NØRTEL
NETWORKS

Preside Multiservice Data Manager

Passport/SNMP Devices Backup and Restore

User Guide

241-6001-807

Preside Multiservice Data Manager

Passport/SNMP Devices Backup and Restore

User Guide

Publication history

December 2003

14.3RSUP Standard
Commercial availability

Contents

Chapter 4
Basic service data backup   69

Chapter 5
Basic service data restore   89

About this document

This guide describes how to install and use Preside MDM Passport Service Data Backup and Restore for Passport 6000, 7000, 15000, and 20000 nodes and Preside MDM Passport/SNMP Backup and Restore for Passport 4400 and 4460 nodes.

Note: In this document, Passport refers to Passport Multiservice switches (6000, 7000, 15000 and 20000); Passport/SNMP refers to Passport 4400 and Passport 4460).

The following topics are discussed in this section:

- "Who should read this document and why" (page 13)

- "What you need to know" (page 14)

- "How this document is organized" (page 14)

- "What's new in this document" (page 14)

- "Text conventions" (page 15)

- "Related documents" (page 16)

Who should read this document and why

You should read this document if you are responsible for backing-up and restoring Passport/Passport 4400 switch service data using the Passport and SNMP Devices Backup and Restore tools. As well, users responsible for population and synchronization of the Administration Database should read this document.

What you need to know

You should be familiar with the configuration and service data storage on the switch types that you are responsible for maintaining. You should also have a working knowledge of Preside Multiservice Data Manager (MDM).

How this document is organized

The information in this guide is organized as follows:

- "Introducing Preside MDM Backup and Restore" (page 19) introduces the interfaces and their functionality.

- "Installing and configuring backup and restore applications" (page 31) provides installation and configuration instructions.

- "Starting Backup and Restore" (page 47) describes how to begin using Passport and Passport/SNMP Service Data Backup and Restore.

- "Basic service data backup" (page 69) describes how to back up service data.

- "Basic service data restore" (page 89) describes how to restore service data.

- "Current Configuration Backup and Database Synchronization" (page 109) describes the available backup options, and how the Administration Database is backed up and restored.

- "Current Configuration Recovery" (page 125) describes how to recover service data when a Passport fails or is destroyed.

What's new in this document

The following feature was added to this document:

- "Backup, Restore and Database Synchronization Enhancements" (page 15)

Backup, Restore and Database Synchronization Enhancements

This document has been updated for the following enhancements to the Backup, Restore and Database Synchronization process:

- Backup and Restore GUI enhancements which include separate user interfaces for Passport nodes (6000, 7000, 15000, and 20000) and for Passport/SNMP nodes (4400 and 4460).

- Data synchronization. Data Synchronization is performed by the Data Synchronization Administration Tool. In order to support backup and restore tasks, the Data Synchronization server must be enabled even if the database is not being used. This document contains configuration information for Data Synchronization as it relates to Backup and Restore only. For more information on the Data Synchronization Tool, refer to 241-6001-400 *Preside MDM Administration Database User Guide*.

Text conventions

This document uses the following text conventions:

- ```
  nonproportional spaced plain type
  ```

  Nonproportional spaced plain type represents system generated text or text that appears on your screen.

- **nonproportional spaced bold type**

  Nonproportional spaced bold type represents words that you should type or that you should select on the screen.

- *italics*

  Statements that appear in italics in a procedure explain the results of a particular step and appear immediately following the step.

  Words that appear in italics in text are for naming.

- ```
  [optional_parameter]
  ```

  Words in square brackets represent optional parameters. The command can be entered with or without the words in the square brackets.

- `<general_term>`

   Words in angle brackets represent variables which are to be replaced with specific values.

- UPPERCASE,lowercase

   In Preside Multiservice Data Manager (MDM), uppercase and lowercase letters that appear in UNIX commands and parameters must be matched exactly. The system matches upper and lowercase characters differently.

- |

   This symbol separates items from which you may select one; for example, ON|OFF indicates that you may specify ON or OFF. If you do not make a choice, a default ON is assumed.

- ...

   Three dots in a command indicate that the parameter may be repeated more than once in succession.

The term absolute pathname refers to the full specification of a path starting from the root directory. Absolute pathnames always begin with the slash (/) symbol. A relative pathname takes the current directory as its starting point, and starts with any alphanumeric character (other than /).

Related documents

See the following documents for related information:

General

241-6001-102 *Preside MDM Planning Guide*
241-6001-303 *Preside MDM Administrator Guide*
241-6001-400 *Preside MDM Administration Database User Guide*
241-6001-310 *Preside MDM Server Reference Guide*

Passport 6000

For a list of documents, see 241-6401-001 *Passport 6400 Documentation Guide*.

Passport 7000/15000/20000

For a list of documents, see 241-5701-001 *Passport 7400, 15000, 20000 About Passport Documentation*.

Passport 4400

Passport 4400 Hardware Installation Manual
Passport 4400 Operators Manual
Passport 4400 CLI Reference for the Command Line Interface

Chapter 1
Introducing Preside MDM Backup and Restore

Preside MDM provides two distinct interfaces for backup and restore activities:

- Passport Service Data Backup and Restore, used for the Passport 6000, 7000, 15000, and 20000 nodes

- Passport/SNMP Service Data Backup and Restore, used for Passport 4400 and 4460 devices

You can perform basic backup and restore functions using both interfaces. In addition, you can use Passport Service Data Backup and Restore to perform a current configuration backup.

Navigation

Basic backup and Restore for Passport and Passport/ SNMP nodes

Passport and Passport/SNMP Service Data Backup and Restore can be used to perform a basic service data backup. The basic service data backup enables you to back up view files for a single node or for multiple nodes.

The basic backup function enables you to perform the following:

- full backup

- incremental backup

- selected service data backup

The basic restore function enables you to perform the following:

- full restore of service data for a single node or for multiple nodes

- incremental restore of service data for a single node or for multiple nodes

- restore of selected service data for a single node

Current configuration backup for Passport nodes

Passport Service Data Backup and Restore can be used to perform a current configuration backup for Passport 6000, 7000, 15000, and 20000 nodes. The backup server must be started with the -notification option to enable the current configuration backup.

The Backup Server can be configured to perform a backup in the following ways:

- **on alarm with journaling supported**

  For journal-supported Passport devices, a journal log file is created during each activation and contains a delta of the configuration changes between the current and edit views. For more information on Passport journaling, refer to 241-5701-045 *Passport 7400, 15000, 20000 Management System User Interface*.

- **on alarm for complete view (with journaling not supported)**

  Passports that do not support journaling only send out a confirm prov, to trigger the Backup Server to backup recently created view files. This mode is only recommended for small networks.

- **on demand through a scheduled cron job**

  Backups can be done on demand through the command line. You can specify Backup_On_Demand in the device configuration file and then issue the backup command when a backup is required. You can define a cron job for scheduled backups.

The figure, "Backup server architecture for current configuration backup including Database Synchronization" (page 22) shows the sequence of events that occur. The Backup server receives an alarm from GMDR when a provisioning change is made. This alarm triggers the Backup server to start a backup. The Backup Server communicates to the Backup Provider, which sends a request to the Passport to back up the most current view name and journal files. The new files are stored on the backup site.

When the current configuration backup has been used, you can perform the node recovery functions for Passport 7000, 15000, and 20000 nodes with PCR 5.1 or later.

Data synchronization

If synchronization has been specified in the DataSync.cfg file, the Database Synchronization server is notified that a backup has occurred. For more information on this capability, see "Current Configuration Backup and Database Synchronization" (page 109). For more information on the Administration Database, see 241-6001-400 *Preside MDM Administration Database User Guide*.

Figure 1
Backup server architecture for current configuration backup including Database Synchronization
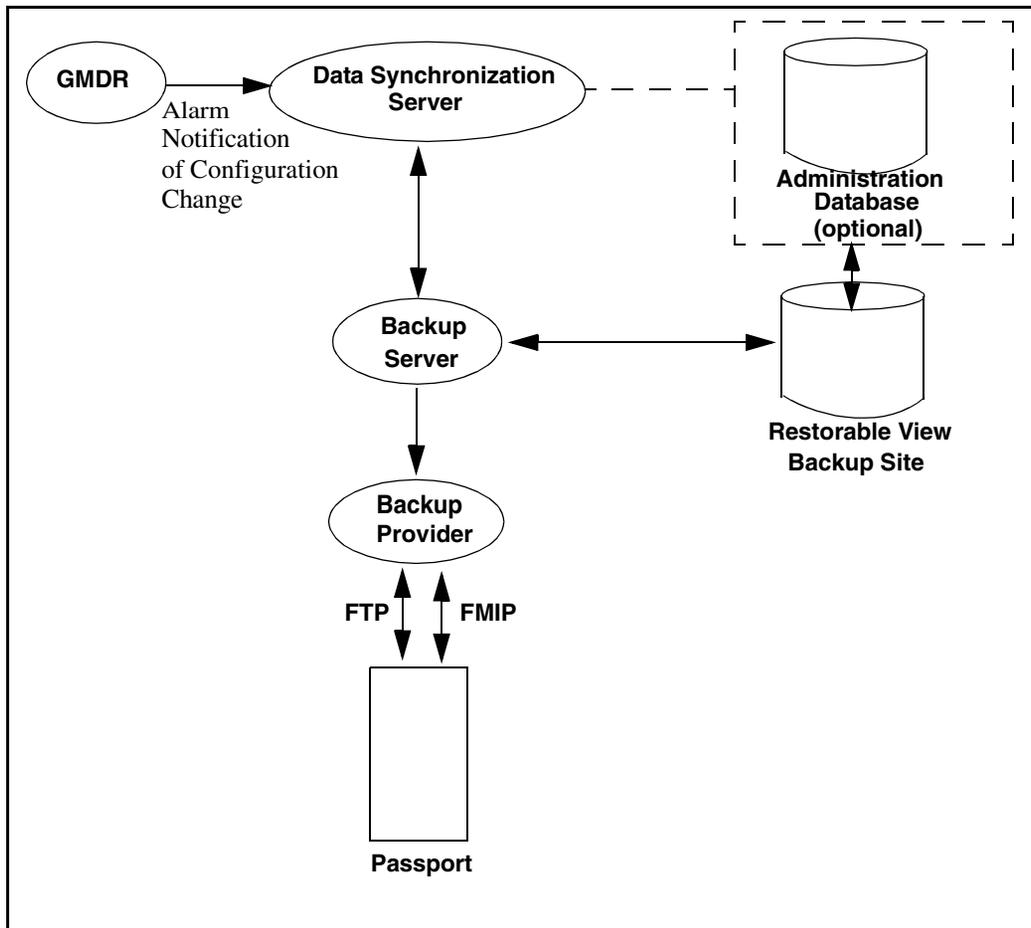
Node recovery

If the Current configuration mode of backup is used, the system has the additional functionality to recover the most current view from the backup site and restore this information, potentially to a replacement Passport. It is also used as input for database synchronization.

This functionality is available only for Passport 7000, 15000, and 2000 nodes with PCR 5.1 or higher. See "Current Configuration Recovery" (page 125).

Backup configuration files

The remote mapping file (Controller.cfg) is used when you need to access a Provider that is not running on the same host machine as the Controller. When this situation occurs, the remote mapping file needs an entry for the node, or nodes, on the remote Provider that the Controller is attempting to access. You can also use the remote mapping file to distribute the workload over several Providers.

Passport service data backup configuration files

The data synchronization file (DataSync.cfg) is used to specify backup information for current configuration backup, current configuration recovery and data synchronization information for Passport nodes. It lists the groups (as defined in the Host Group Directory Service) that will be used to determine which nodes to backup, and the backup options. It includes configuration information for the Backup server and the DB synchronization controller. This file is updated using the Configuration Editor to modify all the parameters.

Passport/SNMP service data backup configuration files

The device information file (devices.cfg) has an entry for each node that Passport/SNMP Backup and Restore services. This file contains information about the nodes supported by the Backup and Restore tools. The Backup and Restore applications automatically create and update the file /opt/ MagellanNMS/data/nst/devices.cfg using GMDR for Passport 4400/4460.

The interface mapping file (ifmap.cfg), which is only for Passport 4400 nodes, is used when the Provider's host machine has multiple network interfaces. You can use the interface mapping file to map the IP address of the appropriate host interface to the IP addresses of the nodes that need to connect to that host interface.

For more information on the use of these configuration files, see "Installing and configuring backup and restore applications" (page 31).

Backup and Restore server architecture

The servers are referred to as controllers and providers. The Backup controller and provider back up the most recent information from the Passport and store it on a backup site. The Restore controller and provider are responsible for restoring the backed up information to the Passport nodes.

See "Passport Service Data Backup and Restore Architecture" (page 25) and "Passport/SNMP Service Data Backup and Restore" (page 26).

