Prospect

Data Acquisition Tools Guide 7.1
for Nortel EVDO8.1/CDMA MTX18

Note

Before using this information and the product it supports, read the information in <u>Notices</u> on page 137.

Table of Contents

1   About This Documentation

The *Data Acquisition Tools Guide* provides instructions for configuring and supporting this feature of IBM Prospect software. This guide is customized to support IBM Prospect 8.0 Data Acquisition Tools 7.1 for Nortel EVDO8.1/CDMA MTX18 (Release Point 16.7).

This toolset acquires data from the network elements for processing and in turn sending it to the Prospect server for loading. For the latest information pertaining to your network configuration, please see the Release Notes.

This guide was last updated September 14, 2010.

Please see the current release notes on this product for a list of revision dates for all IBM Prospect publications.

Audience

The intended audience for this guide are those with a working knowledge of UNIX, and include experienced system administrators, database administrators, installers, or supervisors who are responsible for setting up and configuring Data Acquisition tools. In general, the reader of this guide is referred to as "*you*." By contrast, "*we*" refers to the IBM Prospect development and technical staff who support this product.

Required Skills and Knowledge

This guide assumes that you are familiar with the following:

- UNIX basics (such as file structures, text editing, and permissions).
- A UNIX-based text editor, such as *vi* or *emacs*.
- Shell and awk scripting.
- UNIX system administration.

This guide also assumes that you are familiar with your company's network and with procedures for configuring, monitoring, and solving problems on your network.

Document Conventions

This document uses the typographical conventions shown in the following table:

Table 1:   General Document Conventions

Format	*Examples*	*Description*
ALL UPPERCASE	• GPS • NULL • MYWEBSERVER	Acronyms, device names, logical operators, registry keys, and some data structures.
Underscore	See Document Conventions	For links within a document or to the Internet. Note that TOC and index links are not underscored. Color of text is determined by browser settings.
Bold	• **Note**: The busy hour determiner is...	Heading text for Notes, Tips, and Warnings.
SMALL CAPS	• The STORED SQL dialog box... • ...click VIEW... • In the main GUI window, select the FILE menu, point to NEW, and then select TRAFFIC TEMPLATE.	Any text that appears on the GUI.
Italic	• A *busy hour* is... • A web server *must* be installed... • See the *User Guide*	New terms, emphasis, and book titles.
`Monospace`	• `./wminstall` • `$ cd /cdrom/cdrom0` • `/xml/dict` • `http://java.sun.com/products/` • `addmsc.sh` • `core.spec` • Type `OK` to continue.	Code text, command line text, paths, scripts, and file names. Text written in the body of a paragraph that the user is expected to enter.

`Monospace Bold`	**`[root] # pkginfo | grep -i perl`**
	`system Perl5 On-Line Manual Pages`
	`system Perl 5.6.1 (POD Documenta-tion)`
	`system Perl 5.6.1`
		For contrast in a code example to show lines the user is expected to enter.

`<Mono-space italics>`	`# cd <oracle_setup>`	Used in code examples: command-line variables that you replace with a real name or value. These are always marked with arrow brackets.
`[square bracket]`	`log-archiver.sh  [-i][-w][-t]`	Used in code examples: indicates options.

User Publications

IBM Prospect software provides the following user publications in HTML or Adobe Portable Document Format (PDF) formats.

Table 2: IBM Prospect User Documentation

Document	*Description*
Administration Guide	Helps an administrator configure and support IBM Prospect core server software to analyze network performance and perform other network or database management tasks.
Administrator's Quick Reference Card	Presents the principal tasks of a IBM Prospect core server administrator in an easy-to-use format.
Data Acquisition Tools Guide	Helps an administrator install, configure, and operate the Data Acquisition tools.
Expressions Technical Reference	Provides detailed information about expressions used in special calculations for reports.
Installation Guide	Instructions for installing and configuring the IBM Prospect software.
Open Interface API Guide	Describes how the Open Interface tool enhances your access to information about database peg counts and scenarios.
Performance Data Reference	Provides detailed information including entity hierarchies, peg counts, primitive calculations, and forecast expressions specific to your organization.
Release Notes	Provides technology-specific and late-breaking information about a given IBM Prospect release and important details about installation and operation.
Server Preparation Guide	Provides instructions for installing and setting up Solaris and Oracle software before you install IBM Prospect software.
Server Sizing Tool Guide	Helps an administrator use the sizing tool to calculate the system space needed for the IBM Prospect software and database.
User Guide	Provides conceptual information and procedures for using IBM Prospect software for performance and trending analysis.

Viewing the Desktop Client Help Publications

To view the desktop client Help publications, select a guide from the HELP menu of the IBM Prospect graphical user interface or press F1 for context-sensitive Help. To update the Help files, click the HELP menu on the IBM Prospect Explorer, and select UPDATE ALL HELP FILES.

When Help files are updated, they are downloaded automatically from the IBM Prospect server to the IBM Prospect client. A message box notifies you when this download occurs.

Viewing the Publications in PDF

All of the user publications are available in Adobe Portable Document Format (PDF). To open a PDF, you need the Adobe Acrobat Reader. You can download Adobe Acrobat Reader free of charge from the Adobe Web site. For more details about the Acrobat Reader, see the Adobe Web site http://www.adobe.com/ .

Viewing the Publications in IBM Information Center

All of the IBM Prospect publications, including Release Notes, are available online from the IBM Information Center website as follows:

http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp?topic=/
com.ibm.netcool_pm.doc/IBM_Prospect_060308.htm

2   Installation and Setup

Data Acquisition tools are programs that collect performance data from network elements or data collection points, preprocess the data, and then send the data to the IBM Prospect server. The following figure shows a block diagram of the data acquisition process.

Note: In this guide, the term *network element* represents the components of the switching network.

Figure 1:   The Data Acquisition Process
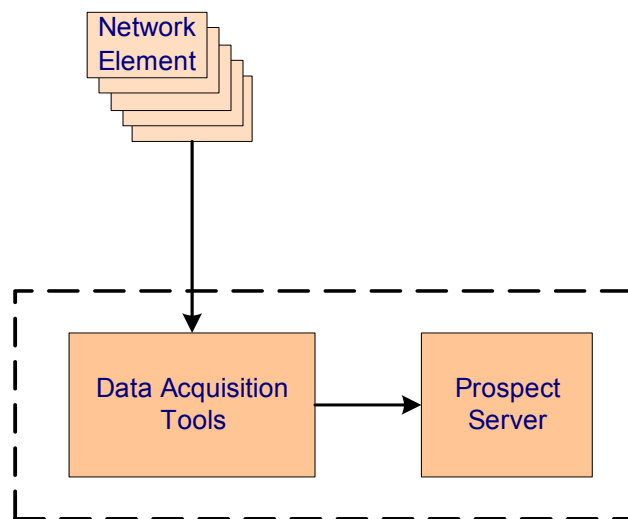
Refer to the *Administration Guide* for a description of the data loading process once the data is received by the IBM Prospect server.

Topics

Overview

The data acquisition process collects data files from the network elements or data collection points at specific intervals, stores the files on the data acquisition server, and then sends the files to the IBM Prospect server. This data can then be used by the IBM Prospect server to create reports.

Data Acquisition tools enable you to do the following:

- Communicate with network elements or data collection points
- Collect data from network elements or data collection points
- Store acquired data on the data acquisition server and send the data to the IBM Prospect server
- Record user-defined events and errors in a log file
- Monitor the condition of all required processes
- Collect data again from network elements or data collection points after failure

Data Acquisition tools can remotely log on to network elements or data collection points using provided IP address and security information, receive generated data through network commands or files stored on network elements or data collection points, and send data to desired locations. You can configure both source and target data locations (directories and file names) and include a time stamp as part of a file name.

Before You Begin

Before you can install the Data Acquisition tool, you need the following information:

- Data collection point or network element hostnames and IP addresses and the corresponding login usernames and passwords
- destination host name and IP address for the IBM Prospect server
- destination (target) directory for the IBM Prospect server
- login user name and password for the destination IBM Prospect server
- number of days to keep the data files
- Data type (the following data types are supported in this release: bsm, mtx, mtxtab, ppc, rnc, pdsn, usp, pvg, sdm, uas, mxpt, pdsn16000, mg, ntmmdm).
- Time adjustment, if the data collection points are in a different time zone than the DA server.

Collecting MG NTM (PVG) Data

The PVG data type is the same as the newer MG NTM datatype, rebranded. There are three sources for this data: the SDM/CBM, MDM, and the CNM.

For collection from the SDM or CBM, the source file convention is
`<name>.<date>.<time>.PP.<type>.CSV`, where the default `<name>` is `PP_30MIN_PM` and `<type>` is `THIRTY` and the source directory is `/omdata/closedNotSent` for the SDM, and

`/cbmdata/00/billing/ama/closedNotSent` for the CBM.

For collection from the MDM, the source file convention is
`<name>.<date>.<time>.<HGDS group or shelf name>.<type>.CSV`, for
example:

`PP_30MIN_PM.06_23_2002.1325.PVG1.THIRTY.CSV`

The directory path is `/opt/MagellanNMS/data/pmsp/<groupX>/closedNotSent` where
`<groupX>` is unique for each PMSP.

For collection from the CNM, the source file convention is `<name>.<date>.<time>.<HGDS
group or shelf name>.<type>.CSV`, for example:

`PP_30MIN_PM.06_23_2002.1325.PVG2.THIRTY.CSV`

The directory path is `/opt/nortel/data/coreEMS/data/PMSPdata`

The Prospect filename for all sources is `<MTX_Name>.MMDDYYYYHHMM.MGNTM`.

EVDO Configuration

This section describes the configuration files and entries required for EVDO traffic (rncom) and config (rnccfg) data. Support for the file concatenation feature in EVDO RNCpm data is available for EVDO 8.0 data in RP16.5 DAT and later releases.

There are two new configuration files that are introduced from RP16.5 release onwards:

- `emsrnc.cfg`
- `mscpvg.cfg`

Collecting EVDO data (DOM and RNC elements)

In the existing implementation, without the file concatenation feature, there is one RNC template OM file generated per RNC, and one DOM template OM file generated per DOM daily at the EMS. The template data files at the EMS get written into each sampling period and thus the files size grows and becomes huge towards the end of the day.

Due to this cumulative nature of the data files, at the end of each collection period, DAT pulls all the previous hours of data together with the current hour data. This causes tremendous stress on the EMS and DA resources. It is also a waste of processing time because the goal is to collect data for the current period only. Thus, if there are 5 RNCs and 50 DOMs under the same EMS, then for each day there will be 5 OM files per RNC template and 50 OM files per DOM template that will be collected by Prospect server via FTP/SCP connection to the EMS. This is a massive number of files and these files are huge due to their cumulative nature. Most customers are unable to collect the DOM files from the EMS due to unacceptable transfer time for these cumulative files from the EMS to the DA server.

Due to the aforementioned reasons, Nortel has introduced the concatenated file feature which is available for EVDO 8.0 and later releases.

Note: In the current release, support for the file concatenation feature in EVDO RNCpm data is added that is only available for EVDO 8.0 and later releases.

Table 3: New EVDO 8.1 templates added in Nortel 16.6 DA Tools

Entity	Template
DO_RNC	CapacityLicensingPerf
DO_RNC_CPU	CPUUtilizationATCA

This feature concatenates OMs from all nodes (RNC and DOM) for the same EMS and generate only one OM file per RNC/DOM template per collection interval (which can be 15, 30 or 60 minutes).

For example, for RNC Template A, the OMs for all the RNCs of the same EMS are concatenated into a single RNC template file, Template A per collection interval. Similarly, for

DOM Template X, the OMs for all DOMs of the same EMS are concatenated into a single DOM template file, Template X per collection interval. In the case of template that is common for both RNC and DOM, for e.g., `OvrldCtrlCardResourceUtilization`, the OMs for all the RNCs and DOMs of the same EMS are concatenated into a single file. The content of these concatenated OM files are for that collection interval alone (not the entire day's worth of data).

With the concatenated feature turned on, the number of OM files available at the EMS for each collection interval is the same as the number of RNC templates and DOM templates, regardless of the number of RNCs or DOMs in the network. This can greatly reduce the number of files being processed and increases the overall system performance.

The OM concatenation feature produces a file per template per EMS for every collection interval (15, 30 or 60 minutes). Each file includes OM data for all DOMs/RNCs or both (in the case of templates that are common to both DOM and RNC) per collection interval.

The concatenated template file is in the following naming convention:

```
<TemplateName>_<RelNo>_<yyyy-mmdd>_<startTime>-<endTime>.dat
```

For example, `QoSPerfByConstraintCheck_R8.0_2006-0816_1200-1230.dat`

This file contains `QoSPerfByConstraintCheck` OM data with timestamps in the interval from 12:00 (inclusive) to 12:30 (exclusive) from all NEs (RNCs or DOMs).

The `starttime` and `endtime` is in the format of `hhmm` (hh is 00 to 23, and mm is 00, 15, 30, or 45). The following is the list of possible times. It depends on whether the collection interval is 30 minutes (default), 60 minutes, or 15 minutes:

- 30 minute (default)
  - `hh00-hh30`
  - `hh30-hh00`
- 15 minute
  - `hh00-hh15`
  - `hh15-hh30`
  - `hh30-hh45`
  - `hh45-hh00`
- 60 minute
  - `hh00-hh00`

Concatenated OM files appear in the directory:

```
/appdata/dcFiles/concatenatedOM/
```

Non-concatenated files appear in multiple directories:

```
/appdata/dcFiles/<NE_Name>/<date>/
```

When the file concatenation feature is ON, DAT collects the `candidateRncQuery` file from the EMS daily and delivers the file to Prospect server at the `$PROSPECT_HOME/../ftpIN/evdo_cfg`

directory. Since the concatenated OM files appear in one directory, i.e., `appdata/dcFiles/` `concatenatedOM/`, DAT collects all RNC and DOM template files for that particular collection interval from the directory and cascade them into one output file on the DA Server using the existing transfer mechanism (FTP/ SCP).

The concatenation feature is OFF by default. When it is turned on, the current non-concatenated format is turned off automatically, i.e., they are mutually exclusive.

Mandatory EVDO config file for EMSs with concatenation feature enabled

The configuration file, `emsrnc.cfg` must be created in the `$FLEXDAHOME/cfg` directory. This file maps an EMS name to the RNCs. The EMS name must match with SRCID in the `<hostname>.ntcdma.cfg` file. The `rnc01` name should match with RNCID entries in the `<hostname>.ntcdma.cfg` file.

See the sample `emsrnc.cfg on` page 135

Re-homing of RNC to another EMS

When you move an RNC from one EMS to another EMS, there are some fields within the Host Configuration file that must change. The fields are as follows:

SRCIP - change to the new EMS IP.

SRCUSER - change to the new EMS login user.

SRCPSWD - change to the new EMS login user password.

SRCDIR - change to the source directory in the new EMS if different from the old EMS.

TMADJ - the timezone difference between the DA server and the new EMS.

SCRATCHAREA - change to the temp scratch area in the new EMS if it is different from the old EMS.

ALL_EMS_LIST - point to appropriate file if new EMS has file concatenation feature turned on, set this feature to none if new EMS has file concatenation feature turned off.

CONCAT_ON - set to 'Y' if new EMS has file concatenation feature turned on, set it to 'N' if new EMS has file concatenation feature turned off.

CONFIG_TARGET - point to appropriate directory if new EMS has file concatenation feature turned on, set it to none if new EMS has file concatenation feature turned off.

Modify the file that `ALL_EMS_LIST` is pointing to. For example, if `ALL_EMS_LIST is pointing to the file $FLEXDAHOME/cfg/emsrnc.cfg,there can be the following scenarios:`

Scenario 1: Move from non-concat EMS to concat EMS.

Scenario 2: Move from concat EMS to non-concat EMS.

Scenario 3: Move from concat EMS to concat EMS.

Scenario 4: Add a new `rnc` to an existing EMS where concat feature is enabled.

Orginal `emsrnc.cfg`:

```
# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
ems01|rnc01,rnc02
ems02|rnc03,rnc04
```

Scenario 1: add `rnc05` into `ems02`:

```
# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
ems01|rnc01,rnc02
ems02|rnc03,rnc04,rnc05
```

Scenario 2: remove `rnc01` from `ems01`

```
# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
ems01|rnc02
ems02|rnc03,rnc04
```

Scenario 3: move `rnc01` from `ems01` to `ems02`

```
# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
ems01|rnc02
ems02|rnc03,rnc04,rnc01
```

Scenario 4: add a new `rnc` to an existing EMS where concat feature is enabled. To do this, follow these steps:

1. Make a backup copy of the `$FLEXDAHOME/INSTALL/localhost/cfg/<hostname>.ntcdma.cfg` file before you enable file concatenation for an EMS.

2. Make sure that there is only one entry per EMS for both `rnccfg` and `rncom` datatype.

3. Set **RNCID** to same as **SRCID**.

4. Set **CONCAT_ON** to 'Y'.

5. Set **SRCDIR** to a valid path for `rncom` datatype.

6. Set **CONFIG_TARGET** to valid path for `rnccfg` datatype.

7. Create entries in the file pointed to by the ALL_EMS_LIST variable for the `rnccfg` datatype. Populate the file with the EMS name, pipe delimited by the comma separated RNC names. For example in this case, add the following line into this file:
    `ems11|ems11rnc111,ems11rnc112`

8. Run `setconfig.ksh` script.

    ```
    $cd $FLEXDAHOME

    $FLEXDAHOME/INSTALL/ALL/scripts/setconfig.ksh \

    $FLEXDAHOME/INSTALL/localhost/cfg/<hostname>.ntcdma.cfg
    ```

Important: Make sure the `rnccfg icf_chat` entry is run for atleast one `rnc` that belongs to the ems `ems01`. If needed, run it manually. The crontab entries can help you with this. The `rnccfg`

script will transfer the candidatequery file from the EMS to the Prospect side for today's date. This will allow the proper pre-parsing of the RNCpm data at the Prospect side.

On the Prospect side, msc_list needs to be edited to indicate the concat option, emsip and rnc name. Please see the *Administration Guide* for the updates needed.

Sample settings for EMS with file concatenation feature disabled

The sample settings for an RNC that does not have the file concatenation feature turned on the EMS are as follows:

- Set **ALL_EMS_LIST** to none.
- Set **CONCAT_ON** to 'N'.
- Set **CONFIG_TARGET** to none.

Sample settings for EMS with file concatenation feature enabled

An example of config entries for an EMS where file concatenation feature turned on is as follows:

Assume that the EMS name is ems11 and it has two RNCs: ems11rnc111 and ems11rnc112. Below is a comparison of the entries in the <hostname>.ntcdma.cfg before and after the concat feature is enabled.

The following sample entries are for rnccfg **and** rncom **datatype in the host configuration file before file concatenation is enabled**:

```
#   MARKET  TGTDIR  SRCIP            SRCID   RNCID   SRCUSER  SRCPSWD
#   ------  ------  -----            -----   -----   -------  -------
#   SRCDIR          DATATYPES   TMADJ    DOM_BATCH_SIZE   DOM_COLLECTION
#   ------          ---------   -----    --------------   --------------
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH REMOTE_COMPRESSION
#   -------------- ------------- --------- ------------------
#   SCRATCHAREA  ALL_EMS_LIST  CONCAT_ON  CONFIG_TARGET
#   -----------  ------------  ---------  -------------
    SD     $tdir   99.99.99.99   ems11   ems11rnc111 emsuser   emspass     \
====== rnccfg entry for CONCAT_ON = N
    $rnccfgsdir    rnccfg         0         none              N           \
    1              1              N         N                             \
    none           none           N         none                         \
 (The second last entry ("N") shows that CONCAT_ON=N)
    SD     $tdir   99.99.99.99   ems11   ems11rnc111 emsuser   emspass     \
======= rncom entry for CONCAT_ON = N
    $rncomsdir/RNC_99.99.99.99  rncom   0    50       N                   \
    1              1              N         Y                             \
    /tmp/scratcharea none        N         none                         \
```

```
======= Second rnccfg entry for CONCAT_ON=N
   SD      $tdir   99.99.99.99   ems11   ems11rnc112   emsuser    emspass    \
   $rnccfgsdir      rnccfg        0           none               N           \
    1               1            N           N                               \
    none            none         N           none                            \
                                        ======= Second rncom entry for CONCAT_ON=N
   SD      $tdir   99.99.99.99   ems11   ems11rnc112   emsuser    emspass    \
   $rncomsdir/RNC_99.99.99.99   rncom   0        50          N              \
   1                   1            N        Y                              \
   /tmp/scratcharea    none         N        none                          \
```

The following sample entries are for `rnccfg` and `rncom` datatype in the host configuration file after file concatenation is enabled:

Assume that `ems11` has the concat option turned on. See the entries in the `<hostname>.ntcdma.cfg` file below to see how the new entries look like. The `rnccfg` entry is in red and the `rncom` entry is in blue.

Note: The SRCID and RNCID are same for both `rnccfg` and `rncom`.

```
#   MARKET   TGTDIR   SRCIP          SRCID    RNCID   SRCUSER   SRCPSWD
#   ------   ------   -----          -----    -----   -------   -------
#   SRCDIR           DATATYPES    TMADJ     DOM_BATCH_SIZE   DOM_COLLECTION
#   ------           ---------    -----     --------------   --------------
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH REMOTE_COMPRESSION
#   -------------- ------------- --------- ------------------
#   SCRATCHAREA   ALL_EMS_LIST   CONCAT_ON   CONFIG_TARGET
#   -----------   ------------   ---------   -------------
   SD      $tdir   99.99.99.99     ems11     ems11   emsuser emspass     \
   $rnccfgsdir     rnccfg         0        none               N          \
   1               1              N        N                             \
   none            $emslist       Y           $cfgoutputdir              \
   SD      $tdir   99.99.99.99     ems11     ems11   emsuser   emspass   \
   $rncomsdir/concatenatedOM   rncom   0     50         N               \
   1               1              N        Y                            \
   /tmp/scratcharea none         Y        none                         \
```

Note: Customers who monitor the EVDO rncom load in the `fail` directories can continue to do that as the filename of the RNCpm file that goes into the `in` directory remains the same (before and after concat).

Interface changes between DA and Prospect Server

There are two main changes to the interface between DA and Prospect:

1. The filename that is sent from DA server to Prospect "1xRaw" is called:

   `<EMSIP>.<TSTAMP>.30.RNCpm.gz` (`TSTAMP` is in the format `YYYYMMDDHHMI`).

   Sample file: `9.127.97.74.200903101100.30.RNCpm.gz`

2. The `<EMSIP.candidateRncQuery<tstamp>.txt` is now sent to `$PROSPECT_HOME/../ftpIN/evdo_cfg` directory for the Prospect preparser to make the association between RNCs and DOMs.

   In Nortel EVDO8.1/CDMA MTX18 release point 16.4 and earlier, this file is used by the DA software. This file is sent to Prospect server only for EMSs that have the concat feature turned on. The file is collected and transferred to Prospect server by the "rnccfg" datatype DAT script.

