



Preside Multiservice Data Manager

Management Data Provider

User Guide

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About this document

This document describes how to configure and use the Management Data Provider (MDP). This information includes collecting, converting, and transferring data from switches to customer billing and network analysis hosts.

The MDP is installed with Preside Multiservice Data Manager.

Note: In this document, Passport is used as a generic term that includes all Passports 6400, 7400, 15000, and 20000.

The following topics are discussed in this section:

- “Who should read this document and why” (page 17)
- “What you need to know” (page 18)
- “How this document is organized” (page 18)
- “What’s new in this document” (page 19)
- “Text conventions” (page 20)
- “Related documents” (page 21)

Who should read this document and why

This document is intended for network operators, billing administrators, or network performance analysts. Those personnel responsible for configuring or using the Management Data Provider (MDP) will require this document.

What you need to know

You need to have had some exposure to both computers and network concepts. Basic computer literacy is required to operate a Management Data Provider (MDP); you need to know how to use a keyboard and a mouse, what a menu is, and how to start applications from a menu using a mouse.

MDP resides on a UNIX workstation. You should be familiar with a UNIX editing facility (vi, for example) so that you are able to modify files. You should be familiar with SUN workstations, the UNIX operating system, and network communications (IP, FTP, ATM, or frame relay).

Knowledge of network management concepts for Nortel Networks devices is required.

Knowledge of Preside Multiservice Data Manager software is required. Specifically, knowledge of the Server Management administration (SVM) tools and the Host Group Directory Server (HGDS) and its administration tool hadmin.

How this document is organized

This document contains the following sections:

- “Introduction” (page 23) provides an overview of the MDP.
- “Configuration” (page 81) describes how to: identify customer hosts, assign converted data to specific customer hosts, set data file retention periods, archive BDF data, perform surveillance of the MDP host, generate audit reports, archive MDP logs, customize the MDP UNIX directory structure, configure the outage controller, and configure availability calculation and report generation.
- “Configuring MDP for Passport” (page 123) describes how to collect and convert spooled data from Passport nodes. The Statistics Retrieval System is also described in detail.
- “Configuring MDP for DPN-100” (page 159) describes how to collect and convert data from DPN-100 switches.
- “Configuring MDP for MPE” (page 173) describes how to collect and convert data from MPE switches.

- “MDP administration” (page 185) describes MDP commands and command line parameters.

This section also describes how to: process archived raw data, view BDF files, and view published format (PF) files.

- “MDP logs” (page 205) describes the logs generated by the MDP. This section also describes how to archive and view MDP logs.
- “MDP alarms and/or traps” (page 229) describes MDP traps, configuring MDP trap generation, and the mapping between significant MDP events and traps. MDP traps can be monitored using the Alarm Viewer.
- “Value-added data applications” (page 237) describes how to use alarm data from switches to calculate and report switch outages and switch availability.
- “MDP interface description” (page 277) describes the fields, buttons and commands for each MDP configuration panel.

What’s new in this document

Support for MPE is added to this document:

- “Configuring MDP for MPE” (page 19)
- “MDP interface description” (page 19)

Configuring MDP for MPE

This support includes the following changes:

- a new chapter describing MPE configuration
- new MPE commands added to the MDP Administration chapter
- new MPE logs added to the MDP Logs chapter
- new MPE alarms and traps added to the MDP Alarms chapter
- new MPE general information added to the Introduction chapter

MDP interface description

This new chapter describes the MDP configuration interface panels. In this release, descriptions are referenced from the procedures that use the panels.

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.

- `[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

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

This section identifies documents related to the Management Data Provider (MDP):

- “Preside Management Data Provider (MDP)” (page 21)
- “Preside Multiservice Data Manager (MDM)” (page 21)
- “Passport 6400” (page 21)
- “Passport 7400/15000/20000” (page 21)
- “DPN” (page 22)

Preside Management Data Provider (MDP)

A document entitled the Preside MDM Release Supplement is issued with the MDM/MDP software. The Release Supplement describes new features, software compatibility, software patches and known discrepancies. The Release Supplement should be the first point of reference for new information related to MDP.

241-6001-806 *Preside MDM MDP Data Formats Reference for DPN*
241-6001-810 *Preside MDM MDP Data Formats Reference*

Preside Multiservice Data Manager (MDM)

For a list of MDM documents, see 241-6001-000 *Preside MDM Documentation Guide*.

Passport 6400

For a list of Passport 6000 documents, see 241-6401-001 *Passport 6400 Documentation Guide*.

Passport 7400/15000/20000

For a list of Passport 7000/15000/20000 documents, see 241-5701-001 *Passport 7400, 15000, 20000 Documentation Guide*.

DPN

241-1001-100 *DPN-100 Product Overview*

241-1001-115 *DPN-100 Call Redirection System User Guide*

241-1001-320 *DPN-100 Accounting User Guide*

241-2001-332, *DPN-100 Data Spooling Description*

Chapter 1

Introduction

The Management Data Provider (MDP) is an off-switch component of a data collection system that processes spooled data generated by Nortel Networks switches. The MDP collects spooled data from Passport and MPE switches using the file transfer protocol (FTP) or secure file transfer protocol (SFTP) to minimize the performance degradation that typically results from constant metric polling. DPN-100 switches automatically transfer spooled data to the MDP. Raw switch data can be reformatted as bulk data format (BDF) or published format (PF) and transferred to down-stream billing and performance analysis applications.

Note: MPE converts Layer 2 Frame Relay statistics and accounting data only.

The benefits of the MDP include

- consolidated data collection
- high data integrity
- extensive data content
- scalable solution for all network sizes; performance gains on multi-processor platforms
- ease-of-fit into operational environments

The following topics are discussed in this section:

- “Collecting data” (page 24)
- “Data conversion” (page 24)

- “Archiving” (page 32)
- “Transferring data to down-stream applications” (page 34)
- “Supporting MDP” (page 34)
- “Passport support” (page 43)
- “DPN-100 support” (page 62)
- “MPE support” (page 71)

Collecting data

The Management Data Provider (MDP) collects performance metrics using different methods for each switch type. The collection of Passport, and MPE performance metrics is controlled by the MDP. The transfer of DPN-100 performance metrics to the MDP is controlled by the DPN-100 switch.

Data conversion

The Management Data Provider (MDP) supports performance metrics data conversion to bulk data format (BDF) or published format (PF).

“Supported data conversion formats” (page 24) shows the data conversion format supported for each switch data type.

Table 1
Supported data conversion formats

Data Type	DPN	Passport	MPE
accounting	PF/BDF	PF/BDF	BDF
statistics	BDF	BDF	BDF
logs	BDF	BDF	
alarms	BDF	BDF	
state change notification		BDF	
outage	BDF	BDF	
availability	BDF/ASCII	BDF/ASCII	
SRS		BDF	

The following topics are discussed in this section:

- “Converting switch data to bulk data format” (page 25)
- “Converting switch data to published format” (page 30)

Converting switch data to bulk data format

Raw switch data can be converted to bulk data format (BDF) data in an ASCII format.

For Passport, and DPN-100, the BDF conversion process uses schema files to interpret the binary switch data. A schema file is required for each record type of a data type generated by each switch type. Schema files cannot be modified.

Note: Schema files are not required for MPE raw data which is collected in XML format.

The BDF conversion process uses record description files (RDF) to specify the record format of the converted metric data. RDFs are used to control which fields are converted and their field position in the converted record. The BDF Converter requires an RDF for each datatype generated by each switch-type. Passport RDFs can be modified using the MDP Configuration tool; see “Customizing BDF records” (page 128). MPE RDFs are modified manually.

Note: Nortel Networks recommends the customization of BDF records. Customizing BDF record content ensures that only those fields required by down-stream processing (billing and performance analysis applications) are converted and transferred. Depending on your requirements, BDF record customization can provide substantial MDP performance gains.

After the MDP has been configured for BDF conversion, data conversion is automatic and continuous. For testing purposes, the BDF Converter and MPE BDF Converter can be manually started from the UNIX command line.

The BDF converter normally reads raw switch data from the spool directory /opt/MagellanMDP/data/mdp/spool. For Passport, converted files are written to the appropriate subdirectory of the dump directory /opt/MagellanMDP/

data/mdp/dump. If BDF archiving is configured, the BDF Converter also writes the BDF records to the appropriate archive directory /opt/MagellanMDP/data/mdp/archive.

For MPE, converted files are written to the appropriate subdirectory of the dump directory /opt/MagellanMDP/data/mdp/mpe/dump.

For a description of these BDF file names, see “BDF data” (page 54).

For a description of MPE BDF file names, see “BDF data” (page 78).

For details about the bulk data format records, see 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

Interpreting BDF output

The following rules are used to generate BDF records:

- A record can be any length.
- Fields are displayed in the BDF output file in the same order as they are declared in the RDF file. If a field is absent in a record, the field value in the BDF file is NULL (: :).
- The record separator is \n. The \n is stored as a Line Feed 010 (LF).
- A line containing only a \n is a blank line. Blank lines are ignored.
- The default field separator is the DEL (127) character.

The alphabetic characters [A-Z] [a-z] and numeric characters [0-9] cannot be used as delimiters.

The following are reserved characters that cannot be used as delimiters by the BDF Converter: the UNIX pipe command |, the caret ^, the open parentheses (, the close parentheses), blank spaces, the comma ,, the period ., and the forward slash /.

- When a field contains multiple values, such as repeating fields, each value is enclosed in parentheses.
Elements of a vector, list, and array are also enclosed in parentheses,

along with their indexes.

A comma is used as a delimiter between the index and the value within the parentheses. See the following examples:

- Repeating field: ...:(3021)(3033)(3034):...
 - List field: ...:(A)(B)(C)(D)(E):...
 - Vector field: ...:(0,A)(1,B)(2,C):...
 - Array field: ...:(0,0,A)(0,1,B)(1,0,C)(1,1,D):...
- A sequence of three, or more, empty fields can be compressed in the output file to save space.
The start of the compression is indicated by ^<count>.
For example, ^5 indicates 5 consecutive empty fields.

The default output format does not use field compression.
 - The first 2 fields of all BDF records identify the switch type (pp, dpn, vss, or gen) and the data type (acc, sta, ala, log, scn, otg, or ava). Data type otg applies to switch types pp and dpn, only. Data type ava applies to switch type gen.
 - The third field of all BDF records identifies the sub-data type (or record type within data types) for:
 - DPN statistics and accounting data

- A generic escape character is reserved for masking out characters encountered during input. The escape character is configurable. The default is %.

If any delimiters, repeating field delimiters, or escape characters (generic or compression) are encountered in any input fields with a type of string, the offending character is replaced with %XX, where XX represents the hexadecimal value of the character.

The alphabetic characters [A-Z] [a-z] and numeric characters [0-9] cannot be used as escape characters.

There are 7 reserved characters that cannot be used as escape characters by the BDF Converter: the UNIX pipe command |, the caret ^, the open parentheses (, the close parentheses), blank spaces, the comma ,, and the forward slash /.

Viewing BDF data

The Data Viewer can be used to verify that converted data matches expected results and to perform cursory to moderate switch performance analysis (troubleshooting).

The Data Viewer displays bulk data format records using three views:

- the record view displays individual BDF records with a field name and the field value
- the spreadsheet view displays all of the records in selected BDF files in spreadsheet tabular format
- the component view displays data values from selected attributes for selected components in a tree format. You can also graph selected component data, and view summary and detailed information.

See the Data Viewer section in 241-6001-031 *Preside MDM Performance Management User Guide*. For more information specific to MDP, see “Viewing BDF files with Data Viewer” (page 200).

BDF data can also be displayed using the command `bdfview`. For more information, see “Viewing BDF files with the `bdfview` command” (page 201).

MDP audit reports

The Management Data Provider (MDP) generates audit reports which summarize the processing of bulk data format (BDF) records.

These audit reports indicate the following:

- originating switch and datatype for raw data
- possible missing raw data files (raw files out of sequence)
- raw data file size
- number of records successfully converted to BDF
- instances of corrupt data
- successful delivery of BDF files to down-stream application sites

MDP audit reports are generated every 24 hours at 0005 hours. The reports are generated in ASCII format and contain fields that are delimited by a colon, with the exception of field 10 that can contain a maximum of 3 host names or IP addresses separated by commas.

To configure audit report generation, see “Configuring MDP file processing audits” (page 101).

Converting switch data to published format

Passport, and DPN-100 raw accounting data can be converted to published format (PF).

Note: Published format data is used primarily by customers with down-stream billing applications on IBM or VAX mainframes.

PF data can be data encoded to either EBCDIC or ASCII. IBM customer hosts usually use EBCDIC and VAX customer hosts usually use ASCII.

PF data can be stored in one of two formats, big-endian or small-endian. IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian.

The conversion of Passport, or DPN accounting data to published format can be performed using one of two methods:

- with the published format backward compatibility option enabled the PF converter reverts to a legacy method of processing PF data.
- with the published format backward compatibility option disabled, the PF converter optimizes performance gains from advances in hardware technology and accelerates delivery of PF converted data to down-stream billing applications. This method of PF conversion is the default.

Conversion of accounting records to published format, with the published format backward compatibility option disabled, consists of the following steps:

- 1 If the MDP is configured to convert Passport, or DPN accounting data to PF and a raw accounting data file is detected in the spool directory /opt/MagellanMDP/data/mdp/spool, the appropriate published format converter is started.

- 2 The MDP transfers the converted file, containing Passport, or DPN published format accounting records, to the customer billing host.

Conversion of accounting records to published format, with the published format backward compatibility option enabled, consists of the following steps:

- 1 If the MDP is configured to convert Passport, or DPN accounting data to PF and a raw accounting data file is detected in the spool directory /opt/MagellanMDP/data/mdp/spool, the appropriate published format converter is started.
- 2 All Passport published format files processed within a single hour are concatenated into a single hourly file. All DPN published format files processed within a single hour are concatenated into a single hourly file.
- 3 At the end of each hour, the data from the Passport hourly file and the data from the DPN hourly file are concatenated into a single hourly file containing every node's published format accounting records.
- 4 The MDP transfers the hourly file containing every node's published format accounting records to the customer billing host.
- 5 At the end of each day, all of the hourly files, containing every node's published format accounting records, are concatenated into a single daily file.
- 6 The MDP File Mover Manager can backup the daily PF files.

After the MDP has been configured for PF conversion, data conversion is automatic and continuous. The PF Converters can also be started manually from the UNIX command line.

For details about the published format accounting records, see 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

Viewing published format data

The published format viewer translates published format (PF) binary records to ASCII format. The published format viewer does not support field selection or filtering.

The published format viewer is used to ensure that the PF files are consistent with the raw accounting data from every node.

For more information about the published format viewer, see “Viewing Published Format files” (page 203).

Archiving

The Management Data Provider (MDP) can automatically archive raw switch data files, bulk data format (BDF) records, and MDP logs for Passport, and DPN-100.

Raw data

The MDP can be configured to archive raw switch data from every node. Use the appropriate switch data management window of the MDP Configuration tool to configure archiving.

For Passport and DPN-100 switches, raw switch data is archived in sub-directories of the directory `/opt/MagellanMDP/data/mdp/backup`. The sub-directory structure is organized by datatype (accounting, alarm, statistics, scn, log, srs, debug, and outage). This directory structure cannot be customized.

For MPE products, raw data is archived in sub-directories of the directory `/opt/MagellanMDP/data/mdp/mpe/backup`. The sub-directory structure is organized by datatype (accounting, alarm, csal, statistics, trace). This directory structure cannot be customized.

For the naming conventions applied to archived raw data files on the MDP, see

- for Passport raw data files, “Raw data” (page 53)
- for DPN-100 raw data files, “Raw data” (page 66)
- for MPE raw data files, “Raw data” (page 77)

Bulk data format files

The MDP software can be configured to archive bulk data format (BDF) data for Passport and DPN-100 switch-types. A single raw data file can be split into multiple files in multiple directories according to the specified date field and written to a split file that contains the records for one nodeID, one datatype and one day.

Individual BDF records are stored in sub-directories of the archive directory /opt/MagellanMDP/data/mdp/archive. The sub-directory structure is configured using the MDP Configuration tool. For more information about customizing the archive directories, see “Configuring BDF archiving” (page 96).

A BDF archive directory can contain patterns for the year, month and day formats of the output directories. For example,

```
/opt/MagellanMDP/data/mdp/archive/pp/acc/%YYYY/%M%D
```

This example is intended to contain Passport accounting records. If the specified directory structure does not exist, bdfconv creates the structure. Directories with four characters for the year %YYYY, two characters for the month %M and two characters for the day %D are created when records with new dates are encountered during BDF conversion.

A single raw data file can be split into many files according to the specified date field and written to a split file that contains the records for one nodeID, one datatype, and one day.

The following indicates the date fields used:

Product	Datatype	Field
Passport	accounting	startTime
Passport	statistics	timeOfRecord
Passport	alarm	timeOfRecord
Passport	log	timeOfRecord
Passport	scn	timeOfRecord
DPN	accounting	startDateTime
DPN	statistics	dateTime
DPN	alarm	dateTime
DPN	log	dateTime

For a description of BDF archive file names, see “Archived BDF data” (page 56).

MDP logs

The MDP can be configured to archive log messages generated by the following MDP processes: the Passport File Manager, the DPN File Manager, and the Passport File Prober.

Individual MDP logs are stored in subdirectories of the archive directory `/opt/MagellanMDP/data/mdp/admin/archive`. The subdirectory structure is configured using the MDP Configuration tool. Once a directory structure is configured, the same directory structure is applied to logs from any of the MDP processes identified above. For more information about customizing the archive directories, see “Configuring log archiving” (page 103).

For a description of MDP log archive file names, see “Log file names” (page 206).

Transferring data to down-stream applications

After configuration, the Management Data Provider (MDP) File Mover Manager continually checks for the arrival of converted switch data files in subdirectories of the MDP dump directory `/opt/MagellanMDP/data/mdp/dump` and MDPMPE dump directory `/opt/MagellanMDP/data/mdp/mpe/dump`. If converted switch data files are found, the MDP transfers the files to designated customer hosts.

Also transferred to customer hosts from the MDP are XML data files and data files from the following MDP applications: Statistics Retrieval System (SRS), outage calculation, availability calculation, and file processing audits.

The File Mover Manager controls multiple File Mover processes. Each MDP file type (a combination of switch type and datatype) has a dedicated File Mover process. This dedicated File Mover can transfer multiple instances of a specific file type and can use a maximum of three concurrent FTP sessions to transfer files to a maximum of three customer hosts.

For more information about customer hosts, see “Customer host” (page 37).

Supporting MDP

The following topics are discussed in this section

- “Hosts” (page 35)

- “MDP workstations” (page 38)
- “Configuring MDP” (page 38)
- “Controlling MDP processes” (page 38)
- “MDP logs” (page 39)
- “MDP directory structure” (page 39)

Hosts

The following hosts are discussed in this section:

- “Primary MDP” (page 35)
- “Backup MDP” (page 36)
- “Customer host” (page 37)

For information about MDP and customer host security access requirements, see 241-6001-100 *Preside MDM Installation*.

For information about network bandwidth requirements, see 241-6001-102 *Preside MDM Planning Guide*.

Primary MDP

The primary Management Data Provider (MDP)

- receives spooled data from designated switches
- converts spooled data to bulk data format (BDF) or published format (PF)

Note: Published format data conversion applies to Passport, and DPN-100 accounting data only. BDF data conversion for MPE applies to Layer 2 Frame Relay accounting and statistics only.

- transfers converted spooled data to designated customer hosts
- can also be a backup MDP

- is responsible for the generation of switch outage and availability statistics. (Applies to Passport and DPN-100 only.)

For Passport, and DPN-100 support, the raw switch data for outage calculation (alarm and state change notification) can be collected by either the primary or backup MDP, but the outage and availability calculations are performed on the primary MDP.

Backup MDP

A backup Management Data Provider (MDP) performs the role of the primary MDP if the primary MDP is unreachable. (Applies to Passport, and DPN-100 only.) The backup MDP

- must be configured as a clone of the primary MDP.

The MDP administrator user ID must be identical on both the primary and backup MDPs.

The customer host user IDs and passwords configured on the backup MDP must be identical to the customer host user IDs and passwords configured on the primary MDP.

- requires that the switch data collection system be configured to redirect data to the backup MDP host if the primary MDP host is unavailable
 - for Passport nodes, this requires that the MDP File Prober be configured to use the backup MDP; see “Selecting the backup MDP” (page 140)
 - for DPN-100s, this requires that the switches, themselves, be configured to use the backup MDP

Note: Nortel Networks recommends using a backup MDP host.

Customer host

A customer host

- can be a UNIX server, an IBM mainframe, or a VAX mainframe

IBM customer hosts usually use EBCDIC data encoding and VAX customer hosts usually use ASCII data encoding. This distinction is important when configuring the MDP to convert raw data to published format data.

IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian. This distinction is important when configuring the MDP to convert raw data to published format data.

Note: If the MDP is configured to transfer accounting data to IBM customer hosts in bulk data format (BDF), use short BDF filenames. For information about configuring the MDP to use short BDF filenames, see “Using short BDF file names” (page 89).

- processes data received from a Management Data Provider (MDP) host. For information about configuring the MDP to transfer data to customer hosts, see “Transferring files to customer hosts” (page 90).
- a maximum of three customer hosts per datatype is allowed
- configured as a billing host, uses switch accounting data to generate accounting reports for network resource usage analysis, financial planning, budgeting, and billing purposes
- configured as a network performance host, uses switch performance metrics for network engineering and planning analysis
- receives file processing audit reports (if this MDP feature is configured). For information about configuring the MDP to generate file processing audit reports, see “Configuring MDP file processing audits” (page 101).
- receives Statistics Retrieval System (SRS) data in bulk data format (if this feature is configured). For information about configuring the SRS, see “Configuring SRS” (page 143).
- receives outage calculation data in bulk data format (if this feature is configured).

MDP workstations

The Management Data Provider (MDP) software is installed on workstations from Sun Microsystems and uses Solaris, Sun's UNIX operating system. For more information about MDP workstations, see 241-6001-102 *Preside MDM Planning Guide*.

Installation tools are provided by Nortel Networks to simplify the installation and upgrading of the MDP software. For more information about the software required for MDP, see 241-6001-102 *Preside MDM Planning Guide*.

Configuring MDP

Initial configuration of the Management Data Provider (MDP) for Passport, and MPE data collection is performed by the Preside Multiservice Data Manager (MDM) QuickStart wizard. For details about this initial configuration, see section "Configuration" (page 81) and 241-6001-100 *Preside MDM Installation*.

The MDP is customized using the MDP Configuration tool. This tool is a graphical user interface (GUI) that is launched from the UNIX command line (`gmdpconfig`) or using the **MDM** menu item Accounting. For more information, see "Configuration" (page 81).

The MDP can also be customized by performing manual updates to MDP configuration files. The applicable configuration files are identified in section "Customizing an MDP configuration" (page 82).

The MDM Server Administration tool (SVM) is used to start MDP processes after MDP configuration. The MDP Configuration tool can restart MDP processes that have been previously started by SVM.

Controlling MDP processes

Management Data Provider (MDP) processes are controlled using the Preside Multiservice Data Manager (MDM) Server Administration tool (SVM). SVM starts, stops, and monitors MDP processes.

When the MDP software is installed, the MDM software required to use SVM is also installed. For information about starting SVM and registering MDP processes with SVM, see 241-6001-303 *Preside MDM Administrator Guide*.

When upgrading the MDP software, MDP processes registered with SVM are automatically restarted after software installation.

When reconfiguring the MDP software features using the MDP Configuration tool, SVM-registered MDP processes are automatically restarted.

MDP logs

All Management Data Provider (MDP) processes generate log messages. These messages are written to log files associated with the MDP process.

MDP log files contain information such as:

- processing start time
- processing end time
- errors encountered
- warnings
- identification of files read
- number of records read
- identification of files created
- identification of files deleted

MDP logs can be selected and viewed using the MDP Log Viewer. This application generates log reports in a tabular format.

For more information about using MDP logs, see “MDP logs” (page 205).

MDP directory structure

The table “MDP directories” (page 40) describes the contents of each Management Data Provider (MDP) directory. The directory names cannot be changed.

Table 2
MDP directories

Directory	Contents of directory
/opt/MagellanMDP/data/mdp/spool	<ul style="list-style-type: none"> Passport accounting and performance raw data files transferred by the File Prober DPN-100 accounting and performance raw data files collected by the File Collector
/opt/MagellanMDP/data/mdp/mpe/spool	MPE accounting and performance raw data files collected by a MPE switch.
/opt/MagellanMDP/data/mdp/spool/received	The names of DPN files successfully received by the MDP host (the file size is zero).
/opt/MagellanMDP/data/mdp/admin	Log files generated by MDP processes.
/opt/MagellanMDP/data/mdp/admin/ mdpmpecol	Contain mdpmpecol log files.
/opt/MagellanMDP/data/mdp/admin/archive	Archived MDP logs.
/opt/MagellanMDP/data/mdp/admin/mdprober	File Prober logs.
/opt/MagellanMDP/data/mdp/admin/tmp	Temporary log files generated by a File Manager.
/opt/MagellanMDP/data/mdp/dump/accounting	bulk data format (BDF) and published format (PF) accounting files.
/opt/MagellanMDP/data/mdp/dump/statistics	BDF statistics files.
/opt/MagellanMDP/data/mdp/dump/alarm	BDF alarm files.
/opt/MagellanMDP/data/mdp/dump/log	BDF log files.
/opt/MagellanMDP/data/mdp/dump/scn	BDF state change notification files.
/opt/MagellanMDP/data/mdp/dump/outage	BDF outage files.
/opt/MagellanMDP/data/mdp/dump/avail	BDF availability report files.
/opt/MagellanMDP/data/mdp/dump/srs	BDF polled statistics files.
/opt/MagellanMDP/data/mdp/mpe/dump/*	Subdirectories accounting, statistics, alarm, csal and trace contain processed data for their respective stream type.
/opt/MagellanMDP/data/mdp/backup/...	Copies of raw data files, if the backup option was specified.
(Sheet 1 of 3)	

Table 2 (Continued)
MDP directories

Directory	Contents of directory
/opt/MagellanMDP/data/mdp/mpe/backup/*	Subdirectories accounting, statistics, alarm, csal and trace contain backup copies of the raw XML data collected from the switch.
/opt/MagellanMDP/data/mdp/db/...	Binary database for DPN-100.
/opt/MagellanMDP/data/mdp/avail	Availability calculator accumulated statistics.
/opt/MagellanMDP/data/mdp/oc/dpn/	DPN outage calculation directories. DPN-100 alarm files (BDF) on the primary MDP host are stored in directories oc/dpn/primary and oc/dpn/secondary (which is actually a mount point for oc/dpn/primary on the backup MDP host). oc/dpn/process is used as a working directory. DPN outage files, for use by MDP applications, are stored in oc/dpn/outage. Unmatched DPN alarm files are stored in oc/dpn/unmatched.
/opt/MagellanMDP/data/mdp/oc/pp/	Passport outage calculation directories. Passport alarm and scn files (BDF) on the primary MDP host are stored in oc/pp/primary and oc/pp/secondary (which is actually a mount point for oc/pp/primary on the backup MDP host). oc/pp/process is used as a working directory. Passport outage files for use by MDP applications are stored in oc/pp/outage. Unmatched Passport alarm and scn files are stored in oc/pp/unmatched.
/opt/MagellanMDP/data/mdp/oc/model/	Network Topology description files.
/opt/MagellanMDP/data/mdp/archive	Archived Passport and DPN-100 BDF records.
/opt/MagellanMDP/lib/mdp/rdf/pp/<datatype>	Default Passport RDF files, supplied by Nortel Networks. <datatype> is one of: account, stats, alarm, scn, or log. DO NOT EDIT.
/opt/MagellanMDP/lib/mdp/rdf/mpe/<datatype>	Default MPE RDF files, supplied by Nortel Networks. <datatype> is one of: accounting, statistics. DO NOT EDIT.
(Sheet 2 of 3)	

Table 2 (Continued)
MDP directories

Directory	Contents of directory
/opt/MagellanMDP/lib/mdp/rdf/<dpn>/<datatype>	Default DPN RDF files, supplied by Nortel Networks. <datatype> is one of: account, stats, alarm, or log. DO NOT EDIT.
/opt/MagellanMDP/lib/mdp/schema/<ppldpn>/<data_type>	Default schema files, supplied by Nortel Networks, for Passport, DPN switches. data_type is one of: account, stats, alarm, scn, or log.
/opt/MagellanMDP/bin	MDP software executables and scripts.
/opt/MagellanMDP/3rdparty	2nd or 3rd party software libraries.
/opt/MagellanMDP/lib	MDP software libraries.
/opt/MagellanMDP/system	MDP software configuration, initialization, and installation specific files.
/opt/MagellanMDP/cfg/mdp	MDP customer configuration files.
/opt/MagellanMDP/cfg/mdp/pp/<DMId>	Passport data model files. <DMId> is the data model identifier.
/opt/MagellanMDP/cfg/mdp/pp/rdf/<datatype>	Custom Passport RDFs. <datatype> is one of: account, stats, alarm, log, or scn.
/opt/MagellanMDP/cfg/mdp/rdf/mpe/<datatype>	Custom MPE RDFs. <datatype> is one of: accounting, statistics.
/opt/MagellanMDP/cfg/mdp/rdf/<dpn>/<datatype>	Custom DPN. <datatype> is one of: account, stats, alarm, or log.
/opt/MagellanMDP/cfg/mdp/rcf/pp/srs	Record content files (RCF) for Passport switches. RCFs are required by SRS.
(Sheet 3 of 3)	

Passport support

The Management Data Provider (MDP) provides applications to automatically collect, convert, archive, and transfer Passport data.

The following topics are discussed in this section:

- “Passport data flow” (page 43)
- “Datatypes” (page 46)
- “Data models” (page 47)
- “Data collection - Passport” (page 49)
- “Data collection - MDP” (page 52)
- “Data file names” (page 53)
- “Value-added applications” (page 61)

Passport data flow

The basic flow of Passport data through the Management Data Provider (MDP) is as follows:

- 1 The node performance metrics are collected in spool files on the switch in FMIP format. FMIP is a Nortel Networks proprietary interface protocol on Passport nodes. This binary data is referred to as raw switch data in the context of the MDP.

For a description of the Passport Data Collection System (DCS), see “Data collection - Passport” (page 49).

For a description of the types of spooled data collected from Passport, see “Datatypes” (page 46).

- 2 The MDP File Prober periodically logs into each node and initiates a file transfer protocol (FTP) connection from each node to the MDP. An FTP transfer is initiated for each Passport datatype.

The File Prober can be configured to close open spool files on the Passport before transferring them to the MDP.

The File Prober interrogates each Passport to determine the data model.

- If the data model exists on the MDP, the File Prober affixes a data model identifier (DMid) to the node raw data file name during the data transfer.
- If the data model does not exist on the MDP, the Data Model Manager downloads the data model to the MDP. The Data Model Manager also checks the available MDP disk space to ensure adequate disk space is available for data collection.

New performance metrics introduced with the Passport data model are available for BDF records. The MDP administrator can easily customize the BDF record to include the new performance metrics.

The File Prober completes the transfer of the performance metrics, using the new data model identifier (DMid) in the raw data file name.

The MDP Disk Manager continually monitors MDP data disk space. A minimum disk space threshold is set and if this threshold is exceeded the MDP halts data conversion.

For a complete description of Passport data collection by the MDP, see “Data collection - MDP” (page 52).

- 3 The raw data file is transferred to the MDP spool directory /opt/MagellanMDP/data/mdp/spool.

The raw data file name is described in “Raw data” (page 53).

- 4 The MDP Passport File Manager detects the raw data file in the spool directory.

If the MDP is configured to convert Passport accounting data to published format (PF) and the Passport File Manager detects accounting files in the spool directory, the Passport PF Converter is launched. Converting accounting files to PF is described in section “Converting switch data to published format” (page 30).

If the MDP is configured to convert Passport accounting data to bulk data format (BDF), the MDP BDF Converter is launched.

For all other Passport datatypes, the BDF converter can be configured to launch. For more information, see “Datatypes” (page 46).

The PF data file name is described in “PF with the backward compatibility option enabled” (page 56) and “PF with the backward compatibility option disabled” (page 57).

If the BDF Converter is launched, the data model identifier in the raw data file name determines the appropriate schema to use during data conversion. Configure the record layout of the BDF file using the procedures “Retaining backwards compatibility for BDF records” (page 128) and “Customizing BDF records” (page 128). The alternative to configuring the BDF output files is to use the default record layout provided with the MDP software. Converting raw data to BDF is described in section “Converting switch data to bulk data format” (page 25)

The converted data is written to the appropriate sub-directories of the MDP dump directory `/opt/MagellanMDP/data/mdp/dump`.

If the MDP is configured to archive BDF data, the individual BDF records are archived in the appropriate sub-directories of the MDP archive directory `/opt/MagellanMDP/data/mdp/archive`.

The BDF data file name is described in “BDF data” (page 54) and “Short BDF file names” (page 55).

- 5 The Passport File Manager copies the raw data file from the spool directory to the backup directory /opt/MagellanMDP/data/mdp/backup.
- 6 The MDP File Mover Manager detects the converted data file in the dump directory and transfers the data file to a customer host.

The File Mover Manager can also send the converted data file to a local directory on the MDP host. This feature can be used to create backups of PF files.

- 7 If outage calculation is configured, successfully converted alarm and SCN BDF files are placed in the directory /opt/MagellanMDP/data/mdp/oc/pp/primary for post processing by the Outage Calculator. Outage calculation is described in section “Outage calculation overview” (page 238).

Datatypes

The following Passport datatypes are processed by the Management Data Provider (MDP):

- accounting (account, acc)
including (but not limited to) records for ATM, frame relay, FR-ATM, peak water mark (PWM), Time Change, Voice Networking, and IP-VPN.

By default, accounting data collection is turned on at the switch.

Passport accounting data (bulk data format (BDF) and published format (PF)) is described in detail in 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

- statistics (stats, sta)
or performance data, including (but not limited to) trunk, LP, VoiceRoute, CAS, PCU, and ATM port.

By default, statistics data collection is turned off at the switch.

Passport statistics data (bulk data format (BDF)) is described in detail in 241-6001-810 *Preside MDM MDP Data Formats Reference*.

- alarm (ala)
data is used for analysis of switch and network down-time and other service-affecting problems.

By default, alarm data collection is turned on at the switch.

Refer to the product documentation for descriptions of alarm data.
- log
data is used to monitor the operator command activity on a node.

By default, log data collection is turned on at the switch.

Refer to the product documentation for descriptions of log data.
- state change notifications (scn)
are used for analysis of switch and network down-time and other service-affecting problems.

By default, SCN data collection is turned on at the switch.

Passport SCN data (bulk data format (BDF)) is described in detail in 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

Data models

The Management Data Provider (MDP) stores a data model for each unique Passport data model available in the network. When a new data model is introduced into the network, a new MDP data model is automatically generated. Multiple data models can exist on the MDP. The data models are controlled by the Data Model Manager (mdpdm).

The Data Model Manager is started by, and registered with Preside Multiservice Data Manager (MDM) Server Administration tool when the MDM QuickStart configuration tool is used to configure a new MDP host.

As discussed in section “Converting switch data to bulk data format” (page 25), you, the customer, determine the content of bulk data format (BDF) files. When a new data model is created on the MDP, any new performance metrics for the spooled datatypes collected by the MDP are identified to you. The MDP administrator has the option of using the MDP

Configuration tool to add the new performance metrics to the converted data files. By default, if you do not customize the BDF record, the default data model supplied with the MDP software is used to determine the BDF record layout. To customize BDF records, see “Customizing BDF records” (page 128).

Using the tool **rdfreport**, new Passport data models can be obtained without waiting for the data models to be detected by the MDP. You can also use this tool to obtain data models from Passport nodes not currently integrated into the network. For more information about **rdfreport**, see “Identifying new node performance metrics” (page 198).

New schemas and RDFs are delivered with each MDP software release. These new data models reflect the latest Passport performance metrics. The default RDFs are located in the sub-directories of directory `/opt/MagellanMDP/lib/mdp/rdf/pp/<datatype>`. No reconfiguration is required to use the default data model for BDF conversion.

Note: Do not modify the default RDFs.

The MDP is configured to maintain backwards compatibility with the default data model. Backwards compatibility ensures that: the fields included in previous BDF records are always included in new BDF records and the fields in previous BDF records are always in the same order. New fields are appended to existing BDF records. This functionality exists for the customer whose down-stream applications require consistent field order. To see how this option is configured, see “Retaining backwards compatibility for BDF records” (page 128). Backwards compatibility can be disabled.

The Data Model Manager uses an information file `/opt/MagellanMDP/cfg/mdp/pp/<DMId>/<DMId>.info` to record information about each generated data model. This information includes: the Passport node from which the data model was obtained, the date the data model was generated on the MDP, and any warnings or errors generated.

Note: If Passport node software is rolled-back after the MDP has begun collecting data using a previous data model, the BDF Converter may generate warning messages indicating that some components or attributes are not recognized and cannot be converted.

Data collection - Passport

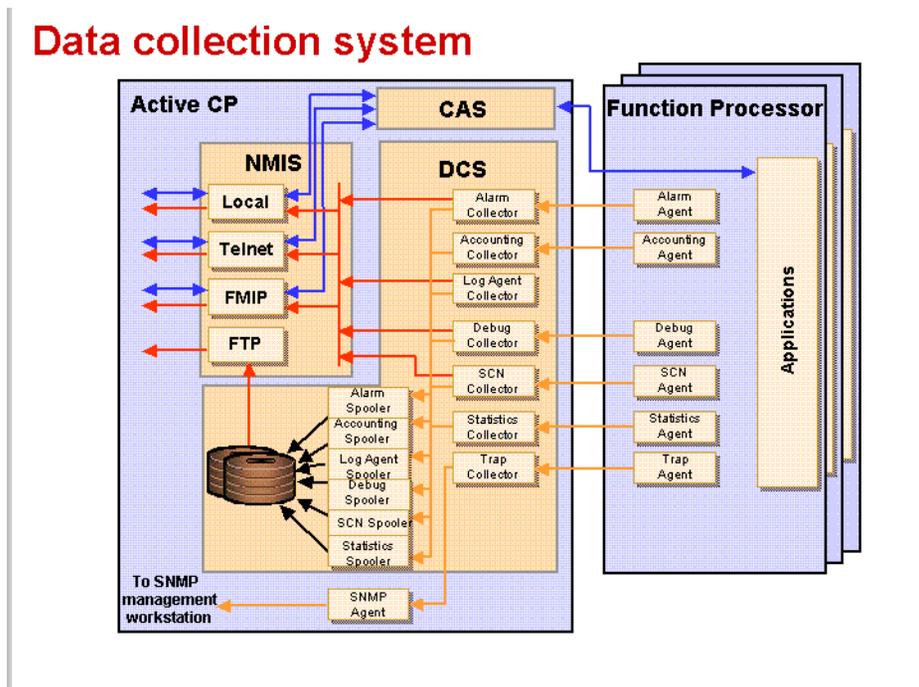
The Data Collection System (DCS) consists of agents, collectors, and spoolers. Agents reside on each processor card to gather data records from the active services. On each processor card there is one agent for each datatype. The datatype agent sends its records to a collector that resides on the active control processor (CP).

The collectors send the data records to the spoolers. The spoolers (one per datatype) format the data and save it on the local file system.

Each collector, agent, and spooler has a queue to hold data records until the data can be processed. If a queue reaches maximum capacity, the DCS begins to discard data.

The figure “Data collection system” (page 50) shows the Passport Data Collection System.

Figure 1
Data collection system



Spooled data files

Data spooling can be turned on or off by setting the spooling attribute of the datatype Spooler component. The spooling of real-time statistics (rtstats) and trap data cannot be turned off. Spooled data files are located in the following file system directories:

```
/spooled/opened/<datatype>
/spooled/closed/<datatype>
```

where:

<datatype> is one of account, stats, alarm, log, or scn. For a description of the datatypes collected by the MDP, see “Datatypes” (page 46).

The spool files on the node have the following naming format:

`<pp|ppc>_<datatype>.<date>.<seq>.<nodeID>`

For a description of the file name parameters, see “Raw data” (page 53).

When a spool file in the directory `opened/<datatype>` reaches maximum capacity, the node closes the file and moves it to the directory `closed/<datatype>`. A new file is opened in the directory `opened/<datatype>`.

Spool files are also closed

- each day at 0000 hours.
- when the node spooler receives a `newFile` command. The MDP File Prober can generate this command.
- when the active control processor (CP) is reset, restarted, or rebooted
- when the node file system is disrupted

The Passport DCS is described in these documents 241-5701-611 *Passport 7400, 15000, 20000 Data Collection Guide* and 241-5701-650 *Passport 7400, 15000, 20000 Accounting Fundamentals*.

Data collection - MDP

Passport spooled data is collected by the Management Data Provider (MDP) using the File Prober. The File Prober establishes a proxy file transfer protocol (FTP) connection from a node to an MDP and transfers closed spool data files. An FTP session is initiated for each datatype.

The File Probers are automatically launched at scheduled intervals.

The File Probers are controlled by the File Prober Manager. The File Prober Manager provides

- ease of configuration using the MDP Configuration tool
- improved error recovery
- confirmation of node and MDP host connectivity before attempting data collection
- security protection using encrypted passwords

Before the File Prober begins the transfer of spooled data from a node to an MDP, the File Prober interrogates the node to determine the data model. The File Prober then sends the data model information to the MDP Data Model Manager.

- If the data model exists on the MDP, the File Prober affixes a data model identifier (DMid) to the node raw data file name during the data transfer.
- If the data model does not exist on the MDP, the Data Model Manager downloads the data model to the MDP.

The File Prober completes the transfer of the spooled data, using the new data model identifier (DMid) in the raw data file name.

New metrics introduced with the Passport data model are available for BDF records. The MDP administrator can easily customize the BDF record to include them.

Passport data models are described in section “Data models” (page 47).

The File Prober Manager obtains node network information from Preside Multiservice Data Manager Host Group Directory Server (HGDS). For more information about the HGDS, see 241-6001-310 *Preside MDM Server Reference Guide*.

Data file names

This section describes the formats of the Passport data file names on the Management Data Provider (MDP).

- “Raw data” (page 53)
- “BDF data” (page 54)
- “Short BDF file names” (page 55)
- “Archived BDF data” (page 56)
- “PF with the backward compatibility option enabled” (page 56)
- “PF with the backward compatibility option disabled” (page 57)
- “Passport SRS file names” (page 58)

Raw data

The raw data files on the MDP have the following naming format:

```
pp_<DMid>_<datatype>.<date>.<seq>.<nodeID>
.<status>
```

where:

pp is a type of node. On Passport 6400 the spool file prefix is pp and on Passport 7000/15000/20000 the spool file prefix is ppc.

<DMid> is the Data Model Identifier obtained from the MDP Data Model Manager.

<datatype> is account for account, stats, alarm, log, and scn.

<date> is one of <MMDDhhmm> or <YYYYMMDDThhmmss>.

<MMDDhhmm> is the date and time the file was opened on the Passport 6400 node (where MM=month, DD=day, hh=hour, and mm=minutes) or

<YYYYMMDDThhmmss> is the date and time the file was opened on the Passport 7000/15000/20000 node (where YYYY=year, MM=month, DD=day, T=date/time delimiter, hh=hour, mm=minutes, and ss=seconds)

<seq> is the file sequence number assigned by the node.

<nodeID|nodename> the nodeID is an integer between 1 and 65536 and is as provisioned on the switch. The nodename is an uppercase character string of 1 to 12 characters in length and is as defined in the Host Group Directory Server (HGDS).

Note: Do not use any special characters in either the node ID or the node name when the Passport is provisioned. Use of special characters will cause failure of MDP processes.

Note: MDP value-added processes, such as the Outage and Availability Calculators, are unable to correlate Passport node IDs with node names. Ensure that the MDP does not generate raw data file names with node IDs and raw data filenames with node names. If the MDP is generating raw data file names with one format (e.g. nodeIDs) and you need to generate raw data file names from the same node using the alternate file name format (e.g. nodenames), complete all value-added processing before retrieving the raw data files with the new file name format.

<status> is a two-letter code indicating the file transfer status. The letters co indicate a file that is currently open and being transferred. The letters cc indicate a file that is closed and has been successfully transferred.

Example:

```
pp_BE0123A_account.11072345.003.2121.co  
(open Passport 6000 accounting file with a DMid)
```

```
pp_CB03S2C_stats.19990926T141438.044.2001.cc  
(closed Passport 7000/15000/20000 statistics file)
```

BDF data

Bulk data format (BDF) files have the following naming format:

```
pp_<DMid>_<datatype>_<date>_<nodeID|nodename>_<seq>  
.<ext>
```

where:

<DMid> is the Data Model Identifier obtained from the raw data file name. This qualifier is optional.

<datatype> is acc for acc, sta, ala, log, and scn.

<date> is one of <MMDDhhmm> or <YYYYMMDDThhmmss>.

<MMDDhhmm> is the date and time the file was opened on the Passport 6400 node (where MM=month, DD=day, hh=hour, and mm=minutes) or

<YYYYMMDDThhmmss> is the date and time the file was opened on the Passport 7000/15000/20000 node (where YYYY=year, MM=month, DD=day, T=date/time delimiter, hh=hour, mm=minutes, and ss=seconds)

<nodeIDnodename> the nodeID is an integer between 1 and 65536. The nodename is an uppercase character string of 1 to 12 characters in length.

<seq> is the file sequence number assigned by the node.

<ext> is bdf if the raw data was successfully converted to BDF.

This extension is err if the raw data could not be successfully converted.

Note: If the file name includes the .err extension, this file contains raw records that could not be converted.

Example:

```
pp_BE0123A_acc_11072345_2121_003.bdf
(converted Passport 6000 accounting BDF records)
```

```
pp_GA0123A_sta_19990926T141438_2001_044.err
(errorred Passport 7000/15000/20000 statistics raw
records)
```

Short BDF file names

A file name limitation exists for transferring BDF files to an IBM customer host; a maximum of 16 characters can be used. If the standard BDF file name format is used, the transfer of files to IBM customer hosts will fail. To use the short BDF file name format, see “Using short BDF file names” (page 89).

Note: The File Mover process truncates the nodeID or nodename to the first 4 characters. The MDP does not check for unique naming. If short file names are used, it is your responsibility to ensure that the first 4 characters of the nodeID are unique.

The short file naming convention for BDF files is

```
<p><t><mmddhh.MM><seq#><nodeID|nodename>
```

where:

<p> is p for Passport 6400 and r for Passport 7000/15000/20000.

<t> is datatype. a for accounting, s for statistics, l for logs, m for alarms, and n for state change notifications.