Figure 2
Passport Service Data Backup and Restore Architecture
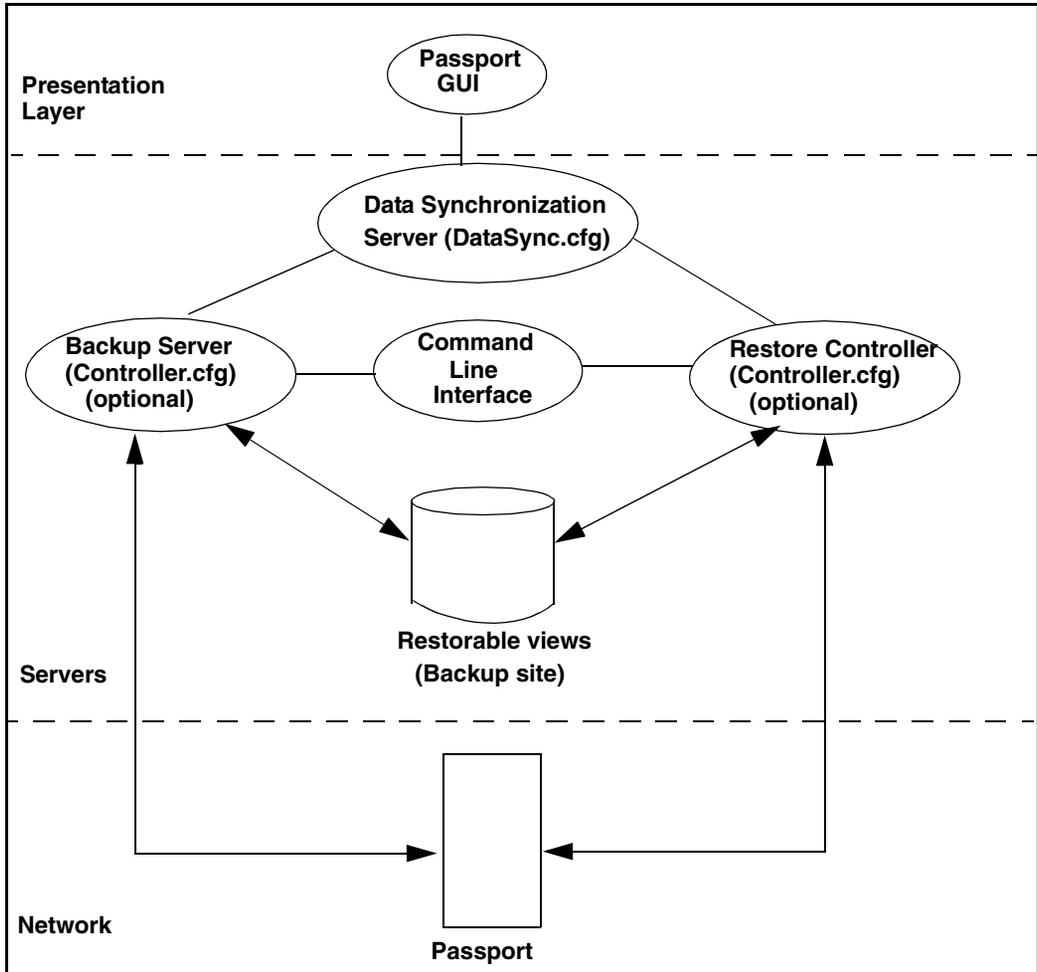
Figure 3
Passport/SNMP Service Data Backup and Restore
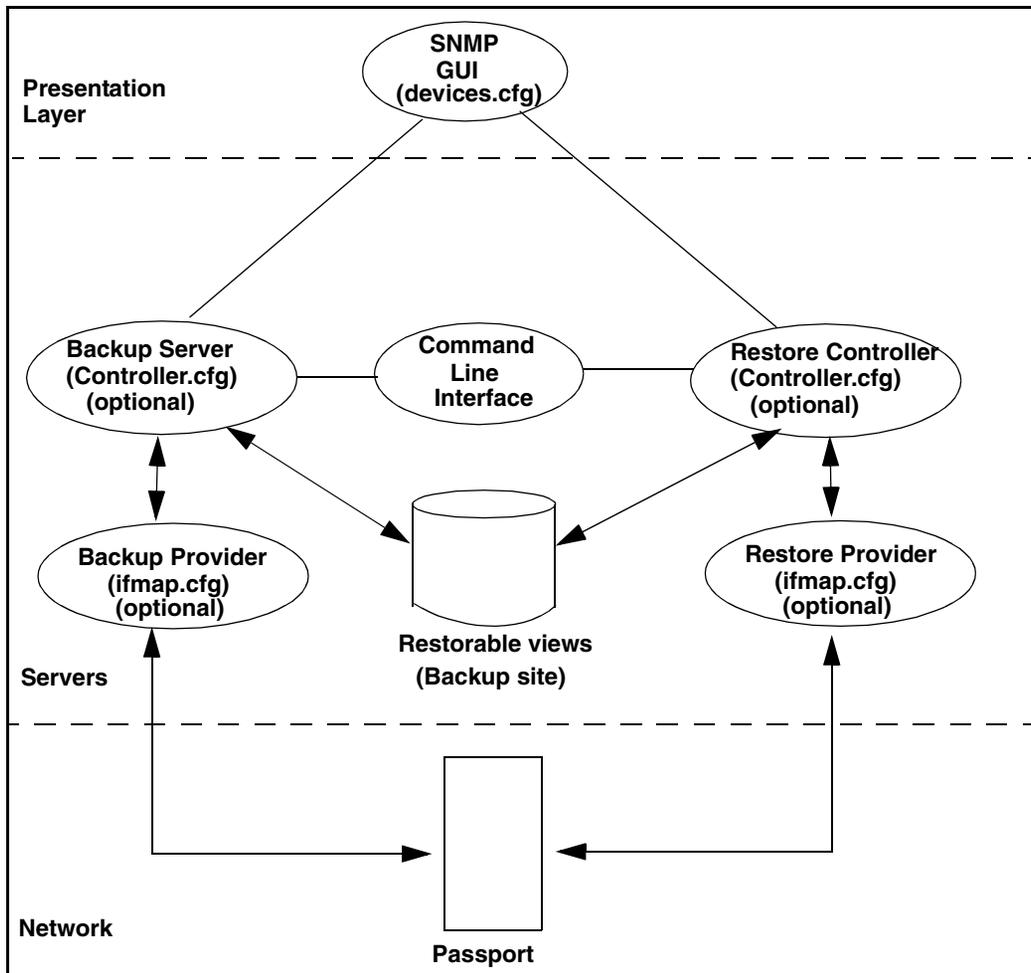
Backup and Restore server redundancy

To ensure Backup server reliability, redundancy can be set up for the Backup and Restore servers. Backup server redundancy may be critical if there is a requirements to be able to quickly recover a node to its current configuration. Two or more independent Backup servers can be running at the same time on different MDM workstations. See "Backup server redundancy" (page 27).

Figure 4
Backup server redundancy
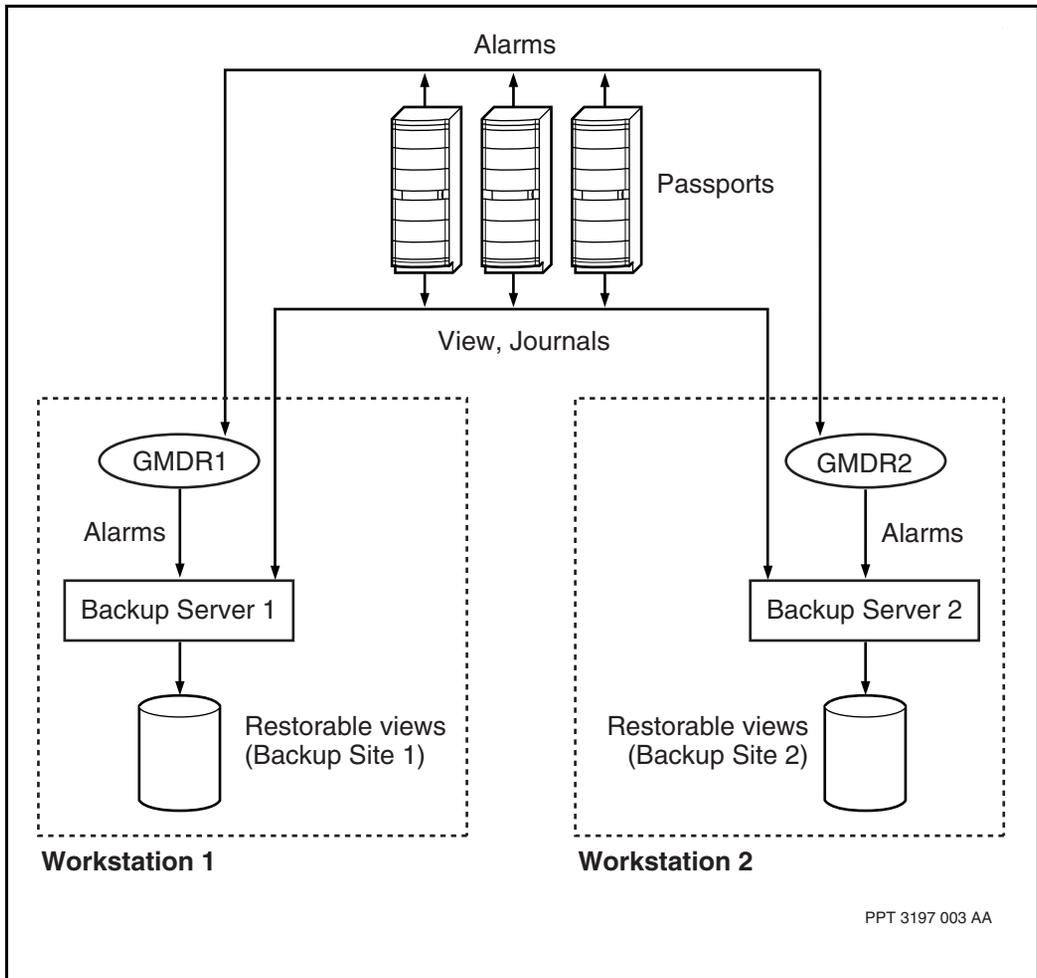
Both Backup servers cover the same Passports and are triggered by the same alarms from GMDR, which are generated by the Passports. A command line option can specify the host to which the GMDR server connects (see "Interface with GMDR" (page 122).

In the illustration in "Backup server redundancy" (page 27), the Backup servers connect to two different GMDR's, one for each Backup server. In another possible scenario, one common GMDR could be running on a separate workstation. Both Backup servers would receive alarms from this GMDR and trigger the servers to do backups. Regardless of the setup, two backups are done in parallel and independently. The two Backup servers do not communicate with each other.

Similarly, two separate Restore controllers could run on workstation 1 and workstation 2 respectively and have a remote workstation with two separate instances of the recover tool connecting to the distinct Restore controllers.

Backup groups

The system administration uses the Configuration Editor to define attributes in a default backup group. When you add a new backup group, you can either define specific values for the new group or, if you don't define any values, the system automatically uses the values of the default group.

All backup groups are defined in the HGDS server using the Host Group Administration tool. For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

Passport Service Data Backup and Restore

Use Passport Service Data Backup and Restore to perform the basic backup and restore function for Passport 6000, 7000, 15000, and 20000 nodes. In addition, you can use the interface to perform the current configuration backup.

See "Accessing Passport Service Data Backup and Restore" (page 29)

Figure 5
Accessing Passport Service Data Backup and Restore
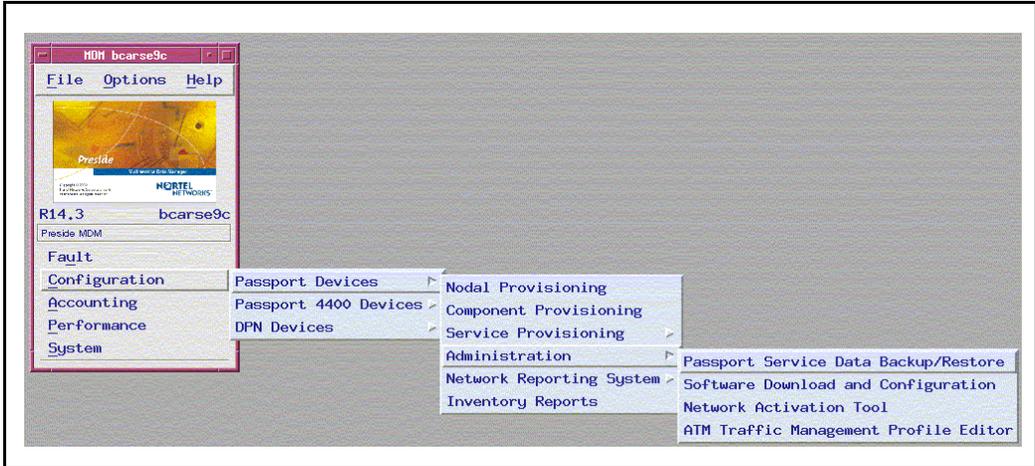
Passport/SNMP Service Data Backup and Restore

Use Passport/SNMP Service Data Backup and Restore to perform basic backup and restore for Passport 4400 and Passport 4460 nodes using the SNMP protocol.

Figure 6
Accessing Passport/SNMP Service Data Backup and Restore
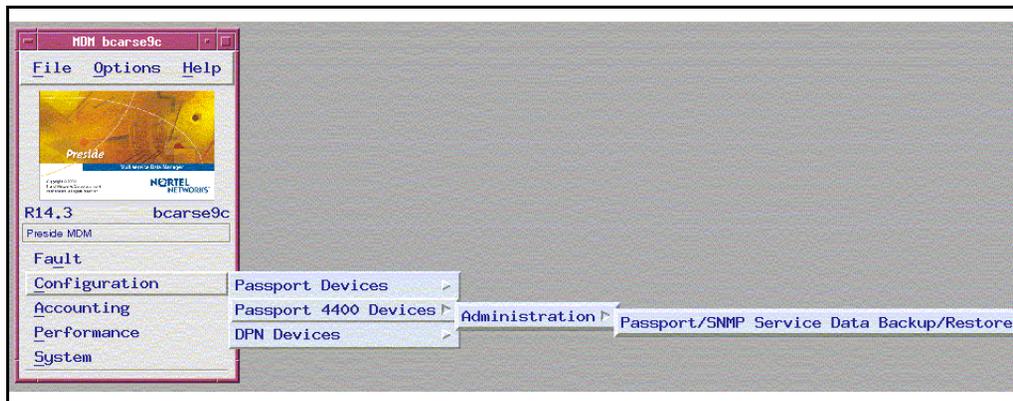
Chapter 2
Installing and configuring backup and restore applications

This section explains how to install and configure Passport and Passport/SNMP Service Data Backup and Restore applications.

This section contains the following information:

- "Packaging" (page 31)

- "Resource usage" (page 32)

- "Migration notes" (page 32)

- "File and Directory structure" (page 33)

- "Prerequisites for installing Backup and Restore applications" (page 34)

- "Configuration required for Passport Service Data Backup and Restore" (page 37)

- "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39)

Packaging

Passport and Passport/SNMP Service Data Backup and Restore are packaged as part of Preside Multiservice Data Manager (MDM). You need a license key to run these applications on an MDM workstation. For more information about the application license, see "Prerequisites for installing Backup and Restore applications" (page 34).

The executable files containing Passport and Passport 4400 devices backup and restore information are stored in /opt/MagellanNMS/bin. By default, the stored data is stored in /opt/MagellanNMS/data/Backup_Data. For information on the configuration files, refer to "File and Directory structure" (page 33).

Resource usage

The disk space requirement for the Passport/SNMP Devices Backup and Restore software is 15 MB. An additional 1 MB is required for the Passport Devices Backup and Restore software. In addition, you require sufficient storage for service data backups. See 241-6001-101 *Preside MDM Engineering Guide*.

Migration notes

Version 13.4 and earlier

Note the following information when migrating software from version 13.4 and earlier to version 14.3:

- All data is migrated automatically except for the node list.

- The Data Synchronization server is added to the Server Administration list of servers. The Data Synchronization server maintains synchronization between the database and the Passport's current view. For more information, refer to 241-6001-400 *Preside MDM Administration Database User Guide*.

  Note: In order to support backup and restore tasks, the Data Synchronization server must be enabled even if the database is not being used.

Version 14.1

Note the following information when migrating software from version 14.1 to version 14.3:

- All data is migrated automatically except for the node list.

- The BackupNodes.cfg file is replaced by the DataSync.cfg file which may only be edited using the Configuration Editor.

- The user must now define HDGS groups for nodes and then add the groups to the backup system. For more information, refer to 241-6001-303 *Preside MDM Administrator Guide* and "Adding a backup group" (page 115).

Version 14.2

Note the following information when migrating software from version 14.2 to version 14.3:

- All data is migrated automatically except for the node list.

- The configurations in the DBSyncController.cfg file are merged into the DataSync.cfg file.

- The nodes, previously defined in the BackupNodes.cfg file, are not migrated because the nodes cannot be automatically mapped to HGDS groups.

- The user must now define HDGS groups for nodes and then add the groups to the backup system. For more information, refer to 241-6001-303 *Preside MDM Administrator Guide* and "Adding a backup group" (page 115).

File and Directory structure

The table "Backup and restore file and directory structure" (page 33) summarizes the location of the main backup and restore files and directories.

Table 1
Backup and restore file and directory structure

Directory/Files	Location
Backup Directory for each Passport device containing the Passport views and journal log files	/opt/MagellanNMS/data/Backup_Data/ PASSPORT<Passport_name>
For Passport devices only	
Remote mapping file	/opt/MagellanNMS/cfg/Controller.cfg
(Sheet 1 of 2)	

Table 1
Backup and restore file and directory structure (continued)

Directory/Files	Location
Data synchronization configuration file (for current configuration backup and recovery)	/opt/MagellanNMS/cfg/DataSync.cfg
For Passport 4400 devices only	
Device information file	/opt/MagellanNMS/data/nst/devices.cfg
Interface mapping file	/opt/MagellanNMS/cfg/ifmap.cfg
(Sheet 2 of 2)	

Prerequisites for installing Backup and Restore applications

The Passport and Passport/SNMP Devices Backup and Restore applications are installed with MDM Base. For information about installing MDM Base, see 241-6001-100 *Preside MDM Installer Guide*.