   Sample file: `9.127.97.74.candidateRncQuery09112009.txt` (The file must be readable by `flexpm`).

Cron job setup for EVDO

Configuring cron jobs for EVDO traffic data

Currently most customers are using two hour EVDO data collection with non-concatenated data. This is because before EVDO 8.0, the EVDO traffic files are cumulative in nature and it takes long time to be gathered by the DAT.

After EVDO 8.0, customers have the choice to either continue collecting cumulative files or switch to collecting concatenated files which are much smaller and are created per interval.

The information on how to turn on the concatenated feature is described in the Nortel documentation. For the EMSs that are using the Concat option, the Prospect Administrator can change the DA cron job to run every half hour to collect EVDO traffic data. This change is for rncom dataype only, rnccfg datatype remains unaffected by the concat feature as far as cron entries are concerned.

Non-concatenated data

```
rnccfg datatype
   30 2-5  * * * ksh -c ". /local/flexda/.kshrc; icf_chat.exp -i
   sd.rncrnc01.cfg.dist.icf -L /local/flexda/log/sd_rncrnc01/
   cfg,cfg.,.log,1440,40000,7"
```

```
rncom datatype
   5 0,2,4,6,8,10,12,14,16,18,20,22 * * * ksh -c ". /local/flexda/.kshrc;
   icf_chat.exp -i sd.rncrnc01.om.dist.icf -L /local/flexda/log/sd_rncrnc01/
   om,om.,.log,1440,40000,7"
```

Concatenated data

`rnccfg` datatype

```
30 2-5  * * * ksh -c ". /local/flexda/.kshrc; icf_chat.exp -i
sd.rncrnc01.cfg.dist.icf -L /local/flexda/log/sd_rncrnc01/
cfg,cfg.,.log,1440,40000,7"
```

`rncom` datatype

```
5,35 * * * * ksh -c ". /local/flexda/.kshrc; icf_chat.exp -i
sd.rncrnc01.om.dist.icf -L /local/flexda/log/sd_rncrnc01/
om,om.,.log,1440,40000,7"
```

Important: Customers should configure just 1 cron job entry for an EMS if the concat option is used. The DAT pulls in the entire EMS data (all RNCs and DOMs) for that time period. Prior to this, each RNC had its own cron entry. This new change helps minimising the CPU load on the DA Server.

Installation and Setup

You can install the data acquisition scripts either on the computer running the IBM Prospect server or on another computer. To install Data Acquisition tools, you must have a working knowledge of UNIX as well as **root** permission for the server on which the installation takes place.

Pre-Installation Tasks

Setting Up the Network Elements

Set up the network elements by following the procedure in <u>Appendix B: Network Element Setup</u> on page 87.

Setting Up Secure Connections

Secure the connection among the Data Acquisition server, the Prospect server, and the network elements by following the procedure in <u>Appendix G: Secure Connections Setup</u> on page 131.

Setting Up the Management Data Provider (MDP) Statistics Files

Set up the MDP statistics files by following the procedure in <u>Appendix C: Management Data Provider (MDP) Statistics Files Setup</u> on page 91.

Setting Up the Automatic File Transfer (AFT) Software

Set up the AFT software by following the procedure in <u>Appendix D: Automatic File Transfer (AFT) Software Setup</u> on page 97.

Understanding the Data Acquisition Processes Commands

Review the commands for the AFT reader, the MTXOM parser, and the Passport Statistics parser in

Installing Data Acquisition Tools

The following describes the steps required to install Data Acquisition tools. This includes setting up a user account and the server environment. Two procedures are listed: one to install the Data Acquisition tool for the first time, another to install the Data Acquisition tool on a multi-DAT environment.

If you are installing Data Acquisition tools for the first time, follow the guidelines and procedures below. If you are upgrading your Data Acquisition tools from a previous release, please see the release notes for complete information on prerequisites and upgrade procedures.

The following procedures refer to the <hostname> variable. To find the value of this variable, enter the command `uname -n`.

To install Data Acquisition tools for the first time on a server

1. Create a flexda user account on the computer where Data Acquisition tools are to be installed. The Korn shell must be the default shell.

2. Log on as root, and then create the flexda account.

   a. Add the flexda account to the dba group. For details on the dba group, refer to "Configuring UNIX User Accounts" in the *Server Preparation Guide*.

   b. Log on as flexda.

3. On the *DA Tool Kit* CD, locate the setup-da file in the root directory.

   [flexda] $ cd /cdrom/cdrom0

   Install the Data Acquisition tools as follows.

   Example

   [flexda] $ setup-da -install DA_7.1_Ericsson_PII_BASE.tar.gz

4. Change directory to user home directory:

   [flexda] $ cd ~

5. Copy the FlexDA.default.cfg file to FlexDA.*<hostname>*.cfg. Replace *<hostname>* with the name of your local host, which can be derived through the command uname -n:

   **[flexda] $ cp INSTALL/ALL/cfg/FlexDA.default.cfg **

   INSTALL/localhost/cfg/FlexDA.*<hostname>***.cfg**

6. Copy the site_opts file as follows:

   **[flexda] $ cp INSTALL/ALL/cfg/site_opts_ericpii **

   INSTALL/localhost/cfg/site_opts

7. Run the Data Acquisition tools installation script. This creates all directories and links all network element programs.

> **[flexda] $ INSTALL/ALL/scripts/install_flexda.ksh**

8. Log off and then log on again as `flexda` to reflect the changes.

To install Data Acquisition Tools on a multi-DAT environment

1. Log on as `flexda`.

2. On the DA Tool Kit CD, locate the `setup-da` file in the root directory.

   ```
   [flexda] $ cd /cdrom/cdrom0
   ```

3. Install the Data Acquisition tools as follows.

   Example

   ```
   [flexda] $ setup-da -install DA_7.1_Ericsson_PII_BASE.tar.gz
   ```

4. Change directory to user home directory:

   ```
   [flexda] $ cd ~
   ```

5. Copy the site_opts file as follows:

   ```
   [flexda] $ chmod +w INSTALL/localhost/cfg/site_opts
   [flexda] $ cp INSTALL/ALL/cfg/site_opts_ericpii \
            INSTALL/localhost/cfg/site_opts
   ```

6. Run the Data Acquisition tools installation script. This creates all directories and links all network element programs.

> **[flexda] $ INSTALL/ALL/scripts/install_flexda.ksh**

7. Log off and log on again to reflect the changes.

Setting Up Data Acquisition Tools

The following describes the steps required to set up Data Acquisition tools. This includes preparing the configuration file and defining the **cron** job.

Note: The following steps apply to new installations, and to upgrades when the previous installation did not use a configuration file. If you are upgrading a previous installation that used a configuration file, and have already installed the patches as described in the Release Notes, you can skip the setup steps listed below.

The following procedure refers to `<hostname>`; you can find this value by using the command

```
uname -n
```

Substitute `<hostname>` with the value returned by the `uname -n` command.

To set up Data Acquisition tools

1. Prepare the configuration file, `<hostname>.ericpii.cfg`, in the `$FLEXDAHOME/INSTALL/localhost/cfg` directory.

   a. Copy the sample configuration file and update the entries to correspond to your configuration. See <u>The Host Configuration File</u> on page 23. For example:

   ```
   [flexda] $ cd ~flexda
   [flexda] $ cp INSTALL/ALL/doc/host.ericpii.cfg.sample \
           INSTALL/localhost/cfg/<hostname>.ericpii.cfg
   ```

   where *<hostname>* is the name of your local host.

   b. Make sure that the host configuration file is writable:

   ```
   [flexda] $ cd ~flexda
   [flexda] $ chmod +w \
       INSTALL/localhost/cfg/<hostname>.ericpii.cfg
   ```

   c. Modify the file `<hostname>.ericpii.cfg` for each network element from which the data is collected. See <u>The Host Configuration File</u> on page 23.

   d. For Nortel OM only:

   The Nortel parser takes an OM groups configuration file as an argument. During setup, a default configuration file, `omgroups.<technology>` is symbolically linked in the `$FLEXDAHOME/cfg` directory.

   Modify the OM groups configuration file as follows:

   ```
   % cp cfg/omgroups.<technology> cfg/omgroups.<newname>
   ```

   Once you modify the OM groups configuration file, in the `INSTALL/localhost/cfg/<hostname>.<vendor_abbrev><technology>.cfg` file, update the `OMGRPSCFG` field value to `cfg/omgroups.<newname>`

   e. Run the install script:

   ```
   [flexda] $ cd ~flexda
   [flexda] $ INSTALL/ALL/scripts/setconfig.ksh \
           INSTALL/localhost/cfg/<hostname>.ericpii.cfg
           | tee setconfig.install.log.$$
   ```

   f. The output of the install script can be seen in file `setconfig.install.log.<pid>` where *<pid>* is the process id. Verify also that the data and log directories have been created as well as the Interval Checkpoint Facility (ICF) configuration files (`cfg/*.icf`), checkpoint file (`log/*.chk`), and the **cron** file. See <u>Directory Structure</u> on page 65 for the location of files and directories.

2. The crontab files `<hostname>.ericpii.cron` and `<hostname>.cron` are created in the `$FLEXDAHOME/cfg` directory. Use `<hostname>.cron` to enable every installed DA collection and *<hostname>*`.ericpii.cron` for specific DAT collection. To define job entries in the **cron** job, run the following:

   ```
   [flexda] $ cd ~flexda
   [flexda] $ crontab cfg/<hostname>.cron
   ```

The `<hostname>.cron` file contains cron job entries for all DA Tools installed in a multi-DAT environment.

To modify the behavior of Data Acquisition tools with regard to collecting data, change the `crontab` entry to start Data Acquisition tools at the appropriate time interval.

The FlexDA Configuration File

The `FlexDA.<hostname>.cfg` file contains the version number, site name, home directory name of the data acquisition system, and configuration file location. The variable `<hostname>` is the name of your local host, which can be derived through the command `` `uname -n` ``.

The following is a sample `FlexDA.<hostname>.cfg` file:

```ksh
#!/usr/bin/ksh
# $Header:$
# TITLE:FlexDA.default.CFG - Default FlexDA Configuration
#
# ABSTRACT:This script is meant to be dotted into K-shell scripts to
#define default FlexDA configuration data.
#
# Market: Default
# Host:   ALL
#
#
cwd=`pwd`;cd ~`/usr/ucb/whoami`;dahome=`pwd`;cd $cwd
typeset -x FLEXDAVER=7.0
typeset -x FLEXDASITE=`uname -n`
typeset -x FLEXDAHOME=$dahome
typeset -x FLEXDACFG=$FLEXDAHOME/cfg
```

The Host Configuration File

The host configuration file, `<hostname>.ericpii.cfg`, is used to install the data acquisition jobs. This file is created by using the template file `host.ericpii.cfg.sample` located in `$FLEXDAHOME/INSTALL/ALL/doc`. See <u>Sample Host Configuration File</u> on page 24.

Note: You can find the value of the `<hostname>` variable by using the command `uname -n`.

The file `ericpii_cfg.txt`, also located in `$FLEXDAHOME/INSTALL/ALL/doc`, provides descriptions of all the variables defined in `<hostname>.ericpii.cfg`.

The host configuration file significantly reduces the effort and time required to set up the data acquisition system. The file also improves the accuracy and reliability of the system. You input the required attributes of the network elements or data collection points, and then run the `setconfig.ksh` script to generate the necessary components for the data acquisition system,

including the directories and ICF files, checkpoint files, and **cron** scripts. For more information about the ICF and checkpoint files, see <u>Troubleshooting</u> on page 67.

The `setconfig.ksh` script creates a file (`<hostname>.ericpii.cron`) in the `$FLEXDAHOME/cfg` directory that contains the `crontab` information. Using `setconfig.ksh` to set up the **cron** job enables the data acquisition server to collect network element data automatically.

Refer to <u>Field Descriptions</u> on page 36 for a complete list of fields, variables, and descriptions.

Data Loading Sequence

To load traffic data successfully, the configuration information must be current and/or reflect the corresponding traffic data being loaded. Pay close attention to the following points:

1. Data must be loaded in the correct sequence. This is particularly important for the initial data load from a particular switch. The required sequence in which to load data is as follows:

    a. *Tables*cfg* (MTX configuration mapping information)

    b. *BSMmap* (BSS configuration mapping information)

    c. Either *pm* file type.

2. If historical traffic data is to be loaded (or reloaded), the corresponding historical configuration data must be loaded first. Once the historical configuration and traffic data is loaded, no current traffic data should be loaded until the current configuration data has been loaded again.

Sample Host Configuration File

This section contains an example of a host configuration file. The example is configured as follows:

-   The data acquisition host server collects two data types: Nortel MTXOM and Nortel Passport Statistics.

    -   Nortel MTXOM data is collected from two network elements: `MTX01` and `MTX02`. A reader process and a parser process are run for each network element.

    -   The parser process configuration option for the two network elements specifies:

        ```
        -C <gfile>:<ngroups>
        ```

    -   `MTX01` and `MTX02` both use group description file `cfg/omgroups.cdma`.

    -   `MTX01` and `MTX02` both run switch loads that support 337 Operational Measurements (OM) groups.

-   Passport statistics data is collected from one network element: `CBRS01`. A parser process is run for each `CBRS`.

    -   The parser process configuration option specifies:

        ```
        -C <rfile>:<delch>:<cfile>
        ```

- The input Passport RDF path is 'cfg'. The Data Acquisition tools will look for RDF files in the $FLEXDA_HOME/cfg directory. This directory is expected to contain RDF files from all the MTX versions.

- The input Passport BDF file uses field delimiter character colon ':'.

- The input Passport CBRS configuration file is
  `<path>/<MTXNAME>.<NODEID>.<CBRSBNAME>.cbrs.cfg`, that is,
  `cfg/MTX01.NODE01.MTX01B2CBRS1.cbrs.cfg`.

For detailed information about data acquisition process commands, see

```
###########################################################################
#
# Licensed Materials - Property of IBM
# 5724-T10
#
# (C) Copyright IBM Corp. 2003,2010. All Rights Reserved.
#
# US Government Users Restricted Rights - Use, duplication or
# disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
#
###########################################################################


#
# TITLE: THIS IS THE FLEXDA SERVER CONFIG FILE USED TO SET UP FLEXDA
#        AND PROCESS CFG FILES
#
# THREE LEVELS OF CONFIGURATION:
#
# SYSTEM LEVEL: This is the top level configuration.
#               The Following variables must be provided:
#               sysopts
#               lhost
#               thost
#
# TYPE LEVEL:   MTX, BSM and PPC
#
# DETAIL LEVEL: Detailed infomation for each option such as ane, motorola,
#               nortel..., the ane_detail, motorola_detail, nortel_detail...
#               information must be provided.
#
# NOTE: User defined variables can be created in order to shorten
#       the long lines
#
#
```

```
#######################################################################
##
method_dir=$FLEXDAHOME/INSTALL/ALL/scripts
optcfg_dir=$FLEXDAHOME/INSTALL/localhost/cfg


#    SYSOPTNAME        OPTMETHOD                  OPTCFGFILE
#    ---------         ---------                  ----------
set -A  sysopts                                                          \
    ntcdma          $method_dir/set_ntcdma.ksh  $optcfg_dir/hostname.ntcdma.cfg




#    LOCALHOSTNAME       NDAYS
#    -------------       -----
set -A  lhost                                                            \
    hostname            34


#    DESTHOSTNAME      DESTHOSTIP        DESTHOSTUSER      DESTHOSTPSWD
#    -----------       ----------        ------------      ------------
set -A  thost                                                           \
    hostname          99.99.99.99     flexpmuser       flexpmpass


#        NTTYPES
#        -------
set -A  ntcdma_type       \
        bsm               \
        mtx               \
        mtxtab            \
        ppc               \
        rnccfg            \
        rncom             \
        pdsn              \
        usp               \
        pvg               \
        sdm               \
        uas               \
        mxpt              \
        pdsn16000         \
        mg                \
        ntmmdm            \
```

```
#
# MTX
#


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


# MARKET    TGTDIR  SRCIP           SRCID       SRCUSER     SRCPSWD   NOOFOMGRPS
# ------    ------  -----           -----       -------     -------   ----------
#       AFTPORT CHGPSWD DATATYPES
#       ------- ------- ---------
#   OMGRPSCFG          TMADJ
#   ---------          ---------
# CBMPASSTHROUGH    CBMIP           CBMSRCUSER    CBMSRCPSWD
# -----------       -----           ----------    ----------
#       SECURERETRIEVE   SECUREDELIVER  PSWD_AUTH
#       --------------   -------------  ---------
set -A ntcdma_mtx                                                      \
    SD    $tdir   99.99.99.99    MTX48       mtxuser     mtxpass 337   \
        30001   Y       mtxom,trkmem,tables,omshow,actlog             \
cfg/omgroups.cdma   60                                                \
  N               99.99.99.99   cbmuser        cbmpass                \
        1               1               N                             \
    SD    $tdir   99.99.99.99    MTX49       mtxuser     mtxpass 337   \
        30001   Y       mtxom,trkmem,tables,omshow,actlog             \
cfg/omgroups.cdma   60                                                \
  N               99.99.99.99   cbmuser        cbmpass                \
        1               1               N                             \
    SD    $tdir   99.99.99.99    MTX50       mtxuser     mtxpass 337   \
        30001   Y       mtxom,trkmem,tables,omshow,actlog             \
cfg/omgroups.cdma   60                                                \
  N               99.99.99.99   cbmuser        cbmpass                \
        1               1               N


#
# MTX Tables
#


srcdir=/data/prospect


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in
```

```
# MARKET     TGTDIR  SRCIP           SRCID     MTXNAME     SRCDIR
# ------     ------  -----           -----     -------     ------
#   SRCUSER          SRCPSWD         DATATYPES TMADJ
#   -------          -------         --------- -----
# SECURERETRIEVE   SECUREDELIVER  PSWD_AUTH
# --------------   -------------  ---------
set -A ntcdma_mtxtab                                              \
  SD      $tdir   99.99.99.99    sdm01       MTX48       $srcdir  \
    mtxuser         mtxpass        mtxtab     60                  \
  1               1              N


#
# BSM
#


# BSM Config Source directory
bsmcfgdir=/opt/bsm/tool/data

# BSM OM Source directory
bsmomdir=/opt/bsm/log
cpdsdir=/opt/cems/log


# BSM CSVS & CNFP directory
csvsdir=/opt/cems/log
cnfpdir=/opt/cems/log


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET  TGTDIR  SRCIP          SRCID        BSMID   MTXNAME SRCUSER SRCPSWD
#   ------  ------  -----          -----        -----   ------- ------- -------
#       OMSRCDIR    CPDSSRCDIRCFGSRCDIR
#       --------    ---------- ---------
#   BSMOMFNAMES
#   -----------
#       CHGPSWD ASHELF         BSHELF
#       ------- ------         ------
#   DATATYPES                               TMADJ
#   ---------                               -----
#       CSVSDIR     CNFPDIR
#       -------     -------
#   SECURERETRIEVE   SECUREDELIVER  PSWD_AUTH
#   --------------   -------------  ---------
set -A ntcdma_bsm                                                \
```

```
    SD      $tdir    99.99.99.99 bsm1         0       MTX48    bsmuser   bsmpas\
        $bsmomdir    $cpdsdir  $bsmcfgdir                                   \
    MCBTSSubsystem,SBSCSubsystem,cdsuperf_new,BSC,CPDSSubsystem             \
        N        99.99.99.99     99.99.99.99                               \
    bsmom,bsmcfg,bsmmap,bsmtrkr,bsmcsvs,bsmcnfp  60                         \
        $csvsdir  $cnfpdir                                                  \
     1               1               N


#
# PPC
#


# Passport Statistics source directory
stasdir=/opt/MagellanMDP/data/mdp/dump/statistics


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX11/in


# CBRS view file source directory
viewsdir=/export/home/ssflexpm


# FLEXDA config directory
cfgdir=$FLEXDAHOME/cfg


#   MARKET   TGTDIR  SRCIP            SRCID       BSMID    MTXNAME
#   ------   ------  -----            -----       -----    -------
#      CBRSNAME        NODEID   SRCUSER     SRCPSWD     STASRCDIR
#      --------        ------   -------     ---------   ---------
#   PPCRDF     BDFDEL  PPCCFG          DATATYPES   TMADJ PERIOD CHGPSWD
#   ------     ------  ------          ---------   ----- ------ -------
#      SECURERETRIEVE   SECUREDELIVER  PSWD_AUTH
#      --------------   -------------  ---------
#   BSMIP       BSMNAME       BSMUSER     BSMPSWD
#   -----       -------       -------     -------
#      BSMDIR          EBSCIP
#      ------          ------
set -A ntcdma_ppc                                                          \
    SD      $tdir   99.99.99.99    mdphost    1       MTX01              \
        MTX01B2CBRS1    NODE01     mdpuser    mdppass     $stasdir        \
    $cfgdir    ":"    $cfgdir/MTX01.NODE01.MTX01B2CBRS1.cbrs.cfg
ppcsta,bsmview   0   60   Y                                                \
        1               1               N                                  \
    99.99.99.99 BSM01       bsmuser     bsmpass                            \
```

```
       $viewsdir         99.99.99.99



  #
  # RNC
  #


  # RNC OM Source Base Directory
  rncomsdir=/appdata/dcFiles
  rnccfgsdir=/appdata/dcFiles


  # Prospect Loader target directory
  tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/1xRaw


  # Prospect Loader target directory for rnccfg candidaterncquery
  cfgoutputdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/
  evdo_cfg


  # List of EMS and related RNC
  emslist=$FLEXDAHOME/cfg/emsrnc.cfg


  # * SCRATCHAREA option is only applicable to rncom datatypes.
  # For rnccfg datatypes, just set SCRATCHAREA to 'none'
  #
  #   MARKET   TGTDIR  SRCIP           SRCID   RNCID   SRCUSER   SRCPSWD
  #   ------   ------  -----           -----   -----   -------   -------
  #   SRCDIR          DATATYPES    TMADJ     DOM_BATCH_SIZE   DOM_COLLECTION
  #   ------          ---------    -----     --------------   --------------
  #   SECURERETRIEVE SECUREDELIVER PSWD_AUTH REMOTE_COMPRESSION
  #   -------------- ------------- --------- ------------------
  #   SCRATCHAREA  ALL_EMS_LIST  CONCAT_ON  CONFIG_TARGET
  #   -----------  ------------  ---------  -------------
  set -A ntcdma_rnccfg                                               \
      SD      $tdir  99.99.99.99 ems01   rnc01   emsuser   emspass   \
      $rnccfgsdir    rnccfg       0        none            N         \
      1              1            N        N                         \
      none    none    N     none                                    \
      SD      $tdir  99.99.99.99 ems01   rnc02   emsuser   emspass   \
      $rnccfgsdir    rnccfg       0        none            N         \
      1              1            N        N                         \
      none    none    N     none                                    \
      SD      $tdir  99.99.99.99 ems02   ems02   emsuser   emspass   \
      $rnccfgsdir    rnccfg       0        none            N         \
      1              1            N        N                         \
```

```
    none    $emslist    Y      $cfgoutputdir


set -A ntcdma_rncom                                                      \
    SD      $tdir   99.99.99.99 ems01   rnc01   emsuser   emspass        \
    $rncomsdir     rncom           0       50                  N          \
    1               1               N       Y                            \
    <scratcharea>   none    N     none                                   \
    SD      $tdir   99.99.99.99 ems01   rnc02   emsuser   emspass        \
    $rncomsdir     rncom           0       50                  N          \
    1               1               N       Y                            \
    <scratcharea>   none    N     none                                   \
    SD      $tdir   99.99.99.99 ems02   ems02   emsuser   emspass        \
    $rncomsdir/concatenatedOM     rncom    0       50        N            \
    1               1               N       Y                            \
    <scratcharea>   none    Y     none




#
# PDSN (om, faom, haom)
#


hasdir=/opt/shasta/HA
fasdir=/opt/shasta/FA


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET  TGTDIR  SRCIP            SRCID   SRCUSER   SRCPSWD
#   ------  ------  -----            -----   -------   -------
#      SRCDIR    VERSION DATATYPES   TMADJ
#      ------      ------- ---------   -----
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------


set -A ntcdma_pdsn                                                       \
    SD      $tdir   99.99.99.99 pdsn01  pdsnuser   pdsnpass              \
        $fasdir    2.2     faom   0                                      \
    1               1               N                                    \
    SD      $tdir   99.99.99.99 pdsn02  pdsnuser   pdsnpass              \
        $hasdir    2.2     haom   0                                      \
    1               1               N


#
```

```
# USP
#


uspsdir=/ossinterface/oms/om05min


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET  TGTDIR  PSRCIP           PSRCID    PSRCUSER  PSRCPSWD    PSRCDIR
#   ------  ------  --------------  --------  --------  --------    --------
#       BSRCIP           BSRCID    BSRCUSER  BSRCPSWD  BSRCDIR
#       --------------  ------    --------  --------  -------
#   PGMSCID     USPID     DATATYPES  TMADJ
#   -------     ------    ---------  -----
#       SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#       -------------- ------------- ---------
#   PASSTHROUGH  CNMIP     CNMUSER    CNMPSWD    CNMDIR
#   -----------  -----     -------    -------    ------
set -A ntcdma_usp                                                      \
    SD     $tdir   99.99.99.99 usp01p   uspuser   usppass    $uspsdir  \
    99.99.99.99   usp01b    uspuser   usppass    $uspsdir             \
    PGMSC01     USP01     uspom       0                               \
        1            1              N                                 \
    N           99.99.99.99  cnmuser   cnmpass  /cnmdir


#
# PVG
#


pvgsdir=/opt/MagellanMDP/data/mdp/dump/statistics


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET  TGTDIR  SRCIP           SRCID     PGMSCID     PVGID NODEID
#   ------  ------  -----           -----     -------     ----- ------
#       SRCUSER   SRCPSWD SRCDIR    DATATYPES  TMADJ
#       -------   ------- ------    ---------  -----
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------
set -A ntcdma_pvg                                                      \
    SD     $tdir   99.99.99.99 MDM01    PGMSC01     PVG01 594         \
     mdmuser mdmpass $pvgsdir  pvgsta      0                          \
```

```
     1                 1                   N


#
# SDM
#


sdmsdir=/omdata/closedNotSent
cbmsdir=/cbmdata/00/billing/ama/closedNotSent
sdmddir=/omdata/closedSent
cbmddir=/cbmdata/00/billing/ama/closedSent


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET   TGTDIR    SRCIP             SRCID     MSCNAME    SRCUSER    SRCPSWD
#   ------   ------    -----             -----     -------    -------    -------
#      SRCDIR    CBMSRCDIR      SRCOPT    DATATYPES TMADJ      COLMULT
#      ------    ---------      ------    --------- -----      -------
#   MVSRC     SDMDDIR        CBMDDIR
#   ------    -------        -------
#      SECURERETRIEVE SECUREDELIVER PSWD_AUTH MTXNAME
#      -------------- ------------- --------- -------
set -A ntcdma_sdm                                                          \
    SD     $tdir      99.99.99.99    sdm01     msc01     sdmuser01 sdmpass01\
       $sdmsdir  $cbmsdir        both      sdmom     0       yes          \
    yes        $sdmddir        $cbmddir                                   \
       1               1               N       mtxname



#
# UAS
#


uassdir=/data/oms/1


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in


#   MARKET   TGTDIR  SRCIP             SRCID     SRCUSER   SRCPSWD
#   ------   ------  -----             -----     -------   -------
#      SRCDIR       NODETYPE  NODENAME   REPORTNAME TIMEZONE DATATYPES TMADJ
#      ------       --------- --------   ---------- -------- --------- -----
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------
```

```
set -A ntcdma_uas       \
    SD      $tdir   99.99.99.99  uas1    uasuser   uaspswd                      \
        $uassdir     GWC          NODE1      GWC       EST       uas    0        \
    1               1                    N                                      \
    SD      $tdir   99.99.99.99  uas2    uasuser   uaspswd                      \
        $uassdir     UAS          NODE2      MIB-2     PST       uas    0        \
    1               1                    N


#
# MASSEXPORT
#


mxptsdir=/var/opt/MassExport

# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in

#   MARKET  TGTDIR  SRCIP            SRCID   SRCUSER  SRCPSWD
#   ------  ------  -----            -----   -------  -------
#      SRCDIR       DATATYPES TMADJ  PERIOD
#      ------       -------- -----  ------
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------
set -A ntcdma_mxpt                                                            \
    SD      $tdir   localhost        MTX01  username password                 \
        $mxptsdir    mxptom 0     60                                          \
    1               1            N


#
# PDSN16000
#


pdsn16000sdir=/var/opt/PDSN16000


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in

#   MARKET  TGTDIR  SRCIP            SRCID   SRCUSER  SRCPSWD
#   ------  ------  -----            -----   -------  -------
#      SRCDIR       DATATYPES  TMADJ  PERIOD
#      ------       --------   ----- ------
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------
```

```
set -A ntcdma_pdsn16000                                                    \
    SD       $tdir    99.99.99.99  MTX01   username password              \
        $pdsn16000sdir pdsn16000om   0       30                           \
    1                1                 N




#
# Media Gateway (MG) NTM
#


# -SDM-
sdir=/omdata/closedNotSent
ddir=/omdata/closedSent


# -CBM-
#sdir=/cbmdata/00/billing/ama/closeNotSent
#ddir=/cbmdata/00/billing/ama/closedSent


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX13/in


#   MARKET  TGTDIR    SRCIP          SRCID   MTXNAME       SRCUSER   SRCPSWD
#   ------  ------    -----          -----   -------       -------   -------
#           SRCDIR    DATATYPES      TMADJ   MVSRC         DDIR
#           ------    ---------      -----   ------        -------
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH
#   -------------- ------------- ---------
set -A ntcdma_mg                                                           \
    SD       $tdir    99.99.99.99  sdm01    mtxname       username password \
        $sdir     ntmsta          0       no            $ddir            \
    1                1                 N




#
# MGNTM MDM
#


sdir=/opt/MagellanNMS/data/pmsp/group_id/closedNotSent
ddir=/opt/MagellanNMS/data/pmsp/group_id/closedSent


# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ftpIN/MTX12/in
```

```
pvglist=$FLEXDAHOME/cfg/mscpvg.cfg


#   MARKET  TGTDIR    SRCIP         SRCID          SRCUSER    SRCPSWD
#   ------  ------    -----         -----          -------    -------
#           SRCDIR    DATATYPES     TMADJ    MVSRC     DDIR
#           ------    ---------     -----    -----     ----
#   SECURERETRIEVE SECUREDELIVER PSWD_AUTH   PVG_LIST
#   -------------- ------------- ---------   --------
set -A ntcdma_ntmmdm                                                      \
    SD      $tdir     99.99.99.99  mtx01           username   password   \
            $sdir     ntmmdm        0         no         $ddir           \
    1               1             N           $pvglist
```

