Oracle ASAP™ Cartridge 1.0 for Nortel DMS MTX

Nortel DMS MTX Cartridge Guide

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Cartridge Overview

ASAP cartridges are discrete software components that are developed for the ASAP product. An ASAP cartridge offers specific domain behavior on top of the core ASAP software, and provides the configuration that supports a set of services on a network element (NE).

An ASAP cartridge is not a stand-alone component, but operates in conjunction with the ASAP core product. ASAP cartridges offer the following benefits:

- **Reduced Time to Market**—time to market of new services is reduced through simplified development, implementation, and extension of cartridges on customer sites.
- **Extendable**—cartridges can be extended to include additional services and components that deliver business value, without requiring changes to the original cartridge.
- **Simplified Effort**—the effort and technical knowledge that is required to perform customizations is reduced.
- **Ease of Installation**—cartridges can be installed into an ASAP environment without interfering with the existing install base.

An ASAP cartridge can be used to configure ASAP to provision the following:

- NEs from a specific vendor, such as Nortel or Lucent.
- Technologies, such as Asynchronous Transfer Mode (ATM) and Frame Relay switches, or Internet Protocol (IP) routers.
- Services that are supported on the NE, such as ATM, IP Virtual Private Networks (VPN), Wireless, or Optical.

Cartridges are designed for a specific technology, software load, and service.

An ASAP cartridge supports a particular set of services on an NE. These services are independent of customer-specific service definitions. Professional Services or systems integrators can perform extensions to the cartridge to support customer-specific requirements.

For more information on extending a cartridge, refer to the *ASAP Cartridge Development Guide for Service Activation*.

Cartridge content

An ASAP cartridge contains the following:

- An interface to the NE
- A set of scripts, such as State Tables or Java methods
- A set of atomic actions in the form of Atomic Service Description Layer (ASDL) commands
- A set of Common Service Description Layer (CSDL) commands that form meaningful services
- Sample work orders
- Installation scripts

Prerequisites

System integrators such as managers, designers, programmers, and testers who are responsible for the adaptation and integration of ASAP-based solutions should use this manual as a reference. It assumes that readers possess the following skills:

- A knowledge of ASAP programming concepts
- A good working knowledge of the UNIX operating system
- A thorough understanding of service and network provisioning
- Familiarity with telecommunications

About this guide

This guide provides a detailed description of the Nortel DMS MTX cartridge. It contains overview and technical information to assist with extending and integrating the cartridge into a customer environment.

The scope of this guide includes ASAP as it pertains to this cartridge. It is not a complete ASAP reference guide.

For additional ASAP information when using this cartridge, refer to the following supporting documentation:

- **ASAP documentation set**—for detailed information on the ASAP core product.
- **ASAP Cartridge Development Guide for Service Activation**—for information on how to extend a cartridge.

The Nortel DMS MTX cartridge provides the ASAP service configuration and network element (NE) interface to activate Wireless services on Nortel DMS MTX NEs.

Services, features, and options

Table 1: Supported services

Service/Provisioning Entity	Service Description
Subscriber	Add Subscriber, delete subscriber
Authentication	Add authentication code, delete authentication code
Authentication Category	Add authentication category, delete authentication category
Feature/Option	Add features or options, delete features or options
Service Group	Add service group, delete service group
Serial Number	Modify the serial number
Customer Group	Modify customer group
Roam intercept	Add mobile devices to the roaming interception table, delete mobile devices to the roaming interception table

Hardware and software requirements

The following sections contain the high-level software and hardware environment requirements for provisioning Wireless services using this cartridge, including:

- Network element (NE) interface
- ASAP version

Network element (NE) interface

This cartridge operates with Nortel DMS MTX NEs operating with software load 12.

ASAP version

This cartridge was developed and tested using ASAP 4.6.2 or higher

For more information on the operating environment of this ASAP version, refer to the relevant ASAP Release Record.

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Installing and Testing the Cartridge

This chapter describes the following procedures related to installing and testing the cartridge:

- Downloading the cartridge
- Installing the cartridge
- Uninstalling the cartridge
- Testing the cartridge installation

Downloading the cartridge

Before you can install the cartridge, you must use the internet to download the cartridge's TAR file from Oracle's Customer Portal.

Use the following instructions to download, then unTAR the TAR file.

To download the TAR file

1. Login to Oracle MetaLink internet home page (http://www.metalink.oracle.com).
2. Download the cartridge patch to your workstation.

To unTAR the TAR file

1. On you workstation, create a repository directory—the naming of which is your choice.

   ```
   mkdir <repository dir>
   ```

2. Untar NortelDMS-MTX_R2_0_0.tar.

   ```
   tar xvf NortelDMS-MTX_R2_0_0.tar
   ```

3. Copy the resulting /DMS-MTX_12 directory and its contents to the repository directory.

   ```
   cp -rf /DMS-MTX_12 <repository_dir>
   ```

The directory structure in the repository directory should look like the following illustration. (this illustration describes the minimum required structure; you can enhance this directory structure with additional directories based on your requirements and deliverables).

```
<repository_directory>
   DMS-MTX_12
      /README
      /installCartridge
      /uninstallCartridge
```

```
/NORTEL_DMS_MTX_12_WIRELESS_1_0.sar
```

Starting ASAP

Before installing the cartridge, ensure that ASAP is running.

To start ASAP

1. To start ASAP, execute the following script:

   ```
   start_asap_sys
   ```

2. Ensure the ASAP Daemon (DAM_$ENV_ID) is running by checking the ASAP status using the ASAP script “status”.
3. Check whether the WebLogic instance for this ASAP environment is running. If not, start the WebLogic instance.

The *ASAP Administration Guide* contains more information on starting ASAP, the ASAP Daemon, and WebLogic.

Installing the cartridge

Run the installation script installCartridge to install the cartridge. You will find this script under /DMS-MTX_12. The script executes the following tasks:

- Configures the Nortel DMS MTX-specific NE using the SACT.
- Deploys the Nortel DMS MTX cartridge service model (only if the Nortel DMS MTX service model is not yet deployed) using the Service Activation Deployment Tool (SADT).
- Copies the Nortel DMS MTX-specific jar files and the cpp library file to the ASAP environment.
- Loads the sample work orders to the SRP database.

For information on the SACT and the SADT, refer to the *ASAP Administration Guide*.

To install the cartridge

1. Run the installCartridge script from /DMS-MTX_12. At the prompt, type:

   ```
   installCartridge NORTEL_DMS_MTX_12_WIRELESS_1_0.sar
   ```

2. The script prompts you for the values of the following WebLogic login parameters:

   - WebLogic Hostname
   - WebLogic HTTP Port
   - WebLogic Login User ID
   - WebLogic Login Password

   The script loads the NEP-NE configuration and the CSDL-ASDL configuration to the SARM database, and loads sample work orders to the SRP database. The script also copies the cartridge-specific jar files and cpp library file to the ASAP environment.