<mmddhh.MM> is the date the file was opened on the node (where mm=month, dd=day, hh=hour, and MM=minutes).

<seq> is the 2nd and 3rd digits of the node assigned file sequence number.

<nodeID|nodename> is the first 4 characters of the nodeID or nodename.

Archived BDF data

BDF archive files use the same file name format as BDF files except that the date of the records is appended to the end of the filename, before the extension.

```
pp_<datatype>_<date>_<nodeID|nodename>_<seq>_<split-  
by-date>.bdf
```

where:

<split-by-date> is the date on the data records, not the date of the raw data file.

PF with the backward compatibility option enabled

The published format (PF) backward compatibility option is described in section “Converting switch data to published format” (page 30).

If the PF backward compatibility option is enabled, PF file names have the following format:

```
Pp_TFACT<?>.mmddHHO (open file)  
Pp_TFACT<?>.mmddHH (closed file)
```

the daily file

```
TPACT<?>.mmdd
```

Note: The daily published format file contains both Passport and DPN accounting records if both DPN and Passport nodes exist in the network and if both DPN and Passport PF converters are configured with the backward compatibility option enabled.

where:

mm indicates the month the file was received

dd indicates the day the file was received

? is a variable indicating one of

- N a non-duplicate file—the accounting record is unique. This typically occurs for single-ended accounting.
- D a duplicate file—a matching accounting record exists from both ends of the call. This typically occurs for double-ended accounting.
- F a file containing corrupted raw accounting records. These files contain records that cannot be processed further.

PF with the backward compatibility option disabled

The published format (PF) backward compatibility option is described in section “Converting switch data to published format” (page 30).

If the PF backward compatibility option is disabled, PF file names have the following format:

```
pp_<datatype>_<date>_<nodeID>_<seq>_<?>.<ext>
```

where:

<datatype> is acc for accounting.

<date> is one of <MMDDhhmm> or <YYYYMMDDThhmmss>.

<MMDDhhmm> is the date and time the file was opened on the Passport 6400 node (where MM=month, DD=day, hh=hour, and mm=minutes) or

<YYYYMMDDThhmmss> is the date and time the file was opened on the Passport 7000/15000/20000 node (where YYYY=year, MM=month, DD=day, T=date/time delimiter, hh=hour, mm=minutes, and ss=seconds)

<nodeID/nodename> the Passport nodeID is an integer between 1 and 65536. The nodename is an uppercase character string of 1 to 12 characters in length.

<seq> is the file sequence number assigned by the node.

? is a variable indicating one of

- N a non-duplicate file—the accounting record is unique. This typically occurs for single-ended accounting.
- D a duplicate file—a matching accounting record exists from both ends of the call. This typically occurs for double-ended accounting.
- F a file containing corrupted raw accounting records. These files contain records that cannot be processed further.

<ext> is pf if the raw data was successfully converted to PF. This extension is pf_err if the raw data could not be successfully converted.

Passport SRS file names

Passport SRS data is written directly to directory /opt/MagellanMDP/data/mdp/dump/srs and the file name convention is

```
pp_srs_<YYYYMMDDThhmmss>_<nodename>
```

where:

<YYYYMMDDThhmmss> is the date and time the file was opened on the MDP (where YYYY=year, MM=month, DD=day, T=date/time delimiter, hh=hour, mm=minutes, and ss=seconds)

<nodename> is the nodename.

.bdf is appended to the file name when a file is closed.

Example:

```
pp_srs_19990926T141438_TOR32A  
(open Passport SRS file)
```

pp_srs_19990926T141438_TOR32A.bdf
(closed Passport SRS file)

Statistics Retrieval System

The Statistics Retrieval System (SRS) polls Passport nodes for non-spooled real-time statistical information. SRS formats the polled data values as bulk data format (BDF) and transfers the closed files to a performance or billing host for down-stream processing.

Valid statistics are limited to the operational attributes of a node component. Two types of statistics can be reported, raw attributes and delta values. Raw attributes are retrieved from the node and written to the BDF file. Delta values indicate the difference between the value of a raw attribute from the previous poll and the value of the raw attribute from the current poll.

A BDF file is created in the directory `/opt/MagellanMDP/data/mdp/dump/srs` for each node. The BDF file is closed when the BDF file reaches a configurable maximum BDF record threshold or when a configurable time limitation is attained. The closed SRS BDF file can then be transferred to a customer host for downstream processing. For information about the naming convention of SRS data files, see “Passport SRS file names” (page 58).

You select the node components and attributes to poll using the MDP Configuration tool.

SRS can be used with Passport Enterprise software release 5.0, or higher, or any software release for Passport Carrier/Wireless.

To use the SRS, see

- “Configuring SRS” (page 143)
- “Selecting node components and attributes” (page 150)

Value-added applications

In addition to the standard features provided by the Management Data Provider (MDP), Passport customers can obtain licenses to use the following applications:

- **Passport Outage Calculator**
uses alarm and state change notification (SCN) data collected from nodes. The Passport Outage Calculator determines which components have experienced service interruptions, calculates the outages and generates a bulk data format (BDF) file with the resulting calculations.

A license, separate from the MDP license, is required to use the Passport Outage Calculator.

The Passport Outage Calculator is described in section “Passport outage calculation” (page 241).

- **Availability Calculator**
calculates network availability statistics for switch components. Outage records generated by the Passport Outage Calculator and the DPN Outage Calculator can be used as input.

A license, separate from the MDP license, is required to use the Passport Availability Calculator.

The Availability Calculator is described in section “Availability calculation” (page 259).

- **Availability Report Generator**
converts a BDF Availability Report file into formatted ASCII text output. This process is used to report availability statistics for customers that do not use a performance analysis application down-stream from the MDP.

The Availability Report Generator is described in section “Availability report generation” (page 270).

DPN-100 support

The Management Data Provider (MDP) provides applications to automatically convert, archive, and transfer DPN-100 data.

The following topics are discussed in this section:

- “DPN-100 data flow” (page 62)
- “Datatypes” (page 64)
- “Data collection” (page 65)
- “DPN-100 data file names” (page 65)
- “Value-added applications” (page 70)

DPN-100 data flow

The basic flow of DPN-100 data through the Management Data Provider (MDP) is as follows:

- 1 The DPN performance metrics are collected on-switch and written to either a local disk or to a remote disk, if remote spooling is configured. This data is referred to as raw switch data in the context of the MDP.
- 2 The DPN data files are automatically transferred to the MDP over an X.25 network connection according to the accounting mode (TODA, 12-hour, or frame relay).

The MDP Disk Manager continually monitors MDP data disk space. A minimum disk space threshold is set and if this threshold is exceeded the MDP halts data collection and data conversion.

- 3 The raw data file is transferred to the MDP spool directory `/opt/MagellanMDP/data/mdp/spool`.
The raw data file name is described in “Raw data” (page 66).
- 4 The MDP DPN File Manager detects the raw data file in the spool directory.

If the MDP is configured to convert DPN-100 accounting data to published format (PF) and the DPN File Manager detects DPN accounting files in the spool directory, the DPN PF Converter is launched. For more information about converting DPN-100 accounting files to PF, see “Converting switch data to published format” (page 30).

The PF file names are described in “PF with the backward compatibility option enabled” (page 68) and “PF with the backward compatibility option disabled” (page 69).

If the MDP is configured to convert DPN-100 accounting data to bulk data format (BDF), the BDF Converter is launched.

For all other DPN datatypes, the BDF converter can be configured to launch. For more information about DPN datatypes, see “Datatypes” (page 64).

If the BDF Converter is launched, it obtains the appropriate schema and record description file (RDF) for the current raw data file and converts the data. For more information about converting raw data to BDF, see “Converting switch data to bulk data format” (page 25).

The BDF file names are described in “BDF data” (page 66) and “Short BDF file names” (page 67).

The converted data is written to the appropriate sub-directories of the MDP dump directory `/opt/MagellanMDP/data/mdp/dump`.

If the MDP is configured to archive BDF data, the individual BDF records are archived in the appropriate sub-directories of the MDP archive directory `/opt/MagellanMDP/data/mdp/archive`.

The BDF archive file name is described in “Archived BDF data” (page 68).

- 5 The DPN File Manager copies the raw data file from the spool directory to the MDP backup directory `/opt/MagellanMDP/data/mdp/backup`.

- 6 The MDP File Mover Manager detects the converted data file in the dump directory and transfers the data file to a customer host.

The File Mover Manager can also send the converted data file to a local directory on the MDP host. This feature can be used to create backups of PF files.

- 7 If outage calculation is configured, successfully converted alarm BDF files are placed in the directory `/opt/MagellanMDP/data/mdp/oc/pp/` primary for post processing by the Outage Calculator. Outage calculation is described in section “Outage calculation overview” (page 238).

Datatypes

The following DPN-100 datatypes are processed by the Management Data Provider (MDP):

- accounting (account, acc)
including (but not limited to) records for frame relay and peak water mark (PWM), NUI option, inter-network option

DPN accounting data (bulk data format (BDF) and published format (PF)) is described in detail in 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

- statistics (stats, sta)
or performance data, including (but not limited to) RM servers, AM/RM servers, API service, asynchronous service

DPN statistics data (bulk data format (BDF)) is described in detail in 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

- alarm (ala)
data is used for analysis of switch and network down-time and other service-affecting problems.

Refer to the DPN-100 documentation for descriptions of DPN alarm data.

- log
data is used to monitor the operator command activity on a node.

Refer to the DPN-100 documentation for descriptions of DPN log data.

Data collection

The Management Data Provider (MDP) File Collector process (mdpcol) collects DPN-100 accounting and performance data; it runs on the MDP host as a UNIX daemon waiting for an X.25 call with specific call user data (CUD) or a protocol ID to arrive. When the call request is received, the File Collector process transfers the DPN-100 files to the MDP spool directory `/opt/MagellanMDP/data/mdp/spool`. Successfully transferred files are automatically removed from the DPN-100 switch.

The File Collector is the front-end process to the DPN-100 network and provides the X.25 interface to the network for data transfer to the MDP host. DPN-100 switches place calls with a specific protocol ID (configurable, but unique) to the MDP File Collector process. The SunNet X.25 software listens for incoming X.25 calls based on a specific priority criteria.

Users who decide to control the transfer of files from a DPN-100 switch using the password option need to create the password file `/opt/MagellanMDP/cfg/mdp/MDPCol.passwd` on the MDP host; valid passwords must be on separate lines within the file.

DPN-100 records specify the year as two-digits in the date field. This format requires that the MDP apply an algorithm in each of its data conversion processes to determine the appropriate century (19xx or 20xx). This algorithm is as follows:

```
year = YY
YY >= 50 (indicates 20th century)
YY < 50 (indicates 21st century)
```

DPN-100 data file names

This section describes the formats of the DPN-100 data file names on the Management Data Provider (MDP).

- “Raw data” (page 66)
- “BDF data” (page 66)
- “Short BDF file names” (page 67)
- “Archived BDF data” (page 68)
- “PF with the backward compatibility option enabled” (page 68)

- “PF with the backward compatibility option disabled” (page 69)

Raw data

OAM_<type>_<YYMMDDhhmmss><seq>.<namsID>

where:

<type> is ACC for accounting, STA for statistics, ALA for alarms, or LOG for command logs.

<YYMMDDhhmmss> is the date and time that the file was created on the switch (where YY=year, MM=month, DD=day, hh=hour, mm=minutes, and ss=seconds). See “Data collection” (page 65) for century determination information.

<seq> is a two-digit file sequence number assigned by the DPN-100 switch.

<namsID> is the namsID of the DPN-100 switch that collected the record. The namsID is appended to the filename to indicate that the file is closed.

Example:

```
OAM_ACC_94110115490519 (open accounting file)
OAM_ACC_94110115490519.2700 (closed accounting file)
```

BDF data

Bulk data format (BDF) files have the following naming format:

dpn_<datatype>_<date>_<namsID>_<seq>.<ext>

where:

<datatype> is acc for accounting, sta for statistics, ala for alarms, and log for logs.

<date> is the date and time the file was opened; uses the format <YYMMDDhhmmss> (where YY=year, MM=month, DD=day, hh=hour, mm=minutes, and ss=seconds). See “Data collection” (page 65) for century determination information.

<namsID> the namsID of the DPN-100 that generated this file.

<seq> is the file sequence number assigned by the DPN-100.

<ext> is bdf if the raw data was successfully converted to BDF. This extension is err if the raw data could not be successfully converted.

Note: If the file name includes the .err extension, this file contains raw records that could not be converted.

Example:

```
dpn_acc_941001154908_2750_33.bdf  
(converted accounting BDF records)
```

```
dpn_acc_941101154905_2700_19.err  
(errored statistics raw records)
```

Short BDF file names

A file name limitation exists for transferring BDF files to an IBM customer host; a maximum of 16 characters can be used. If the standard BDF file name format is used, the transfer of files to IBM customer hosts will fail. To use the short BDF file name format, see “Using short BDF file names” (page 89).

Note: The File Mover process truncates the namsID to the first 4 characters. These first 4 characters must be numeric. The MDP does not check for unique naming. If short file names are used, it is your responsibility to ensure that the first 4 characters of the namsID are unique.

The short file naming convention for BDF files is

```
d<t><mmddhh.MM><seq#><namsID>
```

where:

d is for DPN-100.

<t> is datatype. a for accounting, s for statistics, l for logs, and m for alarms.

<mmddhh.MM> is the date the file was opened on the DPN-100 (where mm=month, dd=day, hh=hour, and MM=minutes).

<seq#> is the 2 digits of the DPN-100 assigned file sequence number.

<namsID> is the first 4 digits of the DPN-100 namsID.

Archived BDF data

BDF archive files use the same file name format as BDF files except that the date of the records is appended to the end of the filename, before the extension.

```
dpn_<datatype>_<date>_<namsID>_<seq>_<split-by-  
date>.BDF
```

where:

<split-by-date> is the date on the data records, not the date of the raw data file.

PF with the backward compatibility option enabled

The published format (PF) backward compatibility option is described in section “Converting switch data to published format” (page 30).

If the PF backward compatibility option is enabled, PF file names have the following format:

```
Dpn_TPACT<?>.mmdDHMM (open file)  
Dpn_TPACT<?>.mmdDHH (closed file)
```

the daily file

```
TPACT<?>.mmd
```

Note: The daily published format file contains both Passport, and DPN accounting records where they exist in the same network, and both DPN and Passport PF converters are configured with the backward compatibility option enabled.

where:

mm indicates the month the file was received

dd indicates the day the file was received

? is a variable indicating one of

- N a non-duplicate file—the accounting record is unique. This typically occurs for single-ended accounting.
- D a duplicate file—a matching accounting record exists from both ends of the call. This typically occurs for double-ended accounting.

- E a file containing published format records from a DPN accounting file that can only be partially converted. View this file using PF File Viewer; see “Viewing Published Format files” (page 203).
- G a file containing corrupted raw accounting records. These files contain records that cannot be processed further.

PF with the backward compatibility option disabled

The published format (PF) backward compatibility option is described in section “Converting switch data to published format” (page 30).

If the PF backward compatibility option is disabled, PF file names have the following format:

```
dpn_<datatype>_<date>_<namsID>_<seq>_<?>.<ext>
```

where:

<datatype> is acc for accounting.

<date> is <YYMMDDhhmmss>. <YYMMDDhhmmss> is the date and time the file was opened on the DPN-100 (where YY=year, MM=month, DD=day, hh=hour, mm=minutes, and ss=seconds)

<namsID> the namsID of the DPN-100 that generated this file.

<seq> is the file sequence number assigned by the DPN-100.

? is a variable indicating one of

- N a non-duplicate file—the accounting record is unique. This typically occurs for single-ended accounting.
- D a duplicate file—a matching accounting record exists from both ends of the call. This typically occurs for double-ended accounting.
- E a file containing published format records from a DPN accounting file that can only be partially converted. View this file using PF File Viewer; see “Viewing Published Format files” (page 203).
- G a file containing corrupted raw accounting records. These files contain records that cannot be processed further.

<ext> is pf if the raw data was successfully converted to PF. This extension is pf_err if the raw data could not be successfully converted.

Value-added applications

In addition to the standard features provided by the Management Data Provider (MDP), DPN-100 customers can obtain licenses to use the following applications:

- **DPN Outage Calculator**
uses alarm data collected from DPNs and converted to bulk data format (BDF) by the MDP. The DPN outage calculator determines which components have experienced service interruptions, calculates the outages, and generates a bulk data format (BDF) file with the resulting calculations.

A license, separate from the MDP license, is required to use the DPN Outage Calculator.

For more information about the DPN Outage Calculator, see “Outage calculation overview” (page 238).

- **Availability Calculator**
calculates network availability statistics for switch components. Outage records generated by the DPN Outage Calculator and Passport Outage Calculator can be used as input.

A license, separate from the MDP license, is required to use the Availability Calculator.

For more information about the Availability Calculator, see “Availability calculation” (page 259).

- **Availability Report Generator**
converts a BDF Availability Report file into formatted ASCII text output. This process is used to report availability statistics for customers that do not use a performance analysis application down-stream from the MDP.

For more information about the Availability Report Generator, see “Availability report generation” (page 270).

MPE support

The Management Data Provider (MDP) provides applications to automatically collect, convert, archive, and transfer Nortel Networks Multiservice Provider Edge (MPE) data.

The following topics are discussed in this section:

- “MPE data flow” (page 71)
- “Datatypes” (page 72)
- “Data collection - MPE” (page 73)
- “Data collection - MDP” (page 76)
- “MPE data file names” (page 77)

MPE data flow

The basic flow of MPE data through the Management Data Provider (MDP) is as follows:

- 1 The performance metrics are collected in spool files on the switch in XML format. This XML data is referred to as raw switch data in the context of the MDP.

For a description of the Event Collection System (EMS), see “Data collection - MPE” (page 73).

For a description of the types of spooled data collected from MPE, see “Datatypes” (page 72).

- 2 The MDP MPE Collection Manager periodically logs into each MPE and initiates a file transfer protocol (FTP) or a secure file transfer protocol (SFTP) connection from each MPE to the MDP. An FTP or SFTP transfer is initiated for each MPE datatype.
- 3 The MDP Disk Manager continually monitors MDP data disk space. A minimum disk space threshold is set and if this threshold is exceeded the MDP halts data conversion.

For a complete description of MPE data collection by the MDP, see “Data collection - MDP” (page 52).

- 4 The raw data file is transferred to the MDP MPE spool directory /opt/MagellanMDP/data/mdp/mpe/spool.

The raw data file name is described in “Raw data” (page 77).

- 5 The MDP MPE File Manager detects the raw data file in the spool directory.

If the MDP is configured to convert MPE Frame Relay accounting or statistics data to bulk data format (BDF), the MDP MPE BDF Converter is launched. The converter converts MPE Frame relay accounting or statistics xml files BDF files.

The converted data is written to the appropriate sub-directories of the MDP dump directory /opt/MagellanMDP/data/mdp/mpe/dump.

The BDF data file name is described in “BDF data” (page 78).

- 6 The MPE File Manager copies the raw data file from the spool directory to the backup directory /opt/MagellanMDP/data/mdp/mpe/backup.

- 7 The MDP File Mover Manager detects the converted data file in the dump directory and transfers the data file to a customer host.

The File Mover Manager can also send the converted data file to a local directory on the MDP host.

Datatypes

The following MPE datatypes are processed by the Management Data Provider (MDP):

- accounting (account, acc)
including (but not limited to) records for ATM, frame relay, FR-ATM, peak water mark (PWM), Time Change, Voice Networking, and IP-VPN.

By default, accounting data collection is turned on at the switch.

MPE accounting data for layer 2 Frame Relay (bulk data format (BDF)) is described in detail in 241-6001-810 *Preside MDM MDP Data Formats Reference*.

- statistics (stats, sta)
or performance data, including (but not limited to) trunk, LP, VoiceRoute, CAS, PCU, and ATM port.

By default, statistics data collection is turned off at the switch.

MPE statistics data for layer 2 Frame Relay (bulk data format (BDF) is described in detail in 241-6001-810 *Preside MDM MDP Data Formats Reference*

- alarm (ala)
data is used for analysis of switch and network down-time and other service-affecting problems.

By default, alarm data collection is turned on at the switch.

Refer to the MPE documentation for descriptions of MPE alarm data.

- security audit log
data is used to monitor the operator command activity on a node.

By default, security audit log data collection is turned on at the switch.

Refer to the MPE documentation for descriptions of MPE log data.

- trace
are used for analysis of switch and network down-time and other service-affecting problems.

By default, trace data collection is turned on at the switch.

Data collection - MPE

The MPE Event Collection System (EMS) consists of agents, collectors, and spoolers. Agents reside on each processor card to gather data records from the active services. On each processor card there is one agent for each datatype. The datatype agent sends its records to a collector that resides on the active control processor (CP).

The collectors send the data records to the spoolers. The spoolers (one per datatype) format the data and save it on the local MPE file system.

Each collector, agent, and spooler has a queue to hold data records until the data can be processed. If a queue reaches maximum capacity, the EMS begins to discard data.

Spooled data files

Each MPE collected event belongs to a particular data stream: accounting, statistics, alarms, trace or security audit logs. For the alarm and security audit log streams there is a single open spool file that is used to collect events for the stream.

For the accounting, statistics and trace streams, multiple open spool files can be used. The spool files within a stream partition the events within the stream. Each event is assigned to a particular spool file. Each spool file contains events from only one stream.

Spooled files on the switch have the following name convention:

```
mpe_<fileType>.<date>.<seq>.<nodeId>.xml.gz
```

where

<fileType> is the unique name for the following file types: alarm, sal, <accountingProfileName>_account, <statisticsProfileName>_stats, <traceProfileName>_trace

where <*ProfileName> is a user provisioned value.

<date> is the date in 'yyyymmddThhmmss' format

<seq> is a 3-digit sequence number, ranging from 000-999

<nodeId> is a network-wide unique identifier

.xml indicates that the file contains XML data

.gz indicates that the file has been compressed by gzip

Spooled file location

Data spooling can be turned on or off by setting the spooling attribute of the datatype Spooler component. The spooling of real-time statistics (rtstats) and trap data cannot be turned off. Spooled data files are located in the following MPE file system directory:

```
/var/opt/msp/spool/ecs/
```

Accounting data is stored in:

```
/var/opt/msp/spool/ecs/closed/account
```

Alarm data is stored in:

```
/var/opt/msp/spool/ecs/closed/alarm
```

Security audit logs data is stored in:

```
/var/opt/msp/spool/ecs/closed/securityAudit
```

Statistics data is stored in:

```
/var/opt/msp/spool/ecs/closed/stats
```

Trace data is stored in:

```
/var/opt/msp/spool/ecs/closed/trace
```

Spool files are closed

- each day at 0000 hours.
- when the MPE spooler receives a newFile command. The MDP MPE Collector process can generate this command.
- when the active control processor (CP) is reset, restarted, or rebooted
- when the MPE file system is disrupted

The MPE EMS is described in the following documents: NN10700-015 *Nortel Networks Multiservice Provider Edge 9500 Performance Management*, NN10700-013 *Nortel Networks Multiservice Provider Edge 9500 Fault Management*, and NN10700-010 *Nortel Networks Multiservice Provider Edge 9500 Accounting*.

Data collection - MDP

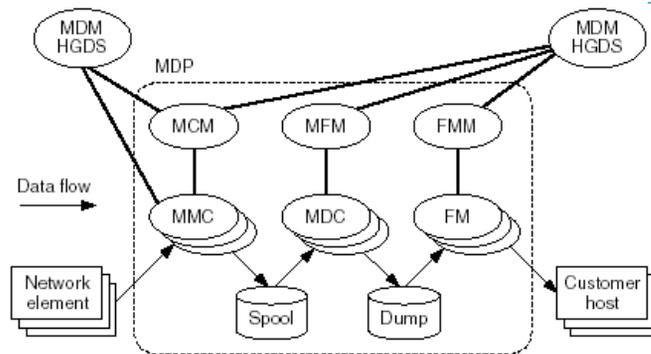
Spooled data is collected by the Management Data Provider (MDP) using MPE Collector processes that are managed by the MDP MPE Collector Manager. The MPE Collector process establishes a proxy file transfer protocol (FTP) or secure file transfer protocol (SFTP) connection from a MPE switch to an MDP, and transfers closed spool data files. An FTP/SFTP session is initiated for each MPE datatype.

The MPE Collectors are automatically launched at scheduled intervals.

The MPE Collector processes are controlled by the MPE Collector Manager. The MPE Collector Manager provides

- ease of configuration using the MDP Configuration tool
- error recovery
- confirmation of MPE and MDP host connectivity before attempting data collection
- security protection using encrypted passwords

Figure 2
MDP data collection system for MPE devices



PPT 9501 002 AA

The MPE Collector Manager obtains MPE network information from the Preside Multiservice Data Manager Host Group Directory Server (HGDS). For more information about the HGDS, see 241-6001-310 *Preside MDM Server Reference Guide*.

MPE data file names

This section describes the formats of the MPE data file names on the Management Data Provider (MDP).

- “Raw data” (page 53)
- “BDF data” (page 54)

Raw data

The raw data files on the MDP have the following naming format:

```
mpe_<fileType>.<date>.<seq>.<nodeId>.xml.gz.<status>
```

where:

mpe is a MPE.

<fileType> is the unique name for the following file types: alarm, sal, <accountingProfileName>_account, <statisticsProfileName>_stats, <traceProfileName>_trace

where **<*ProfileName>** is a user provisioned value.

<date> is the date in 'yyyymmddThhmmss' format

<seq> is a 3-digit sequence number, ranging from 000-999

<nodeId> is a network-wide unique identifier

.xml indicates that the file contains XML data

.gz indicates that the file has been compressed by gzip

<status> is a two-letter code indicating the file transfer status. The letters co indicate a file that is currently open and being transferred. The letters cc indicate a file that is closed and has been successfully transferred.

Example:

mpe_accountingSample_account.19990926.003.2121.xml.co
(open MPE 9500 accounting file)

mpe_statisticsSample_stats.19990926.044.2001.gz.cc
(closed MPE 9500 statistics file)

BDF data

Bulk data format (BDF) files have the following naming format:

mpe_<fileType>.<date>.<seq>.<nodeId>.fr.bdf

where:

<fileType> is the unique name for the following file types: alarm, sal, <accountingProfileName>_account, <statisticsProfileName>_stats, <traceProfileName>_trace

where <*ProfileName> is a user provisioned value.

<date> is the date in 'yyyymmddThhmmss' format

<seq> is a 3-digit sequence number, ranging from 000-999

<nodeId> is a network-wide unique identifier

fr indicates that the content is Frame Relay

<ext> is bdf if the raw data for FrameRelay statistics or accounting was successfully converted to BDF.

This extension is err if the raw data could not be successfully converted.

Note: If the file name includes the .err extension, this file contains raw records that could not be converted.

Example:

mpe_accountingSample_account_11072345_2121.fr.bdf
(converted MPE 9500 accounting BDF records)

Short MPE file names

A file name limitation exists for transferring files to an IBM customer host; a maximum of 16 characters can be used. If the standard BDF file name format is used, the transfer of files to IBM customer hosts will fail. To use the short BDF file name format, see “Using short BDF file names” (page 89).

Note: The File Mover process truncates the nodeID or nodename to the first 4 characters. The MDP does not check for unique naming. If short file names are used, it is your responsibility to ensure that the first 4 characters of the nodeID are unique.

The short file naming convention for BDF files is

```
<m><t><mmddhh.MM><seq#><nodeID|nodename>
```

where:

<m> is “m” for MPE BDF files, “g” for compressed MPE XML files, and “x” for decompressed MPE XML files

<t> is datatype. “a” for accounting, “s” for statistics, “c” for csal, “l” for alarms, and “t” for trace.

<mmddhh.MM> is the date the file was opened on the MPE (where mm=month, dd=day, hh=hour, and MM=minutes).

<seq> is the 2nd and 3rd digits of the MPE assigned file sequence number.

<nodeID|nodename> is the first 4 characters of the MPE nodeID or nodename.

Chapter 2

Configuration

This section describes the customization of the Management Data Provider (MDP) configuration.

To install MDP software and to configure a new MDP host to collect node performance metrics, see 241-6001-100 *Preside MDM Installation*.

Initial configuration of the Management Data Provider (MDP) is performed by the Preside Multiservice Data Manager QuickStart wizard. This basic configuration applies to Passport data collection, only. Initial configuration includes:

- license registration
- network connectivity
- validation of a UNIX userID for the MDP administrator
- network configuration
- starting data collection
- data conversion of data to BDF using the supplied default data model
- starting the Passport Data Model Manager (mdpdmm)
- starting the MDP Disk Manager (mdpdiskmgr)

Customizing an MDP configuration

This section provides instructions for customizing a Management Data Provider (MDP) configuration.

Prerequisites

Before configuring the Management Data Provider (MDP) software, ensure that you have:

- reviewed 241-6001-102 *Preside MDM Planning Guide*.
- reviewed the Preside Multiservice Data Manager (MDM) Release Supplement for this release.
- installed the MDM and MDP software; see 241-6001-100 *Preside MDM Installation*.
- read the section about the “MDP Configuration tool” (page 85).
- launched the MDP Configuration tool; see “Launching the MDP Configuration tool” (page 87).

Experienced MDP administrators can manually edit the MDP configuration files instead of using the MDP Configuration tool. The applicable MDP configuration files are identified in each of the steps in the following procedure.

Configuring MDP features

MDP features can be configured using the MDP Configuration tool or by manually changing the configuration files.

1 Select **File Mover**.

To identify customer hosts, supply login information, and assign the transfer of converted data files to customer hosts, see “Configuring file transfers to customer hosts” (page 87).

This configuration can be performed manually using the file `/opt/MagellanMDP/cfg/mdp/MDPMover.cfg`.

2 Select **Disk Manager**.

To configure data file retention, see “Configuring data file retention” (page 94).

To configure the minimum MDP disk space requirements and the Disk Manager log level, see “Launching the MDP Disk Manager and setting the minimum disk space” (page 199).

This configuration can be performed manually using the file
`/opt/MagellanMDP/cfg/mdp/MDPClean.cfg`.

- 3 To configure node data collection and data conversion, see “Configuring MDP for Passport” (page 123).

This configuration can be performed manually using the files:
`/opt/MagellanMDP/cfg/mdp/MDPFPSched.cfg`, and
`/opt/MagellanMDP/cfg/mdp/MDPPPMgr.cfg`.

To configure DPN-100 data collection and data conversion, see “Configuring MDP for DPN-100” (page 159).

This configuration can be performed manually using the file:
`/opt/MagellanMDP/cfg/mdp/MDPDPMgr.cfg`.

To configure MPE data collection and data conversion, see “Configuring MDP for MPE” (page 173).

This configuration can be performed manually using the files:
`/opt/MagellanMDP/cfg/mdp/MDPMC Sched.cfg`
`/opt/MagellanMDP/cfg/mdp/MDPMPEMgr.cfg`.

- 4 To sort bulk data format (BDF) data using dates and nodeIDs, select **BDF Archiving**. This selection applies to Passport, or DPN switch data, only.

Archiving BDF data is described in section “Configuring BDF archiving” (page 96).

This configuration can be performed manually using the file:
`/opt/MagellanMDP/cfg/mdp/MDPBDFArch.cfg`.

- 5 To configure MDP SNMP trap and/or alarm generation, select **Surveillance**.

For more information, see “Configuring MDP surveillance” (page 105).

This configuration can be performed manually using the file:
`/opt/MagellanMDP/cfg/mdp/MDPTG.cfg`.

- 6 To archive MDP logs, select **Log Archiving**.

For more information, see “Configuring log archiving” (page 103).

This configuration can be performed manually using the file:
`/opt/MagellanMDP/cfg/mdp/MDPLogArch.cfg`.

- 7 To customize the MDP data directories, see “Customizing MDP data directories” (page 106).

- 8** To configure the Passport Statistic Retrieval System (SRS), see “Configuring SRS” (page 143).

This configuration can be performed manually using the file:
/opt/MagellanMDP/cfg/mdp/MDPSRS.cfg.

- 9** To configure node outage calculation, see “Configuring the Outage Controller” (page 114) and “Configuring outage calculation” (page 154).

This configuration can be performed manually using the files:
/opt/MagellanMDP/cfg/mdp/MDPOCtrl.cfg. and
/opt/MagellanMDP/cfg/mdp/MDPPPOC.cfg.

- 10** To configure DPN-100 outage calculation, see “Configuring the Outage Controller” (page 114) and “Configuring outage calculation” (page 169).

This configuration can be performed manually using the files:
/opt/MagellanMDP/cfg/mdp/MDPOCtrl.cfg. and
/opt/MagellanMDP/cfg/mdp/MDPDNOC.cfg.

- 11** To configure availability calculation, see “Configuring availability calculation” (page 117).

- 12** If the following MDP processes were configured but are not currently controlled by the Server Administration (SVM) tool, configure the SVM tool to control them:

- Passport Data Model Manager (mdpdm)
- File Mover Manager (mdpfmmgr)
- DPN-100 Data Collector (mdpcol)
- Disk Manager (mdpdiskmgr)
- Passport Statistics Retrieval System (mdpsrs)
- Passport File Prober Manager (mdpfpmgr)
- MPE File Prober Manager (mdpmcmgr)
- MPE File Manager (mdpmpemgr)
- Passport File Manager (mdpppmgr)
- DPN-100 File Manager (mdpdpnmgr)

MDP Configuration tool

This section describes the MDP Configuration tool.

Common buttons

Each MDP Configuration tool window includes four buttons common to all MDP Configuration tool windows. These buttons are consistently located at the bottom of each window.

- **Save <window>**

saves the values in the current window to the configuration file.

You are prompted for confirmation to save the indicated configuration file.

If an MDP server uses the indicated configuration file and this MDP server is currently running, you are prompted for confirmation to restart the MDP server (for example, mdppmgr).

Note: The **Save** button saves the configuration settings from the current MDP Configuration tool window, only.

- **Refresh <window>**

resets the values in the current window to the values in the configuration file.

A dialog box requests that you confirm the refresh.

- **Exit**

terminates the MDP Configuration tool.

A dialog box is displayed requesting that configuration updates not previously applied be saved.

- **Help**

displays a dialog box that describes the current MDP Configuration tool window.

Window status

The status of each MDP Configuration tool window can be visually determined using the tabs in the panel on the left side of each window. See the table “Window status by tab icon” (page 86) for a description of the shape and color of a tab icon.

Table 3
Window status by tab icon

Icon shape	Icon color	Description
circle	grey	values have not changed
triangle	yellow	values have changed
diamond	red	error in values

Logs

All information related to MDP configuration, including error and warning messages, is recorded in the configuration log file. The configuration log file is described in section “Log file names” (page 206).

Customizing the MDP Configuration tool

The MDP Configuration tool can be customized to display only those MDP configuration windows that you require. The default is that all MDP configuration windows are displayed.

- 1 Exit from the MDP Configuration tool.
- 2 Copy the tool configuration file using the command

```
cp /opt/MagellanMDP/lib/mdp/cfg/MDPCfgGuiPanels.cfg
/opt/MagellanMDP/cfg/mdp/MDPCfgGuiPanels.cfg
```

- 3 Edit the file /opt/MagellanMDP/cfg/mdp/MDPCfgGuiPanels.cfg.

Each configuration tool window is indicated with a **Y** or an **N**. **Y** indicates that the configuration tool window is displayed. **N** indicates that the configuration tool window is not displayed.

- 4 Launch the MDP Configuration tool.

Launching the MDP Configuration tool

Launch the Management Data Provider (MDP) Configuration tool using one of the following methods.

Access from the application main window

- 1 From the application main window, as the MDP administrator user ID, select **Accounting -> Management Data Provider Administration**.

The MDP Configuration tool opens.

The contents of the MDP configuration files are retrieved.

Access from the UNIX command line

- 1 From a UNIX xterm, as the MDP administrator userID, type

```
/opt/MagellanMDP/bin/gmdpconfig &
```

The MDP Configuration tool opens.

The contents of the MDP configuration files are retrieved.

Configuring file transfers to customer hosts

The Management Data Provider (MDP) automatically transfers converted switch data files to customer hosts for billing or performance analysis. Other file types can also be automatically transferred. File transfer to customer hosts is described in section “Transferring data to down-stream applications” (page 34).

For a description of fields, boxes, and buttons used in these procedures, see “File Mover panel” (page 305).

Use the **File Mover** window for

- “Configuring customer host connections” (page 88)
- “Transferring files to customer hosts” (page 90)
- “Checking file type destinations” (page 91)
- “Backing up converted files” (page 91)
- “Transferring files to multiple directories on the same host” (page 92)
- “Setting the File Mover Manager log level” (page 92)
- “Scheduling customized data analysis programs” (page 93)

- “Backing up daily published format files” (page 93)

For a description of how the MDP handles file transfer failures, see “File transfer failures” (page 94).

Configuring customer host connections

The Management Data Provider (MDP) transfers converted billing and performance data to selected customer hosts. Before the MDP can perform these file transfers, access to the customer hosts must be configured.

For a description of fields, boxes, and buttons used in these procedures, see “File Mover panel” (page 305).

Note: If you reconfigure your customer hosts, ensure that any remaining data files are sent to the intended customer host.

Adding a customer host

1 Using the MDP Configuration tool, select **File Mover**.

2 Click **Edit Host**.

The Edit Host window is displayed.

3 Type the following information in the data entry boxes:

- a.** In the data entry box **Hostname**, type the host name or IP address of the customer host.
- b.** In the data entry box **Userid**, type a user ID for accessing the customer host.
- c.** In the data entry box **Password**, type the password for the customer host user ID.

The password is stored in an encrypted format.

4 To transfer BDF files to this customer host with short file names, click **Use Shortened Names**.

A check mark is displayed in the button box.

The default is this button is unchecked.

5 Click **Save Host**.

The new entry is added to the configuration file `/opt/MagellanMDP/cfg/mdp/MDPMover.cfg`.

6 Click **Cancel.**

The Edit Host window closes.

7 To use the new customer host, follow the instructions in section “Transferring files to customer hosts” (page 90).**Changing the password for a customer host****1 Using the MDP Configuration tool, select **File Mover**.****2 Click **Edit Host**.**

The Edit Host window is displayed.

3 Click the pull-down button beside **Select Host and select the customer host:userID to change.****4 Type the new password in the data entry box **Password**.**

The password is stored in an encrypted format.

5 Click **Save Host.**

The entry is updated in the configuration file /opt/MagellanMDP/cfg/mdp/MDPMover.cfg.

6 Click **Cancel.**

The Edit Host window closes.

7 Click **Save File Mover to save the configuration change and to restart the File Mover Manager.****Using short BDF file names**

To accommodate IBM customer hosts, bulk data format (BDF) files can be transferred with short file names. Passport short BDF file names are described in section “Short BDF file names” (page 55). DPN short BDF file names are described in section “Short BDF file names” (page 67).

Note: Statistics Retrieval System BDF file names, Outage, and Availability Report BDF file names are not shortened using this procedure.

1 Using the MDP Configuration tool, select **File Mover.****2 Click **Edit Host**.**

The Edit Host window is displayed.

- 3 Click the pull-down button beside **Select Host** and select the customer host:userID to change.
- 4 To shorten BDF filenames when files are transferred to this customer host, click **Use Shortened Names**.

If MDP was previously configured to shorten BDF filenames for this customer host and you now want to halt this file name conversion, click **Use Shortened Names**.
- 5 Click **Save Host**.

The entry is updated in the configuration file /opt/MagellanMDP/cfg/mdp/MDPMover.cfg.
- 6 Click **Cancel**.

The Edit Host window closes.
- 7 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Transferring files to customer hosts

Configure the File Mover Manager to transfer files from the Management Data Provider (MDP) to a maximum of 3 customer hosts for each file type.

Note 1: Before configuring the File Mover Manager, configure access to customer hosts using the File Mover button **Edit Host** “Configuring customer host connections” (page 88).

Note 2: If Availability Reports are transferred to a customer host, the reports are no longer available to the Management Data Provider (MDP) for further processing (by the MDP Report Generator, for example). If the Availability Reports are required for further MDP processing, see “Backing up converted files” (page 91).

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 The **File Type** is a pull-down list. Select the file type to be transferred (for example, Passport Accounting BDF).
- 3 Click **enabled** in the **Customer Host 1** panel.

A check mark is displayed.
- 4 **hostname** in the **Customer Host 1** panel is a pull-down list. Select the customer host:userID for the selected File Type from the **hostname** list.

- 5 To specify a directory on **Customer Host 1** where the selected file type will be transferred, click **Set destination ftp directory** and type the directory pathname in the data entry box.

A check mark is displayed. The button box does not display a check mark by default. The file is transferred to the default directory determined by the FTP server. Typically this directory is the ftp login user's home directory on the FTP server.
- 6 To transfer the selected file type to other customer hosts (or the same customer host using a different userID and destination directory), repeat steps 3, 4 and 5 for **Customer Host 2** and **Customer Host 3**.
- 7 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Checking file type destinations

You can verify the destination customer host(s) for each Management Data Provider (MDP) file type.

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 Click **Summary**.

A pop-up window displays a list of the possible file types. If a file type is configured for transfer to a customer host, the hostname (or IP address) and a user ID is displayed beside the file type.

Backing up converted files

After transferring a converted data file (bulk data format (BDF) and published format (PF)) to a customer host, the File Mover Manager deletes the file from the Management Data Provider (MDP) host. Use the File Mover Manager to copy the converted data file to a local MDP directory before the file is removed.

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 Use the procedure "Adding a customer host" (page 88) to add the following host information:
 - host name or IP address of the local MDP
 - a user ID and password for the local MDP
- 3 Use the procedure "Configuring file transfers to customer hosts" (page 87) to specify the local MDP as a customer host.

- 4 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Transferring files to multiple directories on the same host

Converted data files can be transferred to multiple directories on the same customer host.

- 1 Configure file transfers to the first directory location using the procedure “Transferring files to customer hosts” (page 90).
- 2 On the MDP, as userID **root**, open an xterm.
- 3 Add an alias to an existing host in the file `/etc/hosts`.
`<IP_address> <hostname> <alias1> <alias...>`
- 4 Using the MDP Configuration tool, as the MDP Administrator, select **File Mover**.
- 5 Use the procedure “Adding a customer host” (page 88) to add the following host information:
 - the alias created in step 3 as the **Hostname**
 - a userID and password on the host
- 6 Use the procedure “Transferring files to customer hosts” (page 90) to add the following file transfer information:
 - the alias created in step 3 and added to the MDP in step 5 as the **hostname**
 - the second directory on the host
- 7 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Setting the File Mover Manager log level

The File Mover Manager logs error messages to a daily log file in directory `/opt/MagellanMDP/data/mdp/admin`. The File Mover Manager logs are described in section “MDP logs” (page 205).

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 Click the button box beside **Process Log Level**.
The log levels are indicated (0 - 4).
- 3 Click the appropriate log level.
Log levels are described in section “Log levels” (page 209).

The default level is 3.

Note: To report the filenames of files successfully transferred to customer hosts, set the log level to 4.

- 4 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Scheduling customized data analysis programs

Use the File Mover Manager to execute a single user-defined data analysis program daily, at midnight. This program uses available daily published format (PF) accounting files as input. Only those PF files generated before the current date are read.

Note: This option is only applicable if the published format backward compatibility option is enabled for DPN-100, Passport; see section “Converting switch data to published format” (page 30).

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 Click **Perform additional processing on daily PF file** in the **Published Format Details** panel.

A check mark is displayed.

The button box does not display a check mark by default.

- 3 Type the absolute path for the program in the text entry box **Program to execute**.

The default for this field is a blank entry.

- 4 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

Backing up daily published format files

Use the File Mover Manager to archive the daily published format (PF) file.

Note: This option is only applicable if the published format backward compatibility option is enabled for DPN-100, Passport; see section “Converting switch data to published format” (page 30).

- 1 Using the MDP Configuration tool, select **File Mover**.
- 2 Click **Perform backup of daily PF file** in the **Published Format Details** panel.

A check mark is displayed.

The button box does not display a check mark by default.

- 3 Click **Save File Mover** to save the configuration change and to restart the File Mover Manager.

File transfer failures

If the File Mover fails to successfully transfer a data file

- the File Mover logs an error message that indicates the affected file and customer host. The Management Data Provider (MDP) continues to attempt the data transfer every 5 minutes until the problem is corrected or until the customer host configuration is changed.
- the File Mover does not resend a file to a host if the file has been successfully transferred to the host previously,

If the File Mover Manager fails, any File Mover processes running at that time will continue to run. If the File Mover Manager and File Mover processes fail at the same time (for example, complete workstation shutdown), the File Mover Manager ensures that the appropriate File Mover processes are restarted.

Configuring data file retention

The Management Data Provider (MDP) Disk Manager

- can be configured to retain data files for any length of time.
- coordinates the removal of data files. Data files are automatically removed at 0100 hours on the day that they reach their configured threshold.
- continually monitors MDP data file disk space. A minimum disk space threshold can be configured using a procedure in this section and when this threshold is exceeded the MDP halts data conversion. If data file disk space usage exceeds 90% of the configured threshold, SNMP traps and MDP logs are generated to alert you of this condition.

For MPE, if data file disk space usage reaches 100% of the configured threshold, SNMP traps and MDP logs are generated and further data conversion is halted.

**CAUTION**

The Passport Statistics Retrieval System (SRS) does not stop polling when the minimum disk space threshold is exceeded. This can cause spooled data collection to fail due to a lack of disk space.

For a description of fields, boxes, and buttons in these procedures, see “Disk Manager panel” (page 278).

Use the MDP Disk Manager Configuration window for

- “Setting the data file retention time” (page 95)
- “Setting the minimum available disk space” (page 96)
- “Setting the Disk Manager log level” (page 96)

Setting the data file retention time

Configure the retention time for each indicated data directory.

- 1 Using the MDP Configuration tool, select **Disk Manager**.
- 2 Review each of the indicated MDP directories under the label **Location**.
- 3 Confirm that the retention time, specified under the label **number of days to keep files**, is acceptable. Retention time is specified in units of days. The default for most data directories is 7 days, except for the directories
 - /opt/MagellanMDP/data/mdp/spool/received - default is 2 days
 - /opt/MagellanMDP/data/mdp/merge - default is 30 days
 - /opt/MagellanMDP/data/mdp/admin - default is 30 days
 - /opt/MagellanMDP/data/mdp/audit/report - default is 90 days
- 4 To change the file retention time, double-click the retention time using the right-mouse button and replace the existing number of days with a new number of days.
- 5 Repeat step 4 for each indicated MDP directory.
- 6 Click **Save** to save the configuration change.
- 7 Click **Save Disk Cleaner** to save the configuration change and to restart the Disk Manager.

