools for upgrading software in MG 9000 cards to upgrade the software in the following intelligent cards in the MG 9000:

- data control card (DCC)
 - OC-3
 - DS1-IMA
 - Gigabit Ethernet (GigE)
- Internet telephony extender (ITX) card
- Internet telephony processor (ITP) card
- DS-512 Access Bridging Interface (ABI) card
- DS1 card (not used in UA-IP solution)
- metallic test access (MTA) card
- x digital subscriber line (xDSL) card

The Software Upgrade Wizard supports two types of upgrade: Complete Upgrade or Download only. The following cards only use the Software Upgrade Wizard when a Complete Download is selected from the MG Upgrade Wizard. Otherwise, each card must have the software downloaded into it individually using the Software Download tool accessed from the card view for each card. The software download procedures for these cards are provided later in this document.

- MTA card
- xDSL card

The software upgrade consists of the following four steps:

1. **Configure** - The configuration parameters are entered in a Card Upgrade Wizard or MG Upgrade Wizard described later.
2. **Download** - The MG 9000 is requested to download the software load to a card or cards based in the parameters configured in the previous step. The load is downloaded and stored in flash memory.

3. Apply - The software load is installed. A restart is performed in the card.
4. Accept - The new installed load is made the primary load. The user can no longer revert to the old load unless a complete downgrade is performed.

An additional Abort step can be used to abort an upgrade in progress, an revert back to the old load.

Note: Software upgrade of cards in the MG 9000 must be performed in the following order DS1, ABI, ITP, ITX, DCC.

There are two ways to perform a software upgrade.

- with user interaction - The user must enter separate commands to perform the download, apply, and accept steps.
- without user interaction - The user enters a single command to perform the download, apply, and accept steps.

Upgrade version rules

The software upgrade application requires the following version order when an upgrade is performed to a load with the same version or to higher version load.

- DS1 or ABI
- ITP
- ITX
- DCC

Note 1: When it is necessary to downgrade to SN06.2 or SN07 from SN08, perform procedure [Downgrading the MG 9000 and MG 9000 Manager from SN08 to SN06.2 or SN07 on page 32](#).

Note 2: During a downgrade, attempting to upgrade cards to a version lower than the DCC card is not supported.

Upgrades - the supported upgrade path for the MG 9000 is from SN07 to SN08 for the UA-IP solution and from SN06.2 or SN07 to SN08 for the UA-AAL1 solution.

Downgrades - the supported downgrade path for the MG 9000 is from SN08 to SN06.2 or SN07 for UA-AAL1 and SN08 to SN07 for UA-IP.

Software Upgrade View

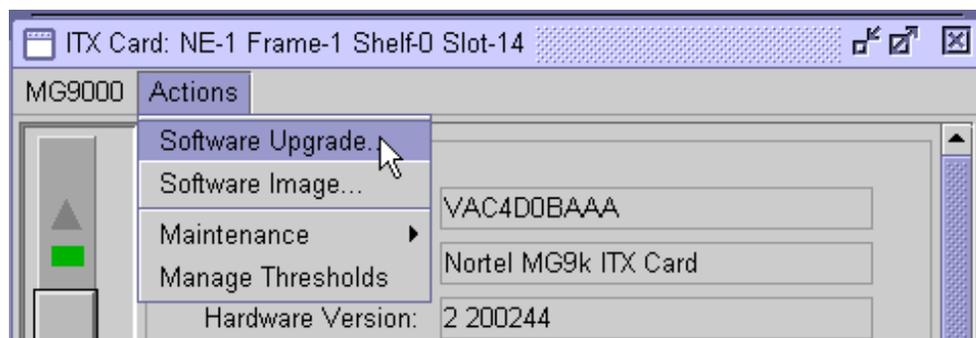
This section provides an overview of the Software Upgrade tool in the MG 9000 Manager.

The software upgrade is performed using the Software Upgrade tool. The Software Upgrade tool is accessed from the MG 9000 Manager. When accessed, the Software Upgrade View appears. The Software Upgrade view is accessed from the

- Card View for upgrading a single card, protection group, or all cards of the same type
- Frame View for upgrading multiple card types

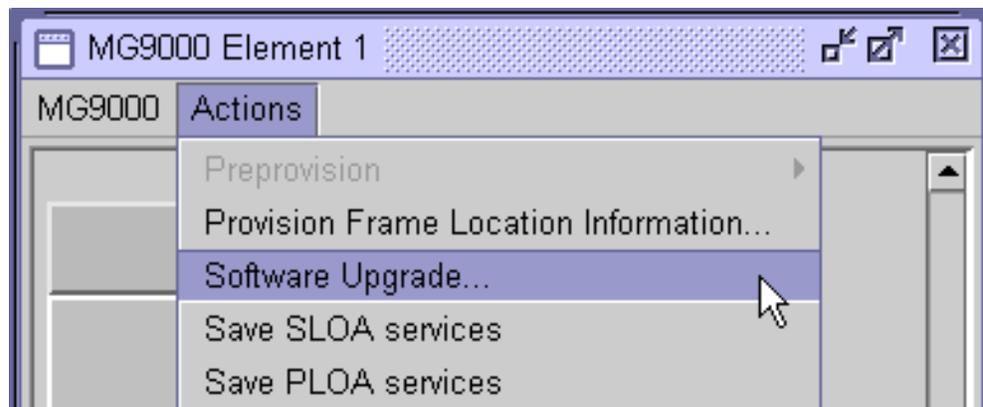
The following figure shows accessing Software Upgrade from the Actions pull-down menu from the Card View

Software upgrade accessed from Card View (ITX Card view shown)



The following figure shows accessing Software upgrade from the Actions pull-down menu from the Frame View.

Software upgrade accessed from Frame View



The Software Upgrade view contains the following four panels

- Upgrade Originator panel - displays the name and number of the MG 9000 where the upgrade is taking place and the location of the view from which the upgrade command was invoked. In addition, The Originator field indicates whether the upgrade is being controlled from the GUI or the CLUI.
- Upgrade State - displays text fields with information about an upgrade in progress which includes the status and the action being performed or just completed. The action and upgrade type fields are updated when the upgrade request is confirmed. The upgrade status is updated as upgrade steps are performed.
- Upgrade Type Data - displays data used to perform the upgrade. The text fields in this panel are updated when the configure step is completed. When the upgrade is for a single card type, protection group, or single card it includes text fields for the cards being upgraded, the load server, the user identifier that is used to access the load server, and the full path to the load name. The text field upgrading indicates the cards being upgraded as follows
 - For a single card upgrade, this field displays the location of the card being upgraded.
 - For an active/inactive pair of mate cards, the shelf location followed by the two slot numbers is displayed.
 - For a card type upgrade, the card type being upgraded is indicated.
- Upgrade Instructions & Results - displays the results of an upgrade step and instructions for the next step to perform

Seven buttons are provided in the lower area of the view to enable the user to perform commands. The buttons are described in the following table.

Software Upgrade View buttons and descriptions

Button	Description
History	This button creates a new view that shows the upgrade history for the given MG 9000. Refer to Upgrade history on page 114 .
Refresh	This button updates the Software Upgrade View.

Software Upgrade View buttons and descriptions

Button	Description
<upgrade step>	<p>This is the second button from the left. This button is used to perform an upgrade step. It changes its label depending on the next step to be performed. It is greyed out when the step is no longer valid.</p> <p>The labels assumed by this button are described as follows:</p> <ul style="list-style-type: none"> • Configure - The upgrade step button is set to this label when the view is first created, and after an abort is completed. <ul style="list-style-type: none"> — When pressed on the Software Upgrade accessed from the Card View, the Card Upgrade Wizard is created. — When pressed on the Software Upgrade accessed from the Frame View, the Upgrade Type Selection panel is created. <p>See section Upgrade Wizard overview on page 88. If another user is performing a software upgrade, a message is output indicating the tool is in use and the Configure button is disabled.</p> <ul style="list-style-type: none"> • Upgrade - The Upgrade step button appears when an upgrade without user interaction is chosen. This step accomplishes the actions described in the following three buttons that appear when user interaction is selected. <p>The following labels appear when user interaction is selected:</p> <ul style="list-style-type: none"> • Download (not applicable to the Software Upgrade accessed from the Frame View) - The upgrade step button is set to this label when the upgrade wizard finishes the configuration for an upgrade with user interaction. When pressed, the MG 9000 is requested to perform a download. The parameters provided by the upgrade wizard are sent to the MG 9000 in the download request. • Apply (not applicable to the Software Upgrade accessed from the Frame View) - The upgrade step button is set to this label when the MG 9000 completes the download step successfully. When this button is pressed the MG 9000 is requested to apply the load to the card previously downloaded. • Accept (not applicable to the Software Upgrade accessed from the Frame View) - The upgrade step button is set to this label when the MG 9000 completes the apply step successfully. When this button is pressed, the MG 9000 is requested to accept this load as the primary load.
Version List	View all versions of the cards.

