Data Acquisition Tools 7.1 for Motorola CDMA/AMPS/ EVDO R20/S19/R7

Vallent™

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Table of Contents

1   About This Documentation

The *Data Acquisition Tools Guide* provides instructions for configuring and supporting this feature of Prospect® software. This guide is customized to support Prospect Data Acquisition Tools 7.1 for Motorola CDMA/AMPS/EVDO R20/S19/R7 (Release Point 4 HF01).

This toolset acquires data for processing, helping you analyze the performance of the network and carry out other network or database management tasks. For the latest information pertaining to your network configuration, please see the Release Notes.

This guide was last updated September 1 2008.

Please see the current release notes on this product for a list of revision dates for all 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 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 Documentation)` `system Perl 5.6.1`	For contrast in a code example to show lines the user is expected to enter.
<Monospace 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

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

Table 2: Prospect User Documentation

Document	Description
Administration Guide	Helps an administrator configure and support 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 Prospect core server administrator in an easy-to-use format.
Expressions Technical Reference	Provides detailed information about expressions used in special calculations for reports.
Installation Guide	Instructions for installing and configuring the 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 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 Prospect software.
Server Sizing Tool Guide	Helps an administrator use the sizing tool to calculate the system space needed for the Prospect software and database.
User Guide	Provides conceptual information and procedures for using 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 Prospect graphical user interface or press F1 for context-sensitive Help. To update the Help files, click the HELP menu on the Prospect Explorer, and select UPDATE ALL HELP FILES.

When Help files are updated, they are downloaded automatically from the Prospect server to the 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/ .

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- Americas: tivamedu@us.ibm.com
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2   Installation and Setup

Data Acquisition tools are programs that collect performance data from network elements, preprocess the data, and then send the data to the 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
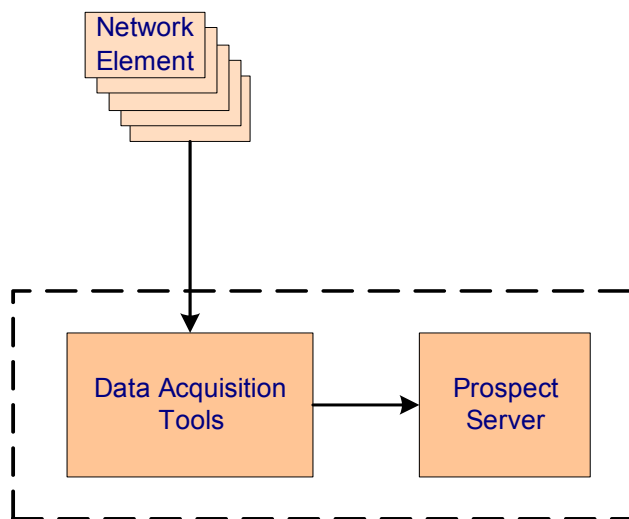
Refer to the *Administration Guide* for a description of the data loading process once the data is received by the Prospect server.

Topics

Overview

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

Data Acquisition tools enable you to do the following:

- Communicate with network elements
- Collect data from network elements
- Store acquired data on the data acquisition server and send the data to the 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 after failure

Data Acquisition tools can remotely log on to network elements using provided IP address and security information, receive generated data through network commands or files stored on network elements, 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:

- Local host name and IP address
- Destination host name and IP address for the Prospect server
- Destination (target) directory for the Prospect server
- Login user name and password for the destination Prospect server
- Number of days to keep the data files
- Data type (this release supports the pmC_156, pmC_157, pmC_158, AEMS C-4xx tables, AEMS C351 table, AEMS C352 table, AEMS C6xx tables, EVDO PM, pmC_524, pmC_525, ConfigurationDataFile, pmC_160, pmC_161, pmC_162, pmC_170, pmC_171, pmC_172, pmC_173, pmC_86, pmC_52, pmC_80, pmC_81, pmC_85, pmC_214 data types).
- Time adjustment, if the Prospect server is in a different time zone.
- For a Data Acquisition tool supporting SNMP, the IP address, port number (usually 161 for SNMP), community passcode, and SNMP version number (1, 2, or 3) for each network element that is polled.
- For a Data Acquisition tool collecting files from a specific location, the data collection point or network element hostnames and IP addresses and the corresponding login usernames and passwords. Make sure you set the command prompt for the usernames to one of the following patterns:

```
*$<space>
*%<space>
*><space>
```

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

The OMC-R workstation produces performance management (PM) data and configuration data files (CDF) and stores it in a predefined directory. The Data Acquisition tools check this directory every half-hour for new PM data files and once a day for CDF files. The MSC switch creates traffic metering and measurement (TMM) data, which the Data Acquisition tools collect through a connection to the MSC switch. In addition, the Data Acquisition tools use the man-machine interface (MMI) to generate analog configuration data (CFG) and CPU usage data (CPU). The data files are reformatted as required and sent to the Prospect server, which loads the data into the Prospect database.

Installation and Setup

You can install the data acquisition scripts either on the computer running the 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.

Preparing to Install Data Acquisition Tools

Before installing Data Acquisition tools, you must do the following:

To prepare to install Data Acquisition tools

1. Make sure **gzip** is installed in `usr/bin/`. To get a copy of **gzip**, go to
   http://www.gnu.org/software/gzip/gzip.html.

2. Make sure Perl 5.00503 or higher is installed in `/usr/bin/`.

   $ cd /usr/bin

   $ perl -V | grep perl5

   If Perl 5 is already installed, the following is displayed:

   ```
   Summary of my perl5 (5.0 patchlevel 5 subversion 3) configuration:
       /usr/lib/perl5/5.00503/sun4-solaris-thread
       /usr/lib/perl5/5.00503
       /usr/lib/perl5/site_perl/5.005/sun4-solaris-thread
       /usr/lib/perl5/site_perl/5.005
   ```

Important: If you previously installed Perl in a directory other than `/usr/bin/`, you must create a link from that directory to `/usr/bin/`.

If Perl is not installed, or not as recent as version 5.00503, you must install Perl from the Solaris 8 installation CD-ROM disk.

3. Make sure **env**, the **telnet** application, and **ping** modules are installed.

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4. Create user accounts for each MSC and OMC-R for telnet and FTP access.

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

   ```
   *$<space>
   *%<space>
   *><space>
   ```

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

5. Make sure that the Motorola portable browser, **cdl_browse_client**, is available.

6. Create directories for raw data file storage for OMCR PM, SAR, and EVDO data. The following table lists the default values of RAWDIRECTORY specified in the host configuration file for raw data file storage.

Type of data	*Raw Data File Storage Directory*
OMCR PM	`/sc/spool/pmStats/PM`
SAR	`/sc/spool/pmStats/SAR`
EVDO PM	`/sc/spool/pmStats/RAW_DO_PM`
EVDO CDL	`/sc/spool/pmStats/RAW_DO_CDL`
EVDO Config-Map	`/sc/spool/pmStats/RAW_DO_CONFIGMAP`

   If user `flexda` does not have the privilege to create these directories, then user `root` must create the directories and grant user `flexda` full access privilege.

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.

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_Motorola_RP4_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 from 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_mtcdma \
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`

Install the Data Acquisition tools as follows.

Example

`[flexda] $ setup-da -install DA_7.1_Motorola_RP4_Base.tar.gz`

3. Change directory to user home directory:

`[flexda] $ cd ~`

4. Copy the `site_opts` file as follows:

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

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

```
[flexda] $ INSTALL/ALL/scripts/install_flexda.ksh
```

To install the Motorola portable browser (cdl_browse_client)

1. Log on as **flexda**.

2. Check whether **cdl_browse_client** is already installed in `/usr/local/bin` or `/usr/bin`

    ```
    $ find / -name cdl_browse_client -print
    $ cdl_browse_client -V
    ```

3. If **cdl_browse_client** is not installed, ask your system administrator for the program. Copy the program to `$HOME/flexgnu/bin`.

    ```
    $ cp -p cdl_browse_client $HOME/flexpkg/gnu/bin
    ```

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.

To set up Data Acquisition tools

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

    a. Copy the sample configuration file and update the entries to correspond to your configuration. See The Host Configuration File on page 21. For example:

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

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

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

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

    c. Modify the host configuration file for each network element from which the data is collected. See The Host Configuration File on page 21.

    d. Modify the DESTHOSTNAME, DESTHOSTIP, DESTHOSTUSER, and DESTHOSTPSWD entries in the host configuration file, as appropriate.

    e. Run the install script.

    [flexda] $ cd ~

    ```
    [flexda] $ INSTALL/ALL/scripts/setconfig.ksh \
            INSTALL/localhost/cfg/<hostname>.mtcdma.cfg
    ```

f. Verify 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 Monitor Process on page 40 for the location of files and directories.