Setting the minimum available disk space

The MDP Disk Manager monitors the available MDP disk space.

- 1 When MDP disk space reaches 90% of the minimum available disk space requirement, traps and alarms are generated.
- 2 When MDP disk space reaches the minimum available disk space threshold, data conversion is halted.

Note: If MDP disk space regularly approaches the minimum disk space threshold, reduce the retention time of data files or add more disk space.

To change the minimum available disk space threshold, the MDP Disk Manager (mdpdiskmgr) must be restarted using the new setting. For more information, see “Launching the MDP Disk Manager and setting the minimum disk space” (page 199).

Setting the Disk Manager log level

Configure the information level of logs generated by the MDP Disk Manager. For more information, see “Launching the MDP Disk Manager and setting the minimum disk space” (page 199).

Configuring BDF archiving

BDF archiving sorts individual bulk data format (BDF) records into files in subdirectories of directory /opt/MagellanMDP/data/mdp/archive. This subdirectory structure is determined by the order of the selections made using the procedures in this section.

Note: The MDP Disk Manager does not maintain archived data. The Disk Manager is described in section “Configuring data file retention” (page 94).

For a description of fields, boxes, and buttons in these procedures, see “BDF Archiving panel” (page 315).

For more information, see “Bulk data format files” (page 32).

For information about the BDF archive file name format, see “Archived BDF data” (page 56).

Configuring BDF archiving

- 1 If you are configuring BDF archiving for the first time, follow the procedure “Configuring the initial BDF archival directory structure” (page 97).

If you are re-configuring BDF archiving, follow the procedure “Changing an existing BDF archival directory structure” (page 98).

- 2 Configure the disk space threshold for halting BDF archiving, see “Configuring the disk space threshold for halting BDF archiving” (page 99).
- 3 Configure the disk space threshold for generating SNMP warnings, see “Configuring the disk space threshold for SNMP warnings” (page 99).
- 4 Click **Save** to save the new configuration.
- 5 If you are configuring BDF archiving for Passport nodes, select **Passport** from the MDP Configuration tool window and follow the procedure “Archiving BDF records” (page 132).

If you are configuring BDF archiving for DPNs, select **DPN** from the MDP Configuration tool window and follow the procedure “Archiving BDF data” (page 162).

Configuring the initial BDF archival directory structure

- 1 Using the MDP Configuration tool, select **BDF Archiving**.
- 2 Select the first level of the structure by clicking on the button box beside one of the options under **Format**.

Note: You cannot select one of the formats containing **DD** until you have selected one of the formats containing **YYYY**.

The selected level name is displayed at the top of the panel beside the list of optional format names and the button box contains a check mark.

For example, if the first level selected is **DATATYPE** and if you have selected **Passport** accounting BDF data to be archived, the new archive directory structure is /opt/MagellanMDP/data/mdp/archive/acc.

- 3 Select the next level of the structure by clicking on the button box beside one of the options under **Format**.

The next level name is displayed below the previously selected level name in the panel beside the list of optional format names and the button box contains a check mark.

For example, if the next level selected is **NODEID**, the new archive directory structure is `/opt/MagellanMDP/data/mdp/archive/acc/<nodeID>`.

where

<nodeID> will be an actual nodeID obtained from the data filename when the data is archived.

- 4 Repeat step 3 until you have completed the selection of directory levels.
- 5 If you are configuring BDF archiving for Passport, select **Passport** from the MDP Configuration tool window and follow the procedure “Archiving BDF records” (page 132).

If you are configuring BDF archiving for DPNs, select **DPN** from the MDP Configuration tool window and follow the procedure “Archiving BDF data” (page 162).

Changing an existing BDF archival directory structure

- 1 Using the MDP Configuration tool, select **BDF Archiving**.

- 2 Click **Unlock**.

A confirmation pop-up window is displayed. To confirm your intention to change the BDF archival directory structure, click **Ok**.

- 3 Click **Clear**.

The level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed.

- 4 Select the first level of the structure by clicking on the button box beside one of the options under **Format**.

Note: You cannot select one of the formats containing **DD** until you have selected one of the formats containing **YYYY**.

The selected level name is displayed at the top of the panel beside the list of optional format names and the button box contains a check mark.

For example, if the first level selected is **DATATYPE** and if you have selected **Passport** accounting BDF data to be archived, the new archive directory structure is `/opt/MagellanMDP/data/mdp/archive/acc`.

- 5 Select the next level of the structure by clicking on the button box beside one of the options under **Format**.

The next level name is displayed below the previously selected level name in the panel beside the list of optional format names and the button box contains a check mark.

For example, if the next level selected is **NODEID**, the new archive directory structure is `/opt/MagellanMDP/data/mdp/archive/acc/<nodeID>`.

where

<nodeID> will be an actual nodeID obtained from the data filename when the data is archived.

- 6 Repeat step 5 until you have completed the selection of directory levels.
- 7 If you are configuring BDF archiving for Passport, select **Passport** from the MDP Configuration tool window and follow the procedure “Archiving BDF records” (page 132).

If you are configuring BDF archiving for DPNs, select **DPN** from the MDP Configuration tool window and follow the procedure “Archiving BDF data” (page 162).

Configuring the disk space threshold for halting BDF archiving

To halt BDF archiving if the disk space threshold is exceeded for directory `/opt/MagellanMDP/data/mdp/archive`

- 1 Using the MDP Configuration tool, select **BDF Archiving**.
- 2 Type the amount of disk space in the box **Disk space threshold to halt processing**. Disk space is specified in units of megabytes (MB).
The default is 100MB.
- 3 Click **Save** to save the new configuration.

Configuring the disk space threshold for SNMP warnings

To generate SNMP warnings when the disk space threshold for directory `/opt/MagellanMDP/data/mdp/archive` is exceeded

- 1 Using the MDP Configuration tool, select **BDF Archival**.
- 2 Type the amount of disk space in the box **Disk space threshold for SNMP warnings**. Disk space is specified in units of megabytes (MB).
The default is 300MB.
- 3 Click **Save** to save the new configuration.

Configuring MDP file processing audits

Management Data Provider (MDP) file processing audit reports

- are generated every 24 hours at 0005 hours each morning (24 hours is the reporting period);
- are in ASCII text format;
- contain fields that are delimited by a colon, with the exception of field 10 that can contain a maximum of 3 hostnames or IP addresses separated by commas;
- header records can be included to identify field names (omit these records if the reports are to be processed downstream);
- track raw and bulk data format (BDF) data files being processed by MDP;
- detect missing raw data files using file sequence numbers;
- indicate raw data file size, number of records processed per file and instances of corrupt data;
- indicate delivery status of BDF data files and the customer host receiving the BDF files; and
- provide a summary of processed files by datatype and node.

For a description of fields, boxes, and buttons in these procedures, see “Audit panel” (page 330).

For more information, see “MDP audit reports” (page 29).

For audit report field descriptions, see 241-6001-806 *Preside MDM MDP Data Formats for DPN Reference*.

Use the **Configure File Processing Audits** window for

- “Configuring the audit of MDP file processing” (page 101)
- “Configuring the File Processing Audit log level” (page 102)

Configuring the audit of MDP file processing

- 1 Using the MDP Configuration tool, select **Audits**.

- 2 To configure auditing of Passport or BDF file processing, click on the button box **Enable Passport file process auditing**.
To configure auditing of DPN BDF file processing, click on the button box **Enable DPN file process auditing**.
A check mark is displayed in the selected button box.
The default is these options are not selected.
- 3 Select the report options.
To include the field names in the report, click on the button box **Print header records in report**.
To include detailed records in the report, click on the button box **Print detail records in report**.
To include summary records in the report, click on the button box **Print summary records in report**.
A check mark is displayed in the selected button box.
By default, only the summary records are reported.
- 4 Click **Save** to save the configuration change.
- 5 Use the **File Mover Manager** to configure the transfer of audit reports (filetype Audit Report) to customer hosts; see “Transferring files to customer hosts” (page 90).

Configuring the File Processing Audit log level

- 1 Using the MDP Configuration tool, select **Audits**.
- 2 To change the current File Processing Audit log level, click on the button box **auditing log level**.
The log levels are indicated (0 - 4).
- 3 Click on the appropriate log level. The default level is 3.
Log levels are described in section “Log levels” (page 209).
- 4 Click **Save** to save the configuration change.

Configuring log archiving

Log messages for the following Management Data Provider (MDP) processes are archived using an identical directory structure: Passport File Manager, DPN File Manager, and Passport File Prober Manager.

Log archiving stores MDP logs in subdirectories of the directory `/opt/MagellanMDP/data/mdp/admin/archive`. The subdirectory structure is determined by the order of the selections made using the procedures in this section.

For a description of fields, boxes, and buttons in these procedures, see “Log Archiving panel” (page 318).

For more information about logs, see “MDP logs” (page 34).

For information about the log archive file name format, see “Archived log files” (page 209).

Configuring log archiving

- 1 If you are configuring log archiving for the first time, follow the procedure “Configuring the initial log archival directory structure” (page 103).

If you are reconfiguring log archiving, follow the procedure “Changing an existing log archival directory structure” (page 104).

- 2 Click on the **Save** button to save the new configuration.

Log messages for the following MDP processes are archived using the specified directory structure: Passport File Manager, DPN File Manager, and Passport File Prober Manager.

Configuring the initial log archival directory structure

- 1 Using the MDP Configuration tool, select **Log Archiving**.
- 2 Select the first level of the structure by clicking on the button box beside one of the options under **Format**.

Note: You cannot select one of the formats containing **DD** until you have selected one of the formats containing **YYYY**.

The selected level name is displayed at the top of the panel beside the list of optional format names and the button box contains a check mark.

For example, if the first level selected is **DATATYPE** the archive directory structure created is /opt/MagellanMDP/data/mdp/admin/archive/acc.

- 3 Select the next level of the structure by clicking on the button box beside one of the options under **Format**. You cannot select one of the formats containing DD until you have selected one of the formats containing YYYY.

The next level name is displayed below the previously selected level name in the panel beside the list of optional format names and the button box contains a check mark.

For example, if the next level selected is **NODEID**, the archive directory structure created is /opt/MagellanMDP/data/mdp/admin/archive/acc/<nodeID>.

- 4 Repeat step 3 until you have completed the selection of directory levels.

Changing an existing log archival directory structure

- 1 Using the MDP Configuration tool, select **Log Archival**.

- 2 Click **Unlock**.

A confirmation pop-up window is displayed. To confirm your intention to change the format of the log archival directory structure, click the **Ok** button.

- 3 Click **Clear**.

The level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed.

- 4 Select the first level of the structure by clicking on the button box beside one of the options under **Format**.

Note: You cannot select one of the formats containing **DD** until you have selected one of the formats containing **YYYY**.

The selected level name is displayed at the top of the panel beside the list of optional format names and the button box contains a check mark.

For example, if the first level selected is **DATATYPE** the archive directory structure created is /opt/MagellanMDP/data/mdp/admin/archive/acc.

- 5 Select the next level of the structure by clicking on the button box beside one of the options under **Format**.

Note: You cannot select one of the formats containing **DD** until you have selected one of the formats containing **YYYY**.

The next level name is displayed below the previously selected level name in the panel beside the list of optional format names and the button box contains a check mark.

For example, if the next level selected is **NODEID**, the archive directory structure created is `/opt/MagellanMDP/data/mdp/admin/archive/acc/<nodeID>`.

- 6 Repeat step 5 until you have completed the selection of directory levels.

Configuring MDP surveillance

The Management Data Provider (MDP) can generate traps and alarms for all MDP processes.

To generate alarms, the MDP workstation is configured with an MDM Log Collector (OAMC).

For a description of fields, boxes, and buttons in these procedures, see “Surveillance panel” (page 333).

To monitor MDP alarms, activate the Preside Multiservice Data Manager (MDM) **Fault->Alarm Display**. For more information about OAMC and GMDR, see 241-6001-303 *Preside MDM Administrator Guide*. For more information about fault monitoring, see 241-6001-011 *Preside MDM Fault Management User Guide*.

To view traps, you are required to configure a workstation as an SNMP Management Station. For more information about MDP SNMP trap generation, see “MDP alarms and/or traps” (page 229).

Configuring MDP surveillance

- 1 Using the MDP Configuration tool, select **Surveillance**.
- 2 To generate MDP alarms, click **Enable MDP to send MDM Alarms**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 To generate MDP traps
 - a. Click **Enable MDP to send SNMP traps**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.

- b. In the data entry box SNMP Community string variable, type the community string variable for MDP SNMP traps. This option is only required if Enable MDP to send SNMP traps is selected.

The default community string is public.

- c. Type the following information in the data entry boxes beside SNMP Management Stations #1:

In the first column Hostname / IP Address, type the hostname, or IP address, of an SNMP management station.

In the second column Port#, type the port number on the SNMP management station.

The default SNMP management station port number is port 162.

Repeat this step to configure another SNMP management station. A maximum of three SNMP management stations can be configured.

- 4 Click **Save** to save the new configuration.

The new configuration is saved on the MDP.

You are prompted to restart all of the MDP processes currently controlled by the Server Administration (SVM) tool.

Customizing MDP data directories

The directories used to store switch data on the Management Data Provider (MDP) can be directed to disks, or disk partitions, other than the disk and partition where the default directory /opt is located. This capability adds flexibility to MDP processing. Disks, or disk partitions, that have reached maximum disk space capacity need not prevent MDP processing for all MDP data types. For a list of the MDP data directories and their default pathnames, refer to “MDP directory structure” (page 39).

Note: Customization of MDP directories applies to MDP data directories, only. These directories include any sub-directory of directory /opt/MagellanMDP/data/mdp. MDP software and configuration directories are not customizable.

Use the following procedures to manage MDP directories:

- “Opening the MDP Flexible Directory Installation window” (page 107)
- “Customizing data directory location” (page 107)

- “Returning a customized directory to a standard MDP directory” (page 109)

These sections describe the MDP Flexible Directory Installation window, constraints on directory customization, and process logging.

- “Flexible Directory Installation window” (page 110)
- “Restrictions on directory customization” (page 112)
- “Recording directory customization” (page 113)

Opening the MDP Flexible Directory Installation window

	<p>CAUTION</p> <p>All MDP processing must be stopped before customizing the MDP data storage directories.</p>
---	--

- 1 Stop switch data collection.
- 2 Halt all MDP processes using the Server Administration tool (SVM).
- 3 Using the userID root, from the UNIX command line, type


```
/opt/MagellanMDP/bin/gmdpinst &
```

 A window opens with two tabs, the Directory Install tab and the Flexible Install tab.
- 4 Select **Flexible Install**.
The Flexible Directory Installation window opens.

Customizing data directory location

- 1 Click the **Custom** radio button beside the MDP directory to be relocated.
The **Physical Path Root** data entry box is enabled.
The **Check** button is enabled.
The **Space(MB)** field is made blank.
The **Status** field indicates UNKNOWN.
- 2 Do one of the following

- a. Type the new mount point into the **Physical Path Root** data entry box.
 - b. From an xterm, copy a selected mount point and paste the mount point into the **Clipboard** data entry box. Paste the mount point from the **Clipboard** in to the **Physical Path Root** data entry box using the middle mouse button.
- 3 Click **Check** to validate the new physical path. To understand the restrictions placed on custom physical paths, see “Restrictions on directory customization” (page 112).

If no errors are detected by the validity check, the **Status** field indicates VALID. The **Space(MB)** field indicates the amount of space available in units of megabytes.

If an error is detected by the validity check, a new window opens and indicates the cause of the error.

If the specified physical path root is invalid, a new window opens and indicates the reason for invalidation.

If there is insufficient space for the specified physical path root, or if detailed activation information is available, the **Status** field indicates WARNING. The **Space(MB)** field indicates the amount of space available in units of megabytes.

- 4 Click **Activate Configuration** to activate the new custom directory mapping.

If the custom physical path does not exist, it is created.

If this is a standard MDP directory being customized, all data in the standard directory is moved to the custom physical path and links are created from the standard MDP path to the custom physical path.

If this is a previously customized physical path, all data in the old custom physical path is moved to the new custom physical path and links are created from the standard MDP path to the new custom physical path.

The Flexible Install Activation Log window opens. This window reports the progress of the directory mapping changes.

If an error is detected during activation, a new window opens and indicates the cause of the error. The error must be corrected before clicking the **Activate Configuration** button.

If no errors are detected by the activation, a new window opens with the following message:

```
Finished activation with no errors.
```

If no errors are detected by the activation, the **Status** field indicates READY.

- 5 Select **File -> Exit**.

Returning a customized directory to a standard MDP directory

- 1 Click the **Default** radio button beside the MDP directory to be relocated.

The **Check** button is enabled.

The **Space(MB)** field is made blank.

The **Status** field indicates UNKNOWN.

- 2 Click **Check** to validate the new physical path. To understand the restrictions placed on new physical paths, see “Restrictions on directory customization” (page 112).

If no errors are detected by the validity check, the **Status** field indicates DEFAULT. The **Space(MB)** field indicates the amount of space available in units of megabytes.

If an error is detected by the validity check, a new window opens and indicates the cause of the error.

- 3 Click **Activate Configuration** to return the directory mapping to the standard MDP directory.

If the standard MDP physical path does not exist, it is created.

All data in the custom physical path is moved to the standard MDP directory and the custom mapping links are deleted.

The Flexible Install Activation Log window opens. This window reports the progress of the directory mapping changes.

If an error is detected during activation, a new window opens and indicates the cause of the error. The error must be corrected before clicking **Activate Configuration**.

If no errors are detected, a new window opens with the following message:

```
Finished activation with no errors.
```

If no errors are detected by the activation, the **Status** field indicates DEFAULT.

- 4 Select **File -> Exit**.

Flexible Directory Installation window

The Management Data Provider (MDP) Flexible Directory Installation window includes the following components.

Pull-down menu

The Flexible Directory Installation window includes the pull-down menu item **File -> Exit**. This option exits the gmdpinst application and closes all associated open windows.

Main panel

The main panel of the Flexible Directory Installation window displays all of the MDP data directories. The main panel includes:

- **Logical Path**

is the standard MDP directory path located under directory `/opt/MagellanMDP/data/mdp`. The logical path always starts with `/opt`. This path is the default physical path for new MDP installations. An example of an MDP logical path is

```
/opt/MagellanMDP/data/mdp/dump/alarm
```

- **Default**

radio button. Click this button for any standard MDP directory path to make the logical path equal to the actual physical path.

- **Custom**

radio button. Click this button for any standard MDP directory path to indicate that you want to specify a physical path other than the specified logical path.

- **Physical Path Root**

is the UNIX mount point for the custom physical path. You must have previously added the physical path root to the `/etc/vfstab` file and mounted this path root before the configuration is activated. Examples of physical path roots are

```
/raid_mdpdata
```

/mounts/datastore1

This data entry box is only available if the Custom radio button has been selected.

Data can be typed directly into this data entry box or data can be pasted from the Clipboard.

- **Physical Path ext.**

is the MDP defined extension to the custom physical path. There is a physical path extension for each MDP data logical path. This extension cannot be changed.

- **Space(MB)**

indicates the amount of disk space, in megabytes, for the specified physical path.

- **Check**

button. Click this button to validate accessibility and size of the disk, or disk partition, of the physical path.

- **Status**

indicates the current status of the mapping between the logical path and the physical path. The possible values for the Status field are

- UNKNOWN - the mapping cannot be determined
- DEFAULT - the default mapping for this directory is active. The logical path equals the physical path.
- VALID - the specified change in mapping is valid.
- INVALID - the specified change in mapping is not valid.
- READY - the specified change in customized mapping is complete.
- ERROR - the specified physical path cannot be used.
- WARNING - there is a low amount of disk space in the specified physical path or directories and files will be moved by this action.

Directory management actions bar

The Flexible Directory Installation window includes a directory management actions bar located at the bottom of the window:

- **Clear**
button. Click this button to remove the contents of the Clipboard data entry box.
- **Clipboard**
a physical path root can be cut and pasted into this data entry box from an xterm and then transferred to the physical path root data entry box. A physical path root can also be typed in this data entry box.
- **Show Log**
button. Click this button to display the MDP Flexible Install Activation Log window that reports activity related to MDP data directory customization. This button label changes to Hide Log when the MDP Flexible Install Activation Log window is open.
- **Activate Configuration**
button. Click this button to activate the new directory mapping specified in the Flexible Directory Installation window.
- **Refresh Space**
button. Click this button to redisplay the space available for each MDP data directory. The Space(MB) value is updated with the actual current space available.
- **Check All**
button. Click this button to activate the Check button for those directories that have an indicated status of: UNKNOWN, ERROR, or INVALID.

Restrictions on directory customization

The following restrictions are placed on customized MDP data paths:

- a logical path cannot contain an embedded symbolic link above level /opt/MagellanMDP/data/mdp. For example, the logical path cannot be /localdisk/data/mdp or /localdisk/data.
- a logical path cannot be a shared mount point. For example, the logical path cannot be an exported directory in file /etc/dfs/dfstab.

- a custom physical path cannot contain an embedded symbolic link. For example

```
/opt/MagellanMDP/data/mdp/dump/statistics ->
/localdisk/mdp_dump/statistics
/localdisk/mdp_dump/statistics -> /var/statistics
```

- a custom physical path cannot be a sub-directory of any of the following directories:

```
/
/dev
/opt
/usr
/etc
/tmp
/bin
/sbin
/lib
/devices
/proc
```

- a custom physical path cannot be mounted on a partition equivalent to the root '/' partition.
- a custom physical path cannot be an NFS mounted file system, with the following exceptions:

```
/opt/MagellanMDP/data/mdp/spool/secondary
/opt/MagellanMDP/data/mdp/oc/dpn/secondary
/opt/MagellanMDP/data/mdp/oc/pp/secondary
```

- a custom physical path must have the minimum required disk space as specified by the MDP Disk Manager. For more information, see “Setting the minimum available disk space” (page 96).

Recording directory customization

Customization of the MDP data directory structure is recorded in log file

```
/opt/MagellanMDP/data/mdp/admin/
```

```
MDPFID<Sun|Mon|Tue|Wed|Thu|Fri|Sat>_<YYYYMMDD>.log.
```

Configuring the Outage Controller

This section describes how to configure the Management Data Provider (MDP) Outage Controller for outage calculation.

The MDP value-added applications are described in detail in section “Value-added data applications” (page 237).

The following topics are discussed in this section:

- “Setting the local MDP host as primary or secondary” (page 114)
- “Identifying the secondary MDP host” (page 115)
- “Scheduling the Outage Calculator” (page 115)
- “Identifying the MDM host” (page 115)
- “Setting the Outage Controller log level” (page 116)
- “Enabling outage calculation” (page 116)
- “Launching the MDP Topology Generator” (page 116)
- “Archiving outage files” (page 117)
- “Transferring outage files to customer hosts” (page 117)

For a description of fields, boxes, and buttons in these procedures, see “Outage Control panel” (page 321).

After the Outage Controller is configured

- for Passport outages, see “Configuring outage calculation” (page 154).
- for DPN-100 outages, see “Configuring outage calculation” (page 169).

Setting the local MDP host as primary or secondary

For more information about MDP hosts, see “Hosts” (page 35).

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Click one of the radio buttons for **Is this MDP server?**.
 - To select primary, click **primary**.
 - To select secondary, click **secondary**.

The default is neither option is selected.

Note: If a backup MDP host has been configured, the backup MDP host is configured as a secondary MDP host with an NFS mount connection between the primary and backup hosts.

- 3 Click **Save** to save the configuration change.

Identifying the secondary MDP host

For more information about MDP hosts, see “Hosts” (page 35).

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Type the hostname or IP address of the secondary host in the data entry box **Hostname or IP address of secondary server**.

The default is this data entry box is empty.

Note: If you have set the local MDP host as the secondary MDP host, this option is not available.

- 3 Click **Save** to save the configuration change.

Scheduling the Outage Calculator

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Click **Invoke Outage Calculator daily**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Type the time to launch the Outage Calculator in the data entry box **Time of day to start Outage Calculator (hh:mm)**. Use the 24 hour clock standard (for example, 5:00 PM is 17:00).

The default is 00:00.

Note: If you have not enabled the daily execution of the Outage Calculator, this option is not available.

An entry is added to the UNIX crontab to invoke the Outage Controller every day at this time.

- 4 Click **Save** to save the configuration change.

Identifying the MDM host

For DPN outage calculation, only.

- 1 Using the MDP Configuration tool, select **Outage Control**.

- 2 Type the hostname of the Preside Multiservice Data Manager (MDM) host in the data entry box **Hostname of DPN Network Model Server**.
The default is this data entry box is empty.
- 3 Click **Save** to save the configuration change.

Setting the Outage Controller log level

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 To change the current Outage Controller log level, click the button box **Outage Controller log level**.
The log levels are indicated (0 - 4).
- 3 Click on the appropriate log level.
The default is level 3.
For more information about log levels, see “Log levels” (page 209).
- 4 Click **Save** to save the configuration change.

Enabling outage calculation

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Select a switch type: **Passport** or **DPN**; click a button box beside **Enable outage calculation**. For example, to enable outage calculation for Passport 6400, click the button box below **Passport**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 Repeat, as necessary, for each switch type.
- 4 Click **Save** to save the configuration change.

Launching the MDP Topology Generator

For DPN outage calculation, only.

To launch the MDP Topology Generator before the DPN Outage Calculator

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Click **Run topology generator before outage calculator**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.

- 3 Click **Save** to save the configuration change.

Archiving outage files

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Select a switch type: **Passport** or **DPN**; click a button box beside **Archive outage files**. For example, to archive outage files for Passport 6400, click the button box below **Passport**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Repeat, as necessary, for each switch type.
- 4 Click **Save** to save the configuration change.

Transferring outage files to customer hosts

- 1 Using the MDP Configuration tool, select **Outage Control**.
- 2 Select a switch type: **Passport** or **DPN**; click a button box beside **Copy outage files to dump directory**. For example, to transfer outage files to customer hosts for Passport 6400, click the button box below **Passport**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Repeat, as necessary, for each switch type.
- 4 Click **Save** to save the configuration change.

Configuring availability calculation

Configuring availability calculation potentially involves the three manual tasks described in the following sections:

- “Availability calculator configuration” (page 118)
- “Service window configuration” (page 119)
- “Start life configuration” (page 120)
- “Availability report generation” (page 121)

Availability calculator configuration

Availability calculator options can be specified using command line options. For more information, see “Availability calculation” (page 259).

The Availability Calculator can be manually configured by editing the configuration file `/opt/MagellanMDP/cfg/mdp/MDPAVCALC.cfg`. This file contains records, separated by line feeds, of parameter identifier and value pairs. The following parameters are valid:

`OLD_LOGS_TO_RETAIN`

The number of logs from previous runs to retain. The range is from 0 to 9; defaults to 3.

`ACCUMULATED_STATS`

To specify processing and update of the accumulated statistics file. The options are [YIN]; defaults to N.

`GEN_AVA_DELIMITER`

The character to use as the field delimiter in the Availability Report BDF output file; defaults to DEL.

`DPN_OTG_DELIMITER`

The character to interpret as the field delimiter in the DPN Outage BDF input files; defaults to DEL.

`PP_OTG_DELIMITER`

The character to interpret as the field delimiter in the Passport Outage BDF input files; defaults to DEL.

For example:

```
OLD_LOGS_TO_RETAIN: 3
ACCUMULATED_STATS: Y
GEN_AVA_DELIMITER: :
DPN_OTG_DELIMITER: :
PP_OTG_DELIMITER: :
```

Service window configuration

If required, an exceptions file `/opt/MagellanMDP/cfg/mdp/MDPSERVWIN.cfg` can be created to exclude periods of known component down-time from the availability statistics. When performing availability analysis, periods of outage for a component, and subcomponents, that occur during the defined network service window are ignored. The time period identified by the network service window is not included in availability calculations.

Note: Service window entries must be retained for at least one subsequent availability analysis sample period following that sample period during which the component was out-of-service for maintenance.

This exceptions file can be created and edited using any text editor (for example, `vi`). If this file exists, the Availability Calculator process reads it on startup. This file can contain multiple records separated by line feeds. This file contains fields that identify components and the start and end times of a network service window. The exceptions file has the following format:

```
<module_id>[<component_id>]:<start_time>-<end_time>
```

where:

`<module_id>` is an integer corresponding to the `nodeID` or `namID` of the module.

`<component_id>` is the component identifier and consists of a string of `<category>/<value>` pairs.

`<start_time>` is the start of the exclusion period:
 YYYYMMDD[hh[mm[ss]]], for year, month, day, hours (optional), minutes (optional) and seconds (optional).

`<end_time>` is the end of the exclusion period:
 YYYYMMDD[hh[mm[ss]]], for year, month, day, hours (optional), minutes (optional) and seconds (optional).

For example:

1041 : 19970112 - 19970116
1041 PE/2 : 199702070000 - 199702070030
3034 PE/4 : 19970628174800 - 19970630073030

Start life configuration

If required, a component start life file `/opt/MagellanMDP/cfg/mdp/MDPSTLIFE.cfg` can be created to specify the date and time at which a component becomes available for availability calculation purposes.

If the start life is not defined by the user, a start life is automatically established as the beginning date/time of the sample period in which an outage for the component is first encountered. The start life of each component is recorded in the Availability Calculator administration log file `/opt/MagellanMDP/data/mdp/admin/MDPAC<date>.log` (where `<date>` is the date the log file was generated). An indication of whether the start life was user defined or automatically generated is included in the log file.

A user-defined component start life also applies to the components subcomponents, unless a start life is specifically defined for those subcomponents.

The start life file can be created and edited using any text editor (for example, vi). If this file exists, the Availability Calculator process reads it on startup. This file can contain multiple records separated by line feeds with fields that identify a component and its start life in the following format:

```
<moduleID> [<componentID>] : <start_life_date_time>
```

where:

`<moduleID>` is an integer corresponding to the `nodeID/namsID` of the module.

`<componentID>` is a string of `<category>/<value>` pairs.

`<start_life_date_time>` is the start life setting: `YYYYMMDD[hh[mm[ss]]]`, for year, month, day, hours (optional, default 00), minutes (optional, default 00), and seconds (optional, default 00).

For example:

```
1041 : 19970112
1041 PE/2 : 199702070000
3034 PE/4 : 19970628174800
2023 EM/PASSNODE2 LogicalProcessor/7 :199706190000
```

Availability report generation

Report Generator options can be specified using command line options. See “Availability report generation” (page 270).

The Report Generator can be manually configured by editing the configuration file `/opt/MagellanMDP/cfg/mdp/MDPREPGEN.cfg`. This file contains records (separated by a line feed character) of parameter identifier and value pairs. The following records are valid:

```
GEN_AVA_DELIMITER
```

The character to interpret as the field delimiter of the Availability Report BDF input file; defaults to DEL.

```
DEFAULT_INPUT_DIR
```

The default directory for Availability Report BDF input files; defaults to `/opt/MagellanMDP/data/mdp/dump/avail`.

```
REPORT_TYPE
```

The type of report selected. The possible options are:

```
MODLINK (modules, links, trunks, and Gateways)
SUBCOMP (module subcomponents)
BACKBONE (cards, processors, Logical Processors, and
Gateways)
TOPOLOGY (trunks, links, and Gateways)
LOGPROC (Passport Logical Processors)
ALL (all component types)
```

```
MODULE_ID
```

Limit the report to a particular module. Enter an integer value or an asterik * to select all modules.

```
ACCUMULATED_STATS
```

Report accumulated statistics, not statistics from the last sample period. Options are [YIN]; defaults to N.

AVAILABILITY_THRESHOLD

Components with availability above this threshold are not be included in the report. The range is from 0.00 to 100.00; defaults to 100.00 (all components included).

SHOW_CP_SWITCHOVER

Display Passport module Control Processor switch over counts. Options are [YIN]; defaults to N. Specify this option for Passport nodes using a pre-5.1 software release.

CP switch over counts are reported in a separate section at the end of the Availability Report. To generate this type of report, you must use REPORT_TYPE_ALL and you must include the -cpsw option.

For Passport and nodes using a software release of 5.1, or later, CP switch over counts and durations are included with the Logical Processor/0 component.

PAGE_WIDTH

The number of characters on a line before a new line is forced; defaults to no line limit.

Note: For configurable windows (for example, Xterms), it is suggested that this parameter be set to a minimum of 90 characters and the window size adjusted as required.

PAGE_LENGTH

The number of lines on a page before a page feed is forced. Enter an integer value; defaults to 66.

Chapter 3

Configuring MDP for Passport

This section describes how to configure the Management Data Provider (MDP) to collect and convert Passport node performance metrics data.

The following topics are discussed in this section:

- “Prerequisites” (page 123)
- “Storing node raw data” (page 124)
- “BDF data management” (page 124)
- “Assigning data to outage calculation” (page 132)
- “Setting the File Manager log level” (page 133)
- “PF data management” (page 133)
- “Collecting node data” (page 135)
- “Configuring SRS” (page 143)
- “Configuring outage calculation” (page 154)

Prerequisites

Before configuring the Management Data Provider (MDP) software to manage node data, ensure that you have:

- reviewed 241-6001-102 *Preside MDM Planning Guide*
- reviewed the Preside Multiservice Data Manager Release Supplement for this release.

- installed the MDP software - see 241-6001-100 *Preside MDM Installation*.
- configured data file retention and the minimum MDP disk space requirements - see “Configuring data file retention” (page 94).
- launched the MDP Configuration tool - see “Launching the MDP Configuration tool” (page 87).

Storing node raw data

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **Backup raw files**. For example, to backup accounting raw data, click the button box below **Account**.

A check mark is displayed in the button box.

The button box does not display a check mark by default for any datatype.

The raw switch data is stored in sub-directories of the directory /opt/MagellanMDP/data/mdp/backup.

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

BDF data management

An introduction to converting data to bulk data format (BDF) is provided in section “Converting switch data to bulk data format” (page 25).

A discussion about node and MDP data models and how they affect BDF data conversion is provided in section “Data models” (page 47).

The following topics are discussed in this section:

- “Converting node raw data to BDF” (page 125)
- “Setting the BDF field delimiter” (page 125)
- “Setting BDF data compression” (page 126)
- “Including the DMId with BDF filenames” (page 126)
- “Including the DMId and RDF version with BDF records” (page 127)

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Setting BDF data compression

BDF records with 3, or more, fields containing null values can be compressed to save disk space and transmission bandwidth. In BDF files, the start of the compression is indicated by ^<count> where <count> is the number of empty fields. For example, ^5 indicates 5 consecutive empty fields.



CAUTION

If the Passport Outage Calculator is used, do not apply data compression to alarm or SCN files. The Passport Outage Calculator does not support compressed data.

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **BDF output compression**. For example, to compress accounting data, click the button box below **Account**.

A check mark is displayed in the button box.

The button box does not display a check mark by default for any datatype.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Including the DMId with BDF filenames

The Data Model Identifier (DMId) can be included with the BDF file names. For more information, see “Data models” (page 47) and “Data file names” (page 53).

Note 1: The DMId is not included in the file name of files containing archived BDF records.

Note 2: If short BDF file names are used to transfer BDF files to IBM mainframe customer hosts, do not include the DMId in BDF file names.

- 1 Using the MDP Configuration tool, select **Passport**.

- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **DMID in BDF filename**. For example, to include the Data Model Identifier with accounting filenames, click the button box below **Account**.
The button box does not display a check mark by default.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Including the DMID and RDF version with BDF records

The Data Model Identifier (DMID) and RDF version can be included with BDF records. This information is added to the datatype field; for more information see 241-6001-810 *Preside MDM MDP Data Formats Reference*.

Note: Including the record description file (RDF) version in the BDF records enables the **Data Viewer** application to select the correct RDF for BDF file viewing.

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **DMID in dataType field**. For example, to include the DMID and RDF version with accounting records, click the button box below **Account**.
The button box does not display a check mark by default.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Including the short component name with BDF records

The short component name can be included with BDF records. This name maps to the component identifier and is used for security alarms.

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **Short component name in BDF file field**. For example, to include the short component name with accounting records, click the button box below **Account**.
The button box does not display a check mark by default.
- 3 Repeat, as necessary, for each datatype.

- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Retaining backwards compatibility for BDF records

The MDP is configured to maintain backwards compatibility with the default data model for all BDF records. Backwards compatibility can be removed to allow the customization of BDF records. If you use this setting, do not use the instructions in procedure “Customizing BDF records” (page 128).

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **RDF Backwards Compatibility**. For example, to maintain backwards compatibility for accounting files, click the button box below **Account**.

The default is this option is selected. New performance metrics are appended to BDF records and the field order cannot be changed.

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Customizing BDF records

BDF records for each node datatype can be customized to include or exclude node performance metrics. The field order in BDF records can also be customized.

Note 1: If the Passport Outage Calculator is used, do not customize Passport alarm or state change notification (SCN) records.

Note: If RDF files must stay synchronized between Passport and MPE switches and Frame Relay fields are removed or reordered in a Passport RDF, then matching changes must be made to the MPE RDF.

For a description of fields, boxes, and buttons used in these procedures, see “Passport panel” (page 291).

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click **Edit** beside **Configure RDF**. For example, to customize BDF accounting records, click **Edit** below **Account**.

The **Passport <datatype> RDF Configuration** window opens.

The panel **Configured RDF fields** lists the fields currently included in the BDF records.

Note: If backwards compatibility has been configured for the selected datatype, the fields listed in the **Configured RDF fields** panel cannot be removed or re-ordered.

The panel **New RDF fields** lists the performance metrics identified in node data models that have not been selected for BDF record conversion and have not been excluded.

To identify new performance metrics before they are introduced into the network, use the **rdfreport** command. For more information about the **rdfreport** command, see “Identifying new node performance metrics” (page 198).

The panel **Excluded RDF fields** lists the performance metrics identified in data models that have not been selected for BDF record conversion. Excluding performance metrics prevents them from being identified as ‘new’ when a new node data model is detected.

Only the fields for the selected datatype are listed.

- 3 To add a field to the BDF record
 - a. Select the field from the **New RDF fields** panel or the **Excluded RDF fields** panel
 - b. Click the **Move to Configured** button below the respective panel.

The selected field is placed at the bottom of the **Configured RDF fields** list.
- 4 To remove a field from the BDF record
 - a. Select the field from the **Configured RDF fields** panel.
 - b. Click the **Move to New** or **Move to Excluded** button below the **Configured RDF fields** panel.

The selected field is placed at the bottom of the **New RDF fields** list or **Excluded RDF fields** list.
- 5 To change the order of fields in the BDF record
 - a. Select the field in the **Configured RDF fields** panel.
 - b. Click the **Move Up** button to move the field toward the beginning of the record.
 - c. Click the **Move Down** button to move the field toward the end of the record.

- 6 To exclude a new performance metric
 - a. Select the field from the **New RDF fields** panel.
 - b. Click the **Move to Excluded** button under the **New RDF fields** panel.
The selected field is placed at the bottom of the **Excluded RDF fields** list.
- 7 To replace an excluded performance metric for future consideration
 - a. Select the field from the **Excluded RDF fields** panel.
 - b. Click the **Move to New** button under the **Excluded RDF fields** panel.
The selected field is placed at the bottom of the **New RDF fields** list.
- 8 When all of the BDF record changes for the selected datatype are complete, click the **Commit RDF** button.
The new RDF is saved.
You are prompted to confirm the commit action.
The **Passport <datatype> RDF Configuration** window closes.
Note: The Passport File Manager (mdpppmgr) must be restarted to implement the committed BDF record changes.

Setting the BDF conversion log level

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **BDF converter log level**. For example, to set the BDF converter log level for accounting data conversion, click the button box below **Account**.
The log levels are indicated (0 - 4).
- 3 Select a log level.
The default log level is 3 for all datatypes.
Log levels are described in section “Log levels” (page 209).
- 4 Repeat, as necessary, for each datatype.
- 5 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Setting the BDF conversion escape character

A generic escape character can be set to mask characters that cannot be interpreted. If any delimiters, repeating field delimiters, or escape characters (generic or compressed) are encountered in data fields with a type of string, the string is replaced with <escape character><hex code>, where <hex code> is the 2-digit hexadecimal value of the character.

Escape character conversion is only required for Passport datatypes: alarms, logs, and state change notifications (SCN).

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Alarm, Log, or SCN; type the BDF escape character in a data entry box beside **BDF output escape char**. For example, to set the BDF escape character for alarm files, type the escape character in the data entry box below **Alarm**.

The default is % for all three datatypes.

Note: Do not use alpha-numeric characters [Aa-Zz] [0-9] as these can make it difficult to read the output files. Also, do not use the following special characters: "|", "^", "(", ")", " ", ",", or "/".

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Creating empty BDF files

To retain the sequence of BDF file names, empty BDF files can be created when zero-length raw data files are collected.

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Click the button box **Process Empty Raw Files**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Archiving BDF records

Individual BDF records can be stored in a customized directory structure using dates, datatypes, or nodeIDs. DMIDs are not included in the file name format.

Note: Use the MDP Configuration tool window **BDF Archiving** to create the archive directory structure before selecting the node datatypes to archive. For more information, see “Configuring BDF archiving” (page 96).

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Select a datatype: Account, Stats, Alarm, Log, or SCN; click a button box beside **BDF in archive directories**. For example, to convert accounting raw data to BDF and write the converted records to the archive directory structure, click the button box below **Account**.

Note: If **BDF in dump directories** has not been enabled, this option is not available.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Assigning data to outage calculation

Passport outage calculation is described in section “Value-added applications” (page 70) and “Value-added data applications” (page 237).

Configure the MDP Outage Controller before performing this procedure. For more information, see “Configuring the Outage Controller” (page 114).

Note: The Passport Outage Calculator cannot use customized node alarm or state change notification (SCN) records.

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Click the button box **Collect BDF data for outage calculator**.

Note: If the MDP configuration option **BDF in dump directories** has not been enabled for datatypes Alarm and scn, this option is not available.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Setting the File Manager log level

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 To change the current File Manager log level, click the button box **Passport File Manager log level**.

The log levels are indicated (0 - 4).

- 3 Select the appropriate log level. The default is level 3.
Log levels are described in section “Log levels” (page 209).
- 4 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

PF data management

For an introduction to converting spooled data to published format (PF), see “Converting switch data to published format” (page 30).

The following topics are discussed in this section:

- “Converting node accounting raw data to PF” (page 133)
- “Setting PF data storage format” (page 134)
- “Enabling PF backward compatibility” (page 134)
- “Setting PF data storage format” (page 134)

Converting node accounting raw data to PF

- 1 Using the MDP Configuration tool, select **Passport**.
- 2 Click the button box **Convert Accounting files to PF**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Setting PF data encoding

- 1 Using the MDP Configuration tool, select **Passport**.

2 Click one of the radio buttons beside **PF encoding**.

- To select ASCII encoding, click the radio button **ASCII**.
- To select EBCDIC encoding, click the radio button **EBCDIC**.

IBM customer hosts usually use EBCDIC and VAX customer hosts usually use ASCII.

Note: If **Convert Accounting files to PF** has not been enabled, you cannot set PF encoding.

The default is neither option is selected.

3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Enabling PF backward compatibility

The published format (PF) backward compatibility mode is described in section “Converting switch data to published format” (page 30).

1 Using the MDP Configuration tool, select **Passport**.

2 Click the button box **PF backward compatibility mode**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Setting PF data storage format

1 Using the MDP Configuration tool, select **Passport**.

2 Click one of the radio buttons beside PF storage.

- To select big-endian, click the radio button **Big**.
- To select small-endian, click the radio button **Little**.

Note: If **Convert Accounting files to PF** has not been enabled, you cannot set PF storage.

IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian.

Note: If **PF encoding** is set to EBCDIC, PF storage must be set to big-endian.

The default is neither option is selected.

- 3 Click **Save Passport** to save the configuration change and to restart the Passport File Manager.

Collecting node data

This section describes how to configure the Management Data Provider (MDP) software to collect Passport node data.

An introduction to collecting node performance metrics on the MDP is provided in section “Data collection - MDP” (page 52) and a description of MDP related hosts is in section “Hosts” (page 35). For information about the File Prober Manager and file prober command line settings, see “Collecting Passport data” (page 186).

The following topics are discussed in this section:

- “Defining the network” (page 135)
- “Managing data collection entries” (page 135)
- “Setting data collection options” (page 138)
- “Scheduling data collection” (page 142)

For a description of fields, boxes, and buttons used in these procedures, see “File Prober panel” (page 280).

Defining the network

Passport network information is obtained from the Preside Multiservice Data Manager (MDM) Host Group Directory Server (HGDS). The HGDS can be located on the MDP host or on a remote MDM host.

Use the Host Group Administration tool (hgadmin) to define the Passport network. For information about the Host Group Administration tool, see 241-6001-303 *Preside MDM Administrator Guide*.

Managing data collection entries

Use this section to create data collection entries for each group and each datatype.



CAUTION

If File Prober crontab entries exist, the File Prober Manager cannot be started. Remove the crontab entries and then use the procedure “Creating a new data collection entry” (page 137) or import the crontab entries using the procedure “Importing File Prober crontab entries” (page 136).

The following topics are discussed in this section:

- “Importing File Prober crontab entries” (page 136)
- “Creating a new data collection entry” (page 137)
- “Activating and deactivating a data collection entry” (page 137)
- “Changing a data collection entry” (page 138)
- “Removing a data collection entry” (page 138)

Importing File Prober crontab entries

Nortel Networks recommends that you use the File Prober Manager to control File Probers. If you choose not to use the File Prober Manager, existing crontab entries created to launch scheduled data collection will continue to collect node data.

If the File Prober Manager is not used to control File Probers: MDP host and node passwords are not secure, connectivity to nodes and MDP disk space availability cannot be confirmed prior to data transfers, the data transfer retry mechanism cannot be used, and data collection cannot be monitored using the Preside Multiservice Data Manager Alarm Display.

Use the following procedure to import File Prober crontab entries:

Note: This procedure can only be used to import crontab entries created by the MDP administrator userID. If crontab entries were created by another userID (for example, mdpprobe), you must manually remove the crontab entries and then create new data collection entries using the procedure “Creating a new data collection entry” (page 137).

- 1 Using the MDP Configuration tool, select **File Prober**.

- 2 Existing File Prober crontab entries are displayed in the **Entries** panel.
These entries are greyed-out to indicate that they cannot be used by the File Prober Manager to collect node data.
If there are no old File Prober crontab entries for the MDP administrator userID, the **Import Crontab** button is greyed-out.
- 3 If File Prober crontab entries exist, click the **Import Crontab** button.
The old File Prober crontab entries become comments in the crontab, but are not deleted. This enables roll-back to the previous method of data collection if problems occur.
New data collection entries are created for the File Prober Manager using the settings of the old File Prober crontab entries.
- 4 If a data collection entry requires changes, follow the procedures in section “Changing a data collection entry” (page 138).
- 5 Click **Save File Prober** to save the configuration change and to restart the Passport File Prober Manager.