Software Upgrade View buttons and descriptions

Button	Description
Abort	This button is used to request the MG 9000 perform an abort. The button is enabled when an upgrade without user interaction is executed, and when the download step for an upgrade with user interaction is performed. It remains enabled until an abort is initiated or the accept step of the upgrade is initiated. In certain situations, such as when a fault on a card cannot be corrected, the MG 9000 cannot abort and revert back to the old loads. If the abort fails and there is no other way to stop the upgrade, use the Reset Upgrade System command located on the MG9000 History view (refer to Upgrade history on page 114).
Close	<p>This button is used to close this view. It is disabled while the upgrade is in progress. The button is enabled when an accept or an abort step is completed.</p> <p>An upgrade view can also be closed by the Close command in the window menu. A Close command is also provided in the MG 9000 menu. For the last two cases the Close command is not disabled when an upgrade is in progress.</p>
Retry	This button is enabled only if a step in the upgrade process fails. Retry is used to continue an upgrade action from the place where it stopped after the customer has corrected the problem.

The following figure shows the Software Upgrade View accessed from the Card View.

Software Upgrade View accessed from Card View

The screenshot shows a web browser window titled "MG 9000 Software Upgrade Element: 1". The main content area is labeled "MG9000" and contains several sections:

- Upgrade Originator:** Contains two input fields: "MG 9000 Name:" with the value "VOIP10 1" and "Originating View:" with the value "GUI: ITX Card: NE-1 Frame-1 Shelf-0 Slot-14".
- Upgrade State:** Contains three input fields: "Upgrade Status:" with the value "Waiting for Configure.", "Upgrade Action:", and "Upgrade Type:".
- Upgrade Type Data:** Contains four input fields: "Upgrading:", "Load Server:", "Load Server User Id:", and "Load:".
- Upgrade Instructions & Results:** A text area containing the following instructions:
Press Configure to invoke the Upgrade Configuration Wizard.
Or press Version List to see all the versions of the cards.
Or press History to see the results of previous upgrades.

At the bottom of the window, there is a row of buttons: History, Refresh, Configure, Version List, Abort, Retry, and Close.

When performing an upgrade of multiple card types, from the Frame View of the MG 9000 to be upgraded, select Actions->Software Upgrade. The Software Upgrade View accessed from the Frame View appears as shown in the following figure.

Software Upgrade View accessed from Frame View

MG 9000 Software Upgrade Element: 1

MG9000

Upgrade Originator

MG 9000 Name: VOIP10 1

Originating View: GUI: MG9000 Element 1

Upgrade State:

Upgrade Status: Waiting for Configure.

Upgrade Action:

Upgrade Type:

Upgrade Type Data:

Upgrading:

Load Server:

Load Server User Id:

Load:

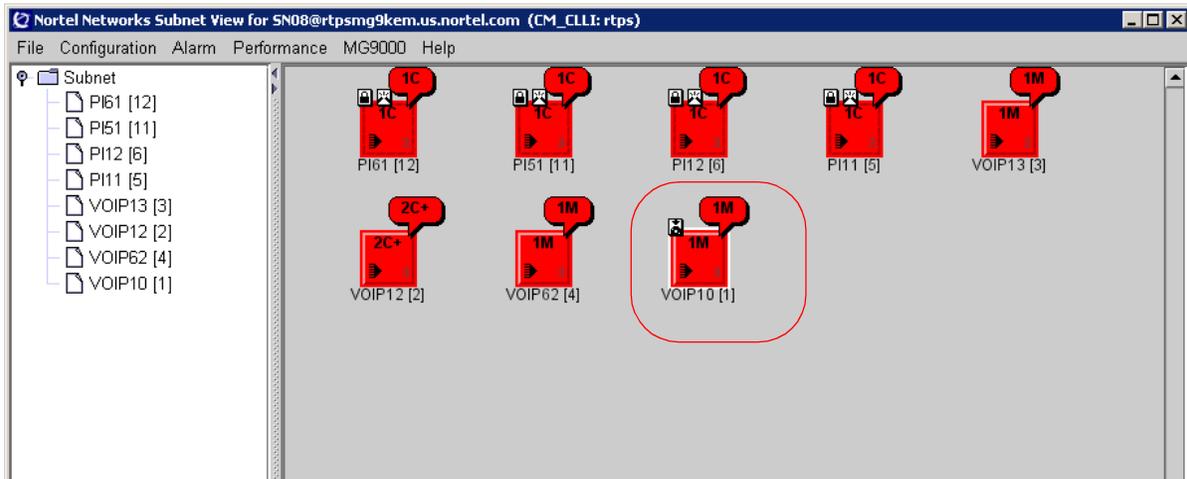
Upgrade Instructions & Results:

Press Configure to invoke the Upgrade Configuration Wizard.
Or press Version List to see all the versions of the cards.
Or press History to see the results of previous upgrades.

History Refresh Configure Version List Abort Retry Close

The following figure shows the Subnet View with the download icon on top of the MG 9000 on which a software download is in progress. The download icon also appears at the card and shelf views. The icon remains until the upgrade is complete or an abort completes.

Subnet View showing download icon



The following figure shows the version list that appears in response to selecting the Version List button on the Software Upgrade View. The version list shows all common cards on the selected MG 9000 and the software version of the loads in the card.

Version list

Card Type	Location	Version
Supercore OC3 Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 11	08_0
Supercore OC3 Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 10	08_0
XDSL Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 9	06_2
MTA Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 1 2	08_0
XDSL Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 16	06_2
ITX Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 15	08_0
ITP Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 1 13	08_0
ITX Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 14	08_0
ITP Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 1 12	08_0
ITP Card	NE Number: 1 NE Name: VOIP10 PhysLoc: 1 0 13	08_0

Software upgrade errors and problem resolution

The following table lists the errors that may arise at various steps in the MG 9000 software upgrade process, the cause, and recovery actions.

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
Upgrade provisioning errors		
Invalid file type	This error is received if the card type selected is invalid for the load file name provided. Every load file name has the card type embedded within it.	Ensure the load file name is valid for the card type to be provisioned, then try again.
Invalid Version	This error is received if the version number embedded within the load file name is invalid for this gateway. For example, if it is only valid to upgrade to versions 5 or 6 and the loadfile name contains version 8, an error is displayed.	Ensure the load file name version is valid for the attempted upgrade, then try again.
Invalid State	This card is locked or active.	<p>If this card is active and does have a mate, the request will be denied. First Swact/Spare the card to its mate and continue.</p> <p>If this card is inactive, but locked, first unlock the card and continue.</p>

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
Download errors		
FTP server related	<p>Possible causes:</p> <ul style="list-style-type: none"> • incorrectSDM loadfile/path permissions • floating IP configuration error • network connection failure identified during the provisioning activity 	Abort the upgrade. Check provisioned data for validity and provision another upgrade.
Corrupt File	<p>This error may be due to:</p> <ul style="list-style-type: none"> • provisioning an incompatible load file for this card. For instance, if the card type is ITP, the load file name must include ITP. The same is true for other cards. • insufficient memory for an image file 	<p>Abort the upgrade.</p> <ul style="list-style-type: none"> • For the incompatible load file error, check the file name type and provision another upgrade. • For the insufficient memory error, go to dshell and do a filesys/finfo and look at the freespace on the volume. It should be about three times the size of the image file.
Node Not Responding	The card may be undergoing a maintenance operation or is in an otherwise invalid state (such as, restarting) or may not be running.	Go to the Card View and verify the card status, if the card status appears correct the error may have been due to an longer than expected communication delay. Abort the upgrade and try again
Apply errors		
State	If this card is Active, an Apply will fail if this card has a mate.	Abort the upgrade. Cause a redundancy action (Swact or Spare) to occur. This card may have been Inactive during the provisioning of the upgrade. A redundancy action may have occurred which would be the reason the card is no longer Active.