You must be licensed to use the Passport and SNMP Devices Backup and Restore applications. For information about installing or updating an MDM software license, see 241-6001-100 *Preside MDM Installer Guide*.

In addition, you need:

- for **Passport devices**, the Host Group Directory Server (HGDS) to identify and locate Passports

- for **Passport 4400 devices**, the General Management Data Router (GMDR) server to identify and locate Passport 4400/4460 devices

Modifying the remote mapping file

Modify the remote mapping file (Controller.cfg) when you need to access a Provider that is not running on the same host machine as the Controller. This is required for Passport and Passport/SNMP Service Data Backup and Restore.

The Controller uses the remote mapping file (Controller.cfg) to determine the Provider to which a device is connected. Add an entry to the remote mapping file for any device that you want accessed by a specific Provider. In this file, each service has a separate service mapping block of commands. You need to include an entry in the service mapping block for each device that you want accessed by a specific Provider.

If you do not create an entry, the Backup and Restore tools assume the device is connected to the local Provider. The Backup and Restore tools support only one remote mapping file.

The format of a service mapping block in the remote mapping file is

```
service=<service_type>
        dev_type=<devtype>
        [dev_name=<devname> | dev_addr=<IPaddress>]
        host=<provider_host>[<:provider_port>]
...
```

where:

service_type   is either backup or restore.

devtype   is the name of the device type (PASSPORT, PP4400, or PP4460).

devname   is the name of the device. You can match a group of devices by using the wildcard character (*).

IPaddress   is the IP address of the device and has the format n.n.n.n. You can match a group of devices by using the wildcard character (*).

provider_host:provider_port   is the Provider location; provider_host is the hostname or IP address of the Provider and provider_port is the port number registered to the Provider. The default values for provider_port are:

5020   Passport Backup Provider
5021   Passport Restore Provider
5030   Passport 4400 Backup Provider
5031   Passport 4400 Restore Provider
5040   Passport 4460 Backup Provider
5041   Passport 4460 Restore Provider

If you do not use devname or IPaddress, the Provider identified in provider_host handles the service for all devices of the specified dev_type.

> *Note:* You must include devtype, devname/IPaddress, and host on the same line.

You can include comments in the remote mapping file by inserting an octothorpe (#) at the beginning of the line. You can also include blank lines.

Example

The following example shows a remote mapping file with 2 service blocks. Each device in the service blocks is connected to a different remote host.

```
# Remote mapping file

service=backup
dev_type=PASSPORT dev_addr=42.208.*.111 host=23.257.32.12
dev_type=PP4400 dev_name=PP4400_20 host=bcarse80
dev_type=PP4460 dev_name=PP4460_64 host=winnipeg

service=restore
dev_type=PASSPORT dev_addr=42.208.*.111 host=59.620.6.24
dev_type=PP4400 dev_name=PP4400_20 host=bcarse80
dev_type=PP4460 dev_name=PP4460_64 host=winnipeg
```

Configuration required for Passport Service Data Backup and Restore

After you install the Passport Service Data Backup and Restore application, perform the following configuration tasks in the order listed:

- Verify the system requirements. For more information, refer to "System requirements for Passport nodes" (page 37).

- Install servers. For more information, refer to 241-6001-310 *Preside MDM Server Reference Guide*.

- Enable the Data Synchronization server using the Server Administration tool. For more information, refer to "Configuring the Data Synchronization server" (page 37).

System requirements for Passport nodes

You need FTP and FMIP access to backup and restore Passport 6000, 7000, 15000, and 20000 nodes. This is not a requirement for Passport 4400 and 4460 backup and restore.

Configuring the Data Synchronization server

Passport Service Data Backup and Restore requires that the Data Synchronization server is enabled even if the database is not being used. This is required for the basic backup and the current configuration backup functions.

Use the Server Administration Tool to add the Data Synchronization Server to the server list and enable it to automatically startup at reboot time.

Procedure steps

1   In the Preside MDM window, select **System** -> **Administration** -> **Server Administration** to open the **Server Administration** tool.

2   From the Security menu, select the **Authorize** command.

3   In the **SVM Enter Authorization Password** dialog box, type a valid password and click **OK**.

4   From the **Edit** menu, select **New Server**.

The SVM New Server Selection window displays.

5   Expand the server categories to locate the Data Sync Server in this list.

6 Select the server and click **Select Server**.

The SVM Edit Server dialog displays with the fields pre-filled with default information.

7 In the **Startup command** field, type the following command, as follows:

```
/opt/MagellanNMS/bin/dataSyncServer
[-help]
```

8 Enable the **Automatic startup at reboot time** option.

9 Click **OK**.

A confirmation dialog displays.

10 Click **Yes** to accept this information.

11 Click **Close**.

Configuration required for Passport/SNMP Service Data Backup and Restore

After you install the Passport/SNMP Devices Backup and Restore application, perform the following configuration tasks in the order listed:

- Verify system requirements and perform any necessary communication configuration. For more information, refer to

  — "System requirements for Passport 4400/4460 devices" (page 39)

  — "IP connectivity for Passport 4400/4460" (page 40)

  — "Multiple network interface configuration for Passport 4400/4460 devices" (page 41)

- "Modifying the device information file for Passport 4400/4460 devices" (page 42)

- "Modifying the interface mapping file for Passport 4400/4460 devices" (page 45)

- Install servers. For more information, refer to 241-6001-310 *Preside MDM Server Reference Guide*

- "Modifying the remote mapping file" (page 34)

System requirements for Passport 4400/4460 devices

- The Passport 4400 and Passport 4460 Providers need IP connectivity to their respective devices.

  For information on how IP connectivity is established with a Passport 4400 device, see "IP connectivity for Passport 4400/4460" (page 40).

  To verify the IP connectivity between the Providers and a Passport 4400/4460 device, type the command *ping w.w.w.w* on the Passport 4400/4460, where *w.w.w.w* is the IP address of the workstation where the Providers reside.

- The Passport and Passport 4400/4460 devices must be configured to allow them to communicate with the workstations on which their associated Providers are running.

IP connectivity for Passport 4400/4460

The following procedure describes how to configure the communication between a Passport 4400/4460 device and a Provider if the Passport 4400/4460 contains a default configuration. A default configuration means no configuration has been entered.

Procedure steps

1   Establish a communication with the Passport 4400/4460 through the serial console port. The default line parameters are 9600N81, which means:

baud rate: 9600
parity: none
bits: 8
stop bit: 1

If successful, you are prompted for a login when you press the Return key.

2   Type *cli* at the login prompt. For the password, press the Return key.

3   Define the Ethernet interface IP address of the Passport 4400/4460 by entering the following CLI (command line interface) command:

```
add ip address entry 3 x.x.x.x y.y.y.y z.z.z.z
```

where:

x.x.x.x   is the IP address of the Passport 4400/4460
y.y.y.y   is the network netmask
z.z.z.z   is the broadcast address

4   Save the configuration with the CLI command:

```
save config update
```

5   Reset the Passport 4400/4460 with the new configuration using the CLI command:

```
reset system current reset
```

Multiple network interface configuration for Passport 4400/ 4460 devices

File transfers between a Passport 4400/4460 and a Provider are initiated by the Provider. The IP address of the Provider is delivered to the Passport 4400/4460. The Provider instructs the Passport 4400/4460 to start the file transfer process. The Passport 4400/4460 establishes the TFTP connection and the files are transferred.

If the Provider's host machine has only one network interface (1 IP address), that IP address is used for the TFTP connection between the Passport 4400/4460 and the Provider.

The Provider host machine can have multiple network interfaces. For example, the system can have one interface to the LAN and other interfaces to the WAN where the Passport 4400/4460 devices reside. In this configuration, the Passport 4400/4460 devices cannot see the IP address of the interface to the LAN. In this situation you need to configure the Provider to use the correct interface address for the TFTP connection. You do this by creating an interface mapping file. For more information on the interface mapping file, see "Modifying the interface mapping file for Passport 4400/ 4460 devices" (page 45).

Modifying the device information file for Passport 4400/4460 devices

Passport/SNMP Service Data Backup and Restore uses the device information file (devices.cfg) to display the devices that you can back up and restore. You need to include an entry for every device that Passport/SNMP backup and restore can access on the host machine. You do not need to include all devices in a single file; you can create as many device information files as you want and select one from the main window before performing a backup or restore.

The device information file enables you to group devices. This option enables you to back up or restore all devices within a particular group.

If you have Passport/SNMP Service Data Backup and Restore software on multiple hosts, it is recommended that you duplicate the entries in the device information files. However, you can divide the entries into device information files on different hosts so that each host backs up and restores only those devices managed by that host.

The device information file does not have a naming convention.

Its format is

```
device: type = <devtype> name = <devname>
        addr = <IPaddress>[:<port>] [userid = <id>]
        [passwd = <password>]
group: name = <groupname>
member: name = <devname>
```

where:

device: indicates information about a particular device.

devtype is the name of the device type (PP4400, or PP4460).

devname   is the name of the device.

IPaddress is the IP address of the device and has the format n.n.n.n.

port is the port number of the device.

`id` is the userID for a Passport and the READ community string for a Passport 4400/4460.

`password` is the user password for a Passport and the WRITE community string for a Passport 4400/4460.

`group:` indicates information about a group of devices.

`groupname` is the name of the group to which the device belongs.

`member:` indicates information about a member of the group. You need to place all members of a group directly after the group line.

> *Note:* You must include devtype, devname, IP address, id, and password on the same line.

You can include comments in the device information file by inserting an octothorpe (#) at the beginning of the line. You can also include blank lines.

Example

The following example shows a device information file.

```
device: type = PASSPORT name = NODER05 addr = 82.152.6.19
device: type = PASSPORT name = NODER06 addr = 82.152.6.32
device: type = PASSPORT name = NODERF addr = 82.232.33.74

device: type = PP4400 name = PP4400_20 addr = 35.195.4.173
device: type = PP4400 name = PP4400_EMU addr = 82.195.1.45

device: type = PP4460 name = PP4460_64 addr = 35.195.4.173
device: type = PP4460 name = PP4460_CAL addr = 82.195.1.45

group: name = group01
member: name = NODER05
member: name = NODER06
member: name = NODERF

# You can put a device in more than one group.
group: name = group02
```

```
member: name = NODERF
member: name = PP4400_20
member: name = PP4400_EMU

group: name = group03
member: name = PP4460_64
member: name = PP4460_CAL

device: type = PP4400 name = TEST addr = 15.190.6.58
device: type = PASSPORT name = NODE_TOR addr = 18.232.1.32

group: name = group03
member: name = TEST
member: name = NODE_TOR
```

Modifying the interface mapping file for Passport 4400/4460 devices

If the Provider's host machine has only one network interface (one IP address), that IP address is used for the TFTP connection between the Passport 4400/4460 and the Provider.

The Provider host machine can have multiple network interfaces. For example, the system can have one interface to the LAN and other interfaces to the WAN where the Passport 4400/4460 devices reside. In this configuration the Passport 4400/4460 devices cannot see the IP address of the interface to the LAN. In this situation you need to configure the Provider to use the correct interface address for the TFTP connection. You do this by creating an interface mapping file.

The Passport 4400 and Passport 4460 Providers can use the interface mapping file to determine the IP address used as the TFTP server address. The Passport 4400/4460 device connects to the TFTP server address for TFTP file transfers. Each line in the interface mapping file defines the mapping of the host address and the Passport 4400/4460 address or addresses. The host address is the TFTP server address.

The interface mapping file is named ifmap.cfg.

The format of ifmap.cfg is

> `<interface IP address> <device IP address(es)>`

where:

`interface IP address` is the IP address of the interface to be used and has the format n.n.n.n.

`device IP address(es)` is the IP addresses of the devices and has the format n.n.n.n. You can match a group of devices by using the wildcard character (*).

You can include comments in the interface mapping file by inserting an octothorpe (#) at the beginning of the line. You can also include blank lines.

Example

The following example shows an interface mapping file for a host machine that has 3 network interfaces: one connects to the LAN and the other two are connected to separate networks of Passport 4400/4460 devices.

```
# Interface mapping file
# The last entry is the interface address to the LAN,
# which needs to map to any device address.
# This last entry can be omitted.

131.147.0.1 131.147.*
131.148.0.1 131.148.*
32.123.1.1  *
```

Chapter 3
Starting Backup and Restore

This section describes how to set all the options required for Passport and Passport/SNMP Service Data Backup and Restore.

For information on how to perform Current Configuration Backup and Current Configuration Recovery, refer to "Current Configuration Backup and Database Synchronization" (page 109) and "Current Configuration Recovery" on page 125.

Use the procedures described in:

Note: Two distinct interfaces are provided for backup and restore activities depending on which type of Passport device you have. For information on each of these interfaces, refer to:

Summary of tasks for Passport devices

- Specify the location of the Data Synchronization Server for the Backup and Restore tool. For more information, refer to "Specifying the location of the Data Synchronization Server" (page 51).

- Start the Data Synchronization Server. For more information, refer to 241-6001-400 *Preside MDM Administration Database User Guide*.

- Start the Passport Backup and Restore tool. For more information, refer to "Starting Passport Backup and Restore" (page 52).

Controller and Provider commands for Passport devices

Note: The commands contained in this section are used only for the basic view file backups (not Current Configuration mode). Additional commands for Current Configuration backup and database synchronization are described in "Current Configuration Backup and Database Synchronization" on page 109.

The Passport Devices Backup and Restore tool is not fully functional until you launch the Controllers and Providers as server processes.

For Provider commands, see "Provider commands for Passports" (page 48) and for Controller commands, see "Controller commands" (page 49).

Provider commands for Passports

To start the Passport Backup Provider, you can use the Server Administration tool or type the following UNIX command:

```
/opt/MagellanNMS/bin/pbckpp [-p <port_no>]
```

To start the Passport Restore Provider, type the following UNIX command:

```
/opt/MagellanNMS/bin/prstpp [-p <port_no>]
```

where:

```
port_no
```

is the port number that the Provider uses.
The default port for the Passport Backup Provider is 5020. The default port for the Passport Restore Provider is 5021.

Controller commands

To start the Backup Controller, type the following UNIX command:

```
/opt/MagellanNMS/bin/nsctlbck [-p <port_no>]
  [-c <remote_mapping_file>]
```

To start the Restore Controller, type the following UNIX command:

```
/opt/MagellanNMS/bin/nsctlrst [-p <port_no>]
  [-c <remote_mapping_file>]
```

where:

port_no   is the port number that the Controller uses.
The default port for the Backup Controller is 5000. The default port for the Restore Controller is 5001.

remote_mapping_file   is the name of the remote mapping file.
The default remote mapping file is /opt/MagellanNMS/cfg/Controller.cfg.

The -nbofbck <#>, where # is the maximum number of backups, limits the number of backups that can be performed in parallel. This option can only be used with the -notification option that enables current configuration backup on alarm or on demand; this option cannot be used for a basic backup. The default # is 5. Backup requests coming after the maximum number are queued in a waiting queue and are transferred to the executing queue if the executing queue is not full. That is, it has less than the maximum number of parallel backups, as specified in the nbofbck <#> option of the Backup Server command line. By limiting the number of simultaneous backups, you reduce congestion problems that may occur with a large number of backups. It is recommended that the default be left at 5, unless engineering information is available. See "Current Configuration Backup and Database Synchronization" on page 109.