3. Restart ASAP to upload the cartridge configuration into ASAP.

Uninstalling the cartridge

Run the uninstallation script uninstallCartridge to uninstall the Nortel DMS MTX cartridge. This script is located under DMS-MTX_12. The script executes the following tasks:

- Unconfigures Nortel DMS MTX-specific NEs using the SACT.
- Undeploys the Nortel DMS MTX cartridge service model (only if the Nortel DMS MTX service model is already deployed) using the Service Activation Deployment Tool (SADT).
- Removes the Nortel DMS MTX-specific jar files and cpp library file from the ASAP environment.

For more information on the SACT and the SADT, refer to the *ASAP Administration Guide*.

To uninstall the cartridge

1. Run the uninstallCartridge script from /DMS-MTX_12. At the prompt, type

```
uninstallCartridge NORTEL_DMS_MTX_12_WIRELESS_1_0.sar
```

2. The script prompts you for the values of the following parameters:
   - WebLogic Hostname
   - WebLogic HTTP Port
   - WebLogic Login User ID
   - WebLogic Login Password

The script unloads the NEP-NE configuration and CSDL-ASDL configuration from SARM database. It also removes the cartridge specific jar files and cpp library file from the ASAP environment.

Testing the cartridge installation

To test this cartridge installation, you need to know about the network element (NE), services, and basic ASAP configuration. You may need to perform adjustments to provision a service for a specific NE, network, or connectivity configuration.

You can test the cartridge installation using one of the following methods:

- **Loopback mode**—does not actually connect to or send commands to the NE.
- **Live mode**—connects to and sends commands to a live NE.

Configuring loopback and live mode parameters

Set the following variables to test the cartridge in loopback or live testing modes.

Loopback mode

Set the following parameter to test the cartridge in loopback mode.

Table 2: Loopback Mode Parameter Settings

Configuration Variable	Parameter Settings	Location
LOOPBACK_ON	1 (default setting)	ASAP.cfg

Live mode

Set the following parameter to test the cartridge in live mode.

Table 3: Live Mode Parameter Settings

Configuration Variable	Parameter Settings	Location
LOOPBACK_ON	0	ASAP.cfg

Communication parameters

The following are the list of parameters for the sample NE configuration XML used by SACT.

Table 4: Communication parameters in ne_config XML

Parameters	Default Value	Description
HOST_IPADDR	127.0.0.1	The network IP address for the NE host.
PORT	23	Nortel DMS MTX port.
READ_TIMEOUT	5	Read timeout (seconds)
CONNECTION_PAUSE	5	Connection pause time in milliseconds.
PAUSE_TIME	3	Pause time in milliseconds.
NT_LOGIN	asapw	Nortel login value.
NT_PASSWORD	asap1tst	Nortel password value
HOST_LOGIN	Test	Login value for SAM IP address.
HOST_PASSWORD	Test	Password value for SAM IP address.
AG_PASSWORD	asap1	AG password value for SAM IP address.
DESTINATION_VALUE	Sam577	Destination value for Nortel DMS MTX cartridge.
RESPONSELOG	TRUE	Flag to turn on or off response log.
USER_ERROR_TYPES_FILE	/config/Nortel_DMS-MTX_12_UserExitTypes.cfg	Exit type list map file.
USE_SAM	NO	Whether to use SAM for connecting NE.

Modifying nortel_dms_mtx_12_ne_config.xml

Use the following procedure to modify nortel_dms_mtx_12_ne_config.xml.

To modify nortel_dms_mtx_12_ne_config.xml

1. Create a new source directory under /DMS-MTX_12. You can give this directory any appropriate, meaningful name you want to.

   ```
   mkdir <new_source_directory>
   ```

2. Copy NORTEL_DMS_MTX_12_WIRELESS_1_0.sar to this new source directory.

   ```
   cp NORTEL_DMS_MTX_12_WIRELESS_1_0.sar ./<new_source_directory>
   ```

3. Change directory to <new_source_directory>.

   ```
   cd <new_source_directory>
   ```

4. Un-jar NORTEL_DMS_MTX_12_WIRELESS_1_0.sar This extracts the contents of the sar file (see Figure 1 on page 11 for an example of the resulting file structure).

   ```
   jar xvf NORTEL_DMS_MTX_12_WIRELESS_1_0.sar
   ```

5. Edit <new_source_directory>/DMS-MTX_12/common/application_config/ nortel_dms_mtx_12_ne_config.xml in with the appropriate changes.

6. Create a new sar file at the <new_source_directory> level.

   ```
   CreateSar $PWD
   ```

7. Uninstall the cartridge using NORTEL_DMS_MTX_12_WIRELESS_1_0.sar in /DMS-MTX_12 (That is, use the original sar file that you copied in Step 2 above—see "Uninstalling the cartridge" on page 7 for uninstallation instructions).

8. After you uninstall the cartridge, rename the sar file in /DMS-MTX_12 so you have a backup copy of it.

9. Copy the new sar file from <new_source_directory> to /DMS-MTX_12.

10. Reinstall the cartridge (see "Installing the cartridge" on page 7 for installation instructions).

```
META-INF/activation-model.xml
Nortel/
    DMS-MTX_12/
        Wireless/
            sample_wo/
            sarm/
                ne_progs/
                PLSQL/
            control/
                PLSQL/
            nep/
                PLSQL/
            java/
                lib/
            cpp/
                lib/
            service_model/{at least one .xml file}
            application_config/
        common/
            sarm/
                ne_progs/
                PLSQL/
            control/
                PLSQL/
            nep/
                PLSQL/
            java/
                lib/
            cpp/
                lib/
            service_model/
            application_config/
            scripts/
```

Figure 1: File Structure of the Un-Jared .sar File

Testing the installation

The following procedure describes the steps required to test the cartridge installation in loopback mode. We recommend that you perform the initial cartridge installation test in loopback mode.

To test in loopback mode

1. Stop ASAP by typing the following command at the UNIX prompt:

   ```
   stop_asap_sys
   ```

2. Ensure loop back mode is on. See "Loopback mode" on page 8 for a description of how to set the loop back parameter to "On".

3. Start ASAP by typing:

   ```
   start_asap_sys
   ```

4. Send the sample work orders through the SRP Emulator by typing:

   ```
   run_suite $SRP <ctrl_password> <suite name>
   ```

   You can locate the suite names in /DMS-MTX_12/sample_wo by typing:

   ```
   grep   SUITE * | grep -v END
   ```

   A list of all available suites appears.