Creating a new data collection entry

- 1 Using the MDP Configuration tool, select **File Prober**.
- 2 Complete the procedures in section “Setting data collection options” (page 138).
- 3 Complete the procedure in section “Scheduling data collection” (page 142).
- 4 Click **Add**.
The new data collection entry is added to the **Entries** panel.
The data collection entry is activated (ready to begin collecting data at the scheduled time).

Activating and deactivating a data collection entry

- 1 Using the MDP Configuration tool, select **File Prober**.
- 2 To activate a data collection entry, click the button box beside the data collection entry in the **Entries** panel.
A check mark is placed in the button box and the data collection entry is activated.
- 3 To deactivate a data collection entry, click the button box beside the data collection entry in the **Entries** panel.

The check mark is removed from the button box and the data collection entry is deactivated.

- 4 Click **Save File Prober** to save the configuration change and to restart the Passport File Prober Manager.

Changing a data collection entry

- 1 Using the MDP Configuration tool, select **File Prober**.
- 2 Select a data collection entry from the list of entries in the **Entries** panel.

The data collection entry parameters are indicated in the Collection Options and Collection Time windows. For example, if specific days of the month were selected using the calendar in the Collection Time window, the days are indicated on the calendar in that window.

- 3 Complete the procedures in section “Setting data collection options” (page 138).
- 4 Complete the procedure in section “Scheduling data collection” (page 142).
- 5 Click **Update**.

The updated data collection entry is replaced in the **Entries** panel.

Removing a data collection entry

- 1 Using the MDP Configuration tool, select **File Prober**.
- 2 Select a data collection entry from the list of entries in the **Entries** panel.
- 3 Click **Delete**.

The data collection entry is removed from the **Entries** panel.

Setting data collection options

The following topics are discussed in this section:

- “Selecting the datatype to collect” (page 139)
- “Selecting the group” (page 139)
- “Selecting the primary MDP” (page 139)
- “Selecting the backup MDP” (page 140)
- “Using node names or nodeIDs in MDP file names” (page 140)
- “Configuring the spool file rollover setting” (page 141)
- “Configuring the spool file no erase setting” (page 141)

- “Setting the number of spool files to collect” (page 141)
- “Setting the File Prober timeout” (page 142)
- “Setting the File Prober log level” (page 142)

Selecting the datatype to collect

- 1 Select the **Collection Options** tab.
- 2 Click the pull-down button box beside **DataType**.
A list of the datatypes is displayed (acc, sta, log, ala, scn).
- 3 Select one of the datatypes.

Selecting the group

- 1 Select the **Collection Options** tab.
- 2 Click the pull-down button box inside the **Passport Group** panel.
A list of available groups is displayed.
This list is obtained from the Preside Multiservice Data Manager Host Group Directory Server (HGDS) configuration file.
- 3 Select one of the groups.
- 4 Type the node access userID in the data entry box **User**.
This node userID must be configured on all of the nodes within the group. The permissions required by this userID are
 - scope of **network**, or greater
 - impact of **config**, or greater
 - AllowedAccess including **FMIP** and **FTP**
- 5 Type the password for the node access userID in the data entry box **Password**.

Note: The password is stored in an encrypted format.

Selecting the primary MDP

The role of the primary MDP is described in section “Primary MDP” (page 35).

Note: If a primary host is not defined, the File Prober Manager cannot be started.

- 1 Select the **Collection Options** tab.

- 2 In the **Primary MDP Host** panel
 - a. type the name of the primary MDP host in the **Host** data entry box.
 - b. type the MDP administrator userID in the data entry box **User**.
 - c. type the password for the MDP administrator userID in the data entry box **Password**

The password is stored in an encrypted format.

Selecting the backup MDP

The role of the backup MDP is described in section “Backup MDP” (page 36).

- 1 Select the **Collection Options** tab.
- 2 In the **Backup MDP Host** panel
 - a. type the name of the backup MDP host in the **Host** data entry box.
 - b. type the MDP administrator userID in the data entry box **User**.
 - c. type the password for the MDP administrator userID in the data entry box **Password**

The password is stored in an encrypted format.

Using node names or nodeIDs in MDP file names



CAUTION

If you plan to transfer files to a billing host using shortened file names, ensure that the first 4 characters of the nodeID or node name is unique.

- 1 Select the **Collection Options** tab.
- 2 Click one of the radio buttons.
 - To include node IDs in MDP filenames, click the radio button **Node ID**.
 - To include node names in MDP filenames, click the radio button **Node name**.

The default is to include node IDs in MDP filenames; **Node ID** is selected.

Configuring the spool file rollover setting

The File Prober can close an open spool file before transferring it to the MDP. The spool file is moved to the node directory /spooled/closed/<datatype> and a new file is opened in the node directory /spooled/opened/<datatype> where <datatype> is one of the datatypes selected for collection.

Note: Node accounting spool files do not automatically close after 30 minutes.

- 1 Select the **Collection Options** tab.
- 2 Click **Rollover**.

A check mark is placed in the button box.

The button box does not display a check mark by default.

Configuring the spool file no erase setting

Using this procedure prevents the removal of closed node spool files after data collection. By default, node spool files are deleted after data collection.



CAUTION

If node accounting files are not deleted after collection by the File Prober, duplicate accounting records can be collected. Use this option for testing purposes only.

- 1 Select the **Collection Options** tab.
- 2 Click **No erase on Passport**.

A check mark is placed in the button box.

The button box does not display a check mark by default.

Setting the number of spool files to collect

You can set the maximum number of files collected during a single data collection. Before using this option, carefully calculate the required data collection start times.

- 1 Select the **Collection Options** tab.
- 2 Type the number of files in the data entry box **Max. Files to Collect**.

To specify the collection of all closed spool files, type *.

There is no limitation on the number of spool files to collect.

The default is 60 files.

Setting the File Prober timeout

You can set the number of seconds the File Prober waits before halting execution if a node does not respond.



CAUTION

A node to MDP FTP connection can time-out when transferring very large amounts of data. If this problem occurs with a Frame Relay connection and a data transfer cannot be completed, or if very large data transfers on a frame relay connection to the MDP is anticipated, configure the Frame Relay network-to-network interface (FrNni) data link connection identifier (DLCI) to use a transfer priority (TP) of normal (6).

- 1 Select the **Collection Options** tab.
- 2 Type the number of seconds in the data entry box **FTP timeout interval (sec)**.

The default is 300 seconds.

Setting the File Prober log level

- 1 Select the **Collection Options** tab.
- 2 Click **log level**.
The log levels are indicated (0 - 4).
- 3 Select the appropriate log level. The default is level 3.
Log levels are described in section “Log levels” (page 209).

Scheduling data collection



CAUTION

Scheduling data collections that coincide with time of day accounting (TODA) periods on the node can result in starvation of the FTP process and data collection will be unsuccessful.

- 1 Select the **Collection Time** tab.
- 2 Using the buttons in the **Data Collection Start Time** panel, specify the File Prober start times.

To select multiple units, press the control keyboard button and click on individual units. For example, to select multiple days of the week click Monday and then press the control keyboard button and click Wednesday.

To select a range of units, click the first unit in the range, press the shift keyboard button and click the last unit in the range. For example, to select a range of days, click Monday and then press the shift keyboard button and click Wednesday.

A check mark in the **All** box can be used to specify the entire range of a unit. For example, to specify data collection on every day of the week select **All** for **Every day on....**

For example, to collect the node data at 2:00 AM each day, select: 2 for the hour, 0 for the minute, All for the month, and All for the day of the week.

Note: Do not schedule collections for midnight. Conflicts with automatic processes will occur if you do.

- a. Select the month (Jan - Dec) or All.
- b. Select the hour(hr) (0 - 23) or All.
- c. Select the minute(min) (0 - 59) or All.
- d. Select the day of the week (Sunday - Saturday) or All.
- e. To select specific days of each month, select the days to collect data by clicking the dates on the calendar.

You cannot select specific days of each month using the calendar and select days of the week.

Configuring SRS

If previous versions of the Statistics Retrieval System (SRS) were used on this Management Data Provider (MDP), perform “Consolidating RCFs from previous versions of SRS” (page 144).

If SRS is new to this MDP, perform “Configuring SRS” (page 145) to configure SRS.

Consolidating RCFs from previous versions of SRS

- 1 If one RCF was used to poll all node families, rename the record content file (RCF) to the following filename.

```
/opt/MagellanMDP/cfg/mdp/rcf/pp/  
pp_srs_<identifier>.rcf
```

If a different RCF was used to poll each node family (multiple RCFs), create the following file.

```
/opt/MagellanMDP/cfg/mdp/rcf/pp/  
pp_srs_<identifier>.rcf
```

where <identifier>

is the name for this RCF (for example, Version1).

- 2 If multiple RCFs were previously used to poll each node family, copy-and-paste each unique RCF component and component attribute entry into the new RCF.

- 3 Use 241-5701-060 *Passport 7400, 15000, 20000 Components* to obtain the maximum value for each component attribute.

The maximum attribute value is added to the raw attribute value to calculate delta values when the attribute value reaches maximum threshold and rolls-over between two polls. The maximum value is appended to raw attribute entries for reference, only.

- 4 Using a system editor, edit the file created in step 1. Append the maximum value to each component attribute entry in the form

```
Delta: <attribute> <maximum value>  
Raw: <attribute> <maximum value>
```

For example,

```
Delta: txCellClp 18446744073709551615  
Raw: txDiscardClp 18446744073709551615
```

- 5 Save the new RCF.
- 6 To select additional groups to poll, see “Adding a node group to poll” (page 150).
- 7 To select additional components and attributes to poll, or to select specific instances of node components, see “Selecting node components and attributes” (page 150).
- 8 To use the new RCF to poll nodes, see “Selecting the RCF to commit” (page 147).

The new RCF identifier is now available in the pull-down list of the **Committed RCF Identifier** button.

Configuring SRS

For a description of fields, boxes, and buttons used in these procedures, see “Passport SRS panel” (page 309).

- 1 Use the Host Group Administration tool `hgadmin` to configure HGDS with node network configuration data. This data is stored in the HGDS configuration file `/opt/MagellanNMS/cfg/HGDS.cfg`.

For more information about the `passport.config` command, see 241-6001-303 *Preside MDM Administrator Guide*.

If you are using Preside Multiservice Data Manager (MDM) on another host (node access host) to provide network connectivity to the polled nodes, ensure that the content of the HGDS configuration file `HGDS.cfg` on the MDP host is the same as the content of the HGDS configuration file `HGDS.cfg` on the MDM host.

- 2 Use the Server Administration tool to start the HGDS and FDTM servers.

Note: If you are using MDM on another host (node access host) to provide network connectivity to the polled nodes, you need not start FDTM on the MDP host.

If the HGDS and FDTM servers are running, use the command `/opt/MagellanNMS/bin/passport.kick` to update the HGDS with new information without stopping and restarting the HGDS and FDTM servers.

For more information about the Server Administration tool and the `passport.kick` command, see 241-6001-303 *Preside MDM Administrator Guide*.

- 3 Log on to the MDP as the MDP administrator.
- 4 Using the MDP Configuration tool, select the **Passport SRS** tab.
The MDP **Statistics Retrieval System** window opens.
- 5 To select node components and attributes to poll, see “Selecting node components and attributes” (page 150).
- 6 To configure SRS options, use
 - “Selecting the RCF to commit” (page 147)
 - “Configuring the SRS polling interval” (page 147)
 - “Configuring the maximum SRS BDF file size” (page 148)

- “Configuring the BDF file closure interval” (page 148)
- “Configuring SRS to backup BDF files” (page 149)
- “Setting the compression of BDF data” (page 149)
- “Setting the BDF field delimiter” (page 149)
- “Configuring the SRS log level” (page 149)
- “Configuring a node access host” (page 149)
- “Adding a node group to poll” (page 150)
- “Removing a group from SRS polling” (page 150)

- 7 If necessary, edit the SRS RDFs to rearrange statistics. Use a system editor to edit the file

```
/opt/MagellanMDP/cfg/mdp/rdp/pp/srs/  
pp_srs_<identifier>.rdf
```

where <identifier> is the name for this RDF (for example, Version1).

Note 1: Fields that contain delta values have Delta appended to the field name. Fields that contain raw attribute values have Raw appended to the field name.

Note 2: Do not delete statistics for attributes that exist in the RCFs. Attributes are then polled but not reported causing necessary network congestion.

- 8 Click **Save SRS** to save the SRS configuration updates and commit the RCF.

If this is not the first time SRS is configured, clicking **Save SRS** restarts SRS.

- 9 If this is the first time SRS is configured, use the Server Administration tool (SVM) to start SRS. For more information about SVM, see 241-6001-303 *Preside MDM Administrator Guide*.

Start SRS using the following command:

```
/opt/MagellanMDP/bin/mdpsrs  
[-ignorenegativedelta | -ind]
```

where:

[-ignorenegativedelta | -ind] instructs SRS to ignore negative deltas and not to perform roll-over calculations. Without this parameter the maximum attribute value is added to the raw attribute value to calculate delta values when the attribute value reaches maximum threshold and rolls-over between two polls.

Selecting the RCF to commit

- 1 Click the button box at the far-right of **Committed RCF Identifier**.

This button box displays the currently committed RCF.

- 2 Select an RCF.

For more information about RCFs, see “Selecting node components and attributes” (page 150).

Note: A record description file (RDF) is created when you select an RCF and save this MDP configuration change. The pathname of the SRS RDF is:

```
/opt/MagellanMDP/cfg/mdp/rdp/pp/srs/  
pp_srs_<identifier>.rdf
```

where <identifier> is the name for this RCF and RDF
(for example, Version1).

Configuring the SRS polling interval

- 1 Type the SRS polling interval in the data entry box **Polling Interval**. The polling interval is specified in seconds.

The default polling interval is 900 seconds (15 minutes). The minimum polling interval is 10 seconds and the maximum polling interval is 65535 seconds.

Note: Configure the polling interval as high as possible to avoid network performance degradation, to ensure polling intervals are not skipped, and to ensure delta statistics reflect the configured polling interval.

The first poll occurs when SRS is started. Subsequent polls occur at specified intervals after the first poll.

The time of polling for each node component is not guaranteed to occur exactly on the polling interval. For example, component EM/PP303 AtmIf/31 Vcc/0.32 may not be polled exactly 900 seconds after it was polled previously (if the default polling interval was used). Response time can be affected by network activity and node traffic load.

If a response is not received from a polling interval before the subsequent polling interval is scheduled, the subsequent polling interval is skipped. Another poll is not attempted until the next polling interval. Missed polling intervals are caused by a polling interval that is too small.

Configuring the maximum SRS BDF file size

Specify the number of records written to the output BDF file in directory /opt/MagellanMDP/data/mdp/dump/srs before SRS closes it.

- 1 Type the maximum BDF file size in the data entry box **Max number of BDF records in file**.

The default is 500 records.

Note: Configure the maximum number of SRS BDF records or the SRS BDF file closure time interval. Failure to configure one of these configuration settings results in an error message. If both of these configuration settings are configured, SRS closes the BDF file when the criteria for either setting is reached.

Configuring the BDF file closure interval

Specify when SRS is to close the BDF file in the directory /opt/MagellanMDP/data/mdp/dump/srs.

- 1 Click **File Close Interval**.

The time intervals are indicated (15 or 30).

- 2 Select the appropriate time interval.

The button box does not display a check mark by default.

If 15 is selected, the SRS BDF file is closed on the hour and every 15 minutes afterwards (for example, 0000hrs, 0015hrs, 0030hrs, and 0100hrs).

If 30 is selected, the SRS BDF file is closed on the hour and every 30 minutes afterwards (for example, 0000hrs, 0030hrs, and 0100hrs).

Note: Configure the maximum number of SRS BDF records or the SRS BDF file closure time interval. Failure to configure one of these configuration settings results in an error message. If both of these configuration settings are configured, SRS closes the BDF file when the criteria for either setting is reached.

Configuring SRS to backup BDF files

Configure SRS to archive closed SRS BDF files to the directory /opt/MagellanMDP/data/mdp/backup/srs

1 Click Backup BDF file.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

Setting the compression of BDF data

1 Click BDF output compression.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

Setting the BDF field delimiter

1 Type the hex code representation for the equivalent character in the data entry box BDF delimiter.

The default is DEL (0x7F).

Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: "|", "^", "(", ")", " ", ";", ",", ".", or "/".

Configuring the SRS log level

1 Click Passport SRS log level.

The log levels are indicated (0 - 4).

2 Select the appropriate log level. The default is level 3.

For more information about log levels, see “Log levels” (page 209).

Configuring a node access host

Configure SRS to use another Preside Multiservice Data Manager (MDM) host to provide network connectivity to nodes. Both the MDP host and the MDM host can resolve host names to IP addresses.

1 Type a host name or IP address in the data entry box Passport Access Host.

The default is the local host.

Adding a node group to poll

- 1 Click **Add empty row** in the **Edit polling groups** panel.

The **groupname** column displays a list of the groups available from HGDS. If SRS is unable to connect to the HGDS server, the following message is displayed:

```
Passport SRS configuration: queryHGDS: Cannot connect  
to HGDS server.  
SRS group selection is not available.
```

- 2 Select a group.
- 3 Type the following information in the data entry boxes:
 - a. In the **login ID** column, type the user ID for the nodes.
 - b. In the **password** column, type the password for the user IDs.
The password is stored in an encrypted format.

Removing a group from SRS polling

- 1 In the **Edit polling groups** panel, select the row that contains the group to remove.
- 2 Click **Delete group**.
The selected row is removed.

Selecting node components and attributes

Select node components and attributes to poll by using the MDP Configuration tool. Selected component and attribute information is stored in a record content file (RCF).

This section includes the following information:

- “Starting the RCF Editor” (page 151)
- “Selecting components and attributes” (page 151)
- “Selecting component instances” (page 152)

For a description of fields, boxes, and buttons used in these procedures, see “MDP RCF Editor dialog” (page 313).

Starting the RCF Editor

- 1 Using the MDP Configuration tool, select **Passport SRS**.

The **MDP Statistics Retrieval System** window opens.

- 2 Click **Start RCF editor**.

The **MDP RCF Editor** window opens.

The MDP RCF Editor window has two panels. Select a component in the left panel and the right panel contains configured component instances. Select a component attribute in the left panel and the right panel contains configured component attribute criteria.

- 3 To create a new RCF, use the current window contents.

To edit an existing RCF, select **File -> Open** to display a list of existing RCFs and to select the RCF to edit.

Note: An RCF cannot be edited and saved using the same identifier as the currently committed RCF.

- 4 In the MDP RCF Editor window, select one of the following:

- **all**
to display all components and attributes. Select this option if this is the first configuration of SRS. This option enables you to choose any component and attribute.
- **configured**
to display those components and attributes configured for SRS polling. Select this option if this is not the first configuration of SRS and you are editing an existing RCF.

The default is **all**.

Selecting components and attributes

- 1 In the left panel, navigate through the node's components.

- Click the circled dot to the left of the component to display sub-components.
- Use the slider bar to display additional components and attributes.

- 2 To select a component attribute, click the button box beside the component attribute.

A check mark is displayed in the button box.

The right panel displays the polling options for component attributes: raw, delta, or both.

- 3 To select a polling option, click the appropriate radio button: **raw**, **delta**, or **both**.
- 4 When your selection of component attributes is complete and you do not need to configure any component instances, use
 - **File -> New** to clear the window of all updates and return to the original view.
 - **File -> Save** to save the updated RCF /opt/MagellanMDP/cfg/mdp/rcf/pp/pp_srs_<identifier>.rcf where <identifier> is the name for this RCF. The previous version of this file is overwritten.
 - **File -> Save As** to save the updated RCF /opt/MagellanMDP/cfg/mdp/rcf/pp/pp_srs_<identifier>.rcf where <identifier> is the name for this RCF. A new file is created.
 - **File -> Exit** to leave the RCF Editor without saving your updates.

To configure polling of component instances, see “Selecting component instances” (page 152).

Selecting component instances

Failure to specify any components instances results in polling of all instances of the previously selected component. Otherwise, only the selected component instances are polled.

- 1 In the left panel, navigate through the components.
 - Click the circled dot to the left of the component to display sub-components.
 - Use the slider bar to display additional components.
- 2 To select a component, click the component.

If this is the first configuration of SRS, the right panel **Polling Instances** is empty.

If this is not the first configuration of SRS, the right panel **Polling Instances** lists existing configurations for polling components using this RCF.
- 3 To add a new polling instance, click **add** in the right panel.

To edit an existing polling instance, click the polling instance to be edited and then click **edit**.

The **Polling Instance details** dialog window opens.
- 4 To use the **Polling Instance details** dialog, perform the following:

- a. In the **Polling Instance** panel specify the instances of components to poll.

The component, and all parent components, are indicated by the column headings in the Polling Instance panel.

If the current settings for this component are not suitable, click **Add** to create a new polling instance for the selected component.

The next available row in the Polling Instance panel is highlighted.

Enter: a range of components to poll, in the form [x - x]; or a specific component instance, in the form of a string or decimal identifier; or an asterisk "*" to indicate all the components at this component level. The valid ranges and suggested entries are indicated in the header row for each component level.

If an asterisk is used at one component level, an asterisk must be used at all selected sub-component levels for that component instance. For example, atmif/* vcc/3 is not acceptable.

Using an asterisk to specify all instances of a component is an efficient use of MDP resources. Specifying every instance of a component can slow the performance of this application.

The maximum number of component instances per polling instance is 1000.

- b. In the **Use the configured SRS polling interval** section, select the polling interval configured in the Statistics Retrieval System Configuration window (see "Configuring the SRS polling interval" (page 147)) or select **Override** to override the configured polling interval by typing a new polling interval to be used for this polling instance, only.

The default is the polling interval configured by the Statistics Retrieval System window.

- c. In the **Groups/Nodes** section, select the groups or individual nodes to poll for the selected component.

The default is that all groups, and all nodes within the groups, as configured using the Statistics Retrieval System Configuration window, are polled.

If a group is selected to poll, all nodes in that group are polled.

If you click one of the groups listed in the left panel of the **Groups/Nodes** section, the individual nodes are listed in the right panel. Select a Passport node by clicking on the nodename. A check mark

is displayed beside the nodename. If you select a node you cannot select the group of which this node is a member.

- d. Click the **OK** button to accept the polling instance details and return to the RCF Editor window.

The Polling Instances panel in the RCF Editor window now lists the new configuration by indicating the groups and nodes identified for polling using the new polling instance.

- 5 When you have completed the configuration of component instances, use
 - **File -> New** to clear the window of all updates and return to the original view.
 - **File -> Save** to save the updated RCF `/opt/MagellanMDP/cfg/mdp/rcf/pp/pp_srs_<identifier>.rcf` where `<identifier>` is the name for this RCF. The previous version of this file is overwritten.
 - **File -> Save As** to save the updated RCF `/opt/MagellanMDP/cfg/mdp/rcf/pp/pp_srs_<identifier>.rcf` where `<identifier>` is the name for this RCF. A new file is created.
 - **File -> Exit** to leave the RCF Editor without saving your updates.

Configuring outage calculation

This section describes how to configure the Management Data Provider (MDP) for node outage calculation.

The following topics are discussed in this section:

- “Prerequisites” (page 155)
- “Setting the BDF field delimiter” (page 155)
- “Calculating combined outages” (page 155)
- “Setting the minimum threshold for outages” (page 155)
- “Setting the maximum threshold for outages” (page 156)
- “Setting the number of days to keep unmatched OOS records” (page 156)
- “Setting the Outage Calculator log level” (page 156)

For a description of fields, boxes, and buttons used in these procedures, see “Passport Outage panel” (page 324).

Prerequisites

Before configuring the Management Data Provider (MDP) to calculate node outages, ensure that you have:

- configured the MDP Outage Controller. For more information, see “Configuring the Outage Controller” (page 114).
- configured node alarm and state change notification (SCN) raw data to be converted to bulk data format (BDF). For more information, see “Converting node raw data to BDF” (page 125).
- configured the assignment of node alarm and SCN BDF data to outage calculation. For more information, see “Assigning data to outage calculation” (page 132).

Setting the BDF field delimiter

- 1 Using the MDP Configuration tool, select **Passport Outage**.
- 2 Type the hex code representation for the equivalent character in the data entry box **Outage Calculator BDF delimiter**.

The default is DEL (0x7F).

Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: "|", "^", "(", ")", " ", ";", ",", ".", or "/".

- 3 Click **Save** to save the configuration change.

Calculating combined outages

- 1 Using the MDP Configuration tool, select **Passport Outage**.
- 2 Click **Calculate combined outages**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save** to save the configuration change.

Setting the minimum threshold for outages

Outages that exceed this threshold are included in outage calculations.

- 1 Using the MDP Configuration tool, select **Passport Outage**.
- 2 Type the minimum threshold value in the data entry box **Minimum threshold value of outages**.

Type the threshold in units of seconds(s), minutes(m), hours(h), or days(d). For example: 15s, 30m, 1h, or 7d.

The default is zero. The maximum is 365d.

- 3 You can also use supplied values. Click the button box **Minimum threshold value of outages**.

The suggested values are indicated.

- 4 Click **Save** to save the configuration change.

Setting the maximum threshold for outages

Outages that are less than this threshold are included in outage calculations.

- 1 Using the MDP Configuration tool, select **Passport Outage**.

- 2 Type the maximum threshold value in the data entry box **Maximum threshold value of outages**.

Type the threshold in units of seconds(s), minutes(m), hours(h), or days(d). For example: 15s, 30m, 1h, or 7d.

The default is 7d. The maximum is 365d.

- 3 You can also use supplied values. Click **Maximum threshold value of outages**.

The suggested values are indicated.

- 4 Click **Save** to save the configuration change.

Setting the number of days to keep unmatched OOS records

- 1 Using the MDP Configuration tool, select **Passport Outage**.

- 2 Type the number of days in the data entry box **Number of days to keep unmatched OOS records**.

The default is 100 days.

- 3 Click **Save** to save the configuration change.

Setting the Outage Calculator log level

- 1 Using the MDP Configuration tool, select **Passport Outage**.

- 2 Click **Outage Calculator log level**.

The log levels are indicated (0 - 4).

- 3 Click on the appropriate log level.

The default is level 3.

For more information about log levels, see “Log levels” (page 209).

- 4 Click **Save** to save the configuration change.

Chapter 4

Configuring MDP for DPN-100

This section describes how to configure the Management Data Provider (MDP) to collect and convert DPN-100 performance metrics.

The following topics are discussed in this section:

- “Prerequisites” (page 160)
- “Storing DPN-100 raw data” (page 160)
- “BDF data management” (page 161)
- “Assigning data to outage calculation” (page 164)
- “Setting the File Manager log level” (page 165)
- “PF data management” (page 165)
- “Configuring the switch” (page 167)
- “Collecting DPN-100 data” (page 169)
- “Configuring outage calculation” (page 169)

After the MDP software has been configured for DPN-100 data management, follow the instructions in section “Collecting DPN-100 data” (page 169) to begin collecting DPN-100 data.

Prerequisites

Before configuring the Management Data Provider (MDP) software to manage DPN-100 data, ensure that you have:

- reviewed 241-6001-102 *Preside MDM Planning Guide*.
- reviewed the Preside Multiservice Data Manager Release Supplement for this release.
- installed the MDP software - see 241-6001-100 *Preside MDM Installation*.
- configured data file retention and the minimum MDP disk space requirements - see “Configuring data file retention” (page 94).
- launched the MDP Configuration tool - see “Launching the MDP Configuration tool” (page 87).

Storing DPN-100 raw data

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Select a DPN datatype: Account, Stats, Alarm, or Log; click a button box beside **Backup raw files**. For example, to backup accounting raw data, click the button box below **Account**.

A check mark is displayed in the button box.

The button box does not display a check mark by default for any datatype.

The raw switch data is stored in sub-directories of the directory `/opt/MagellanMDP/data/mdp/backup`.

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

BDF data management

An introduction to converting data to bulk data format (BDF) is provided in section “Converting switch data to bulk data format” (page 25).

The following topics are discussed in this section:

- “Converting DPN-100 raw data to BDF” (page 161)
- “Archiving BDF data” (page 162)
- “Setting the BDF field delimiter” (page 162)
- “Setting BDF data compression” (page 163)
- “Setting the BDF conversion log level” (page 163)
- “Setting the BDF conversion escape character” (page 164)

For a description of fields, boxes, and buttons used in these procedures, see “DPN panel” (page 301).

Converting DPN-100 raw data to BDF

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Select a DPN datatype: Account, Stats, Alarm, or Log; click a button box beside **Convert raw files to BDF in dump directories**. For example, to convert accounting raw data to BDF, click the button box below **Account**.
A check mark is displayed in the button box.
The button box does not display a check mark by default for any datatype.
The converted data is written to sub-directories of the directory /opt/MagellanMDP/data/mdp/dump.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting BDF data compression

BDF records with 3, or more, fields containing null values can be compressed to save disk space and transmission bandwidth. In BDF files, the start of the compression is indicated by ^<count> where <count> is the number of empty fields. For example, ^5 indicates 5 consecutive empty fields.



CAUTION

If the DPN Outage Calculator is used, do not apply data compression to alarm files. The DPN Outage Calculator does not support compressed data.

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Select a DPN datatype: Account, Stats, Alarm, or Log; click a button box beside **BDF output compression**. For example, to compress accounting data, click the button box below **Account**.

A check mark is displayed in the button box.

The button box does not display a check mark by default for any datatype.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting the BDF conversion log level

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Select a DPN datatype: Account, Stats, Alarm, or Log; click a button box beside **BDF converter log level**. For example, to set the BDF converter log level for accounting data conversion, click the button box below **Account**.

The log levels are indicated (0 - 4).
- 3 Select a log level.

The default log level is 3 for all datatypes.

Log levels are described in section “Log levels” (page 209).
- 4 Repeat, as necessary, for each datatype.
- 5 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting the BDF conversion escape character

A generic escape character can be set to mask characters that cannot be interpreted. If any delimiters, repeating field delimiters, or escape characters (generic or compressed) are encountered in data fields with a type of string, the string is replaced with <escape character><hex code>, where <hex code> is the 2-digit hexadecimal value of the character.

The escape character is only required for DPN datatypes: alarm and log.

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Select a DPN datatype: Alarm or Log; type the BDF escape character in a data entry box beside **BDF output escape char**. For example, to set the BDF escape character for alarm files, type the escape character in the data entry box below **Alarm**.

The default is % for all three datatypes.

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Assigning data to outage calculation

DPN outage calculation is described in section “Value-added applications” (page 70) and “Value-added data applications” (page 237).

Configure the MDP Outage Controller before performing this procedure. For more information, see “Configuring the Outage Controller” (page 114).

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Click **Collect BDF data for outage calculator**.
Note: If **Convert raw files to BDF in the dump directories** has not been enabled for datatype alarm, this option is not available.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting the File Manager log level

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 To change the current File Manager log level, click **DPN File Manager log level**.
The log levels are indicated (0 - 4).
- 3 Click the appropriate log level. The default is level 3.
Log levels are described in section “Log levels” (page 209).
- 4 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

PF data management

For an introduction to converting data to published format (PF), see “Converting switch data to published format” (page 30).

The following topics are discussed in this section:

- “Converting DPN-100 accounting raw data to PF” (page 165)
- “Setting PF data storage format” (page 166)
- “Enabling PF backward compatibility” (page 166)
- “Setting PF data storage format” (page 166)

Converting DPN-100 accounting raw data to PF

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Click the button box **Convert Accounting files to PF**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting PF data encoding

- 1 Using the MDP Configuration tool, select **DPN**.
- 2 Click one of the radio buttons beside **PF encoding**.
 - To select ASCII encoding, click the radio button **ASCII**.

- To select EBCDIC encoding, click the radio button **EBCDIC**.

IBM customer hosts usually use EBCDIC and VAX customer hosts usually use ASCII.

Note: If **Convert Accounting files to PF** has not been enabled, you cannot set PF encoding.

The default is neither option is selected.

- 3 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Enabling PF backward compatibility

The published format (PF) backward compatibility mode is described in section “Converting switch data to published format” (page 30).

- 1 Using the MDP Configuration tool, select **DPN**.

- 2 Click **PF backward compatibility mode**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Setting PF data storage format

- 1 Using the MDP Configuration tool, select **DPN**.

- 2 Click one of the radio buttons beside PF storage.

- To select big-endian, click the radio button **Big**.
- To select small-endian, click the radio button **Little**.

Note: If **Convert Accounting files to PF** has not been enabled, you cannot set PF storage.

IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian.

Note: If **PF encoding** is set to EBCDIC, PF storage must be set to big-endian.

The default is neither option is selected.

- 3 Click **Save DPN** to save the configuration change and to restart the DPN File Manager.

Configuring the switch

This section describes how to configure a DPN-100 to collect and transfer performance metrics to a Management Data Provider (MDP) host:

- “Configuring a spooling site for a DPN-100 module” (page 167) instructs you to configure an MDP spooling site on a DPN-100 module.

For details on using Preside Multiservice Data Manager configuration tools, see 241-6001-012 *Preside MDM Configuration Management for DPN User Guide*.

- “Setting the PAD daemon” (page 167) instructs you to modify the PAD daemon configuration to not interfere with MDP File Collector processes.

Configuring a spooling site for a DPN-100 module

- 1 Under the PM and Data_Spooling components, provision a new Direct Call to the DNA of an MDP host, with a unique protocol ID. The protocol ID is 12 ASCII characters and is case-sensitive.
- 2 Under the PM and Data_Spooling components, provision the Dump component to direct the dump site of the accounting files to the same MDP host.
- 3 Use the Network Call Redirection System to redirect the files to a backup MDP host in case the primary MDP host is not functioning. For details about Network Call Redirection, see 241-1001-115 *DPN-100 Call Redirection System User Guide*.

Setting the PAD daemon

When you configure X.25 for Solaris, you need to modify the PAD daemon configuration so that it does not interfere with MDP File Collector processes.

Modifying the PAD daemon configuration

- 1 From the root user account, run the X25 tool; type

```
/opt/SUNWconn/x25/bin/x25tool &
```

A window is created that includes a series of menu options.
- 2 Select **Application Configuration** from the menu.
- 3 Select **PAD**.
- 4 Select **PAD daemon**.

The PAD Daemon Listen Database window is displayed.

5 Select Call User Data.

Three options are displayed.

The following two options are acceptable: **Starts With** and **Matches**. The permitted values are as follows:

a. Starts With 01000000rrrrxxxxxxxxxxxxxxxxxxxx

where:

01000000

is the standard protocol id

rrrr

is a user-definable protocol id (in hex) and must be a value other than the default MDP protocol id (4335).

xxxxxxxxxxxxxxxxxxxx

is the call user data, in hex. The length of this field can be truncated.

If the MDP protocol ID has been modified to a value other than the default 4335 values, these modified values cannot be used in the *rrrr* field.

b. Exact Match. The call user data field does not match the following:

010000004335

If the MDP protocol ID has been modified, the value must not conflict with the hex values of the last two bytes of this string.

The selection of a value depends on the manner in which a PAD user logs on. If you do not want the PAD user to enter a Call User Data field in a PAD request, use Exact Match with the value 01000000. However, if Call User Data is wanted, enter an appropriate value (other than 4335 used by the MDP host.).

6 Restart the X.25 connection.

Collecting DPN-100 data

Use the Preside Multiservice Data Manager Server Administration tool (SVM) to launch DPN File Collectors. Use the following syntax in the SVM command.

For more information about the DPN File Collector server, see 241-6001-310 *Preside MDM Server Reference Guide*.

```
/opt/MagellanMDP/bin/mdpcol -pid <PID>  
-v /opt/MagellanMDP/data/mdp/spool #<file_collector>
```

where:

<PID> is a unique protocolID for each DPN-100 file collector

<file_collector> is an integer. The first file collector should be numbered 1, the next file collector should be numbered 2, and so on.

Configuring outage calculation

This section describes how to configure the Management Data Provider (MDP) for DPN-100 outage calculation.

The following topics are discussed in this section:

- “Prerequisites” (page 170)
- “Setting the BDF field delimiter” (page 170)
- “Calculating combined outages” (page 170)
- “Setting the minimum threshold for outages” (page 170)
- “Setting the maximum threshold for outages” (page 171)
- “Setting the number of days to keep SET alarms” (page 171)
- “Setting the number of days to keep CLEAR alarms” (page 171)
- “Setting the Outage Calculator log level” (page 172)

For a description of fields, boxes, and buttons used in these procedures, see “Outage Control panel” (page 321).

Prerequisites

Before configuring the Management Data Provider (MDP) to calculate DPN-100 outages, ensure that you have:

- configured the MDP Outage Controller. For more information, see “Configuring the Outage Controller” (page 114).
- configured DPN-100 alarm raw data to be converted to bulk data format (BDF). For more information, see “Converting DPN-100 raw data to BDF” (page 161).
- configured the assignment of DPN-100 alarm BDF data to outage calculation. For more information, see “Assigning data to outage calculation” (page 164).

Setting the BDF field delimiter

- 1 Using the MDP Configuration tool, select **DPN Outage**.
- 2 Type the hex code representation for the equivalent character in the data entry box **Outage Calculator BDF delimiter**.

The default is DEL (0x7F).

Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: "|", "^", "(", ")", " ", ";", ":", " ", or "/".

- 3 Click **Save** to save the configuration change.

Calculating combined outages

- 1 Using the MDP Configuration tool, select **DPN Outage**.
- 2 Click **Calculate combined outages**.

A check mark is displayed in the button box.

The button box does not display a check mark by default.

- 3 Click **Save** to save the configuration change.

Setting the minimum threshold for outages

Outages that exceed this threshold are included in outage calculations.

- 1 Using the MDP Configuration tool, select **DPN Outage**.
- 2 Type the minimum threshold value in the data entry box **Minimum threshold value of outages**.

Type the threshold in units of seconds(s), minutes(m), hours(h), or days(d). For example: 15s, 30m, 1h, or 7d.

The default is zero. The maximum is 365d.

- 3 You can also use supplied values. Click **Minimum threshold value of outages**.

The suggested values are indicated.

- 4 Click **Save** to save the configuration change.

Setting the maximum threshold for outages

Outages that are less than this threshold are included in outage calculations.

- 1 Using the MDP Configuration tool, select **DPN Outage**.

- 2 Type the maximum threshold value in the data entry box **Maximum threshold value of outages**.

Type the threshold in units of seconds(s), minutes(m), hours(h), or days(d). For example: 15s, 30m, 1h, or 7d.

The default is 7d. The maximum is 365d.

- 3 You can also use supplied values. Click **Maximum threshold value of outages**.

The suggested values are indicated.

- 4 Click **Save** to save the configuration change.

Setting the number of days to keep SET alarms

- 1 Using the MDP Configuration tool, select **DPN Outage**.

- 2 Type the number of days in the data entry box **Number of days to keep SET alarms**.

The default is 100 days.

- 3 Click **Save** to save the configuration change.

Setting the number of days to keep CLEAR alarms

- 1 Using the MDP Configuration tool, select **DPN Outage**

- 2 Type the number of days in the data entry box **Number of days to keep CLEAR alarms**.

The default is 100 days.

- 3 Click **Save** to save the configuration change.

Setting the Outage Calculator log level

- 1 Using the MDP Configuration tool, select **DPN Outage**.
- 2 To change the current Outage Calculator log level, click **Outage Calculator log level**.

The log levels are indicated (0 - 4).

- 3 Click on the appropriate log level.

The default is level 3.

For more information about log levels, see “Log levels” (page 209).

- 4 Click **Save** to save the configuration change.

Chapter 5

Configuring MDP for MPE

This section describes how to configure the Management Data Provider (MDP) to collect and convert Nortel Networks Multiservice Provider Edge (MPE) accounting and performance data. MPE on-switch accounting and performance data collection is also described.

The following topics are discussed in this section:

- “Prerequisites” (page 173)
- “MPE data management” (page 174)
- “BDF and XML data management” (page 175)
- “Setting the MPE File Manager log level” (page 179)
- “Collecting MPE data” (page 179)

Prerequisites

Before configuring the Management Data Provider (MDP) software to manage MPE data, ensure that you have:

- reviewed 241-6001-102 *Preside MDM Planning Guide*
- reviewed the Preside Multiservice Data Manager Release Supplement for this release.
- installed the MDP software - see 241-6001-100 *Preside MDM Installation*.
- configured data file retention and the minimum MDP disk space requirements - see “Configuring data file retention” (page 94).

- launched the MDP Configuration tool - see “Launching the MDP Configuration tool” (page 87).

MPE data management

Raw data collected from the MPE may be stored on the MDP as a backup and may be processed for Frame Relay BDF conversion.

For a description of fields, boxes, and buttons in these procedures, see “MPE panel” (page 297).

Storing MPE raw data

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE_9500_short datatype: accounting, alarm, csal, statistics or trace; click a button box beside Backup raw files. For example, to backup accounting raw data, click the button box below Account.

A check mark is displayed in the button box.

By default, this option is not selected for any datatype.

The raw switch data is stored in subdirectories of the directory `/opt/MagellanMDP/data/mdp/mpe/backup/*`.

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Processing MPE raw data

Use this procedure to specify whether or not the file of a particular datatype should be processed for Frame Relay BDF conversion.

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: account, statistics, alarm, trace, or sal, and click a button box beside **Process raw files**. For example, to process accounting raw data, click the button box below Account.

A check mark is displayed in the button box.

By default, this option is not selected for any datatype.

The processing information for raw switch data is defined in `/opt/MagellanMDP/cfg/mdp/MDPMPEMgr.cfg`

- 3 Repeat, as necessary, for each datatype.

- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

BDF and XML data management

An introduction to converting data to bulk data format (BDF) is provided in section “Converting switch data to bulk data format” (page 25).

A discussion about MPE and MDP data models and how they affect BDF data conversion is provided in section “Data models” (page 47).

The following topics are discussed in this section:

- “Converting MPE raw data to BDF” (page 175)
- “Setting decompression of XML output” (page 176)
- “Customizing BDF records” (page 176)
- “Setting the log level” (page 177)
- “Setting the BDF field delimiter” (page 177)
- “Setting the BDF conversion escape character” (page 178)
- “Setting BDF data compression” (page 178)
- “Creating empty BDF files” (page 179)

Converting MPE raw data to BDF

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: Account or Stats and click the button box beside **Convert FR to BDF**. For example, to convert accounting raw data to BDF, click the button box below **Account**.

A check mark is displayed in the button box.

By default, this option is not selected for any datatype.

The converted data is written to sub-directories of the directory `/opt/MagellanMDP/data/mdp/mpe/dump/*`.

- 3 Repeat, as necessary, for each support datatype. (Only Frame Relay Accounting and Statistics data conversion to BDF is supported.)
- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Setting decompression of XML output

Use this procedure to specify the type of MPE data files to decompress.

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: accounting, alarm, csal, statistics or trace and click a button box beside **Decompress output XML files**. For example, to specify statistics data decompression, click the button box below **Statistics**.
- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Customizing BDF records

BDF records may be customized by changing the Record Definition File (RDF) used to display BDF output. This is done by manually changing the default MPE RDF files included in the MDP package and placing the edited files in the appropriate configuration directory.

Note: If a customized RDF is required, and the Passport, and MPE RDF must remain consistent, then the RDF files for all nodes must be synchronized.

- 1 Using a text edit open the **mpe_acc.rdf** or **mpe_sta.rdf** located in the following library directories:

```
/opt/MagellanMDP/lib/mdp/rdf/mpe/accounting/  
mpe_acc.rdf
```

```
/opt/MagellanMDP/lib/mdp/rdf/mpe/statistics/  
mpe_sta.rdf
```

- 2 Edit the files as required, save and move to the following configuration directories:

```
/opt/MagellanMDP/cfg/mdp/rdf/mpe/accounting/  
mpe_acc.rdf
```

```
/opt/MagellanMDP/cfg/mdp/rdf/mpe/statistics/  
mpe_sta.rdf
```

- 3 To synchronize the custom MPE RDF with a Passport RDF, edit the Passport RDF to reflect the changes made to the MPE RDF. See “Customizing BDF records” (page 128).

Note: If Frame Relay fields are removed or reordered in a Passport RDF then matching changes must be made to the MPE RDF.

Setting the log level

Use this procedure to set the BDF conversion log level for MPE data.

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: accounting, alarm, csal, statistics or trace and click a button box beside **Log level**. For example, to set the log level for accounting data conversion, click the button box below **Account**.

The log levels are indicated (0 - 4).

- 3 Select a log level.

The default log level is 3 for all datatypes.

Log levels are described in section “Log levels” (page 209).

- 4 Repeat, as necessary, for each datatype.
- 5 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Setting the BDF field delimiter

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: account, statistics; type the hex code representation for the equivalent character in the data entry box beside **BDF field delimiter**. For example, to set the BDF field delimiter for accounting files, type the hex code in the data entry box below **Account**.

The default is DEL (0x7F) for all datatypes.

Note: Do not use alpha-numeric characters [Aa-Zz] [0-9]. They can make it difficult to read the output files. Also, do not use the following special characters: "|", "^", "(", ")", " ", ",", ":", or "/".

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Setting the BDF conversion escape character

A generic escape character can be set to mask characters that cannot be interpreted. If any delimiters, repeating field delimiters, or escape characters (generic or compressed) are encountered in data fields with a type of string, the string is replaced with <escape character><hex code>, where <hex code> is the 2-digit hexadecimal value of the character.

Escape character conversion is only required for Passport datatypes: alarms, logs, and state change notifications (SCN).

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a datatype: account, statistics; type the BDF escape character in a data entry box beside **BDF output escape char**. For example, to set the BDF escape character for alarm files, type the escape character in the data entry box below **Alarm**.

The default is % for all three datatypes.

Note: Do not use alpha-numeric characters [Aa-Zz] [0-9] as these can make it difficult to read the output files. Also, do not use the following special characters: "|", "^", "(", ")", " ", ",", or "/".

- 3 Repeat, as necessary, for each datatype.
- 4 Click **Save MPE** to save the configuration change and to restart the Passport File Manager.

Setting BDF data compression

BDF records with 3, or more, fields containing null values can be compressed to save disk space and transmission bandwidth. In BDF files, the start of the compression is indicated by ^<count> where <count> is the number of empty fields. For example, ^5 indicates 5 consecutive empty fields.

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Select a MPE datatype: Account or Stats and click a button box beside **BDF output compression**. For example, to compress accounting data, click the button box below **Account**.

A check mark is displayed in the button box.

By default, this option is not selected for any datatype.

- 3 Repeat, as necessary, for each datatype.

- 4 Click **Save MPE** to save the configuration change and to restart the MPE File Manager.