2. The `crontab` files `<hostname>.mtcdma.cron` and `<hostname>.cron` are created in the `$FLEXDAHOME/cfg` directory. To define job entries in the **cron** job, run the following:

```
[flexda] $ cd ~
[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.

Note: Use `<hostname>.cron` to enable every installed DA collection and `<hostname>.mtcdma.cron` for specific DA Toolkit collection.

3. Start the monitor process:

```
[flexda] $ flexda start all
```

4. Create the file `$FLEXDAHOME/cfg/OMCR_mapping.cfg`. For an example file, see `OMCR_mapping.cfg.sample`.

The following shows the format of `OMCR_mapping.cfg`:

```
#Market OMCHOST  OMCRIP        OMCRNAME     IntBSC ExtBSC MSC_ID  MSC_NAME
SEATTLE ledang   63.117.8.4    SeattleOMC2  1      101    2       SEATTLE02
SEATTLE autopace 63.117.8.106  SeattleOMC1  2      102    1       SEATTLE01
```

Be sure there is only one line for each BSC with tab delimiters. Make sure the combination of `OMCRNAME`, `BSCID`, and `MSCNAME` is unique.

5. Create the file `$FLEXDAHOME/cfg/DB_loading_control.list`. For an example file, see `DB_loading_control.list.sample`.

The following shows the format of `DB_loading_control.list`:

```
# Filename : DB_loading_control.list
#
# This loading control file is a plain ASCII file with one file name per line.
# Content in this control file should be treated in case-insensitive manner.
# Line begins with .##. should be treated as comment line.
# Example, lines in the file look like:
# pmCxxx
# aemsCxxx
#
```

```
# Note: .xxx. is zero padding expected for two or one digit record number.
# (ex. pmC_52_hr  -> pmC52)
#
# aemsC2_1
# pmC502
# pmC501
# pmC85
# pmC81
# pmC156
```

6. Once you complete the setup procedure, the **cron** jobs are ready to start data collection.

   Because CDF data collection takes place only once a day at midnight, you must manually start CDF data collection after the initial setup of Data Acquisition tools. To do this, perform the following steps:

   Important: You must perform the following steps only once—after the initial setup of Data Acquisition tools. Ignore the following steps if you are upgrading an existing data acquisition server.

   ---

   a. Start CDF data collection by manually adding a time entry (of five minutes later, for example) for all CDF processes.

      $ crontab -e

   b. Wait 30 minutes, then do the following:

      $ cd $FLEXDAHOME/log

      $ ls *CDF.chk

      For each CDF.chk file, there should be one new entry at line 4.

      The letter s in field 3 of line 4 indicates that the CDF data collection succeeded. Confirm this by listing the data files as follows:

      $ cd $FLEXDAHOME/data/<market>/<elementname>/CDF/dest

      $ ls

   c. Once you have confirmed that the data collection was successful, use a text editor such as **vi** to remove line 4 in CDF.chk.

   d. Remove the manually edited time entry from the **cron** job.

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

Note: The following FlexDA.*<hostname>*.cfg file is an example only and may not match the sample file for your software.

```
#
# TITLE:FLEXDA.host.CFG - Site-Specific FlexDA Configuration
#
# ABSTRACT:This script is meant to be sourced into C-shell scripts to
#          define all site-specific FlexDA configuration data.
#
# SITE: Default
#
# HOST: ALL
#
cwd=`pwd`;cd ~`/usr/ucb/whoami`;dahome=`pwd`;cd $cwd
typeset -x FLEXDAVER=7.1
typeset -x FLEXDASITE=`uname -n`
typeset -x FLEXDAHOME=$dahome
typeset -x FLEXDACFG=$FLEXDAHOME/cfg
```

The Host Configuration File

The host configuration file, <*hostname*>.mtcdma.cfg, is used to install the data acquisition jobs. This file is created by using the template file host.mtcdma.cfg.sample located in $FLEXDAHOME/INSTALL/ALL/doc. See [Sample Host Configuration File](#) on page 22.

The file mtcdma.cfg.txt, also located in $FLEXDAHOME/INSTALL/ALL/doc, provides descriptions of all the variables defined in <*hostname*>.mtcdma.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, 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 [Troubleshooting](#) on page 45.

The setconfig.ksh script creates a file (<*hostname*>.mtcdma.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 [Field Descriptions](#) on page 31 for a complete list of fields, variables, and descriptions.

Sample Host Configuration File

The following is an example of a host configuration file.

```
###########################################################################
#
# Licensed Materials - Property of IBM
# 5724-T10
#
# (C) Copyright IBM Corp. 2003,2008. All Rights Reserved.
#
# US Government Users Restricted Rights - Use, duplication or
# disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
#
###########################################################################


# $Header:
/net/klstor01/datavol/gateways/da/CVSROOT/modules/MOTOROLA/doc/host.mtcdma.cf
g.sample,v 1.2 2008/06/03 03:10:47 alamshi Exp $
#
# 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:   MSC, OMCR, SM
#
# 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
```

```
hostname=`uname -n`


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



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



#    DESTHOSTNAME      DESTHOSTIP        DESTHOSTUSER     DESTHOSTPSWD
#    ------------      ----------        ------------     ------------
set -A  thost   \
    ??????          ???.???.???.???    ???              ???



#       NTTYPES
#       -------
set -A  mtcdma_type       \
        omcr              \
        sar               \
        evdoconfigmap     \
        evdopm            \
        evdopmemh         \
        pmserver          \
        anpm10min         \
        kcicfg            \
        aemsc10min



#
# OMCR
#

# Block files directory
blockdir=/sc/spool/pmStats

# DB Loading Block File Configuration
dbloadctrl=$FLEXDAHOME/cfg/DB_loading_control.list
```

```
# OMCR CDF Source directory
remotecdfdir=/screl/active/loadable

# OMCR PM Source directory
remotepmdir=/sc/spool/PmTrans

# OMCR Mapping configuration
omcrcfg=$FLEXDAHOME/cfg/OMCR_mapping.cfg

# Prospect Loader target directory
tdir=/u01/apps/WatchMark/FlexPM/Motorola/x/vendor/Motorola/MSC/ftpIN/R15/in
t16dir=/u01/apps/WatchMark/FlexPM/Motorola/x/vendor/Motorola/MSC/ftpIN/R16/in
t161dir=/u01/apps/WatchMark/FlexPM/Motorola/x/vendor/Motorola/MSC/ftpIN/R161/
in
t17dir=/u01/apps/WatchMark/FlexPM/Motorola/MotoCDMA/vendor/Motorola/MSC/ftpIN
/MotoCDMA/R17/in
t18dir=/u01/apps/WatchMark/FlexPM/Motorola/MotoCDMA/vendor/Motorola/MSC/ftpIN
/MotoCDMA/R18/in

RawDir=/sc/spool/pmStats

# Temp remote directory
omcr_remotedir=/var/tmp/omcr

#   MARKET  TGTDIR  SRCIP       SRCID       MMID        SRCUSER SRCPSWD
#   ------  ------  -----       -----       -----       ------- -------
#      CDFDIR        PMDIR         OMCRCFG
#      --------      -----         -------
#      REMOTEDIR     CDLPORT    DATATYPES        TMADJ   SLEEP   ICFDELAYGAP
#      ---------     -------    ----------       -----   -----   ----------
#      SDUID     SDURECORDS
#      -----     ----------
#      VPUID     VPURECORDS
#      -----     ----------
#      ANID      ANRECORDS
#      -----     ----------
#      SVURECORDS
#      ----------
#      PMCFGRECORDS
#      ------------
#      SECURECOLLECT   SECUREDELIVER   RAWDIRECTORY    RAWNODAYS
#      -------------   -------------   ------------    ---------
#      PAST_DAYS       BLOCKDIR      DBLOADCTRL
#      ---------       --------      ----------
```

```
set -A mtcdma_omcr  \
    ??      $t16dir  ??? omcr1          101,105    ???  ??? \
        $remotecdfdir $remotepmdir  $omcrcfg \
        $omcr_remotedir/omcr1       10707       PM,CDF,NECF    60    60
600,1800,3600 \
211,212   101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,203,206
\
112,113   140,141 \
21,22  150,151,153,154,155 \
160,161,162           \
    52,80,81,85           \
 11 $RawDir/PM/omcr1 5\
     0            $blockdir/omcr1     $dbloadctrl   \
    ??      $tdir   ??? omcr2        2,3,4      ???   ??? \
        $remotecdfdir $remotepmdir  $omcrcfg \
        $omcr_remotedir/omcr2       10707       PM,CDF,NECF    60    60
600,1800,3600 \
-1  -1                                                      \
-1  -1                                                      \
-1  -1  \
     -1    \
     -1  \
 11 -1  0                     \
     0            $blockdir/omcr2     $dbloadctrl