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
Node Not Responding	This card may be undergoing a maintenance operation, is in an otherwise invalid state (such as, restarting) or may not be running.	Go to the Card View and verify the card status, if the card status appears correct the error may have been due to an longer than expected communication delay. Abort this upgrade and try again
SwactDataSync Multi-Node Only	Mate cards in a protection group are NOT in data sync, a required Swact has failed or will not be executed	<p>Go to the Card View and lock the card, then go to the Card View for the Inactive mate and unlock the card. The unlock action will cause a restart (since they are not in data sync).</p> <p>Once the Inactive card has completed its restart, attempt to Abort.</p> <p>Note: If after multiple tries data sync is not achieved, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>
SwactMateState Multi-Node Only	For reasons other than not in DataSync, the Active card refuses to give up activity (possibly due to faults on the inActive card).	<p>Determine what the fault state or problem with the inActive card is and correct it.</p> <p>Once the inActive card is in a valid state, you may then again attempt to Abort.</p> <p>Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>
SwactMateUnav ailable Multi-Node Only	A communication problem exists between the Inactive and the Active cards. A Swact is not allowed.	<p>Resolve the communication problem.</p> <p>Once the Inactive card is in a valid state, attempt to Abort.</p> <p>Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
SwactError Multi-Node Only	A generic error associated with a Swact request, but enough information cannot be obtained for the Upgrade subsystem to identify the cause.	Contact your maintenance administrator to identify and resolve the problem. Once the card(s) are in a valid state, attempt to Abort. Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.
Generic	See Above	Contact Nortel Networks.
Accept errors		
Node Not Responding	The card may be undergoing a maintenance operation, is in an otherwise invalid state (such as restarting) or may not be running.	Go to the Card View and verify the card status, if the card status appears correct the error may have been due to an longer than expected communication delay. Abort the upgrade and try again
GENERIC	See Above	Contact Nortel Networks.
Abort errors		
Node Not Responding	The card may be undergoing a maintenance operation, is in an otherwise invalid state (such as restarting) or may not be running.	Go to the Card View and verify the card status, if the card status appears correct, the error may have been due to an longer than expected communication delay. Abort this upgrade and try again.

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
SwactDataSync	Mate cards in a protection group are NOT in data sync, a required Swact has failed or will not be executed	<p>Go to the Card View and lock, then go to the Card View for the inActive mate and unlock the card. The unlock action will cause a restart (since they are not in data sync).</p> <p>Once the inActive card has completed its restart, you may then again attempt to Abort.</p> <p>Note: If after multiple tries data sync is not achieved, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>
SwactMateState	For reasons other than not in DataSync, the Active card refuses to give up activity (possibly due to faults on the Inactive card).	<p>Determine what the fault state or problem with the inActive card is and correct it.</p> <p>Once the Inactive card is in a valid attempt to Abort.</p> <p>Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>
SwactMateUnavailable	There is a communication problem between the Inactive and Active cards. A Swact is not allowed.	<p>Resolve the communications issue</p> <p>Once the Inactive card is in a valid state, again attempt to Abort.</p> <p>Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.</p>

MG 9000 software upgrade errors and problem resolution

Error type	Cause	Recovery action
SwactError	This is a generic error associated with a Swact request, but enough information cannot be obtained for the Upgrade subsystem to identify the cause.	Contact your maintenance administrator to identify and resolve the problem. Once the card(s) are in a valid state, attempt to Abort. Note: If you cannot correct the error, contact Nortel Networks for further guidance - additional upgrades are not possible until this is resolved.
GENERIC	See Above	Contact Nortel Networks

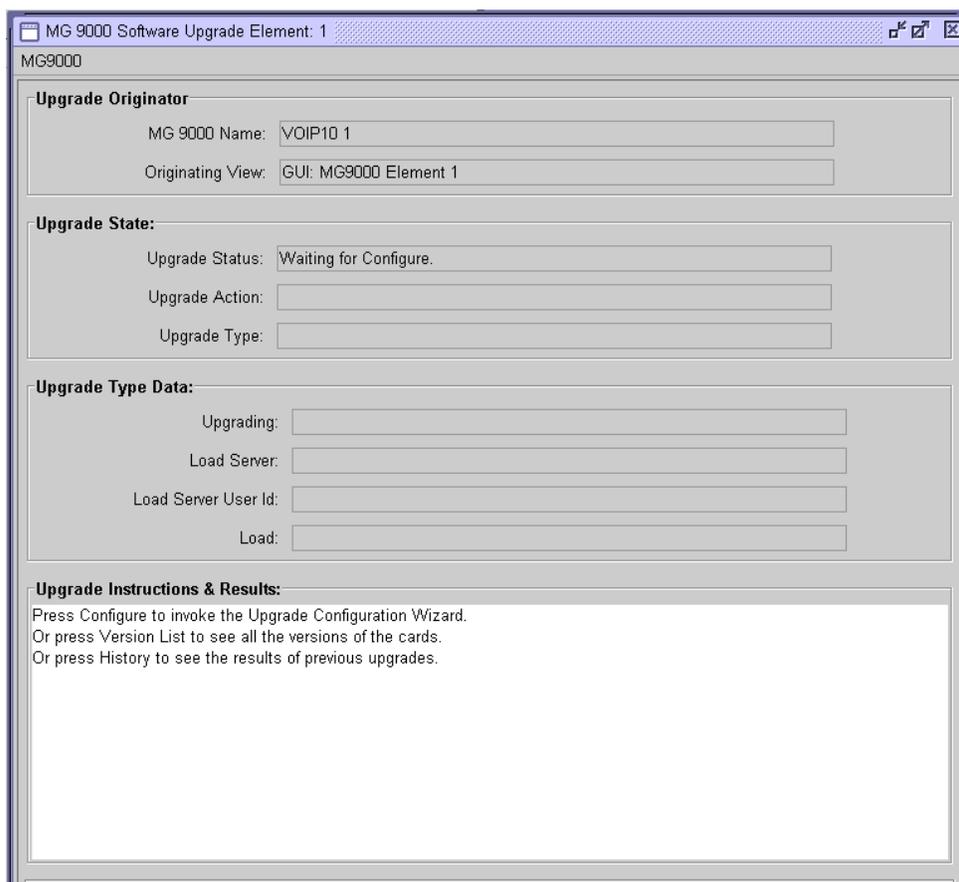
Upgrade Wizard overview

This section provides an overview of the upgrade wizard which is accessed from the Software Upgrade View.

The Software Upgrade View contains the following text fields:

- MG 9000 Name - provides the name and number of the MG 9000 selected for upgrade
- Originating view - provides the frame view of the MG 9000 view from which the software upgrade request has been originated
- Upgrade status - is set to Waiting for Configure
- All other fields are blank and then updated when the configuration step is completed and the Configure button is enabled. The user is instructed to perform the Configure step in the Upgrade Instructions & Results texts area. The following figure shows the Software Upgrade View.

Software Upgrade View



MG 9000 Software Upgrade Element: 1

MG9000

Upgrade Originator

MG 9000 Name: VOIP10 1

Originating View: GUI: MG9000 Element 1

Upgrade State:

Upgrade Status: Waiting for Configure.

Upgrade Action:

Upgrade Type:

Upgrade Type Data:

Upgrading:

Load Server:

Load Server User Id:

Load:

Upgrade Instructions & Results:

Press Configure to invoke the Upgrade Configuration Wizard.
Or press Version List to see all the versions of the cards.
Or press History to see the results of previous upgrades.

After clicking Configure, the Upgrade Wizard appears. The upgrade wizard is available in two forms, Card Upgrade Wizard and MG Upgrade Wizard, depending on how it was accessed. These two are described in the sections that follow.

