Upgrading MDM in Carrier Voice over IP Networks

This document is intended for people who are upgrading Nortel Multiservice Data Manager (MDM) servers from MDM 14.2 or 14.3 to MDM 15.2 within the context of a Packet Trunking - AAL1 (PT-AAL1), Universal Access - AAL1 (UA-AAL1), or Universal Access - Internet Protocol (UA-IP) solutions upgrade from SN06 to SN08 or, from a MDM 15.1 to MDM 15.2 upgrade from SN07 to SN08.

> ***Note:*** If you have upgraded from a pre-SN07 release to SN07 in an IP and Media Gateway solution and you comply to the MDM Carrier Voice over IP (Carrier VoIP) feature baseline you can perform an SN07 to SN08 upgrade using the MDM upgrade procedure in this document. However, if you have not migrated to SN07, you must establish the MDM SN07 feature baseline first.

The upgrade of other components within other solutions is not within the scope of this document. For more information about other solution level upgrades, see:

- NN10441-100 *PT-AAL2 Solution-level Basics*
- NN10442-100 *Packet Trunking/Packet Transit - IP Solution-level Basics (PT-IP)*
- NN10443-100 *UA-AAL1 Solution-level Basics*
- NN10446-100 *Universal Access - IP Solution-level Basics (UA-IP)*

During an upgrade of Carrier Voice over IP solutions components, MDM servers must be upgraded so that you have access to the functionality provided by a newer version of the software. This is required to support communication with Nortel Multiservice Switch nodes. Earlier MDM releases cannot support newer Multiservice Switch 15000 releases.

What you need to know

Before you upgrade Nortel Multiservice Switch nodes you must clearly understand the impact of upgrading MDM servers within the Carrier Voice over IP portfolio architecture.

You **must** also have an extensive knowledge of Unix and the MDM.

What's new in this document

If you have decided to deploy Operator Client (OC) in your VoA network, client-sets can be re-deployed as MDM Administration Servers (MDM Admin Servers). The MDM Admin Servers host the full set of MDM servers found on the MDM server-set and provide a base for the security and GUI servers of the OC feature. The MDM Admin Servers host the following new servers that support OC with centralized user administration: the Sun ONE Identity Server (IS), the Sun ONE Directory Server (DS), and the RADIUS server. These Operator Client servers are installed with the traditional MDM servers.

The following section was added to this document:

- Upgrading the Solaris operating system on page 85 (If a Solaris operating system upgrade is required for the MDM upgrade, use this section.)

The following sections of this document were modified:

- MDM server upgrade overview and prerequisites on page 5
- Downloading and backing up node software on page 21
- Pre-migration checks for upgrading MDM servers on page 37
- MDM software installation on page 49
- Activating new features for MDM in SN08 on page 67
- Post-migration checks on page 77
- Upgrading the Solaris operating system on page 85
- MDM rollback on page 95

MDM 15.2 new features

MDM 15.2 features include:

- Auto-patching for Multiservice Switch 15000/Media Gateway 15000 nodes
- Centralized authentication and authorization for user administration in VoA networks with the Operator Client application
- Nodal provisioning template audit

- Security audit logs real time to SCC2
- Enhanced security in VoIP

Note: See the NN10180-612 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier VoIP Networks Security and Administration - Securing Network Elements* guide for information on security features.

See Activating new features for MDM in SN08 on page 67 for information on which features require activation.

Branding changes

- The term Succession has been rebranded to Carrier Voice over IP (CVoIP)
- The term Preside Multiservice Data Manager (Preside MDM) has been rebranded to Multiservice Data Manager (MDM) in conjunction with the new Nortel brand simplified naming format.
- Passport 8600 (PP8600) has been rebranded to Ethernet Routing Switch 8600 (ERS 8600)

Although Preside Multiservice Data Manager (Preside MDM) is officially rebranded to Multiservice Data Manager (MDM) at release 15.2, the rebranding of the Preside MDM for Carrier Voice over IP (formerly Succession) PT/UA-AAL1 product is still in progress. The IP solution currently uses the same link as the Multiservice Data Manager for Carrier Voice over IP PT/UA-AAL1 product.

For more information on product rebranding, refer to NN10600-000 *Nortel Networks Multiservice Switch 7400/15000/20000 What's New in PCR6.1*.

Upgrade overview

This document provides detailed procedures on how to upgrade MDM servers. It also provides procedures to verify the success of the upgrade and to configure security on the servers.

MDM server upgrade overview and prerequisites

This section describes the upgrade task flow, prerequisites that must bet met before starting an upgrade, and factors you must consider before performing an upgrade on MDM servers.

The upgrade task flow outlines the sequence of tasks required to upgrade one MDM server. After you have updated one server, repeat the process to upgrade the second server.

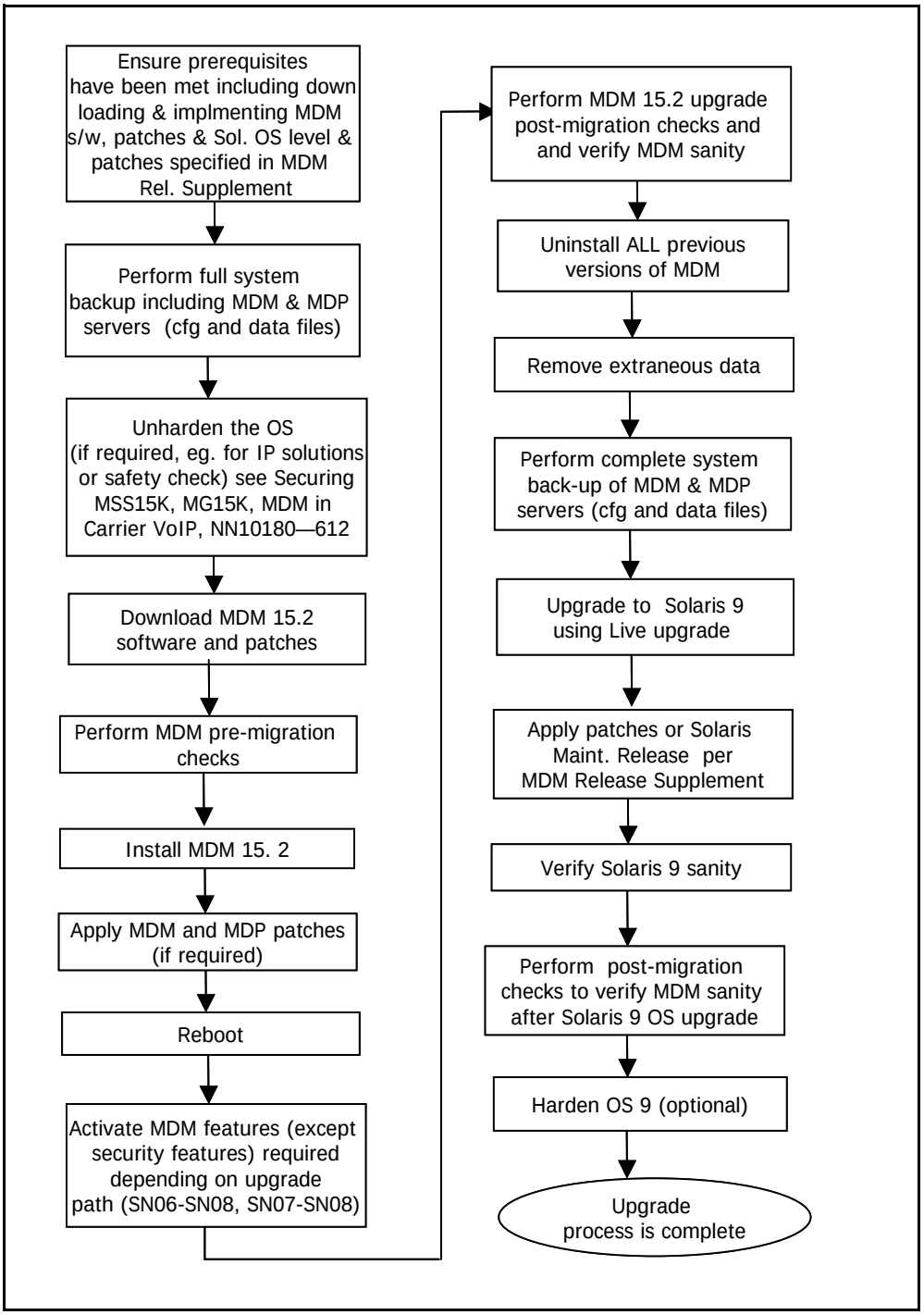
See:

- MDM server upgrade task flow on page 6
- Prerequisites to performing a server upgrade on page 8
- MDM deployment considerations on page 11
- Solution level migration logistics on page 13
- MDM Carrier Voice over IP feature baseline on page 15

MDM server upgrade task flow

The figure MDM server upgrade task flow on page 6 shows a high level outline of tasks required to upgrade a server.

MDM server upgrade task flow



Go to the following links for more information.

- Downloading and backing up node software on page 21
- Pre-migration checks for upgrading MDM servers on page 37
- MDM software installation on page 49
- Activating new features for MDM in SN08 on page 67
- Post-migration checks on page 77
- Upgrading the Solaris operating system on page 85

> ***Note:*** This section includes post-migration checks that must be performed after the Solaris OS 9 upgrade to ensure OS sanity.

After upgrading both servers, upgrade the MSS 15000/MG 15000 nodes. For more information, see NN10070-461 *Upgrading Nortel Multiservice Switch 15000 in Carrier Voice over IP Networks PT-AAL1/UA-AAL1* and NN10419-461 *Upgrading Nortel Multiservice Switch 15000 and Media Gateway 15000/20000 in Carrier Voice over IP Networks*.

Prerequisites to performing a server upgrade

Before undertaking the upgrade, confirm that you have met the following prerequisites.

- You have read the *Multiservice Data Manager Release 15.2 Supplement* and Bulletin 2005005709 to determine the correct set of MDM patches and, you have implemented the patches indicated in the Supplement and Bulletin.
- You have read the *Multiservice Data Manager Release 15.2 Supplement* to determine the correct Solaris OS level and level of patches required before the MDM upgrade (Solaris 8 and patches must be at Solaris 8 level).
  - — After the MDM nodes have been upgraded, the Solaris OS must be upgraded to Solaris 9. Download Solaris 9 OS, the Solaris 9 Maintenance Release 9/04 and the Sun OS patches as specified in the Multiservice Data Manager Release 15.2 Supplement. The Sun Fire TM V480 server hardware has not changed during the upgrade to SN08.
- You **must** have extensive knowledge of Unix and MDM tools and software.
- Upgrade MDM servers before upgrading the MSS 15000/MG 15000 nodes they manage. MDM software is backwards compatible and can manage the current and previous releases of MSS/MG, but is not necessarily forward compatible. To upgrade Multiservice Switch 15000 nodes, see NN10070-461 *Upgrading Nortel Multiservice Switch 15000 in Carrier Voice over IP Networks PT-AAL1/UA-AAL1* and NN10419-461 *Upgrading Nortel Multiservice Switch 15000 and Media Gateway 15000/20000 in Carrier Voice over IP Networks*.
- To ensure that one MDM server remains in contact with the CS2000 Core Manager, Integrated Element Management System (EMS), or the OSS at all times and continues to provide OAM&P information, isolate and completely upgrade one server while the other server remains fully operational. Following the successful upgrade of the first server, isolate and upgrade the second server using the same procedure.
- Both MDM servers must be sane and operating without any errors:
  - — Both servers must be in service, operating in a redundant capacity, and capable of supporting traffic and network management functions with no major or critical alarms.
  - — Check the Alarm Display and the System Log Display tools and ensure there are no serious or unexplained logs or alarms.

- Ensure that the second server (the one not being upgraded) is sane before proceeding with the upgrade.
- If using disk mirroring, it must be enabled on both servers and operating without any errors.

- This document describes the upgrade of servers from a baseline MDM deployment within Carrier Voice over IP, which involves the configuration of a Sun Fire TM V480 servers located in the Network Operation Center.

  MDM, Multiservice Switch 15000 and Media Gatewayreleases for VoA and VoIP were aligned in SN07 and an MDM Carrier Voice over IP baseline configuration defined to achieve a consistent deployment. The baseline configuration must be achieved before performing an MDM 14.2, 14.3 or 15.1 upgrade to MDM15.2 in SN08. This section briefly discusses the baseline configuration for:

  - standalone/server
  - client-sets (optional)
  - Sun workstation configuration
  - MDM Carrier Voice over IP feature baseline

  See MDM deployment considerations on page 11 and Solution level migration logistics on page 13 for more information regarding standalone/server and client-sets baseline configuration. The Sun workstation configuration is covered in other points in this section.

  The MDM Carrier Voice over IP feature baseline on page 15 lists the features that must be activated before you upgrade to MDM 15.2.

- If you have deployed client-sets and are not re-deploying them as MDM Admin servers, upgrade them before completing the upgrade task flow described in MDM server upgrade task flow on page 6. See Activating new features for MDM in SN08 on page 67.
- If you have not deployed MDM servers according to the standard deployment, follow the upgrade task flow described in MDM server upgrade task flow on page 6 as a guideline, but selected steps may be different. Refer to the Multiservice Data Manager (MDM) base documentation and release notes for additional information.
- If you are upgrading MDM servers from CD-ROM, you must have an X11 terminal with IP connectivity to the Sun Fire TM V480 server that you are upgrading. If using a CD to perform the upgrade, you must have access to the CD ROM drive. If upgrading from software that you download from Nortel Electronic Software Distribution (ESD) page, you only need access to the downloaded file. You must also have access to a text editor so that you can edit various files during the upgrade. We recommend using the UNIX vi text editor.

- Review the *Multiservice Data Manager Release 15.2 Supplement*. The release supplement describes the features that are new to the software release and includes information on differences in functionality and capability from the old release to the new release. It is essential that you understand the potential impacts before beginning the upgrade.
- If you have deployed firewalls in your network, you need to understand which sockets the firewalls have been deployed on. For more information, see NN10225-512 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Attribute Summary PT-AAL1/UA-AAL1/UA-IP*.
- You must have MSS/MG 15000 patch distribution schedule information that includes:
  - — the time at which MSS/MG 15000 patch updates are put on the SDSs
  - — the time intervals, which include the time of week, time of day, start, and end times, scheduled for MSS/MG 15000 patch applications to the switches
- You must have IP addresses for the SDM or Integrated EMS.