File Structure

See `ericpii_cfg.txt` for the description of each field. The host configuration file has a top-down structure. You provide the information for each configuration level—no empty fields are allowed in the file. You also must use a backslash (\) at the end of a line except for the last line of a section.

A *system-level configuration* contains system option, local host, and destination host sections.

-   The system option section provides the vendor types of data acquisition system to be installed, the setup script to be used, and the location of the configuration file. The top-level setup script (`setconfig.ksh`) uses the individual setup scripts, `set_ericpii.ksh`, to generate the data and log directories, and the ICF, checkpoint, monitoring, and **cron** files. For more information about these files, see Troubleshooting on page 67.
-   The local host section determines how many dates the collected files should be kept in the system (NDAYS).
-   The destination host section provides the host name, the IP address, and the sign-on user ID and password.

The *option-level configuration* contains a single section that defines the data types for the data acquisition system to be installed.

The *detail-level configuration* section is needed for each data type collected by the system. The section contains data type definitions for the market, source user name, source password, source ID, source IP address, and target file directories.

Field Descriptions

The following table describes the fields of the host configuration file:

Table 4: Host Configuration File Field Descriptions

Variable	*Field*	*Description*
sysopts	SYSOPTNAME	System option Name

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	OPTMETHOD	System option setup method (script name). Must have full path. For example: $method_dir/set_ntcdma.ksh
	OPTCFGFILE	System option setup configuration file name. Must have full path. For example: $method_dir/<hostname>.cfg.
lhost	LOCALHOSTNAME	Machine host name that the DAT is being installed.
	NDAYS	Number of days the data and log files need to be kept.
thost	DESTHOSTNAME	Destination host name is the host name of the Prospect server.
	DESTHOSTIP	Destination IP address is the IP address of the Prospect server. IP with format: 255.255.255.255.
	DESTHOSTUSER	Destination login user name on the Prospect server. Login account which created and allow to login to Prospect Server.
	DESTHOSTPSWD	Destination login password on the Prospect server. Login account which created and allow to login to Prospect Server.
ntcdma_type	NTTYPES	Nortel Type. For example: bsm, mtx, ppc, pdsn, pvg, sdm, uas, mxpt
ntcdma_mtx	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	MTX Name. It will prefix into the Prospect filename, i.e. <MTXNAME>.*.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	NOOFOMGRPS	No of OM Groups.
	AFTPORT	AFT Reader port address.
	CHGPSWD	Flag if switch's password needs to be rotated.
	DATATYPES	MTX Data types that need to be collected, separated by comma (,). Example: mtxom,trkem,tables,omshow,actlog,caplog,mtxlogs,mtxraw,swerlog,traplog. Note: Use caplog for XA-Core Switch and actlog for Non-XA-Core Switch.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	OMGRPSCFG	MTX OM Groups configuration file name.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	CBM-PASSTHROUGH	Flag to switch connection between 'through CBM' or 'direct to MTX' (available options : Y/N)
	CBMIP	Source CBM IP address on the network element.
	CBMSRCUSER	Source CBM login user on the network element.
	CBMSRCPSWD	Source CBM login password on the network element.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
ntcdma_mtxtab	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	SDM Name. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	MTXNAME	MTX Name with which the data source is associated. The MTXNAME formed part of the Prospect filename, i.e. <MTXNAME>.Tables.<timestamp>.cfg.gz, e.g. MTX48.Tables.201001011000.cfg.gz.
	SRCDIR	MTX source directory. The directory where source data is located.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	DATATYPES	MTX Data types that need to be collected, in this case, mtxtab.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
ntcdma_bsm	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	BSM Name. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	BSMID	Source BSM ID on the network element.
	MTXNAME	MTX Name with which the data source is associated. MTXNAME will get prefixed into the Prospect filename, i.e. <MTXNAME>.<BSMID>.*.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	OMSRCDIR	BSM OM source directories.
	CPDSSRCDIR	BSM OM CPDS source directory.
	CFGSRCDIR	BSM CFG source directory.
	BSMOMFNAMES	BSM OM filenames. For example: MCBTSSubsystem,SBSCSubsystem,cdsuperf_new,BSC,CPDSSubsystem.
	CHGPSWD	Flag if switch's password needs to be rotated.
	ASHELF	BSM A-Shelf IP address. IP with format: 255.255.255.255.
	BSHELF	BSM B-Shelf IP address. IP with format: 255.255.255.255.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	DATATYPES	BSM Data types that need to be collected, separated by comma (,). Example: bsmom,bsmcfg,bsmmap,bsmtrkr,bsmcsvs,bsmcnfp.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	CSVSDIR	BSM OM CSVS source directory.
	CNFPDIR	BSM OM CNFP source directory.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
ntcdma_ppc	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	PPC Name. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	BSMID	Source BSM ID on the network element. The Nortel BSM ID that is associated with this Passport switch. The BSMID formed part of the Prospect filename. That is, <MTXNAME>.<BSMID>.<CBRSNAME>.<timestamp>.999.ppc_sta. For example: `MTX01.1.MTX01B2CBRS1.20100224092053.075.ppc_sta` where 1 is the BSMID.
	MTXNAME	MTX Name with which the data source is associated. The Nortel switch ID associated with this Passport switch. The MTXNAME get prefixed to the Prospect filename. That is, <MTXNAME>.<BSMID>.<CBRSNAME>.<timestamp>.999.ppc_sta. for example: `MTX01.1.MTX01B2CBRS1.20100224092053.075.ppc_sta` where `MTX01` is the MTXNAME.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	CBRSNAME	Source CBRS Name on the network element. The Nortel CBRS id of the Passport switch. The CBRSNAME formed part of the Prospect filename. That is, <MTX-NAME>.<BSMID>.<CBRSNAME>.<times-tamp>.999.ppc_sta. For example: `MTX01.1.MTX01B2CBRS1.20100224092053.075.ppc_sta` where `MTX01B2CBRS1` is the CBRSNAME.
	NODEID	Source Node ID on the network element. The Nortel node id of the Passport switch. This must be the node ID given in the Passport statistics file names. For example: `ppc_sta_20100224T092053_ABC510_075.bdf` where `ABC510` is the NODEID.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	SRCDIR	Passport Statistics source directory.
	PPCRDF	The path where Passport record description file located.
	BSMIP	BSM IP address for CBRS View file collection.
	BSMNAME	BSM name
	BSMUSER	Login account user for BSM.
	BSMPSWD	Login account password for BSM
	BSMDIR	CBRS View file source directory.
	EBSCIP	EBSC IP address as parameter to createbase.exp.
	BDFDEL	BDF file field delimiter.
	PPCCFG	Passport configuration file.
	DATATYPES	PPC Data types that need to be collected, separated by comma (,). Example: ppcsta.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	PERIOD	Data collection period in minutes. Valid entries are: 15, 30, 60.
	CHGPSWD	Flag if switch's password needs to be rotated.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
ntcdma_rnccfg ntcdma_rncom	CONCAT_ON	Enable collection of concatenated EVDO file (Available options : Y/N). Set this option to 'Y' only when the EMS has turned ON the file concatenation feature (From EVDO R8.0 and above).
	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	EMSIP. IP with format: 255.255.255.255. See the section Rules for setting up <host-name>.ntcdma.cfg entries for EVDO.
	SRCID	Source ID is the name of the EMS. See the section Rules for setting up <host-name>.ntcdma.cfg entries for EVDO.
	RNCID	RNCID is the name of the EMS or RNC. See the section Rules for setting up <host-name>.ntcdma.cfg entries for EVDO.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	SRCDIR	EMS source directory. The directory where source data is located.
	DATATYPES	RNC Data types that need to be collected, separated by comma (,). Example: rncom,rnccfg.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	DOM_COLLECTION	To enable DOM file collection and processing, (Available options : Y/N). If this option is: Set to 'Y' will instruct DA to collect and process the DOM file. Set to 'N' will stop DA from collecting the DOM files. DA will only process RNC file. This option is only applicable to rncom datatypes. For rnccfg datatypes, set it to 'N'. This option will work for either CONCAT_ON = 'Y' or CONCAT_ON = 'N'.

AQUISITION TOOLS GUIDE 7.1

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	SCRATCHAREA	Temporary directory for OM file processing. For REMOTE_COMPRESSION set to 'N', the SCRATCHAREA is located at DA server. For REMOTE_COMPRESSION set to 'Y', the SCRATCHAREA is located at remote server (the EMS). If there are no local temporary directories are used, set the configuration to '$LOCALDIR/tmp'. This option is only applicable to rncom datatypes. For rnccfg datatypes, set it to 'none'.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
	REMOTE_COMPRESSION	To allow compression on source files at the remote server before transfer to DA server. (Available options : Y/N). The collection interval for this option is 2 hours. Note: Only use this option for huge source files transfer on low network speed. This option is only applicable to rncom datatypes when CONCAT_ON is set to 'N' as it will be overridden when CONCAT_ON = 'Y'. For rnccfg datatypes, set it to 'N'.
	DOM_BATCH_SIZE	Number of DOMs to collect per batch. This option only use when REMOTE_COMPRESSION set to 'Y'. Set to value bigger than the exact number of DOMs to disable the batching mechanism. This option is only applicable to rncom datatypes. For rnccfg datatypes, set it to 'none'. Default: 50. It will be overridden when CONCAT_ON = 'Y'.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	ALL_EMS_LIST	This file is used for EMS to RNC mapping. This file contains a list of EMSs and related RNCs. This list is used to lookup the list of RNCs that are related to a certain EMS. This option is only applicable to 'rnccfg' datatype and used only when CONCAT_ON is set to 'Y'. Set it to 'none' when CONCAT_ON is set to 'N'. Refer to Appendix H: Sample Configuration Files on page 135 for sample emsrnc.cfg file.
		ALL_EMS_LIST file is used for EMS to RNC mapping. This file contains a list of EMSs and related RNCs. This list is used to lookup the list of RNCs that are related to a certain EMS. This option is only applicable to 'rnccfg' datatype and used only when CONCAT_ON is set to 'Y'. For example, if the rncs: rnc01,rnc02,rnc03 are tied to ems01, ALL_EMS_LIST points to the file `$FLEXDA-HOME/cfg/emsrnc.cfg` and must be populated as follows:
		`# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX`
		`ems01|rnc01,rnc02,rnc03`
		Therefore, the Prospect filename for the `rnccfg` data will get duplicated for `rnc01,rnc02,rnc03` as follows:
		`rnc01.DOM.201002250000.RNCcfg`
		`rnc02.DOM.201002250000.RNCcfg`
		`rnc03.DOM.201002250000.RNCcfg`
	CONFIG_TARGET	Target directory on the Prospect server where the candidateRncQuery<tstamp>.txt is to be transferred. This option is only applicable to 'rnccfg' datatype and used only when CONCAT_ON is set to 'Y'.
ntcdma_pdsn	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	PDSNID. It will be prefixed into the Prospect filename, i.e. <PDSN-ID>.<timestamp>.PDSNFApm.
	RNCID	Source RNC ID on the network element.
	SRCUSER	Source login user on the network element.
	SRCPSWD	Source login password on the network element.
	SRCDIR	Source network element data directory.
	VERSION	NE version release number.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	DATATYPES	Data types that need to be collected, separated by comma (,). Example: om,faom,haom.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURE-RETRIEVE/SECUREDELIVER is set to "1".
ntcdma_usp	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	PSRCIP	Primary source IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	PSRCID	Primary USP (Universal Signaling Point) Name where source data is located. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	PSRCUSER	Primary source login user on the network element. Login account which created and allow to login to Network Element.
	PSRCPSWD	Primary source login password on the network element. Login account which created and allow to login to Network Element.
	PSRCDIR	Primary USP (Universal Signaling Point) data directory. The directory where source data is located.
	BSRCIP	Secondary source IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	BSRCID	Secondary USP (Universal Signaling Point) Name where source data is located. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	BSRCUSER	Secondary source login user on the network element. Login account which created and allow to login to Network Element.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	BSRCPSWD	Secondary source login password on the network element. Login account which created and allow to login to Network Element.
	BSRCDIR	Secondary USP (Universal Signaling Point) data directory. The directory where source data is located.
	PGMSCID	Source PGMSCID on the network element. It will get prefixed into the Prospect file-name, i.e. <PGM-SCID>.<USPID>.<source_filename>.<timestamp>.USPpm.gz.
	USPID	Source USP ID on the network element. It will get prefixed into the Prospect filename, i.e. <PGM-SCID>.<USPID>.<source_filename>.<timestamp>.USPpm.gz.
	DATATYPES	Data types that need to be collected, uspom.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N) Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
	PASSTHROUGH	Allow CNM passthrough (available options : Y/N), 'Y' - directly collect from CNM, 'N' - directly collect from USP.
	CNMIP	The CNM IP address for passthrough. Only applicable when PASSTHROUGH is set to 'Y'.
	CNMUSER	Login account user for CNM. Only applicable when PASSTHROUGH is set to 'Y'.
	CNMPSWD	Login account password for CNM. Only applicable when PASSTHROUGH is set to 'Y'.
	CNMDIR	CNM data directory. The directory where source data is located. Only applicable when PASSTHROUGH is set to 'Y'.
ntcdma_pvg	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	SRCIP	Source IP address on the network element. IP with format: 255.255.255.255.
	SRCID	MDM ID. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	PGMSCID	Source PGMSC ID on the network element. It formed part of the Prospect filename, i.e. <PGM-SCID>.<PVGID>.<NODEID>.sta_<timestamp>.PVGpm.gz.
	PVGID	Source PVG ID on the network element. It formed part of the Prospect filename, i.e. <PGM-SCID>.<PVGID>.<NODEID>.sta_<timestamp>.PVGpm.gz.
	NODEID	Source Node ID on the network element. It formed part of the Prospect filename, i.e. <PGM-SCID>.<PVGID>.<NODEID>.sta_<timestamp>.PVGpm.gz.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	SRCDIR	Source network element data directory. The directory where source data is located.
	DATATYPES	Data types that need to be collected, separated by comma (,). Example: pvgsta.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".
ntcdma_sdm	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	SRCID	Source ID on the network element. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	MSCNAME	Source MSC ID on the network element. If formed part of the Prospect filename, i.e. <MSCNAME>.<times-tamp>.SDMcsv.gz.
	SRCUSER	Source login user on the network element. Login account which created and allow to login to Network Element.
	SRCPSWD	Source login password on the network element. Login account which created and allow to login to Network Element.
	SRCDIR	Source network element data directory (SDM). The directory where source data is located.
	CBMSRCDIR	Source network element data directory (CBM). The directory where source data is located.
	SRCOPT	Collection option. Available options are 'sdm' - collect from SDM source directory only, 'cbm' - collect from CBM source directory only, 'both' - collect from both SDM and CBM source directory.
	DATATYPES	Data types that need to be collected, separated by comma (,). Example: sdmom.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	COLMULT	Y/N - Collect multiple files (15 or 30 minutes data interval) from source directory, if available.
	MVSRC	Option on whether to move the files from source directory to destination directory (yes, no).
	SDMDDIR	SDM data destination directory. Must be specified if MVSRC=yes and SRCOPT=sdm or SRCOPT=both.
	CBMDDIR	CBM data destination directory. Must be specified if MVSRC=yes and SRCOPT=sdm or SRCOPT=both.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURERETRIEVE/SECUREDELIVER is set to "1".