Card Upgrade Wizard

This section provides an overview of the Card Upgrade Wizard. The Card Upgrade Wizard is accessed from the individual card view by selecting Actions->Software Upgrade from the menu bar and clicking on Configure in the Software Upgrade View.

The upgrade wizard consists of four panels. Each panel is a step in the card upgrade wizard and all steps are discussed next.

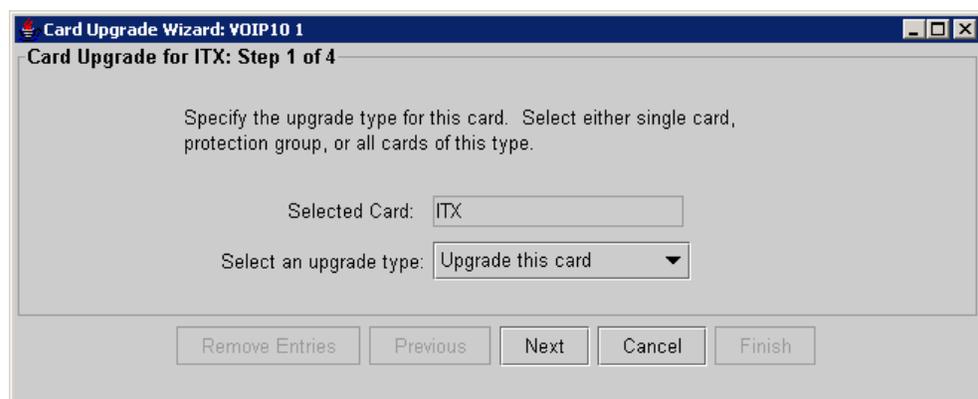
- The first Card Upgrade Wizard step (step 1) allows the user to specify the upgrade type by clicking on the pull down. The following three upgrade types are available:
 - card type - upgrade the individual card from which this panel was launched
 - protection group - upgrade the card from which this panel was launched and its redundant mate (though this option is available in the Card upgrade wizard, it is recommended that upgrades of a protection group be performed using the [MG Upgrade Wizard on page 94.](#))
 - all cards of this type - upgrade all cards of the selected type in the MG 9000 (though this option is available in the Card upgrade

wizard, it is recommended that upgrades of all card of a given type be performed using the [MG Upgrade Wizard on page 94.](#))

The upgrade procedures for protection group and all card type upgrades are similar to the upgrade procedures for single card upgrades. The difference are:

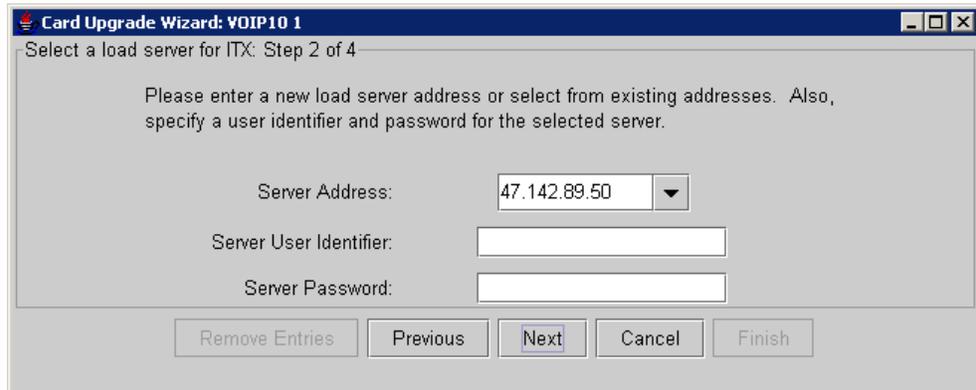
- upgrading of multiple cards instead of a single card with upgrade icon appearing on all cards being upgraded
- Swact occurs without user intervention as part of the upgrade

Card Upgrade Wizard, Step 1



- The next Card Upgrade Wizard step (step 2) allows the user to enter a load server IP address, a userid and password to be used to access the load server. The last six entries for the server IP address are remembered. The user can select between the last six entries or enter a new one. The user is not allowed to move to the next panel until all the entries on this panel are completed with valid data. If the entered IP address, userid, or password are not valid, an error message appears and the user must correct the entry for the upgrade process to proceed to the next step. The following figure shows the Card Upgrade Wizard, Step 2.

Card Upgrade Wizard, Step 2, select a load server



The screenshot shows a dialog box titled "Card Upgrade Wizard: VOIP10 1". The main text reads "Select a load server for ITX: Step 2 of 4". Below this, it says "Please enter a new load server address or select from existing addresses. Also, specify a user identifier and password for the selected server." There are three input fields: "Server Address:" with a dropdown menu showing "47.142.89.50", "Server User Identifier:" with an empty text box, and "Server Password:" with an empty text box. At the bottom, there are five buttons: "Remove Entries", "Previous", "Next", "Cancel", and "Finish".

- The next panel (step 3) allows the user to enter the directory and load name to be used for the upgrade. If the entered directory is incorrect, a message appears to inform the user and the directory must be corrected for the upgrade to proceed.

Click on the List button to retrieve the files from the load server and the combo box is populated with MG 9000 patched image (9PI) file names (identified by the .tar extension on the filename). Choose a file from the list. The following figure shows Step 3 of the Card Upgrade Wizard.

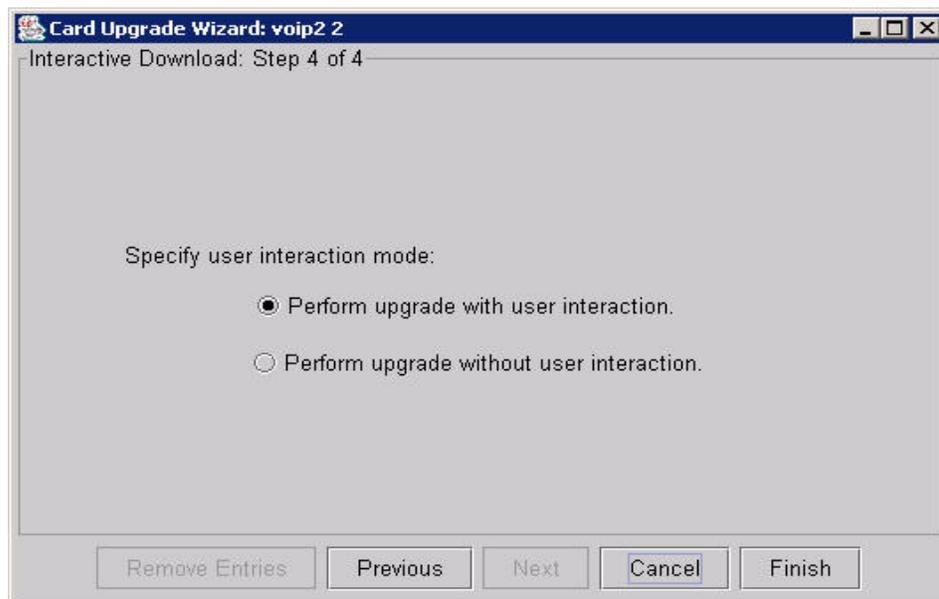
Card Upgrade Wizard, Step 3, specify a load



The screenshot shows a dialog box titled "MG Upgrade Wizard: co8 8". The main text reads "Specify a load for DS1: Step 3 of 3". Below this, it says "Please specify a software load directory and load name". There are two input fields: "Directory:" with a dropdown menu showing "/pub/loads/mg/SN06" and "Load Name:" with a dropdown menu showing "DS1G06BP.gz". A "List" button is located to the right of the Directory field. The Load Name dropdown menu is open, showing a list of files: "DS1G06BP.gz" (highlighted) and "DS1G06BP_GZ.tar". At the bottom, there are five buttons: "Remove Entries", "Previous", "Next", "Cancel", and "Finish".

- The next panel (step 4) prompts for the user to select between performing the upgrade with user interaction or without user interaction. The following figure shows Step 4 of the MG Upgrade Wizard.