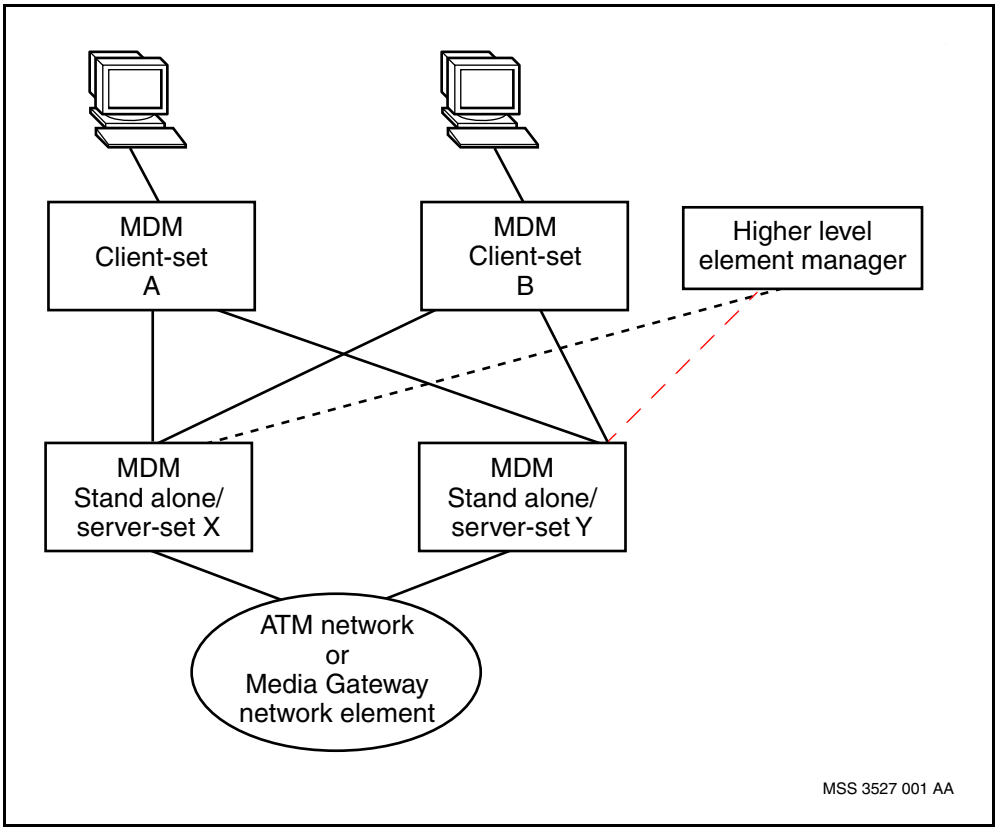
MDM deployment considerations

Since Nortel MDM can be deployed in many ways, upgrading cannot be viewed simply from the perspective of upgrading a single server but must be viewed from the perspective of upgrading MDM in a Carrier Voice over IP deployment. Some common Carrier Voice over IP deployment options are:

- stand-alone/server-set (combined server and client-sets)
- separate client-sets
- distributed server and client-sets
- MDM Admin Server (V0A only)
- MDM Server (VoIP only)

Typical client-set/standalone/server-set deployment on page 11 illustrates the common deployments. Note that the server and client-sets are deployed as a redundant pair.

Typical client-set/standalone/server-set deployment



Standalone/server-sets

Standalone/server-sets support the main server processes that allow MDM to perform surveillance and gather network data (fault and/or performance). They are usually run without a monitor and keyboard.

Client-sets

Client-sets host the servers that allow operators to view the surveillance information and network data, and perform provisioning. They are dependent on the standalone/server-sets for the acquisition of surveillance, network data, and communication to MDM nodes. Client-sets may host operator desk tops (remote users) as indicated in Typical client-set/standalone/server-set deployment on page 11.

Separate standalone/server and client-sets

While separate server and client-sets are not mandatory to Nortel MDM deployment, they do optimize performance in a large network.

Note: A single MDM supporting a VoA and VoIP (a tri-modal) configuration is not a Carrier Voice over IP supported configuration.

MDM Servers in VoIP

MDM Servers in a VoIP solution provide web access to Operator Client environment from remote operator desktops and X11 access to MDM Toolset environment. They support the main server processes for performing surveillance, gathering network data (fault, security, and/or performance), and provide network data to higher level management systems. They also provide an interface to the IEMS central AAA service and host the Java Web Start (JWS) server for the Operator Client user environment.

MDM Admin Servers in VoA solutions

MDM Admin Servers in a VoA solution provide web access to Operator Client environment from remote operator desktops and X11 access to MDM Toolset environment. They support the main server processes for performing surveillance, gathering network data (fault, security, and/or performance). They also host the central AAA service and the Java Web Start (JWS) server for the optional Operator Client user environment.

Solution level migration logistics

Before performing an upgrade, you must consider:

- redundancy (stand-alone/server-set, client-sets)
- impact on the OSS and the higher level element manager (this could be the CS2000 Core Manager (VoA) or Integrated EMS (VoIP))
- order of migration of the server vs.client-sets

Note: If an MDM server pair is managing multiple Carrier Voice over IP offices, you not required to migrate all Carrier Voice over IP offices prior to the upgrade of the MDM server pair.

Redundancy ensures that the network can be observed and network data collected. Redundancy is unavoidably lost during an upgrade when the server is rebooted (applies to either the server or client-set). At that point the system is running in simplex mode. To minimize the risk of losing the ability to observer the network and collect data, upgrade only one of the redundant servers (both server and client-sets) at any given time.

A Nortel MDM feature may possibly impact the OSS and the higher level element manager. Software changes may need to be addressed at the OSS level to ensure that incompatibilities do not exist and prevent the OSS and the higher level element manager from losing network visibility.

The general rule when performing migrations is to migrate the most north-bound system first. Migrate systems in the following order:

- OSS applications
- SDM and/or Integrated EMS
- client-set A
- client-set B
- Standalone/server-set A
- Standalone/server-set B
- Multiservice Switch and/or Media Gateway nodes

Note: For Carrier Voice over IP solution specific requirements, refer to the Solution level upgrade procedures.

Migrate the client-sets before the standalone/server-sets because MDM is backwards compatible but not forwards compatible. Home the operator desk tops to the client that is not being migrated to prevent any loss of visibility to the desk tops. Migrate one client-set at a time.

When migrating a standalone/server-set, ensure that the client-sets are not homed into that server-set, otherwise you will see an outage because clients do not dynamically switch from one client-set to another. This way, you can service select a client-set that is not actively being migrated. Migrate one standalone/server-set at a time.

MDM Carrier Voice over IP feature baseline

MDM features can be Carrier Voice over IP-specific, or not specific to Carrier Voice over IP. This section lists the features that are relevant to Carrier Voice over IP. These features are already installed for the current VoA customer base (UA-AAL1/PT-AAL1) who have upgraded to SN07, current ILEC UA-IP customers, and for those who have done a greenfield ILEC UA-IP installation in SN08 using the Installation Method.

For VoIP and Media Gateway customers **outside** these deployments, you must activate the features listed in table MDM In Carrier Voice over IP - baseline feature list on page 15. This table:

- lists the features that must be activated (appropriate to individual deployments)
- identifies the applicability of the feature to the server vs. client-sets
- identifies the Carrier Voice over IP release where the feature was introduced
- identifies the MDM release where the feature was introduced
- identifies where the feature originated from: MDM base or Carrier Voice over IP

Activate these features on MDMs in all Media Gateway installations to ensure compatibility with the MDMs managing the MSS 15000. You must establish this baseline before you can upgrade to MDM 15.2. If you are migrating from a SN06 release (MDM14.2 or 14.3) to MDM 15.2, you must activate the baseline configuration described in SN07 Helmsman documentation, plus the features described in MDM features new in SN08 on page 18. See Activating new features for MDM in SN08 on page 67 for additional information. (This document does not describe how to achieve the baseline configuration.)

MDM In Carrier Voice over IP - baseline feature list

Feature Name	Required for Solution?		Server or Client-set feature	Carrier Voice over IP Release	MDM Release	Originator
	VoA	VoIP				
Core functionality:						
MDM Patched to current level	Y	Y	server, client-set	all	all	MDM base
client-set servers	N	N	client-set	SN06.2	all	MDM base

MDM In Carrier Voice over IP - baseline feature list

Feature Name	Required for Solution?		Server or Client-set feature	Carrier Voice over IP Release	MDM Release	Originator
	VoA	VoIP				
Redundancy (server-set)	Y	Y	server, client-set	n/a	all	MDM base
Redundancy (client-sets- if deployed)	N	N	server, client-set	SN06.2	all	MDM base
Software Distribution Site	Y	Y	server (simplex)	all	all	MDM base
Data Collection (MDP)	Y	Y	server (simplex)	all	all	MDM base
Generating and setting secure passwords for MDM servers (FMDR, PMSP) password encryption	Y	Y	server	SN05	13.4	MDM base
Secure FTP	Y	Y	server	SN05	13.4	MDM base
Multiservice Switch backup and Restore	Y	Y	server	SN06	all	MDM base
Network Model & Viewer configuration	Y	Y	server	all	all	MDM base
MDP Administration enhancement	Y	Y	server	SN07	14.3	MDM base
Shelf View enhancement	Y	Y	client-set	SN07	14.3	MDM base
Server Administration enhancements	Y	Y	server	SN07	14.3	MDM base
Additional features:						
XNTP Support	Y	Y	server, client-set	all prior to SN07	all prior to 15.1	MDM base
Network Time Protocol Support	Y	Y	server, client-set	SN07	15.1 and later	MDM base
FDTM Succession configuration	Y	Y	server	SN02	13.1	Carrier VoIP

MDM In Carrier Voice over IP - baseline feature list

Feature Name	Required for Solution?		Server or Client-set feature	Carrier Voice over IP Release	MDM Release	Originator
	VoA	VoIP				
Support for Seasonal time change	N	N	server	SN06	14.2	Carrier VoIP
pserver process	Y	Y	server	SN04	13.3	MDM base
NP template installation	Y	Y	server	SN04	13.3	MDM base
Multiservice Switch 15000 Configuration Model Server	Y	Y	server	SN06	14.1	MDM base
MDP to make BDF files accessible	Y	Y	server	SN06	14.1	MDM base
MDP file prober collection times	Y	Y	server	SN06	14.1	MDM base
Succession Enabling	Y	Y	client-set	SN06	14.1	Carrier VoIP
Note: Enabling Succession also ensures that the SASM and SISM tools appear in the MDM toolset.						
PMs (pmsp & supporting directory structures)	Y	Y	server	SN06	14.1	Carrier VoIP
real-time alarm collection (rtac)	Y	Y	server	SN06	14.1	MDM base
File mover for BDF files	Y	Y	server	SN06	14.1	MDM base
Shared memory and semaphore setting	Y	Y	server	SN06	14.1	MDM base
Support for 5 min. PMs	Y	Y	server	SN07	15.1	Carrier VoIP
SASM	Y	N	server	SN06	14.2	Carrier VoIP
Succession Release Name GUI	Y	Y	server	SN07	15.1	Carrier VoIP

New features in SN08

Nortel Multiservice Data Manager (MDM) base features added in SN08 are from the MDM 15.1 and MDM 15.2 releases. Table MDM features new in SN08 on page 18 lists all of the new features for SN08.

Note: Activating these features completes the MDM 15.1 to MDM 15.2 upgrade.

MDM features new in SN08

Feature Name	Required for Solution?		Server, client-set or MDM Admin Server impact	Carrier VoIP Release	MDM release	Originator
	VoA	VoIP				
Operator client (OC)	N	Y	MDM Admin server, Operator Client	SN08	15.1	MDM base
Centralized user management	Y if OC is used	Y if Inte-grated EMS is used	MDM Admin server	SN08	15.1	MDM base
Security Audit logging	Y	Y	server	SN08	15.1	MDM base
SCC2 SALs	Y	Y	server	SN08	15.2	Carrier VoIP
Nodal Provisioning Template Audit	Y	Y	server	SN08	15.2	Carrier VoIP
OS hardening	N	N	client-set, server, MDM Admin server	SN08	15.1	MDM base
SSH	N	Y	server, MDM Admin server	SN08	15.1	MDM base
IPSec	N	Y	server, MDM Admin server	SN08	15.1	MDM base
HSM Migration (UA-IP MG)	n/a	Y	server	SN08	15.2	Carrier VoIP
MDM auto-patch of MSS/MG nodes	Y	Y	server	SN08	15.1	MDM base

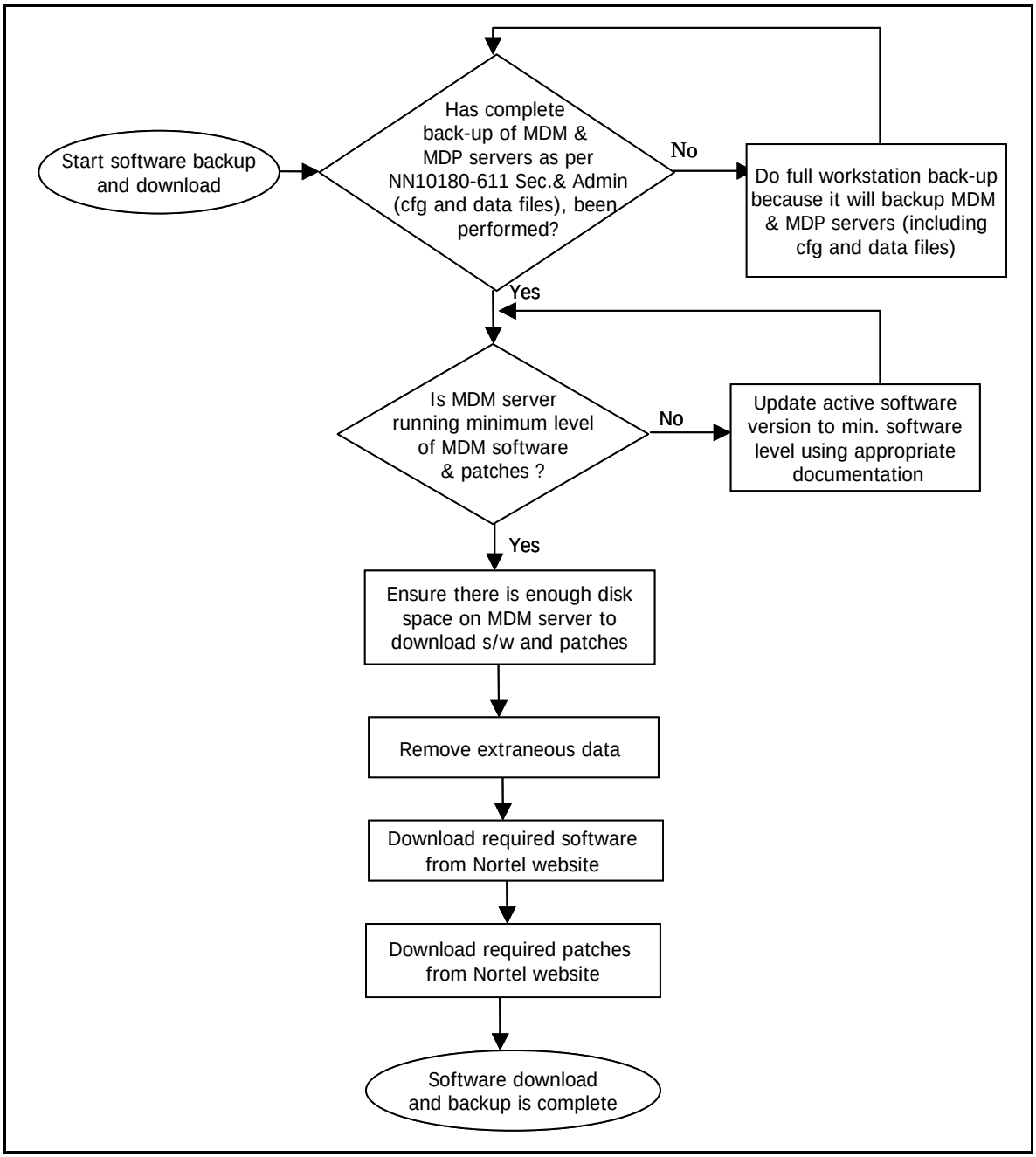
MDM features new in SN08

Feature Name	Required for Solution?		Server, client-set or MDM Admin Server impact	Carrier VoIP Release	MDM release	Originator
	VoA	VoIP				
Solaris 9 Upgrade	Y	Y	server, client-set, MDM Admin server, Operator client (UNIX)	SN08	na	Carrier VoIP
Note: Perform the Solaris 9 upgrade after upgrading MDM.						