#
# AN PM 10 MIN
#


omcrcfg=$FLEXDAHOME/cfg/OMCR_mapping.cfg


# Block files directory
blockdir=/sc/spool/pmStats


# DB Loading Block File Configuration
dbloadctrl=$FLEXDAHOME/cfg/DB_loading_control.list


# AN PM 10 minute data source and target directories
anpm10min_sdir=/sc/spool/PmTrans
anpm10min_tdir=$PROSPECT_HOME/../ftpIN/MotCDMA/R19/in
anpm10min_rawdir=/sc/spool/pmStats


# Temp local directory
```

```
anpm10min_srctmpdir=/sc/spool/PmTrans


# Temp remote directory
anpm10min_remotedir=/var/tmp/anpm10min


# MARKET    TGTDIR              SRCIP            SRCID      SRCUSER    PASSWORD
#      SRCDIR               OMCRCFG
#      SRCTMPDIR             SERVERNAME  SECURECOLLECT  SECUREDELIVER
#      RAWDIRECTORY         RAWNDAYS
#      ANID     ANRECORDS
#      PAST_DAYS    REMOTEDIR BLOCKDIR      DBLOADCTRL
# --------------------------------------------------------------------------
set -A mtcdma_anpm10min                                                    \
  PL        $anpm10min_tdir  ??.???.??.???    omcr1      ?????      ???     \
      $anpm10min_sdir   $omcrcfg                                           \
      $anpm10min_srctmpdir     omcr1           1               1          \
      $anpm10min_rawdir    5                                               \
      21,22     156,157,158                                                \
      0               $anpm10min_remotedir/omcr1 $blockdir/omcr1    $dbloadctrl




#
# SAR
#


# SAR data source and target directories
sar_sdir=/sc/spool/xc_sar
sar_tdir=/u01/apps/WatchMark/FlexPM//ftpIN/sar


RawDir=/sc/spool/pmStats

# MARKET     TGTDIR    SRCIP     SRCIDSRCUSER    SRCPSWD
#    SRCDIR    ICFBEHIND
#    RAWDIRECTORYRAWNODAYSSECURECOLLECTSECUREDELIVER
#         PAST_DAYS
# --------------------------------------------------------------------------
set -A mtcdma_sar    \
  PL  $sar_tdir ??.???.?.??    OMCR01     username    password    \
        $sar_sdir  0    \
  $RawDir/SAR/omcr01511 \
      0
```

```
#
# EVDO CONFIG MAP
#


# EVDO CONFIG data source and target directories
evdoconfig_sdir=/omcr/evdoconfig
evdoconfig_tdir=/u01/apps/WatchMark/FlexPM//ftpIN/evdoconfigmap
evdoconfig_spooldir=/sc/spool/pmStats/RAW_DO_CONFIGMAP


# MARKET    TGTDIR    SRCIP           SRCID       SRCUSER     SRCPSWD
#           SRCDIR    SERVERNAME      ICFBEHIND
#           SECURECOLLECT           SECUREDELIVER  SPOOLDIR SPOOL
#           INNERFILEDIR_F
# --------------------------------------------------------------------------
set -A mtcdma_evdoconfigmap  \
  PL   $evdoconfig_tdir  ???.???.???.??? OMCR01      ???  ???? \
          $evdoconfig_sdir  SVR01         0         \
           1                            1         $evdoconfig_spooldir  on \
           0



#
# EVDO PM
#


# EVDO PM data source and target directories
evdopm_sdir=/omcr/evdopm
evdopm_tdir=/u01/apps/WatchMark/FlexPM//ftpIN/evdopm
evdopm_spooldir=/sc/spool/pmStats/RAW_DO_PM


# MARKET     TGTDIR    SRCIP     SRCIDSRCUSER     SRCPSWD
#    SRCDIR    SERVERNAME    FILEDELAY    EXPORTCYCLE ICFBEHIND
#    SECURECOLLECT    SECUREDELIVER  SPOOLDIR SPOOL
#    FODELAYFOSERVER
#       REDUNIP  REDUNUSER    REDUNPASWD  REDUNDIR
#       PAST_DAYS
# --------------------------------------------------------------------------
set -A mtcdma_evdopm   \
  PL   $evdopm_tdir  ??.???.?.??    OMCR01     ???    ???     \
      $evdopm_sdir  SVR01    510    0    \
    1    1$evdopm_spooldir  on        \
    300   OMCR0Z \
      ??.???.?.??    redunusername redunpasswd $evdopm_sdir    \
```

```
            0

 #
 # EVDO PM EMH
 #

 # EVDO PM EMH data source and target directories
 emh_sdir=/data/PM
 emh_tdir=$PROSPECT_HOME/../ftpIN/MotEVDO/R6.1/in
 emh_spooldir=/sc/spool/pmStats/RAW_DO_PM

 # MARKET    TGTDIR    SRCIP          SRCID      SRCUSER  SRCPSWD
 #     SRCDIR                 EMHNAME
 #     FILEDELAY EXPORTCYCLE  ICFBEHIND SECURECOLLECT SECUREDELIVER
 #     SPOOLDIR         SPOOL PAST_DAYS
 # ----------------------------------------------------------------------------
 set -A mtcdma_evdopmemh                                          \
   PL   $emh_tdir     ??.???.?.??    emh1       ???       ???         \
        $emh_sdir               SVR01                               \
        0           10        0        1           1               \
        $emh_spooldir    on    0

 #
 # PM SERVER
 #

 # Block files directory
 blockdir=/sc/spool/pmStats

 # DB Loading Block File Configuration
 dbloadctrl=$FLEXDAHOME/cfg/DB_loading_control.list

 pmserver_sdir=/sc/spool/pmStats
 pmserver_tdir=/u01/apps/WatchMark/FlexPM/Motorola/x/vendor/Motorola/MSC/ftpIN
 /pmserver

 # Temp remote directory
 pmserver_remotedir=/var/tmp/pmserver

 # MARKET    TGTDIR    SRCIP     SRCIDSRCUSER    SRCPSWD
 #    PMDIR     REMOTEDIR     ICFBEHIND
 #    DATATYPESSECURECOLLECTSECUREDELIVER
 #       PAST_DAYS     BLOCKDIR       DBLOADCTRL
 # ----------------------------------------------------------------------------
```

```
set -A mtcdma_pmserver    \
  PL   $pmserver_tdir  ??.???.?.??    pms1      ???    ???     \
       $pmserver_sdir  $pmserver_remotedir/pms1   0    \
       PMSERVER,AEMSC13,AEMSC2,AEMSC411 \
       0                $blockdir/pms1    $dbloadctrl



#
# KCICFG data source and target directories
#


kcicfg_sdir=/data/spool/cm
kcicfg_tdir=/u01/apps/WatchMark/FlexPM/Motorola/x/vendor/Motorola/MSC/ftpIN/p
mserver
kcicfg_spooldir=/sc/spool/kcicfg
#MARKET      TGTDIR         SRCIP           SRCID            SRCUSER      SRCPSWD
#            SRCDIR         CFGNAME                          SPOOL        SPOOLDIR
#            SECURECOLLECT SECUREDELIVER   COLLMINUTE       COLLHOUR    NDAYS
#            PAST_DAYS
#------------------------------------------------------------------------------
--
set -A mtcdma_kcicfg                                                      \
  PL       $kcicfg_tdir   ??.???.?.???   OMCR01            ???    ???   \
           $kcicfg_sdir   "KCIConfigurationDataFile"   on
$kcicfg_spooldir                         \
           1              1              0              4        3         \
           0


#
# PM SERVER AEMS C 10 MIN
#


# Block files directory
blockdir=/sc/spool/pmStats


# DB Loading Block File Configuration
dbloadctrl=$FLEXDAHOME/cfg/DB_loading_control.list


aemsc10min_sdir=/sc/spool/pmStats
aemsc10min_tdir=$PROSPECT_HOME/../ftpIN/MotEVDO/aemsC/in


# Temp remote directory
aemsc10min_rdir=/var/tmp/aemsc10min
# MARKET TGTDIR              SRCIP          SRCID     SRCUSER   SRCPSWD
```