Starting the Restore Provider

Use this procedure to start the Restore Provider and add it to the server list in the Server Administration tool.

Procedure steps

1   In the Preside MDM window, select **System** -> **Administration** -> **Server Administration** to open the **Server Administration** tool.

2 From the Security menu, select the **Authorize** command.

3 In the **SVM Enter Authorization Password** dialog box, type a valid password and click **OK**.

4 From the **Edit** menu, select **Edit** -> **New server**.

The **SVM New Server Selection** displays.

5 Find the **Restore Provider** in the list by expanding the server categories.

6 Select the Restore Provider and click **Select Server**.

The **SVM Edit Server** displays.

7 In the **Startup command** field, type the following command:

/opt/MagellanNMS/bin/prstpp

For more information on these variables, refer to "Variable definitions" (page 50).

8 Enable the **Automatic startup at reboot time** option.

9 Click **OK**.

A confirmation dialog displays.

10 Click **Yes** to confirm.

11 Click **Cancel** to close the **SVM Edit Server** window

12 Right-click on the Restore Provider entry in the server list.

13 From the pop-up menu, select **Start**.

The Restore Provider starts.

Variable definitions

Variable	Definition
-p <portno>	is the option to specify the port to use. The default is 5021.
-rt <timeout>	is the number of timeout minutes for reconnecting to the Passport. The default is 5 minutes.
-h	is the option to display command line usage.

Setting the default account used to access a device

Use the following procedure to set default userids and passwords to access a device.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

      For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   In the Passport Backup and Restore window, select **Set Default Authentication** from the **Options** menu.

   The Default Authentication dialog displays.

3   Enter the appropriate user id and password.

4   Click **OK**.

Specifying the location of the Data Synchronization Server

It is necessary to specify the location of the Data Synchronization Server for the Backup and Restore tool if it is not on the local host.

Procedure steps

1   Open the file /opt/MagellanNMS/cfg/bkRst.cfg.

2   Locate the command line that contains

   jmx.server.host: localhost

   Note: The default value for this attribute is localhost.

3   Change the value of localhost to the location of the Data Synchronization Server. For example

   `jmx.server.host: wcars123`

4   Save then close the file.

Starting Passport Backup and Restore

Prerequisites

- launch the Controllers and Providers as server processes. See "Controller and Provider commands for Passport devices" (page 48)

- Ensure proper completion of the installation and configuration processes. Confirm the following:

  — the Controllers are installed on the same host machine as the backed up service data

  — the Providers are configured to run on host machines

  Note: When the Controllers and Providers are configured to run on different host machines, the remote mapping file must be properly configured. For more information, see "Modifying the remote mapping file" (page 34).

Procedure steps

Use one of the following methods:

1 From the Preside MDM window, select Configuration -> Passport Devices -> Administration -> Passport Service Data Backup/Restore

   The Backup and Restore window opens.

   OR

2 To launch the Passport Backup and Restore application as a stand-alone application, type the following UNIX command:

   /opt/MagellanNMS/bin/bkRst

Passport Backup and Restore window

The Passport Backup and Restore tool lets you back up and restore service data on Passport devices. You can choose full, incremental, or selected backup and restores for single or multiple devices.

The Passport/SNMP Devices Backup and Restore window consists of the following components:

- "Menu bar" (page 53)

- "Views" (page 54)

Menu bar

The menu bar is located at the top of the main window. See the following sections for information on the menu bar entries:

- "File menu" (page 53)

- "Options menu" (page 53)

- "Tools menu" (page 54)

- "Help" (page 54)

File menu

The File menu contains the following items:

- *Reconnect* reconnects you to the administration database.

- *Exit* exits Backup and Restore.

Options menu

The Options menu contains the following items:

- *Set Default Authentication* opens a dialog where you enter a default userid and password that is used to connected to the selected nodes unless you enter a specific userid and password.

- *Set Software Distribution Site* opens a dialog where you can edit the host, userid and password for the software distribution site (SDS). The SDS is used to download software to a node when using the node recovery mode.

- *Edit Server Configuration* opens a dialog allowing the user to change the following:

  — backup server host name: name of backup server

  — backup server port number: port number of backup server

  — backup directory: path to location of backed up data

  — restore server host name: name of restore server

  — restore server port number: port number of restore server

  — restore directory: path to location of restored data

Tools menu

The Tools menu contains the following items:

- *Backup Current Configuration* opens the **Backup Current Configuration** window. You use this window to perform a current view backup of a group of devices.

Help

The Tools menu contains the following item:

- *Help on Window* displays online documentation describing the Passport Backup and Restore window.

Views

Three views are available by selecting a tab to display the following:

- "Backup Configuration" (page 54)

- "Restore Configuration" (page 55)

- "Recover Device" (page 55)

Each of these view contains a combination of the following command buttons:

- *Add* opens the Add Device dialog which allows you to define the backup/restore or recovery mode, userid and password for the selected node.

- *Remove* removes the selected node from the list.

- *Remove* removes the selected node from the list.

- *Restore* restore the selected node from the list.

- *Backup* initiates a backup on all the nodes in the list.

- *Recover* initiates a recover on all the nodes in the list.

Backup Configuration

The Backup Configuration window displays a list of devices you have selected for backup and the backup mode (incremental, full, selective). For devices with a Selective backup mode, you can search for available views by clicking on the **Configuration** title to display a drop-down list that displays the available views.

The Device Details section of the Backup window displays userid and passwords for the selected device.

The Messages section of the Backup window displays information about the Backup process. The text in the Messages section is recorded in the log file located in /opt/MagellanNMS/bkRst.log in the users home directory.

Restore Configuration

The Restore Configuration window displays a list of devices you have selected to restore the configuration views back to the device. The restore modes are displayed (incremental, full, selective). For devices with a Selective restore mode, you can search for available views in the backup repository by clicking on the **Configuration** title to display a drop-down list that displays the available views

For nodes with an Incremental restore mode, you can edit the date in order to define the restore criteria. All views in the repository, later than or equal to the specified date, will be restored to the node.

The Device Details section of the Backup window displays userid and passwords for the selected node.

The Message section of the Restore window displays information about the Restore process.

Recover Device

ATTENTION	The recover capability is available only if you used current configuration backup.

The Recover Device window displays a list of devices you want to recover back to their last known configuration. Recover detects the last configuration data backed up for the device, restores the configuration information and the software as well as resets the switch to bring the configuration into service.

The Device Details section of the Recover window has three tabs that you can select:

- *Authentication* displays userid and passwords for the selected node

- *Configuration* displays Journal status information for the selected node

- *Application Versions* displays the list of software on the Passport at the time of the latest backup.

The Messages section of the Recover window displays information about the recover process. See "Current Configuration Recovery" (page 125).

Summary of tasks for Passport 4400/4460 devices

- Specify which device information file to use. For more information, refer to "Specifying the device information file and the devices for Passport 4400/4460" (page 56)

- Launch the Controllers and Providers as server processes. For more information, refer to "Controller commands" (page 58), "Provider commands for Passport 4400" (page 57) and "Provider commands for Passport 4460" (page 58).

- Start the Passport device. For more information, refer to "Starting Passport 4400/4460 devices" (page 59).

- Change Backup options. For more information, refer to "Changing options using the Backup Options dialog for an SNMP-based device" (page 60).

- Change Restore options. For more information, refer to "Changing options using the Restore Options dialog for an SNMP-based device" (page 60).

Specifying the device information file and the devices for Passport 4400/4460

You need to use a device information file that has entries for the devices you are going to access. See "Open File dialog" (page 64).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

    a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

    For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2 In the Passport/SNMP Devices Backup and Restore window, select the devices to backup or restore.

If the devices or device groups are not displayed in the devices area

a. From the **File** menu, select **Open**.

The **Open File** dialog opens.

b. Select a device information file by entering a path and file name in the **File name:** data entry box. You can also select a device information file using the **Look in:** pull-down menu and clicking on the file in the display panel.

c. Click **Open** to load the selected device information file and close the dialog.

d. From the Passport/SNMP Devices Backup and Restore main window, select **Options->Save Options** to save the current device information file as the default for future sessions**.** This menu item also saves any changes you make in the **Change Backup Options** and **Change Restore Options** dialogs.

Controller and Provider commands for Passport 4400 devices

The Passport/SNMP Devices Backup and Restore tool is not fully functional until you launch the Controllers and Providers as server processes.

For Provider commands, see "Provider commands for Passports" (page 48) and for Controller commands, see "Controller commands" (page 49).

Provider commands for Passport 4400

To start the Passport 4400 Backup Provider, you can use Server Administration or type the following UNIX command:

```
/opt/MagellanNMS/bin/pbckpp4400
  [-m <interface_mapping_file>] [-p <port_no>]
```

To start the Passport 4400 Restore Provider, type the following UNIX command:

```
/opt/MagellanNMS/bin/prstpp4400
  [-m <interface_mapping_file>] [-p <port_no>]
```

where:

interface_mapping_file is the name of the interface mapping file. This optional file is required when your system has multiple network interfaces. The default interface mapping file is /opt/MagellanNMS/cfg/ifmap.cfg.

If the file ifmap.cfg exists in directory /opt/MagellanNMS/cfg and is populated with valid mapping information, it is not necessary to specify the -m option. This file is used by default.

port_no is the port number that the Provider uses.
The default port for the Passport 4400 Backup Provider is 5030. The default port for the Passport 4400 Restore Provider is 5031.

Controller commands

To start the Backup Controller, type the following UNIX command:

```
/opt/MagellanNMS/bin/nsctlbck [-p <port_no>]
  [-c <remote_mapping_file>]
```

To start the Restore Controller, type the following UNIX command:

```
/opt/MagellanNMS/bin/nsctlrst [-p <port_no>]
  [-c <remote_mapping_file>]
```

where:

port_no is the port number that the Controller uses.
The default port for the Backup Controller is 5000. The default port for the Restore Controller is 5001.

remote_mapping_file is the name of the remote mapping file.
The default remote mapping file is /opt/MagellanNMS/cfg/Controller.cfg.

Provider commands for Passport 4460

To start the Passport 4460 Backup Provider, type the following UNIX command:

```
/opt/MagellanNMS/bin/pbckpp4460
  [-m <interface_mapping_file>] [-p <port_no>]
```

To start the Passport 4460 Restore Provider, type the following UNIX command:

```
/opt/MagellanNMS/bin/prstpp4460
  [-m <interface_mapping_file>] [-p <port_no>]
```

where:

interface_mapping_file is the name of the interface mapping file. This optional file is required when your system has multiple network interfaces. The default interface mapping file is /opt/MagellanNMS/cfg/ifmap.cfg.

If the file ifmap.cfg exists in directory /opt/MagellanNMS/cfg and is populated with valid mapping information, it is not necessary to specify the -m option. This file is used by default.

port_no is the port number that the Provider uses.
The default port for the Passport 4460 Backup Provider is 5040. The default port for the Passport 4460 Restore Provider is 5041.

Starting Passport 4400/4460 devices

Prerequisites

- launch the Controllers and Providers as server processes. See "Controller and Provider commands for Passport devices" (page 48)

- Ensure proper completion of the installation and configuration processes. Confirm the following:

  — the Controllers are installed on the same host machine as the backed up service data

  — the Providers are configured to run on host machines

  Note: When the Controllers and Providers are configured to run on different host machines, the remote mapping file must be properly configured. For more information, see "Modifying the remote mapping file" (page 34).

Procedure steps

Use the following methods:

1 From the Preside MDM window, select Configuration -> Passport 4400 Devices -> Administration -> Passport/SNMP Service Data Backup/ Restore

The Passport/SNMP Devices Backup and Restore window opens.

Changing options using the Backup Options dialog for an SNMP-based device

Before you perform a SNMP-based backup, you can change the default values of the Controller, Controller port, and target directory. See "Change Backup Options dialog" (page 66).

Procedure steps

1 Open the Passport/SNMP Devices Backup and Restore window.

   a. From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

   For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2 In the Passport/SNMP Devices Backup and Restore window, select **Change Backup Options** from the **Options** menu.

   The **Change Backup Options** dialog opens.

3 Modify the **Backup controller host**, **Backup controller port**, or **Target directory**.

4 Click **OK** to close the dialog.

5 From the Options menu, select **Save Options** to save your changes for future sessions. This command also saves the current device information file and any changes you make in the **Change Restore Options** dialog.

Changing options using the Restore Options dialog for an SNMP-based device

Before you perform a restore, you can change the default values of the Controller, Controller port, and source directory. See "Change Restore Options dialog" (page 67).

Procedure steps

1 Open the Passport Backup and Restore window.

    a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

        For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2 In the Passport Backup and Restore window, select **Change Restore Options** from the Options menu.

    The **Change Restore Options** dialog opens.

3 Modify the **Restore controller host**, **Restore controller port**, or **Source directory**.

4 Click **OK** to close the dialog.

5 From the Options menu, select **Save Options** to save your changes for future sessions. This command also saves the current device information file and any changes you make in the **Change Backup Options** dialog.

Passport/SNMP Devices Backup and Restore window

The Passport/SNMP Devices Backup and Restore tool lets you back up and restore service data on Passport 4400 and 4460 SNMP devices. You can choose full, incremental, or selected backup and restores for single or multiple devices. You can also perform a Node Recover for a replacement Passport in the event of a disaster.

The figure "Passport Backup and Restore window" (page 52) shows a sample window.

Figure 7
Passport/SNMP Devices Backup and Restore window
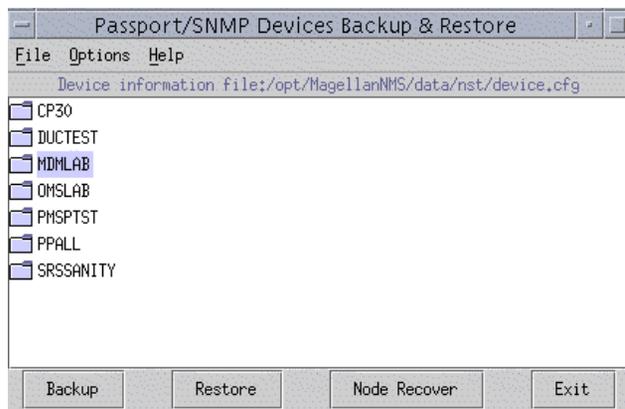
The Passport/SNMP Devices Backup and Restore window consists of the following components:

- "Menu bar" (page 53)

- "Configuration file area" (page 63)

- "Devices area" (page 63)

- "Command buttons" (page 64)

Menu bar

The menu bar is located at the top of the main window. See the following sections for information on the menu bar entries:

- "File menu" (page 53)

- "Options menu" (page 53)

- "Tools menu" (page 54)

File menu
The File menu contains the following items:

- *Open* opens the Open File dialog. From this dialog, you can set the device information file that Passport/SNMP Devices Backup and Restore uses. For more information, see "Open File dialog" (page 64).

• *Exit* exits Passport/SNMP Devices Backup and Restore.

Options menu
The Options menu contains the following items:

• *Change Backup Options* opens the Change Backup Options dialog. From this dialog you can set Controller information and the target directory for the backup data. For more information, see "Change Backup Options dialog" (page 66).

• *Change Restore Options* opens the Change Restore Options dialog. From this dialog you can set Controller information and the source directory for the restore data. For more information, see "Change Restore Options dialog" (page 67).

• *Save Options* saves, for future sessions, the current device information file and the changes you make in the Change Backup Options and Change Restore Options dialogs. This information is saved in the preferences file $home/.NS/.nsOptions where $home is your home directory.