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	MTXNAME	MTX Name with which the data source is associated. This parameter is only for users who upgrade from AFT to SDM/CBM and are not using CLLI code. For other users, please set the value to be the same as MSCNAME. Note the value for this parameter must be the same as the value in msc_list.
ntcdma_uas	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	Source IP address of the UAS element manager. IP with format: 255.255.255.255.
	SRCID	Unique ID to identify this UAS. This name is not used in the file that goes to Prospect. It can be any name the customer wants.
	SRCUSER	Source login user on the UAS element manager. Login account which created and allow to access to UAS element.
	SRCPSWD	Source login password on the UAS element manager. Login account which created and allow to access to UAS element.
	SRCDIR	Source network element data directory. The directory where source data is located.
	NODETYPE	NodeType in the source file name. i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<YYYY>.<MM>.<DD>_<HH>.<MI>_<TIME-ZONE>.csv. It also formed part of the Prospect filename, i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<timestamp>.UASpm.
	NODENAME	NodeName in the source file name. . i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<YYYY>.<MM>.<DD>_<HH>.<MI>_<TIME-ZONE>.csv. It also formed part of the Prospect filename, i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<timestamp>.UASpm.
	REPORTNAME	ReportName in the source file name. . i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<YYYY>.<MM>.<DD>_<HH>.<MI>_<TIME-ZONE>.csv. It also formed part of the Prospect filename, i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<timestamp>.UASpm.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	TIMEZONE	TimeZone in the source file name. . i.e. <NODE-TYPE>.<NODENAME>.OMs.<REPORT-NAME>.<YYYY>.<MM>.<DD>_<HH>.<MI>_<TIME-ZONE>.csv.
	DATATYPES	Data types that need to be collected: uas.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
ntcdma_mxpt	MARKET	Market ID with which the data source is associated
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	Source IP address (Use "localhost" if the MassExport files are pushed to the DA server). IP with format: 255.255.255.255.
	SRCID	Source MTX Name. MTX_NAME will prefixed into the Prospect filename, i.e. <MTX_NAME>.<times-tamp>.MTXpm.gz.
	SRCUSER	Source login user. Login account which created and allow to access.
	SRCPSWD	Source login password. Login account which created and allow to access.
	SRCDIR	Source network element data directory. The directory where source data is located.
	DATATYPES	Data types that need to be collected: mxptom.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	PERIOD	Data collection period in minutes. Valid entries are: 30, 60.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
ntcdma_pdsn16000	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	Source IP address (Use "localhost" if the MassEx- port files are pushed to the DA server). IP with format: 255.255.255.255.
	SRCID	Source PDSN ID. It will prefixed into the Prospect file-name, i.e. <PDSN_ID>.<timestamp>.pdn4pm.gz.
	SRCUSER	Source login user. Login account which created and allow to access.
	SRCPSWD	Source login password. Login account which created and allow to access.
	SRCDIR	Source network element data directory.
	DATATYPES	Data types that need to be collected: pdsn16000om.
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	PERIOD	Data collection period in minutes. Valid entries are: 30, 60.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
ntcdma_mg	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	MSC Name. This name is not used in the file that goes to Prospect. It can be any name the customer wants.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	MTXNAME	MTX Name. It will prefixed into the Prospect filename, i.e. <MTXNAME>.<timestamp>.MGNTM.gz.
	SRCUSER	Login account user for SDM, CBM. Login account which created and allow to access.
	SRCPSWD	Login account password for SDM, CBM. Login account which created and allow to access.
	SRCDIR	Source network element data directory. The directory where source data is located.
	DATATYPES	Name of the Data Type (ntmsta).
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	MVSRC	Option on whether to move the original source files to other directory (yes, no).
	DDIR	'closedSent' directory
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
ntcdma_ntmmdm	MARKET	Market ID with which the data source is associated.
	TGTDIR	Target directory on the Prospect server to which the data is to be transferred.
	SRCIP	IP address of the network element where source data will be collected. IP with format: 255.255.255.255.
	SRCID	MSC Name. **Note:** There should be 1 entry per switch (MSC) for the `ntmmdm` entry in the DA Tools Host Config file. The SRCID should be the MSC name, and you must config-ure the `mscpvg.cfg` to associate the PVGs that belongs to this MSC. The SRCID must match the NE_NAME of the `$PROSPECT_HOME/msc_list` as well. The SRCID is prefixed to the Prospect filename. For example, `MTX01.110520071800.MGNTM.gz` where `MTX01` is the SRCID.
	SRCUSER	Login account user for MDM. Login account which cre-ated and allow to access.

Table 4: Host Configuration File Field Descriptions

Variable	Field	Description
	SRCPSWD	Login account password for MDM. Login account which created and allow to access.
	SRCDIR	Source network element data directory. The directory where source data is located.
	DATATYPES	Name of the Data Type (ntmsta)
	TMADJ	Time adjustment. If the source and DA server are in the same timezone, then set it to "0". Otherwise, DA time is 8am, source time is 7am, set TMADJ to "60". DA time is 8am, source time is 9am, set TMADJ to "-60".
	MVSRC	Option on whether to move the original source files to other directory (yes, no).
	DDIR	'closedSent' directory.
	SECURERETRIEVE	Use normal ftp (0) or scp (1) when retrieving files from remote server.
	SECUREDELIVER	Use normal ftp (0) or scp (1) when transferring files to Prospect server.
	PSWD_AUTH	Allow password-based authentication for ssh connection (available options : Y/N). Will be used only if SECURER-ETRIEVE/SECUREDELIVER is set to "1".
	PVG_LIST	The file which contains a list of MSCs and related PVGs. This list is used for MSC to PVG mapping. Files will be collected from source directory based on the list. Refer to Appendix H: Sample Configuration Files on page 135 for sample mscpvg.cfg.

Input and Output files for Data Types

The following table describes the Input files and Output files for all the Data Types:

Table 5: Data Type, Input File Name and Output File Name

Data Type	Input File Name	Output File Name
BSMmap	None (source file generated by running command on the BSM box)	<MTX_NAME>.<BSMID>. YYYYMMDDhhmm.BSMmap
MTX TAB	None (source file generated by running command on the BSM box)	<MTXNAME>.Tables. YYYYMMDDHHMI.cfg
SDM OM	<SDM_ID>.<MM>_<DD>_<YYYY>.<HHMI>.<MSCNAME>.OT.CSV Or <SDM_ID>.<MM>_<DD>_<YYYY>.<HHMI>.<TIMEZONE>.<MSC-NAME>.OT.CSV	<MTX_NAME>.<YYYYMMDDH-HMI>.SDMcsv.gz

Table 5: Data Type, Input File Name and Output File Name

Data Type	Input File Name	Output File Name
MTX OM	<MTXNAME>.<YYYYMMDDH-HMI>.OM + TRKMEM.<YYYYM-MDD>0000.cfg	<MTXNAME>.<YYYYMMDDH-HMI>.MTXpm
MCBTS	SBSCSubsystem-YYYYMMDDh-hmmss BSC-YYYYMMDDhhmmss MCBTSSubsystem-YYYYMMDDh-hmmss COMPACTMCBTSSubsystem-YYYYMMDDhhmmss CPDSSubsystem-YYYYMMDDh-hmmss CSVSSubsystem-YYYYMMDDh-hmmss	<MTX_NAME>.<BSCID>.SBSCSub-system-YYYYMMDDhhmmss.BSSpm <MTX_NAME>.<BSCID>.BSC-YYYYMMDDhhmmss.BSSpm <MTX_NAME>.<BSCID>.MCBTSSub system-YYYYMMDDhhmmss.BSSpm <MTX_NAME>.<BSCID>.COM-PACTMCBTSSubsystem.YYYYMMD-Dhhmmss.BSSpm <MTX_NAME>.<BSCID>.CPDSSub-system-YYYYMMDDhhmmss.CPD-Spm <MTX_NAME>.<BSCID>.CSVSSub-system-YYYYMMDDh-hmmss.CSVSpm
RNC CFG	dom-Query<MMDDYYYY_HHMM>.txt ifQuery<MMDDYYYY_HHMM>.txt pdsn-Query<MMDDYYYY_HHMM>.txt pnQuery<MMDDYYYY_HHMM>.txt clusterQuery <MMDDYYYY_HHMM>.txt	<RNC_ID>.DOM.<TSTAMP>.RNCcfg <RNC_ID>.INTERFACE.<TSTAMP>.RNCcfg <RNC_ID>.PDSN.<TSTAMP>.RNCcfg <RNC_ID>.IS856CHANNELELEMENT.<TSTAMP>.RNCcfg <RNC_ID>.CLUSER.<TSTAMP>.RNCcfg
RNC OM (non-concat)	<TemplateName>_<RelNo>.dat	<RNC_ID>.<YYYYMMDDH-HMM>.<Interval>.RNCpm
RNC OM (concat)	<TemplateName>_<RelNo>_<yyyy-mmdd>_<startTime>-<endTime>.dat	<EMSIP>.<YYYYMMDDH-HMM>.<Interval>.RNCpm
PPC STA	ppc_sta_<YYYYM-MDD>T<HHMISS>_<PPCNO-DEID>_[0-9]*.bdf	<MTXNAME>.<BSMID>.<CBR-SNAME>.YYYYMMDDHHMISS.[0-9]*.ppc_sta
NTMMDM	PP_30MIN_PM.<MM>_<DD>_<YYYY>.<HHMI>.*.CSV	<mtxname>.<MMDDYYYYH-HMI>.MGNTM.gz

Table 5: Data Type, Input File Name and Output File Name

Data Type	Input File Name	Output File Name
PDSN	**FAOM :** <PDSNID>.PPP.<YYYYMMDDHH-MISS>, <PDSNID>.CLOSED_RP.<YYYYM-MDDHHMISS> <PDSNID>.MIP_AA.<YYYYMMD-DHHMISS> <PDSNID>.MIP_FA.<YYYYMMD-DHHMISS> <PDSNID>.Device.<YYYYMMD-DHHMISS>, <PDSNID>.ISP_ip.<YYYYMMD-DHHMISS>, <PDSNID>.Stats_Service.<YYYYM-MDDHHMISS>, <PDSNID>.Over-load.<YYYYMMDDHHMISS>, <PDSNID>.Trunk.<YYYYMMDDH-HMISS>, <PDSNID>.AAA.<YYYYMMDDH-HMISS> HAOM : <PDSNID>.MIP_HA.<YYYYMMD-DHHMISS>, <PDSNID>.Device.<YYYYMMD-DHHMISS> <PDSNID>.ISP_ip.<YYYYMMD-DHHMISS>, <PDSNID>.Stats_Service.<YYYYM-MDDHHMISS>, <PDSNID>.Trunk.<YYYYMMDDH-HMISS>, <PDSNID>.Over-load.<YYYYMMDDHHMISS>, <PDSNID>.AAA.<YYYYMMDDH-HMISS>	<PDSN-ID>.<timestamp> .PDSNFApm
USP OM	om<ICFPE-RIOD>min<USPVER><HHMI>	<PGM-SCID>.<USPID>.<source_filename>_<YYYYMMDDHHMI>.USPpm.gz
PVG STA	pp_sta_<YYYYM-MDD>T<HHMISS>_<NODEID>_*.bdf	<PGM-SCID>.<PVGID>.<NODEID>.sta_<YYYYMMDDHHMISS>.PVGpm.gz
UAS	<NODETYPE>.<NODE-NAME>.OMs.<REPORT-NAME>.<YYYY>.<MM>.<DD>_<HH>.<HI>_<TIMEZONE>.csv	"<NODE-TYPE>.<NODE-NAME>.OMs.<REPORTNAME>.<timestamp>.UASpm"

**Table 5:** Data Type, Input File Name and Output File Name

Data Type	Input File Name	Output File Name
MXPT OM	*YYYYMMDDhhmi*	\<MTX_NAME>.YYYYMMDDhhmi.MTXpm.gz
PDSN16000 OM	YYYYMMDD_HHMISS_\<host_name>.stat	\<MTX_NAME>.YYYYMMDDhhmiss.pdn4pm.gz

Collection and Processing of CBRS Data

The flow diagram below explains the collection and processing of CBRS data:

1. The `bsmviewget.exp` generates and collects ascii view for each CBRS.

2. The `ppcstaget.exp` collects the bdf files.

3. Ascii views generated in Step 1 together with the first bdf file of the day are used to generate `cbrs.cfg` files specific to each CBRS. This file contains the component/slot mappings specific to that CBRS alone.

4. The `nt_ppcsta_parse` program uses the `cbrs.cfg` that is generated in Step 2 to parse the bdf file. The parse program uses the rdf file that contains the layout information for a bdf file. The output of this program is the `.ppc_sta` files.

5. The `sendppcsta.exp` distributes the `.ppc_sta` files to the IBM Prospect `ftpIN` directory structure.

Figure 2:   Collection and Processing of CBRS Data
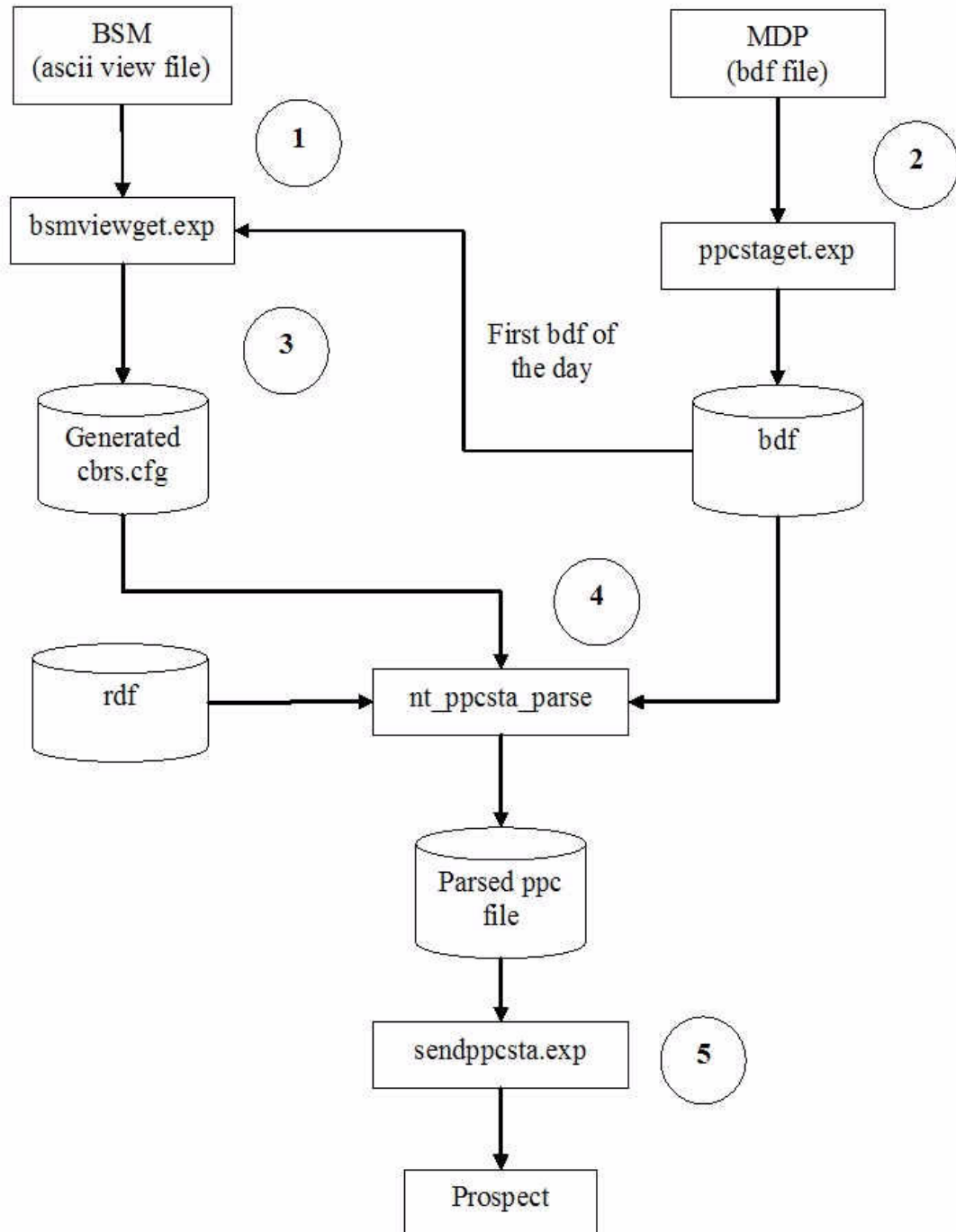
Rules for setting up <hostname>.ntcdma.cfg entries for EVDO

Rules for rncom datatype when CONCAT=N

- SRCID Is the emsname (for example, ems11). This name is not used in the file that goes to Prospect. It can be any name the customer wants.

- RNCID is the rncname that must match with the MSCNAME in `$PROSPECT_HOME/ msc_list`.

  For example, this can be *SeattleRNC1*. This RNCID is a prefix in the filename that goes to Prospect. For example, `<RNCID>.tstamp.30.RNCpm.gz`.

- In this case, the file that goes to Prospect is `SeattleRNC1.<tstamp>.30.RNCpm.gz`.

Rules for rncom datatype when CONCAT=Y

- SRCID is the emsname (for example, ems11) . This name is not used in the file that goes to Prospect. It can be any name the customer wants.

- RNCID is not important, it can be any name but it is recomended to make it same as SRCID since there is only 1 rncom entry per EMS in the `<hostname>.ntcdma.cfg` instead of one rncom entry per RNC.

- EMSIP is the prefix for the file that goes to Prospect `<EMSIP>.<tstmap>.30.RNCpm.gz`. EMSIP comes from SRCIP in the `<hostname>.ntcdma.cfg` file.

Rules for rnccfg datatype when CONCAT=N

- SRCID is the emsname (for example, ems11). This name is not used in the file that goes to Prospect. It can be any name the customer wants.

- RNCID is the rncname that must match with the MSCNAME in `$PROSPECT_HOME/ msc_list`.

  For example, this can be *SeattleRNC1*. This RNCID is a prefix in the filename that goes to Prospect.

- In this case, the files that goes to Prospect are as follows:

  - `SeattleRNC1.DOM.<tstamp>.RNCcfg`

  - `SeattleRNC1.IS856CHANNELELEMENT.<tstamp>.RNCcfg`

  - `SeattleRNC1.INTERFACE.<tstamp>.RNCcfg`

  - `SeattleRNC1.PDSN.<tstamp>.RNCcfg`

Rules for rnccfg datatype when CONCAT=Y

- SRCID is the emsname (for example, ems11), which must be the first column in `emsrnc.cfg`.

  ```
  # EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
  ems11|ems11rnc112,ems11rnc111
  ems22|ems22rnc03,ems22rnc04
  ```

- RNCID is the rncname (For example, `ems11rnc112`), which must be configured in the second field in the emsrnc.cfg. All the RNCID that are tied to a EMS must be appended in the second field separated by a comma. The RNCID must match with the MSCNAME in `$PROSPECT_HOME/msc_list`.

- In the case of ems11, the files that go to Prospect are as follows:

  - `ems11rnc112.DOM.<tstamp>.RNCcfg`

  - `ems11rnc112.IS856CHANNELELEMENT.<tstamp>.RNCcfg`

  - `ems11rnc112.INTERFACE.<tstamp>.RNCcfg`

  - `ems11rnc112.PDSN.<tstamp>.RNCcfg`

  - `ems11rnc111.DOM.<tstamp>.RNCcfg`

  - `ems11rnc111.IS856CHANNELELEMENT.<tstamp>.RNCcfg`

  - `ems11rnc111.INTERFACE.<tstamp>.RNCcfg`

  - `ems11rnc111.PDSN.<tstamp>.RNCcfg`

- Additionally, EMSIP is the prefix for the candidateRncQuery file that goes to Prospect. For example, `<EMSIP>.candidateRncQuery<tstamp>.txt`. EMSIP comes from SRCIP in the `<hostname>.ntcdma.cfg` file.

Calculating the Space for SCRATCHAREA for rncom Datatypes

This section describes how you can calculate the space needed by the SCRATCHAREA temporary directory for the processing of rncom datatypes. To do so, you must provide the number of rnc and dom datatypes in the system.

To calculate the space, do as follows:

1. Run the command:

    [flexda] $ rncom-spacecalc

2. Insert the total number of rnc datatypes when prompted:

    Please insert no of RNC: 1

3. Insert the total number of dom datatypes when prompted:

    Please insert no of DOM: 3

4. The command returns the estimated space needed by SCRATCHAREA (in MB):

    Minimum size for SCRATCHAREA: 54 MB

Collecting OM Group Data in OMSHOW Format

Data Acquisition tools collect data from OM group files in OMSHOW format as defined in the OMSHOW configuration file, `<hostname>.omshow.dist.icf`.

The OMSHOW configuration file contains the information required for delivery of OMSHOW data to the IBM Prospect server. After the data files are sucessfully transferred to the IBM Prospect server, they are moved to the LOCALDIR for archiving.

OM Group File Name Format

The format for the OM group file name is as follows:

```
P_<timestamp><ne_id><om_group>
```

where:

`<timestamp>` is the file time stamp in YYYYMMDDHHMIMISS

`<ne_id>` is the value that represents the MTX ID

`<om_group>` is the OM group name

Example:

```
P_20021113160404M41caucpsct
P_20021113160404M41causct3d
P_20021113160404M41causct3v
```

Enabling OMSHOW Data Delivery

You can enable OMSHOW data delivery by doing the following:

To enable OMSHOW data delivery

1. Update the following variables in the OMSHOW configuration file:

    *   `MTXID` - Lists all the MTX IDs

        ### Example:

        ```
        set  MTXID  "MTX41 MTX42 MTX43 MTX44 MTX45 MTX47 MTX02 MTX48 MTX50"
        ```

    *   `OMTYPE` - Lists all the OM groups

        ### Example:

        ```
        set OMTYPE  "CAUCPSCT CAUSCT3D CAUSCT3V"
        ```

    *   `NEID` - The value that appears in the OM group file name for a specific MTX ID. Set each MTX ID to a respective `NEID` value.

        ### Examples:

        ```
        set NEID(MTX41)  "M41"
        set NEID(MTX42)  "M42"
        ```

    *   `FILEFMT` - The format of the OM group file

        ### Example:

        ```
        set FILEFMT(MTX41) "P_%T%M%O"
        ```

        The MTX ID value (for example, `MTX41`) specified by `NEID` is the value of `%M`.