Downloading and backing up node software

The following figure displays the sequence of tasks you must perform to do a complete system back-up and download Nortel MDM software and patches.

MDM Downloading and backing-up software task flow



Perform the following procedures before installing MDM software and patches:

- Performing a complete system backup on page 23
- Checking the currently active software version on page 28
- Ensuring that there is enough disk space on the servers on page 29
- Downloading MDM software from Nortel website on page 32
- Downloading MDM patches from Nortel website on page 34

Performing a complete system backup

Perform a full system backup before starting the MDM upgrade. See the NN10180-611 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Security and Administration PT-AAL1/UA-AAL1/UA-IP* guide for information on how to perform a full system back.

During the MDM upgrade, the contents of the /opt/MagellanMDP/data and the /opt/MagellanMDP/cfg subdirectories may be overwritten. The /opt/MagellanNMS/data and /opt/MagellanNMS/cfg are affected as well.

Note: It may take some time to back up these directories depending on their size.

Back-up the entire disk partition on which the MDM software resides. If a disk partition backup has not been done recently, backup the directories listed in MDM directories to save on page 23. Save the indicated directories to a location on another workstation or, on a temporary storage device so that if you encounter problems during the upgrade, you can restore the information stored in those directories.

MDM directories to save

Directory	Description
/opt/MagellanNMS/cfg	MDM base software configuration.
/opt/MagellanNMS/data	MDM base software data.
/opt/nortel/EPIC/cfg	Supports the Enhanced MSS Interface Controller. MDM release 14.1 and above.
/opt/nortel/WMS/cfg	Supports Web NMS tool. MDM 14.3 and earlier.
/opt/nortel/DVR/cfg	Supports the Data Viewer tool. MDM 14.2 and earlier.
/opt/nortel/config	Supports the Admin Server MDM release 15.1 and above.
/opt/nortel/data	Supports the Admin Server MDM release 15.1 and above.
/opt/nortel/logs	Supports the Admin Server MDM release 15.1 and above.

MDM directories to save

Directory	Description
/opt/MagellanMDP/cfg	MDP base software configuration. Backup is only required if MDP is installed.
/opt/MagellanMDP/data	MDP base software data. Backup is only required if MDP is installed.

Refer to the NN10180-611 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Security and Administration PT-AAL1/UA-AAL1/UA-IP* guide for more information.

Prerequisite

Before performing a back-up, remove extraneous data. Refer to Ensuring that there is enough disk space on the servers on page 29 to identify obsolete software and data.

Backing-up MDM information

1 Log in to the MDM workstation as user ID root.

2 Backup the MDM configuration and data information.

a Backup the MDM software configuration files.

cd /opt/MagellanNMS/cfg

tar cvfp mdmcfg_<release>.tar./*

mv mdmcfg_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

b Backup the MDM software data files.

cd /opt/MagellanNMS/data

tar cvfp mdmdata_<release>.tar./*

mv mdmdata_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

c If this MDM workstation includes the Management Data Provider (MDP) software, back-up the MDP software configuration files.

cd /opt/MagellanMDP/cfg

tar cvfp mdpcfg_<release>.tar./*

mv mdpcfg_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

3 If this MDM workstation includes the Management Data Provider (MDP) software, back-up the MDP data files.

cd /opt/MagellanMDP/data

tar cvfp mdpdata_<release>.tar./*

mv mdpdata_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

4 If this MDM workstation uses MDM 15.1 or above, backup additional MDM software configuration files.

a **cd /opt/nortel/config**

tar cvfp nortelconfig_<release>.tar./*

mv nortelconfig_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

b If this MDM workstation uses MDM 15.1 or above, backup additional MDM software data files.

cd /opt/nortel/data

tar cvfp norteldata_<release>.tar./*

mv norteldata_<release>.tar <safe directory>

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

c If this MDM workstation uses MDM 15.1 or above, backup the MDM log files.

cd /opt/nortel/logs

tar cvfp nortellogs_<release>.tar./*

mv nortellogs_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

5 If this MDM workstation uses MDM 14.1 or above, backup the EPIC configuration files.

cd /opt/nortel/EPIC/cfg

tar cvfp nortelEPICcfg_<release>.tar./*

mv nortelEPICcfg_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

6 If this MDM workstation uses MDM 14.3 or earlier, backup the WMS configuration files.

cd /opt/nortel/WMS/cfg

tar cvfp nortelWMScfg_<release>.tar./*

mv nortelWMScfg_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 14.3 and earlier)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

7 If this MDM workstation uses MDM 14.2 or earlier, backup the DVR configuration files.

cd /opt/nortel/DVR/cfg

tar cvfp nortelDVRcfg_<release>.tar./*

mv nortelDVRcfg_<release>.tar <safe directory>

where

<release is the MDM software release (for example, 14.2 and earlier)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

Checking the currently active software version

To determine if Nortel MDM has already been upgraded, check the release currently running on the server. Use the command:

```
/opt/MagellanNMS/system/inst/nmsLinks
```

If the response to the command is *MDM151xxx*, proceed with the upgrade.

Note: For additional information on locating and downloading MDM patches, see Downloading MDM patches from Nortel website on page 34. For information on MDM patches and how to list the most recent patches, see Installing MDM patches on page 60.

Ensuring that there is enough disk space on the servers

If you will be using Nortel ESD page to download the software (not installing it from a CD), ensure that you have sufficient disk space to accommodate the downloaded software.

Increase the available disk space by removing obsolete MDM software and data. Some of the MDM directories that can contain obsolete software and data are listed in the table Obsolete software and data on page 30.

Checking server disk space

From the MDM server

1 Log in — see Logging into MDM platform on page 105.

2 Determine how much disk space is available on each of the servers: **df -k**

The system indicates in kilobytes how much disk space is used in each of the disk partitions.

Sample response from issuing the df -k command (waiting for new screen cap)

```
Filesystem   kbytes  used    avail   capacityMounted
on
/proc        0       0       0       0%      /proc
/dev/md/dsk/d06196234182399743102750 30%     /
fd           0       0       0       0%      /dev/fd
/dev/md/dsk/d4018865671782201651750 10%     /var
```

Note: MDM data directories (/opt/MagellanNMS/data/) should not be part of the root (/) partition. A separate/data partition with a soft-link to /opt/MagellanNMS/data/ or an NFS mount to a separate physical medium is recommended.

3 Review *MDM supporting PP15K* entry in *Multiservice Data Manager Release 15.2 Supplement* to determine how much disk space you need. Typically, you need 2000 Mb of disk space.

4 Compare the space available under / with the value in step 3.

5 If you need more disk space on the server, investigate the following strategies:

- Remove older, unwanted MDM software versions
- List the software version currently available:

  ls /opt/MagellanNMS/loads

- Select loads that are no longer required and enter the following commands, where <release> is the name of the software load you wish to uninstall:
  cd /opt/MDM<release>_INST
  ./uninstall_mdm<release>
- remove old CSV files
- remove core files
- remove bdf files
- contact GNTS for alternative strategies

Note: When you delete obsolete MDM packages to increase server space, your configuration is not lost because MDM software configuration is persistent. The MDM does not delete the contents of the cfg and data directories. However during an upgrade, the files may be overwritten and altered as cfg and data information is migrated into a format appropriate for the new release.

Obsolete software and data

Directory	Description
Older versions of MDM software	/opt/MagellanNMS/loads/<software_loadname>/
old Passport data models	/opt/MagellanNMS/cfg/PassportSchema/
old Network Models	/opt/MagellanNMS/data/model/nmf/
RTAC alarm files	/opt/MagellanNMS/data/rtac/data
old backup data	/opt/MagellanNMS/data/Backup_Data
MDM software patch temporary files	files located in /tmp

Retrieving MDM software and patches from a drop box

After verifying that the server has sufficient disk space, you can begin to download Nortel MDM software. MDM patches are jumbo patches that include all previous patches. As a result, you only need to retrieve the most current version of a patch. One method is to retrieve the software from your customer drop box.

Prerequisites

- You need a dropbox and an account with a user name and password. Contact your Nortel customer representative for more information on accessing Nortel website.
- You must have performed the procedure: Ensuring that there is enough disk space on the servers on page 29.
- Refer to the software downloads area of Nortel website (*www.nortel.com*) to verify that the drop box contains the software files you need to retrieve. If there are no patches listed for this release, it means that there are no patches currently required for this release.

Retrieving software from a drop box

From the MDM server

1 Log in — see Logging into MDM platform on page 105.

2 Retrieve the required software files and patches according to your retrieval procedure:

- MDM 15.2 Supplement
- MDM15.2 CD1
- MDM 15.2 CD2
- MDM 15.2 CD3
- MDM Enhanced Security (if the MDM Enhanced Security package is ordered)

Downloading MDM software from Nortel website

After verifying that the server has sufficient disk space, begin downloading software. One method is to download the required software from Nortel website. When you download the software from this website, a copy of the software is placed in the directory you specify.

Prerequisites

You must have:

- Referred to the software downloads area of Nortel website *www.nortel.com* to determine the software load and patches that you need. If there are no patches listed for this release, it means that there are no patches currently required for this release.
- Downloaded all the software files that belong to the release you require. The software you need to download may be composed of more than one file.
- Downloaded the associated patches after downloading the required software release from the website. For more information, see Downloading MDM patches from Nortel website on page 34.
- Performed the procedure: Ensuring that there is enough disk space on the servers on page 29.

From the MDM server

1. Log in — see Logging into MDM platform on page 105.
2. Change directories to the / directory: **cd /**
3. Create a directory to which you can download the software: **mkdir MDM152**

   Note: Remove this directory at the end of the installation procedure.
4. On the web, go to: *www.nortel.com*.
5. In the Support & Training section of the window, select *Software Downloads*.
6. In the Product Family section of the Software Downloads window, select *Preside*.
7. Under theMultiservice Data Manager for Succession PT/UA-AAL1 section, click *Software*.

   Note: This link is used for all solutions, IP and PT/UA-AAL1.

   The Software Downloads window opens.

8 The loads and patches for the release are identified at *www.nortel.com*

Note: Software loads are contained in zip files, while each patch is contained in a single file. The MDM 15.2 Supplement is found under the Documentation tab. The software is found under the Software tab.

9 Select the version of the release of the software you want to download. Download the following software

- MDM R15.2 Supplement
- MDM 152 CD1
- MDM 152 CD2
- MDM 152 CD3
- MDM Enhanced Security (if required)

10 Enter the following directory to indicate where you want the software load files placed: */MDM152*.

11 When prompted, enter your user name and password for the log in.

12 Click *Save*.

13 On the MDM server, change directories to the directory containing the software:

cd /MDM152

14 Uncompress the software load file:

uncompress <swload_name>.tar.Z

15 Untar the software load file: **tar xvf <swload_name>.tar**

16 Repeat step 14 through step 15 for every software file you downloaded.

17 Delete each tar file: **rm -r <swload_name>.tar**

Variable values

Variable	Value
<swload_name>	The name of the software load file that you want to download.

Downloading MDM patches from Nortel website

In addition to the main software release, you may need to download patches from Nortel website to the Multiservice Data Manager (MDM) server. When you download the patches from this website, a copy of the patches is placed in the directory you specify.

Prerequisites

You must have

- A dropbox and an account with a user name and password. Contact your Nortel customer representative for more information on accessing Nortel website.
- Refer to the software downloads area of the website *www.nortel.com* to determine which patches you need to download.

  Note: Consult the Release Notes for this release to identify the most current list of patches you require. MDM patches are jumbo patches that include all previous patches. As a result, you only need to download the most current version of a patch.

- Performed the procedure: Ensuring that there is enough disk space on the servers on page 29.

From the MDM server

1. Log in — see Logging into MDM platform on page 105.
2. Change directories to the / directory: **cd /**
3. Create a directory to download the software to: **mkdir patch152**

   Note: Remove this directory when the patches are installed.
4. On the web, go to *www.nortel.com*.
5. In the Support & Training section of the window, select *Software Downloads*.
6. In the Product Family section of the Software Downloads window, click *Preside*.
7. Under the Multiservice Data Manager for Succession PT/UA-AAL1 section, click *Software*.

   Note: This link is used for all solutions, IP and PT/UA-AAL1.

   The Software Downloads window opens.
8. Refer to the software downloads area of Nortel website (*www.nortel.com*) to determine which patches you want to download.

9 Download and implement the following patches if you are upgrading from MDM 15.1 to MDM15.2:

Note: If you are upgrading from MDM14.2 or 14.3 to MDM15.2, you do not require these patches. Go to step 10.

- MDM151_NNAUTHEN_4.2.0_2004_WK48: PATCH
- MDM151_NNDESKTOP_4.2.0_2004_WK50: PATCH
- MDM151_NNLOGBWSR_1.0.0_2004_WK48: PATCH
- MDM151_NNSECUI_1.0.0_2004_WK50: PATCH

See Bulletin 2005005709 for more information.

10 When prompted to log in, enter your user name and password for the log in.

11 Click on the file listed beside the File Download heading.

12 Enter the following directory to indicate where you want the patch placed: **/patch152**

13 Click *Save*.

14 Repeat steps 12 through 13 for the other patches you need.

Pre-migration checks for upgrading MDM servers

Before starting to upgrade Nortel Multiservice Data Manager (MDM) servers, you must verify that the servers are in a state that will permit the upgrade.