Creating empty BDF files

To retain the sequence of BDF file names, empty BDF files can be created when zero-length raw data files are collected. This done automatically for MPE XML files.

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 Click the button box **Process Empty Raw files (don't delete)**.
A check mark is displayed in the button box.
The button box does not display a check mark by default.
- 3 Click **Save MPE** to save the configuration change and to restart the Passport File Manager.

Setting the MPE File Manager log level

Use this procedure to set the log level for MPE administrative logs. These logs are generated by the MDP MPE Manager and are kept as `/opt/MagellanMDP/data/mdp/admin/MDPMPEMgr_<date>.log` files

- 1 Using the MDP Configuration tool, select **MPE**.
- 2 To change the current File Manager log level, click the button box **MPE File Manager log level**.
The log levels are indicated (0 - 4).
- 3 Select the appropriate log level. The default is level 3.
Log levels are described in section "Log levels" (page 209).
- 4 Click **Save MPE** to save the configuration change and to restart the Passport File Manager.

Collecting MPE data

This section describes how to configure the Management Data Provider (MDP) software to collect MPE data.

An introduction to collecting performance metrics on the MDP is provided in section “Data collection - MDP” (page 52) and a description of MDP related hosts is in section “Hosts” (page 35). For information about the MPE File Collector Manager and MPE File Collector processes, see “Collecting MPE data” (page 190).

For a description of fields, boxes, and buttons in these procedures, see “MPE Collection panel” (page 286).

The following topics are discussed in this section:

- “Defining the MPE network” (page 180)
- “Managing data collection entries” (page 180)
- “Setting data collection options” (page 182)
- “Scheduling data collection” (page 183)

Defining the MPE network

Network information is obtained from the Preside Multiservice Data Manager (MDM) Host Group Directory Server (HGDS). The HGDS can be located on the MDP host or on a remote MDM host.

Use the Host Group Administration tool (hgadmin) to define the MPE network. For information about the Host Group Administration tool, see 241-6001-303 *Preside MDM Administrator Guide*.

Managing data collection entries

Use this section to create data collection entries for each MPE group and each MPE datatype.

The following topics are discussed in this section:

- “Creating a new data collection entry” (page 181)
- “Activating and deactivating a data collection entry” (page 181)
- “Changing a data collection entry” (page 181)
- “Removing a data collection entry” (page 182)

Creating a new data collection entry

- 1 Using the MDP Configuration tool, select MPE Collection.
- 2 Complete the procedures in section “Setting data collection options” (page 182).
- 3 Complete the procedure in section “Scheduling data collection” (page 183).
- 4 Click Add.

The new data collection entry is added to the Entries panel.

The data collection entry is activated (ready to begin collecting data at the scheduled time).

Activating and deactivating a data collection entry

- 1 Using the MDP Configuration tool, select MPE Collection.
- 2 To activate a data collection entry, click the button box beside the data collection entry in the Entries panel.

A check mark is placed in the button box and the data collection entry is activated.
- 3 To deactivate a data collection entry, click the button box beside the data collection entry in the Entries panel.

The check mark is removed from the button box and the data collection entry is deactivated.
- 4 Click Save File Prober to save the configuration change and to restart the Passport File Prober Manager.

Changing a data collection entry

- 1 Using the MDP Configuration tool, select MPE Collection.
- 2 Select a data collection entry from the list of entries in the Entries panel.

The data collection entry parameters are indicated in the Collection Options and Collection Time windows. For example, if specific days of the month were selected using the calendar in the Collection Time window, the days are indicated on the calendar in that window.
- 3 Complete the procedures in section “Setting data collection options” (page 182).
- 4 Complete the procedure in section “Scheduling data collection” (page 183).
- 5 Click Update.

The updated data collection entry is replaced in the Entries panel.

Removing a data collection entry

- 1 Using the MDP Configuration tool, select MPE Collection.
- 2 Select a data collection entry from the list of entries in the Entries panel.
- 3 Click Delete.

The data collection entry is removed from the Entries panel.

Setting data collection options

- 1 Select the Collection Options tab.
- 2 Click the pull-down button box inside the **MPE Group** panel.

A list of MPE groups is displayed.

This list is obtained from the Preside Multiservice Data Manager Host Group Directory Server (HGDS) configuration file.

- 3 Select one of the MPE groups.
- 4 Type the MPE access userID in the data entry box User.

This MPE userID must be configured on all of the MPE within the MPE group. The MPE group permissions required by this userID are

- user class of Super-user
- permission bit set of All

- 5 Type the password for the MPE access userID in the data entry box Password.

Note: The password is stored in an encrypted format.

- 6 Click No erase on MPE to prevent the removal of closed MPE spool files after data collection. By default, MPE spool files are deleted after data collection.

A check mark is placed in the button box.

The button box does not display a check mark by default.

- 7 Type the maximum number of files to collect during a single data collection period in the data entry box Max. Files to Collect.

To specify the collection of all closed spool files, type *all*.

There is no limitation on the number of spool files to collect.

The default number is 60 files.

- 8 Type the number of seconds the MPE Collection Manager waits before failing the data collection when a MPE does not respond in the data entry box FTP timeout (sec).
The default is 300 seconds. The range is 60-1800.
- 9 Type the amount of free spool space required. The default is 50M. The Minimum is 20M.
- 10 Click the pull-down button box beside DataType.
A list of the MPE datatypes is displayed (acc, sta, log, ala, scn).
- 11 Select one of the MPE datatypes.
- 12 Optionally, type the name of a user-defined datatype.
- 13 Specify one of the following as the Connection Mode: CFG, FTP, SFTP.
The default is CFG
- 14 The command uses the setting defined in /opt/MagellanNMS/cfg/FTS.cfg, or if the file does not exist, the setting is taken from /opt/MagellanNMS/lib/cfg/FTS.cfg.)
- 15 Click log level to specify the verbosity of MPE Collection Manager logs.
The log levels are indicated (0 - 4).
- 16 Select the appropriate log level. The default is level 3.
Log levels are described in section "Log levels" (page 209).

Scheduling data collection



CAUTION

Scheduling data collections that coincide with time of day accounting (TODA) periods on the MPE switch can result in data collection being unsuccessful.

- 1 Select the Collection Time tab.
- 2 Using the buttons in the Data Collection Start Time panel, specify MPE collection start times.

To select multiple units, press the control keyboard button and click on individual units. For example, to select multiple days of the week click Monday and then press the control keyboard button and click Wednesday.

To select a range of units, click the first unit in the range, press the shift keyboard button and click the last unit in the range. For example, to select a range of days, click Monday and then press the shift keyboard button and click Wednesday.

A check mark in the All box can be used to specify the entire range of a unit. For example, to specify data collection on every day of the week select All for Every day on....

For example, to collect the node data at 2:00 AM each day, select: 2 for the hour, 0 for the minute, All for the month, and All for the day of the week.

Do not schedule collections for midnight. Conflicts with automatic processes may occur if you do.

- a. Select the month (Jan - Dec) or All.
- b. Select the hour(hr) (0 - 23) or All.
- c. Select the minute(min) (0 - 59) or All.
- d. Select the day of the week (Sunday - Saturday) or All.
- e. To select specific days of each month, select the days to collect data by clicking the dates on the calendar.

You cannot select specific days of each month using the calendar and select days of the week.

Chapter 6

MDP administration

This section describes miscellaneous aspects of the Management Data Provider (MDP).

The following topics are discussed in this section:

- “MDP commands” (page 185)
- “Processing archived raw data” (page 200)
- “Viewing BDF files with Data Viewer” (page 200)
- “Viewing BDF files with the bdfview command” (page 201)
- “Viewing Published Format files” (page 203)

MDP commands

This section describes the syntax of the Management Data Provider (MDP) commands that can be manually executed at the UNIX command line.

This section describes the commands for the following MDP processes:

- “Collecting Passport data” (page 186)
- “Collecting MPE data” (page 190)
- “Converting raw data files to BDF” (page 191)
- “Converting MPE raw data files to BDF” (page 193)
- “Converting raw files to PF” (page 195)
- “Identifying new node performance metrics” (page 198)

- “Launching the MDP Disk Manager and setting the minimum disk space” (page 199)

Collecting Passport data

MDP file probers (mdprober) are normally controlled by the MDP File Prober Manager. The File Prober Manager is controlled by the Server Administration tool (SVM).

MDP File Prober Manager

```
/opt/MagellanMDP/bin/mdpfpmgr
[-max_concurrent <m>]
[-loglevel <0-4>]
```

where:

```
[-max_concurrent <m>]
```

is the maximum number of concurrent probers allowed. The default number is 2. The maximum limit is 128.

```
[-loglevel <0-4>]
```

specifies the level of logs reported. The default level is 3.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

MDP file prober



CAUTION

Nortel Networks recommends that you use the File Prober Manager to control File Probers. If the File Prober Manager is not used to control File Probers: MDP host and node passwords are not secure, connectivity to nodes and MDP disk space availability cannot be confirmed prior to data transfers, the data transfer retry mechanism cannot be used, and data collection cannot be monitored using the Preside Multiservice Data Manager Alarm Display.

```
/opt/MagellanMDP/bin/mdprober
-host <Hostname>
-hup <HostUserId Password>
-data <Datatype>
```

```

-g <PassportName | PassportGroupName>
-up <PassportUserID Password>
[-nnmap | -idmap]
[-b <Backup Hostname>]
[-bup <UserID Password>]
[-files <all | number of files to transfer>]
{-noerase}
[-rollover]
[-timeout <file transfer timeout in seconds>]
[-loglevel <0-4>]

```

where:

```
-host <Hostname>
```

is the name of the primary MDP to which the node data is sent.

```
-hup <HostUserID Password>
```

is the user ID and password of a UNIX account on the MDP host to which the data is sent. This is the MDP administrator userID created during MDP installation.

```
-data <DataType>
```

is one of the following data types: acc for files that contain accounting information, sta for files that contain statistics information, ala for files that contain alarm information, log for files that contain switch command log information, and scn for files that contain state change notification information.

```
-g <PassportNodeName | PassportGroupName>
```

is either the group name of the nodes from which the data is collected or the name of the individual node from which the data is collected. The PassportGroupName exists only in the Host Group Directory Server (HGDS); the data stored on node does not include a group name.

If a PassportGroupName is provided, spooled data files for all node members within the group are collected. The PassportGroupName is a valid group name, as defined in the HGDS.

If a PassportNodeName is provided, only spooled data files from the specified node are collected.

```
-up <PassportUserID Password>
```

is the user ID and password of the group or node. The userID is provisioned on the node before File Prober can be used.

[-nnmap | idmap]

-nnmap indicates that files transferred from nodes include the node name in the raw data file names.

-idmap indicates that files transferred from nodes include the nodeID in the raw data file names.

Note: If you plan to transfer bulk data format (BDF) files to a billing host using shortened BDF file names, do not use the -nnmap option because unique file names cannot be guaranteed.

[-b <Backup Hostname>]

is the name of the backup MDP, used when a connection to the primary MDP fails. Use this optional parameter, only if a backup MDP is installed.

[-bup <UserID Password>]

is the user ID and password of a UNIX account on the backup MDP. This is the MDP administrator userID created during MDP installation. This option is only required if the userID and password are different from the userID and password used for the primary MDP.

[-files <all|number of files to transfer>]

is the maximum number of files transferred at any one time from a node. All indicates that all files found, at the time the File Prober is started, are transferred. Before using this option, determine the required data transfer start times for the File Prober.

Note: Do not schedule transfers to coincide with Time of Day Accounting (TODA) periods on the node, because these transfers result in starvation of the FTP process and data collection can fail.

[-noerase]

ensures that the File Prober does not remove the node spool files after the files have been copied to the MDP. The default is for the File Prober to remove node spool files after successful transfer.

**CAUTION**

Use this option for testing purposes only.

Using the `-noerase` option does not remove accounting files from the node after they are transferred to the MDP. Failure to remove these accounting files by other means can cause duplicated records.

`[-rollover]`

if this option is specified and the spool file for `-data <datatype>` is open on the node, the File Prober closes the open spool file and opens a new spool file before transferring the closed spool file to the MDP.

`[-timeout <file transfer timeout in seconds>]`

is the number of seconds the File Prober waits before halting execution when the node being probed is not responding. The default is 300 seconds.

`[-loglevel <0-4>]`

specifies the level of logs reported. The default level is 3.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

Collecting MPE data

The MPDMPECOL command can be invoked manually but is ordinarily started by the MDP Collection Manager (MDPMCMMGR).

MDPMCMMGR

The command to start the MDPMCMMGR server has the following syntax:

```
/opt/MagellanMDP/bin/mdpmcmgr [ -max_concurrent <n> ]  
[ -loglevel <verbosity> ]
```

where:

<n> is the maximum number of concurrent mdpmpecol processes allowed. The default value is 8.

<verbosity> specifies the level of verbosity for logs written to the mdpmcmgr logfile. Enter a number between 0 and 4, that represents one of the following settings: CRITICAL = 0, ERROR = 1, WARNING = 2, INFO = 3, and VERBOSE = 4.

MDPMPECOL start-up command

The command to start the MDPMPECOL process is:

```
mdpmpecol -type <fileType> -ne <nodeName>  
-user <userid> -pass <password>  
[ -xfermode <mode> ]  
[ -loglevel <verbosity> ]  
[ -spoolfree <diskSpace> ]  
[ -files <numFiles> ]  
[ -timeout <timeout> ]  
[ -noerase ]
```

where:

<fileType> specifies the file type to collect. File types are defined on the MPE switch. For the accounting, statistics and trace streams, the file type may be a specific file type, such as, **<stream usertype>**, or may be only the stream. When the file type is specified by only the stream all file types in the stream are collected.

<nodeName> specifies the HGDS configured name of the MPE switch to collect from.

<userid> and **<password>** specify an MPE user who has permission to read the spooled files of the type specified. The password must be encrypted.

<mode> specifies the file transfer mechanism to use: sftp or ftp. If the mode is not specified, the command uses the setting defined in `/opt/MagellanNMS/cfg/FTS.cfg`, or if that file does not exist the setting is taken from `/opt/MagellanNMS/lib/cfg/FTS.cfg`.

<verbosity> specifies the level of verbosity for logs written to the `mdpmpocol` logfile. Enter a number between 0 and 4, that represents one of the following settings: CRITICAL = 0, ERROR = 1, WARNING = 2, INFO = 3, and VERBOSE = 4.

<diskSpace> specifies the amount of free disk space (in Megabytes) to maintain in the spool directory. The default is 50M. Values of less than 20M are not acceptable.

<numFiles> specifies a maximum number of files to transfer. Enter a number or "all" to transfer all files. The default value is 60.

<timeout> specifies the file transfer timeout period (in seconds). The default value is 300 seconds. The timeout value range is 60 to 1800 seconds.

-noerase ensures that files are not removed from the MPE after a transfer to the MDP. The default behavior is to remove files from the network element after a successful transfer to the MPE.

Converting raw data files to BDF

Use the MDP administrator userID to execute the `bdfconv` command.

```
/opt/MagellanMDP/bin/bdfconv
-i <data_file>
[-rdf <RDFversion>]
[-o <output_file>]
```

```
[-d <delimiter>]  
[-esc <escape character>]  
[-compressed]  
[-loglevel n]  
[-force]  
[-help]  
[-splitdir <split_directory>]  
[-split <split_method>]  
[-dmidname]  
[-dmidrecord]
```

where:

```
-i <data_file>
```

the only mandatory command line input that specifies the absolute pathname of the input file. The data file name must be a valid raw data file name as described in section “Introduction” (page 23) for each of the MDP supported products.

```
[-rdf <RDFversion>]
```

an optional parameter that specifies the version of RDF. For example,

```
-rdf 14
```

```
[-o <output_file_name>]
```

an optional parameter that specifies the absolute pathname of the output file. The data file name must be a valid BDF file name as described in section “Introduction” (page 23) for each of the MDP supported products. The default directory is /opt/MagellanMDP/data/mdp/dump/<datatype>.

```
[-d <delimiter>]
```

an optional command line parameter that specifies a single character that can be used as field delimiter (for example, a separator) in the BDF output file.

The default field delimiter is the ASCII character.

```
[-esc <escape character>]
```

an optional character used to define an escape character.

The default escape character is %.

```
[-compressed]
```

an optional parameter that specifies that three, or more, consecutive blank, or empty, fields in the BDF output are compressed (replaced by one field that indicates how many fields are empty).

`[-loglevel <0|1|2|3|4>]`

an optional parameter that specifies the level of BDF conversion logs to be reported. The default level is 3.

`[-force]`

an optional parameter that forces any database used by the BDF Converter to be parsed again from the source files.

`[-help]`

an optional parameter that lists the bdfconv command line options.

`[-splitdir <split_directory>]`

an optional parameter that must be used with the `-split` option. This option specifies where bdfconv is to write the split BDF records. For more information, see “Bulk data format files” (page 32).

`[-split <split_method>]`

an optional parameter that must be used with the `-splitdir` option. This option specifies the method used to extract BDF records for output to an archive directory. For more information, see “Bulk data format files” (page 32).

`[-dmidname]`

an optional parameter that specifies that the Data Model Identifier (DMId) be specified on the BDF filename.

`[-dmidrecord]`

an optional command line parameter that specifies that the Data Model Identifier (DMId) and the RDF version be included in the datatype field of the BDF records.

Converting MPE raw data files to BDF

Use the MDP administrator userID to execute the `mpe_bdfconv` command.

```
/opt/MagellanMDP/bin/mpe_bdfconv  
-i <data_file>  
-type <recordType>  
[-o <output_file>]
```

```
[-delim <delimiter>]  
[-esc <escape character>]  
[-loglevel n]  
[-logfile <path>]  
[-comp]
```

where:

```
-i <data_file>
```

a mandatory parameter that specifies the absolute pathname of the input file. The data file name must be a valid raw data file name such as “mpe_<type>.<date>.<sequence>.<nodeName>.xml” for each of the MPE products.

```
-type <recordType>
```

an mandatory parameter that specifies the type of raw file. For example,

```
-type acc
```

```
[-o <output_file_name>]
```

an optional parameter that specifies the absolute pathname of the output file. The data file name must be a valid BDF file name such as “mpe_<dataType>.<date>.<sequence>.<nodeName>.<type>.bdf” for each of the MPE products. The default directory is /opt/MagellanMDP/data/mdp/mpe/dump/<datatype>.

```
[-d <delimiter>]
```

an optional command line parameter that specifies a single character that can be used as field delimiter (for example, a separator) in the BDF output file.

The default field delimiter is the ASCII character.

```
[-esc <escape character>]
```

an optional character used to define an escape character.

The default escape character is %.

```
[-loglevel <0|1|2|3|4>]
```

an optional parameter that specifies the level of BDF conversion logs to be reported. The default level is 3.

```
[-logfile <path>]
```

an optional parameter that specifies the log file.

[-help]

an optional parameter that lists the mpd_bdfconv command line options.

[-comp]

an optional parameter that specifies that three, or more, consecutive blank, or empty, fields in the BDF output are compressed (replaced by one field that indicates how many fields are empty).

Converting raw files to PF

Use the MDP administrator userID to execute the fpconv and amconv commands.



CAUTION

Using SVM, halt the appropriate File Manager (mdppmgr or mdpdpngr) before you run the PF converter (fpconv or amconv).

Ensure that other instances of the PF converter (fpconv or amconv) are not executing and that the PF converter is not scheduled to execute.

The syntax of the Passport Published Format Converter is

```
/opt/MagellanMDP/bin/fpconv
[-big] [-ebcdic] raw_filename
[output_directory]
[-help | -h] [-loglevel <0-4>]
```

The syntax of the DPN Published Format Converter is

```
/opt/MagellanMDP/bin/amconv
[-big] [-ebcdic] [-x <suffix>] raw_filename
[output_directory]
[-c [customer_id] | -n [nams_id] | -s [service_type]]
[-help | -h]
[-recover] [-loglevel <0-4>]
```

where:

```
<raw_filename>
```

is the only mandatory command line input. It is the full pathname of the input file that is to be converted to Published Format.

[-big]

this option specifies that big endian encoding is used for numeric fields. If this flag is not specified, small endian encoding is used.

[-ebcdic]

this option specifies that EBCDIC encoding is used for text fields. If this flag is not specified, ASCII encoding is used.

[-x <suffix>]

this option directs the converter to use the specified output filename suffix.

[output directory]

The directory in which the output files are placed. If no directory is specified, the output files are placed in the current directory. If the converter is invoked by one of the File Managers, the output files are created in /opt/MagellanMDP/data/mdp/dump/accounting.

[-c [customer_id]]

this option directs the converter to create more than one output file.

If a customerID is specified with this option, 2 files are created; one file that contains only those accounting records for the specified customerID and another file that contains the accounting records for all other customerIDs.

If a customerID is not specified with this option, an output file is created for each customerID.

If the -c option is used, you cannot use the -n or -s options.

[-n [nams_id]]

this option directs the converter to create more than one output file.

If a namsID is specified with this option, 2 files are created; one file that contains only those accounting records for the specified namsID and another file that contains the accounting records for all other namsIDs.

If a `namSID` is not specified with this option, an output file is created for each `namSID`.

If the `-n` option is used, you cannot use the `-c` or `-s` options.

`[-s [service_type]]`

this option directs the converter to create more than one output file.

If a service type is specified with this option, 2 files are created; one file that contains only those accounting records for the specified service type and another file that contains the accounting records for all other service types.

If a service type is not specified with this option, an output file is created for each service type.

If the `-s` option is used, you cannot use the `-c` or `-n` options.

`[-recover]`

This option is only available for published format conversion of DPN accounting files.

When data corruption is encountered in a DPN accounting record, the default behavior of MDP is to halt processing of the file and store the corrupted record and all other records in an error file. Selecting this option indicates that MDP must attempt to recover any valid records that can be present in the file beyond the data corruption. The error file is still created, but all recovered records are stored in the Published Format output files.

`[-help | -h]`

an optional parameter that lists command options.

`[-loglevel <0-4>]`

an optional parameter. This parameter specifies the level of PF conversion logs to be reported. The default level is 3.

Identifying new node performance metrics

Use the command **rdfreport** to identify Passport performance metrics before they are introduced into the network. This command obtains a new data model from a specified device, creates a schema for each record and compares the new schemas to the current record description files (RDFs) to detect new performance metrics.

New performance metrics are indicated as **New** fields in the **Passport <datatype> RDF Configuration** window, where <datatype> is the datatype selected from the **Passport** window of the Management Data Provider (MDP) Configuration tool. For information about identifying, and using, new performance metrics, see “Customizing BDF records” (page 128).

Note: Ensure that the Data Model Manager (mdpdmm) is running before using this command.

```
/opt/MagellanMDP/bin/rdfreport
-node <Passport IP address>
-login <Passport userID>
-password <Passport password>
-load <Passport loadname>
[-loglevel <loglevel>]
[-help | -h]
```

where:

```
-node <Passport IP address>
```

This parameter specifies the IP address of the node.

```
-login <Passport userID>
```

This parameter specifies the userID used to access the node.

```
-password <Passport password>
```

This parameter specifies the password associated with the userID.

```
-load <Passport loadname>
```

This parameter specifies the loadname of the Passport software load (for example, CB03S2C).

```
[-loglevel <loglevel>]
```

This optional parameter specifies the level of logs to be reported. The default level is 3.

```
[-help | -h]
```

This optional parameter lists the command options.

Launching the MDP Disk Manager and setting the minimum disk space

For more information about the MDP Disk Manager, see “Configuring data file retention” (page 94).

Note: mdpdiskmgr is controlled using the Server Administration tool (SVM). For more information, see 241-6001-310 *Preside MDM Server Reference Guide*.

```
/opt/MagellanMDP/bin/mdpdiskmgr  
[-freespace <space>]  
[-loglevel <loglevel>]  
[-help | -h]
```

where:

```
[-freespace <space>]
```

This optional parameter specifies the amount of available disk space to be retained on an MDP host. The default is 100000K.

```
[-loglevel <loglevel>]
```

This optional parameter specifies the level of logs to be reported. The default level is 4.

```
[-help | -h]
```

This optional parameter lists the command options.

Processing archived raw data

The Management Data Provider (MDP) can process archived raw data for Passport, and DPN-100 switches only.



CAUTION

Use this option for testing purposes only.

Re-processing raw data can generate duplicate records which can be transferred to downstream applications.

- 1 Stop the file manager (mdpdpmgr, mdppmgr) using the SVM.
- 2 Copy the archived raw data file from a sub-directory of the archive directory /opt/MagellanMDP/data/mdp/archive to the MDP spool directory /opt/MagellanMDP/data/mdp/spool.
- 3 Restart the file manager (mdpdpmgr, mdppmgr) using the SVM.

Viewing BDF files with Data Viewer

Bulk data format (BDF) files can be viewed online in various forms, including spreadsheet and graphics, using the Preside Multiservice Data Manager **Data Viewer**. For more information about the Data Viewer, see 241-6001-031 *Preside MDM Performance Management User Guide*.

Note: Including the record description file (RDF) version in the BDF records enables the Data Viewer application to select the correct RDF for BDF file viewing. To include the RDF version in BDF records, see “Including the short component name with BDF records” (page 127).

Viewing BDF files with the `bdfview` command

Bulk data format (BDF) files can be viewed with the command `bdfview` to ensure that converted BDF files are consistent with the raw data files generated by the switches.

`bdfview` translates ASCII BDF records to **FieldName Value** pairs and displays the output. `bdfview` does not support filtering or field selection.

Record description files (RDF) are used to decode the BDF file. `bdfview` selects the RDF using the first two fields of a BDF data file record. These fields are `dataType` or `switchType`.

For Passport BDF files, `bdfview` attempts to use the RDF identified in the RDF version portion of the `dataType` field.

- If the RDF version is not specified in the `dataType` field, `bdfview` uses the current customized RDF for the `dataType`.
- If the RDF for the `dataType` has not been customized, the default RDF is used.

For DPN-100 BDF files, `bdfview` attempts to obtain the RDF from the directory `/opt/MagellanMDP/cfg/mdp/rdf/<switchType>/<dataType>`.

- If the current directory does not contain a compatible RDF, `bdfview` checks the directory `/opt/MagellanMDP/lib/mdp/rdf/<switchType>/<dataType>`.
- If this fails, `bdfview` terminates.

```
/opt/MagellanMDP/bin/bdfview -i <BDF_data_file>
[-d "<delimiter>"]
[-esc "<delimiter>"]
[-h|-help]
[-loglevel <value>]
[-m <MaxRecord>]
[-p]
```

where:

```
-i <BDF_data_file>
```

This mandatory parameter specifies the filename of the input BDF file.

[-d "<delimiter>"]

This optional parameter specifies the field delimiter in a BDF file. Field values in the output are separated by this character (either a single non-integer character or an integer representing the ASCII code for a character). The default is 127, which is the ASCII ** character. Use of double-quotes around the delimiter is required to ensure that the delimiter is not mistaken for a UNIX special character.

[-esc "<delimiter>"]

This optional parameter specifies the escape character used in a BDF file.. The default is "%". Use of double-quotes around the delimiter is required to ensure that the delimiter is not mistaken for a UNIX special character.

[-h | -help]

This optional parameter lists the available options.

[-loglevel <value>]

This optional parameter specifies the level of logs to be reported. The default level is 3.

[-m <MaxRecord>]

This optional parameter specifies the maximum number of records to display.

[-p]

This optional parameter directs the process to use the previous, pre-R10.8, display format for DPN-100 alarms. Use of this option causes the values for fields sourceId and faultCode to be displayed in decimal format, only, and fields expertData and operatorData to be displayed in one continuous hex string.

Viewing Published Format files

Use the MDP administrator userID to execute the pfview command.

```
/opt/MagellanMDP/bin/pfview <options>
```

The available options are

```
-i <accounting data file>
```

Specifies the filename of the Published Format accounting file.

```
[-big]
```

specifies big-endian PF files. If the -big option is not specified, small-endian is assumed.

```
[-d <delimiter>]
```

Specifies the field delimiter for the spreadsheet option.

If this parameter is typed on the command line, then output is presented in a spreadsheet format. The field values in the output are separated by the delimiter characters (a maximum of three). Records are separated by a newline character. The file Acc.rdf or Acc.sch can be used to parse the spreadsheet output. The resulting file can be imported into a spreadsheet for viewing.

```
[-m <max records>]
```

Specifies the maximum number of records to be returned starting from the first record.

```
[-ebcdic]
```

Specifies that the file to be viewed is in EBCDIC format. If EBCDIC is not specified, the default is ASCII.

Note: Flag fields are reported as binary strings.

Chapter 7

MDP logs

This section describes Management Data Provider (MDP) logs.

The following topics are discussed in this section:

- “Log format” (page 205)
- “Log file names” (page 206)
- “Log levels” (page 209)
- “MDP Log Display” (page 210)
- “Log messages” (page 221)

Log format

The format of the Management Data Provider (MDP) logs is

```
<datetime>: <severity>: <fault_code>: <nodeID>: <process_name>: <log_msg>  
<datetime>: <severity>: <fault_code>: <nodeID>: <process_name>: <log_msg>  
<datetime>: <severity>: <fault_code>: <nodeID>: <process_name>: <log_msg>
```

where:

- each field is separated by a colon “:”
- <datetime> is the date and time of the start of the current process operation; in the format YYYYMMDDThhmmss
- <severity> is the severity of the current process operation. This log parameter can include any of the following:

- CRITICAL indicates that an operation cannot be performed, and this failure compromises the integrity of the process results. Processing may or may not continue.
- ERROR indicates that an operation cannot be performed, but this failure does not compromise the integrity of the process results. Processing continues.
- WARNING indicates that an operation has completed without errors, but the integrity of the process results are in doubt.
- INFO indicates an information message about the current process operation.
- VERBOSE indicates a verbose form of an information message.
- <fault_code> provides a reference to resolutions in section “Log messages” (page 221)
- <nodeID> is the name of the node that provided a raw data file or the name of the MDP host (if applicable)
- <process_name> is the name of the current MDP operation

The File Prober process name (mdprober) may include the datatype. For example, mdprober_acc.

The Data Model Manager process name (mdpdmm) may include the UNIX process identifier (PID). For example, mdpdmm_1234.

- <log_msg> is the process indication message

Log file names

This section describes the file name formats for Management Data Provider (MDP) logs. MDP log files are stored in the directory /opt/MagellanMDP/data/mdp/admin.

The table “MDP log files” (page 207) indicates the log file name for each MDP process.

Table 4
MDP log files

Process	Log file
Passport File Manager	MDPPPMgr(SunlMonlTueWedlThulFriSat)_YYYYMMDD.log
DPN File Manager	MDPDPNMgr(SunlMonlTueWedlThulFriSat)_YYYYMMDD.log
MPE Collection Manager	MDPMCMgr_YYYYMMDD.log
MPE File Manager (administrative logs)	MDPMPMgr_YYYYMMDD.log
MPE Collector	MDPMPECOL_<group>_<fileType>_YYYYMMDD.log where <group> is a customer group name defined in HGDS <filetype> is one of: ACC, STA, TRA, ALA, SAL
Passport process (data conversion)	MDPPPDData_all_(SunlMonlTueWedlThulFriSat) _YYYYMMDD.log
DPN process (data conversion)	MDPDPNData_all_(SunlMonlTueWedlThulFriSat) _YYYYMMDD.log
MPE BDF process (data conversion)	MDPMPData_all_(SunlMonlTueWedlThulFriSat)_YYYYMMD D.log
File Mover Manager	MDPFMMgr_YYYYMMDD.log
File Mover	MDPMover_<filetype>_YYYYMMDD.log where <filetype> is one of: ACC_PF, PP_ACC_BDF, PP_ALA_BDF, PP_LOG_BDF, PP_SCN_BDF, PP_STA_BDF, PP_OTG_BDF, PP_SRS_BDF, DPN_ACC_BDF, DPN_ALA_BDF, DPN_LOG_BDF, DPN_STA_BDF, DPN_OTG_BDF, VSS_ACC_BDF, VSS_STA_BDF, AUDIT_RPT, AVA_BDF, MSP_FRACC_BDF, MSP_FRSTA_BDF, MSP_XML, MSP_DXML
File Cleanup	MDPClean(SunlMonlTueWedlThulFriSat)_YYYYMMDD.log
Disk Manager	MDPDiskMgr(SunlMonlTueWedlThulFriSat)_YYYYMMDD.log
Outage Controller	MDPOCtrl(SunlMonlTueWedlThulFriSat)_YYYYMMDD.log
Topology Generator	MDPNMTopGen(SunlMonlTueWedlThulFriSat)_ YYYYMMDD.log
(Sheet 1 of 2)	

Table 4 (Continued)
MDP log files

Process	Log file
Availability Calculator	MDPAC<YYYYMMDD>.log
Configuration	MDPConfig(Sun Mon Tue Wed Thu Fri Sat)_YYYYMMDD.log
Flexible Directory Installation	MDPFID(Sun Mon Tue Wed Thu Fri Sat)_YYYYMMDD.log
File processing audit	MDPAudit(Sun Mon Tue Wed Thu Fri Sat)_YYYYMMDD.log
File Prober Manager	MDPFPMgr_YYYYMMDD.log
File Prober	/mdprober/<datatype>/mdprober_<Passport_nodename>_YYYYMMDD.log
Data Model Manager	MDPDMM_YYYYMMDD.log
RDF Generator	MDPRdfgen_YYYYMMDD.log
Schema Generator	MDPSchemagen_YYYYMMDD.log
Statistics Retrieval System	MDPSRS(Sun Mon Tue Wed Thu Fri Sat)_YYYYMMDD.log
(Sheet 2 of 2)	

Temporary log files

To support multi-threaded file managers, temporary log files are created for each Passport, MPE, or DPN raw data input file processed by the Management Data Provider (MDP). These temporary log files are created in the directory
/opt/MagellanMDP/data/mdp/admin/tmp.

The file name format for the temporary log files is

```
<switch_type>_<raw_data_file>.log.<co|cc>
```

where:

<switch_type> is pp for Passport and mpe for MPE, and DPN for DPN-100

<raw_date_file> is the name of the raw data file being processed

<co> indicates that the temporary log file is open

<cc> indicates that the temporary log file is closed

Archived log files

Individual Management Data Provider (MDP) logs can be archived using the Log Archival window of the MDP Configuration tool; see “Configuring log archiving” (page 103). The MDP processes that create archived log files are the Passport File Manager, the DPN File Manager, and the Passport File Prober. Archived log files are maintained in custom sub-directories of the archive directory `/opt/MagellanMDP/data/mdp/admin/archive`.

The file name format for the Passport File Manager archive log file is

```
MDPPData_(Sun|Mon|Tue|Wed|Thu|Fri|Sat)_YYYYMMDD.log
```

The file name format for the DPN File Manager archive log file is

```
MDPDNData_(Sun|Mon|Tue|Wed|Thu|Fri|Sat)_YYYYMMDD.log
```

The file name format for the Passport File Prober archive log file is

```
mdprober_(Sun|Mon|Tue|Wed|Thu|Fri|Sat)_YYYYMMDD.log
```

Log levels

Log levels assign the type of information recorded for each MDP process.

There are five levels of log reporting

- 0 specifies that critical errors are to be logged.
Critical errors cause the process to terminate.
- 1 specifies that general errors and critical errors are to be logged.
General errors indicate that a process operation failed, but this failure did not compromise the integrity of the process. The process continues.
- 2 specifies that warnings, errors, and critical errors are to be logged.
Warnings indicate that a process operation was performed without errors, but questionable results were produced. This is the default log level.
- 3 specifies that information, warnings, errors, and critical errors are to be logged.
Information logging includes processing start time and completion time.
- 4 specifies that verbose information, information, warnings, errors, and critical errors are to be logged.
Verbose information includes information about file operations and statistics.

MDP Log Display

You can create a report of Management Data Provider (MDP) log files.

The MDP Log Display graphical user interface (GUI) consists of a single window with which you select logs and display log information.

The MDP Log Display restricted command line interface (RCLI) displays MDP logs by generating reports to screen or file from the UNIX command line. For more information about the MDP Log Display RCLI, see “Generating log reports from the command line” (page 219).

Note: The MDP Log Display is not compatible with logs generated before MDP software release R12.4.

This section describes how to use the MDP Log Display and describes MDP Log Display window components.

- “Opening the MDP Log Display window” (page 210)
- “MDP Log Display window” (page 212)
- “Using the MDP Log Display window” (page 216)
- “Generating log reports from the command line” (page 219)

Opening the MDP Log Display window

Launch the Management Data Provider (MDP) Log Display using one of the following methods.

The MDP Log Display window options are described in section “MDP Log Display window” (page 212).

Note: To launch the MDP Log Display, your UNIX userID must be either the MDP administrator userID or have MDP user group (mdpgroup) permissions.

Access from the application main window

- 1 To launch the MDP Log Display from the Preside Multiservice Data Manager main window, as the MDP administrator, select **Accounting -> Management Data Provider Log Display**

The **MDP Log Display** window opens.

Access from the UNIX command line

- 1 To launch the MDP Log Display from the UNIX command line, as the MDP administrator, type the following command:

```
/opt/MagellanMDP/bin/mdplv
```

The **MDP Log Display** window opens.

MDP Log Display window

This section describes the menus and panels of the MDP Log Display window.

The following topics are discussed in this section:

- “Pull-down menus” (page 212)
- “Logfile Location” (page 214)
- “Report Fields” (page 214)
- “Log report panel” (page 215)
- “Log records” (page 215)

Pull-down menus

The MDP Log Display window includes the following pull-down menus, located at the top of the window:

- **File** options
 - **Log Directory** - this option opens a dialog box to specify the location of input logs. The default location for MDP logs is the directory `/opt/MagellanMDP/data/mdp/admin`.
 - **File Prober Log Directory** - this option opens a dialog box to specify the location of input File Prober logs. The default location for File Prober logs is the directory `/opt/MagellanMDP/data/mdp/admin`.
 - **Get Filter** - this option opens a dialog box that lists MDP Log Display filters stored in the directory `/opt/MagellanMDP/cfg/mdp`.

You can navigate to other MDP directories to find filters stored in other directories using the Get Filter dialog.

- **Save Filter** - this option opens a dialog box to specify a name for the current log selection criteria and saves the filter to a file.

The default is to save the filter as `/opt/MagellanMDP/cfg/mdp/<filterName>.filter`, where `<filterName>` is the name you specified.

If you select an existing `filterName`, the existing filter is over-written

with the new selection criteria.

You can also navigate to other MDP directories to store filters in other locations.

Log Display filters not stored in directory /opt/MagellanMDP/cfg/mdp are not displayed with the **File->Get Filter** option.

- **Delete Filter** - this option opens a dialog box to specify or select a saved filter for deletion.

The default is to list the filters in /opt/MagellanMDP/cfg/mdp.

You can also navigate to other MDP directories to find filters in other locations.

- **Save Report** - this option opens a dialog box to specify a name for the current report and save the report to a file.

The default is to save the report as \$HOME/<reportName>.rpt , where \$HOME is your home directory and <reportName> is the name that you specified.

You can navigate to other MDP directories to store reports in other locations using the Save Report dialog.

- **Print Report** - this option prints the current report to the printer destination for environment variable PRINTER.

- **Options** options

Note: The defaults set by these pull-down menu items are specific to the userID.

- **Set Log Directory as Default** - this option sets the current directory as the default log directory.
- **Set File Prober Log Directory as Default** - this option sets the current File Prober directory as the default File Prober log directory.

- **Report** options

- **Run** - this option executes the Log Display reporting process using the current selection and sorting criteria.
- **Help** options
 - **Help on Window** - this option displays information about using the MDP Log Display.

Logfile Location

The **Logfile Location** panel:

- **MDP Log Directory** - this information indicates the directory currently used to obtain input log files. This information is changed when you use pull-down menu item **File->Log directory** to change directories.

Beside this label is the button **set as default**. Clicking this button sets the current directory as the default MDP log directory.

- **File Prober Log Directory** - this information indicates the directory currently used to obtain input File Prober log files. This information is changed when you use pull-down menu item **File->File Prober Log directory** to change directories.

Beside this label is the button **set as default**. Clicking this button sets the current directory as the default File Prober log directory.

Report Fields

Use the **Report Fields** panel to add or remove log fields in the log report panel.

- If a log message field is not currently included in the log report panel, clicking the log field button in the Report fields panel adds the field to the log report panel.
- If a log message field is currently included in the log report panel, clicking the log field button in the Report fields panel removes the field from the log report panel.

The log fields that can be included in the log report panel are

- Time
- Log Level

- Fault Code
- Node ID
- Process
- Message Text

Log records

The MDP Log Display window includes information about the log records used by the MDP Log Display. The information about the log records is displayed below the **Selection Criteria** and **Report Fields** panels.

- **Display Counts Only** - select this button to prevent the display of log field data. The number of records found as a result of a search are indicated by **Records Found**.

The default is to display log data and to indicate the number of records found.

- **Records Found** - is the number of log records found as a result of a search.
- **Maximum Records to include in Report** - use this data entry box to specify the maximum number of records to include in the report.

If the specified maximum is exceeded, you are prompted to continue or halt processing. If you halt processing, the maximum number of log records is displayed. If you choose to continue processing, the MDP Log Display searches for log records until the search criteria is exhausted, all of the input log files are searched, or the specified maximum is once again exceeded.

The default is to include a maximum of 100 records in a report.

Log report panel

The MDP Log Display window includes a panel to display the retrieved logs.

This panel

- displays the specified log fields in tabular format. For information about including and excluding log fields, see “Report Fields” (page 214).

- displays the results of the log record search.
- column headings contain the names of log fields.

Column headings can be used to sort the report. The default is for all fields to be reported in ascending order. If you left mouse click on a column heading, the report is re-sorted in reverse order based on the selected field.

Using the MDP Log Display window

- 1 Launch the **MDP Log Display**; see “Opening the MDP Log Display window” (page 210).
- 2 To retrieve a stored log report filter, select pull-down menu item **File->Get Filter**. For more information about File->Get Filter, see “Pull-down menus” (page 212).
- 3 If the logs required for this report are not located in the directory current default directory, select the logs using the one of the pull-down menu items **File->Log Directory** or **File->File Prober Log Directory**. For more information about these menu items, see “Pull-down menus” (page 212).

After you change the current directory, you can set this directory as the default by clicking the **Set as Default** button beside the directory display box.

- 4 Using the **Report Fields** panel, select log report fields.

To select a log report field, click the log field button.

The order that you select log fields is the order that log fields are displayed.

- 5 Using the **Selection Criteria** panel, specify a starting date and time for your search of logs.

This is the date and time of the oldest log record to include in the report.

The default starting date and time is the start of the current year; for example, 20020101T000000.

You cannot specify a future date.

- a. Type the date in the format YYYYMMDDTHHMMSS in the **Starting Date & Time** box.
- b. For the current day's logs, type **today**.

- 10** Using the **Selection Criteria** panel, select the MDP processes to include in the report.

The default is to report all MDP processes.

- a. To select a single MDP process, left-mouse click on the MDP process in the **Process** box.
 - b. To select multiple MDP processes, control-left mouse click on each MDP process in the **Process** box.
 - c. To select a range of MDP processes, left-mouse click on the first MDP process and shift-left mouse click on the last MDP process in the **Process** box.
- 11** Using the **Selection Criteria** panel, select the message texts to include in the report.

This is the message text contained in each log. The message text describes an event, the success or failure of the event, and, sometimes, a corrective action.

The default is to report all message texts. This is indicated by .* in the **Message Text** box.

- a. Type any UNIX regular expression to parse MDP log message texts in the **Message Text** box.
- 12** If fields are now included that are not required, remove the fields using the **Report fields** panel. Click on each unneeded field. For more information about the Report fields panel, see “Report Fields” (page 214).
- 13** Optionally, change the **Display Counts Only** setting. For more information about this setting, see “Log records” (page 215).
- 14** Optionally, change the **Maximum Records to include in Report** setting. For more information about this setting, see “Log records” (page 215).
- 15** Select pull-down menu item **Report->Run**.

A dialog box opens with the message

`Report is being generated.`

- 16** When the MDP log search is complete, the report is displayed. For more information, see “Log report panel” (page 215).

A dialog box opens with the message

`Report has been created.`

The dialog box contains an Ok button. Click **OK** to acknowledge report completion.

- 17 To change the order of the fields displayed
 - a. press and hold the left mouse button on a column heading
 - b. move the selected column over another column
 - c. the selected column is inserted to the left of the covered column
- 18 To change the size of a column displayed
 - a. press and hold the left mouse button on a column separator line
 - b. move the column separator line left or right to shrink or enlarge the column
- 19 To save the current report to a file, use pull-down menu item **File->Save Report**. For more information about this menu item, see “Pull-down menus” (page 212).

A dialog box opens.

If a filename is not specified and the dialog box closes, you are prompted to confirm that you do not want to save the current report to file.

- 20 To save the current selection criteria to a filter file, use pull-down menu item **File->Save Filter**. For more information about this menu item, see “Pull-down menus” (page 212).

The following selection criteria is saved:

- selected log input directory
- included report fields
- selection criteria for each included report field
- display record counts, only
- maximum number of records to report in report

A dialog box opens.

If a filename is not specified and the dialog box closes, you are prompted to confirm that you do not want to save the filter.

Generating log reports from the command line

The MDP Log Display restricted command line interface (RCLI) displays MDP logs by generating reports to screen or file from the UNIX command line.

Log information can be selected (filtered) and sorted using filters saved by an Log Display GUI session. For information about saving Log Display filters, see “Using the MDP Log Display window” (page 216).

Log reports can be scheduled to run using the UNIX crontab facility. The Log Display GUI is normally used to create log report filters and the Log Display RCLI is used to schedule periodic generation of log reports.

Command syntax

The syntax of the Log Display report generator is

```
/opt/MagellanMDP/bin/mdplv -nogui  
( -fn <filter_name> [-o <output_file>] )  
[-lf]  
[-h|-help]
```

The available options are

-nogui

This option instructs the Log Display to generate a log report to the screen or file. The Log Display GUI is not opened.

-fn <filter_name>

This mandatory option specifies the filter to use when generating a log report. If the filter is not in the current directory, specify the absolute path and file name.

[-o <output_file>]

If you include this option with the command `mdplv -nogui`, the generated report is saved to a file and not displayed to the screen. `<output_file>` specifies the name of the file where the generated report is written. If you do not want to save the file in the current directory, specify the absolute path and file name.

If you want the generated report displayed to screen, do not include the `-o <output_file>` option.

The default is to generate the report to screen, only.

[-lf]

This option directs the command `mdplv -nogui` to list available filters. Log Display filter files in the directory `/opt/MagellanMDP/cfg/mdp` are listed.

[-h | -help]

This option displays information to assist in using the Log Display RCLI.