    *   `OMSHOWDIR` - The OMSHOW source directory

        ### Example

        ```
        set OMSHOWDIR   "/usr/apps/WatchMark/FlexDA/data/MTXOH"
        ```

    *   `FLEXDIR` - The IBM Prospect server `ftpIN` target directory

Example

```
set FLEXDIR  "/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/ \
              ftpIN/MTX12/in"
```

2. Once you have updated the OMSHOW configuration file, verify that there is a
   `sendomshow.exp` job entry in the `crontab` file `<hostname>`.ntcdma.cron.

Example:

```
* * * * * ksh -c ". /u/flexda/.kshrc; sendomshow.exp -i \
<hostname>.omshow.dist.icf -L /u/flexda/ \
log/omshow,omshow.,.log,1440,40000,7"
```

Sample OMSHOW Configuration File

The following is an example of the OMSHOW configuration file:

```
#
# TITLE:   NT OMSHOW DATA TRANSFER
#
# SITE:    LA
#
# HOST:    cala-nor
#
#
# ICF Variables:
#
#    ICFBIN        Location of ICF binaries.


set ICFBIN          "$env(FLEXDAHOME)/bin"


#
# Application Variables:
#
#    REMOTEHOST    Variable needed by icf_chat.exp same as MTXIP
#    MTXID         MTX ID
#    OMTYPE        OM Types
#    OMSHOWDIR     Source OMSHOW data directory
#    FILETIME      File modification time before transferring the OMSHOW
files
#
#    LOCALDIR      Local destination data directory
#    NDAYS         Number of days to keep files in FlexDA server


set REMOTEHOST      "127.0.0.1"
set MTXID           "MTX41 MTX42 MTX43 MTX44 MTX45 MTX46 MTX47 MTX49 MTX02
MTX48 MTX50"
#set OMTYPE         "OMMTX CAUCPSCT ICPCP"
```

```
set OMTYPE          "CAUCPSCT CAUSCT3V CAUSCT3D"


#
# Following are the placeholders that are used for the filename format:
#
# %T - Timestamp in YYYYMMDDhhmmss format
# %M - MTX Id appearing on the file
# %O - OM Group Name
#
# NEID($MTXID)    Is the MTXID name in the file
# FILEFMT($MTXID)  Is the file's format (default in P_%T%M%O)

set NEID(MTX41)    "M41"
set FILEFMT(MTX41) "P_%T%M%O"

set NEID(MTX42)    "M42"
set NEID(MTX43)    "M43"
set NEID(MTX44)    "M44"
set NEID(MTX45)    "M45"
set NEID(MTX46)    "M46"
set NEID(MTX47)    "M47"
set NEID(MTX48)    "M48"
set NEID(MTX49)    "M49"
set NEID(MTX50)    "M50"
set NEID(MTX02)    "M02"

set OMSHOWDIR      "/usr/apps/WatchMark/FlexDA/data/MTXOH"
set FILETIME       "2"

set LOCALDIR       "/usr/apps/WatchMark/FlexDA/data/omshow"
set NDAYS          "7"


#
# Target IBM Prospect Server Variables
#
#    FLEXPMHOST    Address of  IBM Prospect server
#    FLEXUSER      User account on  IBM Prospect Server
#    FLEXPSWD      User password on  IBM Prospect Server
#    FLEXDIR       IBM Prospect Server dist destination directory

set FLEXPMHOST     "10.4.129.13"
set FLEXUSER       "flextr"
set FLEXPSWD       "flextr"
```

```
set FLEXDIR          "/u01/apps/WatchMark/FlexPM/Nortel/x/vendor/Nortel/MSC/
ftpIN/MTX10/in"
```

Adding Collection Sources After Installation

This section provides an example of how to add a new collection source after installation.

To add a new collection source, locate the detail variables in the host configuration file. Add the variables for the new source at the end. Make sure to add a continuation mark (\) at the end of the previous line if necessary. The following sample shows the section of the host configuration file with the information added.

```
set -A ntcdma_rnc                                                         \
      ATL     $tdir    nnn.nnn.nnn.nnn    ems01    rnc02    emsuser    emspass    \
              $rncomsdir     rncom    0
```

Password Rotation

The Data Acquisition Tool can automate password rotation on network elements such as MTX, BSM, or CSP. This is done to prevent failures when logging on network elements that enforce password expiration after a certain number of days.

The files and scripts needed to implement automatic password rotation are generated during the setup procedure if you set the CHGPSWD? field to Y for any configured network elements.

The installation script setconfig.ksh creates two configuration files for password rotation:

- icf_pswdfile.cfg—stores the latest updated password. The installation script automatically creates and stores in this file a variable, SWIP_LIST, which contains the IP addresses and login user names for the servers that require password rotation.

- sd.chgpswd.icf—stores the username and IP address information for the servers the Data Acquisition Tool connects to. This file is automatically generated when the installation is complete.

The file $FLEXDAHOME/cfg/icf_pswdfile.cfg maintains a list of current passwords for each network element accessed by the data acquisition tools scripts. This file is initialized during the setup procedure. At the same time, one crontab entry is created for each market that rotates the network element passwords once a week and updates the icf_pswdfile.cfg file. Options for the cron job, which runs at 9:45 a.m. every Tuesday, are defined in <hostname>.ntcdma.cron.

Note that, if any of the setup procedures needs to be executed again, the passwords for existing network elements in the icf_pswdfile.cfg script is not overwritten. For example, when running the setup script command, if the login/password for the network element (SDM) as described below is flexda/flexda,

```
set -A ntcdma_sdm                                          \
    market1  $tdir   127.0.0.1        POM  sdm01     flexda   flexda  \
      $sdmsdir  $cbmsdir  sdm       sdmom        0     yes             \
    yes            $sdmddir      $cbmddir                          \
            0            0            N
```

but the current password for the network element in the icf_pswdfile.cfg file is flexda/abcd1234,

```
set env(market1.pom_sdmpasswd) {abcd1234}
```

the password in the icf_pswdfile.cfg file remains abcd1234 and the following information message is displayed:

```
setconfig.ksh: Setup ntcdma...


set_ntcdma.ksh: "market1.pom" password differs from the current password
listed in file /home/flexda/cfg/icf_pswdfile.cfg


set_ntcdma.ksh: The password for "market1.pom" in /home/flexda/cfg/
icf_pswdfile.cfg will remain
```

Directory Structure

The following table describes the directory structure for Data Acquisition tools files.

Table 6: Directory Structure

Directory	*Description*
$FLEXDAHOME	Home directory for the flexda account
$FLEXDAHOME/COMMON/bin $FLEXDAHOME/COMMON/scripts	Contains common installation programs
$FLEXDAHOME/*<vendor>*/scripts $FLEXDAHOME/*<vendor>*/cfg	Contains Data Acquisition tools collection programs
$FLEXDAHOME/INSTALL/ALL/scripts	Contains installation scripts. For example: install_flexda.ksh and setconfig.ksh
$FLEXDAHOME/INSTALL/ALL/cfg	Contains default configuration file. For example: FlexDA.default.cfg
$FLEXDAHOME/INSTALL/ALL/doc	Contains sample documents. For example, <hostname>.*<vendor_abbrev>* *<technology>*.cfg.sample
$FLEXDAHOME/INSTALL/localhost/cfg	Contains the local host configuration files. For example: FlexDA.*<hostname>*.cfg and *<hostname>*.*<vendor_abbrev>* *<technology>*.cfg
$FLEXDAHOME/flexpkg	Contains scripting tools as required, such as TCL
$FLEXDAHOME/cfg	Contains the ICF file, where applicable. The format is as follows (note that all variable values are lower case): *<market_name>*. *<network_element_name>*.*<datatype>*. *<direction>*.icf
$FLEXDAHOME/data	Contains the data files
$FLEXDAHOME/log	Contains the checkpointlog files. The format is as follows (note that all variable values are lower case): *<market_name>*. *<network_element_name>*.*<datatype>*. *<direction>*.chk
$FLEXDAHOME/bin	Contains program binaries

Table 6:   Directory Structure (Continued)

Directory	*Description*
$FLEXDAHOME/scripts	Contains Expect scripts or link files to the scripts in the $FLEXDAHOME/COMMON/scripts and/or $FLEXDAHOME/<*vendor*>/scripts folders
$FLEXDAHOME/local	Contains user-defined files

3   Troubleshooting

Data Acquisition tools produce detailed log files that you can use to monitor the data-acquisition process. The log files must be checked for the cause of a problem, which then needs to be resolved. If an error occurs, you are notified within the **cron** job cycle time that is set as long as your e-mail address is listed in `$FLEXDAHOME/.email/email.list`.

Error Messages on page 73 lists error messages, describes them, and tells you which corrective actions to take.

Data is sent from the network elements continuously. This means that the MTXOM parser and the Passport Statistics parser processes should be running continuously and must be monitored to check whether they have stopped.

If the process monitor detects a stopped process, it restarts the process to get it running again. For more information on the monitoring process, see Appendix F: The Monitoring Process Configuration File on page 125.

Data Acquisition tools also require the operating system TERM environment to be set for the cron to be executed properly. See section TERM Environment Setting on page 70 for more information.

Topics

Using E-mail for Error Notification
Using Paging for Error Notification
Recovering Data
TERM Environment Setting
Restrictions for the Message of the Day

Using E-mail for Error Notification

The script `check_error.pl` is run every 30 minutes and checks all log files for errors. If an error is found, the script sends notification e-mail to pertinent addresses in the mail list, `$FLEXDAHOME/.email/email.list`. You add e-mail addresses to `$FLEXDAHOME/.email/email.list`, one address on each line. The e-mail files are archived in the `$FLEXDAHOME/log/emaillog` directory.

Using Paging for Error Notification

The paging function is designed to quickly notify you of any errors that occur in the data acquisition server. The function uses a paging script, `page_error.pl`, which runs every 30 minutes and checks all log files for Fatal and/or Error messages. The paging function sends a short message to pager numbers listed in the `$FLEXDAHOME/.email/pager.list` file. This file contains entries similar to the following:

```
1234567@alphapage.acme.com
```

To be immediately notified of a fatal error, you can add `FATAL` to the end of the entry as follows:

```
1234567@alphapage.acme.com<Tab>FATAL
```

Recovering Data

You might need to retrieve data from previous intervals, troubleshoot failed data transmissions, or check on the status of retrieved data. Data Acquisition tools use checkpoint files to log the status of data transferred to the data acquisition server.

The Interval Checkpoint Facility (ICF)

Data Acquisition tools use the Interval Checkpoint Facility (ICF) process to manage data files that are created at predetermined time intervals. Checkpoint files are maintained to track files that have been processed. An ICF package provides commands to create, access, and update a checkpoint file. Using ICF commands, scripts can be written to perform, retry and log the status of an action that is repeated at regular intervals. This capability enables ICF to perform activities such as producing reports and retrieving data files at regular intervals.

Note: (For data that is delivered continuously, such as AFT Reader data, Data Acquisition tools use a monitoring tool and do not use this function.)

Checkpoint File Format

Checkpoint files contain the default retry and entries information for the network elements or data collection points. You can modify the checkpoint files as needed. The checkpoint files are located in `$FLEXDAHOME/log` and are in the following format:

```
PERIOD=3600
ENTRIES=96
RETRIES=9
010906120000 3b97c7b0 s 010906140024 0000
```

The first three lines determine the period length in seconds, the number of entries in the checkpoint file, and the number of times a failed transfer is retried. The fourth line and all subsequent lines contain information about a specific data transfer attempt. The format of the fourth line is shown in the following table.

Table 7: Format of the Data Transfer Attempt for the Fourth and Subsequent Lines

Field	Description
010906120000	Data time interval
3b97c7b0	Numerical representation of date and time.
s	Status of file transfer
010906140024	Time when script was run
0000	Number of transfer attempts

The file transfer status can be one of the following shown in the following table.

Table 8: File Transfer Status Descriptions

Status	Description
n	New file
s	Successful file transmission
r	Failed file transfer will be retried
x	Failed file transfer and retries have exceeded the maximum limit
a	Start over

You can retrieve a file for a previous interval by changing the status field to **a**. You can also change the number of entries each checkpoint file contains by changing the ENTRIES value in the second line. Once the checkpoint file contains the maximum number of entries, new entries replace the oldest ones.

Note: Make sure that source data exists for each data type collected by the data acquisition process. If source data consistently arrives late, you should adjust the value of the TMADJ field in the host configuration file accordingly. For example, if data regularly arrives 30 minutes late, and the value of TMADJ is 15, then add 30 to this value so that TMADJ becomes 45.

The Data Retrieval Process

The steps involved in the data retrieval process are as follows:

1. The time information is compared between the network element and the entries in the checkpoint file. If there is any new time interval data that can be retrieved, a new entry is created in the checkpoint file and is given a status of **n**. If the total entries in the checkpoint file exceed the number of entries defined in the ENTRIES parameter, the oldest entry in the file is deleted.

2. Starting at the top of the checkpoint file, each entry is read to see if it needs to be processed (that is, if it has **n** or **r** status). If such an entry is found, the data retrieval process begins.

3. If the data retrieval process completes successfully, the status is updated to **s**; Otherwise, the status is set to **r** and the retry count increments by 1. If the retry count reaches its maximum (defined by the RETRIES parameter), the status changes to **x**.

4. The process of looking for entries appropriate for data retrieval continues until all the entries in the checkpoint file are read.

TERM Environment Setting

In some cases the cron that are generated to run icf_chat.exp for data retrieval on the DAT server failed to be executed due to a missing TERM environment setting.

The following log shows a situation where the telnet session to the network element failed due to a missing TERM value on the DAT server:

```
icf_chat.exp: 080126151504: Debug: Setup: ICFBIN = /u01/apps/WatchMark/
flexda/bin
icf_chat.exp: 080126151504: Debug: Setup: ICFSCRIPT = /u01/apps/WatchMark/
flexda/scripts
icf_chat.exp: 080126151504: Debug: Setup: ICFTABLE = /u01/apps/WatchMark/
flexda/log/des-moines.pgmscpom.sdmom.dist.chk
icf_chat.exp: 080126151504: Debug: Setup: ICFAPP = /u01/apps/WatchMark/
flexda/scripts/pgmscsdmomdist.exp
icf_chat.exp: 080126151504: Debug: Setup: ICFBEHIND = 0
icf_chat.exp: 080126151504: Debug: Setup: ICFDELAY = 0
icf_chat.exp: 080126151504: Debug: Setup: ICFIGNBEF = 0
icf_chat.exp: 080126151504: Debug: Setup: ICFIGNAFT = 23
icf_chat.exp: 080126151504: Debug: Setup: ICFMINBEF = 0
icf_chat.exp: 080126151504: Debug: Setup: ICFMINAFT = 23
icf_chat.exp: 080126151504: Debug: Setup: PAST_DAYS = 0
icf_chat.exp: 080126151504: Info: Using date 080126151504
icf_chat.exp: 080126151504: Debug: Processing interval 080125153000, period
30 min
icf_chat.exp: 080126151504: Debug: Running icf_data_generate
icf_chat.exp: 080126151504: Debug: Running icf_data_retrieve:
POM*.01_25_2008.15[3-5][0-9].URDCBCM1.*.CSV
icf_chat.exp: 080126151505: Debug: Using transfer retrieval command :
batchftp.exp -f -t 900 <ne_ip> <ne_user> '<ne_pswd>' /omdata/closedNotSent
POM*.01_25_2008.15[3-5][0-9].URDCBCM1.*.CSV
icf_chat.exp: 080126151525: Debug: Concatenate file command : cat
POM1.01_25_2008.1553.URDCBCM1.OT.CSV >> /u01/apps/WatchMark/flexda/data/
des-moines_pgmscpom/sdmom/tmp/URDCBCM1.200801251500.SDMcsv
icf_chat.exp: 080126151525: Debug: Concatenate file command : cat
POM2.01_25_2008.1553.URDCBCM1.OT.CSV >> /u01/apps/WatchMark/flexda/data/
des-moines_pgmscpom/sdmom/tmp/URDCBCM1.200801251500.SDMcsv
icf_chat.exp: 080126151526: Debug: Transferring file to Prospect server :
batchftp.exp -t 900 -p -m /u01/apps/WatchMark/flexda/data/des-
moines_pgmscpom/sdmom/dist <prospect_ip> <prospect_user> '<prospect_pswd>'
```

```
/u01/apps/WatchMark/FlexPM/NortelMTX/vendor/Nortel/MSC/ftpIN/MTX14/in
URDCBCM1.200801251500.SDMcsv.gz
icf_chat.exp: 080126151527: Debug: Deleting file command : rm -Rf
*URDCBCM1*
icf_chat.exp: 080126151527: Debug: Making telnet/SSH connection to <ne_ip>
icf_chat.exp: 080126151612: Fatal: No response to password for ssflexpm
```

To troubleshoot this problem, log on to the DAT server and check the TERM value:

```
$ echo $TERM
```

Because the TERM environment setting is missing, there should be no value returned.

If so, perform the following steps:

1. Log on to the DAT server using the DAT user (usually `flexda`).

2. Go to the $FLEXDAHOME directory:
   ```
   $ cd $FLEXDAHOME
   ```

3. Change the permission of file `.kshrc`:
   ```
   $ chmod 644 .kshrc
   ```

4. Make a copy of the existing `.kshrc` file:
   ```
   $ cp .kshrc .kshrc.bak
   ```

5. Modify file `.kshrc` by adding the following values at the bottom of the file:
   ```
   TERM=xterm
   export TERM
   ```

   The following is an example of a `.kshrc` file that has been modified:
   ```
   .
   .
   typeset -x PS1='${USER}@${HOST}% '

   function list_ {
       echo : ${1}= ; /usr/ucb/printenv "${1}" | tr ":" "\n" | cat -n ; echo :
   }

   set -o ignoreeof
   set -o vi


   TERM=term
   export TERM
   ```

   Note that `xterm` is a value normally acceptable in a Solaris environment. Refer to your system administrator for a value appropriate to your environment.

6. Save and close the `.kshrc` file and change its permissions:
   ```
   $ chmod 444 .kshrc
   ```

7. Log off and log on again using the DAT user to ensure that the updated environment takes effect.

Restrictions for the Message of the Day

The following list shows the words and characters that cannot be used in Message of the Day (failure to comply might cause an error or an unpredictable behaviour of Data Acquisitions):

- "word: "
- "no such file or directory"
- "permission denied"
- "% "
- "# "
- "> "
- "$ "
- "not found"

Appendix A: Error Messages

This section lists error messages, describes them, and tells you which actions to take to correct them.

Table 9:   Error Messages

Application	Error	Cause	Action
bsmomdist.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to login for $BSMUSER	No response after sending $USERNAME to host	Check the BSMUSER variable in the .icf file
	No response to password for $BSMUSER	No response after sending password to host	Check the BSMPSWD variable in the .icf file
	Time-out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on BSM to check the format
	Remote date not received	Expect script timed out waiting for remote date	Manually run date command on BSM to check the format
	Error occurred while retrieving files from $BSMIP	batchftp.exp failed when retrieving files from BSM	Log on to BSM and verify all the files exist in $BSMOMDIR directory in .icf file
	BSM OM files starting with $fname are not supported	The current supported fnames are: "MCBTSSubsystem, SBSCSubsystem, cdsuperf, cdsuperf_new, BSC". Any file name other than those will cause this error	Check FILENAME in .icf file

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Error occurred while distributing files	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
bsmcfgdist.exp	Connection to $BSMIP failed	Cannot setup connection to the host	Check BSMIP in .icf file in cfg directory
	No response to login for $BSMUSER	No response after sending $USERNAME to host	Check the BSMUSER in .icf file
	No response to password for $BSMUSER	No response after sending password to host	Check the BSMPSWD in .icf file
	Time-out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on BSM to check the format
	Error occurred while distributing files	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD icf .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
mtxomdist.exp	Connection to $MTXIP failed	Cannot setup connection with the host	Check the MTXIP in mtx-omdist.exp file in CFG directory
	No response to login for $MTXUSER	No response after sending $USERNAME to host	Check the MTXUSER in .icf file
	No response to password for $MTXUSER	No response after sending password to host	Check the MTXPSWD in .icf file
	Timed out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on MTX to check the format
	No OM data file for this interva	No file exist in $LOCAL_OMDEST for this interval	Check whether MTXOM preparser is generating OM files
	Remote MTX date not received	Expect script timed out waiting for remote date	Manually run date command on MTX to check the format
	Error occurred while retrieving tables_cfg data	Expect script could not get data from MTX tables	Check MTXTABLES in .icf file in cfg directory

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Error occurred while retrieving trkmem_cfg data	Expect script could not get trunk member data from MTX	Check the MTX version
	Error occurred while processing trkmem files	Trunk member pre-processing failed	Check the MTX version
	Error occurred while retrieving subscr_cfg data	Expect script could not get subscriber data from MTX	Check the MTX version
	Error occurred while combining om_trkmem files	Problem occurred while concatenating OM and Trunk Member data from MTX	Manually concatenate two files to check the system function properly
	Error occurred while combining trkmem_subscr files	Problem occurred while concatenating Subscriber and Trunk Member data	Manually concatenate two files to check the system function properly
	Error occurred while delivering files	batchftp.exp failed when sending files to $FLEXPMHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
ppcstaget.exp	Connection to $REMOTEHOST failed	Cannot setup connection to the host	Check REMOTEHOST in .icf file in cfg directory
	No response to login for $PPCUSER	No response after sending $PPCUSER to host	Check the PPCUSER in .icf file
	No response to password for $PPCUSER	No response after sending password to host	Check the PPCPSWD in .icf file
	Time-out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on NE to check the format
	Error occurred while retrieving files from $PPCIP	batchftp.exp failed when retrieving files from PPC	Log on to NE and verify all the files exist in $PPCDIR directory in .icf file
	Error occurred while distributing files	batchftp.exp failed when sending files to $FLEXPMHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
sendppcsta.exp	Error occurred while sending files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXPMHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while moving files to $LOCALDIR	Problem occurred while moving files to $LOCALDIR	Check LOCALDIR in .icf file

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
sendomshow.exp	Error occurred while sending files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while moving files to $LOCALDIR	Problem occurred while moving files to $LOCALDIR	Check LOCALDIR in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
nt_mtxom_parse	Unable to open directory %s	Cannot open directory	Check if the directory exists, if not, create the directory
	F=%s B=%lu: Invalid input block size (%u)	The input block size is invalid	Check nt_mtxom_parse -b option, the correct size should be 2K
	F=%s B=%lu: Invalid block length (%u)	The block length is invalid	Check the aft_reader or MTX switch
	F=%s B=%lu R=%u P=%u: Record too small (%u)	The record is too small	Check the aft_reader or MTX switch
	Partial file %s terminated in %s section	The input file is not complete	Check the aft_reader or MTX switch
	Unexpected record (seqno=%u, type=%c)	Receiving unexpected record in input file	Check the MTX version
	Memory allocation failure	Cannot allocate memory for the process	Check with the system administrator or IBM Technical Support
	Incorrect timestamp in the filename: %s	The input file name has incorrect time stamp	Check the aft_reader
	Unable to open the file: %s	File cannot be opened	Check the owner or permission of the file and directory
	%s: Ignoring bad key number %u	Bad key number maximum = %u	Check the MTX switch version
	%s: Too many fields in group (count=%u, max=%d)	Too many fields in group	Check the MTX switch version
	%s: Too many infos in group (count=%u, max=%d)	Too much info in group	Check the MTX switch version