```
#       SRCDIR            REMOTEDIR          ICFBEHIND
#       DATATYPES       SECURECOLLECT    SECUREDELIVER
#       PAST_DAYS        BLOCKDIR      DBLOADCTRL
# -------------------------------------------------------------------------
set -A mtcdma_aemsc10min                                            \
  PL     $aemsc10min_tdir  ??.???.?.???   pms1      ???        ???      \
         $aemsc10min_sdir  $aemsc10min_rdir/pms1   0                    \
         AEMSC10MIN      1                1                             \
         0                 $blockdir/pms1    $dbloadctrl
```

File Structure

See `mtcdma_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_mtcdma.ksh`, to generate the data and log directories, and the ICF, checkpoint, monitoring, and **cron** files. For more information about these files, see
- The local host section provides the data acquisition server name and 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.

Turning on CDL

CDL by default is off. You can turn it on by editing the file `host.mtcdma.cfg` and adding CDL as in the following example:

```
set -A mtcdma_omcr \
 ??? $t16dir ??.??.??.?? omcr1          101,105   ??????? ??????? \
   $remotecdfdir $remotepmdir $omcrcfg \
   /var/tmp      10707          PM,CDF,NECF,CDL   60 60 600,1800,3600 \
   211,212 101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,203,206 \
   112,113 140,141 \
```

```
21,22   150,151,153,154,155 \
 1           1                $RawDir/PM/omcr1 5 \
```

Field Descriptions

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

Table 3: Host Configuration File Fields

Variable	Field	Description
sysopts	SYSOPTNAME	System option Name.
	OPTMETHOD	System option setup method (script name). Must have full path. For example: $method_dir/set_mtcdma.ksh
	OPTCFGFILE	ystem option setup configuration file name. Must have full path. For example: $method_dir/<host-name>.cfg
lhost	LOCALHOSTNAME	Machine host name.
	NDAYS	Number of days the data and log files need to be kept.
thost	DESTHOSTNAME	Destination host name on the Prospect server.
	DESTHOSTIP	Destination IP address on the Prospect server.
	DESTHOSTUSER	Destination login user name on the Prospect server.
	DESTHOSTPSWD	Destination login password on the Prospect server.
mtcdma_type	NTTYPES	Motorola Type. For example: omcr, msc.
mtcdma_omcr	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 on the network element.
	SRCID	Source ID on the network element.
	MMID	CBSC IDs of the OMCR, separated by ,.
	SRCUSER	Source login user on the network element.
	SRCPSWD	Source login password on the network element.
	CDFDIR	CDF data directory on OMCR.
	PMDIR	PM data directory on OMCR.
	OMCRCFG	OMCR mapping file.
	REMOTEDIR	Directory of remote host to place created tar file.
	CDLPORT	cdl_browse client port number.
	DATATYPES	OMCR Data types that need to be collected, separated by comma (,). Example: PM,CDF,NECF,CDL.

Table 3: Host Configuration File Fields

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".
	SLEEP	Sleep seconds between cdl_browse_client retries. Default is 60.
	ICFDELAYGAP	Gaps in seconds between cdl_browse_client retries separated by comma (,). Example: 600,1800,3600. The above string specifies wait for 600 seconds before first retry; wait for 1800 seconds before second retry; wait for 3600 seconds before third retry. The gaps between all the remaining retries will use 3600 seconds (the last one given). No gap if there is no numbers between ,like 600,,1800.
	SDUID	SDU IDs of the OMCR, separated by , Default is -1 (no SDU).
	SDURECORDS	All the SDU record numbers, separated by , Default is 101,102,103,104,105,106,107,108,109,110,111,112, 113,114,115.
	VPUID	VPU IDs of the OMCR, separated by , Default is -1 (no VPU).
	VPURECORDS	All the VPU record numbers, separated by , Default is 140,141.
	ANID	AN IDs of the OMCR, separated by , Default is -1 (no AN).
	ANRECORDS	All the AN record numbers, separated by , Default is 150,151.
	SVURECORDS	All the SVU record numbers, separated by , Default is 160,161,162.
	PMCFGRECORDS	PMCFG Record Numbers.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection from OMCR. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.

Table 3: Host Configuration File Fields

Variable	Field	Description
	RAWDIRECTORY	Local directory to store a copy of the raw data files from OMCR. The base directory (/sc/spool/pmStats/PM, for example) should be created already with read and write permissions for flexda account. Use -1 if no copy of raw data files are needed.
	RAWNODAYS	Number of days to keep the raw data files in RAW-DIRECTORY.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.
	BLOCKDIR	DB loading control block directory.
	DBLOADCTRL	DB loading control block list file name.
mtcdma_sar	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 on the network element.
	SRCID	Source ID on the network element.
	SRCUSER	Source login user on the network element.
	SRCPSWD	Source login password on the network element.
	SRCDIR	Source data directory on OMCR.
	ICFBEHIND	Minutes the remote host is behind the current time.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to. FTP is 0, SCP is 1 (default), SFTP is 2.
	RAWDIRECTORY	Local directory to store a copy of the raw data files. The base directory (/sc/spool/pmStats/SAR, for example) should be created already with read and write permissions for flexda account. Use -1 if no copy of raw data files are needed.
	RAWNODAYS	Number of days to keep the raw data files in RAW-DIRECTORY.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.

Updated: 2008-09-01

Table 3: Host Configuration File Fields

Variable	Field	Description
	LOCALDIR	Local directory for the collected data.
	NDAYS	Number of days to keep files in FlexDA server.
mtcdma_evdopm	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 OMC-DO.
	SRCID	OMC-DO ID.
	SRCUSER	Source login user on the OMC-DO.
	SRCPSWD	Source login password on the OMC-DO.
	SRCDIR	Source data directory of EVDOPM files on the OMC-DO.
	SERVERNAME	Server name from the EVDOPM file name STS_<SERVERNAME>_yyyymmddhhmm.tgz.
	FILEDELAY	Delay in minutes from the ending time of export cycle. This will come from the EVDOPM file name. For example: STS_<SERVER-NAME>_200502010815.tgz contains data for period 08:00 and 08:05, the ending time would be 08:10. So, the FILEDELAY will be 5.
	EXPORTCYCLE	Data export cycle in minutes on the OMC-DO. Only 10, 20 or 30 are supported.
	ICFBEHIND	Minutes the remote host is behind the current time.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.
	SPOOLDIR	The directory where the raw data will be moved to. Default is /sc/spool/pmStats/RAW_DO_PM.
	SPOOL	To turn on/off spooling functionality, default is on.
	FODELAY	DELAY in seconds for file generation after failover. Default is 300s.
	FOSERVER	The servername after Fail over happens.
	REDUNIP	The redundant server IP address.
	REDUNUSER	The redundant server username.
	REDUNDIR	The redundant server source directory.

Table 3: Host Configuration File Fields

Variable	Field	Description
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.
mtcdma_evdopm emh	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 OMC-DO.
	SRCID	OMC-DO ID.
	SRCUSER	Source login user on the OMC-DO.
	SRCPSWD	Source login password on the OMC-DO.
	SRCDIR	Source data directory of EVDOPM files on the OMC-DO.
	EMHNAME	Server name from the EVDOPM file name STS_EMH<EMH-NAME>_yyyymmddhhmm_<DST>.tgz.
	FILEDELAY	Delay in minutes from the ending time of export cycle. This will come from the EVDOPM file name. For example: STS_<SERVERNAME>_200502010815.tgz contains data for period 08:00 and 08:05, the ending time would be 08:10. So, the FILEDELAY will be 5.
	EXPORTCYCLE	Data export cycle in minutes on the OMC-DO. Only 10, 20 or 30 are supported.
	ICFBEHIND	Minutes the remote host is behind the current time.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect FTP is 0, SCP is 1 (default), SFTP is 2.
	SPOOLDIR	The directory where the raw data will be moved to. Default is /sc/spool/pmStats/RAW_DO_PM.
	SPOOL	To turn on/off spooling functionality, default is on.
	NDAYS	Number of days to keep files in FlexDA server.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.

Updated: 2008-09-01

Table 3: Host Configuration File Fields

Variable	Field	Description
mtcdma_pmserver	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 PM Server.
	SRCID	PM Server name.
	SRCUSER	Source login user on the PM Server.
	SRCPSWD	Source login password on the PM Server.
	PMDIR	Source data directory of PM Server files on the PM Server.
	REMOTEDIR	Temporary directory on PM Server to place created tar file.
	ICFBEHIND	Minutes the remote host is behind the current time.
	DATATYPES	PM Server Data types that need to be collected, separated by comma (,). Example: PM,AEMSC13,AEMSC2,AEMSC4.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.
	BLOCKDIR	DB loading control block directory.
	DBLOADCTRL	DB loading control block list file name.
mtcdma_anpm10min	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 on the network element.
	SRCID	Source ID on the network element.
	SRCUSER	Source login user on the network element.
	SRCPSWD	Source login password on the network element.
	PMDIR	PM data directory on OMCR.
	OMCRCFG	OMCR mapping file.
	SRCDIR	Local directory for the collected data.

Table 3: Host Configuration File Fields

Variable	Field	Description
	SERVERNAME	OMC Server host name.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection from OMCR. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.
	RAWDIRECTORY	Local directory to store a copy of the raw data files from OMCR. The base directory (/sc/spool/pmStats/PM, for example) should be created already with read and write permissions for flexda account. Use -1 if no copy of raw data files are needed.
	RAWNDAYS	Number of days to keep the raw data files in RAWDIRECTORY.
	ANID	AN IDs of the OMCR, separated by , default is -1 (no AN).
	ANRECORDS	All the AN record numbers, separated by , default is 150,151.
	NDAYS	Number of days to keep files in FlexDA server.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.
	BLOCKDIR	DB loading control block directory.
	DBLOADCTRL	DB loading control block list file name.
mtcdma_evdoconfigmap	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 OMC-DO.
	SRCID	OMC-DO ID
	SRCUSER	Source login user on the OMC-DO.
	SRCPSWD	Source login password on the OMC-DO
	SRCDIR	Source data directory of EVDOCONFIGMAP files on the OMC-DO
	SERVERNAME	Server name of the EVDOCONFIGMAP file name that will be delivered to Prospect <SERVERNAME>.BSCDO <NNNNN>.<YYYYMMDD>.cfgmap[.gz]

Table 3:   Host Configuration File Fields

Variable	Field	Description
	ICFBEHIND	Minutes the remote host is behind the current time.
	SECURECOLLECT	Whether to use secure SFTP/SSH for data collection. Default is 1 (yes).
	SECUREDELIVER	Whether to use secure SFTP for delivering data to Prospect. Default is 1 (yes).
	SPOOLDIR	The directory is which spool files is stored.
	SPOOL	To turn on/off spooling functionality. Default is on.
	INNERFILEDIR_F	Flag to collect config map from $SRCDIR/<date>/, where <date> is in format "yyyymmdd". Set '1' if DA needs to collect config map from $SRCDIR/<date>/ directory. Set '0' if DA needs to collect config map from $SRCDIR/ directory. Default value is '0'. (Parameter is configurable)
mtcdma_aemsc10min	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 on the network element.
	SRCID	Source ID on the network element.
	SRCUSER	Source login user on the network element.
	SRCDIR	PM data directory on OMCR.
	REMOTEDIR	OMCR mapping file.
	ICFBEHIND	Minutes the remote host is behind the current time.
	DATATYPES	PM Server Data types that need to be collected (AEMSC10MIN).
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection from OMCR. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.
	BLOCKDIR	DB loading control block directory.
	DBLOADCTRL	DB loading control block list file name.

Table 3: Host Configuration File Fields

Variable	Field	Description
	NDAYS	Number of days to keep files in FlexDA server.
mtcdma_kcicfg	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 on the network element.
	SRCID	Source ID on the network element.
	SRCUSER	Source login user on the network element.
	SRCDIR	PM data directory on OMCR.
	CFGNAME	Configuration Data filename. Default "KCIConfigurationDataFile"
	SPOOL	To turn on/off spooling functionality, default is on.
	SPOOLDIR	The directory where the raw data will be moved to.
	LOCALDIR	Destination directory for data.
	SECURECOLLECT	Whether to use secure SFTP/SCP/SSH for data collection from OMCR. FTP is 0, SCP is 1 (default), SFTP is 2.
	SECUREDELIVER	Whether to use secure SFTP/SCP for delivering data to Prospect. FTP is 0, SCP is 1 (default), SFTP is 2.
	COLLMINUTE	Time (in minutes) to collect the data from the remote host.
	COLLHOUR	Time (in hours) to collect the data from the remote host.
	NDAYS	Number of days to keep files in FlexDA server.
	PAST_DAYS	Number of days to start collecting data file. Allows user to collect data starting from a time before the time setup is done. For example, the setup was done at 3 pm on 2/07 and PAST_DAYS is set to 2. So the data collection will start from 2 days ago.

Adding Collection Sources After Installation

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

The following table shows example values for a new Atlanta collection source:

Field	Value
MARKET	ATL

Field	*Value*
TGTDIR	`$aemsc10min_tdir`
SRCIP	`<??.???.?.???>`
SRCID	`pms1`
SRCUSER	`<???>`
SRCPSWD	`<???>`
SRCDIR	`$aemsc10min_sdir`
REMOTEDIR	`$aemsc10min_rdir/pms1`
ICFBEHIND	`0`
DATATYPES	`AEMSC10MIN`
SECURECOLLECT	`1`
SECUREDELIVER	`1`
PAST_DAYS	`0`
BLOCKDIR	`$blockdir/pms1`
DBLOADCTRL	`$dbloadctrl`

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 Atlanta information added.