Log messages

This section describes Management Data Provider (MDP) log messages. Identified are the fault code associated with each message, the message text, the MDP process that generated the message and possible corrective actions.

Note: Not all MDP log messages are documented. “MDP log messages” (page 221) contains MDP log messages applicable to some, but not all, MDP processes.

The suggested corrective actions are general recommendations. If you are unable to correct the indicated fault, contact Nortel Networks Customer Support.

Table 5
MDP log messages

Fault code	Message	Generated by: Resolution:
00001	Cannot open input file.	All Ensure that the specified file exists and has the correct permissions.
00005	Cannot open output file.	All Check permissions and disk space.
00010	Cannot open configuration file.	All Ensure that the file exists and has correct permissions. If the file does not exist, consult the NTP for instructions on configuring.
00020	Cannot access directory.	All Ensure that the directory exists and has the correct permissions.
(Sheet 1 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
00025	Error moving/copying file or directory.	All Ensure that the source file and directory exist and have the correct permissions. Ensure that the target directory exists, has write permission and adequate disk space.
00030	File <filename> is not a directory.	All The specified file is a file but it should be a directory. If this is a command line parameter, specify a directory instead of a file.
00035	Cannot close file.	All Ensure that there is sufficient disk space.
00040	Invalid filename.	All The specified filename is invalid.
00045	System call failed.	All MDP made a system call to the OS which failed. Refer to the specific message for details.
00100	Invalid user.	All The userID that attempted to run this program was not the valid user. Log in as the valid user and rerun.
00105	Can't determine the userid of current user.	All Ensure that the current user is the valid user for this program.
00106	Can't determine the userid of the MDP administrator.	All The MDP administrator is determined by the owner of directory /opt/MagellanMDP/cfg/mdp, ensure that this directory is accessible and owned by the MDP administrator.
(Sheet 2 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
00120	Another instance of this program is already running.	File Managers, Outage Calculator, Outage Controller, SRS Some programs can only have one instance running to preserve file integrity. Stop the first instance of a program before starting another.
00121	Diskmanager is not running.	File Managers The disk manager must be running before the File Managers will start. Configure the disk manager using gmdpconfig. If it is configured but not started, start it using SVM.
00150	Invalid or expired license.	All Contact your Nortel Networks Customer Support to get a new license.
00200	Forced to die due to signal.	All A signal was received. Rerun without changes.
00220	Command line error.	All Use the -help option to determine the correct command line usage.
00300	Configuration error.	All The configuration for this tool is invalid or corrupt. Configure using gmdpconfig.
00320	Module file is corrupt.	Topology Generator Rerun the topology generator.
00325	RDF file is corrupt.	All If this is a user defined RDF, inspect for errors. If this is the default supplied RDF, contact your Nortel Networks Customer Support.
00400	Invalid group name.	File Prober. Specify a valid group name.
01000	Cannot open schema database <filename>.	BDF Converter Check permissions.
(Sheet 3 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
01100	Raw file is corrupt.	BDF Converter Contact Nortel Networks Customer Support.
02500	MDM is not installed or is configured incorrectly.	SRS Refer to product documentation for information on resolving the specific problem.
09000	MDP is not installed correctly.	All Re-install MDP.
09010	Out of memory.	All The workstation is out of memory. Stop processing and restart tool. Check engineering specifications.
09100	Process terminated with error.	All The process terminated with an error. Refer to log file for details.
09999	Internal error.	All Contact your Nortel Networks Customer Support.
10000	Error occurred.	All This is an informational message only. An error occurred but no action is required.
10001	Cannot access file.	All Check permissions. If the process is attempting to write data, check disk space.
10045	System call failed.	All MDP made a system call to the OS which failed. For details, refer to the message that accompanied this message.
10070	Failed to connect to host.	File Prober Check connectivity to host including userID/password.
10090	FTP failed.	File Prober FTP failed. Retry FTP connection.
(Sheet 4 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
10100	Failed to connect to switch.	File Prober Check connectivity to switch including userID/password.
10174	Cannot connect to or send alarm to the IMDR.	All Ensure that the IMDR is active on either the local MDP host or on the Preside Multiservice Data Manager host specified in the MDP Surveillance window.
10320	Module file is corrupt.	Outage Calculator Rerun the topology generator.
14000	Raw record is corrupt.	BDF Converter The raw record obtained from the switch is corrupt. Contact Nortel Networks Customer Support.
14100	Database is corrupt.	File Managers, BDF Converter Stop and restart the File Manager. If you are running the BDF Converter, use the -force option.
10500	Conversion failed.	BDF Converter Contact Nortel Networks Customer Support.
10550	Summary of the number of error records in a raw file.	BDF Converter Contact Nortel Networks Customer Support.
10700	Duplicate file received from switch.	File managers No action required.
10900	Insufficient disk space.	All Free disk space.
10950	Failed to send trap.	All. Ensure MDP is correctly configured to send traps. Ensure the SNMP host is set up to receive traps.
(Sheet 5 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
12000	FMIP communication error.	File Prober, SRS There is a problem with the FMIP communication between a node and the MDP workstation. If the problem persists, contact Nortel Networks Customer Support.
12500	The specified component does not exist on the specified Passport.	SRS Either the component name is incorrect or that component is not provisioned on the node.
13000	System busy.	SRS The node was unable to send polled information due to traffic congestion. Increase the polling interval or reduce the number of components polled.
19011	Cron job error.	MDP Config Ensure that the MDP administrator is able to create/delete a cron job.
19098	System call error.	MDP Config MDP made a failed system call to the OS. See specific message for details.
19099	Internal Error	MDP Config An internal error has occurred. Contact Nortel Networks Customer Support.
19999	Internal error.	All An internal error has occurred. Contact Nortel Networks Customer Support.
20000	Various warning messages.	All Information warning message. No action required.
21000	Unknown attribute.	BDF Converter There was an unknown attribute in the raw file.
(Sheet 6 of 7)		

Table 5 (Continued)
MDP log messages

Fault code	Message	Generated by: Resolution:
21020	Corrupt records found.	PF Converter. Some corrupt records were found and saved to file. Contact Nortel Networks Customer Support.
22000	Current configuration does not process all file types.	File Managers If you do not wish to process the file type specify, you can ignore this message.
30000	Various Info Messages	All Informational message. No action required.
30001	Started processing file.	File Managers MDP has started processing the raw file.
30002	FINISHED processing file successfully.	File Managers MDP has successfully completed processing the raw file.
30010	Finished process file, errors occurred.	File Managers This message indicates the number of errors found in the raw file.
30020	Processed records, unsupported records, and error records.	File Managers This message indicates the number of: records, unsupported records, and error records found in a file.
40000	verbose messages	All Verbose informational messages. No action required.
(Sheet 7 of 7)		

Chapter 8

MDP alarms and/or traps

This section describes Management Data Provider (MDP) alarm and/or trap generation.

This section includes the following topics:

- “Overview” (page 229)
- “MDP events, and alarms and/or traps” (page 230)
- “Retransmission of alarms and/or traps” (page 234)

Overview

The purpose of Management Data Provider (MDP) alarm and/or trap generation is to alert an MDP administrator of significant events occurring on MDP hosts.

- MDP alarm and/or trap generation does not support any SET or GET requests from an SNMP Manager.
- The MDP Trap Generator does not determine whether an SNMP Manager has received a alarm and/or trap; it only indicates success in sending a alarm and/or trap.
- MDP alarms and/or traps are not generated for the Topology Generator or Report Generator.
- Each significant event class on an MDP host has a unique alarm and/or trap. Specific event information is supplied in the alarm and/or trap message. See “Mapping between events and alarms and/or traps” (page 230).

- The name of the user allowed to run MDP processes is supplied in the alarm and/or trap generation configuration file.
- MDP alarm and/or trap generation is optional. For information on how to configure it, see “Configuring MDP surveillance” (page 105).

MDP events, and alarms and/or traps

MDP alarms and/or SNMP traps are generated when a significant event has occurred on an MDP host. Each significant event can be correlated to a unique alarm and/or trap type. “Mapping between events and alarms and/or traps” (page 230) shows the mapping between MDP alarms and/or traps and significant events.

Table 6
Mapping between events and alarms and/or traps

Significant events	Alarm/trap type	Suggested severity	MDP process
Starting of MDP process	startTrap	Normal	gmdpconfig mdprober mdpppmgr mdpmcmgr mdpmpemgr mdpdpnmgr mdpfpmgr mdpfmmgr
Stopping of MDP process	stopTrap	Normal	gmdpconfig mdprober mdpppmgr mdpmcmgr mdpmpemgr mdpdpnmgr mdpfpmgr mdpfmmgr
Failure to clean up any directory	errCleanupTrap	Minor	mdpclean
Error records were found during conversion of raw data file	errRecordTrap	Minor	mdpdpnmgr mdpppmgr mdpmpemgr
(Sheet 1 of 3)			

Table 6 (Continued)
Mapping between events and alarms and/or traps

Significant events	Alarm/trap type	Suggested severity	MDP process
Sending files to backup	sendBackupTrap	Minor	mdprober
Invalid user	errUserTrap	Major	mdprober mdpdiskmgr mdpfmtmgr mdpppmgr mdpdnmgm mdpmpemgr mdpmmcmgr
Failure to transfer file (using X.25,IPC, FTP or SFTP)	errTransferTrap	Major	mdpmover mdpcol mdpmpecol mdprober
Problems were encountered while determining MDP disk usage.	errDiskTrap	Major	mdpdiskmgr
MDP workstation has used 100% of its allowable disk space	errFullTrap	Major	mdpdiskmgr
MDP workstation has used 90% of its allowable disk space	errNearFullTrap	Major	mdpdiskmgr
The directory<directory name> has been tagged with a diskfull flag ¹	errDiskFullTrap	Minor	mdpdiskmgr
No good records were generated by a convertor from a raw data file	errFileTrap	Major	mdpdnmgm mdpppmgr
Detection of duplicate raw data file	errDupTrap	Major	mdpdnmgm
The availability calculator has encountered problems.	errAvailTrap	Major	mdpavcalc
The outage controller has encountered problems.	errOtgTrap	Major	mdpoctrl
Cannot access log file	errLogTrap	Critical	All MDP process except mdpcol
(Sheet 2 of 3)			

Table 6 (Continued)
Mapping between events and alarms and/or traps

Significant events	Alarm/trap type	Suggested severity	MDP process
Problems were encountered while verifying an MDP license.	errLicenseTrap	Critical	mdpdnmg mdpppmgr mdpavcalc mdpmpemgr mdpmcmgr
Cannot access configuration file	errCfgTrap	Critical	All MDP processes
Configured disk space threshold reached on MDP workstation	errDiskFullTrap	Critical	mdpdiskmgr
Directory permission error	errDirTrap	Critical	mdpdnmg mdpppmgr mdpmpemgr mdpmover
Creating database error	errDbTrap	Critical	mdpdnmg mdpppmgr
Failure to connect to host	errConnectTrap	Critical	mdpmover mdprober mdpmcmgr
Failure to access HGDS	errHGDSTrap	Critical	mdprober mdpmcmgr
Failure to create Publish Format Hourly file	errPfTrap	Critical	mdpmover
Problem executing converter process	errConvTrap	Critical	mdpdnmg mdpppmgr mdpmpemgr
Problems encountered with Data Model Manager	errDmmTrap	Critical	mdpdmm
(Sheet 3 of 3)			

¹ The following directories are monitored for disk full conditions:

- /opt/MagellanMDP/data/mdp/admin
- /opt/MagellanMDP/data/mdp/audit
- /opt/MagellanMDP/data/mdp/avail
- /opt/MagellanMDP/data/mdp/backup/accounting

- /opt/MagellanMDP/data/mdp/backup/alarm
- /opt/MagellanMDP/data/mdp/backup/debug
- /opt/MagellanMDP/data/mdp/backup/log
- /opt/MagellanMDP/data/mdp/backup/outage
- /opt/MagellanMDP/data/mdp/backup/scn
- /opt/MagellanMDP/data/mdp/backup/srs
- /opt/MagellanMDP/data/mdp/backup/statistics
- /opt/MagellanMDP/data/mdp/dump/accounting
- /opt/MagellanMDP/data/mdp/dump/alarm
- /opt/MagellanMDP/data/mdp/dump/avail
- /opt/MagellanMDP/data/mdp/dump/debug
- /opt/MagellanMDP/data/mdp/dump/log
- /opt/MagellanMDP/data/mdp/dump/outage
- /opt/MagellanMDP/data/mdp/dump/scn
- /opt/MagellanMDP/data/mdp/dump/srs
- /opt/MagellanMDP/data/mdp/dump/statistics
- /opt/MagellanMDP/data/mdp/oc/dpn/outage
- /opt/MagellanMDP/data/mdp/oc/dpn/primary
- /opt/MagellanMDP/data/mdp/oc/dpn/process
- /opt/MagellanMDP/data/mdp/oc/dpn/unmatched
- /opt/MagellanMDP/data/mdp/oc/model
- /opt/MagellanMDP/data/mdp/oc/pp/outage
- /opt/MagellanMDP/data/mdp/oc/pp/primary
- /opt/MagellanMDP/data/mdp/oc/pp/process
- /opt/MagellanMDP/data/mdp/oc/pp/unmatched
- /opt/MagellanMDP/data/mdp/mpe/dump/alarm
- /opt/MagellanMDP/data/mdp/mpe/dump/csdl

- /opt/MagellanMDP/data/mdp/mpe/dump/trace
- /opt/MagellanMDP/data/mdp/mpe/dump/accounting
- /opt/MagellanMDP/data/mdp/mpe/dump/statistics
- /opt/MagellanMDP/data/mdp/mpe/dump/alarm
- /opt/MagellanMDP/data/mdp/mpe/backup/csdl
- /opt/MagellanMDP/data/mdp/mpe/backup/trace
- /opt/MagellanMDP/data/mdp/mpe/backup/accounting
- /opt/MagellanMDP/data/mdp/mpe/backup/statistics
- /opt/MagellanMDP/data/mdp/mpe/spool
- /opt/MagellanMDP/data/mdp/spool

Note: When the maximum disk space capacity of an MDP directory is reached, a SET alarm is generated. When the disk space capacity drops below the threshold, a CLEAR alarm is generated.

Retransmission of alarms and/or traps

Certain events cause a Management Data Provider (MDP) process to send a alarm and/or trap and terminate. These alarm and/or traps are

- errLogTrap
- errCfgTrap
- errDirTrap
- errDbTrap (only for DPN, and Passport)

The Server Administration tool (SVM) attempts to restart terminated processes. The cycle of sending a alarm and/or trap followed by process termination is repeated until the problem is resolved.

When the configured threshold for maximum disk space capacity of an MDP host is approached, the following alarms and/or traps are generated:

- errDiskFullTrap
- errNearFullTrap

The errDiskFullTrap and errNearFullTrap alarms and/or traps are resent every 15 minutes.

Chapter 9

Value-added data applications

This section describes the Management Data Provider (MDP) value-added data applications.

Outage calculators use alarms and state change notifications to determine network service interruptions for DPN-100, and Passport networks. The following sections describe the outage calculation application:

- “Outage calculation overview” (page 238)
- “DPN outage calculation” (page 239)
- “Passport outage calculation” (page 241)
- “Outage calculation processes” (page 247)
- “Outage calculation file names” (page 257)

The availability calculator uses data from the outage calculators to analyze and report network availability. The following sections describe the availability calculation application:

- “Availability calculation” (page 259)
- “Availability report generation” (page 270)

Note: MDP value-added processes, such as the Outage and Availability Calculators, are unable to correlate Passport nodeIDs with nodenames. Ensure that the MDP generates raw data filenames with nodeIDs or nodenames in the file name format, but not raw data filenames with nodeIDs and raw data filenames with nodenames. If the MDP is generating raw data filenames with one format (e.g., nodeIDs) and you

need to generate raw data filenames from the same node using the alternate file name format (e.g. nodenames), complete all value-added processing before retrieving raw data files with the new filename format. For more information about raw data file names, see “Raw data” (page 53).

Outage calculation overview

Switch outage calculation uses DPN alarm data, or Passport alarm and state change notification (SCN) data, collected and converted to bulk data format (BDF) by an MDP host, as input. By filtering and analyzing alarms, the outage calculators determine which components have experienced service interruptions, calculate the outages, and output the results to a BDF output file on the primary MDP host.

Outage files are produced for each node for each day that an outage occurs.

The outage period extends from the time a network component goes out of service to the time the component resumes service.

Outage calculation requires all the alarm files, and Passport SCNs, for a particular node; therefore, the alarm files must be available to either the primary or secondary MDP for that node.

A DPN, Passport network can only spool data to a maximum of two MDPs. For larger networks, these networks can be subdivided into separate regions for each pair of MDP hosts.

Indication of which MDP is primary and which is secondary is irrelevant to the network, as long as the network data files arrive on one of the two MDP hosts. The relevancy of which MDP host is the primary and which is the secondary is of concern only to the outage calculation process. For more information, see:

- “Hosts” (page 35) for an explanation of primary and backup MDPs.
- “Configuring the Outage Controller” (page 114) for a description of the configuration process.

DPN outage calculation

The basic approach to calculate outages is to simply match SET and CLEAR alarms, sorted chronologically. In a network, a SET alarm is generated at the beginning of a service interruption and a CLEAR alarm is produced when the component returns to a normal operating state. By taking the starting time of the outage from the SET alarm and the ending time of the outage from the CLEAR alarm, we can calculate the duration of the outage.

Alarms are not always generated as pairs of SET and CLEAR alarms. It is possible to receive a SET alarm with no corresponding CLEAR alarm, or a CLEAR alarm with no corresponding SET alarm, or to have multiple SET alarms for a CLEAR alarm. The strategy for handling these conditions is outlined as follows:

- Unmatched SET/CLEAR alarms are written to the file `/opt/MagellanMDP/data/mdp/oc/dpn/unmatched/<namsID>.db` (where `<namsID>` is the namsID of the switch that generated the alarm). If a subsequent invocation of the DPN Outage Calculator includes a mate to a unmatched SET/CLEAR alarm, these matched alarms can be used for outage calculation.
- The starting time of an outage is always taken from the first SET alarm. Intervening SET alarms received before the CLEAR alarm are ignored.

To determine the outages, the outage calculation process must first determine which alarms indicate a network component failure. The DPN network components for which outage calculation is possible are

- an access module (AM)
- a resource module (RM)
- a processing element (PE)
- a link
- a trunk
- a port

Types of DPN outages

There are four categories of outages calculated by DPN Outage Calculator:

- “Component outages” (page 240)
- “Possible component outages” (page 240)
- “Combined outages” (page 240)
- “Indeterminate outages” (page 240)

Component outages

A component outage is calculated if any of the following DPN components goes out of service: access modules (AM) or resource modules (RM), processing elements (PEs), links, or trunks.

Possible component outages

Some alarms do not necessarily indicate outages. They indicate the possibilities of component failures, only. In this case, possible component outages are calculated for those alarms. Possible outages are only calculated for modules.

Combined outages

Combined outages are those outages propagated from a failed network component to its subcomponents. For example, if a module goes down, all the PEs that belong to that module are included in the outage report. Similarly, if a PE goes down, all the ports that belong to that module are included in the outage report. A current network topology is needed to calculate the combined outages. Combined outages exist for PEs and ports.

Indeterminate outages

Indeterminate outages are outages that have not yet terminated. They are expected to terminate during a later sampling period. These outages are indicated by values of zero in their duration and endDateTime fields.

Passport outage calculation

The outage period for a component extends from the time the component is out of service to the time the component resumes service. The philosophy to calculate these outages varies significantly between DPN and Passport networks.

In a DPN network, outage calculation is based upon the idea of SET and CLEAR alarms to indicate the beginning and end of an interruption. No concept of OSI state information exists for a component. Instead, specific alarms are used to determine network component failures.

In a Passport network, outage calculation is based upon OSI state information obtained from component alarm and SCN records. A component is always considered in-service until an alarm or SCN with an OSI state indicating otherwise is received. Receipt of an alarm or SCN indicating an out-of-service condition is considered the beginning of the service interruption. Depending upon the component and the details surrounding the outage, the beginning of an interruption can be marked by either a Set, Clear, or Message alarm, or an SCN record. The end of the interruption is indicated by a change in OSI state from out-of-service to in-service operation. The end of interruption can also be indicated by either a Set, Clear, or Message alarm, or an SCN record. Exceptions to this rule are introduced by specific network component alarm records which indirectly influence the OSI states of one or more components to be in-service or out-of-service.

The following subsections include information important to the calculation of outages:

- “Parsing node alarms and SCNs for analysis” (page 241)
- “Outage calculation approach” (page 242)
- “Outage calculation risks and limitations” (page 244)

Parsing node alarms and SCNs for analysis

Passport node alarms can be categorized as being either a Message, Set, or Clear (mono or hierarchical) status alarm. This status field is equivalent to the DPN-100 Alarm Type field. It is currently used by Preside Multiservice Data Manager to add (on receiving a Set alarm) and delete (on receiving a Clear alarm) alarms from the alarm display. For Passport node outage calculation,

however, simply relying on matching Set and Clear alarms is not sufficient to calculate the outages required. Node alarms are normally only generated for components that are the source of the problem, not for components that are impacted by the failure. The SCNs are generated to report the impact of a component failure.

All alarm and SCNs must be processed for outage calculation analysis. This requires that alarms and SCNs are expected to have reliable component OSI state information.

Extending the analysis to all alarms and SCNs increases the reliability of the outage calculator. If the alarms parsed in the outage calculation have reliable component OSI state information, the analysis can potentially recover from component failures that lead to loss of alarms or SCNs; this enables computation of at least partial outages.

Outage calculation approach

The basic approach to calculating component outages is to analyze the OSI state changes indicated in the alarms and SCNs, sorted chronologically. In a network, an alarm or SCN indicating an OSI state that is out-of-service is generated at the beginning of a service interruption. At the end of an interruption, an alarm or SCN indicating an OSI state of in-service is generated. By taking the start time of the outage from the record marked begin and the end time of the outage from the record marked end, the duration of the outage can be calculated.

For every SCN and alarm parsed, the raw state of the component is deduced on the basis of the OSI state attributes of the SCN or alarm. “Initial mapping of OSI state to rawState” (page 242) shows the mapping from OSI state to raw state.

Table 7
Initial mapping of OSI state to rawState

OSI operational state	OSI administrative state	rawState value
disabled	locked	outOfService
enabled	locked	outOfService

Table 7
Initial mapping of OSI state to rawState

OSI operational state	OSI administrative state	rawState value
enabled	shutting down	inService
disabled	shutting down	outOfService
disabled	unlocked	outOfService
enabled	unlocked	inService

The alarms or SCNs of each component, along with their associated raw states, are sorted chronologically. In principle, outage calculation is simply the period of time a component is out-of-service. Applying this to the sorted raw states for the required Backbone and Topology components, the outage is the time period of the first outOfService raw state alarm or SCN and the following first inService raw state alarm or SCN.

Exceptions to this rule exist. Out-of-service and in-service raw states are not always generated as pairs for a particular component. It is possible to receive an out-of-service raw state record with no corresponding in-service raw state record, or an in-service raw state record with no corresponding out-of-service raw state record, or have multiple out-of-service raw state records for an in-service raw state record. The strategy for handling these conditions is outlined as follows:

- Unmatched out-of-service raw state records are written to the file `/opt/MagellanMDP/data/mdp/oc/pp/unmatched/<nodeID|nodename>.db` (where `<nodeID|nodename>` is the nodeID or nodename of the Passport node). If a subsequent invocation of the Passport Outage Calculator includes a mate to a unmatched alarm, these matched alarms can be used for outage calculation.
- Unmatched in-service raw state records are ignored.
- The start time of an outage is always taken from the first out-of-service SCN. Intervening out-of-service SCNs received before the in-service SCN are ignored.

Outage calculation risks and limitations

Outages cannot be calculated for the following conditions:

- Power failure to the module. Presently, no method exists to determine the duration of a power failure to a module. To reduce the risk of such an outage, uninterrupted power supplies are recommended for the Passport device configuration.
- Single CP module failure. As with power failure, no method exists to determine the outage duration. To reduce the risk of such an outage, a redundant CP architecture is recommended for the Passport device configuration.
- Double CP Fault module failure. No method exists to determine this outage duration. This type of outage is of low probability.
- Active CP switch over. Depending upon the node software release and the services offered, a CP switch over can cause a module outage.
- Module reboot. The duration of the reboot can be available. If there are no logs to indicate the start of the outage, this outage is ignored.

Note: Single CP module failure, active CP switch over, and module reboot outages can be calculated for Passport nodes using a software release of 5.1, or later.

Outages can be unrepresentative or undetermined for the following conditions:

- Passport nodes perform log buffering before spooling to disk. If the active CP reboots or crashes, the logs in the buffer are lost. Even matching component OSI state logs in this buffer can be lost. This can skew post outage analysis results (for example, availability analysis).
- If alarms or SCNs are missing from the spooled data, partial outages for a component can indicate a longer outage than what actually occurred. This occurs if two outages occur back to back on the same component, but the record indicating the end of the first interruption is lost. The outage calculated is from the beginning of the first interruption to the end of the second interruption.

The node components for which outage calculation is possible are

- Backbone components (those components which comprise the hardware and logical support for topology components):
 - module
 - control processor (CP) or functional processor (FP) card (CARD)
 - logical processor (LP)
 - CP switch over
- Topology components (those components which connect the Passport node to the network):
 - trunk (TRUNK)
 - DPN gateway (DPNGATE) - Passport 6000/7000 switches, only

Note: Outages for modules and CP switch over durations can only be calculated for Passport using a software release of 5.1, or later. For nodes using a pre-5.1 software release, CP switch over counts, only, can be calculated.

Types of Passport outages

There are five categories of outages calculated by the Passport Outage Calculator mdppoc:

- “Component outages” (page 245)
- “Partial outages” (page 246)
- “Indeterminate outages” (page 246)
- “CP switch over outages” (page 246)
- “Software migration outage” (page 246)

Component outages

A component outage is an outage that represents a components true out-of-service state duration. If all alarms and SCNs are collected and processed sequentially, component outages are accurate.

Partial outages

A partial outage is an outage that represents only a portion of the actual outage. The alarms or SCNs that indicate the exact beginning or end of the interruption are missing. The outage is computed from other alarms or SCNs surrounding the outage. There can be partial outages for both backbone and topology components.

Indeterminate outages

An indeterminate outage is an outage for which an alarm SET has occurred with no associated CLEAR currently available. This situation is indicated by an outage record whose duration and endDateTime fields have a value of zero.

CP switch over outages

The duration of CP switch overs can be calculated for dual CP Passport nodes using release 5.1 software loads. The outage duration indicates the time from active CP failure to standby CP activation.

For pre-5.1 software releases, CP switch over outages are indications of a CP switch over or Module reboot. The actual duration of the outage cannot be determined. This is indicated by an outage record whose duration and endDateTime fields have values of zero.

Software migration outage

The software migration outage defines an outage for spared FPs if one FP is removed from service to load new software ,and provisioning data, while the other FP provides service.

A software migration outage is calculated for Passport 15000 modules, only. The module software migration outage extends from the time that the service shelf went out-of-service to the time that the migration shelf resumed service.

By default, software migration outages are not reported by the Passport Outage Calculator.

Alarm exceptions file

The Passport Outage Calculator mdppoc uses the file `/opt/MagellanMDP/lib/mdp/cfg/pp_otg.exp` to ignore specified alarms.

- Alarm ntpIndex 7012 0102 indicates that the CP startup sequence has begun. This alarm does not include the CP's last in-service time stamp and prevents the outage duration from being calculated. Ignoring this alarm allows the outage calculator to report that the module has been rebooted, if not the actual out-of-service duration.
- Alarm ntpIndex 0000 0000 indicates hierarchical alarms for a LogicalProcessor. The hierarchical alarm is treated as a normal in-service alarm for the indicated LP. It is used in the calculation of LP component outages.
- Alarm ntpIndex 7012 0203 indicates a module outage. This alarm is kept in the exceptions file as it needs special treatment to calculate module/CP switch over outages.
- The following line is included in the alarm exceptions file:

```
70120203:LogicalProcessor:CreateOutage:UseRecord:0:0:
MigrationOutage
```

This file entry prevents reporting of software migration outages for Passport 7000/15000 switches. If you want software migration outages reported in outage reports, you must change the above line to a comment by adding a number sign (#) to the beginning of the line. Do not alter this line in any other way.

Outage calculation processes

The software processes that perform switch outage calculation are described in the following sections:

- “Process overview” (page 248)
- “MDP outage controller” (page 249)
- “MDP topology generator” (page 250)
- “Outage calculators” (page 252)

Process overview

The DPN File Manager, on both the primary and secondary MDPs, periodically checks for the arrival of alarm data files in the spool directory. The Passport File Manager, on both the primary and secondary MDPs, periodically checks for the arrival of alarm and SCN data files in the spool directory. The File Managers then convert these alarm, and SCN, files to BDF format and deposits them in the directory `/opt/MagellanMDP/data/mdp/oc/dpn/primary` of its respective MDP.

The Outage Controller `mdpoctrl` process is started every day on the primary MDP, at a user configurable time, to perform the tasks of outage calculation. These tasks include

- moving alarm files from the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/primary` and the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/secondary` (which is actually `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/primary` on the secondary MDP) to the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`
- generating a list of nodes to process from the data files in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`
- for DPN-100, starting the Topology Generator `mdpnmtpngen` to get network topology information from the Preside Multiservice Data Manager Network Model
- for DPN-100, starting the DPN Outage Calculator for each DPN node found within the files of the directory `/opt/MagellanMDP/data/mdp/oc/dpn/process`. The DPN Outage Calculator reads the alarm files in the directory `/opt/MagellanMDP/data/mdp/oc/dpn/process` and outputs outages to a BDF file in the directory `/opt/MagellanMDP/data/mdp/oc/dpn/outage`, and optionally writes the output to the `dump/outage` directory.
- for Passport, starting the Passport Outage Calculator for each node indicated by the presence of alarm and SCN files in directory `/opt/MagellanMDP/data/mdp/oc/pp/process`. The Passport Outage Calculator reads the alarm files in the directory `/opt/MagellanMDP/data/mdp/oc/pp/process` and outputs outages to a BDF file in the directory `/opt/MagellanMDP/data/mdp/oc/pp/outage`, and optionally writes the output to the directory `/opt/MagellanMDP/data/mdp/dump/outage`.

The File Mover process periodically checks for the arrival of files in the dump directory. If files are found, the File Mover transfers these files to a network engineering host for analysis.

The BDF outage files in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/outage` can be used by other MDP value-added data (VAD) applications (for example, availability analysis).

MDP outage controller

The Management Data Provider (MDP) Outage Controller `mdpoctrl` is responsible for administering the various outage calculation tasks. The Outage Controller process performs the following tasks in the sequence indicated:

- 1 Open a daily log file in the admin directory to record items such as events and errors.
- 2 Move alarm files, and SCN files for Passport, in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/primary` to the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`.
- 3 Move alarm files, and SCN files for Passport, in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/secondary` to the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`.
- 4 For DPN-100, generate a DPN `namsID` list from the contents of the data files in the directory `/opt/MagellanMDP/data/mdp/oc/dpn/process`.

For Passport, generate a list of `nodeIDs`, and `nodenames`, from the names of files in the directory `/opt/MagellanMDP/data/mdp/oc/pp/process`.

- 5 For DPN-100, start the MDP Topology Generator `mdpnmtpogen` to retrieve network topology information from the Network Model.
- 6 Start the appropriate outage calculator (`mdpdpnoc` for DPN-100 or `mdpppoc` for Passport) separately for each node identified in Step 4. When the outage calculator has completed outage calculation for all nodes in the node list, the input BDF files are removed from the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`. If errors occurred during outage calculation, the Outage Controller renames the erroneous BDF data files in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process` with the prefix `err`.

- 7 Copy the outage files to the directory `/opt/MagellanMDP/data/mdp/dump/outage`. This task happens only if you previously chose to transfer outage files to other hosts. See “Configuring the Outage Controller” (page 114).
- 8 Copy outage files to the directory `/opt/MagellanMDP/data/mdp/backup/outage`. This task happens only if you previously chose to archive outage files. See “Configuring outage calculation” on page 99.

The MDP Outage Controller is a run-to-completion process that is started from a crontab once each day. The crontab entry is created using the MDP Configuration tool when outage calculation is enabled. Configure this process to run on the primary MDP host, only.

Command syntax

The syntax of the MDP Outage Controller command is

```
mdpoctrl [-help]
```

MDP topology generator

The Management Data Provider (MDP) Topology Generator `mdpnmtopgen` interrogates the Network Model Server to identify DPN network modules and the hardware components that comprise those modules.

The component data extracted from the Network Model for outage calculation purposes includes: PM, PE, PI, and PO.

The MDP Topology Generator creates one description file per DPN module. Each module description file contains one record for each component. Each record contains a component name field.

The field delimiter is the colon (:) character and the record delimiter is the newline character. For example:

```
:PE 3 :  
:PE 3 PI 3 :  
:PE 3 PI 3 PO 1 :  
:PE 3 PI 3 PO 2 :
```

The MDP Outage Controller is used to configure the MDP Topology Generator to start daily, prior to the execution of the outage calculators. See “Configuring the Outage Controller” (page 114). You can also execute the MDP Topology Generator manually, or from the crontab, on a less frequent basis, depending on the volatility of the network configuration.

Prior to running the topology generator, ensure that the Network Model is up-to-date with respect to the state of the network. This task includes removing all obsolete modules from the Network Model.

Command syntax

The syntax of the MDP Topology Generator command is

```
/opt/MagellanMDP/bin/mdpnmtopgen  
-s <switch_type>  
[ -n <namsID/nodeID> ]  
[ -d <directory > ]  
[ -m <network model host> ]  
[ -h|-help ]  
[ -l loglevel <0-4> ]
```

The available options are

```
[-s <switch_type>]
```

specifies the switch type; use `dpn`.

```
[-n <namsID>]
```

specifies the NAMS identifier for a DPN module. The default is all modules of the specified switch type.

```
[-d <directory>]
```

specifies the directory where the module description files are written. The default is `/opt/MagellanMDP/data/mdp/oc/model`.

```
[-m <network model host>]
```

specifies the Preside Multiservice Data Manager host where the network model server is running. The default is the localhost.

```
[-h|-help]
```

This option requests command usage information.

```
[-loglevel <0-4>]
```

The level of logs to be reported. The default level is 3.

All critical, error, warning, and information messages are displayed to your screen (as well as to the log file). Verbose information messages are written to the log file, only.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

Outage calculators

The switch outage calculators are responsible for computing the outages from the available DPN alarms, or Passport alarms and scns, for each switch node.

The following tasks are performed by the switch outage calculators:

- The outage calculators are separately licensed features within the MDP package. The outage calculators search the file `/etc/opt/Magellan/LIClicenses.cfg` for licensing information on invocation. If a valid license exists the outage calculator continues to run otherwise, a log is generated indicating the reason for the refusal.
- Inputs all the alarm files, and SCN files for Passport, in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process` for each node in the node list; optionally input the module description file.
- For DPN outage, the following outages are calculated: modules, PEs, links/trunks, possible outages for modules, and combined outages for PEs and ports.

For Passport outage, the following outages are calculated: CP switch overs, modules, card, logical processor, trunk, DPN gateway, partial outages for backbone (cards and logical processors) and gateway components (trunks and DPN gateways). For Passport 15000 switches, software migration outages can also be calculated.

- Outputs the calculated outages, in BDF format, for each node in the node list, to the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/outage` for that sampling period. If no outages exist for the sampling period requested, an output BDF file is not generated.
- Dumps corrupted records to the error file in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/outage`.

- Writes unmatched alarms to the unmatched alarm file (<namsID>.db for DPN, and <nodeID|nodename>.db for Passport) in the directory /opt/MagellanMDP/data/mdp/oc/<dpnlpp>/unmatched.
- Renames unprocessed alarm files (and SCN files for Passport) in the directory /opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process to the file err.<input_file_name>.
- If the calculation of combined outages is specified, but the module description file is not present, DPN outage calculation still proceeds. The Outage Calculator logs the absence of the module description file.

The outage calculators are run-to-completion processes that are started by the MDP Outage Controller or executed manually.

Command syntax

The syntax of the Outage Calculator command is

```

/opt/MagellanMDP/bin/mdp<dpn|pp>oc <options>
-nid <namsID|nodeID|nodename> -u <unmatched_directory>
[-s <start date>] (Format: MMDDhhmm)
[-e <end date>] (Format: MMDDhhmm)
[-i <input directory>]
[-o <output directory>]
[-d <output delimiter character>]
[-cfg <config file>]
[-t|min <threshold value>]
[-max <threshold value>]
[-k <days kept value>]
[-force]
[-init]
[-dispcfg]
[-help|-h]

```

The available options are

```
-u <unmatched_directory>
```

This parameter is mandatory and specifies the directory where unmatched alarms can be found. The Outage Controller always invokes the outage calculators with this option selected.

There is one file for each nodeID type. If the `-init` parameter is specified, any existing unmatched alarms file is replaced with a new file.

`[-nid <namsID|nodeID|nodename>]`

This parameter provides the `namsID` of the DPN-100, the `nodeID` or `nodename` of the Passport, that collects the outage data. The outage calculators process all the alarm files in the directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process` for the specified node.

`[-s <start_date>]`

This option identifies the beginning of the time period for which outage calculation is to be processed. If no end date is specified, outage records for all dates greater than or equal to the start date are processed.

For DPN, start dates are specified in `yymmdd` (year, month, day) or `yyyymmdd` (year, month, day) format. See “Data collection” (page 65) for century determination information.

For Passport, start dates are specified in `MMDDhhmm` (month, day, hours, and minutes) format.

`[-e <end_date>]`

This option identifies the end of the time period for which outage calculation is to be processed. If no start date is specified, outage records for all dates less than or equal to the end date are processed.

For DPN, end dates are specified in `yymmdd` (year, month, day) or `yyyymmdd` (year, month, day) format. See “Data collection” (page 65) for century determination information.

For Passport, end dates are specified in `MMDDhhmm` (month, day, hours, and minutes) format.

`[-i <input_directory>]`

This option specifies the input directory that contains the BDF alarm, and SCN for Passport, files. The default input directory is `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/process`.

`[-o <output_directory>]`

This option specifies the output directory. The default output directory is `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/outage`.

`[-m <network_model_directory>]`

For DPN only, this option specifies the directory where the network module description files can be found. The default directory is `/opt/MagellanMDP/data/mdp/oc/model`.

`[-cfg <configuration_file>]`

This option identifies the configuration file of the outage calculator.

For DPN, the default configuration file is `/opt/MagellanMDP/cfg/mdp/MDPDPNOC.cfg`.

For Passport, the default configuration file is `/opt/MagellanMDP/cfg/mdp/MDPPPOC.cfg`.

If the default configuration file is not located, the default values of the outage calculator parameters are used.

`[-min <threshold> | -t <threshold>]`

Outages that exceed this threshold are included in outage calculations.

This parameter specifies this threshold in units of seconds. Maximum is 365 days. Default is 0 seconds.

Use of this parameter on the command line overrides the setting recorded in the outage calculator configuration file.

Indeterminate outages are always generated.

`[-max <threshold>]`

Outages with durations less than this threshold are included in outage calculations.

This parameter specifies this threshold in units of seconds. Maximum is 365 days. Default is 7 days (604800 seconds).

Use of this parameter on the command line overrides the setting recorded in the outage calculator configuration file.

Indeterminate outages are always generated.

[-sk <days_set_kept>]

This option applies to DPN only. This option specifies the number of days the unmatched SET alarms are kept in the unmatched alarm files. The default value is 100 days.

Use of this parameter on the command line overrides the setting recorded in the DPN Outage Calculator configuration file.

[-ck <days_clear_kept>]

This option applies to DPN only. This option specifies the number of days the unmatched CLEAR alarms are kept in the unmatched alarm files. The default value is 7 days.

Use of this parameter on the command line overrides the setting recorded in the DPN Outage Calculator configuration file.

[-k <days_kept>]

This option applies to Passport only. This option specifies the number of days the unmatched out-of-service alarms are kept in the unmatched alarm files. The default value is 100 days.

Use of this parameter on the command line overrides the setting recorded in the Passport Outage Calculator configuration file.

Use of a negative integer causes the unmatched alarms to be retained until they are matched.

[-com]

For DPN, only, this option specifies that combined outages are to be calculated. The default is combined outage is not calculated.

Use of this parameter on the command line overrides the setting established in the outage calculator configuration file.

[-init]

This option is used to initialize the unmatched records database file used for alarms and SCNs.

[-dispcfg]

This option is used to display the outage calculator configuration parameters.

For DPN, these configuration settings are stored in the file
/opt/MagellanMDP/cfg/mdp/MDPDNOC.cfg.

For Passport, these configuration settings are stored in the file
/opt/MagellanMDP/cfg/mdp/MDPPPOC.cfg.

[-force]

This option forces any database that is used by outage calculator to be reparsed from their source file.

[-help | -h]

This option prints out all the command line options specified in this section.

Outage calculation file names

This section describes the file names of the files associated with outage calculation.

The following files are described in this section:

- “Outage file names” (page 257)
- “Topology module description file names” (page 258)
- “Unmatched alarm file names” (page 259)

Outage file names

The DPN-100 and Passport Outage Calculators create BDF output files that use the following file naming convention:

DPN

The DPN Outage Calculator (mdpdnnc) generates files with the following file names:

```
dpn_otg_<startDateTime>_<endDateTime>_<nodeID>.<ext>
```

Passport

The Passport Outage Calculator (mdppoc) generates files with the following file names:

```
pp_otg_<startTime>_<endTime>_  
<nodeID|nodename>_<alarmSeq#>_<scnSeq#>.<ext>
```

where:

<startTime> is the date and time of the earliest alarm or scn file record processed. The format is YYYYMMDDhhmmss (year, month, day, hour, minute, second).

<endTime> is the date and time of the latest alarm or scn record processed. The format is YYYYMMDDhhmmss (year, month, day, hour, minute, second). <nodeID|nodename> is the nodeID or nodename of the node, or namsID of the DPN-100 that generated the data.

<alarmSeq#> is the lowest sequence number obtained from Passport alarm input files. If no alarm files are processed, this parameter indicates na (not applicable).

<scnSeq#> is the lowest sequence number obtained from Passport SCN input files. If no SCN files are processed, this parameter indicates na (not applicable).

<ext> is the file extension. This is bdf for a BDF file and err for those input files which cannot be read by the Outage Calculator.

Examples

- for DPN-100
dpn_otg_19970501142354_19970501162501_338.bdf
- for Passport
pp_otg_19960501142354_19960501162501_4031_683_na.bdf

Topology module description file names

All topology module description files generated by the MDP Topology Generator use the following file-naming conventions:

```
<dpn|pp>.<namsID|nodeID>
```

Unmatched alarm file names

Unmatched alarms and scns use the following file-naming convention:

```
unmat_ala.<nodeID>
```

where <nodeID> is the nodeID of the switch that generated the alarm or scn.

Availability calculation

The MDP Availability Calculator calculates network availability statistics for switch components. Outage records generated by the Outage Calculators processes are used as input.

- For DPN-100, network components can be: modules, Processing Elements (PEs), trunks, and netlinks.
- For Passport, network components can be: modules, cards, Logical Processors (LPs), trunks, and DPN gateways (Passport 6000/7000, only).

The Availability Calculator generates the following metrics for all components for which outage records are processed:

Table 8
Availability metrics

Outage Time	Sum of individual outage durations less the period of outages covered by service windows defined in the exceptions file.
Service Time	Total time of sample period less any service windows defined in the exceptions file.
Number of Outages	The number of individual outages recorded, which were not completely covered by service windows defined in the exceptions files.
MTBF	Mean Time Between Failures is always expected to have a positive value. A negative value in this field indicates an MTBF of infinity. $(\text{Service Time} - \text{Outage Time}) / (\text{Number of Outages})$
MTTR	Mean Time to Repair. $(\text{Outage Time}) / (\text{Number of Outages})$

Table 8
Availability metrics

Percentage Availability	$(MTBF / (MTBF + MTTR)) \times 100$
CP switch overs	The number of Control Processor switch overs recorded; valid for Passport components only. Durations are reported for nodes equipped with software release 5.1, or later.

Network availability statistics can be accumulated and retained (in an accumulated statistics file). These accumulated statistics provide totals for the period of time that the MDP Availability Calculator has been in operation and the period of time that a particular component has been tracked for availability.

Availability analysis can be repeated for requested time periods. See “Rollback of availability analysis statistics” (page 267).

Output from the MDP Availability Calculator is in the form of a BDF file that can be transferred by the MDP File Mover to a customer host.

The MDP File Mover can be configured to copy availability reports to a user-specified directory. This directory can be used by the Report Generator as an input directory.

For each execution of the Availability Calculator, an administration log file `/opt/MagellanMDP/data/mdp/admin/MDPAC<date>.log` (where <date> is the date the log file was generated) is created. This file records which outage files were processed, the renaming or deletion of any files, and any errors that occurred. If a log file already exists for the date on which the Availability Calculator is executed, any new records are appended to the existing file. A preset number of log files are retained. The Availability Calculator process deletes the oldest file when the value specified by the `-n` option of `mdpavcalc` is exceeded.

The MDP Availability Calculator is a run-to-completion process that is typically started from a crontab entry, either weekly or monthly. This crontab entry must be created manually; it is not created using the MDP Configuration tool. This process can also be started at any time from the UNIX command line.

Note: The MDP Availability Calculator can only be run on the primary MDP host.

This section includes the following topics:

- “Types of reportable outages” (page 261)
- “Start life calculation” (page 264)
- “Availability calculator” (page 264)
- “Rollback of availability analysis statistics” (page 267)
- “Availability report generation” (page 270)
- “Availability calculation file names” (page 274)

Types of reportable outages

Four types of outages are used as input by the Availability Calculator.

Complete outages (component, possible, and combined)

These are outages for which alarm sets and clears, or SCNs, have been matched by the outage calculator. If selected, these outages are applied to the current sample period and the accumulated statistics.

Indeterminate outages

These are outages that have unmatched alarm sets, or SCNs. They are only reported in the current sample period. These outages are not reported in the accumulated statistics until complete.

The availability calculator reports indeterminate outages in the current sample period, as follows:

- 1 If an outage is detected in the current sample period and the outage start time is available but the outage end time is not available, the availability calculator reports the component outage from the outage start time to the end of the current sample period.

- 2 If the outage end time for an outage detected in a previous sample period is not available in subsequent sample periods, the availability calculator reports the component outage from the start of the current sample period to the end of the current sample period.
- 3 If the outage end time for an outage detected in a previous sample period is detected in the current sample period, the availability calculator reports the component outage from the start of the current sample period to the outage end time.