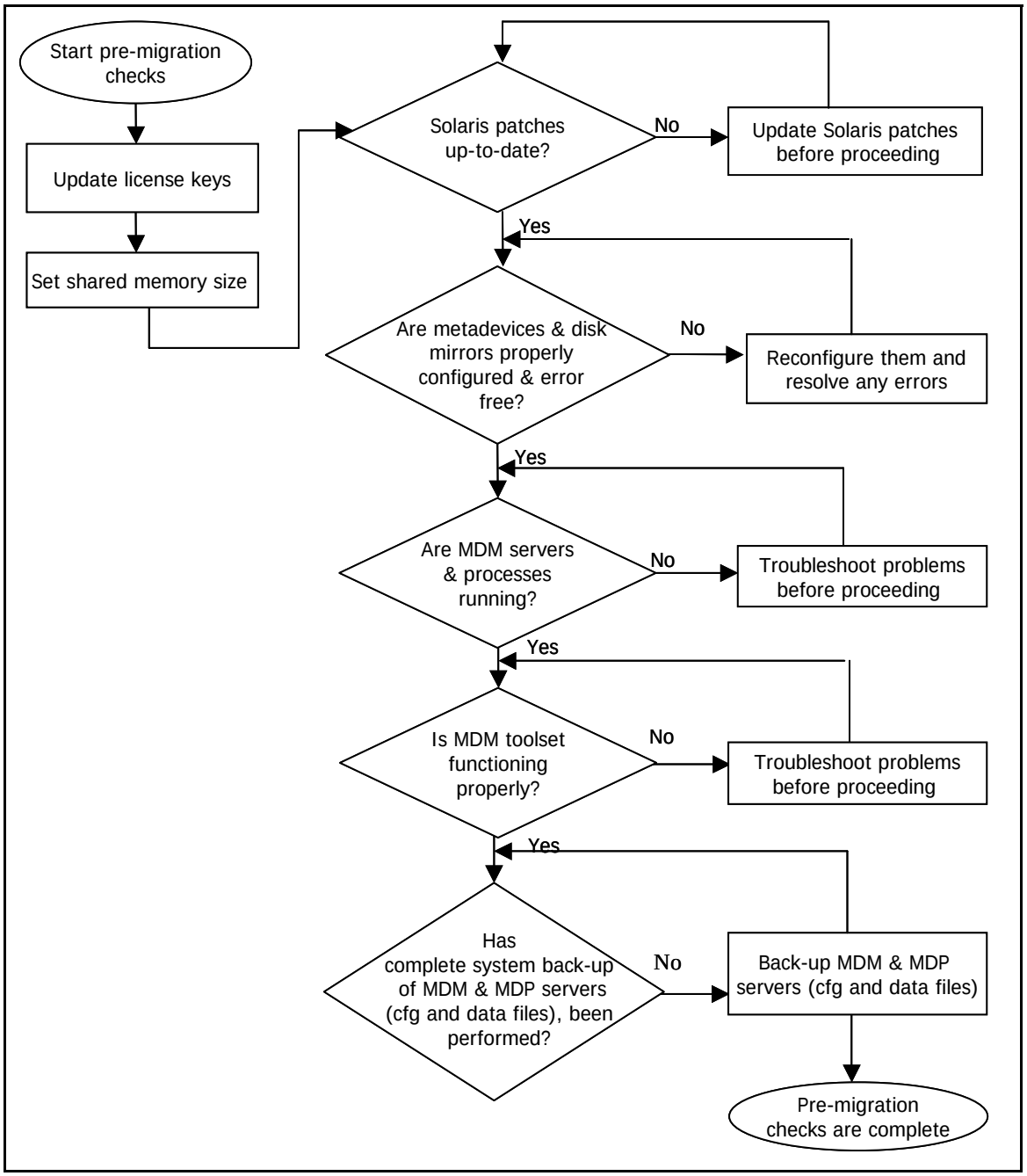
Prerequisites

You must have:

- extensive knowledge of UNIX, MDM tools and software.
- access to a text editor on the terminal connected to the servers so that you can open various files. We recommend using the UNIX vi text editor.
- ensured that the prerequisites in Prerequisites to performing a server upgrade on page 8 have been met.
- performed a full backup of the MDM workstation. Refer to NN10402-600 *ATM/IP Solution-level Security and Administration* guide.

The figure MDM pre-migration checks task flow on page 38 shows you the sequence of procedures you must perform to determine the status of the servers.

MDM pre-migration checks task flow



To link to one of the pre-migration procedures, click on one of the following:

Updating MDM license files

Before you can run MSS MDM server software, you need a license password and a customer identifier. This comes with your MSS server upgrade CD. For information on how to upgrade and configure your new server license, see “Software licenses for MDM (mandatory)” in the 241-6001-100 *Nortel Multiservice Data Manager Software Installation and Initial Configuration*. If you do not have the license, you will need to order one. Contact your Nortel Sales Representative for additional information.

MDM15.2 is available as an Entry or Comprehensive package. Other MDM optional features such as MDP are offered as well.

The MDM Operator Client and centralized user management is an optional feature. The number of Operator Client sessions and active Sun ONE Identity Server (IS) users dictates sizing requirements. You can order a 10 Client/100 user package, a 50 Client/500 user package, or a 100 Client/1000 user package. A license is required for Operator Client User Administration.

In previous releases, the MDM Entry and Comprehensive packages included the software CD ROMs and the Electronic Software Download (ESD) entitlement in addition to the license component. In MDM15.2, the Entry and Comprehensive packages now only include the License RTU component. A separate order code for the MDM Software CD ROM set is provided and must be ordered separately if required. Electronic Software Distribution will only be available to users with valid support agreements

Software license keys are provided based on the features ordered, and on a per site basis. Users migrating from MDM 14.2 or earlier must obtain a new key for MDM R15.x installations. Keys for previous releases will not work. The MDM Enhanced Security packages contains security software and functionality and must be ordered separately. See the *Multiservice Data Manager Release 15.2 Supplement* for more information on packaging and licensing.

Setting the shared memory size

Before beginning the upgrade, you need to set the shared memory size to the value 256.

Prerequisites

- Check the *Multiservice Data Manager Release 15.2 Supplement* to determine if the specific value should be greater than 256.

Setting the shared memory size

From the MDM server

1. Log in - see Logging into MDM platform on page 105.
2. Issue the following command:
   /opt/MagellanNMS/system/config/config_sys_shmem 256

   The system prompts you to confirm the change in shared memory size.
3. Confirm the change: **yes**
4. The system may prompt you to reboot. You are required to reboot later during the installation, therefore it is not necessary to reboot at this time. Do not confirm the reboot: **no**

Verifying Solaris and its patch level

Before beginning the MDM 15.2 upgrade, determine if the Sun workstation OS is at the right level with the correct patches. The correct OS version before starting the MDM upgrade is Solaris 8. Check the *Multiservice Data Manager 15.2 Release Supplement* to determine which Sun OS patches you should install before performing the MDM upgrade. Use the supplement that was obtained from the Electronic Software Distribution (ESD) page (*www.nortel.com*).

Verifying Solaris and its patch level

From the MDM server

1. Log in - see Logging into MDM platform on page 105.
2. Open an xterm session.
3. Check what release of OS is currently running on the workstation:

   cat /etc/release

   If the OS version is less than Solaris 8, an upgrade to Solaris 8 is required. An example of a Solaris <OS version> <release> output is as follows:

   ```
   Solaris 8 HW 7/03 s28s_hw3wos_05a SPARC
   ```

   In the example, the OS version is Solaris 8 with a version date of 7/03.
4. Compare the output with the Solaris Maintenance Releases as specified in the *Multiservice Data Manager 15.2 Release Supplement*.
5. If the OS version is equal to the OS version as specified in the *Multiservice Data Manager 15.2 Release Supplement*, an upgrade is not required.

   If the OS version is less than the version specified in the *Multiservice Data Manager 15.2 Release Supplement*, you must install the correct version of the Solaris OS Maintenance release. Refer to the *Multiservice Data Manager 15.2 Release Supplement* for information on where to find the Solaris Maintenance release software.

Verifying the status of the metadevices and disk mirroring

If you are running disk mirroring on your Sun server, ensure the mirrors are functioning correctly. Consult the Sun documentation for more information.

Verifying that MDM servers and processes are running

The state of Nortel Multiservice Data Manager (MDM) servers will be one of the following:

- *Not started*, which indicates that the server has not been started since the SVMDMN process was started or since it was added to the list.
- *Running*, which indicates that the server has been started automatically by the SVMDMN process or by an administrator.
- *Exited*, which indicates that the server has exited unexpectedly and is awaiting a restart. When a server is in this state, information about the server is displayed on a yellow background.
- *Quit*, which indicates that the server has shut itself down. No restarts are being attempted. When a server is in this state, information about the server is displayed on a red background.
- *Failed*, which indicates that the server has exceeded all restart limits and that no further attempts to restart it automatically are being made. When a server is in this state, information about the server is displayed on an orange background.

Verifying the servers and processes are running

From the MDM server

1 Log in — see Logging into MDM platform on page 105.

2 Open a MDM window — see Opening the MDM Toolset on page 105.

3 From the MDM window, choose System > Administration > Server Administration.

4 Scan the server list and verify that all of the servers are in a *Running* state.

Note: See the 241-6001-310 *Nortel Multiservice Data Manager Server Reference* for information on starting a server.

5 To view more detailed information about the server, click on the name of the server whose information you wish to view.

6 From the Edit menu, select *View*.

The server name in the Server Administration dialog indicates the descriptive name assigned to the server.

7 Click *OK* when you have finished with the dialog.

8 Close the Server Administration tool.

9 From the MDM window choose System -> Administration -> GMDR Administration.

Note: For more information, see Using the GMDR Administration tool in the 241-6001-303 *Nortel Multiservice Data Manager Customization and Administration*.

10 Ensure that there are two FMDR servers for every distinct Carrier Voice over IP office, and two OAMC servers (total) listed. Ensure that each server is associated with a different workstation, and that all are in a connected state.

11 Close the GMDR Administration window.

Verifying that the MDM toolset is functioning

During a pre-migration check, perform the following procedure to verify that Nortel Multiservice Data Manager (MDM) processes are working correctly.

Verifying MDM toolset is functioning

From the MDM server

1. Log in, see Logging into MDM platform on page 105.
2. Open a MDM window:

   /opt/MagellanNMS/bin/nmstool &
3. Click OK to close the copyright dialog.
4. Verify that the Alarm display opens and displays alarms.
   - **a** From the MDM window, choose Fault>Alarm Display: Active
   - **b** When the Alarm Display window opens, verify that the alarms are being received.
5. Verify that the Network Viewer opens and displays the nodes. From the MDM window, select Fault > Network Viewer.
   - **a** From the MDM window, select Fault > Network Viewer.
   - **b** When the Network Viewer window opens, double-click the group icon to expand it.

     Right-click on the icons to see the node name. Select the node(s) you wish to check.
6. Confirm that the viewer displays the status of the nodes.
7. Verify that the Nodal Provisioning tool opens. From the MDM window, select Configuration > Devices > Nodal Provisioning.
8. If more than one Configuration Manager server is specified in the configuration file, a Select Server dialog box opens. Otherwise, go to step 10.
9. If required, select a valid host in the Select Server dialog and click *OK*.
10. In the Nodal Provisioning Device Selection dialog, select a valid device and click *OK.*
11. In the Authenticating dialog, log on to the network destination by entering a valid user ID and password.

12 In the Open View dialog, select the Access Mode and the desired View Mode.

The Nodal Provisioning window opens with a component hierarchy MDM.

13 From the MDM toolset, select the help menu and choose the *On Window* menu item. Ensure that the Help system opens.

MDM software installation

This module contains:

CAUTION
This upgrade strategy removes network management equipment from service.
This upgrade strategy removes the servers from service and eliminates server redundancy.

After you shut down the servers and software on this MDM server, communication from this server to the CS2000 Core Manager or Integrated EMS, and the Multiservice Switch network stops. The other MDM server reports alarms as long as the server being upgraded is out of service.

Load balancing between MDM servers is not available and the MDM platform compliance to connectivity standards cannot be met during the upgrade.

Prerequisites to installing MDM software

Before installing new Nortel Multiservice Data Manager (MDM) software and patches, you must have:

- extensive knowledge of UNIX and MDM tools and software
- removed extraneous software and data
- backed-up the entire disk partition on which the MDM software resides. If a disk partition backup has not been done recently, backup the directories listed in Backing-up MDM information on page 24.
- an understanding that the upgrade procedure uses the software installation tools and procedures that are packaged with Multiservice Data Manager 15.2 release. MDM software will not support copying the software, configuration, or data from one server to the other. This approach would cause MDM references and process calls to fail.
- ensured that the correct version of Solaris and Sun OS patches are installed. Review the *Multiservice Data Manager Release 15.2 Supplement*.

- reviewed the *Multiservice Data Manager Release 15.2 Supplement*. The release supplement describes the features that are new to the software release and includes information on differences in functionality and capability from the old release to the new release. It is essential that you understand the potential impacts before beginning the upgrade.
- have a Multiservice Data Manager 15.2 software license. If you do not have the license, you will need to order one. Contact your Nortel Sales Representative for additional information.

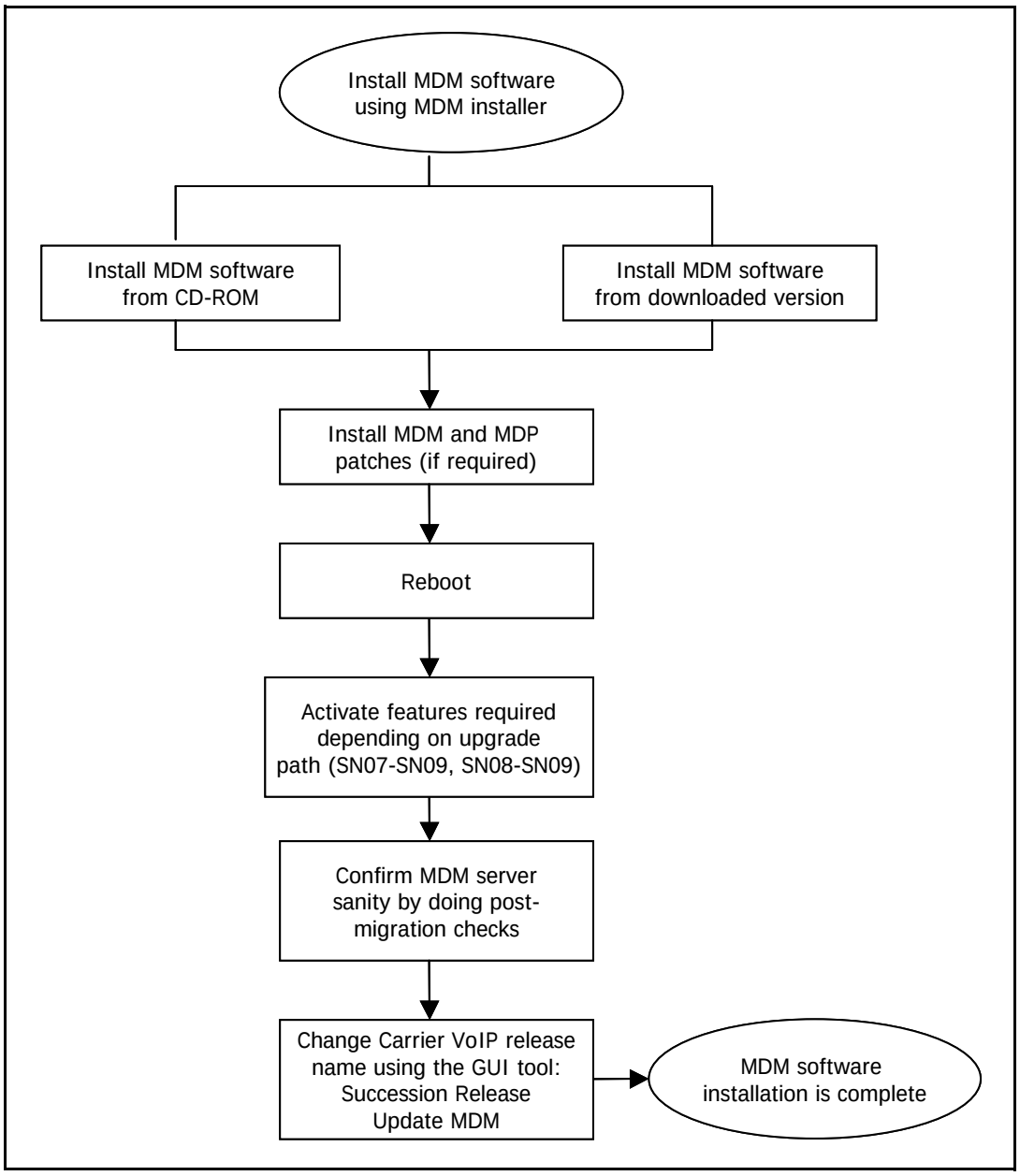
  If you are deploying Operator Client, you must obtain a new key. Contact your Nortel Sales Representative for additional information.
- performed the procedure: Downloading MDM software from Nortel website on page 32 or Retrieving MDM software and patches from a drop box on page 31.
- made a note of the directory name where the software that you downloaded or retrieved was placed.
- referred to the software downloads area of Nortel website (*www.nortel.com*) to determine the software load and patches that you need. If there are no patches listed for this release, it means that there are no patches currently required for this release.
- have an X11 terminal with IP connectivity to the Sun Fire ™ V480 server you are upgrading if you are upgrading MDM servers from CD-ROM. If using a CD to perform the upgrade, you must have access to the CD ROM drive. If upgrading from software that you download from Nortel Electronic Software Distribution (ESD) page, you only need access to the downloaded file. You must also have access to a text editor so that you can edit various files during the upgrade. We recommend using the UNIX vi text editor.
- ensured that the UNIX group “nortel” exists. If the UNIX group “nortel” does not exist, create it using the Solaris admintool.