   To see the sample work orders, refer to Viewing the sample work orders, below.

   For more information on the SRP Emulator, refer to the *ASAP Administration Guide*.

5. Verify the status of the sample work orders by typing:

   ```
   asap_utils l
   ```

   All successful work orders return the 104 state.

   To view the sample work orders provided with this cartridge, refer to the Nortel DMS MTX cartridge source.

Viewing the sample work orders

You find the sample work orders under the sample_wo directory in the sar file. The following procedure describes how to view the sample work orders.

To view the sample work orders

1. If necessary, create a repository directory under /DMS-MTX_12, copy the sar file to the new directory and un-jar the sar file, as described by Step 1 through Step 4 in "Modifying nortel_dms_mtx_12_ne_config.xml" on page 10.

2. Locate and view the sample work order files under /DMS-MTX_12/Wireless/sample_wo.

3

Atomic Service Description Layer (ASDL) Commands

ASDL commands represent a set of atomic actions that ASAP can perform on a network element (NE). ASAP can combine ASDLs to create meaningful services (CSDLs) within a cartridge.

This chapter presents detailed information on the ASDL parameters that we provide with this cartridge. The following table lists and describes the type of parameter information that is included.

Table 5: ASDL parameter information

Item	Description
Parameter Name	Identifies the parameter that is configured for the stated service.
Description	Describes the parameter.
Range	Describes or lists the range of values that can be used to satisfy this parameter.
Default Value	Configures a default value for the parameter so that it is not mandatory for the upstream system to provide a value.

Table 5: ASDL parameter information

Item	Description
Type	Indicates one of the following parameter types: ◆ S—Scalar, specifies the parameter label transmitted on the ASDL command. Scalar parameters are conventional name-value pair parameters. ◆ C—Compound, specifies the base name of the compound parameter transmitted on the ASDL command. A compound parameter contains structures or arrays of information that are represented by a particular structure name or compound parameter name. Each compound parameter can contain a large number of elements. If you use compound parameters, you only require a single entry in the ASAP translation tables to call the compound parameter and all its associated parameter elements. ◆ I—Indexed, identifies a parameter that contains a sequential numerical index value to tell the SARM that it should execute the same operation (for example, an ASDL command) for all occurrences of that index. Consequently, if there are several options on a particular CSDL command (OPT1, OPT2, OPT3, etc.), you can specify the OPT parameter as an indexed parameter. When you specify the OPT parameter as an indexed parameter, the SARM generates several occurrences of that same ASDL command and each command has a different value for the option being transmitted to the NEP. For more information on parameter types, refer to the *ASAP Developer Reference*.
Class	Indicates one of the following parameter classifications: ◆ R—Required scalar parameter ◆ O—Optional scalar parameter ◆ C—Required compound parameter ◆ N—Optional compound parameter ◆ M—Mandatory indexed parameter ◆ I—Optional indexed parameter ◆ S—Parameter count

For a detailed description of the Required and Optional parameter classifications, refer to the *ASAP Administration Guide.*

ASDL commands

The Nortel DMS MTX cartridge provides the following ASDL commands to support Wireless service on Nortel DMS MTX NEs:

- A_NT-DMS-MTX_12_ADD_AUC
- A_NT-DMS-MTX_12_ADD_AUC-CATEGORY
- A_NT-DMS-MTX_12_ADD_OPTION
- A_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT
- A_NT-DMS-MTX_12_ADD_SUB
- A_NT-DMS-MTX_12_ADD_SVC-GRP
- A_NT-DMS-MTX_12_CONV_HEX-TO-DEC
- A_NT-DMS-MTX_12_DEL_AUC
- A_NT-DMS-MTX_12_DEL_AUC-CATEGORY
- A_NT-DMS-MTX_12_DEL_OPTION
- A_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT
- A_NT-DMS-MTX_12_DEL_SUB
- A_NT-DMS-MTX_12_DEL_SVC-GRP
- A_NT-DMS-MTX_12_MOD_CUSTOMER-GRP
- A_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

A_NT-DMS-MTX_12_ADD_AUC

Adds authentication. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.addAuthentication.**

Table 6: A_NT-DMS-MTX_12_ADD_AUC

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
MIN	The mobile identification number.			S	R
ESN	The electronic serial number.			S	O
AAV	The version of the authentication algorithm.			S	O
DECIMAL_SERIAL	First two digit of 8 digit hex number.			S	R

Table 6: A_NT-DMS-MTX_12_ADD_AUC

Parameter Name	Description	Range	Default Value	Type	Class
DECIMAL_UNIT	First two digit of 6 digit hex number.			S	R
AKEY	Authentication key.			S	R

MML command

Syntax:

```
ACADD
```

Parameters:

```
<MIN> [<ESN>] [<AAV>]
Syntax: table esnakey
Syntax: ADD
Parameters: <DECIMAL_SERIAL> <DECIMAL_UNIT> <AKEY> <199> <'yyyy/mm/dd'>
```

Output parameters

N/A

A_NT-DMS-MTX_12_ADD_AUC-CATEGORY

Adds an authentication category. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.addAuthenticationCategory.**

Table 7: A_NT-DMS-MTX_12_ADD_AUC-CATEGORY

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R

MML command

Syntax:

```
ADO
```

Parameters:

<DN>

Output parameters

N/A

A_NT-DMS-MTX_12_ADD_OPTION

Adds options with features. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.addOption.**

Table 8: A_NT-DMS-MTX_12_ADD_OPTION

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	O

The FEATURE_LIST compound parameter is an indexed list of MML elements supplied by the upstream to add, modify, or delete options/feature details to a subscriber line. Each entry in the FEATURE_LIST represents one or more of the options/features to be added/deleted, etc. The index starts with 1.

Example.

FEATURE_LIST[1] = arw cdw 3wc

FEATURE_LIST[2] = acc ccw

The cartridge does not check the validity of the options/features string being passed by the upstream.