Passport module CP switch overs

These outages are recorded for a module Control Processor card component when the Control Processor switches from standby to active.

For nodes using release software 5.1, or later, CP switch over counts and durations of CP switch overs is calculated.

For nodes using pre-5.1 release software, the duration of this outage type is always zero, so the usual availability statistics cannot be calculated. However, a count of the number of CP switch overs is maintained. Special records are created in the Availability Report BDF file for these CP switch overs. These special records are the last records collected for a switch and have blank MTTR and availability fields for the current sample period and the accumulated sample period. These statistics cannot be calculated if the outage time is unknown.

The Report Generator highlights CP switch over records in the statistics table.

Passport 15000 software migration outages

The software migration outage defines an outage for spared FPs when one FP is removed from service to load new software ,and provisioning data, while the other FP provides service.

Software migration is a planned outage. You can exclude this outage from the network availability statistics by indicating the planned outage period in an exceptions file. See “Service window configuration” (page 119) for a detailed description of the exceptions file.

Accumulated statistics

The Availability Calculator accumulates the outage time, service time, number of outages, and number of Passport module CP switch over metrics. This process allows the MTBF, MTTR, and percentage availability to be calculated for the entire period of time during which the Availability Calculator has been in use, and during which the components have been reported.

The data recorded by each execution of `mdpavcalc` includes the component name, total service time, total outage time, total number of outages, and period of time for which these statistics have been accumulated.

This data is recorded in file `/opt/MagellanMDP/data/mdp/avail/<dpnlpplppc>_acc_avail_<date>.data` where `<date>` is the date the Accumulated Statistics file was created. By default, the Availability Calculator accumulated statistics files are retained for 100 days.

If a module is generating raw data files with one file name format (for example, using nodeIDs) and you need to generate raw data files from the same node using the alternate file name format (for example, using nodenames),

- 1 complete all value-added processing, and
- 2 delete the Accumulated Statistics file that contains entries for the node, before sending the raw data files, in the new format, to the MDP.

For more information about raw data file names, see “Raw data” (page 53).

For each invocation of the Availability Calculator, with accumulated statistics option enabled, the file: `/opt/MagellanMDP/data/mdp/avail/<dpnlpplppc>_otgfile_list_<date>.data`, (where `<date>` is the date the current Outages Files Processed file was created) is used. This file contains a list of the outage files processed during the current run. If the Availability Calculator is executed more than once on the same day for the same switch type, any new records are appended to the existing Outage Files Processed file. On each invocation of the Availability Calculator, Outage Files Processed files that are more than 100 days old are deleted.

Start life calculation

The specific date and time at which a component becomes available for Availability Calculation purposes can be established by creating an entry in the start life file `/opt/MagellanMDP/cfg/mdp/MDPSTLIFE.cfg`. Otherwise, the start life value is automatically set to the start of the current sample period in which an outage for the component is first encountered. See “Start life configuration” (page 120).

If an outage starts before the specified start life of that component, the segment of the outage before the start life is discarded. This concept allows outages during the commissioning period for a component to be ignored.

The start life of a component is established once, only; that is when the first outage for the component is processed. It is not possible to change the start life once outages have been processed for that component, other than by rolling back the availability calculations to a sample period prior to the one where an outage for the component was first encountered.

When accumulated statistics are not enabled, the start life of a component is established for each run of the availability calculator where outages for that component are processed. A user-defined start life has no effect on availability calculations unless that start life is defined as being within, or later than, the current sampling time period.

Availability calculator

The MDP Availability Calculator can be started, typically weekly or monthly, by a crontab entry or manually from the command line. The runtime options can be specified on the command line or using a configuration file. See “Availability calculator configuration” (page 118). Command line options take precedence over configuration file entries.

Command syntax

The syntax of the MDP Availability Calculator command is

```
/opt/MagellanMDP/bin/mdpavcalc
```

```
[-i <input_directory>]
[-r <RDF_directory>]
[-o <output_directory>]
[-x <exceptions_file>]
[-s <start_life_file>]
```

```
[-d <delimiter>]  
[-dpnd <delimiter>]  
[-ppd <delimiter>]  
[-loglevel <0-4>]  
[-n <number of logs>]  
[-a ]  
[-help|h ]
```

Where the available options are

```
[-i <input_directory>]
```

This option specifies the directory that contains the input outage files. If a directory is not specified, the availability calculator uses outage files contained in both the DPN outage directory `/opt/MagellanMDP/data/mdp/oc/dpn/outage` and the Passport outage directory `/opt/MagellanMDP/data/mdp/oc/pp/outage`.

```
[-r <RDF_directory>]
```

This option specifies the directory that contains the record description files (RDFs); defaults to `/opt/MagellanMDP/lib/mdp/rdf/<switch_type>/outage` for outage RDF files and `/opt/MagellanMDP/cfg/mdp/rdf/gen/avail` and then `/opt/MagellanMDP/lib/mdp/rdf/gen/avail` for the output availability report RDF files.

```
[-o <output_directory>]
```

This options specifies the directory that contains the availability reports and defaults to `/opt/MagellanMDP/data/mdp/dump/avail`.

```
[-x <exceptions_file>]
```

This file lists the network service windows for components. This option overrides the default file `MDPSERVWIN.cfg` in directory `/opt/MagellanMDP/cfg/mdp`. If a file name is specified without using a pathname, the directory `/opt/MagellanMDP/cfg/mdp` is searched for the named file. See “Service window configuration” (page 119) for a detailed description of this file.

```
[-s <start_life_file>]
```

This file lists the component start lives. This option overrides the default file /opt/MagellanMDP/cfg/mdp/MDPSTLIFE.cfg. If a file name is specified without using a pathname, the directory /opt/MagellanMDP/cfg/mdp is searched for the named file. See “Start life configuration” (page 120) for a detailed description of this file.

[-d <delimiter>]

This is the field delimiter for the output Availability Report BDF files. The default is DEL. For a list of reserved characters that cannot be used as BDF delimiters, see “Interpreting BDF output” (page 26).

[-dpnd <delimiter>]

This is the field delimiter for input DPN Outage BDF files. The default is DEL.

[-ppd <delimiter>]

This is the field delimiter for input Passport Outage BDF files. The default is DEL.

[-loglevel <0-4>]

The level of logs reported to screen. The default level is 0. All critical messages are displayed to your screen.

All critical, error, warning, and information messages are written to the log file. This level of log reporting is not configurable.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

[-n <number of logs>]

This is the number of old log files to retain. The default is 3.

[-a]

This parameter specifies that accumulated statistics are to be calculated. The process reads in accumulated statistics, updates accumulated statistics from the outages files processed, and writes back the new values. The default is to produce statistics for the selected outages files, only.

[-h | -help]

This option requests command usage information.

Rollback of availability analysis statistics

In certain situations, it is necessary to repeat availability analysis for a specific period of time or for a specific set of outage files. This process is appropriate in the following situations: to exclude an outage which should have been excluded due to planned maintenance, or to correct an outage where the alarm clear was missed and as a result the duration of the outage was inaccurate. The Accumulated Statistics Rollback Utility automates the process of recalculating availability statistics.

The MDP Outage Controller must be configured to save outage files in the backup directory and the retention period for these files must be appropriate to the normal frequency of the Availability Calculator being executed. For example, if the Availability Calculator is to be run once a month, it is suggested that the retention period for the archived outage files be set to 31 or more days.

The Accumulated Statistics Rollback Utility must be executed on the Primary MDP.

Operator rollback

Perform the following tasks:

- 1 Ensure that the Availability Calculator is not running and is not scheduled to run before the rollback operation is completed. If necessary, convert the crontab entry that invokes the Availability Calculator to a file comment by placing a number sign (#) in the first column of the crontab entry; save the file.
- 2 Copy the outage files to be corrected from the backup directory `/opt/MagellanMDP/data/mdp/backup/outage` to the appropriate outage directory `/opt/MagellanMDP/data/mdp/oc/<dpnlpp>/outage`; edit the records as necessary.
- 3 Invoke the Rollback Utility . If outage files for only one switch type have been edited, the Rollback Utility can be invoked with the command line option `-s <dpnlpp>` to specify the switch type. Specifying this option prevents outage files for other switch types from being unnecessarily reprocessed.
- 4 If the crontab entry that invokes the Availability Calculator was converted to a comment in Step 1, ensure that it is uncommented by removing the number sign (#) in the first column.

Rollback utility automated tasks

The following tasks are performed by the MDP Accumulated Statistics Rollback Utility `mdpavrback`:

- 1 A list of outage files processed for each run of the Availability Calculator is created. The names of the outage files currently in the outage directories are compared with this list. The oldest Outage Files Processed file with an outage file currently in an outage directory is determined.
- 2 All the outage files identified in the oldest Outage Files Processed list file, as determined in Step 1, and any subsequent Outage Files Processed list files are copied from the backup directory to the appropriate outage directory.
- 3 The oldest Outage Files Processed list file, as determined in Step 1, and any subsequent Outage Files Processed list files are deleted.
- 4 The Accumulated Statistics file, with a generation date that corresponds to the oldest Outage Files Processed list file, as determined in Step 1, and all subsequent Accumulated Statistics files are deleted.
- 5 The Availability Calculator is invoked.

The Accumulated Statistics Rollback Utility can be invoked for one switch type but the default is to rollback statistics for all switch types. In this case, outage files for other switch types are not copied from backup directories and the Accumulated Statistics and Outage Files Processed list files are not deleted. Any new outage files for the switch type not being recalculated are processed normally and new Accumulated Statistic files and Outage Files Processed list files are created.

The MDP Accumulated Statistics Rollback Utility is started manually from the command line. Runtime options are specified on the command line.

Command syntax

The syntax of the MDP Accumulated Statistics Rollback Utility is

```
/opt/MagellanMDP/bin/mdpavrback  
[-s dpn|pp]  
[-a "<avail_calc_options>"]  
[-b <backup_directory>]
```

```
[-o <outage_directory>]  
[-loglevel <0-4>]  
[-help ]
```

where the available options are

```
[-s [d|p|pp]]
```

Select the switch type. The default is all switch types.

```
[-a "<avail_calc_options>"]
```

This option sets the Availability Calculator runtime options. This parameter defaults to the values in the Availability Calculator configuration file, then to Availability Calculator runtime defaults.

The Availability Calculator runtime options must be enclosed in double quotes to distinguish Availability Calculator runtime options from Accumulated Statistics Rollback Utility runtime options.

```
[-b <backup_directory>]
```

This is the directory from which the outage files are obtained. This parameter defaults to /opt/MagellanMDP/data/mdp/backup/outage.

```
[-o <outage_directory>]
```

This is the directory to which the outage files are copied. This parameter defaults to /opt/MagellanMDP/data/mdp/oc/<dpn|pp>/outage.

```
[-loglevel <0-4>]
```

The level of logs reported to screen. The default level is 0. All critical messages are displayed to your screen.

All critical, error, warning, and information messages are written to the log file. This level of log reporting is not configurable.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

```
[-h | -help]
```

This option requests command usage information.

Availability report generation

The Report Generator process converts a BDF Availability Report file into formatted ASCII text output. This process can be used to obtain availability statistics for installations that do not use a separate reporting application. The user can control which statistics are displayed in the report and set page size parameters to control the output.

If the MDP File Mover is configured to transfer Availability Report BDF files to external customer hosts, then the File Mover must also be configured to copy Availability Report BDF files to a user-defined directory location. This location can be used as the input directory for the MDP Report Generator using the `-idir` parameter. See “Backing up converted files” (page 91).

Availability reports can only be generated from a primary MDP host.

Availability report presentation

Availability Reports provide the following information:

- Time measurements are rounded up to the next unit at the following thresholds:
 - 60 seconds become 1 minute
 - 60 minutes become 1 hour
 - 24 hours become 1 day
 - 365.25 days become 1 year
- If no outages are reported for a component during the current sample period, a dash (-) is printed in the MTBF column.
- Passport nodes using a pre-5.1 software release report the number of CP switch over outages by indicating the number of outages (Outages) for the shelf cards of the active and standby CPs. Outage Time is blank for CP switch overs. These outages are reported in a separate section at the end of the Availability Report.

Nodes using a 5.1, or later, software release report the number (Outages) and the duration (Outage Time) for CP switch over outages, with the component indicating logical processor LP/0.
- Module outages are indicated by a blank component.

- The following is an example of an Availability Report (the last column (availability percentage) is wrapped around):

Example

```

Availability ReportPage 1/1

Report Type: All ComponentsModule: 1041

Sample Period: 17/Sep/1998 17:44 - 21/Sep/1998 11:44

ComponentOutage TimeService TimeOutagesMTBFMTTRAvail
4.43mins3.75days31.2days1.47mins99.91%

EM/PCS Logical
    Processor/041.00secs3.75days13.74days 41.00secs
99.98%

EM/PCS Shelf Card/1 9.00secs3.75days13.74days
9.00secs99.99%

EM/PCS Shelf Card/2 9.00secs3.75days13.74days
9.00secs99.99%
```

Availability report generator

The MDP Report Generator can be started automatically, using a crontab entry, or manually from the command line. The runtime options can be specified on the command line or using a configuration file. See “Availability report generation” (page 121). Command line options take precedence over configuration file entries.

To report CP switch overs for Passport:

- for nodes using a pre-5.1 software release CP switch over counts are reported in a separate section at the end of the Availability Report. To generate this type of report, you must use reportType ALL and you must include the -cpsw option.
- for using a 5.1, or later, software release CP switch over counts and durations are included with the Logical Processor/0 component.

Command syntax

The syntax of the MDP Report Generator command is:

```
/opt/MagellanMDP/bin/mdprepgen  
[<report_type>]  
[<module>]  
[-a]  
[-cpsw]  
[-i <input_file>]  
[-idir <input_directory>]  
[-r <RDF_directory>]  
[-o <output_file>]  
[-d <delimiter>]  
[-t <availability_threshold>]  
[-w <page_width>]  
[-l <page_length>]  
[-loglevel <0-4>]  
[-help|h]
```

Where the available options are:

```
[<report_type>]
```

This option specifies the type of report, as follows, to generate (the default is ALL):

- MODLINK: modules and links
- SUBCOMP: module subcomponents
- BACKBONE: processors, cards and LPs
- TOPOLOGY: trunks, links and gateways
- LOGPROC: Passports LPs only
- ALL: all component types (default)

```
[<module>]
```

This option indicates the nodeID, or nodename, of a module. The report is limited to this module and its subcomponents. The default is to report on all modules.

```
[-a]
```

This option instructs the process to report accumulated statistics. The default is to use last sample period only.

```
[-cpsw]
```

For Passport nodes using a pre-5.1 software release, this option instructs the report generator to display CP switchover counts in a separate section at the end of the Availability Report. The default is not to display CP switchover counts for nodes using a pre-5.1 software release.

[-i <input_file>]

The file name (including the path if the file is not in the default directory) of the availability report file to generate the report from. The default is the most recent file in the directory /opt/MagellanMDP/data/mdp/dump/avail.

[-idir <input_directory>]

The absolute path of a directory to use as the default for input Availability Report BDF files. The default for this option is /opt/MagellanMDP/data/mdp/dump/avail.

[-r <RDF_directory>]

The directory for the availability report RDF. The default is /opt/MagellanMDP/cfg/mdp/rdf/gen/avail and then /opt/MagellanMDP/lib/mdp/rdf/gen/avail.

[-o <output_file>]

The file name, including full path, for the generated report. The default is UNIX stdout.

[-d <delimiter>]

The field delimiter character for BDF files. The default is DEL.

[-t <availability_threshold>]

The threshold percentage availability over which a component is be included in the report generated.

[-w <page_width>]

The maximum number of characters per line. The default is no line limit.

For configurable windows, for example, Xterms, it is suggested that this parameter be set to a minimum of 90 characters and the window size be adjusted as required.

[-l <page_length>]

The maximum number of lines per page. The default is 66.

[-loglevel <0-4>]

The level of logs reported to screen. The default level is 0. All critical messages are displayed to your screen.

All critical, error, warning, and information messages are written to the log file. This level of log reporting is not configurable.

There are five levels of log reporting. For more information about log levels, see “Log levels” (page 209).

[-h | -help]

This options requests command usage information.

Availability calculation file names

This section describes the file names of the files associated with availability calculation.

The following files are described in this section:

- “Availability report file names” (page 274)
- “Accumulated statistics file names” (page 274)

Availability report file names

The Availability Calculator processes individual outage records to calculate availability statistics over a specified period and creates bulk data format (BDF) output files that use the following file-naming convention:

```
avail_<date-of-generation>.bdf
```

where:

<date> is the date that the file was generated and uses the format YYYYMMDD (year, month, day).

Accumulated statistics file names

The Availability Calculator can combine individual availability records in an accumulated statistics file. The file-naming convention used for this file is

```
[dpn|pp]_acc_avail_<date>.data
```

where:

<date> is the date that the file was generated and uses the format YYYYMMDD (year, month, day).

Chapter 10

MDP interface description

The Preside Multiservice Data Manager (MDM) MDP Configuration tool provides administrators with the ability to configure the collection of data from devices, convert proprietary data formats to bulk data format (BDF) and to transfer data to down stream processes.

The MDP Configuration tool is launched from the MDM Toolset by an authorized administrator. By default, only administrators can access the MDP Configuration tool from the MDM Toolset menu.

The MDP Configuration tool consists of the following:

- “Disk Manager panel” on page 278
- “File Prober panel” on page 280
- “MPE Collection panel” on page 286
- “Passport panel” on page 291
- “MPE panel” on page 297
- “DPN panel” on page 301
- “File Mover panel” on page 305
- “Passport SRS panel” on page 309
- “BDF Archiving panel” on page 315
- “Log Archiving panel” on page 318
- “Outage Control panel” on page 321

- “Passport Outage panel” on page 324
- “DPN Outage panel” on page 327
- “Audit panel” on page 330
- “Surveillance panel” on page 333

Disk Manager panel

The MDP Disk Manager Configuration window is used to set the data file retention time.

Figure 3
Disk Manager Configuration panel

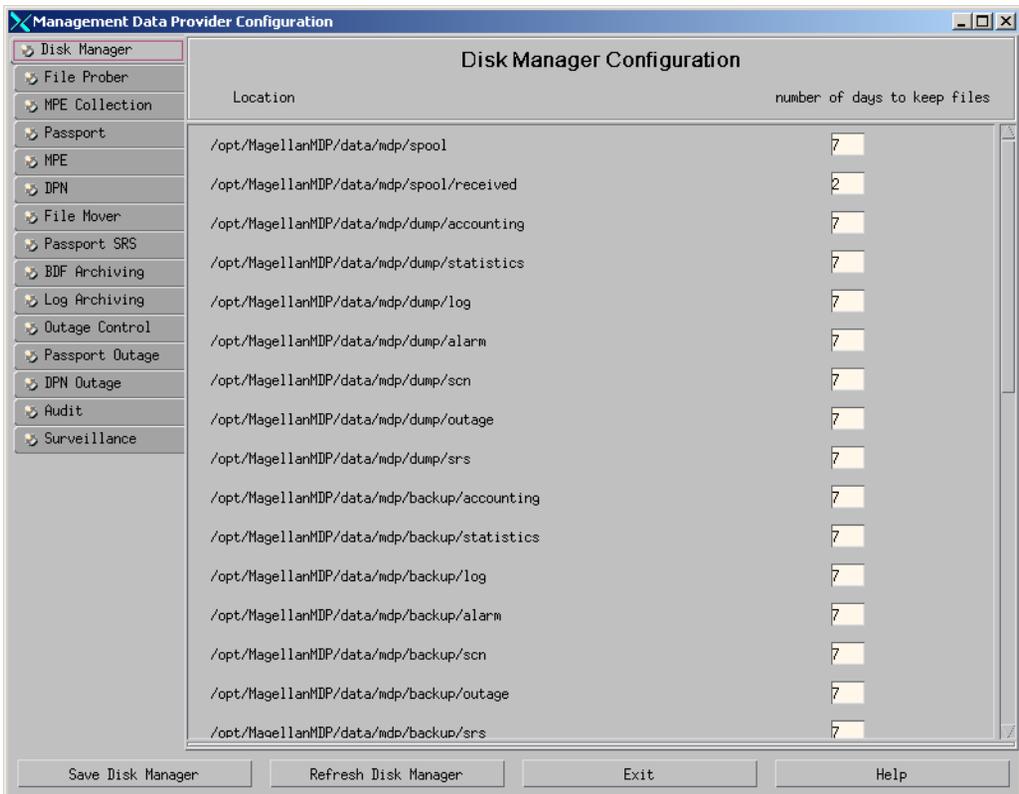


Table 9 lists and describes the options available for the MDP Disk Manager Configuration.

Table 9
Disk Manager Configuration field, boxes, and buttons

Item	Description
Location	Lists all currently configured mdp directories used for spool, dump, merge, audit reports, admin, mpe and backup files.
Number of days to keep files	<p>Specifies file retention duration. The default is seven days except for the following:</p> <ul style="list-style-type: none"> • /opt/MagellanMDP/data/mdp/spool/received: default is 2 days • /opt/MagellanMDP/data/mdp/merge: default is 30 days • /opt/MagellanMDP/data/mdp/admin: default is 30 days • /opt/MagellanMDP/data/mdp/audit/report: default is 90 days
Buttons	
Save Disk Manager	<p>Saves the displayed file retention duration values to the configuration file.</p> <p>Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.</p>
Refresh Disk Manager	Resets the values in the Disk Manager Configuration panel to the values in the configuration file.
Exit	<p>Terminates the MDP Configuration tool.</p> <p>Opens a dialog box requesting that configuration updates not previously applied be saved.</p>
Help	Displays online help for Disk Manager Configuration panel.

File Prober panel

The MDP Passport File Manager window is used to specify collection of raw Passport data from the Passport spool directory and its conversion to either published format (PF) or to bulk data format (BDF).

Figure 4
File Prober panel

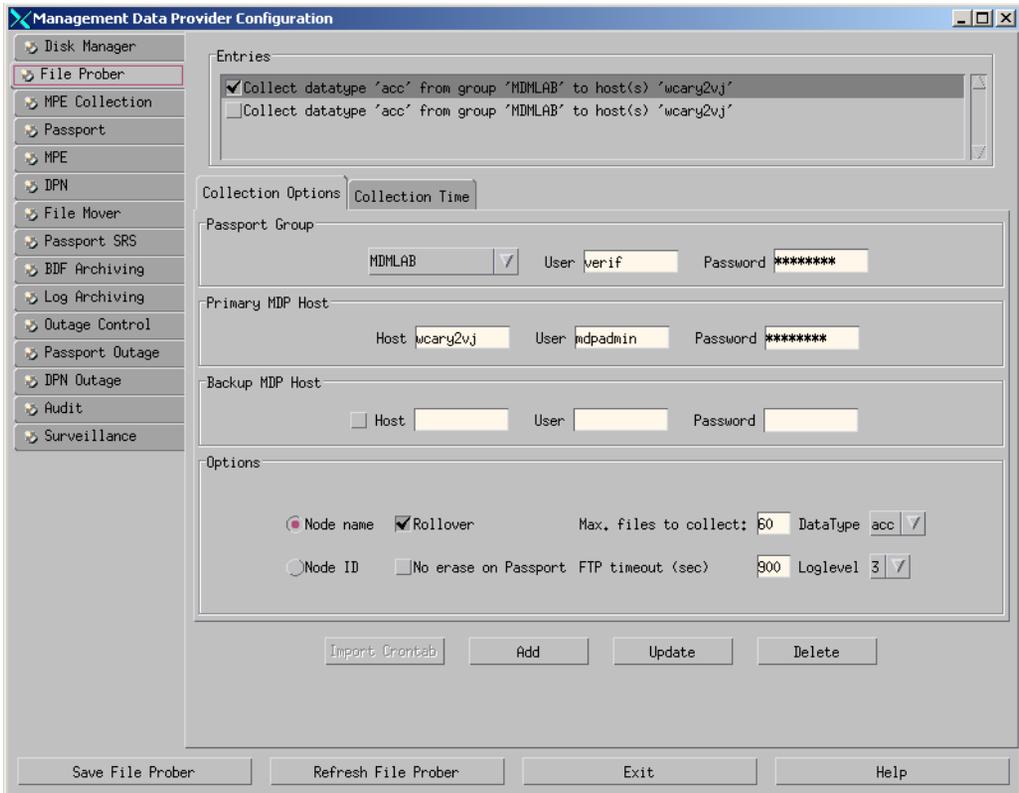


Table 10 lists and describes the options available for the File Prober panel.

Table 10
File Prober fields, boxes, and buttons

Item	Description
Entries	Lists the configured data types by node and group. Selecting an entry indicates that data must be collected for a the indicated data type in the specified group for the specified node. When an entry is selected, a check mark appears in the box next to it.
Collection Options tab	Defines a entry in the Entries field. This tab may be used to define a new entry or edit an existing one.
Passport Group	Defines the group portion of the new entry.
<group>	<p>Lists the available groups that the administrator is permitted to manage. This list is obtained from the Preside Multiservice Data Manager Host Group Directory Server (HGDS) configuration file.</p> <p>A group can be selected from the drop-down list. If an entry is selected in the Entries field, the group for that entry is displayed.</p>
User	<p>Specifies a valid user in the group. If an entry is selected in the Entries field, the user for the entry is displayed. The userID must have:</p> <ul style="list-style-type: none"> • a scope of network, or greater • an impact of config, or greater • allowed access for FMIP and FTP
Password	<p>Specifies the valid password for the user. If an entry is selected in the Entries field, the masked password for that entry is displayed, other wise, the password is manually entered.</p>

Table 10
File Prober fields, boxes, and buttons

Item	Description
Primary MDP Host	<p>Defines the primary MDP host that receives spooled data from designated switches and converts spooled data to bulk data format (BDF) or published format (PF).</p>
	<p>If an entry is selected in the Entries field, the current data for that entry is displayed.</p>
Host	<p>Specifies the primary MDP host using the host name.</p>
User	<p>Specifies the administrator's user ID for the primary host.</p>
Password	<p>Specifies the password for the administrator's user ID.</p>
Backup MDP Host	<p>Defines the backup MDP host that performs the role of the primary MDP if the primary MDP is not reachable. If an entry is selected in the Entries field, the current data for that entry is displayed.</p>
Host	<p>Specifies the backup MDP host using the host name.</p>
User	<p>Specifies the administrator's user ID for the primary host.</p>
Password	<p>Specifies the password for the administrator's user ID.</p>
Options	<p>Defines file management options. If an entry is selected in the Entries field, the current options are displayed.</p>
Node name	<p>Includes the node name in MDP filenames. Deselects Node ID radio button.</p>

Table 10
File Prober fields, boxes, and buttons

Item	Description
Node ID	<p>Includes the node ID in MDP filenames. This option is selected by default. The Node name radio button is deselected.</p> <p>Note: Ensure that the first 4 characters of the nodeID or node name are unique.</p>
Rollover	<p>Indicates, when checked, that the File Prober will close an open spool file before transferring it to the MDP.</p> <p>The spool file is moved to the node directory /spooled/closed/<datatype> and a new file is opened in the node directory /spooled/opened/<datatype>.</p>
No erase on Passport	<p>Prevents the removal of closed node spool files after data collection, when checked. By default, node spool files are deleted after data collection.</p>
Max. files to collect	<p>Specifies the number of spool files to collect. The default is 60. To specify the collection of all closed spool files, use “*”.</p>
FTP timeout (sec)	<p>Specifies, when checked, the number of seconds, the File Prober waits before halting execution if a node does not respond. The default is 300 seconds.</p>
DataType	<p>Specifies the datatype to collect. One of the following types is selected from the drop-down list: accounting, statistics, SCN, alarms, logs.</p>

Table 10
File Prober fields, boxes, and buttons

Item	Description
Loglevel	<p>Specifies, when checked, the level of log information reported by the File Prober. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Collection Option Buttons	
Import Crontab	Imports a selected crontab entry so that it can be managed by the File Prober Manager.
Add	Creates a new entry in the Entries list using the displayed values.
Update	Updates an existing entry using the displayed values.
Delete	Deletes a selected entry.
Collection Time tab	
Data Collection Start Time	<p>Specifies the File Prober collection time for the selected entry. Allows scheduling for:</p> <ul style="list-style-type: none"> • month: January - December, or all • hour: 1 - 12, or all • minute: 0 - 59, or all • day: Sunday - Saturday, specific days of a month from the calendar, or all
Buttons	

Table 10
File Prober fields, boxes, and buttons

Item	Description
Save File Prober	Saves the displayed File Prober values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh File Prober	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for File Prober panel.

MPE Collection panel

The MPE Collection panel is used to specify collection of raw MPE data from the MPE spool directory.

Figure 5
MPE Collection panel

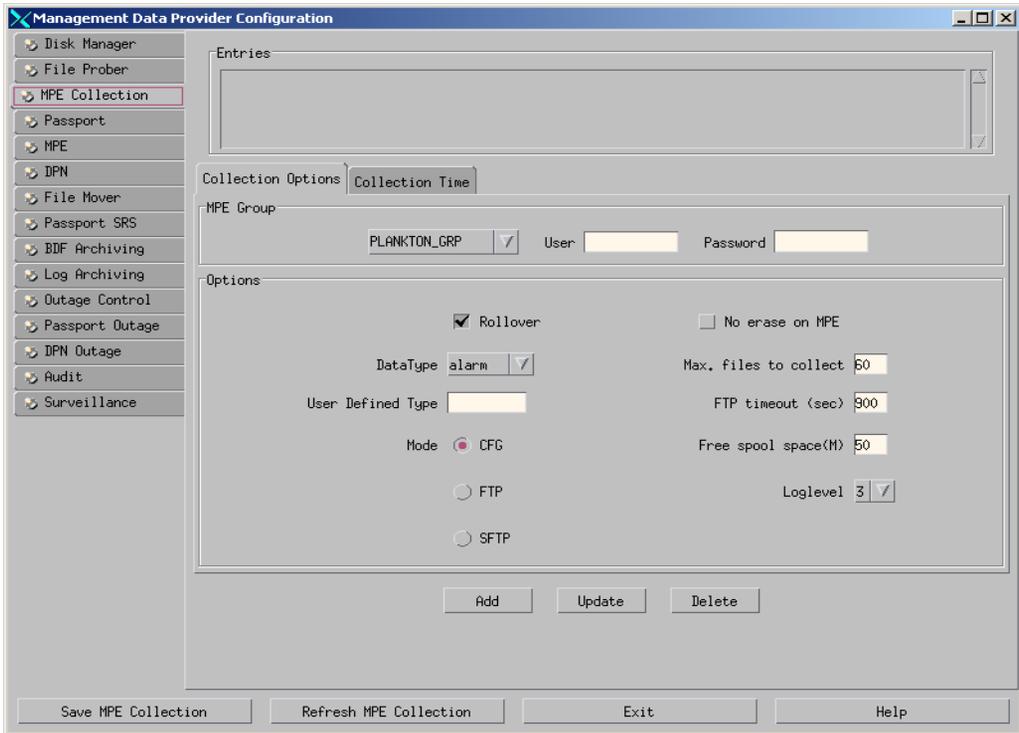


Table 11 lists and describes the options available for the MPE Collection panel.

Table 11
MPE collection fields, boxes, and buttons

Item	Description
Entries	Lists the configured data types by node and group. Selecting an entry indicates that data must be collected for a the indicated data type in the specified group for the specified node. When an entry is selected, a check mark appears in the box next to it.
Collection Options tab	Defines a entry in the Entries field. This tab may be used to define a new entry or edit an existing one.
MPE Group	Defines the group portion of the new entry.
<group>	<p>Lists the available groups that the administrator is permitted to manage. This list is obtained from the Preside Multiservice Data Manager Host Group Directory Server (HGDS) configuration file.</p> <p>A group can be selected from the drop-down list. If an entry is selected in the Entries field, the group for that entry is displayed.</p>
User	Specifies a valid user in the group. If an entry is selected in the Entries field, the user for the entry is displayed. The userID must be a Super-user with user permissions of "All".
Password	Specifies the valid password for the user. If an entry is selected in the Entries field, the masked password for that entry is displayed, other wise, the password is manually entered.
Options	Defines file management options. If an entry is selected in the Entries field, the current options are displayed.

Table 11
MPE collection fields, boxes, and buttons

Item	Description
Rollover	<p>Indicates, when checked, that the MPE Collector will close an open spool file before transferring it to the MDP.</p> <p>The spool file is moved to the node directory /spooled/closed/mpe/<datatype> and a new file is opened in the node directory /spooled/opened/mpe <datatype>.</p>
DataType	<p>Specifies the datatype to collect. One of the following types is selected from the drop-down list: accounting, statistics, alarms, trace, and security audit logs.</p>
User Defined Type	<p>Specifies a data defined by the user. This name is manually entered.</p>
Mode	<p>Specifies one of three valid transfer modes:</p> <ul style="list-style-type: none"> • CFG - configuration. This is the default. When selected the file transfer type is taken from the setting in /opt/MagellanNMS/cfg/FTS.cfg. If that file does not exist, the setting is taken from /opt/MagellanNMS/lib/cfg/FTS.cfg. • FTP - file transfer protocol • SFTP - secure file transfer protocol <p>The default is CFG.</p>
No erase on MPE	<p>Prevents the removal of closed node spool files after data collection, when checked. By default, node spool files are deleted after data collection.</p>
Max. files to collect	<p>Specifies the number of spool files to collect during a single data collection period. The default is 60. To specify the collection of all closed spool files, use “*”.</p>

Table 11
MPE collection fields, boxes, and buttons

Item	Description
FTP timeout (sec)	Specifies, when checked, the number of seconds, the File Prober waits before halting execution if a node does not respond. The default is 300 seconds. The range is 600 -1800.
Loglevel	<p>Specifies, when checked, the level of log information reported by the MPE Collector Manager. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Free spool space (M)	Specifies the amount of disk space that must be free to allow collection. The default is 50M. The Minimum is 20M.
Options Buttons	Imports a selected crontab entry so that it can be managed by the File Prober Manager.
Add	Creates a new entry in the Entries list using the displayed values.
Update	Updates an existing entry using the displayed values.
Delete	Deletes a selected entry.
Collection Time tab	

Table 11
MPE collection fields, boxes, and buttons

Item	Description
Data Collection Start Time	<p>Specifies the File Prober collection time for the selected entry. Allows scheduling for:</p> <ul style="list-style-type: none"> • month: January - December, or all • hour: 1 - 12, or all • minute: 0 - 59, or all • day: Sunday - Saturday, specific days of a month from the calendar, or all
Buttons	
Save MPE Collection	<p>Saves the displayed MPE collection values to the configuration file.</p> <p>Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.</p>
Refresh MPE Collection	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool.
	Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for MPE Collection panel.

Passport panel

The Passport panel is used to configure the Management Data Provider (MDP) to manage and convert raw Passport data to bulk data format (BDF) or to published format (PF).

Figure 6
Passport panel

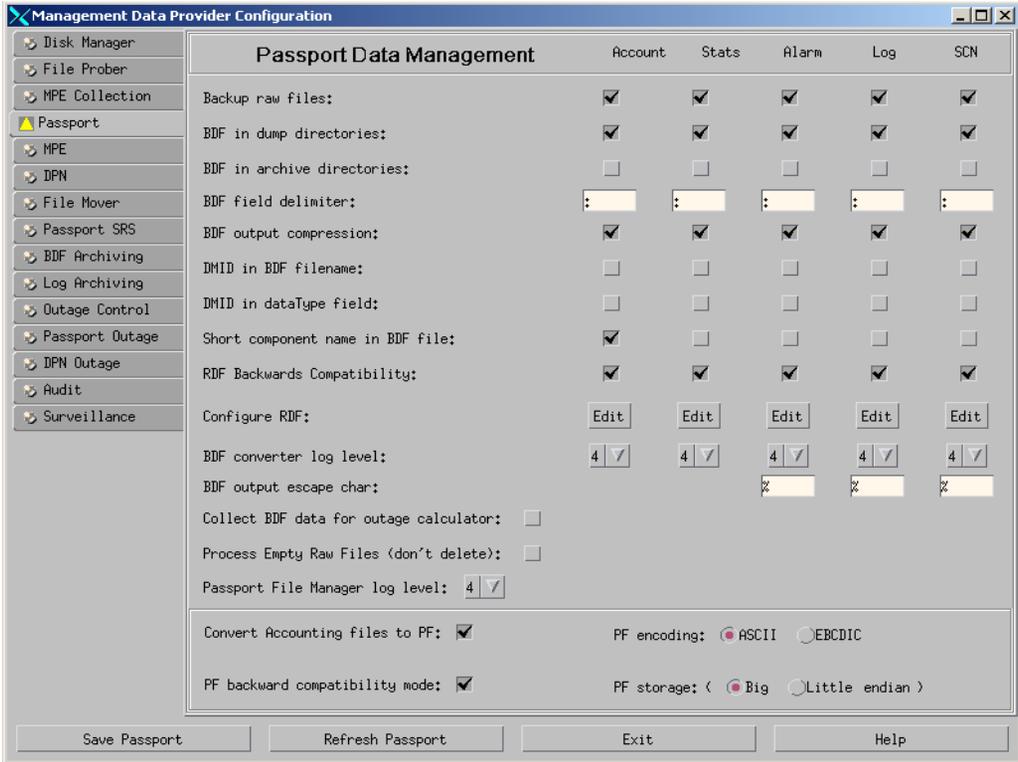


Table 12 lists and describes the options available for the Passport Data Management.

Table 12
Passport Data Management fields, boxes, and buttons

Item	Description
Account Stats Alarm Log SCN	Supported data types for Passport. When the box in the data type column is checked, the corresponding row setting is enabled.
Backup raw files	Specifies a back up of raw data files for each of the supported data types using a check mark.
BDF in dump directories	Specifies the conversion of raw data files to BDF format for each of the supported data types using a check mark.
BDF in archive directories	Writes the converted BDF records for each of the supported data types to the archive directory when specified with a check mark.
BDF field delimiter	<p>Specifies a hex code that represents an alpha numeric character that is used to denote the beginning of one field and the end of another.</p> <p>The default is DEL (0x7F) for all datatypes.</p> <p>Note: Do not use alpha-numeric characters [Aa-Zz] [0-9] as these can make it difficult to read the output files. Also, do not use the following special characters: " ", "^", "(", ")", " ", ",", ".", or "/".</p>
BDF output compression	Compresses fields with null values for each of the supported data types using a check mark.
DMID in BDF filename	Includes Data Model Identifier (DMId) in the BDF file name for each of the supported data types when specified using a check mark.
MDID in dataType field	Includes Data Model Identifier (DMId) and RDF version in the BDF dataType field for each of the supported data types when specified using a check mark.

Table 12
Passport Data Management fields, boxes, and buttons

Item	Description
Short component name in BDF file	Maps a short component name to the component identifier and is used for security alarms. This option is available for each of the supported data types when specified using a check mark.
RDF Backward Compatibility	Maintains RDF backwards compatibility for each of the supported data types when specified using a check mark. This option prevents RDF customization.
Configure RDF	Opens the Passport <datatype> RDF Configuration dialog for each of the supported data types when the Edit button is pressed.
BDF Converter log file	<p>Specifies, when checked, the level of log information reported by the BDF Converter. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
BDF output escape char	Specifies a generic escape character in hexadecimal, that is output instead of uninterpretable characters that may be found in data fields. This is only required for Passport datatypes: alarms, logs, and state change notifications (SCN).

Table 12
Passport Data Management fields, boxes, and buttons

Item	Description
Collect BDF data for outage calculator	<p>Collects BDF data for outage calculation when checked. The MDP Outage Controller must be configured before enabling this setting.</p> <p>Note: The Passport Outage Calculator cannot use customized node alarm or state change notification (SCN) records.</p>
Process Empty Raw Files (don't delete)	Retains the sequence of BDF file names, when checked, by creating an empty BDF file when empty (zero-length) raw data files are collected.
Passport File Manager log level	<p>Specifies, when checked, the level of log information reported by the File Manager. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Convert Accounting files to PF	Converts raw accounting data, when checked, to published format. Published format data is used primarily by customers with down-stream billing applications on IBM or VAX mainframes.
PF backward compatibility mode	<p>Allows the PF converter to revert to a legacy method of processing PF data when checked.</p> <p>When left unchecked, the PF converter optimizes delivery of PF converted data to down-stream billing applications. This method of PF conversion is the default.</p>

Table 12
Passport Data Management fields, boxes, and buttons

Item	Description
PF encoding	Toggles between two PF data encoding formats: EBCDIC or ASCII. IBM customer hosts usually use EBCDIC and VAX customer hosts usually use ASCII.
PF storage	Toggles between two PF data storage formats, big-endian or small-endian. IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian.
Buttons	
Save Passport	Saves the displayed values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Passport	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Passport Data Management panel.

Passport RDF Configuration dialog

The Passport RDF Configuration dialog lets you modify the RDF for a particular data type.

Table 13
Passport <Data Type> RDF Configuration fields, boxes, and buttons

Item	Description
Configured RDF fields	Lists the fields currently included in the BDF records.
Excluded RDF fields	Lists the performance metrics identified in data models that have not been selected for BDF record conversion. Excluding performance metrics prevents them from being identified as 'new' when a new node data model is detected.
New RDF fields	Lists the performance metrics identified in node data models that have not been selected for BDF record conversion and have not been excluded.
Buttons	
Move to Configured	Moves the selected field to the Configured RDF fields list.
Move to Excluded	Moves the selected field to the Excluded RDF fields list.
Move to New	Moves the selected field to the New RDF fields list.
Move Up	Moves a selected field in a list up one position for each click.
Move Down	Moves a selected field in a list down one position for each click.
Commit RDF	Saves the modified RDF. The Passport File Manager (mdpppmgr) must be restarted to implement the committed BDF record changes.

MPE panel

The MPE panel is used to configure the Management Data Provider (MDP) to manage raw data and data transfer to down-stream applications.

Figure 7
MPE panel

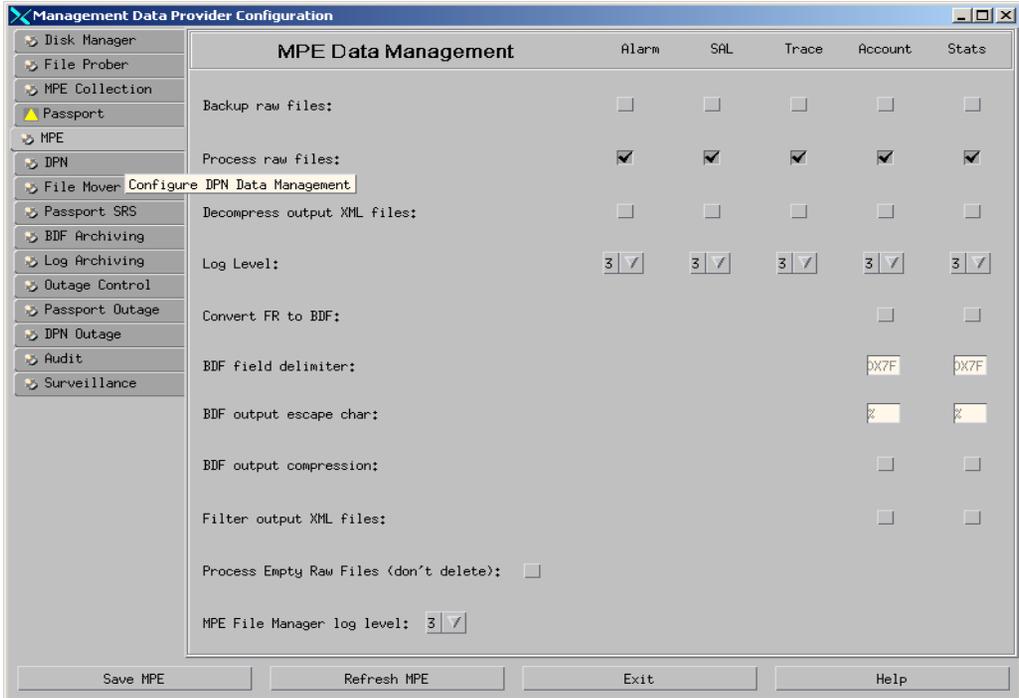


Table 14 lists and describes the options available for the MPE Data Management.

Table 14
MPE Data Management fields, boxes, and buttons

Item	Description
Alarm SAL Trace Account Stats	Supported data types for MPE. When the box in the data type column is checked, the corresponding row setting is enabled.
Backup raw files	Specifies, when checked, a back up of raw data files for each of the supported data types.
Process raw file	<p>Specifies, when checked, that processing is required for the raw data files for each supported data type. Processing usually means, transferring data files to a down-stream application and can include conversion of raw data files to BDF format for each supported data type.</p> <p>The processing information for raw switch data is defined in <code>/opt/MagellanMDP/cfg/mdp/MDPMPMGr.cfg</code></p>
Decompress output XML files	Specifies, when checked, the datatypes to decompress.
Log level	<p>Specifies, when checked, the level of log information reported by the BDF conversion process. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Convert FR to BDF	Specifies, when checked, the datatypes that should be processed for Frame Relay BDF conversion.

Table 14
MPE Data Management fields, boxes, and buttons

Item	Description
BDF field delimiter	<p>Specifies a hex code that represents an alpha numeric character that is used to denote the beginning of one field and the end of another.</p> <p>The default is DEL (0x7F) for all datatypes.</p> <p>Note: Do not use alpha-numeric characters [Aa-Zz] [0-9] as these can make it difficult to read the output files. Also, do not use the following special characters: " ", "^", "(", ")", " ", ";", ".", or "/".</p>
BDF output escape char	<p>Specifies a generic escape character in hexadecimal, that is output instead of uninterpretable characters that may be found in data fields. This is only required for MPE datatypes: accounting and statistics.</p>
BDF output compression	<p>Compresses fields with null values for each of the supported data types using a check mark.</p>
Filter output XML files	<p>Filters converted BDF accounting and statistics records from an XML spool file. XML filtering allows Frame Relay records that have been converted to BDF to be removed from the XML delivered to the customer.</p>
Short component name in BDF file	<p>Maps a short component name to the component identifier and is used for security alarms. This option is available for each of the supported data types when specified using a check mark.</p>
Process Empty Raw Files (don't delete)	<p>Retains the sequence of BDF file names, when checked, by creating an empty BDF file when empty (zero-length) raw data files are collected.</p>

Table 14
MPE Data Management fields, boxes, and buttons

Item	Description
MPE File Manager log level	<p>Specifies, when checked, the level of log information reported by the File Manager. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Buttons	
Save MPE	<p>Saves the displayed values to the configuration file.</p> <p>Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.</p>
Refresh MPE	Resets the values in the panel to the values in the configuration file.
Exit	<p>Terminates the MDP Configuration tool.</p> <p>Opens a dialog box requesting that configuration updates not previously applied be saved.</p>
Help	Displays online help for MPE Data Management panel.