Card Upgrade Wizard, Step 4, interactive download



- Perform upgrade without user interaction - It is recommended that this mode is used. When selecting this mode, after the user clicks Finish, the system responds with an Upgrade button on the Software Upgrade View. After the user clicks Upgrade, the system continues with the successful completion of each action, the next action automatically executes without any input needed from the user. The exception to this, is if an error occurs. Then the upgrade stops and the user must click Abort. Error messages will be output. Refer to [Software upgrade errors and problem resolution on page 82](#) for information on responding to errors.
- Perform upgrade with user interaction - When selecting this mode, the system responds with a Download button on the Software Upgrade View. The system then prompts for an Apply followed by an Accept. Like the previously discussed upgrade without user interaction, refer to [Software upgrade errors and problem resolution on page 82](#) for information on responding any errors that may occur.

Note 1: If a “Protection group” or “All cards of this type” upgrade is selected, during the Download action/phase of the upgrade, only one designated card gets the new software from the load server. All other cards involved with the upgrade get the new software from that card.

Note 2: If a “Protection group” or “All cards of this type” upgrade is selected, during an upgrade, a controlled, non-user

requested Swact occurs. The system raises redundancy notifications as normal while Apply action is occurring, only an encountered error terminates its progress.

The user interaction is as follows:

- Apply - After the system successfully completes the Download, the system prompts the user to click Apply. Apply causes the card to restart. After the restart has completed, the card will be executing the new, upgraded software. An automatic SWACT and restart of the mate occurs as part of the Apply action. (Not applicable to single card upgrades.)
- Accept - After the system successfully completes the Apply the system prompts the user to click Accept. Accept causes the card to complete its upgrade activity which takes a few seconds. The system notifies the user when the Accept is completed. Exit the upgrade view by pressing Close. Verify the upgrade is complete by viewing History.
- After clicking Finish, the Upgrade Wizard disappears and the Software Upgrade View prompts the user to click Download (with user interaction) or Upgrade (without user interaction) to start the upgrade process. Upgrade progress is reported in the Upgrade Instructions & Results window of the Software Upgrade View.

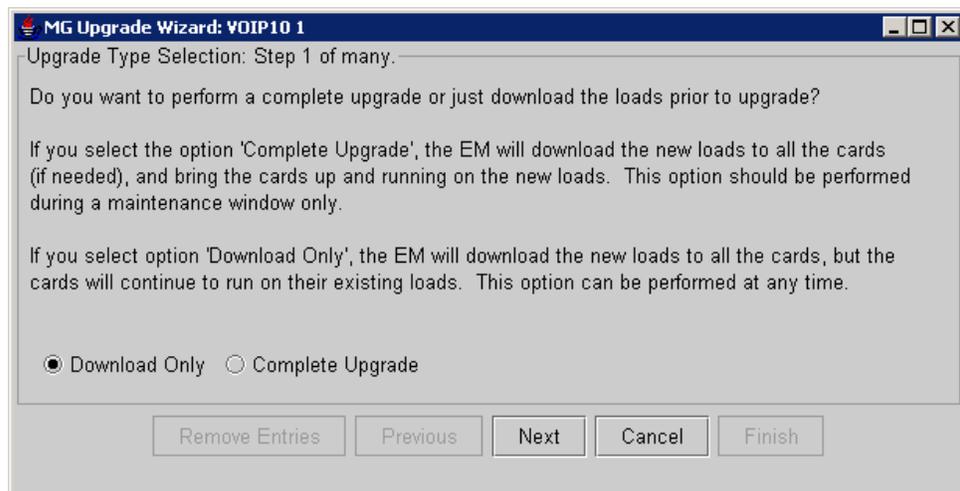
MG Upgrade Wizard

This section provides an overview of the MG Upgrade Wizard. The MG Upgrade Wizard is accessed from the Frame View by selecting Actions->Software Upgrade from the menu bar and clicking on Configure in the Software Upgrade View.

The upgrade wizard consists of multiple steps (panels), depending on the actions chosen in step 1. Each panel is a step in the MG Upgrade Wizard and all steps are discussed next.

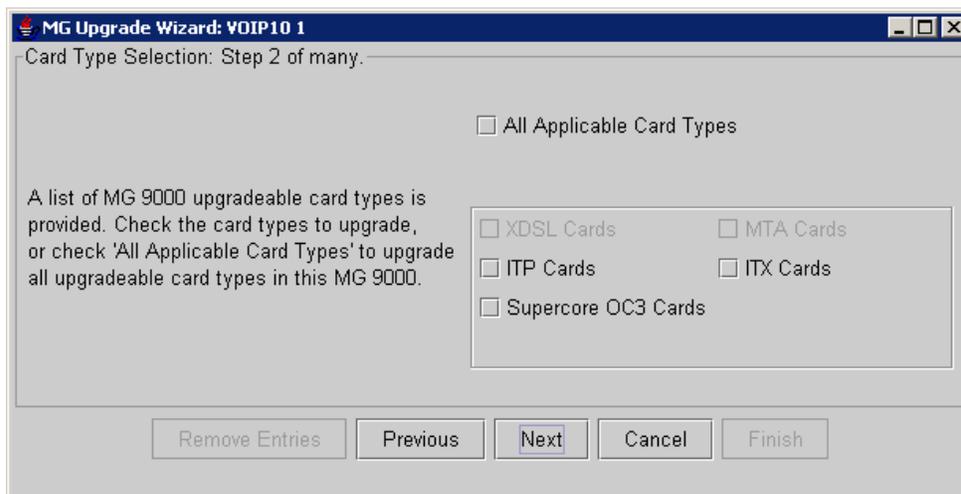
- The first MG Upgrade Wizard step (Step1) allows the user to select the upgrade type: complete upgrade or just download the loads prior to an upgrade. As noted in the GUI,
 - Complete Upgrade - the MG 9000 Manager downloads the loads to all the cards, if needed, and being the cards up and running on the new loads. This option should be performed during a maintenance window only.
 - Download Only - the MG 9000 Manager downloads the loads to all the cards but the cards continue to run on their existing loads. This option can be performed at any time.

MG Upgrade Wizard, Step 1, upgrade type selection



- The second MG Upgrade Wizard step (step 2) allows the user to specify All Card Types, one card type, or multiple card types. The MG Upgrade Wizard will upgrade the software in all cards of the selected type. The following figure shows the MG Upgrade Wizard, Card Type Selection, Step 2.

MG Upgrade Wizard, Step 2, card type selection, multiple cards



The MG Upgrade Wizard contains a list of card types available to be upgraded on the given MG 9000. One or more than one card types can be selected for upgrade. The user can also select all the card types on a given MG 9000 by selecting All Card Types. This panel will enable or disable the check boxes for MTA and xDSL card types based on the user's selection in the Upgrade Type Selection Type, Step 1.

- The next MG Upgrade Wizard (step 3) allows the user to enter a load server IP address, a userid and password to be used to access the load server. The last six entries for the server IP address are remembered. The user can select between the last six entries or enter a new one. A user is not allowed to move to the next panel until all the entries on this panel are completed with valid data. The following figure shows the MG Upgrade Wizard, Step 3.

MG Upgrade Wizard, Step 3, select a load server



The screenshot shows a dialog box titled "MG Upgrade Wizard: VOIP10 1". The subtitle is "Select a load server for selected cards: Step 3 of 4". The main text reads: "Please enter a new load server address or select from existing addresses. Also, specify a user identifier and password for the selected server." Below this text are three input fields: "Server Address:" with a dropdown menu showing "47.142.89.50", "Server User Identifier:" with a text box, and "Server Password:" with a text box. At the bottom of the dialog are five buttons: "Remove Entries", "Previous", "Next", "Cancel", and "Finish".

When the load server panel is completed and Next is pressed, the Load Information panel is displayed. It provides the directory and load name. If only one card type is selected in the card type selection panel this is the last panel in the wizard. The Finish button is enabled. The user Interaction panel is not provided in the MG Upgrade Wizard because the multi card type upgrade only supports upgrades without user interaction. When Finish is selected, the load name is checked for a valid version range. When the check passes, the wizard is removed and the user is prompted to start the upgrade for the selected card type.