  If the UNIX user “nortel” does not exist, create it, with a Primary Group of “nortel” using the Solaris admintool.

MDM software installation task flow

The following figure shows you the tasks you need to perform to install new MDM software and patches.

MDM software installation task flow



To link to any task, go to the list that follows the task flow chart:

- Installing MDM software on page 53
- Downloading MDM patches from Nortel website on page 34
- Activating new features for MDM in SN08 on page 67
- Confirming successful MDM server installation on page 63 by performing Post-migration checks on page 77
- Setting the Solution release name identification on page 64

ATTENTION

Install Nortel Multiservice Data Manager (MDM) and MDP software packages using the MDM Installer tool. **DO NOT** use Solaris software package tools.

Installing MDM software takes up to 45 minutes depending on the server hardware and the packages you are installing. The InstallAnywhere program removes files that need to be removed before loading the new software. The system retains the previous version of MDM software on the server as a back-up while installing the new version.

MDM configuration data is persistent. As a result, you will not lose your configuration data when MDM packages are deleted. For more information about installing MDM software, see 241-6001-100 *Nortel Multiservice Data Manager Software Installation and Initial Configuration*.

Installing MDM software

Installing MDM software

From the MDM server

1 Open a UNIX xterm using the user ID root.

2 Stop the MDM servers. For releases 14.3 and higher, the following command stops both the MDM and MDP servers:

/etc/init.d/nmssvm.server stop

3 If you are running release MDM 14.2, you must use separate commands to stop the MDM and MDP servers. Use the command in step 2 to stop the MDM server. Use the following command to stop the MDP servers.

su - <mdpadm userid> (for example: mdpadmin)

cd /opt/MagellanMDP/bin/mdpadm stop all

Note: This command must be executed using the mdpadmin user ID.

4 If you are upgrading from MDM 15.1 to MDM15.2, you must install four patches specified in step 9 Downloading MDM patches from Nortel website on page 34. See Bulletin 2005005709 for more information.

If you are upgrading from MDM14.2 or 14.3 to MDM15.2, these patches are not required.

5 If you are not installing the MDM software from CD-ROM, proceed to step 9. If you are installing using CDs go to step 6.

6 Insert the MDM 15.2 software disk 1 of 3 into the CD-ROM drive, pattern side up. If your drive uses a disk caddy, insert the disk into the caddy pattern side up, then slide the disk caddy into the CD-ROM drive.

MDM software is delivered on four CDs. These are called CD 1 of 3, CD 2 of 3, CD 3 of 3 and MDM Enhanced Security.

Note: Do not change directories (cd /cdrom/cdrom0) before executing the command install_mdm. Changing directories will cause problems when attempting to eject and load the CD-ROM.

7 Launch the MDM Installer:

/cdrom/cdrom0/install_mdm

8 Proceed to step 10.

9 Launch MDM Installer from the directory that contains the software that you downloaded in Downloading MDM software from Nortel website on page 32:

<MDM_software_pathname>/install_mdm

10 You are prompted for a DISPLAY environment variable. The default is to use a console local to the MDM workstation.

Enter the environment DISPLAY to launch the MDM Installer GUI [:0.0]

If your console is not local to the workstation, type the DISPLAY environment value (for example, BELTOR32:0.0)

The Nortel splash screen opens, a countdown occurs, then the window closes.

The Introduction window opens.

The left panel of the window indicates the current phase of the installation. As selections are made, the indicator for each phase changes color. The contents of the right panel changes as each installation phase is presented.

Note: The MDM Installer can be stopped at anytime before you press the Install button in step 22. Do not attempt to stop the software installation after the installation process has begun.

If you make a mistake while selecting installation options, you can uninstall the MDM software after completing the installation process and then re-install the MDM software. For information about uninstalling MDM software, see Uninstalling MDM software on page 82.

To stop the MDM Installer, click **Cancel**.

11 Click **Next**.

The License agreement window opens.

12 Review the license information.

Click **I accept the terms of the License Agreement**, then click **Next**.

Another window opens requesting that you wait while the workstation is examined.

The System information window opens.

This window indicates:

- details about the Solaris operating system currently installed on this workstation
- the sizes of the disk partitions on this workstation and the disk partition sizes recommended for Carrier Voice over IP MDM software
- the MDM software (by release) currently installed on this workstation
- the MDM software licenses currently installed on this workstation

13 If the actual sizes of the partitions are equal to, or larger than, the partition sizes recommended in NN10028-111 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Product and Technology Basics PT-AAL1/UA-AAL1/UA-IP*, click **Next**.

The *MDM 15.2 Install Options* window opens.

14 Select the MDM and MDP software packages to install on this workstation.

15

ATTENTION

DO NOT install Operator Client on server-sets. Server-set servers are dedicated to providing fault and PM information.

Operator Client (OC) is an optional feature in the VoA solution.

a To install Operator Client in a VoA solution, select the software package: **MDM Operator Client and User Administration**.

This enables the Security Server and the Java Web Start Server.

If you do not want OC in your VoA solution, do not make a selection for this attribute.

b Operator Client is a mandatory feature in a secure VoIP solution.

To install Operator Client in a VoIP solution, select the software package **MDM Operator Client and User Administration**.

De-select the Security Server.

If the software package *MDM Operator Client* and *User Administration* is selected and the package *Security server* is not selected, a data entry box is displayed beside the *Java Web Start* server option.

In the data entry box: *SunONE IS,* type the name of the Integrated EMS server.

Note: Do not select the Security Server option for VoIP.

16 Click **Next**.

The *MDM 15.2 Installation Source Path* window opens.

17 If the indicated directory corresponds to the location of the software, click **Next.**

If you are installing from a directory other than the indicated directory, click **Choose**, select the appropriate folder, click **Select**; then click **Next**.

If the software packages are located in different directories, you are provided with prompts to select the appropriate directory for each package selected in step 14.

- If the MDM CD-ROMs are available, the default source path is: /cdrom/cdrom0
- If the MDM CD-ROMs are not available, the default source path is the directory that contains the MDM Installer: /MDM152

18 If the *<host name>.<domain name>* of this workstation cannot be automatically resolved, the *Enter domain name* window opens.

Type the *<domain name>* required to locate this MDM workstation on the network. If you do not know the domain name, contact your network or system administrator.

If the MDM workstation does not belong to a domain, you must assign a domain name in the /etc/hosts file. For example:

Example
Old file

```
# Internet host table
127.0.0.1     localhost
10.17.1.2     MDM01   loghost
```

Modified file

```
# Internet host table
127.0.0.1     localhost
10.17.1.2     MDM01   MDM01.XYZ.COM       loghost
```

Note: If you do not know your domain name, contact your Nortel system administrator.

19 Click **Next**.

20 The *Network Viewer Background Pixmaps* window opens.

This window allows you to select optional bitmap images to use as the background for the Network Viewer (for example, the map of the world as the background).

Click **No**.

21 The *Pre-installation summary* window opens.

This summary identifies the software packages that will be installed and the disk space requirement for each package.

If the list of software packages to install is incorrect, click **Previous** to return to the *MDM 15.2 install options* window and select the correct software packages.

If the amount of disk space required to install the software exceeds the amount of available disk space, click **Cancel** to stop the installation and ensure there is enough disk space on the servers (see Ensuring that there is enough disk space on the servers on page 29).

22 Click **Install**.

The MDM Installer displays the name of each software package as the package is installed.

If you are installing from a CD-ROM, the MDM Installer prompts for additional CD-ROMs until all of the selected software is installed.

Note: Do not attempt to stop the software installation after the installation process has begun.

If you made a mistake while selecting installation options, you can uninstall the MDM software after completing the installation process and then re-install the MDM software. For more information about uninstalling MDM software see Uninstalling MDM software on page 82.

23 The *Enter new license* window opens after the software is installed if a valid 15.2 license key is not located on this workstation.

Type a new MDM software license in the provided data entry box and click **Next**.

If you do not enter a software license key, a temporary software license is generated. The license key is valid for all of the MDM software for a maximum of 30 days. When you have a permanent software license, manually apply the new license using the appropriate procedure in 241-6001-303 Nortel Multiservice Data Manager Customization and Server Administration.

The *Install complete* window opens.

MDM software installation is now complete.

24 Click **Done**.

The MDM Installer window closes.

25

ATTENTION

You must check the logs for any errors in the installation. If the installation logs indicate failure to install any of the MDM packages, follow the instructions in Recovering from an incomplete MDM software installation in the 241-6001-123 Nortel Multiservice Data Manager Upgrade guide.

Examine the MDM software installation logs for any errors. The logs are located in the directory:

/opt/MagellanNMS/data/log/<release>_Install_logs

Variable definitions

Variable	definition
hostname.domain name	the fully qualified host name of this workstation
domain name	the domain name used on this network
MDM_software_path name	the absolute pathname of the directory that contains the MDM Installer

MDM Installer logs

Log	Description
Install_summary.log	This file contains the following information for each software package: package - version added or replaced - installation success or failure
stopServers	This file identifies the Multiservice Data Manager servers that were stopped by the MDM Installer during a Multiservice Data Manager software upgrade.
Package_logs	This file contains each package installation or package removal. For example: install_MDM151Pbe, remove_MDM143Pac, install_MDMHELP.

Installing MDM patches

After installing Nortel Multiservice Data Manager (MDM) software, you need to install the patches for MDM and MDP (if required).

MDM patches are jumbo patches that include all previous patches. Install only the most current versions of each of the patches you need. You cannot install multiple versions of the same patch since you must remove the older version of a patch before you can install a newer version.

The following procedure uses an MDM patch as an example. Repeat the procedure for all the patches that you need to install.

Prerequisites

- Ensure you have performed the procedure Installing MDM software on page 53.
- Refer to the software downloads area of Nortel website (*www.nortel.com*) to determine which patches you need to install. If there are no patches listed, it means that there are no patches currently required for this release.
- See Downloading MDM patches from Nortel website on page 34 to download the required MDM patches.

From the MDM server

1 Log in - see Logging into MDM platform on page 105.

2 Display the patches that are currently installed on the system:

cd /var/sadm/patch

ls

showrev -p | grep MDM

showrev -p | grep MDP

Note: This step and the next two steps are not required if you are performing this procedure immediately after a software migration because there are no previously installed patches.

3 If there are any patches for previous releases listed, uninstall them. Uninstall the patches from the highest (numerically) to the lowest.

patchrm <patch_name>

4 When you are prompted to either reboot, re-initialize the NMS servers, or do nothing, choose to do nothing.

Note: Do not reboot the server at this time. You will reboot the server after completely installing the new patches.

5 Change directories to the *patch152* directory:

cd /patch152

Note: The *patch152* directory was created in step 3 of Downloading MDM patches from Nortel website on page 34. Record the location where you downloaded the patches, if it is not the temporary directory.

6 Display the available patches:

ls

7 Using the software downloads area of Nortel website (*www.nortel.com*), determine which patches you need to install. There could be up to three patches to install: *MDM*, MDP, and DVR.

8 Uncompress the first patch that you need:

uncompress <patch_name>.tar.Z

9 Untar the patch:

tar xvf <patch_name>.tar

10 Remove the tar file:

rm -r <patch_name>.tar

11 Change directories to the specific patch subdirectory:

cd /patch152/<patch_name>

12 In that subdirectory, open the README file associated with the patch and follow the instructions to install the patch.

Note: In the README file, ignore the steps that have you uncompress, tar and reboot.

13 Repeat steps 8 through step 12 for each of the patches you need to install.

14 To ensure that all changes have been applied, synchronize the file systems by issuing the sync command three times, pressing Enter after each one:

sync

sync

sync

15 Return the server to service and apply the changes by rebooting it:

init 6

After the reboot, the MDM server should return to service without any problem.

Variable values

Variable	Value
<patch_name>	The name of the patch that you want to remove or install. The patch names have the MDM, MDP, or DVR release number followed by the patch number. For example, MDM152-01.

Confirming successful MDM server installation

After installing Nortel Multiservice Data Manager (MDM) server software and patches, you must confirm that the installation was successful by performing Post-migration checks on page 77.

Setting the Solution release name identification

To help identify which Solution (Carrier Voice over IP) release the MDM is running, and help operators determine if that release is compatible with other elements in the network, the MDM toolset allows you to set the Carrier Voice over IP release name on the MDM tool launcher.