MML command

Syntax:

ADO $

Parameters:

```
[<DN> {STRING}]

[<OPTION> {ABRD, ACC, ACCA, ARW, AUL <AULDN>, AUTH, CCBK, CCMP, CCVM, CCW,
CDACT, CDW, CEP, CFB  <CFBNAN> <REMOTE> <ACTIVE>, CFDF, CFR, CFNA
<CFNADN><REMOTE><ACTIVE>, CFU

<CFUDN><REMOTE><ACTIVE>, CLF, CNIP, CNIR, CNRA, CNRD, CSO

<VOICE_SVC>, CWT, CXR, DFLTGP, DND, DOR, DR <FIXED> <STD_RING>
<PVT_RING><SHARED_LIST><DN><MAX_LIST_SIZE>,

DRL, DTM, ECNP, FMR, FWT, IHO, IMTX, INTL, IROAM, MAC, MAHD, MCT, MOBICPT,
MWI, MWT, NAUT, NCDA, NRA <EXP> <SID_LIST> <ROAMGRP_LIST>, NSP, NTD, OAP,
ONRA, PGA, PIC, PRA <EXP> <SID_LIST><ROAMGRP_LIST>, PSRS <PSRSLIST>, RAM
<EXP> <SID_LIST><ROAMGRP_LIST>, RDND, RFP, RLG, RMA, RSUS, RTB, RVR, SND,
STB, SUS, TDN, TDO, TSO, 3WC, TBE, TBT, TIN, NTXT, FWI, NFWI, UNPGM, UZONE,
WINSVC, SACT, SCA <ACTIVE> <FIXED> <ACTION> <SHARED_LIST><DN><MAX_LIST_SIZE>,
SCD <ACTIVE> <FIXED><ACTION><SHARED_LIST><DN><MAX_LIST_SIZE>, ACF
<ACTIVE><FIXED>, SWA, ACB <ACTIVE><FIXED>, DND, 1WRDPG}]
```

Output parameters

N/A

A_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Adds a mobile to the roaming intercept table. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxTableProv.addRoamIntercept.**

Table 9: A_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
SERIAL	Serial number in Hex format.			S	R
SYSTEM	Mobile serving area system identification number.			S	R
DAY	Day portion of the date. The default day is the current system day.	01-31		S	O

Table 9: A_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
MONTH	Month portion of the date. The default month is the current system month.	01-12		S	O
YEAR	Year portion of the date. The default year is the current system year.	00-99		S	O
ADMIN	Administrative information.			S	R

MML command

```
table roamicpt
     add nnn nnnnnnnn system year month day admin
where:
'nnn' is the first 3 digits of the Hexadecimal serial number converted to decimal denoting manufacturer code<BR>
'nnnnnnnn' is the rest of the digits of the Hexadecimal serial number converted to decimal denoting unit number <BR>
'system' is the mobile serving area system identification number
'year' is the year part of the date
'month' is the month part of the date
'day' is the day part of the date
'admin' is the administrative text to be added to the mml command
```

Output parameters

N/A

A_NT-DMS-MTX_12_ADD_SUB

Adds a subscriber with features. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.addSubscriber.**

Table 10: A_NT-DMS-MTX_12_ADD_SUB

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R
LCC	Line class code.			S	O
SERIAL	Serial number.			S	O
UNIT	The mobile unit number.			S	O
MSR	The mobile servicing region.			S	O
CUSTGRP	Customer group number.			S	O
MSID_KIND	Mobile identification number.			S	O
MIN_DIGITS	Multiple MIN digits value with NPA, NXX and STATION. The maximum number of digits is eighteen.			S	O
LANGUAGE	The preferred language to be used for mobile text messaging.			S	O
CLNGCAT	Calling category value.			S	O
CLDSVC	Called service field value.			S	O

Table 10: A_NT-DMS-MTX_12_ADD_SUB

Parameter Name	Description	Range	Default Value	Type	Class
MOBILITY	The class of mobility for the subscriber.			S	O
BLNGCAT	The billing category value.			S	O
DATASERV	The cellular data service value.			S	O
SERVOP	The data service option value.			S	O
MPCAP	mpcap			S	O
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	O

The FEATURE_LIST compound parameter is an indexed list of MML elements supplied by the upstream to add, modify, or delete options/feature details to a subscriber line. Each entry in the FEATURE_LIST represents one or more of the options/features to be added/deleted, etc. The index starts with 1.

Example.

FEATURE_LIST[1] = arw cdw 3wc

FEATURE_LIST[2] = acc ccw

The cartridge does not check the validity of the options/features string being passed by the upstream.

MML command

Syntax:

```
NEW $
```

Parameters:

```
[<DN> {STRING}]
[<LCC> {CCF, CDF, CFNA, CSD, CSP, INW, MOB, NLCC, OWT, PBX, PBM, TWX, VLN,
ZMD, ZMZPA,1FR, 1MR, 2FR, 2WW, 4FR, 8FR, 10FR}]
```

```
[<SERIAL> {0-255}]
[<UNIT> {0-16777215}]
[<MSR> {0-255}]
[<CUSTGRP> {0-255}]
[<MSID_KIND> {MIN, IMSI}]
[<MIN_DIGITS> {up to 18 digits, followed by $}]
[<PICSEL> {Y <CARRIER> {table OCCNAME}<CHOICE>{Y, N}, N}]
[<RFPIN> {up to 8 alphanumeric characters}]
[<LANGUAGE> {table TEXTLANG}]
[<SVCLIST> {up to 16 alpha characters, followed by $}]
[<CLNGCAT> {NILCAT, REG, OPER, DATA, PREF, MTCE, FREE, LOCAL, TOLL, TIMECHG}]
[<CLDSVC> {NILSVC, CHARGE, NOCHRG, NOSERV, UNAVAIL, CHANGE}]
[<MOBILITY> {FULL, FIXED <HOME_CELL> {0-511w}}]
[<BLNGCAT> {NILCAT, REG, OPER, DATA, PREF, MTCE, FREE, LOCAL, TOLL, TIMECHG}]
[<DATASERV> {Y <SERVOP> {CDMA_ASYNC_96, CDMA_ASYNC_144,
CDMA_G3FAX_96, CDMA_G3FAX_144, CDMA_AFAX_96 or CDMA_AFAX_144}, N}}]
[<OPTION> {ABRD, ACC, ACCA, ARW, AUL <AULDN>, AUTH, CCBK, CCMP, CCVM, CCW,
CDACT, CDW, CEP, CFB <CFBNAN><REMOTE><ACTIVE>, CFDF, CFR, CFNA
<CFNADN><REMOTE><ACTIVE>, CFU <CFUDN><REMOTE><ACTIVE>, CLF, CNIP, CNIR, CNRA,
CNRD, CSO <VOICE_SVC>, CWT, CXR, DFLTGP, DND, DOR, DR <FIXED> <STD_RING>
<PVT_RING> <SHARED_LIST> <DN> <MAX_LIST_SIZE>, DRL, DTM, ECNP, FMR, FWT, IHO,
IMTX, INTL, IROAM, MAC, MAHD, MCT, MOBICPT, MWI, MWT, NAUT, NCDA, NRA
<EXP><SID_LIST><ROAMGRP_LIST>, NSP, NTD, OAP, ONRA, PGA, PIC, PRA
<EXP><SID_LIST><ROAMGRP_LIST>, PSRS <PSRSLIST>, RAM
<EXP><SID_LIST><ROAMGRP_LIST>, RDND, RFP, RLG, RMA, RSUS, RTB, RVR, SND, STB,
SUS, TDN, TDO, TSO, 3WC, TBE, TBT, TIN, NTXT, FWI, NFWI, UNPGM, UZONE, WINSVC,
SACT, SCA <ACTIVE> <FIXED> <ACTION> <SHARED_LIST> <DN> <MAX_LIST_SIZE>, SCD
<ACTIVE> <FIXED> <ACTION> <SHARED_LIST> <DN> <MAX_LIST_SIZE>, ACF
<ACTIVE><FIXED>, SWA, ACB <ACTIVE><FIXED>, DND, 1WRDPG}]
[<AUTHCDS> {string}]
[<RDND> {ENABLED, DISABLED}]
[<TIN> {ON, OFF}]
[<MCSID> {string}]
[<ACTIVE> {Y, N}]
[<CDACT>]

[<PIC> {interLATA carrier}]
```