If more than one card type is selected, or all card types are selected, an additional Load Information panel is added to the wizard for each card type selected. For example, if all card types are selected the second panel is the Load server panel as in the previous case, followed by the Load Information panel for ABI (if installed), followed by the Load Information panel for DS1 (if installed), then ITP, then ITX, and finally OC3 (or DS1-IMA). When the Specify a Load panel for the last card type is completed Finish is pressed from the ABI Specify a Load panel. The load names entered for the selected card types are checked for version range validity after the Next button is pressed on each card type configuration panel. (See [Upgrade version rules on page 74](#).) After the load is validated, the wizard is removed and the user is prompted to start the upgrade.

- The next MG Upgrade Wizard step (step 4) allows the user to enter the directory and load name to be used for the upgrade. Like the Card Upgrade Wizard discussed earlier, if the entered directory is incorrect, a message appears to inform the user and the directory must be corrected for the upgrade to proceed.

The following figure shows the MG Upgrade Wizard, Step 3, Specify a Load.

MG Upgrade Wizard, Step 4, Specify a load



Click on the List button to retrieve the files from the load server and the combo box is populated with 9PI file names (identified by the .tar extension on the filename). Choose a file from the list.

This step will continue to increment until the loads are specified for each card type that is part of the upgrade. When the load for last card in the upgrade is specified, click Finish.

- When the configuration steps are completed, the MG Upgrade Wizard is closed and the third pane in the Software Upgrade view is modified to display the upgrade data for all the card types selected for upgrade. The Software Upgrade View is shown in [Software upgrade accessed from Frame View on page 75](#) with a multiple card types upgrade running. The MG 9000 can only upgrade one card type at a time, so the MG 9000 Manager automatically schedules the upgrade for the selected card types in sequence. The third pane contains the card type for which the upgrade is in progress in the MG 9000.

The third pane also contains a tabbed panel with a tab for each card type selected for upgrade. Each tabbed entry contains the load server, the user identifier, and the full path load name for that card type. The card type being upgraded is on the top of the tabbed pane.

The following limitations apply to upgrading MTA and xDSL cards:

- If the prepatched image contained an obsolete patch, NPM does not remove the patch. An NPM alarm indicating that there is an obsolete

patch is raised and the customer can see the obsolete patch in the postcheck.

- Prior to upgrading MTA or xDSL cards, the MG 9000 Manager verifies that all the cards are in an unlocked/enabled state. If any card is not in the correct state, the MG 9000 Manager will not perform the upgrade.
- To upgrade MTA and xDSL cards, the MG 9000 Manager will lock the card, download the load to the card, and then unlock the card. The order in which the MG 9000 Manager upgrades xDSL cards cannot be specified as part of the upgrade.
- The lock request of an xDSL card will fail if the card has an active call. If the lock request fails for a given xDSL card, the MG 9000 Manager will note the failure and attempt to upgrade the remaining xDSL cards. Once the MG 9000 Manager has upgraded the remaining xDSL cards, the MG 9000 Manager will halt the upgrade process. The MG 9000 Manager will report that some of the xDSL cards could not be upgraded.
- If the download or unlock of any MTA or xDSL card fails, the MG 9000 Manager immediately halts the upgrade process.
- If an MTA or xDSL card already has the load file specified in the upgrade request, the MG 9000 Manager will consider the card already upgraded and move on to the next card to upgrade.
- When upgrading xDSL cards, the MG 9000 Manager can upgrade only those cards with supported hardware. If a given xDSL card does not have a CLEI code of VA1AAAAAA, the MG 9000 Manager will skip that card and move on to the next card to upgrade.
- If the user aborts an upgrade while the MG 9000 Manager is upgrading the xDSL cards, the MG 9000 Manager will return all cards to an unlocked state. However, the MG 9000 Manager will not roll back the loads on any of the cards. For instance, assume the user is upgrading all five xDSL cards on a given node. Assume the user aborts the upgrade after the first two cards have upgraded and a third card is in the process of upgrading. The MG 9000 Manager halts the upgrade process after the third card completes its upgrade. In the end, three xDSL cards are running the new load and two xDSL cards are running the old load.

When a user begins the upgrade, the MG 9000 Manager will stop the database. The database will not restart until the upgrade process completes.

Card upgrade with user intervention

When to use this procedure

Use this procedure when it is necessary to upgrade a single card or a protection group in an MG 9000. This procedure provides the steps to perform a software upgrade in a DCC, ITP, ITX, ABI, or DS1 card with user interaction.

Prerequisites

Clear all alarms on the card to be upgraded before proceeding with the upgrade process.

Action

Card upgrade with user intervention

At the MG 9000 Manager

- 1 From the Subnet View, select the network element (NE) containing the card to be upgraded. Double click on the NE icon and the Frame View appears.
- 2 Double click on the shelf containing the card and the Shelf View appears.
- 3 Double click on the card to be upgraded and the Card View appears.
- 4 If performing a single card upgrade, from the Card View of the card selected for upgrade, lock the card by changing the Administrative state to Lock from the Administrative state pull-down menu.
- 5 From the Card View of the card selected for upgrade, select Actions->Software Upgrade from the menu bar.
- 6 The Software Upgrade view appears as described in [Software Upgrade View on page 75](#).

There are four possible messages in the Card Upgrade View at the time it appears:

- If a previous user closed the view before an abort was completed, the abort may still be in progress. An indication to wait until the abort is completed is displayed. In this case, the

Configure button is disabled. Either wait for the abort to complete or close the view.

A message will appear notifying when the abort is completed, and the Configure button is enabled.

- Another user is performing an upgrade on a card on the same MG 9000. In this case, the user can close the view or abort the upgrade in process and start a new upgrade.
 - If no upgrade activity is in progress on the selected MG 9000, the user is prompted to press the Configure button to start the upgrade.
 - If the floating IP address has not been provisioned, the system prompts you to provision it. After the floating IP address is provisioned, continue with the procedure.
- 7 Press the Configure button to start the Upgrade wizard. The upgrade wizard is created as described in [Upgrade Wizard overview on page 88](#).
 - 8 Enter the parameters in the first three panels as described in [Upgrade Wizard overview on page 88](#).
 - 9 Select “Perform Upgrade with user interaction” in the last panel. Press Finish to completed the configuration. The user is returned to the Card Upgrade View. The following figure shows the Upgrade View with the system prompting the user to press the Download button.

Software Upgrade View

MG 9000 Software Upgrade Element: 7

MG9000

Upgrade Originator

MG 9000 Name: PL77

Originating View: OC3 Card: NE-7 Frame-1 Shelf-0 Slot-10

Upgrade State:

Upgrade Status: Configure step completed.

Upgrade Action: Configure

Upgrade Type: Single Node

Upgrade Type Data:

Upgrading: OC3 Card: NE-7 Frame-1 Shelf-0 Slot-10

Load Server: 47.142.84.205

Load Server User Id: anonymous

Load: mg9k_loads/SN06_02/SCOA06ET_2_GZ

Upgrade Instructions & Results:

Press Configure to invoke the Upgrade Configuration Wizard.
Or press Version List to see all the versions of the cards.
Or press History to see the results of previous upgrades.
Configuration Completed.

Press Download Button to start upgrade with user interaction.

History Refresh Download Version List Abort Close

- 10 Press Download to request the MG 9000 to perform the download step. When the download is complete, the results are

displayed in the result area of the Software Upgrade View as follows:

- The download step was successful. The step button changes to Apply. The user is prompted to perform the Apply step
 - The download step failed. An indication of the failure is indicated. Possible cause of failure could be:
 - communication problems between the GUI client and the mid-tier layer, between the mid tier layer and the MG 9000 Manager, between the MG 9000 Manager and the MG 9000.
 - invalid configuration parameters. The user could abort the upgrade. When the upgrade is aborted, the step button changes back to Upgrade.
- 11** Press the Apply button for the MG 9000 to perform the apply step. When the apply is completed the results are displayed in the result area of the card upgrade view as follows:
- The Apply step was successful. The step button changes to Accept. Go to step [12](#).
 - The Apply step failed. An indication of the failure is indicated. Possible cause of failure could be:
 - communication problems between the GUI client and the mid-tier layer, between the mid tier layer and the MG 9000 Manager, between the MG 9000 Manager and the MG 9000. The user must abort the upgrade. After that it could configure again or close.
 - card is locked (during protection group upgrade) or involved in a maintenance activity. The system prompts to unlock or wait until the maintenance activity is completed. Press Apply again.
- 12** Press Accept to complete the upgrade. The Accept and Abort buttons are disabled. When the Apply is completed, the results are displayed in the result area of the card upgrade view as follows:
- The accept step was successful. Close the Upgrade View.
 - The accept step failed. An indication of the failure is indicated. Possible cause of failure could be communication problems between the MG 9000 Manager client and the mid-tier server, between the mid-tier server and the master server, between the master server and the MG 9000. Abort the upgrade. Abort the upgrade by pressing the Abort button to cancel the remainder of the upgrade. Configure again or close.