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	%s(%s): Unexpected data row %d(max=%u)	Unexpected data	Check the MTX switch version
	Missing required configuration option (-C <file>:<n>)	Missing required '-C' flag.	Add the '-C' flag to the command line.
	Missing required group description file (-C <file>:<n>)	Missing required group description file name.	Add the group description filename to the '-C' flag argument.
	Missing required number of groups (-C <file>:<n>)	Missing required number of supported groups.	Determine the number of groups supported by this MTX, and add this number to the -C' flag argument.
	Invalid number of groups - <n>	Invalid number of supported groups specified using the '-C' flag.	Check the number of supported groups specified in the '-C' flag.
	Empty included group description list	Group description list file contained no group descriptions.	Check the group description file.
	Could not open group description file <filename> (errno=<x>)	The group description <filename> could not be opened, unix errno=<x>.	Check that the group description file exists and is readable.
	Invalid group description file entry: <entry>	The group description file <entry> is not valid.	Correct the format of <entry> in the group description file.
	Included group description list object operation failure	The parse process was unable to allocate the group description list.	Memory allocation error. Check with your system administrator.
nt_aft_reader	Cannot determine current directory (errno= %ld)	Directory failure	Check aft_reader argument <destdir>
	Going down due to inactive source AFT server	AFT server is inactive	Check the MTX switch
	Conflicting command-line option	Command-line option incorrect	Check the -h option of aft_reader
	Unknown option or missing option value - %c	Command-line option incorrect	Check the -h option of aft_reader
	Invalid option value %s or %-c	Command-line option incorrect	Check the -h option of aft_reader
	Invalid %s argument value=%s	Command-line option incorrect	Check the -h option of aft_reader

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Missing required %s argument	Command line option incorrect	Check the -h option of aft_reader
	%s initialization failure	Cannot initialize the aft_reader	Make sure no other aft_reader connected to MTX before initialization
	%s: Memory allocation failure	Memory allocation failure	Check the system
	%s: %s mechanism failure	Mechanism failure	Check MTX switch version
nt_ppcsta_parse	Configuration option required (-C <rdf>:<del>:cfg)	Missing required configuration option	Ensure that a valid parser configuration option was specified
	Invalid configuration option (-C <optarg>)	Invalid configuration option	Check the specified parser configuration option
	Invalid network element name (<arg1>)	Invalid network element argument	Check the specified network element argument
	Unable to open directory "<dest>", error = <unix_errno>	The destination directory could not be opened	Verify specified destination directory existence and permissions
	Unable to open file "<fname>", error = <unix_errno>	The specified input or output file could not be opened	Verify file and directory permissions
	Unable to move "<sfile>" to "<dfile>", error = <unix_errno>	The source file could not be moved to the destination file	Verify file and directory permissions
	Unable to remove file "<fname>", error = <unix_errno>	File could not be removed	Verify file and directory permissions
	Error loading RDF file "<fname>"	The RDF file could not be loaded	Check the input RDF file
	Invalid RDF input file line "<input_line>"	The specified RDF file input line is invalid	Check the syntax of the specified RDF file input line
	RDF table contains no valid entries	The input RDF file has no valid entries	Check the input RDF file
	Config list contains no valid entries	The input configuration file has no valid entries	Check the input configuration file
	RDF table is full -- ignoring entries after <max>	The input RDF file contains more entries than the specified maximum	Check the input RDF file

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Invalid CFG input file line "<input_line>"	The input configuration file is in error	Check the syntax of the specified configuration file input line
	Memory allocation error	Unable to allocate memory	Check with your system administrator
	List insert error	Unable to insert an entry in the configuration list	Check with your system administrator
	Invalid field number <n> (File: <fname> Record: <recno>)", 3	A required BDF or RDF required input field is missing	Check the input BDF and RDF files
	No config file entry for <ifc> (File: <fname> Record: <recno>)	The indicated interface has no entry in the configuration file	Ensure there is a config file entry for the input interface
rncomdist.exp	Error occurred while retrieving files from $REMOTEHOST	batchftp.exp failed when retrieving files from REMOTEHOST	Log on to switch and verify all the files exist in $EMS-BASEDIR directory in .icf file
	Error occurred while archiving files	Unable to archive files	Check if tar is installed
	Error occurred while compressing file	Unable to compress data file	Check if gzip is installed
	Error occurred while transferring files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
	Unable to get directory list for $baseDir : $errormsg	Failure to read directory $baseDir on $REMOTE-HOST	Log on to switch and verify the directory exists and the DA user has read access to it
	Unable to get file list for $filelist : $errormsg	Failure to read file $filel-ist from directory $baseDir on $REMOTE-HOST	Log on to switch and verify the directory/files exists and the DA user has read access to it
	Unable to copy file(s) $filelist : $errormsg	Failure to copy file $filelist from directory $baseDir on $REMOTE-HOST to local directory	Log on to switch and verify the directory/files exists and the DA user has read access to it. Verify that the local DAT server has enough space to copy the file from REMOTEHOST

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Error in creating file $fileName in $LOCALTMPDIR : $out	Failure to create file $fileName on local directory $LOCALTMPDIR	Log on to DA server and verify that directory $LOCALTMPDIR exists and the DA user has read and write access to it. Verify that the local DAT server has enough space
	Error occurred while initializing tmp dire-tory $LOCALTMPDIR : $out"	Failure to initialize local directory $LOCALTMP-DIR	Log on to DA server and verify that directory $LOCALTMPDIR exists and the DA user has read and write access to it. Verify that the local DAT server has enough space
	Unable to retrieve con-fig file $cfgFileName : $output"	Failure to retrieve con-figuration file candidat-erncquery<date>.txt from $REMOTEHOST	Log on to switch and verify the file exists on the speci-fied directory and the DA user has read access to it
	No candidate RNC configuration is avail-able : $cfgFileName	Failure to find the candi-date RNC configuration file from $REMOTE-HOST or from $LOCALDIR	Verify that the configuration file exists on the REMOTE-HOST and the DA user has read access to it
	Error occurred while extracting $fileName in $LOCALTMPDIR: $out	Failure to execute the timestamp retrieval pro-cess on the *.RNCpm file	Verify that the local DAT server has enough space to perform this operation
	Error occurred while creating gzip file $LOCALTMPDIR/ $fileName.gz : $out	Failure to create the gzip file $LOCALTMPDIR/ $fileName.gz	Verify that the local DAT server has enough space to perform this operation
	Error occurred moving file $LOCALTMPDIR/ $fileName.extract to $LOCALDIR: $out	Failure to move file from $LOCALTMPDIR/$file-Name.gz to $LOCALDIR	Verify that the local DAT server has enough space to perform this operation
rncomdist_rmt.exp	Invalid remote direc-tory: $baseDir	Failed to go to remote directory.	Make sure the remote direc-tory exist.
	Cannot access $baseDir. Permission denied.	Failed to read remote directory.	Make sure the remote direc-tory readable.
	No space in $TEMP-DIR	Not enough space at $TEMPDIR to write data.	Make sure the $TEMPDIR have enough space. Use rncom-spacecalc to cal-culate default required space.

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Connection to host $REMOTEHOST failed	Cannot connect to $REMOTEHOST	Make sure $REMOTEHOST is accessible from DA server.
	No response to password for $EMSUSER	Remote host not response after DA server sent login password.	Make sure connection to $REMOTEHOST is in good health.
	Error occurred while retrieving files from $REMOTEHOST	batchftp.exp failed when retrieving files from REMOTEHOST	Log on to switch and verify all the files exist in $EMS-BASEDIR directory in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
	No candidate RNC configuration is available in DA server and EMS server: $cfgFileName	Failure to find the candidate RNC configuration file from $REMOTE-HOST or from $LOCALDIR	Verify that the configuration file exists on the REMOTEHOST and the DA user has read access to it
	Error occurred while extracting $fileName in $LOCALTMPDIR: $out	Failure to execute the timestamp retrieval process on the *.RNCpm file	Verify that the local DAT server has enough space to perform this operation
	Error occurred while renaming $fn.extract to $fn : $out	Failure to rename temporary extract file to Prospect file	Verify that the file is writable
	Error occurred while zipping $fn in $LOCALDIR: $out	Failure to compress the Prospect file	Verify that the file is writable
	Error occurred while processing file $fileName.$dateStr.*.gz for interval $rncTimeStamp.	Failure to process one of, or all batch file(s) for interval $rncTimeStamp	Verify all the batch files exist, readable and contain good data.
	Error occurred in transferring files to $FLEXPMHOST: $output	Failure to send DA result file to Prospect	Verify Prospect server is up and connected. Verify the target directory is writable.
	Partial data set detected. Will retry until max retry count or complete set is received.	Failure to process one of, or all batch file(s) for interval $rncTimeStamp	Verify all the batch files exist, readable and contain good data.

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
rncomdist_concat.e xp	Unable to copy file $dateStr.dat files from remote directory $baseDir : $errorCode	Failure to copy file from directory $baseDir on $REMOTEHOST to local directory.	Log on to switch and verify the directory/files exist and the DA user has read access to it. Verify that the local DAT server has enough space to copy the file from REMOTEHOST.
	No valid files found	No file match the list of EMSFILELIST.	Log on to EMS server and verify the files exist.
	Error in removing $localfile : $out	Failed to remove the local file that does not match any entry within EMSFILELIST.	Verify the local file does exist.
	Error in creating file $fileName in $LOCALTMPDIR : $out	Failure to create file $fileName on local directory $LOCALTMPDIR	Log on to DA server and verify that directory $LOCALTMPDIR exists and the DA user has read and write access to it. Verify that the local DAT server has enough space.
	Error in deleting $local-File from $LOCALT-MPDIR : $out	Failed to remove the local file that has been appended to the output file.	Verify the local file does exist.
	Error occurred while initializing tmp direc-tory $LOCALTMPDIR : $out	Failure to initialize local directory $LOCALTMP-DIR	Log on to DA server and verify that directory $LOCALTMPDIR exists and the DA user has read and write access to it. Verify that the local DAT server has enough space.
	Error occurred while creating gzip file $LOCALTMPDIR/ $fileName.gz : $out	Failure to create the gzip file $LOCALTMPDIR/ $fileName.gz	Verify that the local DAT server has enough space to perform this operation.
	Error occurred moving file $LOCALTMPDIR/ $fileName.gz to $LOCALDIR	Failure to move file from $LOCALTMPDIR/$file-Name.gz to $LOCALDIR	Verify that the local DAT server has enough space to perform this operation.
	Error occurred in trans-ferring files to $FLEXPMHOST: $out-put	Failure to send DA result file to Prospect.	Verify Prospect server is up and connected. Verify the target directory is writable.

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Error occurred while purging files.	Purging files failed on local machine.	Contact IBM Technical Support for help.
rnccfgdist.exp	Error occurred while retrieving files from $REMOTEHOST	batchftp.exp failed when retrieving files from REMOTEHOST	Log on to switch and verify all the files exist in $EMS-BASEDIR directory in .icf file
	Error occurred while archiving files	Unable to archive files	Check if tar is installed
	Error occurred while compressing file	Unable to compress data file	Check if gzip is installed
	Error occurred while transferring files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
rnccfgdist_concat.exp	Error occurred while retrieving files from $REMOTEHOST	batchftp.exp failed when retrieving files from REMOTEHOST	Log on to switch and verify all the files exist in $EMS-BASEDIR directory in .icf file.
	No RNC found for $EMSNAME	No RNC found from the lookup of ALL_EMS_LIST	Verify $EMSNAME has at least one entry within ALL_EMS_LIST
	Error occurred while compressing file.	Unable to compress data file.	Check if gzip is installed.
	Error occurred while transferring files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file.
	Error occurred while purging files.	Purging files failed on local machine.	Contact IBM Technical Support for help.
	Error occurred copying file $new_f to $rnc.$new_f : $out	Failure to duplicate a copy of $new_f to $rnc.$new_f	Verify that the local DAT server has enough space to perform this.
mtxactlogdist.exp	Connection to $MTXIP failed	Cannot establish connection to the $REMOTE-HOST	Check MTXIP in .icf file
	No response to login for $MTXUSER	No response after sending $USERNAME to host	Check the MTXUSER variable in the .icf file
	No response to password for $MTXUSER	No response after sending password to host	Check the MTXPSWD variable in the .icf file

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Time-out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on BSM to check the format
	No response to logutil	No response after running logutil on the switch	Manually run logutil on the switch to check the system function properly
	File ($files) is zero-sized	Files generated is zero-sized	Verify that the specific logs are defined on the switch
	Error occurred while compressing file	File compression failed on local machine	Contact IBM Technical Support for help
	Error occurred while distributing files	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help
mtxcaplogdist.exp	Connection to $MTXIP failed	Cannot establish connection to the $REMOTE-HOST	Check MTXIP in .icf file
	No response to login for $MTXUSER	No response after sending $USERNAME to host	Check the MTXUSER variable in the .icf file
	No response to password for $MTXUSER	No response after sending password to host	Check the MTXPSWD variable in the .icf file
	Time-out waiting for remote date	Expect script timed out waiting for remote date	Manually run date command on BSM to check the format
	No response to logutil	No response after running logutil on the switch	Manually run logutil on the switch to check the system function properly
	File ($files) is zero-sized	Files generated is zero-sized	Verify that the specific logs are defined on the switch
	Error occurred while compressing file	File compression failed on local machine	Contact IBM Technical Support for help
	Error occurred while distributing files	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	Error occurred while purging files	Purging files failed on local machine	Contact IBM Technical Support for help

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
ntuasdist.exp	Error occurred while retrieving files from $REMOTEHOST	batchftp.exp failed when retrieving files from UAS element manager	Log on to UAS and verify the files exist in $SRCDIR directory. File name: <NodeType>.<Node-Name>.OMs.<Report-Name>.Year.Mon.Date_HR .MN_<TimeZone>.csv
	Error occurred while transferring files to $FLEXPMHOST	batchftp.exp failed when sending files to $FLEXP-MHOST	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file
	$LOCALDIR direc-tory does not exist	$LOCALDIR specified in .icf file does not exist	Make sure the setup script runs correctly
	Error occurred while purging files in $LOCALDIR	Purging files failed on local machine.	Contact IBM Technical Support for help.
bsmviewget.exp	Fail to connect to $BSMIP	Cannot connect to $BSMIP.	Make sure $BSMIP is accessible from DA server and $BSMUSER and $BSMPSWD being config-ure correctly.
	createbase.exp does not exists	No createbase.exp found in the home directory of $BSMUSER in BSM.	Log on to BSM and verify createbase.exp exists within the home directory of $BSMUSER in BSM.
	Error occurred while retrieving file from $BSMIP	batchftp.exp or batchscp.exp failed when retrieving files from BSM	Log on to BSM and verify all the files exist in $BSM-DIR directory in .icf file.
	Error occurred while listing $BDFDIR/arch/ $BDF_TIMESTAMP or $BDFDIR/src/ $BDF_TIMESTAMP	No file matching $BDFDIR/arch/ $BDF_TIMESTAMP or $BDFDIR/src/ $BDF_TIMESTAMP.	Make sure ppcstaget.exp is collecting today files.
	Error occurred while generating $PPCCFG	Cannot generate $PPCCFG.	Make sure generate_cbrs_cfg.pl does exists within $FLEXDAHOME/cfg and have execute permission.
pgmscuspomdist_c nmpass.exp	Failed to retrieve file ($files) from CNM with IP $CNMIP	batchftp.exp or batch-scp.exp failed when retrieving files from CNM.	Log on to CNM and verify all the files exist in $CNM-DIR directory in .icf file.

Table 9:   Error Messages (Continued)

Application	Error	Cause	Action
	Error occurred while compressing file	Unable to compress data file.	Check if gzip is installed.
	Error occurred while transferring files to $FLEXPMHOST	batchftp.exp or batch-scp.exp failed when sending files to $FLEXP-MHOST.	Check FLEXPMHOST, FLEXUSER, FLEXPSWD in .icf file.
	Error occurred while purging files	Purging files failed on local machine.	Contact IBM Technical Support for help.

Appendix B: Network Element Setup

Setting Up the Network Elements

You need to set up the command prompt pattern, and then assign user account permissions for each network element for telnet/SHH and FTP/scp access.

To set up the command prompt pattern

- Make sure you set the command prompt to one of the following patterns:

    `*$<space>`

    `*%<space>`

    `*#<space>`

    `*><space>`

    Where `*` is zero or more of any characters and `<space>` is one space.

To assign additional user account permissions for the MTX

1. To the user account for each MTX, assign execute permission to the following commands:

    `aft`

    `date`

    `table`

    Commands within `table`:

    `list`

    `quit`

2. To the user account for each MTX, assign read permission to the following MTX Configuration Data tables:

    `C7RTESET`

    `C7LKSET`

    `CLLI`

    `CDMACONF`   (CDMA only)

    `CDMACELL`   `(CDMA only)`

    `CELLINV`   `(AMPS/TDMA only)`

```
ADJCELL      (AMPS/TDMA only)

PARTDATA     (AMPS/TDMA only)

PARTDAT2     (AMPS/TDMA only)

PWRCTRL

HOPARMS

VCHINV

CELLULAR

TRKMEM
```

3. To the user account for each MTX, assign read permission to the following MTX Operational Measurements (OM) AFT Definition tables:

```
OMACC

OFCOPT

OFCVAR

OFCENG

OMTAPE

GASINFO

RASLAPPL

DIRPPOOL

DIRPSSYS

IPTHRON

IPHOST

IPNETWRK

IPROUTER

LIUINV

PMLOADS
```

To assign additional user account permissions for the BSM

1. To the user account for each BSM, assign execute permission to the following commands:

```
cliapp
```

2. Within `cliapp`, assign execute permission to the following commands

```
list -rn

shell

script
```

Note: The CSP platform requires BSM user account access.

Appendix C: Management Data Provider (MDP) Statistics Files Setup

This appendix describes how to set up and configure the components of the Management Data Provider (MDP) to provide Passport statistics files.

Note: This description is intended to supplement but not to replace corresponding descriptions found in the following Nortel document:

- *Preside Multiservice Data Manager, Management Data Provider User Guide, 241-6001-309*

Configuring Passport Data Management

The following procedure describes how to configure the Passport data management capability.

To configure Passport data management

1. Log on as the MDP administrator

2. Run the MDP Administration Client

   $ mdpconfig

   A menu containing the following is displayed:

   Configuration Main Menu

   1. Set up billing and/or performance host(s)
   2. Configure Passport Data Management
   3. Passport Statistics Retrieval System (SRS)
   4. Configure DPN Data Management
   5. Configure Vector Data Management
   6. Configure MDP Disk Manager
   7. Configure File Mover
   8. Configure Value Added Data Applications

9. Enable/Disable SNMP traps

10. Get configuration files from another MDP host

11. View Daily Logs

U. Undo changes and exit

S. Save changes and exit

 Select [1-11,U,S]:

3. Select option 2—Configure Passport Data Management.

   a. Choose option "1. Set log level" and enter 4

   b. Select option "3. Conversion of data files"

      Select option "2. Statistics Data"

      Enter Y when prompted.

      Type the field delimiter (:), if you type a different delimiter, the data is not processed correctly

      Enter N when asked if you want to compress the output

      Type 4 as the log level for the BDF converter

       Return to main menu by typing R

4. Select option 6—Configure MDP Disk Manager

   a. Enter the retention time of each data file accordingly.

   b. Enter Y if you want save the changes.

5. In the main menu, type S to save changes and exit.

Passport Statistics Data Flow

The MDP acts as a data server for one or more Passport nodes and does the following:

   • Retrieves binary format statistics files (Passport statistics files) from the Passport nodes

   • Converts the Passport statistics files to Nortel ASCII Bulk Data Format (BDF) files

   • Optionally transfers the BDF files to a downstream customer host.

The data acquisition server retrieves the BDF files from either the MDP or the downstream customer host, depending on the customer configuration, converts the files to Nortel BDFVIEW format, and transfers the converted files to the IBM Prospect Loader. The conversion process is handled by the Passport Statistics Parser program. For more information, see .

Naming Convention for the Passport Statistics File

For the Passport 7000/15000 statistics files, the naming convention is as follows

```
ppc_<dataType>_<YYYYMMDD>T<hhmmss>_<nodeID>_<seqNo>.bdf
```

where

<dataType> is the Passport data type. sta for statistics, acc for accounting, log for command logs.

<YYYYMMDD> is the date the file was opened on the switch

<hhmmss> is the time the file was opened on the switch

<nodeID|nodeName> is the node ID or node name in the Passport switch

<seqNo> is the file sequence number.

For example:

```
ppc_sta_20020926T000003_610_162.bdf
ppc_sta_20020922T180641_481_140.bdf
```

Note: The <nodeID|nodeName> variable is required when you set up Data Acquisition tools.

Using File Mover

The Passport statistics file can be transferred from a remote host by using the File Mover (mdpdump). The File Mover process periodically checks for the arrival of successfully converted files in each dump directory.

If you use File Mover, all files are purged from the MDM host and transferred to the remote host specified. However, if you don't use File Mover, the files are retained in the MDM host dump directory for a period specified in Disk Manager.

Note: When setting up Data Acquisition tools, you need to know the location of the Passport statistics file and the IP address of the host where the files are generated.

Starting File Manager Processes

File Manager processes are controlled by the MDP administration command (mdpadm) and are initially started automatically by mdpconfigd after the MDP is installed and configured.

To start file manager processes

1. Start the MDP administration command

   $ mdpadm start

2. Verify that all the MDP processes have been started.

   $ mdpadm display

Configuring Passport Switches

The file `PassportMap.cfg`, which is usually in `/opt/MagellanMDP/cfg/mdp`, is in ASCII format and is divided into the following two sections:

- Member Definition—contains records that list the node name and corresponding IP address of every Passport node in the network.

  Insert a blank line after each record. These records are in the following format:

  ```
  FMember: <nodename>

  IPAddress: <IP_address>

  NodeID: <node_ID>
  ```

  Where:

  `<nodename>` is a string of 1 to 12 uppercase alpha and numeric characters. This is the official node name of the Passport switch.

  `<IP_address>` is the Internet Protocol address of the Passport switch.

  `<node_ID>` is the nodeID of the Passport node. This is an <u>optional</u> field

- Group Definition—consists of a series of records that map the Passport members to a Passport group. These records have the following format:

  ```
  FGroup: <group_name>

  Member: <nodename>

  .

  .

  .

  Member: <nodename>
  ```

  Where:

  `<group_name>` is a string of 1 to 12 uppercase alpha and numeric characters. A group name must be unique throughout the system.