Help menu
The Help menu contains the following item:

• *Help On Window* displays online documentation describing the Passport/ SNMP Devices Backup and Restore window.

Configuration file area

This display field shows the name of the device information file in use by Passport/SNMP Devices Backup and Restore. You can use the *Open* option of the File menu to select another device information file.

Devices area

The devices listed in the current device information file are displayed in this area. Group names are indicated by filled folder icons. You can display the device names contained in a group by double-clicking the group name. Device names are indicated by blank page icons.

You can select single devices or groups of devices to back up, restore or recover by clicking on the device or group names. Selected entries are shaded. You can change an entry from selected to unselected by clicking on it.

Command buttons

The Passport/SNMP Devices Backup window contains the following command buttons:

- Backup
  The Backup button opens the Passport/SNMP Backup window. For more information, see "Basic service data backup" (page 69).

- Restore
  The Restore button opens the Passport/SNMP Restore window. For more information, see "Basic service data restore" (page 89).

- Node Recover
  The Node Recover button opens the Passport Devices Node Recovery window. For more information, see "Current Configuration Recovery" (page 125).

- Exit
  The Exit button exits the Passport/SNMP Devices Backup and Restore tool.

Passport/SNMP Devices Backup and Restore startup dialogs

There are three dialogs that allow you to edit default information before performing backup and restore operations. These dialogs are

- "Open File dialog" (page 64)

- "Change Backup Options dialog" (page 66)

- "Change Restore Options dialog" (page 67)

Open File dialog

The *Open File* dialog (from the File menu) enables you to select the device information file used by Passport/SNMP Devices Backup and Restore. You can enter the absolute path and file name or select the file from the display panel.

The *Open File* dialog opens at the default directory /opt/MagellanNMS/data/ nst.

To save your changes for future sessions, from the Passport/SNMP Devices Backup and Restore menu, select **Options**->**Save Options**. For more information about the **Save Options** menu item, see "Passport Backup and Restore window" (page 52).

The **Open File** dialog consists of six areas:

- the **Look in** pull-down box displays the directory hierarchy for the current disk. You can change directories using this pull-down box by

  — clicking on the down arrow to open the box

  — proceed up the directory hierarchy by clicking on any directory above the current directory

  — proceed down the directory on any filled folder icon in the display panel

- five buttons that change the display

  — the button with an up-arrow through a folder proceeds up the directory hierarchy one level

  — the button with the house moves the display to your home directory

  — the button with a folder, only, creates new sub-directories.

  — the four icon button lists files in the current directory

  — the two icon button displays file details for the current directory

- Use the central display to select a device information file by clicking on the file. The central display panel shows

  — sub-directories of the current directory using filled folder icons

  — files in the current directory using blank page icons

- a data entry box where you enter the absolute path and device file name. If you select a file using the display panel, the selected file name is indicated in this data entry box.

- a pull-down box to specify the type of files to display. The default is all files in the current directory are displayed.

- two buttons to open or close (cancel) the **Open File** dialog

— **Open** loads the selected file and returns to the Passport/SNMP Devices Backup and Restore main window.

— **Cancel** closes the **Open File** dialog without loading a file.

The figure "Open File dialog" (page 66) shows an example of the **Open File** dialog.

Figure 8
Open File dialog
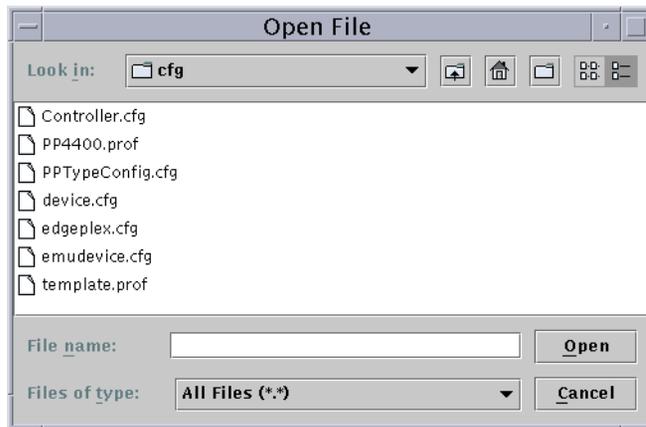
Change Backup Options dialog
The **Change Backup Options** dialog enables you to select

• the Controller that Passport/SNMP Devices Backup and Restore accesses when backing up service data

• the Controller port that Passport/SNMP Devices Backup and Restore uses when backing up service data

• the target directory where the backed up service data is stored

The **OK** button closes the **Change Backup Options** dialog. To save your changes for future sessions, click **OK**, and from the **Options** menu on the menu bar, select **Save Options**.

The figure "Change Backup Options dialog" (page 67) shows an example of the Change Backup Options dialog.

Figure 9
Change Backup Options dialog
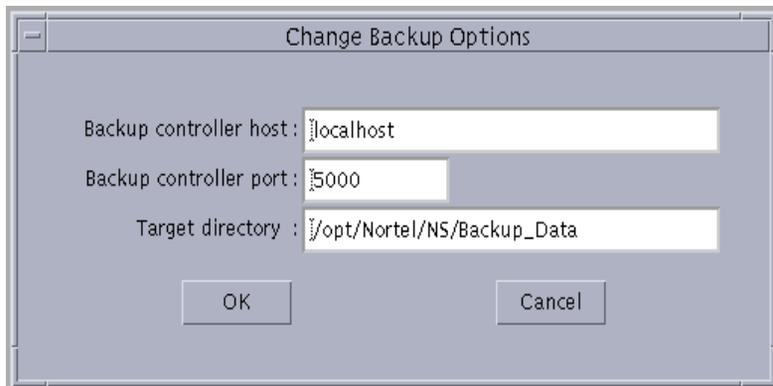
Change Restore Options dialog
The **Change Restore Options** dialog enables you to select

- the Controller that Passport/SNMP Devices Backup and Restore accesses when restoring service data

- the Controller port that Passport/SNMP Devices Backup and Restore uses when restoring service data

- the source directory for the service data to be restored

The **OK** button closes the **Change Restore Options** dialog. To save your changes for future sessions, click **OK**, and from the **Options** menu on the menu bar, select **Save Options**.

The figure "Change Restore Options dialog" (page 68) shows an example of the **Change Restore Options** dialog.

Figure 10
Change Restore Options dialog

Change Restore Options

Restore controller host : localhost

Restore controller port : 5001

Source directory : /opt/Nortel/NS/Backup_Data

OK   Cancel
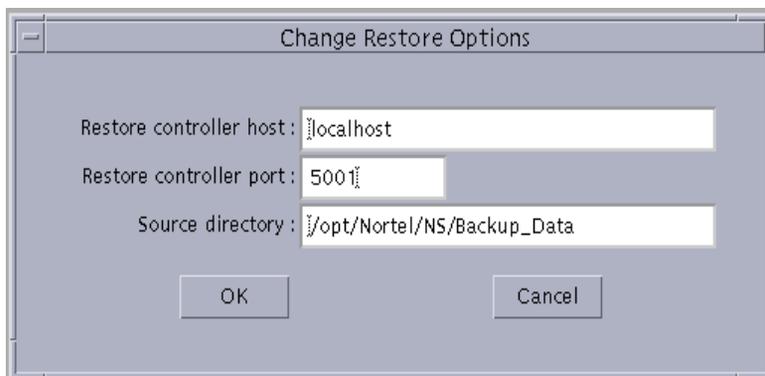
Chapter 4
Basic service data backup

This section describes using Passport and Passport/SNMP Service Data Backup and Restore to perform a basic back up of service data.

ATTENTION	Use Passport Service Data Backup and Restore for Passport 6000, 7000, 15000, and 20000 nodes. Use Passport/SNMP Service Data Backup and Restore for Passport 4400 and 4460 nodes.

Passport Backup copies only the configuration data of the Passport. The service data views that make up the configuration data are found on the Passport disk in a set of files in individual directories under the directory / provisioning. Passport Backup also copies the special files that are found under the directory /provisioning/netsentry.

Passport and Passport/SNMP Service Data Backup and Restore provide three types of backup.

- A *full* backup copies all service data on the selected device or devices.

- An *incremental* backup copies only service data changed or created since the last backup. Like the full backup, you can perform an incremental backup on either one or multiple devices.

- A *selective* backup copies specific service data that you select. You can perform a selective backup on either one or multiple devices.

Note: The result of all three backup types is the same for Passport 4400/4460 devices. This is because Passport 4400/4460 devices have only one view. Therefore, if you select a full backup, you backup one view. Conversely, if you select a selective or incremental backup, you backup the same view. The configuration data for Passport 4400/4460 devices are stored in two memory banks (bank3 and bank4). Passport/SNMP service data backup does not back up both banks, only the committed bank is backed up

For Passport and Passport/SNMP backup see "Backup file naming convention" (page 71)

- "Backup file naming convention" (page 71)

The following information applies to **using the Passport Service Data Backup and Restore tool to backup Passport 6000, 7000, 15000, and 20000 nodes**:

- "Adding Passport devices to the backup list" (page 72)
- "Removing Passport devices from the backup list" (page 73)
- "Viewing the Passport backup repository" (page 73)
- "Defining a specific userid and password for a Passport in the backup list" (page 74)
- "Changing the Default User Authentication" (page 74)
- "Performing a full backup for a Passport device" (page 75)
- "Performing an incremental backup for a Passport device" (page 75)
- "Performing a selective backup for a Passport device" (page 76)

The following information applies to **using the Passport/SNMP Service Data Backup and Restore tool to backup Passport 4400 and 4460 nodes**:

- "Changing default information for SNMP-based devices Backup" (page 78)
- "Performing a full backup for an SNMP-based device" (page 78)
- "Performing an incremental backup for an SNMP-based device" (page 79)

• "Performing a selective backup for a SNMP-based device" (page 81)

Backup file naming convention

The service data backup files have the following naming convention:

```
./<devtype>/<devname>/<timestamp>.<dataset>/ \
<datafiles...>
```

Note: The period (.) represents the Passport/SNMP Devices Backup and Restore root directory.

where:

`devtype`   is the device type (PASSPORT, PP4400, or PP4460).

`devname`   is the device name.

`timestamp`   has the format yyyymmddhhmmss

`datatset`   is the dataset name.
For Passport, the dataset name is the Passport view file name.
For Passport 4400/4460, the dataset name is either COMMIT or ACTIVE.

`<datafiles...>`   are the names of one or more files that are backed up.

Examples
The following example indicates that a backup was done of the Passport switch NODE10 on January 4, 1998 at 10:20:30 a.m.

```
./PASSPORT/NODE10/19980104102030.mydata.full.001
```

The following example indicates that a backup was done of the Passport 4400 switch PP01 on December 29, 1998 at 5:25:48 p.m.

```
./PP4400/PP01/19981229172548.COMMIT
```

The following example indicates that a backup was done of the Passport 4460 switch PP4460_CAL on March 18, 2000 at 1:45:16 p.m.

```
./PP4460/PP4460_CAL/20000318134516.COMMIT
```

Passport Backup Procedures

The following information applies to the Passport Service Data Backup and Restore tool for Passport 6000, 7000, 15000, and 20000 nodes:

- "Adding Passport devices to the backup list" (page 72)

- "Removing Passport devices from the backup list" (page 73)

- "Viewing the Passport backup repository" (page 73)

- "Defining a specific userid and password for a Passport in the backup list" (page 74)

- "Changing the Default User Authentication" (page 74)

- "Performing a full backup for a Passport device" (page 75)

- "Performing an incremental backup for a Passport device" (page 75)

- "Performing a selective backup for a Passport device" (page 76)

Adding Passport devices to the backup list

Use this procedure to add devices to the list of devices that you wish to backup.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

       For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select the **Backup Configuration** tab.

3   Select **Add** to launch the Add Devices Dialog.

4   From the left pane, select a group of devices or expand the group and use the Ctrl key to select a number of devices within a group.

5   From the drop down list, in the right pane, select a backup mode (Incremental or Full).

6   If a specific userid and password is required for the device, enter the values in the user ID and Password fields and uncheck the **Use default** checkbox.

If you wish to use the default userid and password, click the **Use default** checkbox.

7   Click **OK**.

The devices display in the Device List.

Removing Passport devices from the backup list

Use this procedure to remove devices from the list of devices that you wish to backup.

Procedure steps

1   Open the Passport Backup and Restore window.

    a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

       For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select the **Backup Configuration** tab.

3   In the Device List, select the devices you wish to remove.

4   Click **Remove**.

5   In the confirmation dialog, select **Yes** to confirm or **No** to cancel the removal.

Viewing the Passport backup repository

If the backup server is running locally, use the following procedure to view all the backup files in the backup repository.

Procedure steps

1   Telnet into the remote workstation with the appropriate userid and password.

2   Navigate to the repository directory.

3   Use unix directory commands to view the contents of the backup repository.

Defining a specific userid and password for a Passport in the backup list

A specific userid and password can be defined when you add the node to the node list or you can set it later using the following procedure.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

        For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select the **Backup Configuration** tab.

3   Select a node in the **Device List** section.

4   In the Device Details section, in the **Authentication** tab, enter a userid and password.

5   Clear the **Use default** checkbox.

Changing the Default User Authentication

Use the following procedure to define a default userid and password which is used for all node access unless overridden by a specific userid and password for the node.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

        For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select **Options** ->**Set default authentication**.

3   Enter the userid and password in the appropriate fields.

4   Click **OK**.

   The new userid and password are used on the next node access.

Performing a full backup for a Passport device

Prerequisites

The devices that you back up must be properly configured in Passport Backup and Restore. See "Installing and configuring backup and restore applications" (page 31).

Procedure steps

1 Verify that the "Prerequisites" (page 75) are satisfied.

2 Open the Passport Backup and Restore window.

a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/Restore**.

For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3 Select the **Backup Configuration** tab.

4 Select **Add** to launch the **Add Devices** dialog.

5 From the left pane, select a group of devices or expand the group and use the Ctrl key to select a number of devices within a group.

6 Select a device in the Device list:

7 Click in the **Mode** title and select **Full** from the drop-down list.

8 Click **Backup**.

The progress of the backup is displayed in the **Messages** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Note: To cancel a backup in progress click **Cancel**.

Performing an incremental backup for a Passport device

Use the following procedure to backup only backup files that are not already in the repository.

Procedure steps

1 Verify that the "Prerequisites" (page 75) are satisfied.

2 Open the Passport Backup and Restore window.

    a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

    For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3 Select the **Backup Configuration** tab.

4 Select **Add** to launch the **Add Devices** dialog.

5 From the left pane, select a group of devices or expand the group and use the Ctrl key to select a number of devices within a group.

6 Select a node in the nodes list.

7 In the **Mode** title, select **Incremental** from the drop-down list.

8 If you wish to specify a backup of views later than a specific date, enter the date in the date field. (for example July 3, 2003

9 Click **Backup**.

The progress of the backup is displayed in the **Status** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Note: To cancel a backup in progress click **Cancel**.

Performing a selective backup for a Passport device

Use the following procedure to backup only a single specified file to the repository.

Procedure steps

1 Verify that the "Prerequisites" (page 75) are satisfied.

2 Open the Passport Backup and Restore window.

    a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

    For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3 Select the **Backup Configuration** tab.

4 Select **Add** to launch the **Add Devices** dialog.

5   From the left pane, select a group of devices or expand the group and use the Ctrl key to select a number of devices within a group.

6   Select a device in the Devices list.

7   In the **Mode** title, select **Selective** from the drop-down list.

The Configuration column in the table is enabled.