```
set -A mtcdma_aemsc10min                                                \
  PL    $aemsc10min_tdir  ??.???.?.???   pms1      ???         ???       \
        $aemsc10min_sdir  $aemsc10min_rdir/pms1    0                     \
        AEMSC10MIN      1                   1                            \
        0                 $blockdir/pms1     $dbloadctrl
```

Monitor Process

The purpose of the monitor process is to start/stop and monitor processes that must run continuously (for example, the collection of SNMP data requires an SNMP parser to run constantly).

The setup of Data Acquisition tools creates the monitor file (`<vendor><technology>`.mon) in the `$FLEXDAHOME/cfg` directory.

To start the monitor process, run the following command after setup is complete:

```
$ flexda stop mtcdma.mon
$ flexda start mtcdma.mon
```

If you do not know if the monitor process is already running, do not start the process without stopping it first.

In an environment with multiple Data Acquisition tools, you might find multiple monitor files in the `$FLEXDAHOME/cfg` directory. To stop and start all monitor processes, run the following commands:

```
$ flexda stop all
$ flexda start all
```

Directory Structure

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

Table 4: Directory Structure

Directory	Description
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/TMM/src/`	Stores TMM data from an MSC switch
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/TMM/fmt/`	Stores parsed TMM data
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/TMM/dest/`	Stores TMM data sent to the Prospect server
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/CFG/src/`	Stores configuration data from an MSC switch
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/CFG/dest/`	Stores configuration data sent to the Prospect server
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/CPU/src/`	Stores CPU usage data from an MSC switch
`$FLEXDAHOME/data/`*`<market>`*`/`*`<mscname>`*`/CPU/dest/`	Stores CPU usage data sent to the Prospect server
`$FLEXDAHOME/data/`*`<market>`*`/`*`<omcrname>`*`/PM/src/`	Stores PM data from an OMC-R workstation
`$FLEXDAHOME/data/`*`<market>`*`/`*`<omcrname>`*`/PM/dest/`	Stores PM data sent to the Prospect server
`$FLEXDAHOME/data/`*`<market>`*`/`*`<omcrname>`*`/CDF/src/`	Stores CDF data from an OMC-R workstation
`$FLEXDAHOME/data/`*`<market>`*`/`*`<omcrname>`*`/CDF/dest/`	Stores CDF data sent to the Prospect server
`$FLEXDAHOME/log`	Contains checkpoint files and log files
`$FLEXDAHOME/log/`*`<market>`*`/`	Stores CDF, CDL, CFG,, CPU, PM, and TMM log files for *`<market>`*
`$FLEXDAHOME/cfg`	Stores ICF and CFG files and a master copy of `Network.Mot` and `OMCR_mapping.cfg`

Table 5: 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 *<host-name>*.*<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
$FLEXDAHOME/scripts	Contains Expect scripts or link files to the scripts in the $FLEXDAHOME/COMMON/scripts and/or $FLEXDAHOME/*<vendor>*/scripts folders

Directory	Description
$FLEXDAHOME/local	Contains user-defined files

Data Collection

Data file collection takes place at a predefined time interval. The data files are saved in the $FLEXDAHOME/data/<*market*>/<*elementname*>/<*datatype*>/src directory. When the data file for a particular time interval is collected, the Prospect server receives the file by FTP.

Note that if the file transfer to the Prospect server should fail, the data file remains in the $FLEXDAHOME/data/<*market*>/<*elementname*>/<*datatype*>/src directory. During the next time interval, the file transfer is attempted again. Once the file successfully transfers to the Prospect server, it is backed up to the $FLEXDAHOME/data/<*market*>/<*elementname*>/<*datatype*>/dest directory. Table 6 defines the data files.

Table 6: Data File Definitions

Data Type	Collection Interval	File Format
TMM	30 minutes	<*MSCNAME*>.<*YYYYMMDDHHMI*>.TMM.gz
PM	30 minutes	<*MSCNAME*>.<*ExtBSC*>.<*YYYYMMDDHHMI*>.PM.gz
CDF	1 day	<*MSCNAME*>.<*OMCRNAME*>.<Ext*BSC*>.<*YYYYMMDD*>0000.CDF.gz
CFG	1 day	<*MSCNAME*>.<*YYYYMMDD*>0000.CFG.gz
CPU	30 minutes	<*MSCNAME*>.<*YYYYMMDDHHMI*>.CPU.gz

To start the monitor for TMM data processes, do the following:

```
$ flexda stop
$ flexda start
```

Note: If the monitor is already started, do not run flexda start. It is good practice to first stop the monitor by running flexda stop before running flexda start.

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 49 lists error messages, describes them, and tells you which corrective actions to take.

Topics

Using E-mail for Error Notification
Using Paging for Error Notification
Recovering Data
Testing an SSH Connection

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.

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.

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

Table 8: File Transfer Status Descriptions

Status	*Description*
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.

Testing an SSH Connection

This section describes how you can manually test the SSH connection between the Data Acquisition tools and a data collection point.

To run the sftp command manually:

```
$ sftp -S $FLEXDAHOME/flexpkg/bin/ssh <user_id>@<server_name/IP>
```

To run the ssh command manually:

```
$ ssh <user_id>@<server_name/IP>
```

where <user_id> is the login username and <server_name/IP> is the server name or IP address for the data collection point.

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
pm.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to telnet login for $USERNAME	telnet session timed out after sending $USERNAME	Check USERNAME in .icf file
	No response to password for $USERNAME	telnet session timed out after sending $PASSWORD	Check PASSWORD in .icf file
	Time out waiting for remote date	telnet session timed out after sending date command	Make sure date command is valid on the OMCR
	End-of-File on connection to OMCR	telnet session to OMCR terminated	Manually run telnet to OMCR to find out the problem
	Remote date not received	Cannot get the time on OMCR	Login to OMCR and run date +begin%y%m%d07/25/ 04M%Send command
	Invalid remote directory: $REMOTEPMDIR	Cannot cd to the $REMOTEPMDIR directory on OMCR	Check the .icf file to make sure REMOTEPMDIR is specified correctly.
	(tar -cfh $REMOTEDIR/ $pmfile $files; compress $REMOTEDIR/$pmfile) timed out	The tar and compress command timed out (15 minutes)	Check the pmC* files on the OMCR; make sure compress command exists on the OMCR

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Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	No pmC files on OMCR for $prefix$interval	No PM files exist on the OMCR for this period	Make sure $interval is valid; Check OMCR to see if pmC*.$prefix$interval files exist; If the files come in later, modify crontab to get PM files several minutes later.
	An error occurred retrieving files from $REMOTEHOST	Failed to ftp $prefix$interval.PM.tar.Z from OMCR	Make sure the .Z file can be ftped in 15 minutes
	Could not unpack new PM files in $SRCDIR: $result	gtar -xzpf $prefix$interval.PM.tar.Z command failed	Make sure gtar command can be executed; Make sure there is enough disk space
	An error occurred while copying files for SDU $sduid	Cannot find pmC files for $sduid	Check SDUID in .icf file to make sure the SDURECORDS are present on the OMCR
	An error occurred while removing SDU files for $sduid	Cannot remove pmC*.$sduid.$TIME-STAMP files from src directory	Make sure files can be removed from src directory
	An error occurred while compressing SDU files for $sduid	gzip -9 -f $omcrname.$sduid.$TIME-STAMP.SDUpm command failed	Make sure gzip command is in the PATH
	Could not move SDU files to $DESTDIR: $result	Cannot move .gz file from src to dest directory	Check disk space
	An error occurred while copying files for VPU $vpuid	Cannot find pmC files for $vpuid	Check VPUID in .icf file to make sure the VPURECORDS are present on the OMCR
	An error occurred while removing VPU files for $vpuid	Cannot remove pmC*.$vpuid.$TIME-STAMP files from src directory	Make sure files can be removed from src directory
	An error occurred while compressing VPU files for $vpuid	gzip -9 -f $omcrname.$vpuid.$TIME-STAMP.VPUpm command failed	Make sure gzip command is in the PATH

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Could not move VPU files to $DESTDIR: $result	Cannot move .gz file from src to dest directory	Check disk space
	An error occurred while copying files for AN $anid	Cannot find pmC files for $anid	Check ANID in .icf file to make sure the ANRE-CORDS are present on the OMCR
	An error occurred while removing AN files for $anid	Cannot remove pmC*.$anid.$TIME-STAMP files from src directory	Make sure files can be removed from src direc-tory
	An error occurred while compressing AN files for $anid	gzip -9 -f $omcr-name.$anid.$TIME-STAMP.ANpm command failed	Make sure gzip com-mand is in the PATH
	Could not move AN files to $DESTDIR: $result	Cannot move .gz file from src to dest direc-tory	Check disk space
	An error occurred while copying files for BSC $extbsc	Cannot find pmC files for $extbsc	Check MMID in .icf file to make sure they are present on the OMCR
	An error occurred while removing files	Cannot remove pmC*$extbsc.$TIME-STAMP files from src directory	Make sure files can be removed from src direc-tory
	An error occurred while compressing files	gzip -9 -f $msc-name.$extbsc.$TIME-STAMP.PM command failed	Make sure gzip com-mand is in the PATH
	An error occurred trans-ferring files to $FLEXP-MHOST	Cannot ftp the .gz file to $FLEXPMHOST	Make sure $FLEXPM-HOST is alive and there is enough disk space
	Could not move PM files to $DESTDIR: $result	Cannot move .gz file from src to dest directory	Check disk space
	An error occurred removing files from $DESTDIR: $output	Cannot remove old files from dest directory	Make sure files can be removed from dest direc-tory
	Could not cp raw data files to $RAWDIREC-TORY: $result	cp pmC*.$TIME-STAMP $RAWDIREC-TORY command failed	Check RAWDIREC-TORY to make sure flexda account has write permission

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	An error occurred in splitting pmC171 files $output	Error from invoking split_pmC171.pl	Check whether the split_pmC171.pl exist in the $ICFSCRIPT directory
	An error occurred while removing pmC171 files	Could not delete pmC171 data file	Make sure that the pmC171 file exist
	Permission denied to create remote directory: $REMOTEDIR	Don't have permission to create remote directory	Make sure you have permission to create directory
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT).	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
cdf.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to telnet login for $USERNAME	telnet session timed out after sending $USERNAME	Check USERNAME in .icf file
	No response to password for $USERNAME	telnet session timed out after sending $PASSWORD	Check PASSWORD in .icf file
	Time out waiting for remote date	telnet session timed out after sending date command	Make sure date command is valid on the OMCR
	Invalid remote directory: $REMOTECDFDIR	Cannot cd to the $REMOTECDFDIR directory on OMCR	Check the .icf file to make sure REMOTECDFDIR is specified correctly.
	Could not access $LOCALDIR: $result	Cannot cd to $LOCALDIR	Check $LOCALDIR in .icf file
	Could not retrieve new CDF files from $REMOTEHOST: $result	Cannot ftp yymmdd.CDF.tar.Z file from OMCR	Manually run ftp command to make sure the file can be ftped in 25 minutes
	Could not write to $LOCALDIR: $result	mkdir old new command failed	Make sure new directories can be created in src directory
	Could not save old CDF files in $LOCALDIR: $result	Cannot move old files into old directory	Make sure file can be moved

Table 9:   Error Messages (Continued)

Application	Error	Cause	Action
	Could not unpack new CDF files in $LOCALDIR/new: $result	gtar -xzpf yym-mdd.CDF.tar.Z command failed	Make sure the gtar command is in PATH
	No CDF files found on $REMOTEHOST	No new cdf files from OMCR	Login to OMCR to check cdf files
	ERROR: An error occurred in merging the CDF files, $output	mergeCDF.pl command failed	Manually run mergeCDF.pl command from src directory
	ERROR: An error occurred while compressing files, $output	gzip -9 -f *.CDF command failed	Make sure gzip command is in PATH
	ERROR: An error occurred in transferring files to $FLEXPMHOST, $output	Cannot ftp the .gz file to $FLEXPMHOST	Make sure $FLEXPM-HOST is alive and there is enough disk space
	ERROR: an error occurred in moving the files to $DESTDIR, $output	Cannot move .gz file from src to dest directory	Manually move the .gz file from src to dest directory
	An error occurred removing files from $DESTDIR: $output	Cannot remove old files from dest directory	Make sure files can be removed from dest directory
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT).	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
mergeCDF.pl	ERROR: OMCRHOST $OMCRHOST is not defined in mapping file!	Invalid OMCR_mapping.cfg	Make sure OMCR_mapping.cfg is valid, with all the required fields.
	No MSC name found in $MAPPINGFILE for internal BSC $INT_BSC in OMCR $OMCR-NAME!	No entry for BSC $INT_BSC in $OMCR-NAME in OMCR_mapping.cfg	Make sure OMCR_mapping.cfg has an entry for each BSC.