  `<nodename>` is the node name of the Passport switch that is defined as a member in the Member Definition section.

Sample Configuration File

The following is a sample of a `PassportMap.cfg` file.

```
FMember: SANDIEGO1

IPAddress: 10.16.68.157


FMember: MTX48B2CBRS1

IPAddress: 10.16.68.50


FGroup: PP15K
```

```
Member: SANDIEGO1

Member: MTX48B2CBRS1
```

Setting up the File Prober

The File Prober (`mdprober`) is used to set up proxy FTP sessions to a Passport switch that transfers spooled data files to an MDM host.

To set up the File Prober

1. Define a job in the `crontab` file.

   /opt/MagellanMDP/bin/mdprober -host <hostname>
     -hup <HostUserID Password>
     -data <DataType>
     -g <PassportGroupName>
     -up <PassportUserID Password>
     -files <all>
     -noerase
     -rollover
     -loglevel <4>

   Where:

       `-host` is the name of the MDM host

       `-hup` is the userID and password on the MDM host

       `-data` is the type of data you want to collect (`statistics` for statistics information, `log` for command log information, `alarm` for alarm information)

       `-g` is the group name of the Passport switches

       `-up` is the userID and password of the Passport group or Passport switch

       `-files` is the maximum number of files transferred from a Passport switch

       `-noerase` ensures that the File Prober does not delete the files from the Passport switch after the files have been transferred

       `-rollover` closes open spool files on the Passport and opens new spool files before transferring the closed files to the MDM

       `-loglevel` specifies the level of logs reported.

Sample cron Job

The following is a sample of the **cron** job.

```
0 * * * * /opt/MagellanMDP/bin/mdprober -host mdmhost -hup mdmuser pswd \

       -data statistics -g pp15k -up ppuser pswd -files all \

       -rollover -loglevel 4
```

```
0,30 * * * * /opt/MagellanMDP/bin/mdprober -host mdmhost -hup mdmuser pswd \

        -data statistics -g pp15k -up ppuser pswd -files all \

        -rollover -loglevel 4
```

Important: How often the File Prober (`mdpprober`) **cron** job runs determines how available the Passport statistics file is. Make sure you set the **cron** job to run every hour or half-hour. Always specify the the `-rollover` option so that files in the Passport switch are closed at the specified **cron** job period. The period you specify in the **cron** job is used when you set up the Data Acquisition tools.

Care must be taken when using the `-noerase` option. This option causes the transferred statistics file to be retained in the Passport switch. Because `mdpprober` retrieves all closed statistics files, make sure that the `-noerase` option is not specified.

However, if a secondary MDP is used, you can specify the `-noerase` and `-rollover` option in the primary MDP and then schedule `mdpprober` in the secondary MDP at a later time, making sure not to specify the `-noerase` and `-rollover` options.

Appendix D: Automatic File Transfer (AFT) Software Setup

This appendix describes how to set up the automatic file transfer (AFT) software, which enables the MTX to transfer files to the data acquisition server.

Note: Portions of this description are intended to supplement but not replace corresponding descriptions found in the following Nortel documents:

- *Automatic File Transfer Application Guide, 411-2131-205*
- *Basic Administration Procedures, 297-1001-300*
- *Ethernet Interface Unit User Guide, 297-8991-910.*

Setting Up the AFT Software

The MTX is configured to route OM records to the DIRP subsystem. The DIRP subsystem is configured to make the OM records available to the AFT software. The AFT software is configured to transfer the OM to the data acquisition server using the Ethernet EIU hardware. The configuration process is as follows:

1. Define the EIU hardware.

2. Specify the EIU link and protocol information.

3. Define the DIRP OM subsystem.

4. Define the OM reporting class.

5. Start the AFT session.

6. Enable the OM reporting class.

This section provides the step-by-step procedure for setting up the EIU card(s), the AFT software, the DIRP, and the OM on the MTX. For steps that involve editing a table on the MTX, a sample listing of that table's modified contents is provided.

To set up AFT and its associated components

1. Define the node type and instance of the MTX by data filling the NODE parameter in table
    OFCENG as shown in the following example:

    ```
    Table:  OFCENG
    -----------------------
    NODE    FOREIGN    0
    ```

2. Identify the EIU card(s) hardware to the MTX CM by data filling table LIUINV as shown in
    the following example:

    ```
    Table: LIUINV
    -------------
    LIUNAME      LOCATION    LOAD        PROCINFO
                                                     CARDINFO
    ----------------------------------------------------------------
    EIU   1   LIM  0 2 22  ECS09CK         NTEX22BB
                                  NT9X84AA NT9X85AA  NO 000075F03080
    EIU   2   LIM  0 3 16  ECS09CK         NTEX22BB
                                  NT9X84AA NT9X85AA  NO 000075F03081
    EIU   3   LIM  0 1 18  EDS09CK         NTEX22CA
                                  NT9X84AA NT9X85AA  NO 000075F03082
    EIU   4   LIM  0 3 28  EDS09CK         NTEX22CA
                                  NT9X84AA NT9X85AA  NO 000075F03083
    ```

3. Indicate link and protocol information for the EIU card(s) by data filling tables IPNETWRK,
    IPROUTER, IPHOST, and IPTHRON as shown in the following examples:

    ```
    Table: IPNETWRK
    ---------------

    KEYREF        CMIPADDR SUBNET                          OPTION
                                PARMAREA
    ----------------------------------------------------------------
    0      153 114  25  18      8        (    EIU   1) (    EIU   2)$
                                         (         SCRNFLAG N)$
    ```

    In the previous example, the contents of field CMIPADDR is the TCP/IP host address of the
    MTX to which the IBM Prospect AFT client connects.

    ```
    Table: IPROUTER
    ---------------
    RKEY          ROUTER        SNIPADR        ETHIPADR ETHARP ETHPARP
    ----------------------------------------------------------------
    1             EIU   1 153 114  25  16 153 114 104 215    YES     YES
    2             EIU   2 153 114  25  17 153 114 104 216    YES     YES
    ```

```
3               EIU   3 153 114   25   14 153 114   81    9      YES        YES
4               EIU   4 153 114   25   15 153 114   81   10      YES        YES


Table: IPHOST
-------------
INDEX NODENAME                                                         NODEINFO
------------------------------------------------------------------------------
0       CM   0                                        32      8     8
1       EIU   1 153 114   25   16
                              153 114 104 215    32      8     8
2       EIU   2 153 114   25   17
                              153 114 104 216    32      8     8
3       EIU   3 153 114   25   14
                              153 114   81    9    32      8     8
4       EIU   4 153 114   25   15
                              153 114   81   10    32      8     8


 Table: IPTHRON
 --------------
LMSNODE TXCAPCT RXCAPCT    OPTION
-------------------------------------
EIU  1  40        40          $
EIU  2  40        40          $
EIU  3  40        40          $
EIU  4  40        40          $
```

Nortel recommends a setting of 40 kB/sec for IPTHRON parameters TXCAPCT and RXCAPCT, which control the IP transmit and receive throttle rate. However, performance problems could prevent hourly DIRP files from being transferred within one hour, which, in turn, could cause DIRP file collection to fall increasingly behind. In this case, increasing TXCAPCT and RXCAPCT up to their maximum value of 32767 might reduce the transmission time for individual files to one hour or less.

4. Configure the DIRP system by data filling tables DIRPPOOL and DIRPSSYS as shown in the following examples:

```
Table: DIRPPOOL
---------------
POOLNO POOLNAME POOLTYPE DEVTYPE  VOLUME0   VOLUME1   VOLUME2   VOLUME3
 VOLUME4   VOLUME5   VOLUME6   VOLUME7   VOLUME8   VOLUME9 VOLUME10 VOLUME11
VOLUME12 VOLUME13 VOLUME14 VOLUME15 VOLUME16 VOLUME17 VOLUME18 VOLUME19
VOLUME20 VOLUME21 VOLUME22 VOLUME23
------------------------------------------------------------------------------
    2      OM   REGULAR    DISK F17LOM12 F02LOM12 F17LOM11 F02LOM11
```

```
F17LOM10 F02LOM10  F17LOM9  F02LOM9  F17LOM8  F02LOM8  F17LOM7  F02LOM7
 F17LOM6  F02LOM6  F17LOM5  F02LOM5  F17LOM4  F02LOM4  F17LOM3  F02LOM3
 F17LOM2  F02LOM2  F17LOM1  F02LOM1
```

In the previous example, the POOLNAME (OM) is used to index into table DIRPSSYS shown in the following example entry. The device type is DISK, indicating that OM records should be stored on disk in the specified disk volume names.

```
Table: DIRPSSYS
---------------
SSYSNAME READRITE NUMFILES MINFILES POOLNAME         FILENAME ALARM0
ALARM1
  ALARM2 ALARM3 RETPD CRETPD PARLPOOL PARCONC MANDPALM FILEDATE SHEDDAYS
  SHEDBASE SHEDINCR ROTACLOS AUTOXFER SPACROTE MAXDFSIZ PRIORTIO
  ------------------------------------------------------------------
-----
     OM       Y      2      1      OM              $    CR    MJ
    NA      NA     1      1      $       N      NA FIRSTACT YYYYYYY
       0      X1    BOTH    FULL       N      64      Y
```

5. Indicate the PM load for the XPM by data filling table PMLOADS as shown in the following example:

```
Table: PMLOADS
-------------
 LIUNAME    LOCATION     LOAD         PROCINFO
                                             CARDINFO
 -----------------------------------------------------------
 EIU   1   LIM  0 2 22  ECS09CK        NTEX22BB
                              NT9X84AA NT9X85AA  NO 000075F03080
 EIU   2   LIM  0 3 16  ECS09CK        NTEX22BB
                              NT9X84AA NT9X85AA  NO 000075F03081
 EIU   3   LIM  0 1 18  EDS09CK        NTEX22CA
                              NT9X84AA NT9X85AA  NO 000075F03082
 EIU   4   LIM  0 3 28  EDS09CK        NTEX22CA
                              NT9X84AA NT9X85AA  NO 000075F03083
```

The LOAD parameter name specified in table LIUINV is used to index into the table PMLOADS after switch upgrades to automatically update the EIU.

6. Identify the network connection and map the file transfer session to an EIU by data filling table RASLAPPL as shown in the following example:

```
Table: RASLAPPL
```

```
--------------
NETCON    APTYPE BUFFSIZE NUMBUFFS
                                                  ACSINFO
-----------------------------------------------------------
OMAFT       AFT    2048       1
                              TLI S 7531 153 114  25  18
```

Table RASLAPPL maps the AFT session to a data link. The IP address specified in the ACSINFO field of table RASLAPPL should be the same IP address as was specified in the CMIPADDR parameter in table IPNETWRK. This IP address and port number are used by the IBM Prospect AFT client to connect to the AFT server running on the MTX.

7. Indicate the data transfer type and configure the subsystems by data filling table GASINFO as shown in the following example:

```
Table: GASINFO
-------------
GASKEY                               SPECS
-------------------------------------------
 OMAFT AFT   OM          $ 1 15 FOREIGN  0
```

Table GASINFO maps the link defined in table RASLAPPL to the DIRP OM subsystem. The GASKEY value specified in table GASINFO should be the name entered for the NETCON field in table RASLAPPL, and the subsystem name portion of the SPECS field must be OM.

8. Specify the OM transfer period as shown in the following examples:

```
Table: OFCENG
-------------
OMXFR    X30
```

The OMXFR parameter of table OFCENG specifies the interval marker for transferring active registers to holding registers and IPC active registers to CM active registers. This parameter fixes the IPC OM records interval time skew, which must be subtracted from all IPC OM records interval values to obtain the correct interval value.

```
Table: OFCOPT
-------------
OMHISTORYON N
```

The value of this parameter in table OFCOPT must be N or the OMXFR in table OFCENG is ignored.

9. Instruct the system to transfer only D records that are in use as shown in the following example:

```
Table: OFCENG
-------------
OMTAPESUPPRESSION    Y
```

It is important to set this parameter to Y. If the value of this parameter is N, then the number of D records equals the number of tuples that the system allocates for this group (1 to 16384), and the volume of data transferred is greatly increased.

10. Instruct the system to transfer only D records that are in use as shown in the following example:

```
Table: OFCENG
-------------
TAPEXLATE    ASCII
```

This parameter determines the character code used in the DIRP OM file records, and the parameter must be set to ASCII for the MTX OM parser.

11. Define an accumulating class but do not enable the class as shown in the following example:

```
Table: OMACC
------------
CLASS       ENABLED PRCSN      WHEN
----------------------------------
OMREPORT    N    DPRECISION    AUTO
```

12. Add OM groups to the defined class as shown in the following example:

```
OMACCGRP command
```

13. Route the class report to DIRP as shown in the following example:

```
Table: OMTAPE
------------
NUMBER ACTIVE    CLASS          WHEN
--------------------------------------
0      Y         OMREPORT       AUTO
```

14. Set the tape archives office parameter option value as shown in the following example:

```
Table: OFCVAR
-------------
AFT_REMOVE_COPY_TO_TAPE   Y
```

Specifying the value `Y` for this parameter allows DIRP files that have not been archived to tape to be automatically purged.

15. Start an AFT session as shown in the following example:

```
CI: RASL
RASLSTART net_conn
QUIT ALL
```

The value specified for `net_conn` should match the value in the `net_conn` field in table `RASLAPPL` (`OMAFT` in the provided example).

```
CI: AFT
STARTAFT
QUIT ALL
```

16. Enable the accumulating class and start data accumulation as shown in the following example:

```
Table: OMACC
------------
CLASS       ENABLED PRCSN      WHEN
----------------------------------
OMREPORT    Y    DPRECISION    AUTO
```

Appendix E: Command Reference for Data Acquisition Processes

This appendix describes the commands for the following data acquisition processes:

- The AFT Reader, which is the user interface for the AFT software running on the MTX. See Appendix D: Automatic File Transfer (AFT) Software Setup on page 97.
- The MTXOM Parser, which converts MTXOM data files to the format expected by the IBM Prospect Loader.

The AFT Reader

The AFT Reader is the user interface to the AFT software. See Appendix D: Automatic File Transfer (AFT) Software Setup on page 97.

Command Description

The command syntax is as follows:

```
nt_aft_reader [options] <port>[:tcp]@<host> <destdir>
```

Options

Option	Description
[-h]	Displays a list of options and arguments.

[-d debug]	Debug message level (default is 0):
	    0 = none
	    1 = debug, but no data dumps
	    2 = debug with data dumps
	    3 = debug with data and protocol dumps

[-L lfc]	Enable LFC logging based on template: <dir>,<prefix>,<ext>,<span>,<space>,<keep>

Option	Description
[-n name]	Process identifier (for file logging)
[-s stats]	Statistics reporting interval, in seconds (default is 1800) 0=never
[-w datawd]	Incoming data watchdog timer interval, in seconds (default is 5400). 0=never

Arguments

Argument	Description
<port>[:tcp]@host	AFT server port address
<destdir>	Destination directory in which transferred AFT files are recreated

The MTXOM Parser

The MTXOM Parser enables the MTX to transfer OM records stored by the MTX Device Independent Recording Package (DIRP) subsystem to the data acquisition server. The files are converted to the format expected by the IBM Prospect Loader.

The file transfer takes place over an Ethernet/TCP/IP interface using Nortel Automatic File Transfer (AFT) software and Nortel Ethernet Interface Unit (EIU) hardware.

Command Description

The command syntax is as follows:

```
nt_mtxom_parse -[options] <element> <input_source> <output_dest> <output fail>
```

Options

Option	Description
[-b size]	Input buffer size (bytes, Def. 4096).
[-C config]	Configuration file location. For more information about this option, see Using the -C Flag on page 108.
[-d]	Enable debug messages.
[-h]	Displays a list of options and arguments.
[-L template]	Enable LFC logging based on template: \<dir\>,\<prefix\>,\<ext\>,\<span\>,\<space\>,\<keep\>
[-m dir]	Move/archive processed input files to \<dir\>.
[-n id]	Process identifier. For more information about this option, see Using the -n Flag on page 108.
[-o n]	Skip n bytes of source input (bytes, Def. 0).
[-p poll]	Polling interval (seconds, Def. 5).
[-s stats]	Statistics interval (seconds, Def. 300).
[-z]	Print raw and parsed record sizes.

Arguments

Argument	Description
\<element\>	Network element ID.

Argument	Description
<input_source>	Input source directory.
<output_dest>	Output `ok` directory.
<output_fail>	Output `fail` directory.

Using the -C Flag

The `nt_mtxom_parse` program requires this option to provide:

- The location of the required description file for the parser included OM groups, for example:

  `nt_mtxom_parse -C cfg/omgroups.cdma`

- The number of OM groups, for example:

  `nt_mtxom_parse -C :337`

  Specifying the number of OM groups in this manner enables parser support for additional MTX OM groups introduced by a switch upgrade without the need to upgrade the `nt_mtxom_parse` program.

- You must specify both the location of the alternative description file for the parser included OM groups and the number of OM groups, for example:

  `nt_mtxom_parse -C cfg/omgroups.cdma:337`

Using the -n Flag

The `-n` flag specifies a process-identifier string to be used in messages displayed by the parser. The format is as follows:

`-n <string>:<class_list>`

You can optionally follow <string> by :<class_list>, which includes a class-list name that represents a comma-separated list of upper-case class names that the parser should format and output.

If you do not specify a <class_list>, the default is to output all classes that are present in the input data.

For example:

`nt_mtxom_parse -n SF_MSC1:OMREPORT`

This example uses process-identifier string `SF_MSC1` in all parser messages, and only formats and outputs data for OM class `OMREPORT`.

MTX Versions Supported

The following table provides OM group counts for various MTX versions and patches:

Table 10: MTX Versions Supported

Versions	OM Group Count
MTX CDMA Release 9 standard and patch levels 1, 2	323 325 328
MTX CDMA Release 10 standard and patch levels 1, 2	335 336 337
MTX CDMA Release 11 standard	TBD
MTX TDMA Release 9 standard	303
MTX CDMA Release 12 standard	TBD

The OM Group Description File

You must use the `-c` flag to specify the OM group description file, which contains one-line descriptions of each group for which the parser process provides formatted output. The lines contain the blank- or tab-delimited fields described in the following table.

Table 11: OM Group Description File Fields

Field	Description
Name	The name of the OM group
Key	Indicates if this group has a key. (1=yes or 0=no) When you run the command `omshow [tablename]` on the MTX and the header output contains a key entry, set the `Key` field to 1. Only MTX tables that are not populated under the system level have the value 1. If you have difficulties determining what the value of this field should be, contact your customer support representative.
ICP-Skew	Indicates if this group has ICP time skew (1=yes or 0=no) ICP-Skew is generally 0 unless the OM group name contains ICP as part of its name.

After you make changes to an OM group description file, you need to run `flexda stop`, then `flexda start`, in order for the parser to see the new information.

Sample OM Group Description File

The following is the provided OM group description file, `omgroups.cdma`:

Note: Description file lines beginning with `#` are treated as comments.

```
##
```

```
#     Supported Nortel CDMA/TDMA/AMPS Switch OM Groups Description
#
#     The parser uses descriptions in this file to format OM group
#     data records.  Formatted OM group records are output if and
#     only if data is encountered for the group, and there is a valid
#     entry for the group in this file.
#
#     Name      Key  ICP-Skew
#
      ANN       1    0
      BRSTAT         0    0
      C7LINK1        1    0
      C7LINK2        1    0
      C7LINK3        1    0
      C7LKSET        1    0
      C7ROUTE        1    0
      C7RTESET  1    0
      CALLMIX        0    0
      CAUARSCT  1    0
      CAUAUTH        1    0
      CAUCPFRQ  1    0
      CAUCPSCT  1    0
      CAUCPSYS  1    0
      CAUDAT3G  1    0
      CAUDATSC  1    0
      CAUDATSY  1    0
      CAUFRQ3D  1    0
      CAUFRQ3V  1    0
      CAURM          1    0
      CAUSCT3D  1    0
      CAUSCT3V  1    0
      CAUXTFRQ  1    0
      CAUXTF3D  1    0
      CAUXTF3V  1    0
      CDMAIVSN  1    0
      CDMAOAM        0    0
      CDMAPDOM  0    0
      CDMAPDSO  0    0
      CDMAPGZN  0    0
      CDMAVSO        1    0
      CDSNMQRY  1    0
#
## 12/10/2002 -- Comment out these groups with known loader issue for CDMA
## systems until the issue can be resolved.  TDMA/AMPS systems can safely
```

```
## uncomment these groups, because the issue only affects CDMA systems.
#
#    CIBEROM       1    0
#    CIBEROM2  1    0
     CIUPROST  1    0
     CP        1    0
     CPUSTAT       0    0
     DCCICPCP  1    1
     HODACNTR  1    0
     HODCCNTR  1    0
     ICPAUTH       1    1
     ICPBER        1    1
     ICPCA         1    1
     ICPCELTR  1    1
     ICPCP         1    1
     ICPCP2        1    1
     ICPDCP        1    1
     ICPDFC        1    1
     ICPDHO        1    1
     ICPFC         1    1
     ICPHO         1    1
     ICPHO2        1    1
     ICPOVLD       0    1
     ICPOVLD2  0    1
     LPICHUSG  1    1
#
## 12/10/2002 -- Comment out groups with known loader issue for CDMA
## systems until the issue can be resolved.  TDMA/AMPS systems can safely
## uncomment these groups, because the issue only affects CDMA systems.
#
#    MAHOCAND  1    0
#    MAHOCMPT  1    0
#    MASUMCAN  1    0
#    MASUMSRV  1    0
     MPICHUSG  1    1
     MTXDCALL  1    0
     MTXHLR        0    0
     MTXNWKIC  1    0
     MTXNWKOG  1    0
     MTXOVLD       0    0
#
## 12/10/2002 -- Comment out groups with known loader issue for CDMA
## systems until the issue can be resolved.  TDMA/AMPS systems can safely
## uncomment these groups, because the issue only affects CDMA systems.
```

```
#
#    MTXPC1          1    0
#    MTXPC2          1    0
#    MTXPC3          1    0
#    MTXPC4          1    0
#    MTXPC5          1    0
#    MTXPC6          1    0
#    MTXPC7          1    0
#    MTXPC8          1    0
     MTXSMS          1    0
     MTXSYS1         0    0
     MTXSYSX         0    0
#
## 12/10/2002 -- Comment out groups with known loader issue for CDMA
## systems until the issue can be resolved.  TDMA/AMPS systems can safely
## uncomment these groups, because the issue only affects CDMA systems.
#
#    MTXZONPG  0    0
     NWKIC2          1    0
     NWKIC3          1    0
     NWKICX          1    0
     NWKOG2          1    0
     NWKOG3          1    0
     NWKOGX          1    0
     OFZ       0    0
     OFZ2      0    0
     OMMTX           1    0
     OMMTX2          1    0
     OMMTX3          1    0
     OMMTXHO         1    0
     OMMTXHO2  1    0
     OMMTXSY2  0    0
     OMMTXSYS  0    0
     PM        1    0
     RMU3G           0    0
     SMRSICAN  1    0
     SMRSISRV  1    0
     STORE           0    0
     TLDNPOM         0    0
     TRK       1    0
     TRMTFR          0    0
     TRMTFR2         0    0
     TRMTRS          0    0
     UTR       1    0
```

```
#
# 05/27/2003 -- Added the following for MTX12 Support.
#
     LCSSYS          0    0
     MTXOMTRK  1     0
     CAUCSDCP  0     0
     CDMAPAGE  1     0
     TDPIC1          1    0
     TDPOG1          1    0
     XASTAT          0    0
#
```

The Passport Statistics Parser

The Passport Statistics Parser converts Passport source BDF files to the format expected by the
IBM Prospect Loader.