8   Click in the **Configuration** cell to display a pull-down list that displays all the available views on the Passport.

Note: This step may take a few seconds to complete because the application must access the Passport and list all the views names.

9   Click **Backup**.

The progress of the backup is displayed in the **Status** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Note: To cancel a backup in progress click **Cancel**.

SNMP-based devices procedures

The following information applies to the Passport/ SNMP Service Data Backup and Restore tool for Passport 4400 and 4460 nodes:

- "Changing default information for SNMP-based devices Backup" (page 78)

- "Performing a full backup for an SNMP-based device" (page 78)

- "Performing an incremental backup for an SNMP-based device" (page 79)

- "Performing a selective backup for a SNMP-based device" (page 81)

Changing default information for SNMP-based devices Backup

You can change the default information for any device type listed in the main window.

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Backup window, double-click on the entry that you need to change in the **Default Backup Information** area. See "Passport/SNMP Devices Backup window" (page 83) for information on this window.

The **Change Default Information** dialog opens.

3   Make the required changes.

4   Click **OK** to save your changes and close the dialog.

Performing a full backup for an SNMP-based device

A full backup copies all the service data on a selected device or devices.

Passport/SNMP Devices Backup copies only the configuration data of the Passport. The service data views that make up the configuration data are found on the Passport disk in a set of files in individual directories under the directory /provisioning. Passport/SNMP Devices Backup also copies the special files that are found under the directory /provisioning/netsentry.

Prerequisites

For information about configuring Passport/SNMP Devices Backup and Restore for Passport 4400/4460 devices, see "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39) and "Modifying the remote mapping file" (page 34).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

    a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

    For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Backup window, select only the device or devices whose service data you need to back up from the **Backup Information** area of the window. See "Passport/SNMP Devices Backup window" (page 83).

    The selected devices have a check mark in the **Bck** column. All other devices have no entry in the **Bck** column.

3   In the **Backup Mode Selection** area, click **full**.

4   Click **Backup**.

    When the backup completes successfully, a message is displayed in the **Message** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Performing an incremental backup for an SNMP-based device

An incremental backup copies only that service data changed or created since the last backup. For Passport 4400/4460 devices, an incremental backup is the same as a full backup because this device has only one view.

Passport/SNMP Devices Backup copies only the configuration data of the Passport. The service data views that make up the configuration data are found on the Passport disk in a set of files in individual directories under the directory /provisioning. Passport/SNMP Devices Backup also copies the special files that are found under the directory /provisioning/netsentry.

The configuration data for Passport 4400/4460 devices are stored in two memory banks (bank3 and bank4). Passport/SNMP Devices Backup does not back up both banks, only the committed bank is backed up.

Prerequisites

For information about configuring Passport/SNMP Devices Backup and Restore for Passport 4400/4460 devices, see "Modifying the remote mapping file" (page 34) and "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

        For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Backup window, select only the device or devices whose service data you need to back up from the **Backup Information** area of the window. See "Passport/SNMP Devices Backup window" (page 83).

    The selected devices have a check mark in the **Bck** column. All other devices have no entry in the **Bck** column.

3   In the **Backup Mode Selection** area, click **incr**.

4   Click **Backup**.

    When the backup completes successfully, a message is displayed in the **Message** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Performing a selective backup for a SNMP-based device

A selective backup copies only the service data that you select. For Passport 4400/4460 devices, a selective backup is the same as a full backup because this device has only one view.

Passport/SNMP Devices Backup copies only the configuration data of the Passport. The service data views that make up the configuration data are found on the Passport disk in a set of files in individual directories under the directory /provisioning. Passport/SNMP Devices Backup also copies the special files that are found under the directory /provisioning/netsentry.

The configuration data for Passport 4400/4460 devices are stored in two memory banks (bank3 and bank4). Passport/SNMP Devices Backup does not back up both banks, only the committed bank is backed up.

Prerequisites

The devices that you back up need to be properly configured in Passport/SNMP Devices Backup and Restore. See "Modifying the remote mapping file" (page 34) and "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

    a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

        For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Backup window, select only the device or devices whose service data you need to back up from the **Backup Information** area of the window. See "Passport/SNMP Devices Backup window" (page 83).

    The selected devices have a check mark in the **Bck** column. All other devices have no entry in the **Bck** column.

3   In the *Backup Mode Selection* area, click **sel**.

    The **List Views** button is enabled.

4   Click the **List Views** button and select the required view file. You can display selected view files by using the **Filter** data entry field and pressing **<return>**.

OR

Enter the name of the required view file in the **sel** data entry field and press **<return>**.

The view file name is displayed in the **sel** data entry field and in the **View** column of the Backup Information area.

5   Click **Backup**.

When the backup completes successfully, a message is displayed in the **Message** area. If the backup is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

Passport/SNMP Devices Backup window

The Passport/SNMP Devices Backup window displays relevant backup information and provides fields that let you select the devices to backup and level of backup. The window also contains a message area that displays status information while the backup process executes.

The figure "Passport/SNMP Devices Backup window" (page 83) shows a sample backup window.

Figure 11
Passport/SNMP Devices Backup window

The Passport/SNMP Devices Backup window consists of the following components:

- "Default Backup Information area" (page 84)

- "Controller Information area" (page 84)

- "Backup Information area" (page 85)

- "Backup Mode Selection area" (page 86)

- "Message area" (page 86)

- "Command buttons" (page 86)

Default Backup Information area

The Default Backup Information area contains connection information. There is an entry for each different device type in the device information file. Each device type that is listed in this area can have the following entries:

- *DevType* is the device type.

- *id (rd community)* is the userID for a Passport and the READ community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

- *pw (wr community)* is the user password for a Passport and the WRITE community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

- *Port* is the port number of the device.

You can edit any line in this area by double-clicking on it. This action opens the Change Default Information dialog. For more information about changing the default information, see "Changing default information for SNMP-based devices Backup" (page 78).

Controller Information area

The *Controller Information* area displays the information from the *Change Backup* Options dialog.

Backup Information area

The *Backup Information* area contains details about each device available for back up. Click on a line in this area to edit it. Make your changes by editing other fields on the main window.

Each device has the following entries:

- *DevName* is the device name.

- *id (rd community)* is the userID for a Passport and the READ community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

  When present, this field overrides the corresponding field in the *Default Backup Information* area. You can edit this field in the *id (rd community)* data entry field immediately below the *Backup Information* area. A backup fails when the device has no *id (rd community)*.

- *pw (wr community)* is the user password for a Passport and the WRITE community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

  When present, this field overrides the corresponding field in the *Default Backup Information* area. You can edit this field in the *pw (wr community)* data entry field immediately below the *Backup Information* area. A backup fails when the device has no *pw (wr community).*

- A check mark in the *Bck* field indicates that this device is to be backed up. You can select and deselect any device by double-clicking the line containing the device name.

- *Mode* indicates the type of backup (full, incremental, or selective). You can change this field by clicking the appropriate button in the Backup Mode Selection area.

- *View* is the view being backed up by a selective backup. Clicking the *sel* button in the *Backup Mode Selection* area activates the *View* and *List Views* fields. You can choose a view file from *List Views* by double-clicking on an entry or you can enter a view file name in the *View* data entry field and press Return.

Backup Mode Selection area

The *Backup Mode Selection* area contains information about the types of backups you can perform. When you edit the fields in this area, you change the *Mode* and *View* fields of the device that is highlighted in the *Backup Information* area.

This area contains the following fields:

* *incr* indicates an incremental backup.

* *full* indicates a full backup.

* *sel* indicates a selective backup.

* *the sel* data entry field is where you enter the name of the view file that you want to back up. The file entered in this field updates the *View* field in the *Backup Information* area.

* *List Views* button lists the view files that are available for selective backup. You select a file in this list by double-clicking on an entry. Selection of a view from the *List Views* window updates the contents of the *View* data entry field and the *View* field in the *Backup Information* area. The *List Views* button is enabled only when you select the *sel* button.

* the *Filter* data entry field specifies a search criteria for view files. You can match any string of any length by using the wildcard character (*).

   Note: The question mark (?) does not function as a wildcard in the *Filter* field. For example, *MM?[ab]* returns only the view *MM?[ab],* if it exists.

Message area

The *Message* area displays messages generated by Passport/SNMP Devices Backup during execution.

Command buttons

The Passport/SNMP Devices Backup window contains the following command buttons:

* Backup
   The Backup button starts the backup process.

- Cancel
  The Cancel button terminates an executing backup. Completed backups are kept; backups in progress, or not started, are cancelled.

- Exit
  The Exit button closes the Passport/SNMP Devices Backup window.

- Help
  The Help button displays online documentation describing the Passport/SNMP Devices Backup window.

Chapter 5
Basic service data restore

This section describes using Passport and Passport /SNMP Service Data Backup and Restore to restore backed up service data from the backup site to the device.

ATTENTION	Use Passport Service Data Backup and Restore for Passport 6000, 7000, 15000, and 20000 nodes. Use Passport/SNMP Service Data Backup and Restore for Passport 4400 and 4460 nodes.

The Passport and Passport/SNMP Service Data Backup and Restore tools provide three types of restore:

- A *full* restore restores all backed up service data to the selected device or devices.

- An *incremental* restore restores service data based on a specified date. Like the full restore, you can perform an incremental restore on either one or multiple devices.

- A *selective* restore restores specific service data that you select. Like the full restore, you can perform a selective restore on either one or multiple devices.

    Note: It is not recommended that an active file (current view) be restored on a Passport. When you restore the current view, you may overwrite the existing current view with different content. This action will cause an outage of the Backup and Restore tool.

The following information applies to **using the Passport Service Data Backup and Restore tool to perform a restore for Passport 6000, 7000, 15000, and 20000 nodes**:

- "Adding Passport devices to the restore list" (page 91)

- "Removing Passport devices from the restore list" (page 92)

- "Defining a specific userid and password for a Passport device in the restore list" (page 92)

- "Performing a full restore for a Passport device" (page 93)

- "Performing an incremental restore for a Passport device" (page 94)

- "Performing a selective restore for a Passport device" (page 94)

- "Activating the restored Passport data" (page 96)

The following information applies to **using the Passport/SNMP Service Data Backup and Restore tool to perform a restore for Passport 4400 and 4460 nodes**:

- "Changing default information for Passport/SNMP Devices Restore" (page 97)

- "Performing a full restore for an SNMP-based device" (page 98)

- "Performing an incremental restore for an SNMP-based device" (page 99)

- "Performing a selective restore for an SNMP-based device" (page 100)

- "Activating the restored Passport 4400/4460 data" (page 101)

- "Passport/SNMP Devices Restore window" (page 102)

Passport Service Data restore procedures

The following procedures apply to using the Passport Service Data Backup and Restore tool to perform a restore for Passport 6000, 7000, 15000, and 20000 nodes:

- "Adding Passport devices to the restore list" (page 91)

- "Removing Passport devices from the restore list" (page 92)

- "Defining a specific userid and password for a Passport device in the restore list" (page 92)

- "Performing a full restore for a Passport device" (page 93)

- "Activating the restored Passport data" (page 96)

Adding Passport devices to the restore list

Use the following procedure to add devices to the Devices List.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

     For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select the **Restore Configuration** tab.

3   Click **Add** to open the **Add Device** dialog.

4   Select a group of devices or expand the group and use the Ctrl key to select a number of devices.

5   Select the appropriate restore mode, from the **Mode** column (full or incremental).

6   If a specific userid and password is required for the device, enter the values in the User ID and Password fields and uncheck the **Use default** checkbox.

     If you wish to use the default userid and password, click the **Use default** checkbox.

7   Click **OK**.

The IP addresses for the devices are retrieved from HGDS and the device displays in the Devices list.

For devices that are not in HGDS, you are prompted for their IP address. If you are prompted for an IP address, do step 8.

8   If you know the IP address, enter the correct IP address in the form and click **OK** and the device is added to the Devices list.

If the IP address is unknown or the device is not valid, press **Cancel** and the device is not added to the Devices list.

Removing Passport devices from the restore list

Use this procedure to remove nodes from the list of nodes that you wish to backup.

Procedure steps

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

   For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select the **Restore Configuration** tab.

3   In the Device List, select the devices you wish to remove.

4   Click **Remove**.

5   In the confirmation dialog, select **Yes** to confirm or **No** to cancel the removal.

Defining a specific userid and password for a Passport device in the restore list

A specific userid and password can be defined when you add the device to the restore list or you can set it later using the following procedure.

Procedure steps

1   Open the Passport Backup and Restore window.

    a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

        For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2 Select a device.

3 In the **Device Details** section, enter a userid and password.

4 Clear the **Use default** checkbox.

Performing a full restore for a Passport device

Use the following procedure to copy all the files from the repository back to the Passport.

Prerequisites

The devices that you restore need to be properly configured in Passport/SNMP Devices Backup and Restore. See "Installing and configuring backup and restore applications" (page 31).

Procedure steps

1 Verify that the "Prerequisites" (page 93) are satisfied.

2 Open the Passport Backup and Restore window.

    a. From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

        For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3 Select the **Restore Configuration** tab.

4 Click **Add** to open the **Add Device** dialog.

5 Select a group of devices or expand the group and use the Ctrl key to select a number of devices.

6 Select a device from the **Device List**.

7 Click in the **Mode** title and select **Full** from the drop-down list.

8 Click **Restore**.

9 After a successful restore, you need to activate the restored data. See "Activating the restored Passport data" (page 96).

Performing an incremental restore for a Passport device

Use the following procedure to copy files, based on a specific date, from the repository back to the Passport.

Procedure steps

1   Verify that the "Prerequisites" (page 93) are satisfied.

2   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

   For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3   Select the **Restore Configuration** tab.

4   Click **Add** to open the **Add Device** dialog.

5   Select a group of devices or expand the group and use the Ctrl key to select a number of devices.

6   Select a device from the **Device List**.

7   Click in the **Mode** title and select **Incremental** from the drop-down list.

8   Define a date in the date column. (For example, July 4, 2003)

   All the files, with the date and time that are not greater than the specified date, will be restored.

9   Click **Restore**.

10   After a successful restore, you need to activate the restored data. See "Activating the restored Passport data" (page 96) and "Activating the restored Passport 4400/4460 data" (page 101).

Performing a selective restore for a Passport device

Use the following procedure to copy a specific file from the repository back to the Passport.

Procedure steps

1   Verify that the "Prerequisites" (page 93) are satisfied.

2   Open the Passport Backup and Restore window.

      a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

          For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3   Select the **Restore Configuration** tab.

4   Click **Add** to open the **Add Device** dialog.

5   Select a group of devices or expand the group and use the Ctrl key to select a number of devices.

6   Select a device from the **Device List**.

7   Click in the **Mode** title and select **Selective** from the drop-down list.

8   In the View column, select the desired view from the repository using the drop-down list.

    Note: This step may take a few seconds to complete because the application must access the Passport and list all the views names.

9   Click **Restore**.

10 After a successful restore, you need to activate the restored data. See "Activating the restored Passport data" (page 96).

Activating the restored Passport data

Passport Restore restores the backup configuration data onto the Passport disk. After a successful restore, perform the following procedure to activate the restored data.