Prerequisites

- the file /opt/MagellanNMS/cfg/.SuccessionEnabled must exist

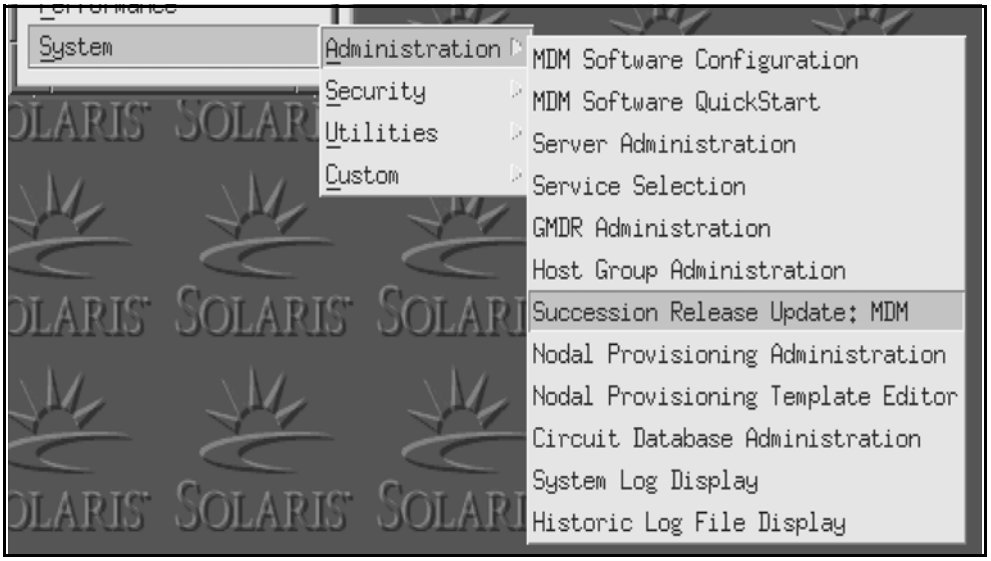
Setting the Solution release name on the MDM

From the MDM server

1 Log in - see Logging into MDM platform on page 105.

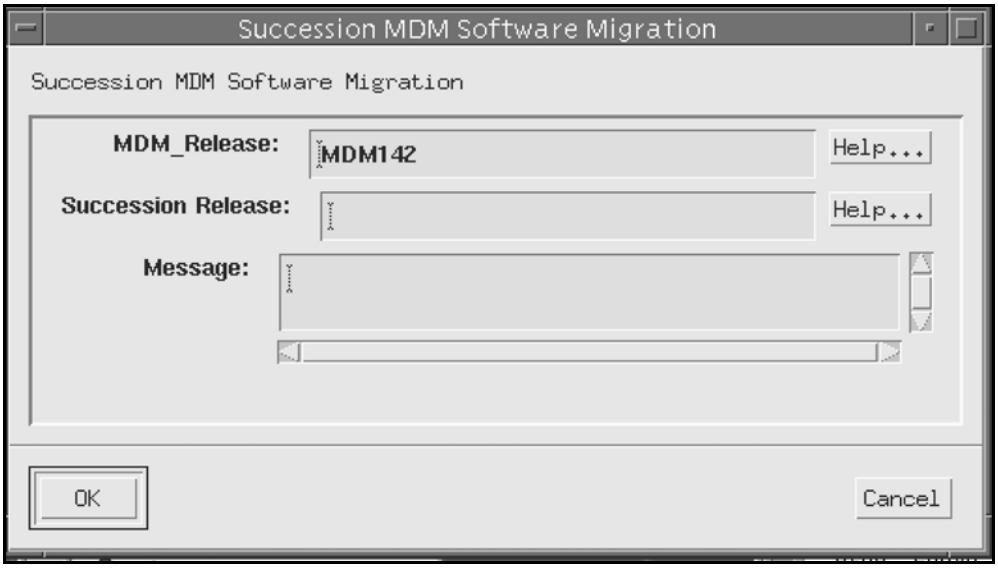
2 From the MDM window, choose System > Administration > Succession Release Update: MDM.

The Succession MDM Software Migration window opens and displays the current MDM release.



3 Enter the Carrier Voice over IP release name using the format: SNxx.y For example: SN07.

The Succession MDM Software Migration window opens displaying the current MDM release.



4 Click *OK*.

The file */opt/MagellanNMS/system/info/release.name* is changed and the MDM toolset icon displays the MDM release name followed by the Carrier Voice over IP (in the format SNxx) release name.

If you click *Cancel*, the process is cancelled and the file opt/MagellanNMS/system/info/release.name is unchanged. If nothing is entered into the Succession Release field, the information is removed from the MDM toolset.

Note: The updated release name will not appear until you exit the tool and re-start it.

Activating new features for MDM in SN08

ATTENTION

Before you activate any SN08 features, activate the MDM Carrier Voice over IP features listed in the MDM Carrier Voice over IP feature baseline on page 15.

Refer to SN07 Helmsman documentation for how to activate features for MDM 14.1, 14.2 to MDM 15.1. These feature activations still apply for the MDM 14.2 to MDM 15.2 upgrade. Once the baseline features are activated, you can activate the SN08 features.

The following features must be activated in SN08:

- Auto-patching for MSS/MG15000 nodes
- Nodal provisioning template audit
- Security audit logs real time to SCC2
- Enhanced security in VoIP

Note: See the NN10180-612 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier VoIP Networks Security and Administration - Securing Network Elements* guide for information on security features.

The following feature is activated automatically:

- Centralized AAA and user administration for VoA networks with the Operator Client application

  However, you must configure MDM Admin Servers and access policies. See Centralized AAA and user administration for VoA networks with the Operator Client application on page 71 for more information.

MSS SN08 features can be activated in any order once the upgrade is completed successfully. See:

- Activating auto-patch on page 68
- Centralized AAA and user administration for VoA networks with the Operator Client application on page 71
- Nodal provisioning template audit on page 72
- Activating security/audit logs (SALs) real time to SCC2 on page 73

Activating auto-patch

To fully automate provisioning and activating MSS15000/MG15000 patches, you must use a use Nortel MDM workstation. Scheduling and control of the auto-patch script is from the MDM which issues on-switch commands that trigger the calculation and update of the Sw patchList. Use the crontab utility (or your usual scheduling utility) to configure the script. At the appointed time, the MDM will trigger the switch to download the latest version of the Patch Av.

Configure the MDMs to run the auto-patch download and application at different times. That is, the MDM designated to be the SDS can be scheduled to perform the downloads to the switches at one time and at another time, the same MDM can run the script to apply the patches on the switches. See “Scheduling the MDMs for auto-patching” in NN10114-511 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Overview PT-AAL1/UA-AAL1/UA-IP*.

Setting up the script for auto-patching

From the MDM

1 Log in to the server as the **root** user.

2 Create a cron job that will regularly run the *ppautopatch* script at scheduled times.

a Set up the cron job to start the next night according to your schedule with a line in the standard format:

```
<min> <hour> <day> <mon> <dow> <command>
```

where:

- **command** specifies the *ppautopatch* script command string

Use the following syntax for the command string:

```
ppautopatch (-download -host <sds host name>
-huser <sds host userid> <sds host password>)
```

and/or **(-apply [-log_verbose])**

```
-nodes <group> | <node> | <filename>
-nuser <node userid> <node password>
[-max_duration <n> h | m]
[-successfile <filename>]
[-failedfile < filename]
```

where the following attributes are mandatory:

- **-download**, selects the patch download to the switch operation
- **-apply**, selects the patch application operation on the switch

  Note: **-download** and **-apply** can be scheduled independently.

- **-host**, enter the SDS host name or IP address of the SDS
- **-huser**, enter the user ID and password for the SDS This is the user ID and password required to connect to the SDS.
- **-nodes**, enter the HGDS group with all **MSS**/**MG15000** nodes

  This is for one or more MSS nodes in an HGDS group. You can enter a node name, a group of nodes, or a list of nodes. Any node or group name must be configured in HGDS.

- **-nuser**, enter the user ID and password for the **MSS**/**MG15000**s

  This is the user ID and password required to connect to the MSS/MG15000 node(s). The user ID permissions must have a user scope of network and a user impact of debug, administration, or configuration.The password may either be stored in the clear or be the name for a file that contains an encrypted password.

- **-max_duration**, enter in the format: **<<n> h l m>**

  This defines the maximum time the Auto-patch tool has to complete the patch download and, or application operations on each node. You can enter the time in hours from 1 - 23 or in minutes from 1 -1439. One hour (1h) is recommended for the max_duration.

The following attributes are optional:

- **-successfile**, allows you to identify a file other than the default file to store the names of all of the nodes where the auto-patch tool successfully performed the download and, or apply operations. You can use this option with the -nodes parameter to record successful downloaded and applied patches or for customer auditing purposes. If you do not use this option, the names of the nodes will be

stored in
/opt/ MagellanNMS/data/ppautopatch/<filename>.

The filename will include the date, operation requested, nodes variable, and an incrementing index <N> to ensure the filename remains unique, as follows:

<YYYYMMDD>_SUCCESS_<DL | APPLY>.<NODES>.<N>.hosts

- **-failedfile**, allows you to identify a file other than the default file to store the names of all of the nodes where the Auto-Patch tool unsuccessfully performed the download and, or apply operations. You can use this option with the -nodes parameter to record successful downloaded and applied patches or for customer auditing purposes. If you do not use this option, the names of the nodes will be stored in
/opt/ MagellanNMS/data/ppautopatch/<filename>.

  The filename includes: the date, operation requested, nodes variable, and an incrementing index <N> to ensure the filename remains unique, as follows:

  <YYYYMMDD>_FAILED_<DL | APPLY>.<NODES>.<N>.hosts

- **-log_verbose**, allows you to include the output of the patch query that is run by the Auto-Patch tool. The output includes the state of all patches and the software patchlist for every node. The operation runs before the download and apply operations. If you do not select this operation, the patches that require manual intervention are output by default. This includes patches that have been declared obsolete, patches with an emergency removal notice or defect, and patches which are service affecting.

For more information about activating the auto-patch script, refer to “Configuring the auto-patch process” in NN10400-300 *Nortel Multiservice Data Manager Administration Tools*.

Centralized AAA and user administration for VoA networks with the Operator Client application

This feature is automatically activated, however, there is configuration required to deploy MDM Admin Servers in the VoA network. See the following table.

To	refer to
deploy client-sets as MDM Admin Servers	Installing MDM software on page 53
configure both the MDMs to provide centralized authentication and authorization This includes configuration of the MDM Admin Servers, RADIUS interface, and RADIUS client.	NN10114-511 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Overview PT-AAL1/UA-AAL1/UA-IP*
create policies, configure roles with policies, and associate users with roles	NN10180-611 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Security and Administration PT-AAL1/UA-AAL1/UA-IP*
see the attributes you need to configure for policies, roles, and users	NN10225-512 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Attribute Summary PT-AAL1/UA-AAL1/UA-IP*

Nodal provisioning template audit

The Nodal Provisioning template audit can help locate problems with configuration data on the MSS15000. When the NP template is used, the NP server generates security audit logs (SALs) that capture all information related to the template and the MSS15000. The Configuration Audit verifies whether the on-switch provisioned data matches the data applied from a selected template and user inputs.

To activate the logging, edit the NP Config Manager server startup information to include the -cfgSAL option in the Server Administration tool (/opt/MagellanNMS/bin/configman -cfgSAL). The usual Server Administration tool prerequisites for editing a server configuration apply.

Activating Nodal provisioning audit

From the MDM

1. Start Service Administration from the NMS Toolset.
2. Select **Authorize** under the *Security* menu to specify the password.
3. Select the **NP Configuration Manager**. Select the **Edit->Edit Server** function.
4. Add the *-cfgSAL* option to the start up command:

   /opt/MagellanNMS/bin/configman -cfgSAL
5. Click **Save and Restart**.

Activating security/audit logs (SALs) real time to SCC2

To enable logging of MDM and MSS15000/MG15000 security audit logs, configure an instance of SALC (Security Audit Log Collector) that is running in MDM to specify the target host and the facility that will be used on that host to receive the logs.

SALC supports a redundant architecture that feeds security audit logs between two peer MDM servers, that is, the MDM server-set servers, that filters out duplicate SALCs. The configuration described below sets up this redundant feed.

In order for SALC server to generate logs to syslog in Custlog V2 (SCC2) format, a -node ID <nodeId>" argument is required (see NN10225-512 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Attribute Summary PT-AAL1/UA-AAL1/UA-IP* for configuration attributes). The presence of this option triggers the salcserver to begin generating logs in the Custlog V2 format.

The installation and initial configuration must be performed on both MDM servers in the server set.

See 241-6001-310 *Nortel Multiservice Data Manager Server Reference* for information on creating the configuration file.

Prerequisites

- Start the FMDR server with the user ID that has system administrator privileges.

Installation and initial configuration

From the MDM

1 Create the salcserver configuration file. The configuration file name must have the following format:

/opt/MagellanNMS/cfg/SALCServer_<nodeId>.cfg.

See NN10225-512 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Attribute Summary PT-AAL1/UA-AAL1/UA-IP* for valid configuration attribute values.

2 Use the Server Administration tool to start the salcserver:

/opt/MagellanNMS/bin/salcserver -OAMCFacility <custlog facility> -passportFacility <custlog facility> -outputSyslog <SDM IP address> -nodeId <nodeId> -outputFile

3 Repeat these steps for each Carrier Voice over IP office being managed.

See NN10225-512 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier Voice over IP Networks Configuration Attribute Summary PT-AAL1/UA-AAL1/UA-IP* for valid configuration attribute values.

Upgrading to SN08 from a previous release

If you are upgrading to SN08 from an earlier release, do the following:

1 Ensure that OSS applications are updated to handle security audit log data.

2 Upgrade the first MDM server-set:

- **a** OAMC should already be handled by the base MDM procedures.
- **b** If the FMDR (common to fault stream for the Carrier Voice over IP office) is actually common to multiple groups (relying on the PSERVER filtering), split up the FMDR's to be per office.
- **c** SALC can initially point to the local OAMC, client-set OAMC, and local FMDR only. It should not yet point at the SDM, but can be storing security audit logs in the local file system.
- **d** As each MSS/MG15000 gains connectivity to MDM server-sets running SALC, the security audit logs will automatically start flowing as they are generated.

3 Upgrade the second MDM server-set:

- **a** OAMC should already be handled by the base MDM procedures.
- **b** If the FMDR (common to fault stream for the Carrier Voice over IP office) is actually common to multiple groups (relying on the PSERVER filtering), split up the FMDR's on a per office basis.
- **c** SALC can initially point to the local OAMC, local FMDR, remote OAMC, and remote FMDR. It should not yet point at the SDM, but can be storing SAL's in the local file system.

d As each MSS/MG15000 gains connectivity to MDM server-sets running SALC, the SAL's will automatically start flowing as they are generated.

4 Return to the first MDM server-set:

a Stop SALC.

b Point SALC at the remote OAMC and remote FMDR.

c Start SALC.

5 Upgrade each MSS/MG15000. As each gains connectivity to MDM server-sets running SALC, the security audit logs will automatically start flowing as they are generated but only after the point of connectivity. Prior to that, security audit logs originating on MSS/MG15000 are spooled to the CP disk).

6 Upgrade the SDM for the office according to the standard Carrier Voice over IP upgrade procedures and in the order that the solution-level deployment demands. SDM is normally upgraded after MDM.

7 For each MDM server-set:

a Stop SALC.

b Point SALC at the SDM now running SN08.

c Start SALC.

Post-migration checks

After completing the software upgrade for Nortel Multiservice Data Manager (MDM) servers, you must verify that the servers are functioning correctly.