DPN panel

The DPN panel is used to configure the Management Data Provider (MDP) to manage and convert raw DPN data to bulk data format (BDF) or to published format (PF).

Figure 8
DPN panel

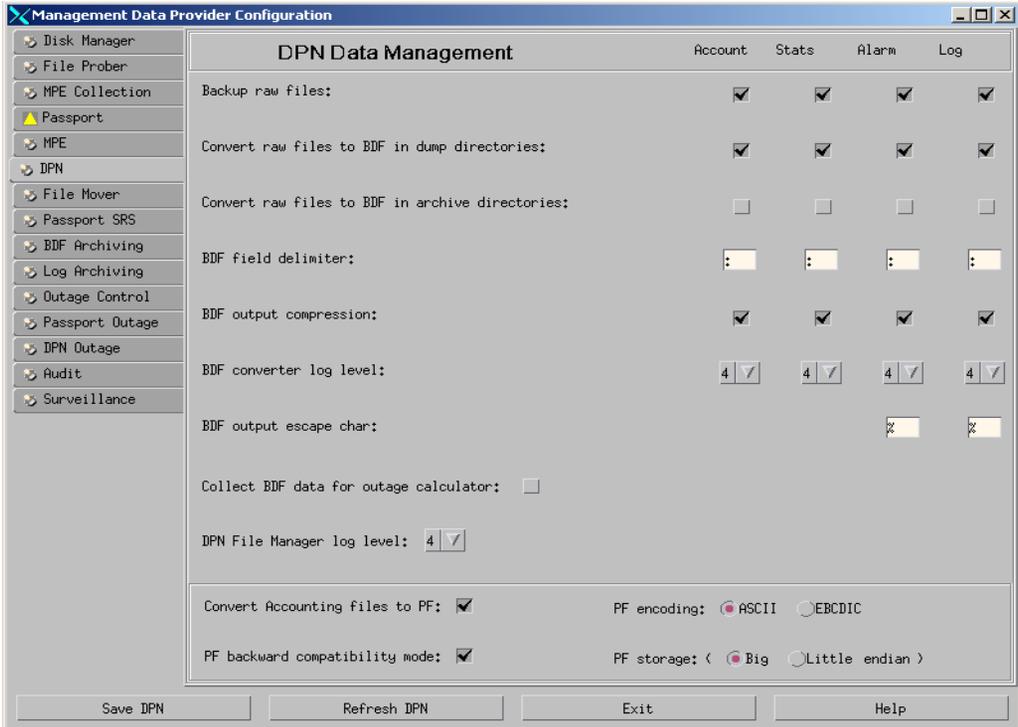


Table 15 lists and describes the options available for the DPN Data Management.

Table 15
DPN Data Management fields, boxes, and buttons

Item	Description
Backup raw files	Specifies a back up of raw data files for each of the supported data types using a check mark.
Convert raw files to BDF in dump directories	Specifies the conversion of raw data files to BDF format for each of the supported data types using a check mark.
Convert raw files to BDF in archive directories	Writes the converted BDF records for each of the supported data types to the archive directory when specified with a check mark.
BDF field delimiter	<p>Specifies a hex code that represents an alpha numeric character that is used to denote the beginning of one field and the end of another.</p> <p>The default is DEL (0x7F) for all datatypes.</p> <p>Note: Do not use alpha-numeric characters [Aa-Zz] [0-9] as these can make it difficult to read the output files. Also, do not use the following special characters: " ", "^", "(", ")", " ", ";", ":", or "/".</p>
BDF output compression	Compresses fields with null values for each of the supported data types using a check mark.
BDF converter log level	<p>Specifies, when checked, the level of log information reported by the BDF Converter. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>

Table 15
DPN Data Management fields, boxes, and buttons

Item	Description
BDF output escape char	Specifies a generic escape character in hexadecimal, that is output instead of uninterpretable characters that may be found in data fields. This is only required for Passport datatypes: alarms, logs, and state change notifications (SCN).
DPN File Manager log level	<p>Specifies, when checked, the level of log information reported by the DPN File Manager. The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Convert Accounting files to PF	Converts raw accounting data, when checked, to published format. Published format data is used primarily by customers with down-stream billing applications on IBM or VAX mainframes.
PF backward compatibility mode	<p>Allows the PF converter to revert to a legacy method of processing PF data when checked.</p> <p>When left unchecked, the PF converter optimizes delivery of PF converted data to down-stream billing applications. This method of PF conversion is the default.</p>
PF encoding	Toggles between two PF data encoding formats: EBCDIC or ASCII. IBM customer hosts usually use EBCDIC and VAX customer hosts usually use ASCII.

Table 15
DPN Data Management fields, boxes, and buttons

Item	Description
PF storage	Toggles between two PF data storage formats, big-endian or small-endian. IBM customer hosts usually use big-endian and VAX customer hosts usually use small-endian.
Buttons	
Save DPN	Saves the displayed values to the configuration file.
	Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh DPN	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool.
	Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for DPN Data Management panel.

File Mover panel

The File Mover panel is used to configure the Management Data Provider (MDP) to automatically transfer converted or raw XML switch data files to customer hosts for billing or performance analysis. Other file types can also be automatically transferred.

Figure 9
File Mover panel

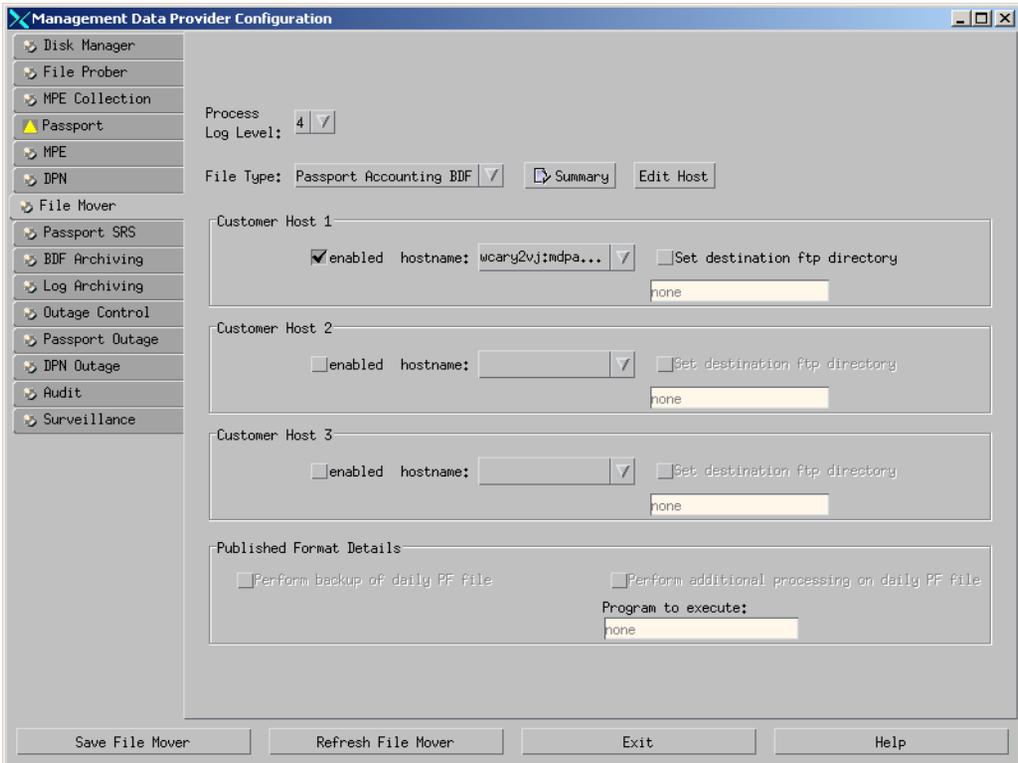


Table 16 lists and describes the options available for the MDP File Mover.

Table 16
File Mover fields, boxes, and buttons

Item	Description
Process Log Level	<p>Specifies, when checked, the level of log information reported by the File Mover Manager and written to a daily log file in directory <code>/opt/MagellanMDP/data/mdp/admin</code>.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
File Type	<p>Specifies a file type from a down-down list. The MDP can be configured to transfer files to a maximum of 3 customer hosts.</p>
Summary	<p>Opens the Summary dialog. The Summary dialog displays a list of the possible file types. If a file type is configured for transfer to a customer host, the hostname (or IP address) and a user ID is displayed beside the file type.</p>
File type column	<p>Displays a list of file types available for transfer.</p>
Hostname	<p>Displays the hostname or IP address of the customer host files are transferred to.</p>
UserID	<p>Displays the User ID of the customer host where files are transferred to.</p>
Edit Host	<p>Opens the Edit Host dialog that enables customer hosts to be defined for file transfer, and to facilitate password changes.</p>

Table 16
File Mover fields, boxes, and buttons

Item	Description
Select Host	Allows selection of a customer host from a drop-down menu.
Hostname	Allows a Hostname to be typed for the selected customer host.
UserID	Allows a UserID to be typed for the selected customer host
Password	Allows a new password to be typed for the selected customer host
Use Shortened Names	Transferring files to the customer host using the short BDF name, when checked. Toggles between using and not using the short BDF name.
Save Host	Saves the updates to the configuration file /opt/MagellanMDP/cfg/mdp/MDPMover.cfg.
Cancel	Closes the Edit Host dialog.
Customer Host 1, 2 or 3	Allows up to three customer hosts to be configure to receive files
Enabled	Enables file transfer of a particular file type to a particular customer host.
Hostname	Allows selection of a customer host from a drop-down menu.
Set destination ftp directory	Allows, when checked, the administrator to specify an ftp transfer directory on a customer host.
Published Format Details	Allows PF files to be backed up and used as source for additional processing.
Perform backup of daily PF file	Enables, when check, a daily backup of PF files.
Perform additional processing on daily PF file	Allows, when checked, the administrator to specify a particular program to execute.

Table 16
File Mover fields, boxes, and buttons

Item	Description
Program to execute	Specifies the absolute path of the program to be used for additional programming in the text entry box.
Buttons	
Save File Mover	Saves the displayed values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh File Mover	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for File Mover Configuration panel.

Passport SRS panel

The Passport SRS panel is used to configure the Management Data Provider (MDP) to manage data collected by Statistics Retrieval System.

Figure 10
Passport SRS panel

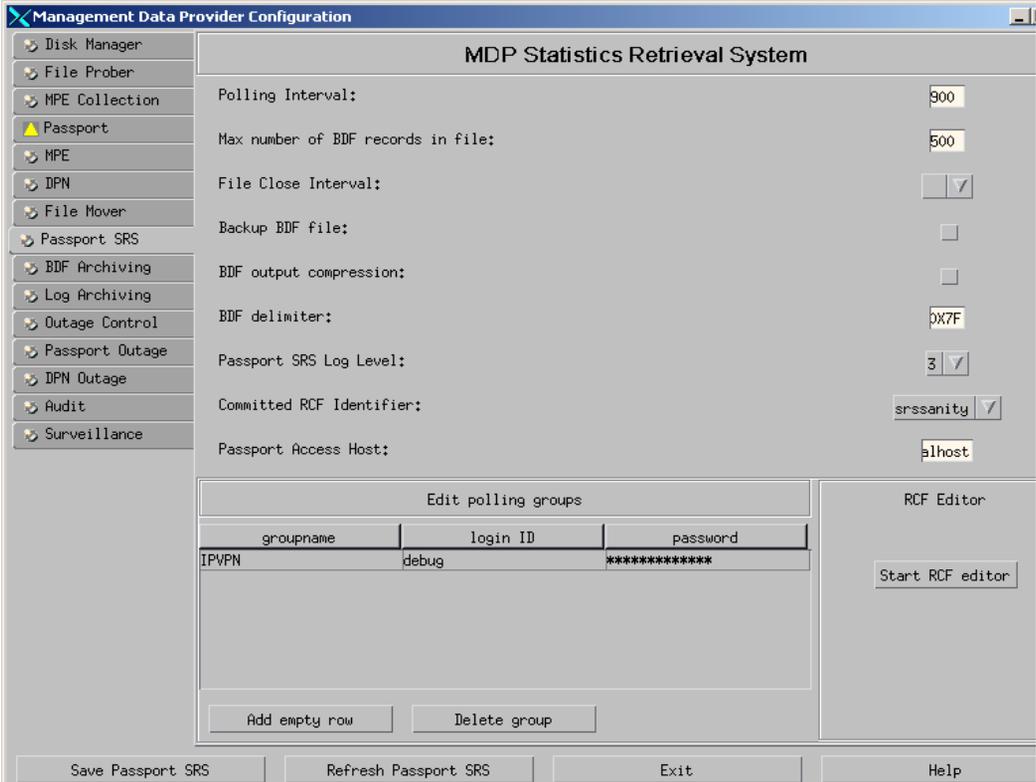


Table 17 lists and describes the options available for the Passport SRS.

Table 17
Passport SRS fields, boxes, and buttons

Item	Description
Polling Interval	<p>Specifies the polling interval is specified in seconds. The default polling interval is 900 seconds (15 minutes). The minimum polling interval is 10 seconds and the maximum polling interval is 65535 seconds.</p> <p>Note: Configuring the polling interval as high as possible avoids network performance degradation, ensures that polling intervals are not skipped, and ensures that delta statistics reflect the configured polling interval.</p>
Max number of BDF records in file	<p>Specifies the maximum number of SRS BDF records. The default is 500 records.</p> <p>Note: One of following must be configured: the maximum number of SRS BDF records or the SRS BDF file closure time interval. Failure to configure one of these results in an error message. If both of these are configured SRS closes the BDF file when the criteria for either setting is reached.</p>
File Close Interval	<p>Specifies BDF file closure based on one of two time intervals: 15 or 30 minute intervals. If 15 is selected, the SRS BDF file is closed on the hour and every 15 minutes afterwards (for example, 0000hrs, 0015hrs, 0030hrs, and 0100hrs).</p> <p>If 30 is selected, the SRS BDF file is closed on the hour and every 30 minutes afterwards (for example, 0000hrs, 0030hrs, and 0100hrs).</p>
Backup BDF file	<p>Archives, when checked, closed SRS BDF files to the backup directory.</p>
BDF output compression	<p>Compresses, when checked, closed SRS BDF files.</p>

Table 17
Passport SRS fields, boxes, and buttons

Item	Description
BDF delimiter	<p>Specifies a hexadecimal character equivalent that indicates the end of a BDF field. The default is DEL (0x7F).</p> <p>Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: " ", "^", "(", ")", " ", ";", ":", or "/".</p>
Passport SRS Log level	<p>Specifies, when checked, the level of log information reported by Passport SRS.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Committed RCF Identifier	<p>Displays the currently committed RCF (record content file).</p>
Passport Access Host	<p>Specifies another Preside Multiservice Data Manager (MDM) host to provide network connectivity to nodes. Both the MDP host and the MDM host can resolve host names to IP addresses.</p>
Edit polling groups	<p>Allow the administrator to add, modify, or delete polling groups.</p>
groupname	<p>Displays a list of configured groups.</p>
login ID	<p>Specifies, when entered, the user ID for the nodes in the group.</p>

Table 17
Passport SRS fields, boxes, and buttons

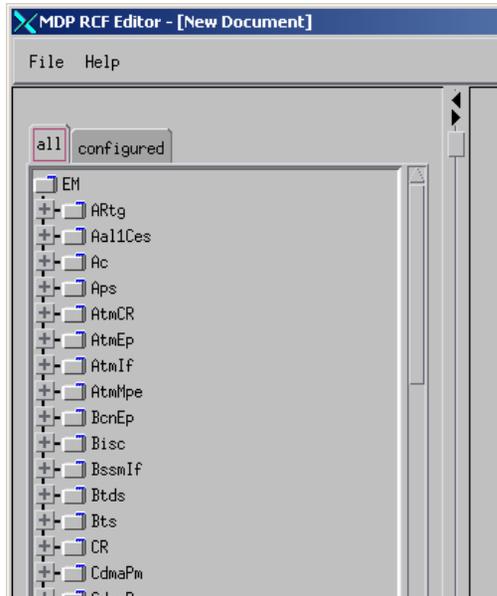
Item	Description
password	Specifies, when entered, the password for the user IDs.
Add empty row	Adds an empty row to allow for an additional group. Displays a list of the groups available from HGDS. If SRS is unable to connect to the HGDS server.
Delete group	Deletes the selected group.
RCF Editor	
Start RCF editor	Opens the MDP RCF Editor window.
Buttons	
Save Passport SRS	Saves the displayed file values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Passport SRS	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool.
	Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Passport SRS panel.

MDP RCF Editor dialog

The MDP RCF Editor dialog lets you configure data collection or change the data collection configuration of the RCF for specific components.

Menus, tabs and button	Description
File	
New	Creates a new RCF.
Open	Opens an existing RCF
Save	Opens the Editor - Save dialog. An existing can be selected from the dialog.
Save As	Opens the Editor - Save As dialog. An existing can be selected from the dialog.
Exit	Closes the RCF Editor dialog and returns to the Passport SRS panel.
Help	Click to display online information in a Web browser.
Component panels	
all	Displays all components and attributes. This option enables you to choose any component and attribute. The default is all .
configured	Displays those components and attributes already configured for SRS polling. Use this option to edit an existing RCF.

MDP RCF Editor dialog



BDF Archiving panel

The BDF Archiving panel is used to configure the Management Data Provider (MDP) to store individual BDF records in a customized directory structure using dates, datatypes, or namsIDs.

Note: Create the archive directory structure before selecting the DPN or Passport datatypes to archive. If you are configuring BDF archiving for Passport, select Passport from the MDP Configuration tool window. If you are configuring BDF archiving for DPNs, select DPN from the MDP Configuration tool window.

Figure 11
BDF Archiving panel

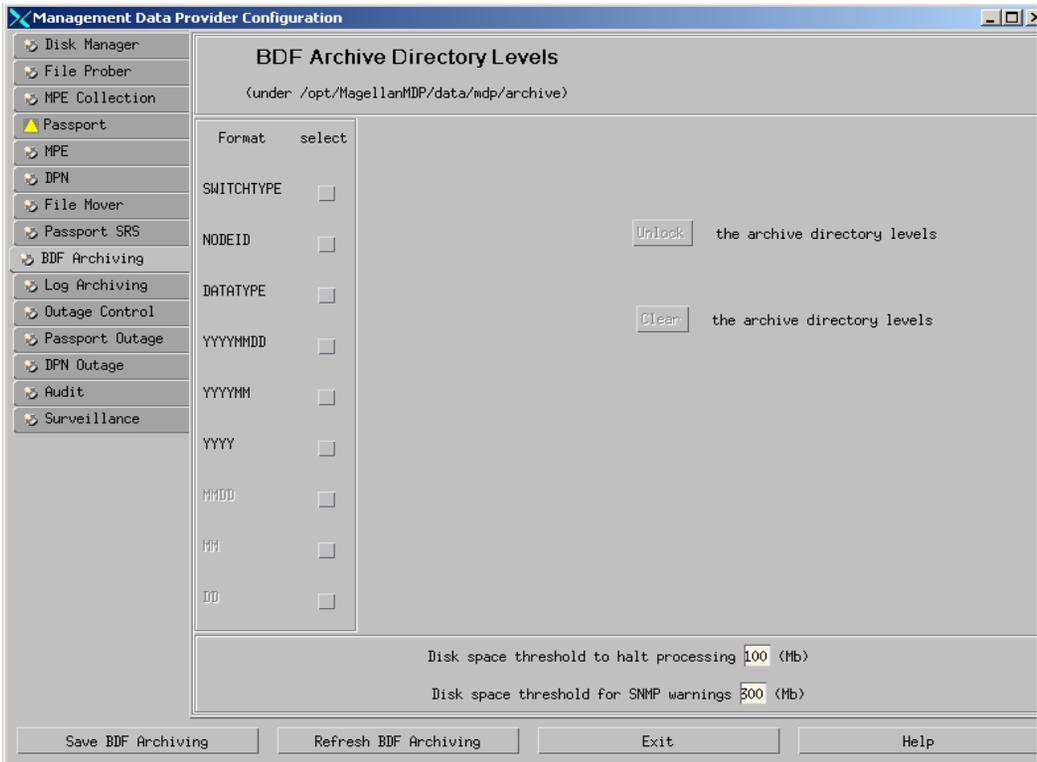


Table 18 lists and describes the options available for the BDF Archiving.

Table 18
BDF Archiving fields, boxes, and buttons

Item	Description
Format / select	Specifies the hierarchical structure of the archive directory for BDF records.
SWITCHTYPE	Organizes the directory by switch type when checked.
NODEID	Organizes the directory by node identifier when checked. If this level is selected, the new archive directory structure is /opt/MagellanMDP/data/mdp/archive/acc/ <nodeID>, where <nodeID> is the nodeID obtained from the data filename when the data is archived.
DATATYPE	Organizes the directory by data type when checked: accounting, alarms, logs, scn, and statistics.
YYYYMMDD	Organizes the directory by year, month and day when checked.
YYYYMM	Organizes the directory by year and month when checked.
YYYY	Organizes the directory by year when checked.
MMDD	Organizes the directory by month and day when checked.
MM	Organizes the directory by month when checked.
DD	Organizes the directory by day when checked.

Table 18
BDF Archiving fields, boxes, and buttons

Item	Description
Unlock the archive directory levels	Opens a pop-up window to confirm your intention to change the BDF archival directory structure. When confirmed, the level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed.
Clean the archive directory levels	The level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed
Disk space threshold to halt processing	Specifies the amount of disk space before processing is halted. Disk space is specified in units of megabytes (MB). The default is 100MB.
Disk space threshold for SNMP warnings	Specifies the amount of disk space used before an SNMP warning is generated. The disk space threshold is specified in units of megabytes (MB). The default is 300MB
Buttons	
Save BDF Archiving	Saves the displayed values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh BDF Archiving	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for BDF Archiving panel.

Log Archiving panel

The Log Archiving panel is used to configure the Management Data Provider (MDP) to store individual BDF records in a customized directory structure using dates, datatypes, or namsIDs.

Note: Create the archive directory structure before selecting the DPN or Passport datatypes to archive. If you are configuring BDF archiving for Passport, select Passport from the MDP Configuration tool window. If you are configuring BDF archiving for DPNs, select DPN from the MDP Configuration tool window.

Figure 12
Log Archiving panel

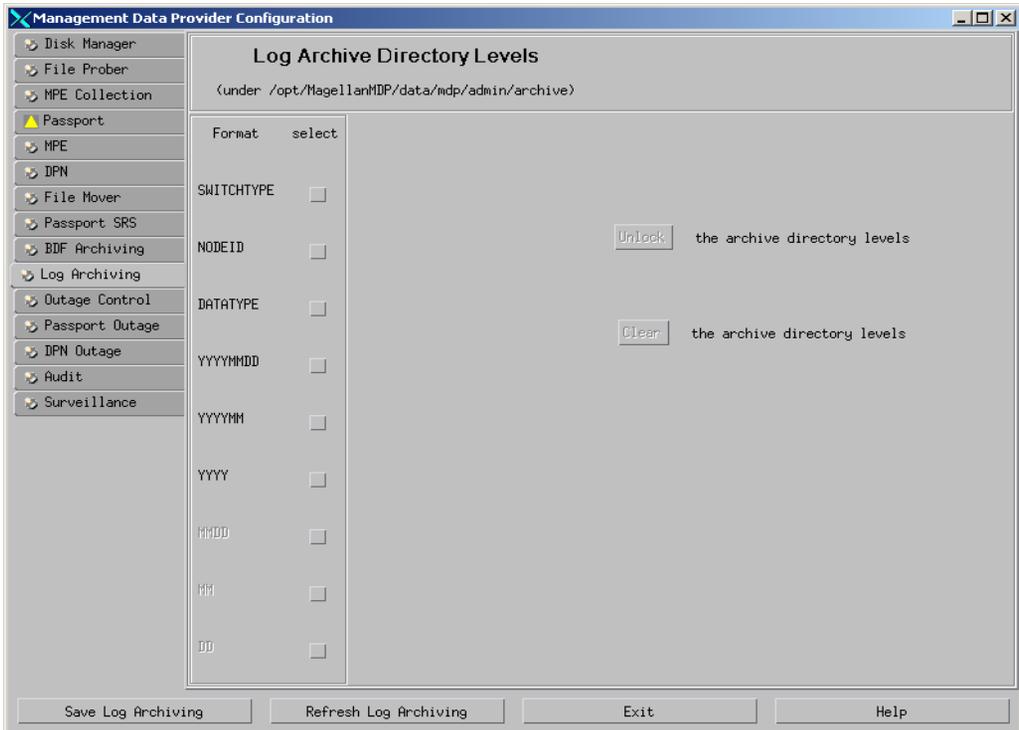


Table 19 lists and describes the options available for the Log Archiving.

Table 19
Log Archiving fields, boxes, and buttons

Item	Description
Format / select	Specifies the hierarchical structure of the archive directory for Log records.
SWITCHTYPE	Organizes the directory by switch type when checked.
NODEID	Organizes the directory by node identifier when checked. If this level is selected, the new archive directory structure is /opt/MagellanMDP/data/mdp/archive/acc/ <nodeID>, where <nodeID> is the nodeID obtained from the data filename when the data is archived.
DATATYPE	Organizes the directory by data type when checked: accounting, alarms, logs, scn, and statistics.
YYYYMMDD	Organizes the directory by year, month and day when checked.
YYYYMM	Organizes the directory by year and month when checked.
YYYY	Organizes the directory by year when checked.
MMDD	Organizes the directory by month and day when checked.
MM	Organizes the directory by month when checked.
DD	Organizes the directory by day when checked.

Table 19
Log Archiving fields, boxes, and buttons

Item	Description
Unlock the archive directory levels	Opens a pop-up window to confirm your intention to change the BDF archival directory structure. When confirmed, the level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed.
Clean the archive directory levels	The level names in the panel beside the list of optional format names are removed and the check marks in the button boxes beside the previously selected level names are removed
Buttons	
Save Log Archiving	Saves the displayed values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Log Archiving	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Log Archiving panel.

Outage Control panel

The Outage Control panel is used to configure the Management Data Provider (MDP) to produce availability calculations and reports using alarms and state change notifications to determine network service interruptions for DPN-100, and Passport networks.

Figure 13
Outage Controller Configuration panel

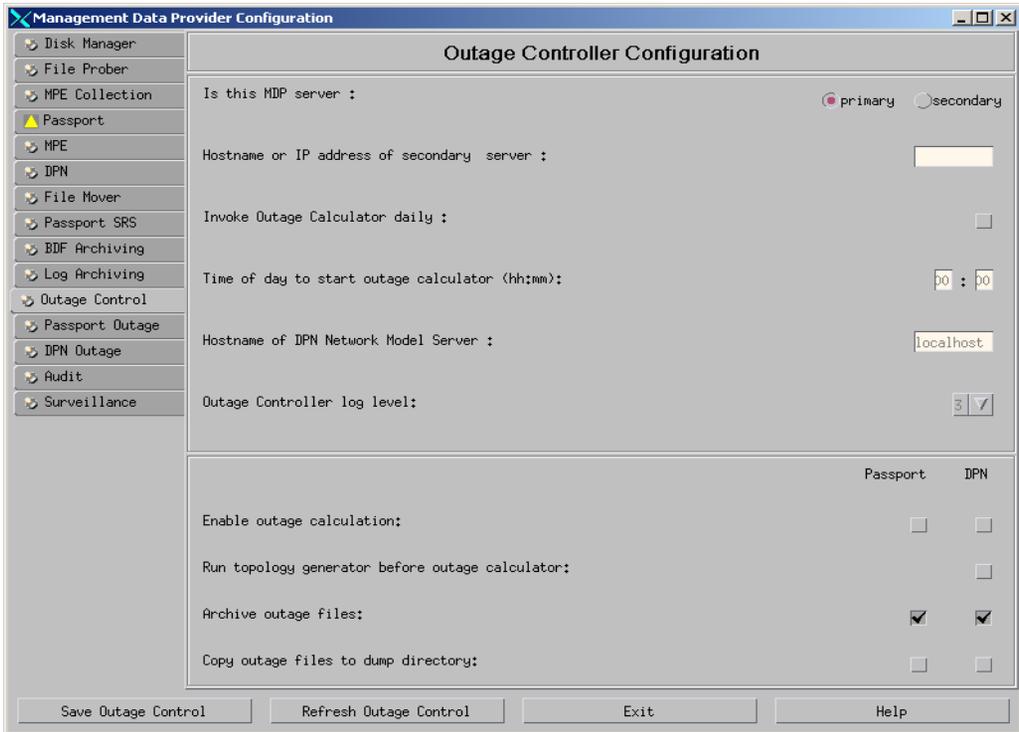


Table 20 lists and describes the options available for the Outage Controller Configuration.

Table 20
Outage Controller Configuration fields, boxes, and buttons

Item	Description
Is this MDP server primary or secondary	Indicates the MDP server designation of the local host being configured. Toggles between primary and secondary MDP server. The default is neither option is selected.
Hostname or IP address of secondary server	Specifies the IP address or hostname of the secondary MDP server when entered. When the local MDP host is set as the secondary MDP host this option is not available.
Invoke Outage Calculator daily	Enables outage calculation on a daily basis when checked.
Time of day to start outage calculator (hh:mm)	<p>Specifies the start time for outage calculations using the 24 hour clock standard (for example, 5:00 PM is 17:00). The default is 00:00.</p> <p>If you have not enabled the daily execution of the Outage Calculator, this option is not available.</p> <p>An entry is added to the UNIX crontab to invoke the Outage Controller every day at this time.</p>
Hostname of DPN Network Model Server	For DPN only. Specifies the hostname of the DPN Network Model server when entered.
Outage Controller log level	<p>Specifies, when checked, the level of log information reported by Outage Controller.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>

Table 20
Outage Controller Configuration fields, boxes, and buttons

Item	Description
Enable outage calculation	Enables outage calculation, when checked, for Passport or DPN or both.
Run topology generator before outage calculator	For DPN only. Runs the topology generator prior to the outage calculator, when checked. The topology generator extracts the following component data from the Network Model for outage calculation purposes: PM, PE, PI, and PO.
Archive outage files	Archives outage calculation files, when checked, for Passport or DPN or both.
Copy outage files to dump directory	Copies outage calculation files to the dump directories, when checked, for Passport or DPN or both.
Buttons	
Save Outage Control	Saves the displayed values to the configuration file.
	Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Outage Control	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool.
	Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Outage Control panel.

Passport Outage panel

The Passport Outage panel is used to configure the Management Data Provider (MDP) to provide outage calculations for Passport switches. This panel is used in conjunction with the Outage Controller Configuration panel.

Figure 14
Passport Outage Calculator Configuration panel

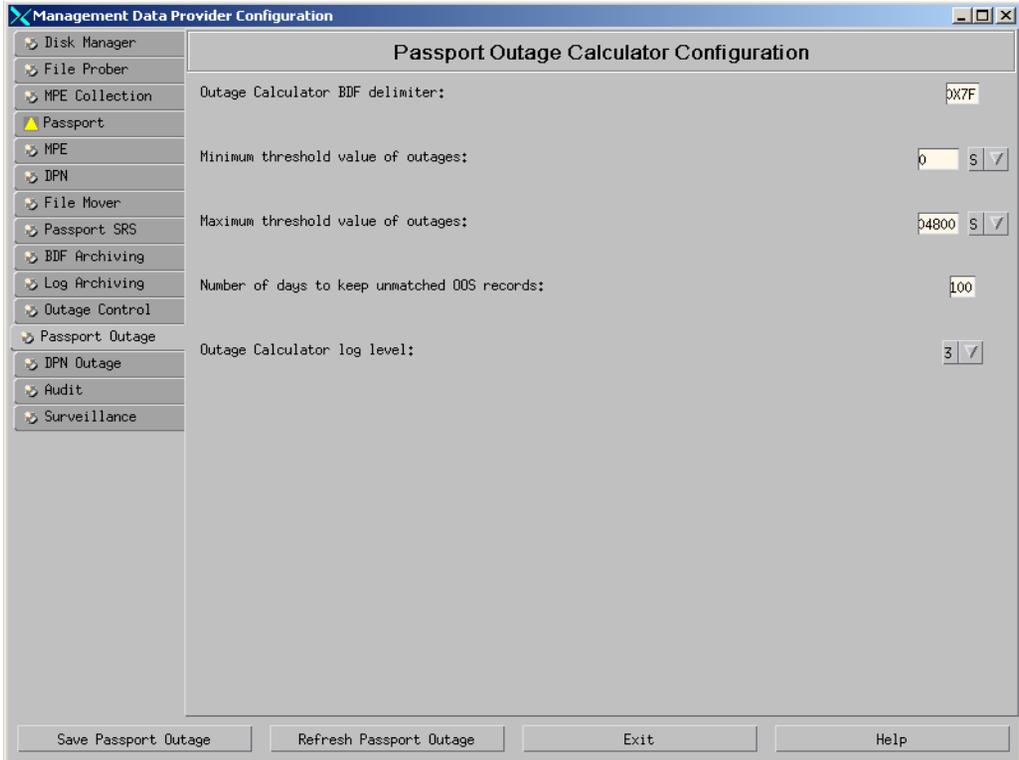


Table 21 lists and describes the options available for the Passport Outage Calculation Configuration.

Table 21
Passport Outage Calculator Configuration fields, boxes, and buttons

Item	Description
Outage Calculator BDF delimiter	<p>Specifies a hexadecimal character equivalent that indicates the end of a BDF field. The default is DEL (0x7F).</p> <p>Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: " ", "^", "(", ")", " ", ";", ":", or "/".</p>
Minimum threshold value of outage	<p>Specifies the minimum outage duration that is used for outage calculation. The threshold is set in units of seconds (s), minutes (m), hours (h), or days (d). For example: 15s, 30m, 1h, or 7d.</p> <p>The default is zero. The maximum is 365d.</p>
Maximum threshold value of outage	<p>Specifies the maximum outage duration that is used for outage calculation. The threshold is set in units of seconds (s), minutes (m), hours (h), or days (d). For example: 15s, 30m, 1h, or 7d.</p> <p>The default is 7d. The maximum is 365d.</p>
Number of days to keep unmatched OOS records	<p>Specifies the number of days to keep unmatched OOS records. The default is 100 days.</p>
Outage Calculator log level	<p>Specifies, when checked, the level of log information reported by Outage Calculator.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>

Table 21
Passport Outage Calculator Configuration fields, boxes, and buttons

Item	Description
Buttons	
Save Passport Outage	Saves the displayed values to the configuration file.
	Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Passport Outage	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool.
	Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Passport Outage panel.

DPN Outage panel

The DPN Outage panel is used to configure the Management Data Provider (MDP) to provide outage calculations for DPN switches. This panel is used in conjunction with the Outage Controller Configuration panel.

Figure 15
DPN Outage Controller Configuration panel

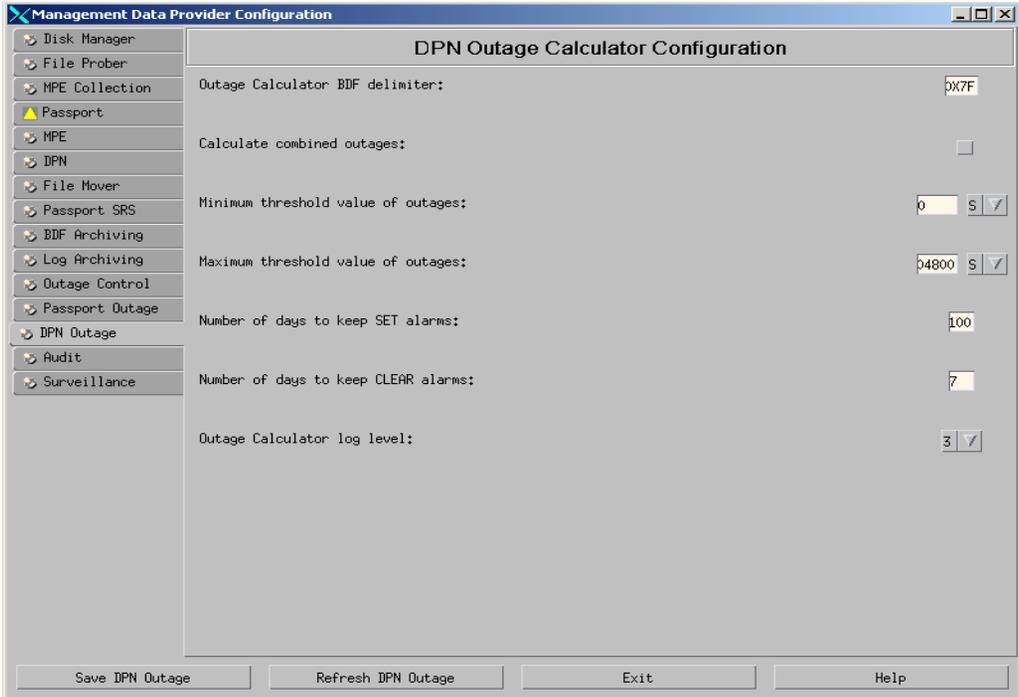


Table 22 lists and describes the options available for the DPN Outage Controller Configuration.

Table 22
DPN Outage Calculator Configuration fields, boxes, and buttons

Item	Description
Outage Calculator BDF delimiter	<p>Specifies a hexadecimal character equivalent that indicates the end of a BDF field. The default is DEL (0x7F).</p> <p>Note: Do not use alpha-numeric characters as these can make it difficult to read the output files. Do not use the following characters: " ", "^", "(", ")", " ", ";", ":", or "/".</p>
Calculates combined outages	<p>Uses combined outages in outage calculations, when checked. Combined outages are outages propagated from a failed network component to its subcomponents.</p> <p>A current network topology is needed to calculate the combined outages. Combined outages exist for PEs and ports.</p>
Minimum threshold value of outage	<p>Specifies the minimum outage duration that is used for outage calculation. The threshold is set in units of seconds (s), minutes (m), hours (h), or days (d). For example: 15s, 30m, 1h, or 7d.</p> <p>The default is zero. The maximum is 365d.</p>
Maximum threshold value of outage	<p>Specifies the maximum outage duration that is used for outage calculation. The threshold is set in units of seconds (s), minutes (m), hours (h), or days (d). For example: 15s, 30m, 1h, or 7d.</p> <p>The default is 7d. The maximum is 365d.</p>
Number of days to keep SET alarms	<p>Specifies the number of days to keep SET alarms. The default is 100 days.</p>
Number of days to keep CLEAR alarms	<p>Specifies the number of days to keep unmatched CLEAR alarms. The default is 100 days.</p>

Table 22
DPN Outage Calculator Configuration fields, boxes, and buttons

Item	Description
Outage Calculator log level	<p>Specifies, when checked, the level of log information reported by Outage Calculator.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Buttons	
Save DPN Outage	<p>Saves the displayed values to the configuration file.</p> <p>Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.</p>
Refresh DPN Outage	Resets the values in the panel to the values in the configuration file.
Exit	<p>Terminates the MDP Configuration tool.</p> <p>Opens a dialog box requesting that configuration updates not previously applied be saved.</p>
Help	Displays online help for DPN Outage panel.

Audit panel

The Audit panel is used to configure the Management Data Provider (MDP) to create reports that summarize the processing of bulk data format (BDF) records.

Figure 16
Configure File Processing Audits panel

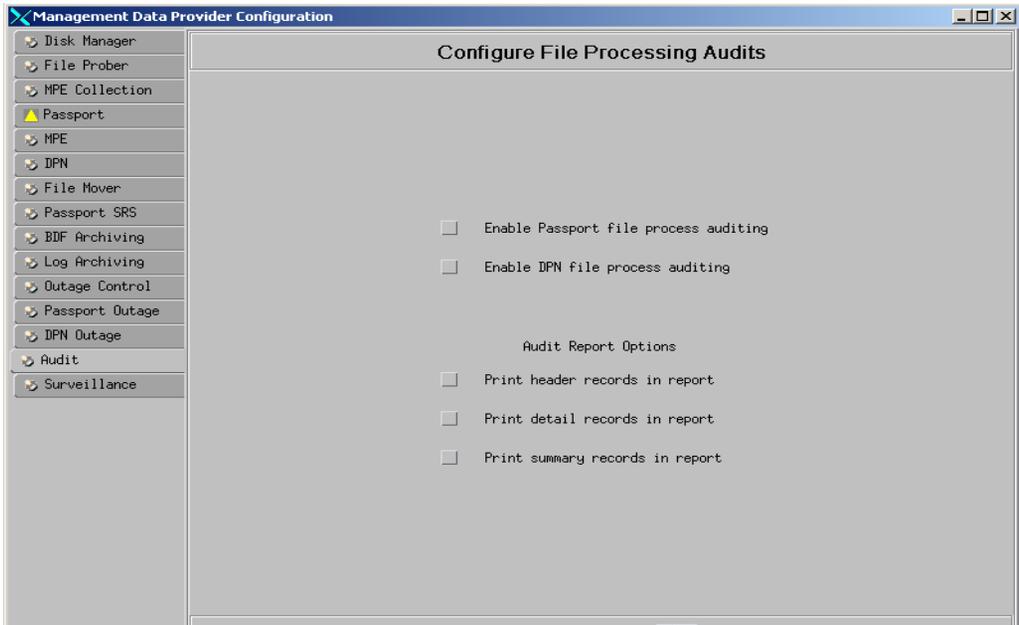


Table 23 lists and describes the options available for the Configure File Processing Audits.

Table 23
Configure File Processing Audits fields, boxes, and buttons

Item	Description
Enable Passport File processing auditing	Enables process auditing of Passport files, when checked.
Enable DPN File processing auditing	Enables process auditing of DPN files, when checked.
Audit Report Options	
Print header records in report	Includes the field names in the report, when checked.
Print detail records in report	Includes detailed records in the report, when checked.
Print summary records in report	Includes summary records in the report, when checked. By default, only the summary records are reported.
auditing log level	<p>Specifies, when checked, the level of log information reported by audit processing.</p> <p>The default is level 3.</p> <p>0 logs critical errors.</p> <p>1 logs general errors and critical errors.</p> <p>2 logs warnings, errors, and critical errors.</p> <p>3 logs information, warnings, errors, and critical errors. Information logging includes processing start time and completion time.</p> <p>4 logs verbose information warnings, errors, and critical errors</p>
Buttons	
Save Audit	<p>Saves the displayed values to the configuration file.</p> <p>Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.</p>

Table 23
Configure File Processing Audits fields, boxes, and buttons

Item	Description
Refresh Audit	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for the Audit panel.

Surveillance panel

The Surveillance panel is used to configure the Management Data Provider (MDP) to generate MDM alarms and traps.

Figure 17
Surveillance Configuration panel

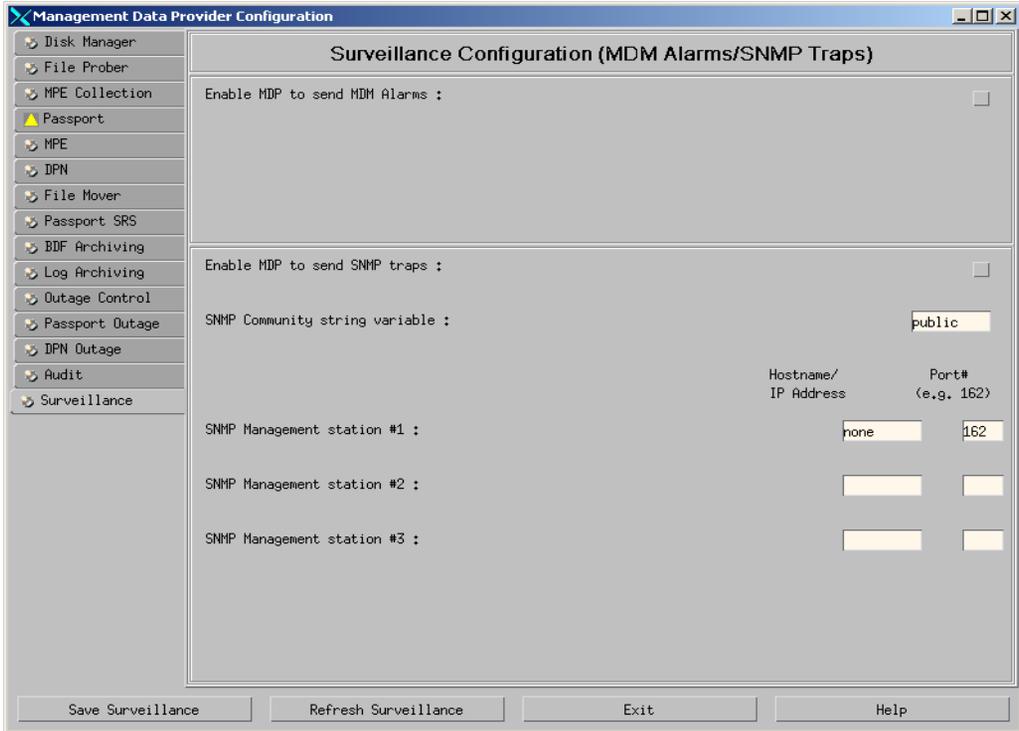


Table 24 lists and describes the options available for the Surveillance Configuration.

Table 24
Surveillance Configuration fields, boxes, and buttons

Item	Description
Enable MDP to send MDM Alarms	Enables MDM alarm generation, when checked.
Enable MDP to send SNMP traps	Enables MDM trap generation, when checked.
SNMP Community string variable	Specifies the SNMP community string, when entered. This option is only required if Enable MDP to send SNMP traps is enabled. The default community string is public.
SNMP Management stations #1:	<p>Specifies the hostname, or IP address of the first SNMP management station, when entered.</p> <p>Specifies the port number of the first SNMP management station, when entered. The default SNMP management station port number is port 162.</p>
SNMP Management stations #2	<p>Specifies the hostname, or IP address of the second SNMP management station, when entered.</p> <p>Specifies the port number of the second SNMP management station, when entered. The default SNMP management station port number is port 162.</p>
SNMP Management stations #3	<p>Specifies the hostname, or IP address of the third SNMP management station, when entered.</p> <p>Specifies the port number of the third SNMP management station, when entered. The default SNMP management station port number is port 162.</p>
Buttons	

Table 24
Surveillance Configuration fields, boxes, and buttons

Item	Description
Save Surveillance	Saves the displayed values to the configuration file. Opens a confirmation dialog. If the servers are currently running, you are prompted for confirmation to restart the servers.
Refresh Surveillance	Resets the values in the panel to the values in the configuration file.
Exit	Terminates the MDP Configuration tool. Opens a dialog box requesting that configuration updates not previously applied be saved.
Help	Displays online help for Surveillance panel.

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Preside Multiservice Data Manager
Management Data Provider
User Guide

R15.1

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