Output parameters

N/A

A_NT-DMS-MTX_12_ADD_SVC-GRP

Adds a service group. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.addServiceGroup.**

Table 11: A_NT-DMS-MTX_12_ADD_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R
SVCLIST	The optional compound parameter value containing the valid triggers for mobile SVC group.			C	R

MML command

Syntax:

```
ASG
```

Parameters:

```
<DN> <SVCLIST>
```

Output parameters

N/A

A_NT-DMS-MTX_12_CONV_HEX-TO-DEC

Converts a hexadecimal number to a decimal number. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.convHexToDec.**

Table 12: A_NT-DMS-MTX_12_CONV_HEX-TO-DEC

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R

Table 12: A_NT-DMS-MTX_12_CONV_HEX-TO-DEC

Parameter Name	Description	Range	Default Value	Type	Class
HEX_VALUE	Hexadecimal value.			S	R

MML command

N/A

Output parameters

DECIMAL_VALUE as INFO parameter to the SARM table TBL_INFO_PARM.

DECIMAL_SERIAL as INFO parameter to the SARM table TBL_INFO_PARM.

DECIMAL_UNIT as INFO parameter to the SARM table TBL_INFO_PARM.

DECIMAL_VALUE as CSDL parameter to the SARM table TBL_SRQ_PARM.

DECIMAL_SERIAL as CSDL parameter to the SARM table TBL_SRQ_PARM.

DECIMAL_UNIT as CSDL parameter to the SARM table TBL_SRQ_PARM.

A_NT-DMS-MTX_12_DEL_AUC

Deletes an authentication. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.delAuthentication**.

Table 13: A_NT-DMS-MTX_12_DEL_AUC

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
MIN	The mobile identification number.			S	R
DECIMAL_SERIAL	First two digit of 8 digit hex number.			S	R
DECIMAL_UNIT	First two digit of 6 digit hex number.			S	R

MML command

```
Syntax: table esnakey
Syntax: DEL
Parameters:
<DECIMAL_SERIAL> <DECIMAL_UNIT>
Syntax: ACDELETE
Parameters: <MIN>
```

Output parameters

N/A

A_NT-DMS-MTX_12_DEL_AUC-CATEGORY

Deletes an authentication category. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.delAuthenticationCategory.**

Table 14: A_NT-DMS-MTX_12_DEL_AUC-CATEGORY

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R

MML command

Syntax:

```
DEO
```

Parameters:

```
<DN>
```

Note: Delete authentication category is not supported in this version of cartridge.

Output parameters

N/A

A_NT-DMS-MTX_12_DEL_OPTION

Deletes options with features. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.delOption.**

Table 15: A_NT-DMS-MTX_12_DEL_OPTION

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	R

The FEATURE_LIST compound parameter is an indexed list of MML elements supplied by the upstream to add, modify, or delete options/feature details to a subscriber line. Each entry in the FEATURE_LIST represents one or more of the options/features to be added/deleted, etc. The index starts with 1.

Example.

FEATURE_LIST[1] = arw cdw 3wc

FEATURE_LIST[2] = acc ccw

The cartridge does not check the validity of the options/features string being passed by the upstream.

MML command

Syntax:

```
DEO
```

Parameters:

```
[<DN> {STRING}]
```

```
[<OPTION> {ABRD, ACC, ACCA, ARW, AUL <AULDN>, AUTH, CCBK, CCMP, CCVM, CCW,
CDACT, CDW, CEP, CFB <CFBNAN> <REMOTE> <ACTIVE>, CFDF, CFR, CFNA
<CFNADN><REMOTE><ACTIVE>, CFU <CFUDN><REMOTE><ACTIVE>, CLF, CNIP, CNIR, CNRA,
CNRD, CSO <VOICE_SVC>, CWT, CXR, DFLTGP, DND, DOR, DR <FIXED> <STD_RING>
<PVT_RING><SHARED_LIST><DN><MAX_LIST_SIZE>, DRL, DTM, ECNP, FMR, FWT, IHO,
IMTX, INTL, IROAM, MAC, MAHD, MCT, MOBICPT, MWI, MWT, NAUT, NCDA, NRA <EXP>
```

```
<SID_LIST> <ROAMGRP_LIST>, NSP, NTD, OAP, ONRA, PGA, PIC, PRA <EXP>
<SID_LIST> <ROAMGRP_LIST>, PSRS <PSRSLIST>, RAM
<EXP><SID_LIST><ROAMGRP_LIST>, RDND, RFP, RLG, RMA, RSUS, RTB, RVR, SND, STB,
SUS, TDN, TDO, TSO, 3WC, TBE, TBT, TIN, NTXT, FWI, NFWI, UNPGM, UZONE, WINSVC,
SACT, SCA <ACTIVE> <FIXED> <ACTION><SHARED_LIST><DN><MAX_LIST_SIZE>, SCD
<ACTIVE> <FIXED><ACTION><SHARED_LIST><DN><MAX_LIST_SIZE>, ACF
<ACTIVE><FIXED>, SWA, ACB <ACTIVE><FIXED>, DND, 1WRDPG}]
```

Output parameters

N/A

A_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT

Deletes a mobile from the roaming intercept table. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxTableProv.delRoamIntercept.**

Table 16: A_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
SERIAL	Serial number in Hex format.			S	R

MML command

```
table roamicpt

     del nnn nnnnnnnn
```

where:

'nnn' is the first 3 digits of the Hexadecimal serial number converted to decimal denoting manufacturer code

nnnnnnnn' is the rest of the digits of the Hexadecimal serial number converted to decimal denoting unit number