tmm.exp	Unable to quit telnet session	Cannot quit telnet session to switch	Ignore
	Invalid host $REMOTE-HOST	Cannot telnet to $REMOTEHOST	Make sure REMOTE-HOST and PORT are right in .icf file

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Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Connection refused	Connect to switch refused	Make sure there are no other connections to the switch running
	Switch not responding	Switch is not responding when trying to set up connection	Manually run telnet session to switch
	User already logged into $mscid	Another use already logged into the switch	Make sure there is no other process running
	DIS DAC DATA command timed out	The command timed out	Increase TIMEOUT in .icf file
motcfgdist.exp	Invalid host $hostname	Cannot telnet to REMOTEHOST PORT	Check .icf file for REMOTEHOST and PORT
	Switch not responding	Switch is not responding to telnet commands	Manually run telnet $REMOTEHOST $PORT to find the problem
	User already logged into $emxname	Another user already logged on	There can be only one user logged onto $REMOTEHOST $PORT
	Error while collecting $d_name data	DISPLAY $d_name command timedout	Increase TIMEOUT in .icf file
	An error occurred while compressing files	gzip command failed	Make sure gzip command is in PATH
	Error occurred while distributing file to $FLEXP-MHOST: $out1	ftp/scp files to Prospect server failed	Check $FLEXPMHOST in .icf file
	Error occured in moving the files to $DESTDIR, $output	Cannot move files to $DESTDIR	Check $DESTDIR in .icf file
	Error occurred while purging files in $LOCALDIR: $out1	Cannot remove files from $LOCALDIR	Make sure file can be removed from $LOCALDIR
mp_emis_reader	Error writing output file - - %d	Cannot write to the output file	Check ServerStoreFile in .cfg file
	EMiS_Initialize failed:	Cannot initialize EMIS	Make sure EMiS is sending data to this server at LocalPort
	Error accessing EMiS config file: %d	Cannot read .cfg file	Make sure config_file given in command line is correct

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Invalid command-line option	Invalid command line option	Use mp_emis_reader -h to get help
motsardist.exp	Error occurred while retrieving file from $REMOTEHOST	batchftp.exp/batch-scp.exp failed when retrieving files from remote host	Log on to remote host, verify source files exist in source directory in .icf file
	Error occurred while compressing file	Unable to compress data file	Check if gzip is installed
	Error occurred in trans-ferring file to $FLEXP-MHOST	batchftp.exp/batch-scp.exp failed when transferring files to $FLEXPMHOST	Check FLEXPMHOST, FLEXPMUSER, FLEXPSWD in .icf file. Use ping to check if con-nection is available.
	Error occurred while purging files in $DIR	Purging files failed on local mediation server	Contact WatchMark Technical Support for help
	Could not cp raw data files to $RAWDIREC-TORY: $result	cp sar* $RAWDIREC-TORY command failed	Check RAWDIREC-TORY to make sure flexda account has write permission
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT)	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
motevdopm-dist.exp	Source file $sf1 or $sf2 not present	Cannot find one of the two files from the source directory	Check the .icf file to make sure SERVER-NAME is specified cor-rectly. The file name should be STS_$SERVERNAME_ <timestamp>_[S|D].tgz
	Error occurred while retrieving file from $REMOTEHOST	batchftp.exp/batch-scp.exp failed when retrieving files from remote host	Log on to remote host, verify source files exist in source directory in .icf file
	Error occurred while unpacking PM tgz file	Unable to uncompress data file	Check if gzip is installed
	Source tar file $sfile con-tains invalid data direc-tory.	The source tgz file does not contain CSV direc-tory	Make sure the .tgz file contains CSV/yyyymmd-dhhmi directories.

Table 9: Error Messages (Continued)

Application	*Error*	*Cause*	*Action*
	Not enough directory under CSV	The source tgz file does not contain enough directories under CSV	Make sure the .tgz file has EXPORTCYCLE/5 directories under CSV. • For 10 minutes export cycle, there should be 2 directories. • For 20 minutes export cycle, there should be 4 directories. • For 30 minutes export cycle, there should be 6 directories.
	Data export cycle not starting on the hour	The source tgz file does not start on the hour	Make sure the data export on the OMC-DO starts on the hour. • For 10 minutes export cycle, it should start at 0, 10, 20, 30, 40, 50 minutes of the hour • For 20 minutes export cycle, it should start at 0, 20, 40 minutes of the hour • For 30 minutes export cycle, it should start at 0, 30 minutes of the hour
	No BSC-DO file in this interval	No STS_BS_<bsc-doid>_yyyymmddhhmm.csv file under CSV/yyyymmddhhmm	Make sure data export on OMC-DO is setup correctly
	Error occurred while packing output PM tgz file	Unable to compress data files	Check if gtar is installed
	Error occurred delivering files to $FLEXPMHOST: $output	batchftp.exp/batch-scp.exp failed when transferring files to $FLEXPMHOST	Check FLEXPMHOST, FLEXPMUSER, FLEXPSWD in .icf file. Use ping to check if connection is available.
	Error occurred while purging files in $DIR	Purging files failed on local mediation server	Contact WatchMark Technical Support for help

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT)	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
motpmserverd-ist.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to telnet login for $USERNAME	telnet session timed out after sending $USERNAME	Check USERNAME in .icf file
	No response to password for $USERNAME	telnet session timed out after sending $PASSWORD	Check PASSWORD in .icf file
	Time out waiting for remote date	telnet session timed out after sending date command	Action:Make sure date command is valid on the PM Server
	End-of-File on connection to PM Server	telnet session to PM Server terminated	Manually run telnet to PM Server to find out the problem
	Remote date not received	Cannot get the time on PM Server	Login to PM Server and run date +begin%y%m%d%H% M%Send command
	Invalid remote directory: $REMOTEPMDIR	Cannot cd to the $REMOTEPMDIR directory on PM Server	Check the .icf file to make sure REMOTEPM-DIR is specified correctly.
	(tar -cfh $REMOTEDIR/ $pmfile $files; compress $REMOTEDIR/$pmfile) timed out	The tar and compress command timed out (15 minutes)	Check the pmC* files on the OMCR; make sure compress command exists on the OMCR
	No pmC files on PM Server for $prefix$interval	No PM files exist on the PM Server for this period	Make sure $interval is valid; Check PM Server to see if pmC*.$prefix$interval iles exist; If the files come in later, modify crontab to get PM files several minutes later.
	An error occurred retrieving files from $REMOTEHOST	Failed to scp/ftp $prefix$interval.PM.tar.Z from PM Server	Make sure the .Z file can be ftped/scped in 15 minutes

Table 9:   Error Messages (Continued)

Application	Error	Cause	Action
	Could not unpack new PM files in $SRCDIR: $result	gtar -xzpf $prefix$interval.PM.tar.Z command failed	Make sure gtar command can be executed; Make sure there is enough disk space
	An error occurred while copying files for $omcr-$mm	Cannot find pmC files for OMCR $omcr, MM $mm	PM records should be pmC5??.$omcr.$mm.$TIMESTAMP on the PM Server
	An error occurred while removing files	Cannot remove pmC5??.$omcr.$mm.$TIMESTAMP files from src directory	Make sure files can be removed from src directory
	An error occurred while compressing files	gzip -9 -f $PMSERVER.$omcr.$mm.$TIMESTAMP.CDLpm command failed	Make sure gzip command is in the PATH
	An error occurred transferring files to $FLEXPMHOST	Cannot scp/ftp the .gz file to $FLEXPMHOST	Make sure $FLEXPMHOST is alive and there is enough disk space
	Could not move PM Server files to $DESTDIR: $result	Cannot move .gz file from src to dest directory	Check disk space
	An error occurred removing files from $DESTDIR: $output	Cannot remove old files from dest directory	Make sure files can be removed from dest directory
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT)	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
motaemsdist.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to telnet login for $USERNAME	telnet session timed out after sending $USERNAME	Check USERNAME in .icf file
	No response to password for $USERNAME	telnet session timed out after sending $PASSWORD	Check PASSWORD in .icf file
	Time out waiting for remote date	telnet session timed out after sending date command	Make sure date command is valid on the PM Server

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	End-of-File on connection to PM Server	telnet session to PM Server terminated	Manually run telnet to PM Server to find out the problem
	Remote date not received	Cannot get the time on PM Server	Login to PM Server and run date +begin%y%m%d%H%M%Send command