Procedure steps

1 Establish a telnet session to the Passport.

2 Download to the Passport any required application software missing from the Passport disk.

3 Enter provisioning mode.

4 Activate the restored view and confirm the activation.

5 If required, commit the activated view.

Passport/SNMP service data restore procedures

The following procedures apply to using the Passport/SNMP Service Data Backup and Restore tool to perform a restore for Passport 4400 and 4460 nodes:

- "Changing default information for Passport/SNMP Devices Restore" (page 97)

- "Performing a full restore for an SNMP-based device" (page 98)

- "Performing an incremental restore for an SNMP-based device" (page 99)

- "Performing a selective restore for an SNMP-based device" (page 100)

- "Activating the restored Passport 4400/4460 data" (page 101)

- "Passport/SNMP Devices Restore window" (page 102)

Changing default information for Passport/SNMP Devices Restore

You can change the default information for any device type listed in the main window.

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

   For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the **Default Restore Information** area of the main window, double-click on the entry that you need to change.

   The **Change Default Information** dialog opens.

3   Make the required changes.

4   Click **OK** to save your changes and close the dialog.

Performing a full restore for an SNMP-based device

A full restore restores all backed up service data to a selected device or devices. For Passports, Passport/SNMP Devices Restore restores backed up configuration data onto the Passport disk

The Passport 4400/4460 has two memory banks, called bank 3 and bank 4, for configuration data. Passport/SNMP Devices Restore restores backed up configuration data onto the non-committed bank.

Prerequisites

The devices that you restore need to be properly configured in Passport/SNMP Devices Backup and Restore. See "Modifying the remote mapping file" (page 34) and "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39).

Procedure steps

1　Open the Passport/SNMP Devices Backup and Restore window.

　a.　From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

　　For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2　In the Passport/SNMP Devices Restore window, select only the device or devices whose service data you need to restore from the **Restore Information** area of the window. See "Passport/SNMP Devices Restore window" (page 102).

　The selected devices have a check mark in the **Rst** column. All other devices have no entry in the **Restore** column.

3　In the **Restore Mode Selection** area, click **full**.

4　Click **Restore**.

　When the restore completes successfully, a message is displayed in the **Message** area. If the restore is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

5　After a successful restore, you need to make the restored data active. See "Activating the restored Passport 4400/4460 data" (page 101).

Performing an incremental restore for an SNMP-based device

An incremental restore restores service data, based on a date that you specify. If you do not specify the date, an incremental restore is the same as a full restore.

Prerequisites

The devices that you restore need to be properly configured in Passport/SNMP Devices Backup and Restore. See "Modifying the remote mapping file" (page 34) and "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

   For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Restore window, select only the device or devices whose service data you need to restore from the **Restore Information** area of the window. See "Passport/SNMP Devices Backup and Restore window" (page 61).

   The selected devices have a check mark in the **Rst** column. All other devices have no entry in the **Restore** column.

3   In the **Restore Mode Selection** area, click **incr**.

4   In the **Restore Mode Selection** area, fill in the **Date** field. The restore process restores the service data that was backed up on that date. If no backup exists for that date, the restore process restores the service data that was backed up closest to, but not exceeding, that date.

5   Click **Restore**.

   When the restore completes successfully, a message is displayed in the **Message** area. If the restore is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

6   After a successful restore, you need to make the restored data active. See "Activating the restored Passport data" (page 96) and "Activating the restored Passport 4400/4460 data" (page 101).

Performing a selective restore for an SNMP-based device

A selective restore restores only the service data that you select.

Prerequisites

The devices that you restore need to be properly configured in Passport/SNMP Devices Backup and Restore. See "Modifying the remote mapping file" (page 34) and "Configuration required for Passport/SNMP Service Data Backup and Restore" (page 39).

Procedure steps

1   Open the Passport/SNMP Devices Backup and Restore window.

  a.   From the Preside MDM window, select **Configuration->Passport 4400 Devices->Administration->Passport/SNMP Service Data Backup/Restore**.

   For more information on this window, refer to "Passport/SNMP Devices Backup and Restore window" (page 61).

2   In the Passport/SNMP Devices Restore window, select only the device or devices whose service data you need to restore from the **Restore Information** area of the window. See "Passport/SNMP Devices Backup and Restore window" (page 61).

   The selected devices have a check mark in the **Rst** column. All other devices have no entry in the **Restore** column.

3   In the **Restore Mode Selection** area, click **sel**.

   The **List Views** button is enabled.

4   Click the **List Views** button and select the required view file. You can display selected view files by using the **Filter** data entry field and pressing **<return>**.

   OR

   Enter the name of the required view file in the **sel** data entry field and press **<return>**.

   The view file name is displayed in the **sel** data entry field and in the **View** column of the **Restore Information** area.

5   Click **Restore**.

When the restore completes successfully, a message is displayed in the **Message** area. If the restore is unsuccessful, an error dialog is displayed that specifies the device and the reason for the failure.

6   After a successful restore, you need to make the restored data active. See "Activating the restored Passport data" (page 96) and "Activating the restored Passport 4400/4460 data" (page 101).

Activating the restored Passport 4400/4460 data

Passport/SNMP Devices Restore restores the backup configuration data onto the non-committed bank of the Passport 4400/4460. After a successful restore, perform the following procedure to activate the restored data.

Procedure steps

1   Establish a connection to the Passport 4400/4460 through the serial console port. Alternatively, you can start a telnet session if there is IP connectivity between the Passport 4400/4460 and the workstation.

2   Verify the status of the restore by entering the following CLI (command line interface) command:

show tftp error

The response should be:

LastOperStatus   : <status>
ServerIPAddr   : <x.x.x.x>
FileName   : <filename>
TransferBank   : toBank<3|4>
PortNumber   : <xxx>

3   Confirm that the LastOperStatus variable indicates a successful download. The value of TransferBank indicates to which bank the configuration data was restored.

4   Set the active configuration bank to the bank to where the configuration data was restored by entering the CLI command:

set system firmware activeConfigBank bank<x>

where <x> is the bank to which the configuration data was restored.

5   Reset the Passport 4400/4460 by entering the CLI command:

reset system current reset

The configuration takes effect once the Passport 4400/4460 has completed boot up.

Passport/SNMP Devices Restore window

The Passport/SNMP Devices Restore window displays relevant restore information and provides fields that let you select the type of information to restore. The window also contains a message area that displays status information while the restore process executes.

The figure "Passport/SNMP Devices Restore window" (page 102) shows sample restore window.

Figure 12
Passport/SNMP Devices Restore window

The Passport/SNMP Devices Restore window consists of the following components:

- "Default Restore Information area" (page 103)

- "Controller Information area" (page 103)

- "Restore Information area" (page 104)

- "Restore Mode Selection area" (page 105)

- "Message area" (page 106)

- "Command buttons" (page 106)

Default Restore Information area

The *Default Restore Information* area contains connection information. There is an entry for each different device type in the device information file. Each device type that is listed in this area can have the following entries:

- *DevType* is the device type.

- *id (rd community)* is the userID for a Passport and the READ community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

- *pw (wr community)* is the user password for a Passport and the WRITE community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

- *Port* is the port number of the device.

You can edit any line in this area by double-clicking on it. This action opens the *Change Default Information* dialog. For more information about changing the default information, see "Changing default information for Passport/SNMP Devices Restore" (page 97).

Controller Information area

The C*ontroller Information* area displays the information from the *Change Restore Options* dialog.

Restore Information area

The *Restore Information* area contains details on each device available for restore. Click on a line in this area to edit it. Make your changes by editing other fields on the main window.

Each device has the following entries:

- *DevName* is the device name.

- *id (rd community)* is the userID for a Passport and the READ community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

  When present, this field overrides the corresponding field in the *Default Restore Information* area. You can edit this field in the *id (rd community)* data entry field immediately below the *Restore Information* area. A restore fails when the device has no *id (rd community)*.

- *pw (wr community)* is the user password for a Passport and the WRITE community string for a Passport 4400/4460.

  This field is displayed as a series of asterisks (*).

  When present, this field overrides the corresponding field in the *Default Restore Information* area. You can edit this field in the *pw (wr community)* data entry field immediately below the *Restore Information* area. A restore fails when the device has no *pw (wr community)*.

- *A check mark* in the *Rst* field indicates that this device is to have service data restored. You can select and deselect any device by double-clicking the line containing the device name.

- *Mode* indicates the type of restore (full, incremental, or selective). You can change this field by clicking the appropriate button in the *Restore Mode Selection* area.

- *View* is the view being restored by a selective backup. Clicking the *sel* button in the *Restore Mode Selection* area activates the *View* and *List Views* fields. You can choose a view file from *List Views* by double-clicking on an entry or you can enter a view file name in the *View* data entry field and press *Return*.

Restore Mode Selection area

The *Restore Mode Selection* area contains information about the types of restores you can perform. When you edit the fields in this area, you change the *Mode* and *View* fields of the device that is highlighted in the *Restore Information* area.

This area contains the following fields:

• *incr* indicates an incremental restore.

• *the Date* data entry field is an option for an incremental restore. You enter a date with the format yyyymmdd to have Passport/SNMP Devices Restore restore the service data backed up on that date. You can specify the time with format yyyymmddhhmmss.

  When there are no backups for the date specified, Passport/SNMP Devices Restore restores the service data backed up on the date closest to, but not exceeding, the specified date. If there is more than one backup for the specified date and you have not specified the time, Passport/SNMP Devices Restore restores the latest backup on the specified date. If you do not use this field, the incremental restore is the same as a full restore.

• *full* indicates a full restore.

• *sel* indicates a selective restore.

• the *sel* data entry field is where you enter the name of the view file that you want to restore. The file entered in this field updates the *View* field in the *Restore Information* area.

• *List Views* button lists the view files that are available for selective restore. You select a file in this list by double-clicking on an entry. Selection of a view from the *List Views* window updates the contents of the *View* data entry field and the *View* field in the *Restore Information* area. The *List Views* button is enabled only when you select the *sel* button.

• *the Filter* data entry field specifies a search criteria for view files. You can match any string of any length by using the wildcard character (*).

  Note: The question mark (?) does not function as a wildcard in the *Filter* field. For example, *MM?[ab]* returns only the view *MM?[ab],* if it exists.

Message area

The *Message* area displays messages generated by Passport/SNMP Devices Restore during execution.

Command buttons

The Passport/SNMP Devices Restore window contains the following command buttons:

- Restore
  The Restore button starts the restore process.

- Cancel
  The Cancel button terminates an executing restore. Completed restores are kept; restores in progress, or not started, are cancelled.

- Exit
  The Exit button closes the Passport/SNMP Devices Restore window.

- Help
  The Help button displays online documentation describing the Passport/ SNMP Devices Restore window.

Change Default Information dialog

The *Change Default Information* dialog is the only Passport/SNMP Devices Restore dialog other than the main window. You can use this dialog to change the information contained in the *Default Restore Information* area of the main window. For more information about the *Default Restore Information* area, see "Restore Information area" (page 104).

The figure "Change Default Information dialog" (page 107) shows an example of the Change Default Information dialog.

Figure 13
Change Default Information dialog
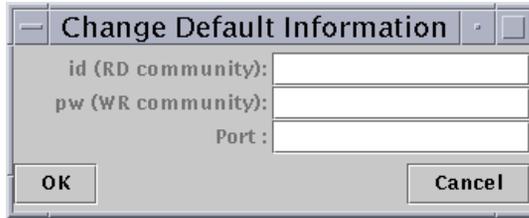
Chapter 6
Current Configuration Backup and Database Synchronization

This section describes how to use Passport Service Data Backup and Restore to perform a backup of a Passport 6000, 7000, 15000, and 20000 current configuration. This functionality is used for Node Recovery as well as to enable backup capability for Passport view and journal files. It supports the database synchronization mechanisms to ensure that the MDM Administration Database is updated with the latest configuration.

Overview

In this Backup mode, the Backup Server retrieves the most current configuration of the switch. A current configuration is the combination of the committed configuration and activations that have occurred on that switch. It is not possible in all cases to retrieve all of the current configuration.

In the case where on-switch journaling is enabled, the Backup Server retrieves the journal files and the committed configuration of the switch. In other words, the current configuration is completely backed up to the MDM. In addition, the complete current configuration can be synchronized with the Administration Database.

However, if journaling is not enabled/available, it is not possible to obtain a complete current view. If a user has performed provisioning and activations on the switch without saving, then only the committed view can be backed up on the MDM. The activations will not be backed up to the MDM, until they are saved, activated and a "confirm prov" command has been performed.

Once the Backup Server retrieves the most current view and journal log files from the Passports, and completes their storage to a local disk, it notifies the Data Synchronization Server and passes it the view and journal information. These notifications trigger the synchronization process.

The Data Synchronization Server compares the view and journal information that it receives from the Backup Server with the contents of the view and journal information contained in the database to determine if the database is synchronized. If the database is not synchronized with this information, the Data Synchronization Server initiates the translation of the missing views and journals into database compatible format.

The Data Synchronization Administration tool is used to view synchronization activities and basic status information, based on information provided by the Data Synchronization Server.

The "confirm prov" command is extremely important in cases where journaling is not enabled/available.

For detailed configuration options, see "Configuring the Backup Server for current configuration backup" (page 112).

Perform the following procedures to implement current configuration backups for your system:

- "Modifying the Backup Server command line" (page 111)
- "Configuring the Backup Server for current configuration backup" (page 112)
- "Performing a Current Configuration Backup" (page 122)

Modifying the Backup Server command line

To support the Current Configuration backup and database synchronization, and to configure the maximum number of parallel backups, you must add options to the command line for the Backup Server.

Procedure Steps

1   Open the Server Administration tool and perform authorization. For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

2   Select **Backup Controller** from the Server list.

3   Right click to select **Edit Server**.

The **SVM Edit Server** window displays.

4   In the **Startup command** field, add the following options to the command line.

```
/opt/MagellanNMS/bin/nsctlbck - notification -nbofbck
<#>
```

where:

The -nbofbck <#>, where # is the maximum number of backups, limits the number of backups that can be performed in parallel. This option can only be used with the -notification option for backup on alarm or on demand; this option cannot be used for a basic backup. The default # is 5. Backup requests coming after the maximum number are queued in a waiting queue and are transferred to the executing queue if the executing queue is not full. That is, it has less than the maximum number of parallel backups, as specified in the nbofbck <#> option of the Backup Server command line. By limiting the number of simultaneous backups, you reduce congestion problems that may occur with a large number of backups. It is recommended that the default be left at 5, unless engineering information is available.

-notification option, when included, allows the system to perform current configuration backups.

Any changes you make to the server startup command take effect when the server is restarted. For instructions on how to use the Server Administration tool, see the 241-6001-303 *Preside MDM Administrator Guide*.

> **CAUTION**
> **Starting the Backup Controller**
> The Backup Provider must be started before the Backup
> Controller (Backup Server) when using the -notification
> option. The Backup Controller is known as the Backup
> Server when the -notification option is specified. See
> "Current Configuration Backup and Database
> Synchronization" (page 109).

Note: The Backup Controller is known as the Backup Server when the -notification option is specified. For example:

```
/opt/MagellanNMS/bin/pbckpp
/opt/MagellanNMS/bin/nsctlbck -notification
```

Configuring the Backup Server for current configuration backup

There are two options for configuring your system. These options are defined in the configuration file:

• **On Alarm with journaling supported** uses alarm notification for configuration changes from the device to trigger the backup of Passport view and journal files. The database can then be synchronized using this information. This mode can be used for near-real-time synchronization of both backup and database information.

On Alarm for complete view (with journaling not supported) is used for pre-PCR 5.1 releases. In this case, a complete configuration file is transferred for each provisioning confirmation done on each Passport. This may cause engineering issues in terms of OAM network and workstation capacity, and is not recommended.