Output parameters

N/A

A_NT-DMS-MTX_12_DEL_SUB

Deletes a subscriber. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.delSubscriber.**

Table 17: A_NT-DMS-MTX_12_DEL_SUB

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R

MML command

Syntax:

```
OUT
```

Parameters:

```
[<DN> {string}
```

Output parameters

N/A

A_NT-DMS-MTX_12_DEL_SVC-GRP

Deletes a service group. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.delServiceGroup.**

Table 18: A_NT-DMS-MTX_12_DEL_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R

Table 18: A_NT-DMS-MTX_12_DEL_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
SVCLIST	The optional compound parameter value containing the valid triggers for Mobile SVC Group.			C	R

MML command

Syntax:

```
DSG
```

Parameters:

```
[<DN> {string}]
[<SVC_LIST> {vector, including SPINA_DENYALL, SPINA_DENYALLGP,
SPINA_DENYTOLGP, SPINA_DENYINTGP}]
```

Output parameters

N/A

A_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

Modifies customer group service. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.modCustomerGroup.**

Table 19: A_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R

Table 19: A_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

Parameter Name	Description	Range	Default Value	Type	Class
CUSTGRP	The parameter value that defines the new customer group value.			S	R

MML command

Syntax:

```
CCG
```

Parameters:

```
<DN> <CUSTGRP>
```

Output parameters

N/A

A_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

Modifies the serial number. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_dms_mtx_12.prov.NortelDmsMtxProv.modSerialNumber.**

Table 20: A_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Host NE identifier.			S	R
DN	The directory number.			S	R
SERIAL	The parameter value defines the new serial number value.			S	R

MML command

Syntax:

```
CSN
```

Parameters:

```
<DN> <SERIAL>
```

Output parameters

N/A

User exit types

User Error Codes (tbl_user_err)

This static table provides a mechanism to define user specific ASDL exit codes and map them to one of the base ASDL exit types.

- user_type - User-defined ASDL exit type.
- base_type - The base ASDL exit type where this user specified ASDL exit type maps to. (SUCCEED, FAIL, RETRY, MAINTENANCE, SOFT_FAIL, DELAYED_FAIL, STOP)
- description - Description of the user exit type.

The following table lists the contents of tbl_user_err:

Table 21: tbl_user_err

User_type	Base_type	Description
NT_DMS-MTX_SUCCEED	SUCCEED	Successful
NT_DMS-MTX_FAIL	FAIL	Fail
NT_DMS-MTX_SOFT_FAIL	SOFT_FAIL	The ASDL failed but the provisioning can be continued.

Table 22: Contents of Nortel_DMS-MTX_12_UserExitTypes.cfg

Error Response from the NE	User_type
SUCCEED	NT_DMS-MTX_SUCCEED
JOURNAL FILE RECORD ID	NT_DMS-MTX_SUCCEED
THE ACDATA ENTRY HAS BEEN REMOVED FOR MIN:	NT_DMS-MTX_SUCCEED
AC ENTRY ADDED	NT_DMS-MTX_SUCCEED

Table 22: Contents of Nortel_DMS-MTX_12_UserExitTypes.cfg

Error Response from the NE	User_type
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT	NT_DMS-MTX_FAIL
*** ERROR - INCONSISTENT DATA ***	NT_DMS-MTX_FAIL
*** ERROR ***	NT_DMS-MTX_FAIL
ERROR: AC ENTRY NOT ADDED	NT_DMS-MTX_FAIL
MOBILE INFORMATION NOT IN DATABASE	NT_DMS-MTX_FAIL
THE ENTRY IS NOT ADDED TO ACDATA	NT_DMS-MTX_FAIL
ERROR: ACADD aborted	NT_DMS-MTX_FAIL
ERROR:	NT_DMS-MTX_FAIL
JOURNAL FILE RECORD NOT CREATED	NT_DMS-MTX_FAIL
Mandatory Parameter FEATURE_LIST missing	NT_DMS-MTX_SOFT_FAIL
TUPLE ADDED	NT_DMS-MTX_SUCCEED
TUPLE DELETED	NT_DMS-MTX_SUCCEED
WRITTEN TO JOURNAL FILE AS	NT_DMS-MTX_SUCCEED
JOURNAL FILE AS JF	NT_DMS-MTX_SUCCEED
TUPLE NOT FOUND	NT_DMS-MTX_SOFT_FAIL
Unable to get ESNAKEY table prompt	NT_DMS-MTX_SOFT_FAIL
Could not add TUPLE	NT_DMS-MTX_SOFT_FAIL
Could not delete TUPLE	NT_DMS-MTX_SOFT_FAIL
Could not get journal file for tuple	NT_DMS-MTX_SOFT_FAIL
Could not delete AUC	NT_DMS-MTX_SOFT_FAIL

4

Service Definition

The Nortel DMS MTX cartridge contains a set of CSDLs that map to one or more ASDL commands. You can also create additional CSDLs that map to existing and newly-created ASDLs. An upstream system can assemble any of these CSDL commands onto a work order for provisioning.

This chapter presents detailed information on the CSDL parameters that we provide in this cartridge. The following table lists and describes the type of parameter information that is included.

Table 23: ASDL parameter information

Item	Description
Parameter Name	Identifies the parameter that is configured for the stated service.
Description	Describes the parameter.
Range	Describes or lists the range of values that can be used to satisfy this parameter.
Default Value	Configures a default value for the parameter so that it is not mandatory for the upstream system to provide a value.

Table 23: ASDL parameter information

Item	Description
Type	Indicates one of the following parameter types: ◆ S—Scalar, specifies the parameter label transmitted on the ASDL command. Scalar parameters are conventional name-value pair parameters. ◆ C—Compound, specifies the base name of the compound parameter transmitted on the ASDL command. A compound parameter contains structures or arrays of information that are represented by a particular structure name or compound parameter name. Each compound parameter can contain a large number of elements. If you use compound parameters, you only require a single entry in the ASAP translation tables to call the compound parameter and all its associated parameter elements. ◆ I—Indexed, identifies a parameter that contains a sequential numerical index value to tell the SARM that it should execute the same operation (for example, an ASDL command) for all occurrences of that index. Consequently, if there are several options on a particular CSDL command (OPT1, OPT2, OPT3, etc.), you can specify the OPT parameter as an indexed parameter. When you specify the OPT parameter as an indexed parameter, the SARM generates several occurrences of that same ASDL command and each command has a different value for the option being transmitted to the NEP. For more information on parameter types, refer to the *ASAP Developer Reference*.
Class	Indicates one of the following parameter classifications: ◆ R—Required scalar parameter ◆ O—Optional scalar parameter ◆ C—Required compound parameter ◆ N—Optional compound parameter ◆ M—Mandatory indexed parameter ◆ I—Optional indexed parameter ◆ S—Parameter count