	Invalid remote directory: $REMOTEPMDIR	Cannot cd to the $REMOTEPMDIR directory on PM Server	Check the .icf file to make sure REMOTEPMDIR is specified correctly.
	(tar -cfh $REMOTEDIR/ $pmfile $files; compress $REMOTEDIR/$pmfile) timed out	The tar and compress command timed out (15 minutes)	Check the aemsC files on the PM Server. Make sure compress command exists on the PM Server
	No AEMSC13/AEMSC2 files on PM Server for $TIMESTAMP	No AEMSC13/AEMSC2 files exist on the PM Server for this period	Check PM Server to see if aemsC[1|2|3]_xx/ aemsC*.$TIMESTAMP files exist; If the files come in later, modify crontab to get AEMS files several minutes later.
	Could not access $SRCDIR: $result	Cannot cd to $SRCDIR	The $SRCDIR should be automatically created by the setup script. Check .icf file to make sure $SRCDIR is specified correctly and the directory exists
	Could not retrieve AEMS files from $REMOTEHOST: $result	Failed to scp/ftp $prefix$interval.AEMSC13/ AEMSC2.tar.Z from PM Server	Make sure the .Z file can be ftped/scped in 15 minutes.
	Could not unpack $DTYPE files in $SRCDIR: $result	gtar -xzpf $prefix$interval.$DTYPE.tar.Z command failed	Make sure gtar command can be executed; Make sure there is enough disk space.
	An error occurred while taring files for OMCR $omcrid	tar command failed	Make sure tar command is available and $SRCDIR is writable
	An error occurred while removing files for OMCR $omcrid	Cannot remove aemsC_.$TIMESTAMP files from src directory	Make sure files can be removed from src directory

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	An error occurred while compressing files	gzip command failed	Make sure gzip command is in the PATH
	An error occurred transferring files to $FLEXPMHOST	Cannot scp/ftp the .gz file to $FLEXPMHOST	Make sure $FLEXPMHOST is alive and there is enough disk space
	Could not move AEMS files to $DESTDIR: $result	Cannot move .gz file from src to dest directory	Check disk space
	An error occurred removing files from $DESTDIR: $output	Cannot remove old files from dest directory	Make sure files can be removed from dest directory
	Permission denied to create remote directory: $REMOTEDIR	Don't have permission to create remote directory	Make sure you have permission to create directory
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT).	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
necf.exp	Connection to $REMOTEHOST failed	Cannot establish connection to the $REMOTEHOST	Check REMOTEHOST in .icf file
	No response to login for $USERNAME	telnet session timed out after sending $USERNAME	Check USERNAME in .icf file
	No response to password for $USERNAME	telnet session timed out after sending $PASSWORD	Check PASSWORD in .icf file
	Time out waiting for remote date	telnet session timed out after sending date command	Make sure date command is valid on the OMCR
	Invalid remote directory: $REMOTENECFDIR	Cannot cd to the $REMOTENECFDIR directory on OMCR	Check the .icf file to make sure REMOTENECFDIR is specified correctly.
	No NECF files on OMCR	No NECF files from OMCR	Login to OMCR to check NECF files under /screl/ active/loadable/mm-x
	Could not access $LOCALDIR: $result	Cannot cd to $LOCALDIR	Check $LOCALDIR in .icf file

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Could not retrieve NECF files from $REMOTE-HOST: $result	Cannot ftp yym-mdd.NECF.tar.Z file from OMCR	Manually run ftp command to make sure the file can be ftped in 25 minutes
	Could not unpack NECF files in $LOCALDIR: $result	gtar -xzpf yym-mdd.NECF.tar.Z command failed	Make sure the gtar command is in PATH
	An error occurred while taring files for BSC $ext-bsc	tar command failed	Make sure tar command is in PATH
	An error occurred while removing NECF files for BSC $mmid	Failed to remove the NEC*.xml files from the $LOCALDIR	cd to $LOCALDIR and make sure the xml files can be deleted
	An error occurred while compressing files, $output	gzip -9 -f *.NECF command failed, $output is the command output	Make sure the gtar command is in PATH
	An error occurred transferring files to $FLEXP-MHOST, $output	Cannot ftp the .gz file to $FLEXPMHOST	Make sure $FLEXPM-HOST is alive and there is enough disk space
	Could not move NECF files to $DESTDIR: result	Cannot move .gz file from src to dest directory	Manually move the .gz file from src to dest directory
	An error occurred removing files from $DESTDIR: $output	Cannot remove old files from dest directory	Make sure files can be removed from dest directory
	Permission denied to create remote directory: $REMOTEDIR	Don't have permission to create remote directory	Make sure you have permission to create directory
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT).	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2
motevdopmemh-dist.exp	Invalid CYCLE value : $CYCLE. Only CYCLE 10 is supported	This datatype only support 10-minute cycle	Check the <host-name>.ntcdma.cfg file to make sure that parameter CYCLE for the EVDO PM EMH datatype is set to 10
	Error clearing directory $LOCALDIR/tmp : $out	Temporary directory $LOCALDIR/tmp failed to be cleared	Make sure the directory is accessible and FLEXDA has full access to it

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Table 9: Error Messages (Continued)

Application	Error	Cause	Action
	Could not retrieve EVDO PM EMH files from $REMOTEHOST: $result	The source file is not available on the remote host, the file search filter is incorrect or the user/password supplied to access the remote host is invalid	Make sure that the filename is correct, STS_EMH<id>_<timestamp>_<DST>.tgz, is available on the remote server and the user/password is correct
	Error occurred while unpacking source PM EMH tgz file: $out	The source file cannot be unpacked	Make sure that the source file is in the correct format (*.tgz)
	An error occurred while removing source PM EMH tgz file for $EMH-NAME	The source file cannot be removed from $LOCALDIR/src to $LOCALDIR/tmp tmp directory	Make sure the directory and the source file is accessible and FLEXDA has full access to it
	Directory CSV is missing from the source tar file $sfile.	After unpacking, the CSV directory is not available	Check that the source file is in the correct format and structure (with CSV directory)
	Directories ${tsdir1}_${ext} and/or ${tsdir2}_${ext} is/are missing from the source tar file $sfile	After unpacking, the ${tsdir1}_${ext} and/or ${tsdir2}_${ext} directories is/are not available inside the CSV directory	Check that the source file is in the correct format and structure
	Error occurred while packing output PM tgz file: $out	The source file cannot be repacked	Make sure the directory and the source file is accessible and FLEXDA has full access to it
	Error occurred delivering files to $FLEXPM-HOST: $output	The DA output cannot be transferred to the destination server	Make sure that the target directory is specified correctly and the user/password for the remote server is correct
	Error occurred while purging files in $LOCALDIR: $out1	Old files from directory $LOCALDIR failed to be purged	Make sure the directory is accessible and FLEXDA has full access to it
	Invalid value for SECUREDELIVER/ SECURECOLLECT ($SECUREDELIVER/ $SECURECOLLECT).	Incorrect value for SECUREDELIVER/ SECURECOLLECT	Make sure the value is only 0, 1, or 2

Table 9: Error Messages (Continued)

Application	Error	Cause	Action
motevdocfgmap-dist.exp	Invalid value for INNERFILEDIR_F ($INNERFILEDIR_F)	The INNERFILEDIR_F parameter was set with unrecognize value. The valid value is either 1 or 0.	Correct the value for INNERFILEDIR_F.
	Invalid value for SECURECOLLECT ($SECURECOLLECT)	The SECURECOLLECT parameter was set with unrecognize value. The valid value are 0, 1 or 2.	Correct the value for SECURECOLLECT.
	FTP output: $out	Failed to transfer the file from remote NE to DA server. Possibly cause by connection failure or target file not exist.	Action: Check the connection is ok and the file exist by manually FTP/SFTP/SCP the remote file.
	source file $sfile not present	The source file was missing after the transfer.	Make sure no other process is using or deleting the respecting $FLEXDAHOME/data directory.
	Error occurred move $infiles to $ofile: $out	Unable to move $infiles to $ofile.	Make sure the files and the permission is valid.
	Error occurred while packing output CDL tgz file: $out	Cannot gzip file.	Check the gzip is accessible.
	Invalid value for SECUREDELIVER ($SECUREDELIVER)	The SECUREDELIVER parameter was set with unrecognize value. The valid value are 0, 1 or 2.	Correct the value for SECUREDELIVER.
	Error occurred delivering files to $FLEXPMHOST: $output	Failed to transfer the file from DA server to Prospect server. Possibly cause by connection failure or target file not exist.	Check the connection is ok and the file exist by manually FTP/SFTP/SCP the remote file.
	Error occurred while purging files in $LOCALDIR: $out1	Old files from directory $LOCALDIR failed to be purged	Make sure the directory is accessible and FLEXDA has full access to it.

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