- 13** When the accept is completed, close the upgrade view. Apply patches. Refer to “Applying patches using the NPM GUI” procedure in *Upgrading a Carrier Voice over IP Networks*, NN10440-450 for patching procedures.
- 14** This procedure is complete.

Card upgrade without user intervention

When to use this procedure

Use this procedure when it is necessary to upgrade the software in a single card without user intervention. This procedure provides the steps to perform a software upgrade in a single DCC, ITP, ITX, ABI, or DS1 card without user interaction.

Note: This procedure applies to single card upgrades only, not multiple card upgrades.

Prerequisites

Clear all alarms on the card to be upgraded before proceeding with the upgrade process.

Action

Card upgrade without user intervention

At the MG 9000 Manager

- 1 From the Subnet View, select the network element (NE) containing the card to be upgraded. Double click on the NE icon and the NE desktop view with Frame View appears.
- 2 Double click on the shelf containing the card and the Shelf View appears.
- 3 Double click on the card to be upgraded and the Card View appears.
- 4 If performing a single card upgrade, from the Card View of the card selected for upgrade, lock the card by changing the Administrative state to Lock from the Administrative state pull-down menu.
- 5 From the Card View of the card selected for upgrade, select Actions->Software Upgrade from the menu bar
- 6 The Software Upgrade view appears as described in [Software Upgrade View on page 75](#). The Software Upgrade View appears as shown next.

Software Upgrade View

MG 9000 Software Upgrade Element: 1

MG9000

Upgrade Originator

MG 9000 Name: co18 1

Originating View: MG9000 Element 1

Upgrade State:

Upgrade Status: Waiting for Configure.

Upgrade Action: Configure

Upgrade Type:

Upgrade Type Data:

Upgrading:

Load Server:

Load Server User Id:

Load:

Upgrade Instructions & Results:

Press Configure to invoke the Upgrade Configuration Wizard.
Or press Version List to see all the versions of the cards.
Or press History to see the results of previous upgrades.

History Refresh Configure Version List Abort Close

There are four possible messages in the Software Upgrade View at the time it appears:

- If a previous user closed the view before an abort was completed, the abort may still be in progress. An indication to wait until the abort is completed is displayed. In this case, the

Configure button is disabled. Either wait for the abort to complete or close the view.

A message appears notifying when the abort is complete, and the Configure button is enabled.

- Another user is performing an upgrade on a card on the same MG 9000. In this case, the user can close the view or abort the upgrade in process and start a new upgrade.
 - If no upgrade activity is in progress on the selected MG 9000, the user is prompted to press the Configure button to start the upgrade.
 - Select Upgrade to continue with the upgrade without user interaction. If the floating IP address has not been provisioned the user is prompted to provision it. After that, continue with the upgrade procedure.
- 7 Press the Configure button to start the Upgrade wizard. The Card Upgrade Wizard appears. See [Upgrade Wizard overview on page 88](#).
 - 8 Enter the parameters in the first three panels as described in [Upgrade Wizard overview on page 88](#).
 - 9 Select “Perform Upgrade without user interaction” in the last panel. Press Finish to complete the configuration.
 - 10 Messages indicating the progress of the upgrade, download, apply, and accept steps are displayed. If a step fails, a message is displayed indicating the reason. The user can abort and perform the configure step again or close the view.

The download icon appears in the Shelf View and the Card View. The icon remains until the upgrade is completed or aborted.

Shelf View and Card View with download icon



Software download icon

- 11 When the accept is completed, close the upgrade view. Apply patches. Refer to “Applying patches using the NPM GUI” procedure in *Upgrading a Carrier Voice over IP Networks*, NN10440-450 for patching procedures.
- 12 If problems occur, abort the upgrade by pressing the Abort button to cancel the remainder of the upgrade.
- 13 This procedure is complete.

MG upgrades

When to use this procedure

Use the following procedure when it is necessary to upgrade the software in multiple cards and protection groups without user intervention. This procedure provides the steps to perform a software upgrade in DCC, ITP, ITX, ABI, and DS1 cards without user interaction.

Prerequisites

Clear all alarms on the cards to be upgraded before proceeding with the upgrade process.

Action

MG upgrades

At the SN06.x MG 9000 Manager

- 1 At the Frame View of the MG 9000 selected for upgrade click the Actions menu.
- 2 At the Actions menu select Software Upgrade... The MG 9000 Software Upgrade view is created as described in [Software Upgrade View on page 75](#)
- 3 Check the Upgrade Originator pane in the MG 9000 Software Upgrade View to ensure the MG 9000 Name and Originating View (NE number) represent the MG 9000 to be upgraded.
- 4 Press the Configure button to start the MG Upgrade wizard. The Upgrade Type Selection, Step 1 appears. Choose "Complete Upgrade." Next, the MG Upgrade Wizard, Card Type Selection, Step 2 appears.
- 5 Select the card types to upgrade or select all card types by selecting All Applicable Card Types. A check appears in the appropriate box next to the selection.

- 6 Enter the load server information. Use the following table to determine the next step.

If upgrading	Do
only one card type	step 7
multiple card types	step 8

- 7 In the MG Upgrade Wizard, Specify a load, specify the load directory and load name. The upgrade now begins. Go to step [9](#).

- 8 In the MG Upgrade Wizard, Specify a load, specify the load directory and load name for the card type (such as, SC0A08AZ_GZ.tar). The system repeats this step in succession for each card type in the following order: DS1, ABI, ITP, ITX, and DCC. The load names are checked for version range validity.

The MG Upgrade Wizard closes, the MG 9000 Software Upgrade View appears with the Upgrade Type Data panel updated to display the upgrade data for all the card types selected for upgrade and reports the card type for which the upgrade is in progress in the MG 9000. Go to step [9](#).

Note: The MG 9000 upgrades one card type at a time. The MG 9000 Manager schedules the upgrade for the selected card types in sequence.

- 9 This procedure is complete.

Downloading software into the MTA card

When to use this procedure

Use this procedure when it is necessary to update software onto an MTA card. The Software Download Manager menu option provides access to a Software Download Manager window.

Prerequisites

None

Action

Downloading software into the MTA card

At the MG 9000 Manager

- 1 At the Subnet View, double click on the MG 9000 that has the MTA card to which software is to be downloaded. The Frame View appears.
- 2 At the Frame View, double click on the shelf in which the MTA card resides. The Shelf View appears.
- 3 At the Shelf View, double click on the slot in which the MTA card resides. The card view appears.
- 4 To request a download, select the Locked option for the Administrative Status in the Status box. The card must be Locked prior to requesting a download.
- 5 From the MTA Card View menu level, select Actions->Software Download Manager
- 6 Enter data in the fields as follows:
 - File Path - the path and name of the file on the load server to be downloaded to the card (/mg9k/<loadname>)
 - IP address - the file location (IP address)
 - Server userName - the login name for the server where load resides
 - Server password - the password for the server where load resides
 - select Force Download if forced download is required. The Force option is needed only when the card must be reloaded with the same load that already exists on the card.
- 7 Select the Download button at the bottom of the Software Download Manager window.

Once the download is complete, the Load Status field indicates if the download was successful, and the software load being used by the card is displayed under Restart Current in the Software Load pane.

Note: After the software download is performed, a message appears stating that the MTA card is restarted.

Perform the download again, since the MTA card has a Primary and Backup load. When a download is performed, the Primary load becomes the Backup load and the new load becomes the Primary load. Performing the download twice makes the new load the Primary and the Backup load and guarantees the current load is the new load.