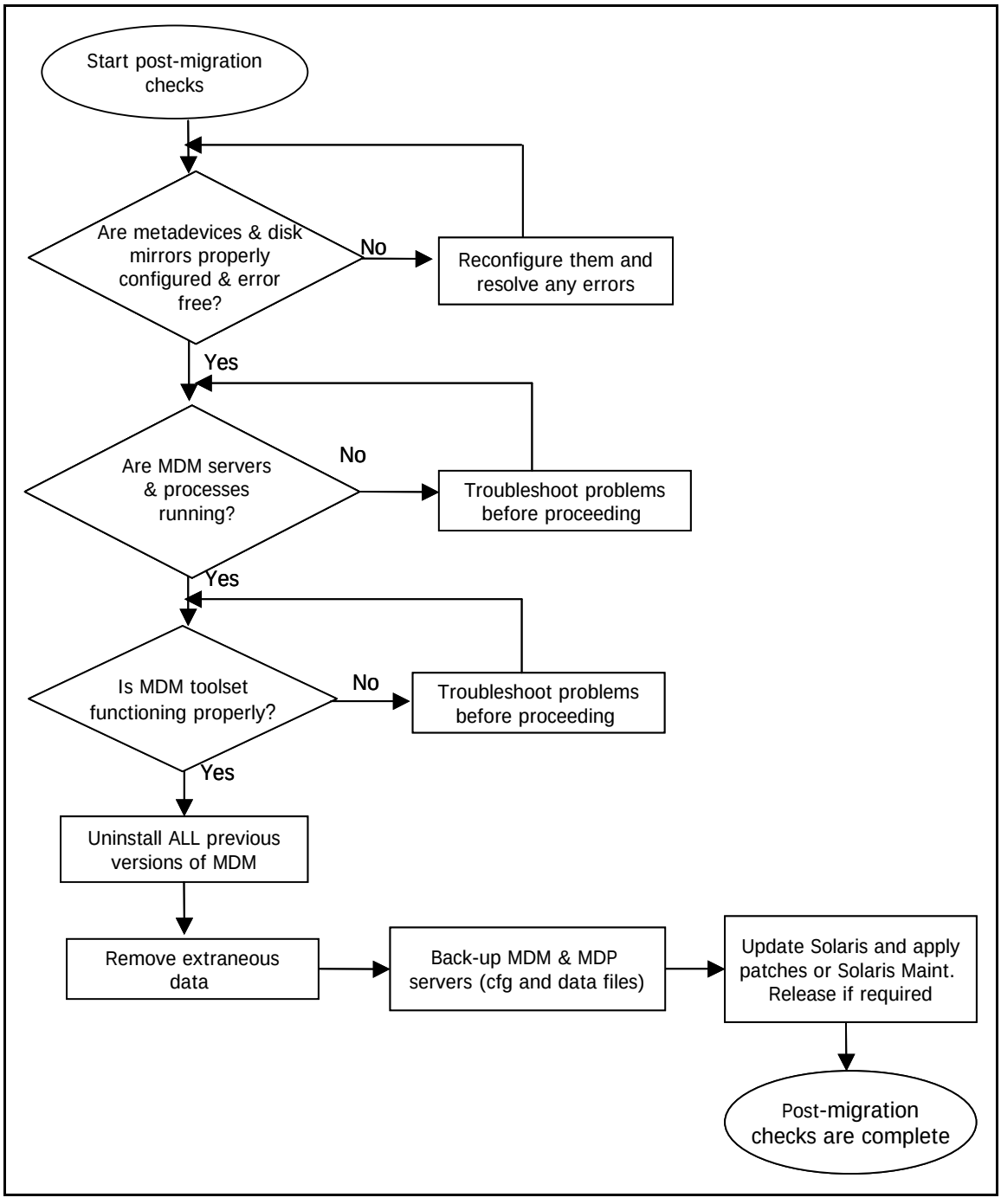
Prerequisites

You must have:

- access to a text editor on the terminal connected to the servers so that you can open various files. We recommend using the UNIX vi text editor.
- an advanced knowledge of UNIX and MDM tools and software.

The figure MDM post-migration check task flow on page 78 shows you the sequence of procedures you must perform to determine the status of the servers after a migration.

MDM post-migration check task flow



Post-Migration checks

After you have successfully completed the upgrade, perform the following procedures:

- Verifying the status of the metadevices and disk mirroring on page 43
- Verifying that MDM servers and processes are running post-migration on page 80
- Uninstalling MDM software on page 82
- Ensuring that there is enough disk space on the servers on page 29
- Performing a complete system backup on page 23
- Upgrading the Solaris operating system on page 85

Verifying that MDM servers and processes are running post-migration

From the MDM server

1 Log in — see Logging into MDM platform on page 105.

2 Open a MDM window — see Opening the MDM Toolset on page 105.

3 From the window, choose Administration > Server Administration.

4 Scan the server list and verify that all of the servers are in a *Running* state.

Note: See the 241-6001-310 *Nortel Multiservice Data Manager Server Reference* for information on starting a server.

5 To view more detailed information about the server, click on the name of the server whose information you wish to view.

6 From the Edit menu, select *View*.

The server name in the Server Administration dialog indicates the descriptive name assigned to the server.

7 Click *OK* when you have finished with the dialog.

8 Close the Server Administration tool.

9 From the MDM window choose System -> Administration -> GMDR Administration.

Note: For more information, see Using the GMDR Administration tool in the 241-6001-303 *Nortel Multiservice Data Manager Customization and Administration*.

10 Ensure that there are two FMDR servers for every distinct Carrier Voice over IP office, and two OAMC servers (total) listed. Ensure that each server is associated with a different workstation, and that all are in a connected state.

11 Close the GMDR Administration window.

12 If the MDP servers were installed, use the Server Administration tool to ensure the servers are running.

The servers must be listed in the following sequence:

- MDP Disk Manager (mdpdiskmgr)
- MDP File Mover Manager (mdpfmmgr)
- MDP Data Model Manager (mdpdmm)

- MDP MSS File Manager (mdpppmgr)
- MDP File Prober Manager (mdpfpmgr)

Note: Start the Server Administration tool using the "mdpadmin" userid used to start the MDP servers.

13 From the Toolset icon, select any tool and open its Help system to verify that the installation was successful.

If the installation was successful, follow these steps.

From the MDM server

1 If the software was downloaded successfully, remove the software download directory:

rm -r /MDM152

2 Remove the software patch directory:

rm -r /patch152

Uninstalling MDM software

To roll back MDM software from SN08 to a previous release, you must uninstall the software release, patches, remove several directories and then, restore the software. You must uninstall the MDM software and patches using the MDM Installer. Perform the following procedures in the order listed:

- Uninstalling MDM software on page 82
- Removing MDM software patch on page 83
- Removing directories before restoring MDM software on page 83

Uninstalling MDM software

From the MDM

1 Using the user ID root, open a UNIX xterm.

cd /opt/MDM<release>_INST

2 Change directories to the directory that contains the uninstall tool for the software release to be removed.

3 Start the software removal tool InstallAnywhere Uninstaller.

./uninstall_mdm[134 or 141] (for release 13.4 or 14.1)

./uninstall_mdm (for any release above 14.1)

The InstallAnywhere Uninstaller window opens.

4 Select **Uninstall**.

A window opens that indicates the MDM packages available for removal.

5 Select the MDM packages to remove and click **Uninstall Selected Packages**.

A progress bar indicates the stage of removal for each package.

A popup window indicates completion.

6 Click **Ok**.

7 Click **Done**.

The Uninstaller logs are located in the directory /opt/MagellanNMS/data/<release>_Install_logs.

8 If the Secure Shell (SSH) software was installed on this workstation, remove the SSH software. Type the following commands in sequence and respond to the prompts.

/bin/pkgrm MagSTRM

/bin/pkgrm SSHinit

If this workstation uses Solaris 8, type

/bin/pkgrm MagOSSH

9 If the software package cannot be successfully removed, contact GNTS.

Removing MDM software patch

From the MDM

1 Using the user ID root, open a UNIX xterm.

2 Run the Sun Microsystems Inc. patch removal utility.

patchrm <release>-<patch>

The software patch is removed. You are informed of a successful patch removal.

3 Review the *MDM 15.2 Release Supplement* or the README file included with the installed software patch. Determine the actions required to restore the MDM software to its previous state.

Before you restore MDM information, you must manually remove the following directories:

- /opt/nortel/data
- /opt/nortel/config
- /opt/nortel/log
- /opt/nortel/3rdparty

Removing directories before restoring MDM software

From the MDM

1 Using the user ID root, open a UNIX xterm.

2 Change directories to the directory to remove.

rm -R <directory_name>

3 Repeat this command until all of these four directories are removed.

Upgrading the Solaris operating system

The operating system on the MDMs for this release must be upgraded from Solaris 8 to Solaris 9 after the MDM 15.2 upgrade has been performed and the system verified as sane. SN06 and SN07 currently run on Solaris 8. The Solaris 9 upgrade must be performed before deploying MDM Admin Servers for centralized authentication and authorization in an Operator Client environment.

Upgrading with Live Upgrade

Use Live Upgrade to upgrade Solaris operating systems. MDM is a flexible system that supports different deployments, therefore, the migration needs to be performed on each MDM in each set. The following server sets and client-sets are deployed as redundant pairs:

- distributed server and client-set server
- separate server and client-set server
- stand-alone (combined server and client)

Note: Upgrade the client-sets followed by the server sets.

The Live Upgrade feature provides both a command-line interface (CLI) and a character-based interface (CUI). Use the command-line interface to perform the upgrade. The CUI does not have the full feature set of the CLI and there are limitations on using it remotely.

In normal operation the Solaris operating system runs in one boot environment (BE). Live Upgrade creates a clone of the BE for an upgrade. The two BEs are the active boot environment (BE) and the alternate boot environment (ABE). The upgrade uses the (ABE), which is a clone of the current OS, to perform the OS upgrade without any impact on the OS that is running in the BE. The main requirement is that each BE have enough disk space for its own root partition.

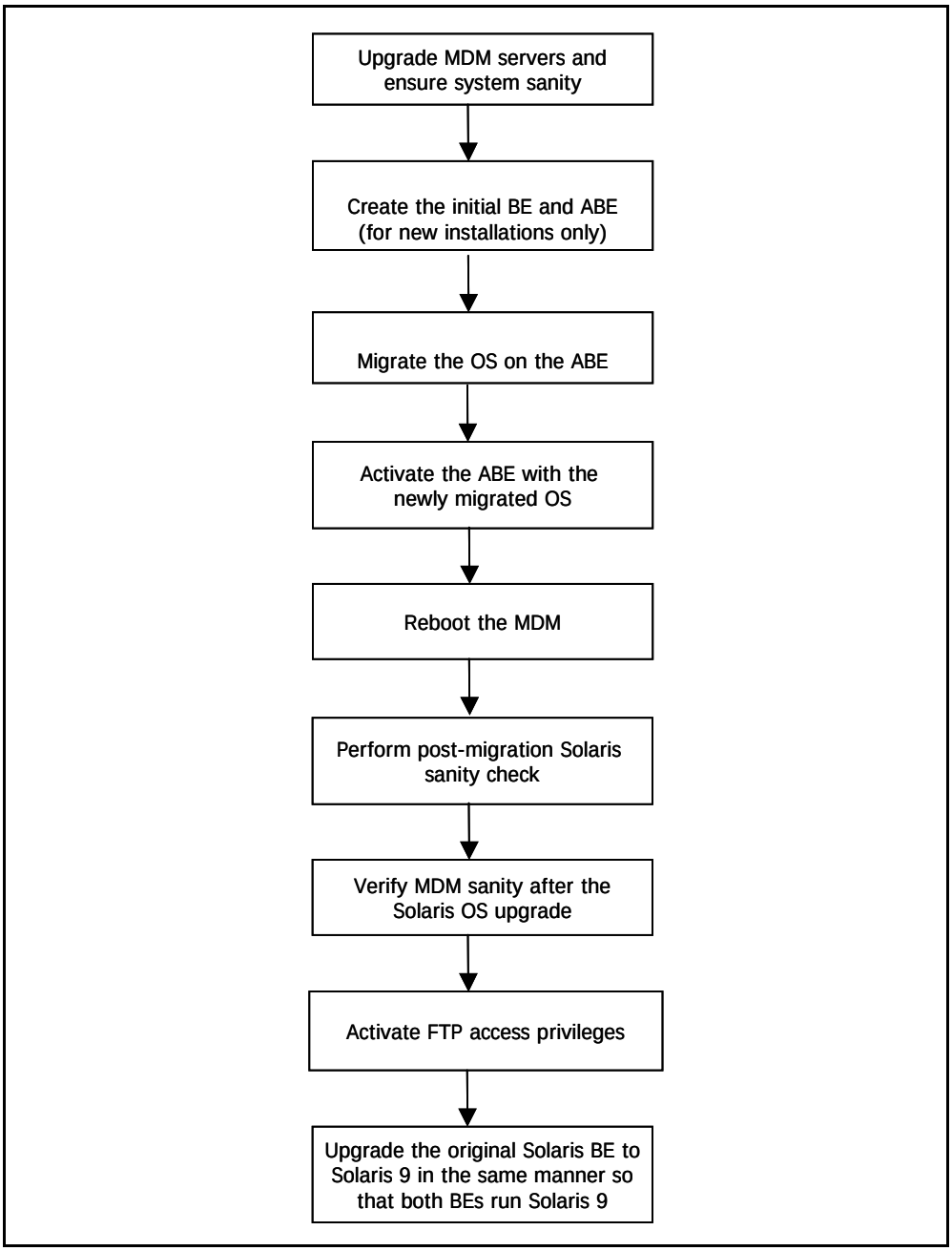
The naming convention used to identify the two BEs is as follows:
`Solaris<release number>_<mmyy>`
As an example, Solaris8_0703 corresponds to the Solaris 8 release dated 07/2003. The Live Upgrade utilities make use of the two logical names to identify the BE that is being manipulated.

All the new Solaris OS software is installed in the ABE while the current Solaris OS continues operating in the boot environment (BE). Once the new Solaris OS is installed in the ABE, it is activated in the ABE. At this point you must test the ABE to see if there are any problems.

Make sure that all the Post-migration checks on page 77 have passed in the BE before upgrading the ABE. If there are no problems, reboot (init 6) the ABE. The new Solaris OS does not become functional until after a reboot. If you find there is a problem after both BEs are at the new version of Solaris OS, you will need to uninstall the new version and re-install the old version in the BEs, then start the upgrade again.

The workstation is fully available to users throughout this entire procedure with the exception of the reboot. See the Workflow for Solaris 9 upgrade on page 87 strategy.

Workflow for Solaris 9 upgrade



CAUTION
Rolling back after an MDM 15.2 software upgrade
Once both boot environments have been updated to Solaris 9, you can only rollback to MDM 14.2 or MDM 14.3 by re-installing Solaris 8.

When you create an initial BE from the current OS, two boot environments are created:

- one for the current OS named Solaris8_0703 for example
- one clone of the current OS named Solaris9_0404 for example, which is used for the upgrade

  In subsequent upgrades, this step is omitted. The ABE created here can be used to perform the upgrade.

Prerequisites to performing the Solaris upgrade

Ensure the following prerequisites are performed prior to the upgrade:

- Verify the current OS, OS maintenance release and patch level are at the correct level. The OS must be at Solaris 8 and the patches must be at patch level for Solaris 8 before you upgrade to Solaris 9. Use the command:

  cat /etc/release

- You have downloaded the Solaris 9 operating system, Solaris 9 Maintenance Release 9/04, and the Sun OS 9 patches as specified in the Multiservice Data Manager Release 15.2 Supplement.
- Install and implement patches for the current OS (if required). See the *Multiservice Data Manager Release 15.2 Supplement* to determine the latest set of patches.
- Both MDM servers must be sane and operating without any errors:
  - Both servers must be in service, operating in a redundant capacity, and capable of supporting traffic and network management functions with no major or critical alarms.
  - Check the Alarm Display and the System Log Display tools and ensure there are no serious or unexplained logs or alarms.
  - Ensure that the second server (the one not being upgraded) is sane before you proceed with the upgrade.
  - Verify that you can access the MSS/MG15000 using Command Console.
  - If using disk mirroring, it must be enabled on both servers and operating without any errors.
- Both MDM servers have been upgraded to MDM 15.2.
- Disk mirroring has been disabled using the Sun documentation for disk mirroring provided in “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004
  http:// www.sun.com/software/solaris/liveupgrade
- Disable volume managers using the vendor information and Sun information provided in “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004
  http:// www.sun.com/software/solaris/liveupgrade
- Create disk partitions using the Sun documentation (if required).
- Unharden the OS.
- Backup system and user data. Refer to NN10180-611 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice*

Data Manager in Carrier Voice over IP Networks Security and Administration PT-AAL1/UA-AAL1/UA-IP.