For a detailed description of the Required and Optional parameter classifications, refer to the *ASAP Administration Guide.*

Common Service Description Layer (CSDL) commands

This cartridge provides the following CSDL commands:

- C_NT-DMS-MTX_12_ADD_AUC
- C_NT-DMS-MTX_12_ADD_AUC-CATEGORY
- C_NT-DMS-MTX_12_ADD_OPTION
- C_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT
- C_NT-DMS-MTX_12_ADD_SUB
- C_NT-DMS-MTX_12_ADD_SVC-GRP
- C_NT-DMS-MTX_12_CONV_HEX-TO-DEC
- C_NT-DMS-MTX_12_DEL_AUC
- C_NT-DMS-MTX_12_DEL_AUC-CATEGORY
- C_NT-DMS-MTX_12_DEL_OPTION
- C_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT
- C_NT-DMS-MTX_12_DEL_SUB
- C_NT-DMS-MTX_12_DEL_SVC-GRP
- C_NT-DMS-MTX_12_MOD_CUSTOMER-GRP
- C_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

C_NT-DMS-MTX_12_ADD_AUC

Adds authentication.

Table 24: C_NT-DMS-MTX_12_ADD_AUC

Parameter Name	Description	Range	Default Value	Type	Class
AAV	The version of the authentication algorithm.			S	O
AKEY	Authentication key.			S	R
DECIMAL_SERIAL	First two digit of 8 digit hex number.			S	R
DECIMAL_UNIT	First two digit of 6 digit hex number.			S	R
ESN	The electronic serial number.			S	O
MIN	The mobile identification number.			S	R

Table 24: C_NT-DMS-MTX_12_ADD_AUC

Parameter Name	Description	Range	Default Value	Type	Class
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 25: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_AUC	A_NT-DMS-MTX_12_ADD_AUC

C_NT-DMS-MTX_12_ADD_AUC-CATEGORY

Adds an authentication category.

Table 26: C_NT-DMS-MTX_12_ADD_AUC-CATEGORY

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 27: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_AUC-CATEGORY	A_NT-DMS-MTX_12_ADD_AUC-CATEGORY

C_NT-DMS-MTX_12_ADD_OPTION

Adds feature options.

Table 28: C_NT-DMS-MTX_12_ADD_OPTION

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	O
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 29: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_OPTION	A_NT-DMS-MTX_12_ADD_OPTION

C_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Adds a mobile to the roaming intercept table.

Table 30: C_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
ADMIN	Administrative information.			S	R
DAY	Day portion of the date. The default day is the current system day.	01-31		S	O

Table 30: C_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
MONTH	Month portion of the date. The default month is the current system month.	01-12		S	O
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R
SERIAL	Serial number in Hex format.			S	R
SYSTEM	Mobile serving area system identification number.			S	R
YEAR	Year portion of the date. The default year is the current system year.	00-99		S	O

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 31: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT	A_NT-DMS-MTX_12_ADD_ROAM-INTERCEPT

C_NT-DMS-MTX_12_ADD_SUB

Adds a subscriber with features.

Table 32: C_NT-DMS-MTX_12_ADD_SUB

Parameter Name	Description	Range	Default Value	Type	Class
BLNGCAT	The billing category value.			S	O

Table 32: C_NT-DMS-MTX_12_ADD_SUB

Parameter Name	Description	Range	Default Value	Type	Class
CLDSVC	Called service field value.			S	O
CLNGCAT	Calling category value.			S	O
CUSTGRP	Customer group number.			S	O
DATASERV	The cellular data service value.			S	O
DN	The directory number.			S	R
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	O
LANGUAGE	The preferred language to be used for mobile text messaging.			S	O
LCC	Line class code.			S	O
MIN_DIGITS	Multiple MIN digits value with NPA, NXX and STATION. The maximum number of digits is eighteen.			S	O
MOBILITY	The class of mobility for the subscriber.			S	O
MPCAP	mpcap			S	O
MSID_KIND	Mobile identification number.			S	O

Table 32: C_NT-DMS-MTX_12_ADD_SUB

Parameter Name	Description	Range	Default Value	Type	Class
MSR	The mobile servicing region.			S	O
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R
SERIAL	Serial number.			S	O
SERVOP	The data service option value.			S	O
UNIT	The mobile unit number.			S	O

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 33: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_SUB	A_NT-DMS-MTX_12_ADD_SUB

C_NT-DMS-MTX_12_ADD_SVC-GRP

Adds service groups.

Table 34: C_NT-DMS-MTX_12_ADD_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Table 34: C_NT-DMS-MTX_12_ADD_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
SVCLIST	The optional compound parameter value containing the valid triggers for mobile SVC group.			C	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 35: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_ADD_SVC-GRP	A_NT-DMS-MTX_12_ADD_SVC-GRP

C_NT-DMS-MTX_12_CONV_HEX-TO-DEC

Converts hexadecimal values to decimal values.

Table 36: C_NT-DMS-MTX_12_CONV_HEX-TO-DEC

Parameter Name	Description	Range	Default Value	Type	Class
HEX_VALUE	Hexadecimal value.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 37: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_CONV_HEX-TO-DEC	A_NT-DMS-MTX_12_CONV_HEX-TO-DEC

C_NT-DMS-MTX_12_DEL_AUC

Deletes authentication.

Table 38: C_NT-DMS-MTX_12_DEL_AUC

Parameter Name	Description	Range	Default Value	Type	Class
DECIMAL_SERIAL	First two digit of 8 digit hex number.			S	R
DECIMAL_UNIT	First two digit of 6 digit hex number.			S	R
MIN	The mobile identification number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 39: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_AUC	A_NT-DMS-MTX_12_DEL_AUC

C_NT-DMS-MTX_12_DEL_AUC-CATEGORY

Deletes an authentication category.

Table 40: C_NT-DMS-MTX_12_DEL_AUC-CATEGORY

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 41: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_AUC-CATEGORY	A_NT-DMS-MTX_12_DEL_AUC-CATEGORY

C_NT-DMS-MTX_12_DEL_OPTION

Deletes feature options.

Table 42: C_NT-DMS-MTX_12_DEL_OPTION

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
FEATURE_LIST	The optional compound parameter value containing the feature names.			C	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 43: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_OPTION	A_NT-DMS-MTX_12_DEL_OPTION

C_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT

Deletes a mobile from the roaming intercept table.