- 8** After the second download is complete, from the MTA Card View set the Administrative Status of the MTA card to Unlocked by selecting the Unlocked option in the Status box.
- 9** This procedure is complete. If this action is part of an MG 9000 upgrade, return to the upgrade checklist to continue with the upgrade process.

Downloading software into the xDSL card

When to use this procedure

Use this procedure when it is necessary to download updated software onto an xDSL card. The Software Download Manager menu option provides access to a Software Download Manager window.

Prerequisites

Perform this activity during periods of low traffic.

Action

Downloading software into the xDSL card

At the MG 9000 Manager

- 1 At the Subnet View, double click on the MG 9000 that has the xDSL card to which software is to be downloaded. The Frame View appears.
- 2 At the Frame View, double click on the shelf in which the xDSL card resides. The Shelf View appears.
- 3 At the Shelf View, double click on the slot in which the xDSL card resides. The card view appears.
- 4 To request a download, select the Locked option for the Administrative Status in the Status box. The card must be Locked prior to requesting a download.
- 5 From the xDSL Card View menu level, select Actions->Software Download Manager
- 6 Enter data in the fields as follows:
 - File Path - the path and name of the file to be downloaded to the card (/mg9k/<loadname>)
Note: In certain offices, the file path may be /swd/mg9k/
 - IP address - the file location (IP address)
 - Server userName - the login name for the server where load resides
 - Server password - the password for the server where load resides
 - select Force Download if forced download is required. The force option is needed only when the card must be reloaded with the same load that already exists on the card.

- 7** Select the Download button at the bottom of the Software Download Manager window. When the download begins the download icon appears on the card.

Once the download is complete, the download icon disappears and the initialization icon appears. Once initialization is complete, the icon disappears and the software load used in the card is displayed in the Software Load section of the Card View.
- 8** If necessary, repeat steps [3](#) through [7](#) for all xDSL cards in the MG 9000 network element that must be upgraded. Otherwise skip this step.
- 9** Unlock the card that was locked in step [4](#).
- 10** This procedure is complete. If this action is part of an MG 9000 upgrade, return to the upgrade checklist to continue with the upgrade process.

Upgrade history

The Upgrade History is a view that is accessed from the Software Upgrade View that reads information about upgrades performed on an MG 9000. The Upgrade History contains:

- the time the upgrade was performed
- the type of upgrade
- the card the upgrade was performed
- the full path of the load name
- the final status

All the entries status is completed or aborted. The last entry may have a different status since an upgrade is in progress.

An entry is created in the Upgrade History when the user attempts to image a card.

The Software Upgrade History windows shows the following message at the bottom of the window: Upgrade history is not maintained for any MTA and xDSL cards that may be present in the NE.

The following buttons are provided in the Upgrade History:

- Delete - used to delete a history entry. An attempt to delete an entry for an upgrade in progress will fail.
- Refresh - used to update the view with the latest data since the view is not dynamically updated.
- Close - used to exit the Upgrade History view.

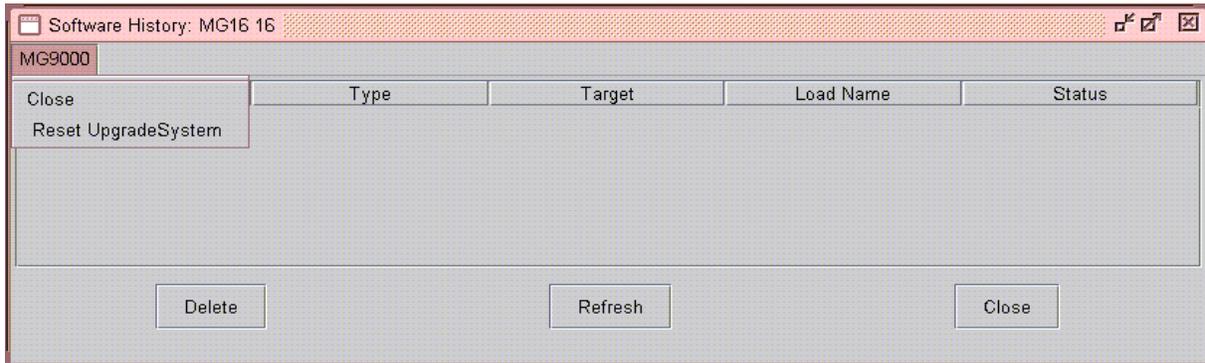
From the menu bar, the following MG9000 items are available

- Close - used to exit the Upgrade History view
- Reset Upgrade System - used to reset the upgrade system back to idle (that is, the upgrade process is abandoned where it is). This action could leave the cards in a mixed state, and the loads in the

cards will not be reverted back to the original loads. Clear the card fault or replace the faulty card and try the upgrade again.

The following figure shows the Reset Upgrade System command.

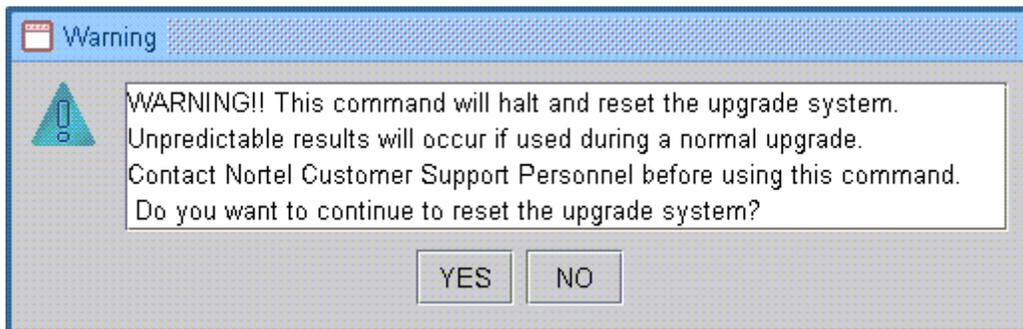
Reset Upgrade System command



The Reset Upgrade System command requires emsadm permission and is considered a drastic step. Do not use this command unless directed to do so by Nortel Networks customer support.

The following figure shows the warning message that appears when the Reset Upgrade System command is used.

Reset Upgrade System command warning



The following figure shows the History View.

Software upgrade History View

Software Upgrade History: PL6 1				
M99000				
Upgrade Time	Upgrade Type	Upgrade Target	Load Name	Upgrade Status
Thu Jan 01 02:34:01 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 11	/trweb/mg5k/loads/DC3/uemg_17/DC3A...	Upgrade completed susoessf...
Thu Jan 01 01:48:30 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 21	/trweb/mg5k/loads/DS1/uemg_17/DS1G...	Upgrade aborted.
Thu Jan 01 01:09:49 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 12	/trweb/mg5k/loads/ITP/uemg_17/TPA04...	Upgrade completed susoessf...
Thu Jan 01 02:40:05 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 21	/trweb/mg5k/loads/DS1/uemg_17/DS1G...	Upgrade aborted.
Thu Jan 01 02:02:42 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 15	/trweb/mg5k/loads/ITX/uemg_17/ITXA04...	Upgrade completed susoessf...
Thu Jan 01 00:30:19 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 12	/trweb/mg5k/loads/ITP/uemg_17/TPA04...	Upgrade aborted.
Thu Jan 01 01:13:04 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 21	/trweb/mg5k/loads/DS1/uemg_17/DS1G...	Upgrade aborted.
Thu Jan 01 01:15:36 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 21	/trweb/mg5k/loads/DS1/uemg_17/DS1G...	Upgrade aborted.
Thu Jan 01 00:49:52 EST ...	Single Node	NE Number: 1 NE Name: PL6 PhysLoc: 0 1 12	/trweb/mg5k/loads/ITP/uemg_17/TPA04...	Upgrade aborted.

Patching the MG 9000

The MG 9000 is patched using the Network Patching Manager (NPM) patching system. Any device to be patched must first be audited to determine the load name compatibility with the patch before applying the patch.

For information and procedures for patching the MG 9000 software using the NPM, refer to the Succession Patching chapter in *Upgrading a Carrier Voice over IP Network*, NN10440-450.