- Install Live Upgrade packages using the Sun documentation, go to the Sun Microsystems Documentation Center at: http://www.sun.com/documentation

Upgrading to Solaris 9

1 Obtain the required software from Sun Microsystems Inc.

2 Install the Solaris 9 operating system according to the instructions provided in “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004
http:// www.sun.com/software/solaris/liveupgrade.

Note: If the documentation is not available or to ensure that the latest documentation was provided, go to the Sun Microsystems Documentation Center at ‘http://www.sun.com/documentation’.

ATTENTION
When installing Solaris 9, choose “Entire distribution plus oem support 2.2" to ensure that SSH and IPSec are installed. The “End User system support 2.3" option does not include these packages. IPSec and SSH are required for the Security feature.

Post migration checks

Ensure the following post migration checks are performed after the upgrade:

- Verify that the OS is at Solaris 9, Solaris 9 Maintenance Release 9/04 and the OS patch levels are at the level specified in the *Multiservice Data Manager 15.2 Release Supplement*. Use the command:

  `cat /etc/release`

- Verify MDM sanity:
  - — Both servers must be in service, operating in a redundant capacity, and capable of supporting traffic and network management functions with no major or critical alarms.
  - — Check the Alarm Display and the System Log Display tools and ensure there are no serious or unexplained logs or alarms.
  - — Verify that you can access the MSS/MG15000 using the Command Console.
  - — If using disk mirroring, it must be enabled on both servers and operating without any errors.
- Test the BE in the case that you may be required to revert back to the previous OS.
- Perform the procedure Activating FTP access privileges on page 92.
- Enable disk mirroring using the Sun documentation. Refer to “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004 (http:// www.sun.com/software/solaris/liveupgrade).
- Enable volume managers using the vendor information and Sun information. Refer to “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004 (http:// www.sun.com/software/solaris/liveupgrade).
- Harden the OS, if necessary. Refer to NN10180-612 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier VoIP Networks Security and Administration - Securing Network Elements*.

Activating FTP access privileges

MDM requires proxy FTP to receive spooled data (SCN, alarms and logs) from the MSS. If the destination server (MDM) where the data file is going is running Solaris 9, configure the file /etc/ftpd/ftpaccess.

Activating FTP access privileges

1 Create the following entries in the file: /etc/ftpd/ftpaccess

port-allow realusers 0.0.0.0/0

port-allow guestusers 0.0.0.0/0

pasv-allow realusers 0.0.0.0/0

pasv-allow guestusers 0.0.0.0/0

Creating a `port-allow <class> 0.0.0.0/0` entry prevents FTP from checking the IP address of the port command from any address.

Rollback to previous Solaris version before activation of the new Solaris version

If testing indicates that there are problems with the new OS, activate the BE that hosts the old version of the Solaris OS and then reboot according to the Sun documentation. Refer to “Solaris Live Upgrade 2.0 Guide“, Sun Microsystems, 2004 (http:// www.sun.com/software/solaris/liveupgrade).

CAUTION
Do not perform a manual OS sync.
Differences between Solaris OS versions can be destructive. Do not perform a manual OS sync and make sure that you use init 6 or shutdown for reboots.

MDM rollback

Nortel MDM SN08 can manage an SN06 or SN07 Multiservice Switch or Media Gateway ATM core network, but you may decide that you need to back out of your current MDM software version. This section describes the rollback process. If you need see the feature rollback for a pre-SN07 MDM release, when reverting from SN08 to an earlier release see the NN10185-461 *Upgrading Nortel Multiservice Data Manager in Carrier Voice over IP Networks* in the SN07 Helmsman collection.

Prerequisites

Perform the following tasks before you roll back MDM software to a previous version:

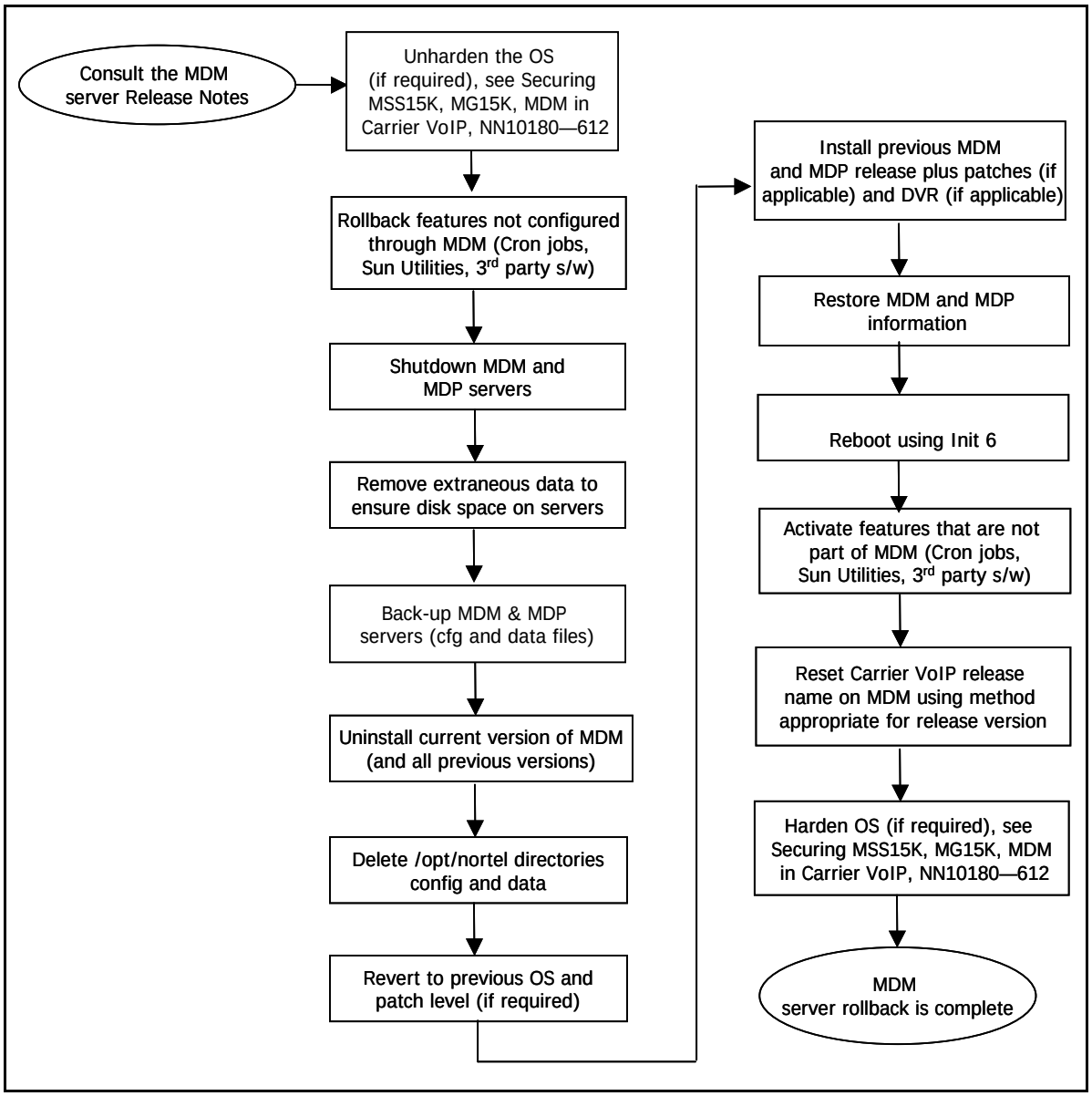
- Verify that the MSS/MG ATM core network has been rolled back if necessary.
- Ensure that the backup MDM server is working by performing the steps in Pre-migration checks for upgrading MDM servers on page 37.

ATTENTION
Backing-up current MDM data and configuration is essential to being able to rollback and restore MDM successfully.

MDM server rollback task flow

The figure MDM rollback task flow chart on page 96 shows you the sequence of tasks you must perform to rollback one MDM server. Repeat the sequence of tasks to rollback the second server.

MDM rollback task flow chart



Rollback task flow

To link to any procedure, click on the following.

- Consult the MDM server release supplement on page 97
- Ensuring that there is enough disk space on the servers on page 29
- Backing-up MDM information on page 24
- MDM software installation on page 49

- Rollback to previous Solaris version before activation of the new Solaris version on page 94
- Restoring MDM information on page 100
- Rolling back MDM 15.2 features on page 98
- Restoring MDM information on page 100
- Setting the Solution release number on page 104

Consult the MDM server release supplement

Consult the *Nortel Multiservice Data Manager (MDM) Server Release Supplement* and note any special considerations indicated there regarding server rollback.

Consult Nortel GNTS for the most up-to-date version of the *Multiservice Data Manager Release Supplement*.

Rolling back MDM 15.2 features

Roll back the following features:

- Auto-patching for MSS/MG 15000
- Centralized user administration for VoA networks in an Operator Client environment
- Nodal provisioning template audit
- Security audit logs real time to SCC2
- Enhanced security in VoIP

  Note: See the NN10180-612 *Nortel Multiservice Switch 15000, Media Gateway 15000 and Multiservice Data Manager in Carrier VoIP Networks Security and Administration - Securing Network Elements* guide for information on rolling back security features.

- FTP access privileges

Rolling back auto-patching

From the MDM server

1 Log in to the MDM workstation as user ID root.

2 Edit the entries in the cron utility.

3 Remove each entry that uses the "ppautopatch" script.

Rolling back Centralized user administration for VoA networks in an Operator Client environment

1 Follow the same processes as you would for an MDM rollback (see Uninstalling MDM software on page 82) to rollback from an Operator Client installation. The rollback is an uninstall and then a re-install. The Role and Policy definitions are removed by this procedure, therefore, it is essential to back up the configured definitions prior to the uninstall.

Rolling back Security audit logs real time to SCC2

1 Follow the same process as you would for an MDM rollback. The rollback is an uninstall followed by a re-install. The SALC server is removed when the MDM cfg directory is restored. The SVMList.cfg file is over-written, as is the SALC.cfg file.

Removing FTP access privileges

1 Remove the following entries from the file: /etc/ftpd/ftpaccess

port-allow realusers 0.0.0.0/0

port-allow guestusers 0.0.0.0/0

pasv-allow realusers 0.0.0.0/0

pasv-allow guestusers 0.0.0.0/0

Restoring MDM information

Restoring MDM information

1 Log in to the MDM workstation as user ID root.

2 Restore the MDM configuration and data information.

a Restore the MDM software configuration files.

cd /opt/MagellanNMS/cfg

rm -R *

cp <safe directory>/mdmcfg_<release>.tar /opt/MagellanNMS/cfg

tar xvfp mdmcfg_<release>.tar

where

<release> is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

b Restore the MDM software data files.

cd /opt/MagellanNMS/data

rm -R *

cp <safe directory>/mdmdata_<release>.tar /opt/MagellanNMS/ data

tar xvfp mdmdata_<release>.tar

where

<release> is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

c If this MDM workstation includes the Management Data Provider (MDP) software, restore the MDP software configuration files.

cd /opt/MagellanMDP/cfg

rm -R *

cp <safe directory>/mdpcfg_<release>.tar /opt/MagellanMDP/cfg

tar xvfp mdpcfg_<release>.tar

where

<release> is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

3 If this MDM workstation includes Management Data Provider (MDP) software, restore the MDP data files.

cd /opt/MagellanMDP/data

rm -R *

cp <safe directory>/mdpdata_<release>.tar /opt/MagellanMDP/ data

tar xvfp mdpdata_<release>.tar

where

<release> is the MDM software release (for example, 143)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

4 If this MDM workstation uses MDM 15.1 or above, restore additional MDM software configuration files.

cp <safe directory>/nortelconfig_<release>.tar/opt/nortel/config

cd /opt/nortel/config

tar xvfp nortelconfig_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

a If this MDM workstation uses MDM 15.1 or above, restore additional MDM software data files.

cd /opt/nortel/data

rm -R *

cp <safe directory>/norteldata_<release>.tar/opt/nortel/data

tar xvfp norteldata_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

b If this MDM workstation uses MDM 15.1 or above, restore the MDM log files.

cp <safe directory>/nortellogs_<release>.tar/opt/nortel/logs

cd /opt/nortel/logs

tar xvfp nortellogs_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

5 If this MDM workstation uses MDM 14.1 or above, restore the MDM EPIC configuration files.

cd /opt/nortel/EPIC/cfg

rm -R *

cp <safe directory>/nortelEPIC_<release>.tar/opt/nortel/EPIC/cfg

tar xvfp nortelEPIC/cfg_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

6 If this MDM workstation uses MDM 14.3 or earlier, restore the MDM WMS configuration files.

cd /opt/nortel/WMS/cfg

rm -R *

cp <safe directory>/nortelWMS_<release>.tar/opt/nortel/WMS/cfg

tar xvfp nortelWMS/cfg_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

7 If this MDM workstation uses MDM 14.2 or earlier, restore the MDM DVR configuration files.

cd /opt/nortel/DVR/cfg

rm -R *

cp <safe directory>/nortelDVR_<release>.tar/opt/nortel/DVR/cfg

tar xvfp nortelDVR/cfg_<release>.tar

where

<release> is the MDM software release (for example, 151)

<safe directory> is any directory that will not be removed using the MDM uninstall (for example, /opt)

Setting the Solution release number

Operators must change the Solution (Carrier Voice over IP) release number reported by Nortel MDM and Multiservice Switch nodes to correctly reflect the release after a rollback has been successfully completed.

See Setting the Solution release name identification on page 64 for more information.

Note: The GUI tool is available in MDM releases 15.1 and later.

If you are rolling back to MDM releases 14.2 or 14.3, change the release name with the following command:

```
chmod 644
/etc/opt/MagellanNMS/system/info/release.name
```

Edit the *release.name* file to append SN06.

If you are rolling back to MDM15.1 and later, launch the Succession Release Name: MDM tool and enter the Carrier Voice over IP release name.

MDM access procedures

These procedures describe how to log into Nortel Multiservice Data Manager (MDM) servers and open the toolset menu.

Logging into MDM platform

To log in to a MDM server, perform the following steps.

From the MDM server

1. Log in as the root user.
2. Enter the root password when prompted.

Opening the MDM Toolset

Open a Multiservice Data Manager (MDM) window before beginning the upgrade process.

From the MDM server

1. If the window does not automatically open at log in, open the window with the following command:

   /opt/MagellanNMS/bin/nmstool &

   The copyright dialog opens, followed by the MDM window. Click *OK* to close the copyright dialog.