Command Description

The program command is structured as follows:

```
nt_ppcsta_parse -[options] <id> <input_source> <output_destination>
```

Running the following help command displays a definitions list of options and arguments:

nt_ppcsta_parse -h

```
Options:

    [-b size]       Input buffer size (bytes, default 4096).

    [-n id]         Process identifier.

    [-o n]          Skip n bytes of source input (bytes, default 0).

    [-p poll]       Polling interval (seconds, default 5).

    [-s stats]      Statistics interval (seconds, default 300).

    [-m dir]        Move/archive processed input files to <dir>.

    [-C config]     Configuration information.

    [-d]            Enable debug messages.

    [-z]            Print raw and parsed record sizes.

    [-L template]   Enable LFC logging based on template:

                         <dir>,<prefix>,<ext>,<span>,<space>,<keep>
```

```
Arguments:

    <element>      Network element id.

    <input_source>   Input source directory.

    <output_dest>    Output ok directory.

    <output_fail>    Output fail directory.
```

The Network Element ID Argument

A separate parser process is run for each Passport switch from which statistics are to be collected. The node ID for the Passport switch from which statistics are to be collected is provided as the last component of the network element ID argument.

The network element ID argument must be specified as follows:

```
<mscid>.<bsmid>.<cbrsid>.<nodeid>
```

where:

`<mscid>` is the Nortel switch ID associated with this Passport switch

`<bsmid>` is the Nortel BSM ID associated with this Passport switch

`<cbrsid>` is the Nortel CBRS id of the Passport switch

`<nodeid>` is the Nortel node id of the Passport switch. This must be the node ID given in the statistics file names.

Using the -C flag

The -C flag is required to provide information needed by the parser process to format input statistics files. This flag is specified as follows:

```
-C <rfile>:<delch>:<cfile>
```

where:

`<rfile>` is the location of the Passport statistics RDF file

`<delch>` is the delimiter character used in the Passport source BDF file. This may be specified as the character's hexadecimal representation using the format `0xnn`.

`<cfile>` is the Passport configuration file specifying the functional processor card type and slot number associated with each provisioned interface.

The following sections describe these files.

Record Description File (RDF)

The attribute name associated with each BDF record field is provided by a Nortel Passport statistics record description (RDF) file. The location of this file is provided to the parser by using the `-C` flag. It is recommended that RDF files of all different MTX versions be placed in the `$FLEXDAHOME/cfg` directory.

The naming convention for the RDF file is as follows:

```
<MTX_version>.pp_sta.rdf
```

where

```
<MTX_version> =15,16,17,18
```

An example file name is as follows:

```
16.pp_sta.rdf for MTX16
```

Sample RDF File

The following is a section from a sample RDF file:

```
#====================================================================
#= RDF file: ppc_sta.rdf
#====================================================================


_name: switchType

_type: _S:


_name: dataType

_type: _S:


_name: componentName

_type: _c:


_name: timeOfRecord

_type: _t:


_name: customerIdentifier

_type: _I:
```

```
_name: porsNormPktFromIf

_type: _LI:


_name: porsNormDiscUnforwardFromIf

_type: _LI:


_name: porsNormOctetFromIf

_type: _LI:


_name: porsIntPktFromIf

_type: _LI:


_name: measuredSpeedToIfMin

_type: _LI:


_name: measuredSpeedToIfCurrent

_type: _LI:


_name: measuredRoundTripDelayMax

_type: _I:
```

The Source BDF File

The source BDF files contain newline-separated statistics records for the Passport switch. Each record consists of a fixed number of fields that are delimited using a character that is configurable on the Nortel MDP. The value of this delimiter character is provided to the parser by using the -c flag. Each BDF record field contains a value associated with a statistics record attribute.

The naming convention for the source BDF file is as follows:

```
<ne_type>_<data_type>_<yyyymmddThhmmss>_<nodeid>_<seqno>.bdf
```

where

`<ne_type>` = ppc

`<data_type>` = sta

`<yyyymmddThhmmss>` = file creation date

`<nodeid>` = passport switch node ID

`<seqno>` = 3-digit sequence number

An example file name is as follows:

```
ppc_sta_20021021T100001_610_711.bdf
```

Sample Source BDF File

The following is a section from a sample source BDF file:

```
ppc:sta:(EM/MTX48B2CBRS1 LogicalProcessor/
2):20021017T101500.000811:0::::::::::::::::::::::::::::::::2:2:0:0:1:(0,0)(1,262144)
(2,0):(0,0)(1,34815)(2,0):(0,0)(1,34815)(2,0):(0,0)(1,34815)(2,0):5682:0:0:0:
256:1:1:6:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
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:::::::::::::::::::::::::::::::::::::

ppc:sta:(EM/MTX48B2CBRS1 LogicalProcessor/
4):20021017T101500.001019:0::::::::::::::::::::::::::::::::4:2:0:0:1:(0,0)(1,262144)
(2,0):(0,0)(1,34814)(2,0):(0,0)(1,34814)(2,0):(0,0)(1,34814)(2,0):5682:0:0:0:
256:1:1:5:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
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:::::::::::::::::::::::::::::::::::::
```

The Passport Configuration File

Each statistics record provides measurements for a particular interface component provisioned on the Passport switch. A Passport configuration file is generated from the CBRS View file everyday for each of the CBRS. This enables the parser process to add information to each

statistics record about the functional processor card type and slot number associated with the statistics record interface component. The name of this file is provided to the parser by using the -C flag.

The Passport configuration file contains one-line descriptions of each provisioned interface component. The lines contain the blank or tab-delimited fields described in Table 12:

Table 12: Field Description - Passport Configuration File

Field	Description
slot	The slot number for the primary functional pro-cessorcard on which the interface is provisioned
cardType	The functional processor card type. This must be one of the following Nortel cards: CP 4pOC3 11pMSW 24pBCNW 16pOC3 12pDS3 DSFP-D PCUFP PDSN BISC 6mAppS 24pBCN CPeD
components	A provisioned interface component for this card/slot

Sample Generated Passport Configuration File

The following is a sample Passport configuration file that is automatically generated by the expect bsmviewget.exp. This file is essential for the pre-parsing of the bdf files by the ppc_sta parser program.

```
VERSION 16

#

# slot    cardType    components


  0     CP          LogicalProcessor/0

  1     CP          LogicalProcessor/1
```

```
2       11pMSW      LogicalProcessor/2

3       11pMSW      LogicalProcessor/3

2       11pMSW      CiuBcnIf/0

2       11pMSW      CiuBcnIf/1

2       11pMSW      CiuBcnIf/2

2       11pMSW      CiuBcnIf/3

2       11pMSW      BtsBcn/29

2       11pMSW      BssmBcnIf/1

2       11pMSW      BssmBcnIf/2


4       11pMSW      LogicalProcessor/4

5       11pMSW      LogicalProcessor/5

4       11pMSW      CiuBcnIf/8

4       11pMSW      CiuBcnIf/9

4       11pMSW      BtsBcn/30

4       11pMSW      DiscoBcnIf/1

4       11pMSW      DiscoBcnIf/2


6       24pBCNW     LogicalProcessor/6

7       24pBCNW     LogicalProcessor/7

6       24pBCNW     SbsBcn/(33,0)

6       24pBCNW     SbsBcn/(33,1)


8       11pMSW      LogicalProcessor/8

9       11pMSW      LogicalProcessor/9

8       11pMSW      CiuBcnIf/4

8       11pMSW      CiuBcnIf/5
```

```
8        11pMSW       CiuBcnIf/6

8        11pMSW       CiuBcnIf/7

8        11pMSW       BtsBcn/31

8        11pMSW       DiscoBcnIf/3

8        11pMSW       DiscoBcnIf/4


10       11pMSW       LogicalProcessor/10

11       11pMSW       LogicalProcessor/11

10       11pMSW       BtsBcn/17


12       4pOC3        LogicalProcessor/12

13       4pOC3        LogicalProcessor/13

12       4pOC3        IsshoBcnIf/1


14       24pBCNW      LogicalProcessor/14

15       24pBCNW      LogicalProcessor/15

14       24pBCNW      SbsBcn/(33,2)

14       24pBCNW      SbsBcn/(33,3)
```

Sample Parser Output File

The following is a sample of the parser output file, which contains the source BDF files converted into the format expected by the IBM Prospect Loader:


```
+++Record #: 1

switchType  ppc

dataType  sta

cardName:  (11pMSW/2)

componentName  (EM/MTX48B2CBRS1 LogicalProcessor/2)

timeOfRecord  20021017T101500.000811
```

```
customerIdentifier  0

cardNumber  2

cardStatus  2

cpuUtilAvg  0

cpuUtilAvgMin  0

cpuUtilAvgMax  1

memoryCapacity  (0,0)(1,262144)(2,0)

memoryUsageAvg  (0,0)(1,34815)(2,0)

memoryUsageAvgMin  (0,0)(1,34815)(2,0)

memoryUsageAvgMax  (0,0)(1,34815)(2,0)

sharedMsgBlockCapacity  5682

sharedMsgBlockUsageAvg  0

sharedMsgBlockUsageAvgMin  0

sharedMsgBlockUsageAvgMax  0

localMsgBlockCapacity  256

localMsgBlockUsageAvg  1

localMsgBlockUsageMin  1

localMsgBlockUsageMax  6


+++Record #: 2

switchType  ppc

dataType  sta

cardName:  (11pMSW/4)

componentName  (EM/MTX48B2CBRS1 LogicalProcessor/4)

timeOfRecord  20021017T101500.001019

customerIdentifier  0

cardNumber  4

cardStatus  2
```

```
cpuUtilAvg  0

cpuUtilAvgMin  0

cpuUtilAvgMax  1

memoryCapacity  (0,0)(1,262144)(2,0)

memoryUsageAvg  (0,0)(1,34814)(2,0)

memoryUsageAvgMin  (0,0)(1,34814)(2,0)

memoryUsageAvgMax  (0,0)(1,34814)(2,0)

sharedMsgBlockCapacity  5682

sharedMsgBlockUsageAvg  0

sharedMsgBlockUsageAvgMin  0

sharedMsgBlockUsageAvgMax  0

localMsgBlockCapacity  256

localMsgBlockUsageAvg  1

localMsgBlockUsageMin  1

localMsgBlockUsageMax  5


+++Record #: 3

switchType  ppc

dataType  sta

cardName:  (CP/0)

componentName  (EM/MTX48B2CBRS1 LogicalProcessor/0)

timeOfRecord  20021017T101500.006116

customerIdentifier  0

cardNumber  1

cardStatus  1

cpuUtilAvg  1

cpuUtilAvgMin  1

cpuUtilAvgMax  1
```

```
memoryCapacity  (0,0)(1,262144)(2,0)

memoryUsageAvg  (0,0)(1,39127)(2,0)

memoryUsageAvgMin  (0,0)(1,39127)(2,0)

memoryUsageAvgMax  (0,0)(1,39127)(2,0)

sharedMsgBlockCapacity  2048

sharedMsgBlockUsageAvg  0

sharedMsgBlockUsageAvgMin  0

sharedMsgBlockUsageAvgMax  0

localMsgBlockCapacity  768

localMsgBlockUsageAvg  2

localMsgBlockUsageMin  2

localMsgBlockUsageMax  7
```

Appendix F: The Monitoring Process Configuration File

The `<hostname>`.mon file is used to configure the monitoring process and is located in the `$FLEXDAHOME/cfg` directory. This configuration file is organized hierarchically.

The `<hostname>`.mon file is automatically generated at setup. If your setup configuration changes, you first need to change the host configuration files as described in <u>The Host Configuration File</u> on page 23, and then run the `setconfig.ksh` script

Starting the Monitoring of a Particular Switch

The process

```
$ monitor -d <hostname>.mon
```

invoked by the startup command

```
$ flexda start <group_name> <switch_name>
```

is used to monitor and control the parser processes.

If you have recently modified omgroups.*<technology>*, you need to stop and restart the parser in order for the new omgroups to be recognized.

Sample <hostname>.mon File

The following is a sample `<hostname>`.mon file listing:

```
!

! NORTEL DA MONITOR SCRIPT

!



system.name:               MYHOST
```

```
MYHOST.groups:                 NTMTXOM NTPPCSTA

MYHOST.NTMTXOM.groups:          MTX01 MTX02

*NTMTXOM.MTX01.processes:       READER PARSER

*NTMTXOM.MTX02.processes:       READER PARSER


MYHOST.NTPPCSTA.groups:         MTX01B2CBRS1

*NTPPCSTA.MTX01B2CBRS1.processes:  PARSER




!

! Global Defaults

!


*wait:          10

*retry:         5

*timeout:       30

*delay:         10

*normal:        false



!

! Start the threads in reverse order so that later stages will be ready and

! waiting for earlier stages.

!


*READER.start:          2

*PARSER.start:          1
```

```
*READER.down:              2

*PARSER.down:              1



!

! Allow infinite retries for all readers.

!



*READER.retry:            -1



!

! NTMTXOM MTX01

!



*NTMTXOM.MTX01.READER.program: nt_aft_reader

*NTMTXOM.MTX01.READER.argv: \

    -n NY_MTX01 -w 1800 \

    -L log/ny_mtxmtx01/om/get,aft.,.log,1440,800000,40 \

    30001@99.99.99.99 \

    data/ny_mtxmtx01/om/src



*NTMTXOM.MTX01.PARSER.program: nt_mtxom_parse

*NTMTXOM.MTX01.PARSER.argv: \

    -n NY_MTX01 \

    -b 2048 \

    -L log/ny_mtxmtx01/om/fmt,parse.,.log,1440,800000,40 \

    -m data/ny_mtxmtx01/om/arch \

    -C cfg/omgroups.cdma:337 \

    MTX01 \
```

```
    data/ny_mtxmtx01/om/src \

    data/ny_mtxmtx01/om/dest \

    data/ny_mtxmtx01/om/fail


 !

 ! NTMTXOM MTX02

 !


 *NTMTXOM.MTX02.READER.program: nt_aft_reader

 *NTMTXOM.MTX02.READER.argv: \

    -n NY_MTX02 -w 1800 \

    -L log/ny_mtxmtx02/om/get,aft.,.log,1440,800000,40 \

    30001@99.99.99.99 \

    data/ny_mtxmtx02/om/src


 *NTMTXOM.MTX02.PARSER.program: nt_mtxom_parse

 *NTMTXOM.MTX02.PARSER.argv: \

    -n NY_MTX02 \

    -b 2048 \

    -L log/ny_mtxmtx02/om/fmt,parse.,.log,1440,800000,40 \

    -m data/ny_mtxmtx02/om/arch \

    -C cfg/omgroups.cdma:337 \

    MTX02 \

    data/ny_mtxmtx02/om/src \

    data/ny_mtxmtx02/om/dest \

    data/ny_mtxmtx02/om/fail


 !
```

```
! NTPPCSTA MTX01B2CBRS1

!


*NTPPCSTA.MTX01B2CBRS1.PARSER.program: nt_ppcsta_parse

*NTPPCSTA.MTX01B2CBRS1.PARSER.argv: \

    -n NY_MTX01B2CBRS1 \

    -b 2048 \

    -L log/ny_ppcmtx01b2cbrs1/sta/fmt,parse.,.log,1440,800000,40 \

    -m data/ny_ppcmtx01b2cbrs1/sta/arch \

    -C cfg/ppc_sta.rdf:::cfg/cbrs.cfg \

    MTX01.1.MTX01B2CBRS1.510 \

    data/ny_ppcmtx01b2cbrs1/sta/src \

    data/ny_ppcmtx01b2cbrs1/sta/dest \

    data/ny_ppcmtx01b2cbrs1/sta/fail
```

Note: A line beginning with an asterisk expands to all levels above the current level.

A line beginning with an exclamation point is part of a comment.

The following are reserved words and should not be used for element names:

```
.name
.groups
.processes
.wait
.retry
.timeout
.delayed
.normal
.start
.down
.program
.argv
```

Stopping the Monitoring of a Particular Switch

You can temporarily stop the monitoring of a particular switch.

To stop the monitoring of a switch

1. Stop the monitor.

    `$ flexda stop <group_name> <switch_name>`

2. To start the monitor again, do the following:

    `$ flexda start <group_name> <switch_name>`

Appendix G: Secure Connections Setup

This appendix describes how to setup secure connections among the Data Acquisition server, IBM Prospect server, and network elements.

Configuring SSH on Remote Network Elements

Perform this task if the Data Acquisition server must have secure connections with remote network elements. This is required if the SECURERETRIEVE parameter in the `icf` file is set to '1' and the PSWD_AUTH parameter is set to 'N'. When this happens, the Data Acquisition server retrieves data from the remote network elements using the `scp` command with key-based authentication.

To set up secure connections with remote network elements do as follows:

1. Log on to the DA server as `flexda`.

2. Run the command ls on the directory .ssh to verify that the directory exists:

    [flexda] `$ ls .ssh`

    If the directory does not exist, an error message is shown and you must create the directory by entering the command:

    [flexda] `$ mkdir .ssh`

3. Go to the `~/.ssh` directory:

    [flexda] `$ cd ~/.ssh`

4. Enter the following command:

    [flexda] `$ ssh-keygen -t rsa`

    Press Enter when prompted for default directory and filename. Leave `passphrase` blank when prompted and press Enter.

5. Log on to the remote network element as a user (`<ne_user>`) that the Data Acquisition tool can access.

6. Run the command ls on the directory .ssh to verify that the directory exists:

    [ne_user] `$ ls .ssh`

    If the directory does not exist, an error message is shown and you must create the directory by entering the command:

    [ne_user] `$ mkdir .ssh`

7. Log off from the remote network element.

8. On the DA server, use FTP to copy the file `id_rsa.pub` in the directory
    <home_directory>`/.ssh` on the network element from which the Data Acquisition
    tool is supposed to collect data.

9. Enter the following command for the remote network element using an authorized user:

    ```
    $ ssh -l <ne_user> <ne_server>
    ```

10. If you receive a message similar to the following type Yes and press Enter:

    ```
    The authenticity of host '<hostname> (<ip>)' can't be established.
    RSA key fingerprint is 54:1d:4b:44:e1:2e:ae:48:b1:34:7f:ee:c5:13:95:85.
    Are you sure you want to continue connecting (yes/no)?
    ```

11. Go to the directory `<home_directory>/.ssh` and use the `cat` command to
    concatenate the content of file `id_rsa.pub` into file `authorized_keys`:

    ```
    $ cd ~/.ssh
    $ cat id_rsa.pub >> authorized_keys
    ```

12. Change the permission of `authorized_keys` to 600 and delete `id_rsa.pub`:

    ```
    $ chmod 600 authorized_keys
    $ rm -f id_rsa.pub
    ```

13. Log off from the remote network element.

14. Repeat Steps 3 through 13 on all other remote network elements from which the Data
    Acquisition tool is supposed to collect data.

Configuring SSH on the IBM Prospect Server

Perform this task if the Data Acquisition server must have secure connections with the IBM
Prospect server. This is required if the SECURERETRIEVE parameter in the `icf` file is set to
'1' and the PSWD_AUTH parameter is set to 'N'. When this happens, the Data Acquisition
server exchanges data with the IBM Prospect server using the `scp` command with key-based
authentication.

To set up secure connections with the IBM Prospect server do as follows:

1. Log on to the DA server as `flexda`.

2. Go to the `~/.ssh` directory:

    ```
    [flexda] $ cd ~/.ssh
    ```

3. The directory should contain a file called `id_rsa.pub.` If not, follow the steps
    documented in [Configuring SSH on Remote Network Elements](#) on page 131.

4. Log on to the IBM Prospect server as user `<prospect_user>`.

5. Run the command ls on the directory .ssh to verify that the directory exists:

    ```
    [prospect_user] $ ls .ssh
    ```

    If the directory does not exist, an error message is shown and you must create the directory
    by entering the command:

```
[prospect_user] $ mkdir .ssh
```

6. Log off from the IBM Prospect server.

7. On the DA server, use FTP to copy the file `id_rsa.pub` in the directory `<home_directory>/.ssh` on the IBM Prospect server on which the OM files are located.

8. Enter the following command for the IBM Prospect server using an authorized user:

    ```
    $ ssh -l <prospect_user> <prospect_server>
    ```

9. If you receive a message similar to the following type Yes and press Enter:

    ```
    The authenticity of host '<hostname> (<ip>)' can't be established.
    RSA key fingerprint is 54:1d:4b:44:e1:2e:ae:48:b1:34:7f:ee:c5:13:95:85.
    Are you sure you want to continue connecting (yes/no)?
    ```

10. Go to the directory `<home_directory>/.ssh` and use the `cat` command to concatenate the content of file `id_rsa.pub` into file `authorized_keys`:

    ```
    $ cd ~/.ssh
    $ cat id_rsa.pub >> authorized_keys
    ```

11. Change the permission of `authorized_keys` to 600 and delete `id_rsa.pub`:

    ```
    $ chmod 600 authorized_keys
    $ rm -f id_rsa.pub
    ```

12. Log off from the IBM Prospect server.

Appendix H: Sample Configuration Files

Sample `emsrnc.cfg`:

```
# EMS_NAME|RNC_ID1,RNC_ID2,RNC_IDX
ems01|rnc01,rnc02
ems02|rnc03,rnc04
```

Note: Add the `EMS_NAME` and related `RNC_ID` to this file only when the file concatenation feature has turned on for that particular EMS. The `EMS_NAME` should match the `SRCID` within the `<host-name>.ntcdma.cfg` as well as the `NE_NAME` of the `$PROSPECT_HOME/msc_list`.

Sample `mscpvg.cfg`:

```
# MSCID|PVGID1,PVGID2,PVGIDX
msc01|pvg01,pvg02
msc02|pvg03,pvg04
```

Note: Add the `MSCID` and related `PVGID` to this file only when file collection from CNM. The `MSCID` should match the `SRCID` within the `<hostname>.ntcdma.cfg` as well as the `NE_NAME` of the `$PROSPECT_HOME/msc_list`.

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Index