The On Alarm option requires that the Backup Server be configured to listen to a particular GMDR server, which provides the notification based on the alarm information from the node. Without the GMDR server, the Backup Server cannot receive the real-time notification of the provisioning changes. If the GMDR runs on a different host than the Backup Server, you can specify this. See "Interface with GMDR" (page 122) for more information.

- **On Demand** uses a command line trigger to backup Passport views and journals. This command line trigger can also be used in a cron job to provide a scheduled backup and database capability. If journaling is not supported or enabled, the operator must ensure that a save, activate, and "confirm prov" has been done to ensure availability of the current view.

The devices to be backed up must be specified in a user configuration file. This configuration file also determines if backups are on_demand, and if database synchronization should be done. For more information, see the following sections:

Modifying the Data Synchronization configuration file for a Current Configuration Backup

Backups are performed on the list of Passport devices specified in a user configuration file on the MDM. The configuration file is stored under

/opt/MagellanNMS/cfg/DataSync.cfg

All backup groups must be defined in the HGDS server using the Host Group Administration tool. For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

The Backup Server and the Database Synchronization server share the DataSync.cfg file. This file contains the list of devices with their userids and passwords, as well as additional fields for each devices.

For security reasons, passwords can be encrypted in a separate file in which case the full path of the file containing the encrypted password replaces the password field in the DataSync.cfg file. MDM provides a tool to encrypt a password, and save it in a separate file, /opt/MagellanNMS/bin passwd_gen.

This tool must be run as root. For the procedures to generate a secure password for an MDM server, and how to change a secure password, refer to NN10600-605 *Passport - MDM Network Security: Operations*.

Defining the default backup group for Passport devices

The default group options can be used for any backup group that you add. You must verify that the values in the default group options are acceptable for your system. Use the following procedure:

Procedure steps

1   Start the Server Administration tool.

For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

2   In the Server Administration window, select the **Backup Controller**.

3   Right click to select **Edit Configuration** and then **Backup Server**.

The Configuration Editor displays. For information on the displayed parameters, refer to "Supporting information for configuring Passport Current Configuration Backup and Recovery" (page 117).

4   Expand the Default group element.

5   Select **Authentication** and

a.   enter the appropriate username,

b.   enter the password

OR

set the usePassword File to **True** and enter the location of the password file in the passwordFileName field.

6   Verify that the values in the Backup and DBSynch elements are appropriate.

7   From the **File** menu, select **Save**.

Adding a backup group

Define a set of Passport devices as part of a group that will be backed up together at the same time in the same manner. Specify the manner in which this group is backed up.

> *Note:* If you do not define the values of the backup group, the system uses the values defined in the default backup group.

Procedure steps

1 Define a group in the HGDS system using the Host Group Administration tool. For more information on adding groups, refer to 241-6001-303 *Preside MDM Administrator Guide*.

> **Note 1:** If the Backup Controller is already running, you must run the Passport kick script. This script is used to update the HGDS, FDTM and FMDR servers with the new information, without having to restart the servers.

> **Note 2:** An existing group can be used. It does not have to be defined as a backup group.

2 Start the Server Administration tool.

For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

3 In the Server Administration window, select the **Backup Controller**.

4 Right click to select **Edit Configuration** and then **Backup Server**.

The Configuration Editor displays. For information on the displayed parameters, refer to "Supporting information for configuring Passport Current Configuration Backup and Recovery" (page 117).

5 Select the **BackupServer** element.

6 Right click and select **Add Element**.

The **Add Element** dialog displays.

7 Verify that **Group** is selected and click **OK**.

8 Select the **New Group** element.

9 Enter the Group name.

10 Verify that the **enabled** field is set to **True**.

> *Note:* At this point, you can accept the values that you defined for the default backup group by selecting **Save** from the **File** menu which completes this procedure or you can specify new options using step 11 through step 19.

11   Select your new group from the element tree.

12   Right click to select **Add Element**.

13   In the **Add Element** dialog, select **Authentication** and click **OK**.

14   Repeat step 12 and step 13, selecting **BackupOptions** and **DBSynchOptions**.

At this point, your new group has three subelements (Authentication, BackupOptions and DBSynchOptions).

15   Click on the group element to expand it.

16   Select **Authentication** and

  a.   enter the appropriate username,

  b.   enter the password

    OR

    set the usePassword File to **True** and enter the location of the password file in the passwordFileName field.

17   Select the **BackupOptions** element and verify that onAlarm is set to **True** if you wish backups to be performed on alarm.

Note that you do not have to select this option at this time. You can set this option later using the Backup and Restore tool. For more information, refer to "Modifying the Data Synchronization configuration file for a Current Configuration Backup" (page 113).

18   Select **DBSyncOptions** and

  a.   Verify that enabled is set to **True** if you wish to send a notification to the Data Sync server and have the database updated whenever a backup is performed.

  b.   Enter the name of the DBSyncController in the **server** field. Note that if you leave the server field blank, the system defaults to localhost.

19   Select **Save** from the **File** menu.

Removing a backup group

If a group no longer requires backing up, you can remove it from the DataSync.cfg file.

Procedure steps

1   Start the Server Administration tool.

For more information, refer to 241-6001-303 *Preside MDM Administrator Guide*.

2   In the Server Administration window, select **Backup Controller**.

3   Right click to select **Edit Configuration** and then **Backup Server**.

The Configuration Editor displays. For more information, refer to "Configuration Editor window" (page 118).

4   Select the group you wish to remove.

5   Right click to select **Remove Element**.

6   In the Confirmation dialog, select **Yes**.

7   If the group was specific to the backup system and is no longer needed, remove it using the Host Group Administration tool. For more information on removing groups, refer to 241-6001-303 *Preside MDM Administrator Guide*.

Supporting information for configuring Passport Current Configuration Backup and Recovery

Passport Backup and Restore uses the data synchronization file to display the devices that you can back up and restore. You need to include an entry for every device that Passport Backup and Restore can access on the host machine.

If you have Passport Backup and Restore software on multiple hosts, it is recommended that you duplicate the entries in the data synchronization file.

Note: The DBSyncController name must be identical to the DBSync name value. For more information on configuring the DBSyncController, refer to 241-6001-400 *Preside MDM Administration Database User Guide*.

For more information, refer to:

- "Configuration Editor window" (page 118)

- "Data Synchronization file parameters" (page 118)

- "How the Backup Server works" (page 119)

Configuration Editor window
The Configuration Editor allows you to edit the DataSync.cfg file. You can launch the Configuration Editor from Server Administration Tool.

The editor has two panes. The left pane displays the symbol for the server which can be expanded to display a tree hierarchy which lists all the devices or groups of devices. Each device or group element can be expanded to display three parameter categories. The right pane displays the parameters contained in the selected category.

Data Synchronization file parameters
The following table describes each of the backup and restore-related fields contained in the DataSync.cfg file.

Table 2
Data Synchronization file parameters for Backup Server

Category	Field	Description	Default
BackupServer	port	Option to specify the Backup server port, to communicate with.	5050
	dataDir	Option to specify the backup data directory where the views and/or journals are stored.	/opt/Magellan/ NMS/data/ Backup_Data
Authentication	username	Username to access device	
	password	Password to access device	
	usePasswordFile	Determines if a password file is used for access to the account	false
	passwordFile	Path to the file that contains an encrypted password	
(Sheet 1 of 2)			

Table 2
Data Synchronization file parameters for Backup Server (continued)

Category	Field	Description	Default
BackupOptions	onAlarm	Determines if the devices in the group are backed up when the sever receives a configuration event from a device	true
DBSync Options	enabled	Determines if a dbsynchcontroller is notified when the device is backed up true	true
	server	Name of the server to notify when a device is backed up	
(Sheet 2 of 2)			

How the Backup Server works

When the Backup Server is started with the -notification option, it initiates a backup for the devices that have On_Alarm set to **True**, whenever it receives a commit, confirm, reset or node reconnect alarm. The following information is obtained from the Passport:

- committed view name

- number of journals

- current view name

- journalDisabledReason attribute

- restorePossible attribute

- activation time = (in this case, activation time is the *d prov* time of the last journal backup)

This information is stored in the recovery.INFO file. The Backup Server compares this information with what has already been backed up and then transfers the necessary view and journal files.

When journaling is not enabled, the Passport sends only Confirm and Node Reconnect alarms. When the Backup Server receives the Confirm and Node Reconnect alarms, it recovers the current view from the Passport. The customer must save, activate, and confirm prov to ensure that a current view is available.

In this case, the current view has a valid name. The Backup Server checks if it already has the backed up file, and if not, it transfers the file to the backup site. There are no journals to be transferred.

To trigger a backup of all the Passports simultaneously, you can edit the DataSync.cfg file to give all the Passport nodes the same group label and execute the command **/opt/MagellanNMS/bin/nsbck -demand** without specifying a group. Note that this is not recommended due to possible engineering and performance impacts. The maximum number of Passports in a group is 50.

The actual FTP backup session is performed the same as an FTP backup triggered by an alarm with On Alarm.

Backup site directory structure

The journal files are stored by the Backup tool in a subdirectory of the view they are associated with. If a new set of journal log files is created for the same view, another journal directory is created.

The naming convention for the journal directories is <timestamp>journal. The timestamp comes from the Passport file system and is the creation date of the file.

/provisioning/journal/current/journalView

This directory is created with the first journal log file.

The following files are also created on the backup site:

- "view.INFO file" (page 121)
- "recovery.INFO file" (page 121)
- "avl.INFO file" (page 121)

view.INFO file

A view.INFO file is created on the Backup site for each view. This file contains the name of the base view as stored on the Backup site, and enables the association of the proper base view to a delta view. For each backup or restore, the tool checks if the base view is on the Backup site. If not, it will backup or restore it. The base view is a portable or complete view.

The format of the file is as follows:

BASE_NAME <timestamp>.<viewname>

For example:
BASE_NAME 200301261812228.view1.full.001

The view.INFO file is located on the backup site with the view. For example, a named view1.full.001 on a Passport NODE1 is found at the following location:

/opt/MagellanNMS/data/Backup_Data/Passport/NODE1/
200301261812228.view1.full.001/view.INFO

recovery.INFO file

A recovery.INFO file is also generated during each backup. This file contains the committed view name, the current view name, the journal directory name, the number of journal files, and two values: restorePossible and journalStatus. These two values come from the switch at the time when the backup was done. When a Node Recovery is performed, it reads this recovery.INFO file in order to restore the needed information.

avl.INFO file

The recovery.INFO file and the avl.INFO file are MDM-specific files and are created by the Backup Server during a backup. These files do not exist on the Passport and are used by the Node Recovery tool to recover a Passport node on a replacement Passport. When a node is recovered, the software that is being run must be downloaded to the replacement Passport. Therefore, each backup must also contain the current AV list. This information is stored in a new file called avl.INFO.

Interface with GMDR

The GMDR process must be available whenever an On_Alarm backup must occur. The GMDR process ensures that the Backup Server is notified of a provisioning change on the Passport.

GMDR sends alarms to the Backup Server when a notification alarm is received from the Passport. If GMDR runs on a different host than the Backup Server, you can specify the GMDR host with the option -gmdrhost as follows:

```
/opt/MagellanNMS/bin/nsctlbck -notification -gmdrhost
<hostname>
```

Performing a Current Configuration Backup

Use this procedure to perform a Current Configuration Backup of a group of devices.

Prerequisites

The devices that you restore need to be properly configured. See "Installing and configuring backup and restore applications" (page 31).

Procedure steps

1   Open the Passport Backup and Restore window.

  a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

    For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   Select **Tools** -> **Backup Current Configuration**.

  The Backup Current Configuration window displays.

3   Click **Add**.

  The **Add Group** window displays.

4   Select one group or select a number of groups using the Ctrl key.

5   Click **OK**.

  The Groups you wish to backup are displayed in the **Group List**.

6   Click **Backup**.

If the backup request is successfully scheduled, the Messages pane indicates that the process has started. Note, however, that this type of backup is scheduled as background activity and does not provide updates to the Messages pane.

7   View the Backup Status of all current configuration backups by selecting **Tools->Show Server Log** from the menu bar.

A window displays a snapshot of the end of the server log. To refresh the text in this window, close the window by pressing the **Cancel** button and re-selecting **Tools->Show Server Log** from the menu bar.

Chapter 7
Current Configuration Recovery

This section describes using Passport Service Data Backup and Restore to perform current configuration recovery for Passport 6000, 7000, 15000, and 20000 nodes.

Note: For information on backing up views/journals for Recovery, see "Current Configuration Backup and Database Synchronization" (page 109).

A Passport Devices Recovery recovers the committed configuration of the Passport, its journal log files, and downloads the recent software, and restores them to a replacement Passport.

Prerequisites

CAUTION
Files will be overwritten
Before reconnecting a replacement Passport to the network, edit the DataSync.cfg file to turn off backup on alarm for the device, and then restart the Backup Server. See "Modifying the Data Synchronization configuration file for a Current Configuration Backup" (page 113). This step prevents the Backup Server from being triggered by a reconnect alarm, which would back up this device and overwrite the recovery.info and avl. info files.

Before proceeding with this procedure, ensure that the Backup Server has been configured properly. See "Configuring the Backup Server for current configuration backup" (page 112) and "Modifying the Backup Server command line" (page 111).

When you are recovering a mix of devices, you must recover all Passport 7000s (specifying the Passport 7000 software distribution site) in one procedure. Then, you must repeat the procedure for the Passport 15000 (specifying the Passport 15000 software distribution site) to recover those nodes. The software distribution site is different for the Passport 7000s and Passport 15000s.

For more information, refer to:

- "Defining the Software Distribution Site for a Passport node recovery" (page 126)

- "Performing a Current Configuration Device Recovery" (page 127)

Defining the Software Distribution Site for a Passport node recovery

Use this procedure to define the software distribution site to be used in Node Recovery.

1   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->Passport Service Data Backup/ Restore**.

      For more information on this window, refer to "Passport Backup and Restore window" (page 52).

2   In the Passport Backup and Restore window, select **Set Software Distribution Site** from the **Options** menu.

   The Software Distribution Site dialog displays.

3   In the appropriate fields, enter the IP host name, userid and password of the Software Distribution Site.

4   Click **OK**.

Performing a Current Configuration Device Recovery

Procedure steps

1   Verify that the "Prerequisites" (page 125) are satisfied.

2   Open the Passport Backup and Restore window.

   a.   From the Preside MDM window, select **Configuration->Passport Devices->Administration->PassportService Data Backup/ Restore**.

   For more information on this window, refer to "Passport Backup and Restore window" (page 52).

3   Select the **Recover Device** tab.

4   Click **Add** to open the **Add Device** dialog.

   Note: The **Add Device** dialog displays only devices that have a recovery.info file. Only those devices that have had a current configuration backup have a recovery.info file.

5   Select a group of devices or expand the group and use the Ctrl key to select a number of devices.

6   Select the **Use default** box to use the default password or enter the user ID and Password.

7   Click **OK**.

   The devices are displayed in the **Device List**.

8   Select the devices(s) on which to perform the Node Recovery.

   The date column displays the date of the last current view backup. The view column displays the name of the committed view. The software column displays the software version active at the time.

   You can view the last journal number and the journal status of a device by selecting the **Configuration Information** tab in Device Details. The **Application Versions** tab displays the software application version that was used for this configuration.

9   Click **Recover**.

   You can cancel the recovery process by clicking **Cancel**.

Index

Preside Multiservice Data Manager

Passport/SNMP Devices Backup and Restore

User Guide

R14.3

NORTEL
NETWORKS