Table 44: C_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT

Parameter Name	Description	Range	Default Value	Type	Class
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R
SERIAL	Serial number in Hex format.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 45: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT	A_NT-DMS-MTX_12_DEL_ROAM-INTERCEPT

C_NT-DMS-MTX_12_DEL_SUB

Deletes a subscriber.

Table 46: C_NT-DMS-MTX_12_DEL_SUB

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 47: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_SUB	A_NT-DMS-MTX_12_DEL_SUB

C_NT-DMS-MTX_12_DEL_SVC-GRP

Deletes service groups.

Table 48: C_NT-DMS-MTX_12_DEL_SVC-GRP

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R
SVCLIST	The optional compound parameter value containing the valid triggers for Mobile SVC Group.			C	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 49: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_DEL_SVC-GRP	A_NT-DMS-MTX_12_DEL_SVC-GRP

C_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

Modifies customer group services.

Table 50: C_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

Parameter Name	Description	Range	Default Value	Type	Class
CUSTGRP	The parameter value that defines the new customer group value.			S	R
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 51: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_MOD_CUSTOMER-GRP	A_NT-DMS-MTX_12_MOD_CUSTOMER-GRP

C_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

Modifies serial numbers.

Table 52: C_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

Parameter Name	Description	Range	Default Value	Type	Class
DN	The directory number.			S	R
NE_ID_NT-DMS-MTX	Host NE identifier.			S	R

Table 52: C_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

Parameter Name	Description	Range	Default Value	Type	Class
SERIAL	The parameter value defines the new serial number value.			S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 53: CSDL to ASDL Mapping

CSDL	ASDL
C_NT-DMS-MTX_12_MOD_SERIAL-NUMBER	A_NT-DMS-MTX_12_MOD_SERIAL-NUMBER

5

Configuring ASAP to Support Additional NE Instances

You can configure ASAP to support the Nortel DMS MTX - NEP configuration using the Service Activation Configuration Tool (SACT). Refer to the *ASAP Administration Guide* for more information.

Below is an example of the Activation.Configuration.XML file for the Nortel DMS MTX cartridge.

```
<?xml version="1.0" encoding="UTF-8"?>
<activationConfig xmlns="http://www.metasolv.com/ServiceActivation/2003/
ActivationConfig" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.metasolv.com/ServiceActivation/2003/
ActivationConfig
C:\data\ASAP\4.6\xsd\ActivationConfig.xsd">
    <connectionPool name="NTPOOL">
        <device name="NT_tel_dev1">
            <environment>MY_ASAP_SYS</environment>
            <lineType>TELNET_CONNECTION</lineType>
        </device>
    </connectionPool>
    <element name="NT-DMS-MTX_12_HOST">
        <technology>NT-DMS-MTX</technology>
        <softwareLoad>12</softwareLoad>
        <nepServerName>$NEP</nepServerName>
        <primaryPool>NTPOOL</primaryPool>
        <maximumConnections>1</maximumConnections>
        <dropTimeout>2</dropTimeout>
        <spawnThreshold>10</spawnThreshold>
        <killThreshold>8</killThreshold>
        <routingElement name="NT-DMS-MTX_12_HOST">
            <atomicService/>
        </routingElement>
        <communicationParameter>
            <label>HOST_IPADDR</label>
            <value>
                <value>192.168.20.202</value>
            </value>
            <description>The network IP Address for the NE host</description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
```

```
<communicationParameter>
    <label>PORT</label>
    <value>
        <value>23</value>
    </value>
    <description>Telnet port</description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
    <lineType>TELNET_CONNECTION</lineType>
</communicationParameter>
<communicationParameter>
    <label>NT_LOGIN</label>
    <value>
        <value>Winplex8</value>
    </value>
    <description>Nortel Login value </description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
    <lineType>TELNET_CONNECTION</lineType>
</communicationParameter>
<communicationParameter>
    <label>NT_PASSWORD</label>
    <value>
        <value>cocotero</value>
    </value>
    <description>Nortel Password value </description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
    <lineType>TELNET_CONNECTION</lineType>
</communicationParameter>
<communicationParameter>
    <label>HOST_LOGIN</label>
    <value>
        <value>asap1</value>
    </value>
    <description>Login value for SAM IPaddress</description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
    <lineType>TELNET_CONNECTION</lineType>
</communicationParameter>
<communicationParameter>
    <label>HOST_PASSWORD</label>
    <value>
        <value>asap1</value>
    </value>
    <description>Password value for SAM IPaddress</description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
    <lineType>TELNET_CONNECTION</lineType>
</communicationParameter>
<communicationParameter>
    <label>AG_PASSWORD</label>
    <value>
        <value>asap1</value>
    </value>
    <description>AG Password value for SAM IPaddress</description>
    <deviceName>COMMON_DEVICE_CFG</deviceName>
```

```
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>DESTINATION_VALUE</label>
            <value>
                <value>sam577</value>
            </value>
            <description>Destination value for Nortel DMS MTXcartridge</
description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>READ_TIMEOUT</label>
            <value>
                <value>5</value>
            </value>
            <description>Read Time Out in Seconds</description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>CONNECTION_PAUSE</label>
            <value>
                <value>5</value>
            </value>
            <description>Configured to wait for response </description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>PAUSE_TIME</label>
            <value>
                <value>3</value>
            </value>
            <description>Configured to wait for response </description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>RESPONSELOG</label>
            <value>
                <value>TRUE</value>
            </value>
            <description>Flag to turn on or off response log</description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>USER_ERROR_TYPES_FILE</label>
            <value>
                <value>/config/Nortel_DMS-MTX_12_UserExitTypes.cfg</value>
```

```
            </value>
            <description>Exit type list Map file</description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
        <communicationParameter>
            <label>USE_SAM</label>
            <value>
                <value>NO</value>
            </value>
            <description>Whether to use SAM for connecting NE</description>
            <deviceName>COMMON_DEVICE_CFG</deviceName>
            <lineType>TELNET_CONNECTION</lineType>
        </communicationParameter>
    </element>
</activationConfig>
```

Extracting source files

Before you can access an XML file to modify it, you must extract it from the sar file. Use the following procedure to extract source files from the sar file.

To extract source files

1. If necessary, create a repository directory under /DMS-MTX_12, copy the .sar file to the new directory and un-jar the sar file, as described by Step 1 through Step 4 in "Modifying nortel_dms_mtx_12_ne_config.xml" on page 10.
2. After you un-jar the sar file, you can access the XML files.

Loading a new XML file

When you finish modifying an XML, you must create a new sar file, then restart the cartridge using the new file.

Follow the instructions in "Modifying nortel_dms_mtx_12_ne_config.xml" on page 10 for directions on how to load a new XML file.