**Oracle® Communications
Offline Mediation Controller**

Nortel DMS SMDR Cartridge Pack User Guide

Release 6.0

E39480-01

June 2015

ORACLE®

Oracle Communications Offline Mediation Controller Nortel DMS SMDR Cartridge Pack User Guide, Release 6.0

E39480-01

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Preface

This document contains guidelines for installing and setting up Oracle Communications Offline Mediation Controller Nortel DMS SMDR cartridge pack.

Audience

This document is intended for solution designers who configure Offline Mediation Controller cartridges.

Downloading Oracle Communications Documentation

Product documentation is located on Oracle Help Center:

http://docs.oracle.com

Additional Oracle Communications documentation is available from the Oracle software delivery Web site:

https://edelivery.oracle.com

Related Documents

For more information, see the following documents:

- *Offline Mediation Controller Cartridge Development Kit Developer's Guide*: For information about how to develop a cartridge.

- *Offline Mediation Controller Cartridge Development Kit NPL Reference Guide*: For information about how to use the Node Programming Language for developing or extending a cartridge.

- *Offline Mediation Controller System Administrator's Guide*: For administrating Oracle Communications Offline Mediation Controller.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit

http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

1

About this Guide

This chapter contains an overview about Oracle Communications Offline Mediation Controller cartridges.

The scope of this guide includes Offline Mediation Controller as it pertains to the use of this cartridge pack. It is not intended to be a complete Offline Mediation Controller reference guide.

About the Cartridges

Offline Mediation Controller cartridge packs are discrete software components that are developed for the Offline Mediation Controller product. An Offline Mediation Controller cartridge pack offers specific domain behavior on top of the core Offline Mediation Controller software.

An Offline Mediation Controller cartridge pack is not a standalone component; it operates in conjunction with the Offline Mediation Controller core product. Offline Mediation Controller cartridge packs 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 Offline Mediation Controller environment without interfering with the existing install base.

> **Note:** Cartridges are designed for a specific technology, software load, and service.

For more information on creating and extending a cartridge, refer to the following documents:

- *Offline Mediation Controller Cartridge Development Kit Developer's Guide*: For information on how to develop a cartridge.

- *Offline Mediation Controller Cartridge Development Kit NPL Reference Guide*: For information on how to use the Node Programming Language for developing or extending a cartridge.

Cartridge Pack Content

An Offline Mediation Controller cartridge contains the following:

- **JAR file**: Contains the cartridge software.

- **Cartridge Pack User Guide**: Contains a description of cartridge pack functionality and installation and configuration instructions.

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Cartridge Pack Overview

This chapter contains an overview of Oracle Communications Offline Mediation Controller Nortel DMS SMDR cartridge pack.

The Nortel DMS SMDR Cartridge Pack provides the ability to collect SMDR records from DMS-100.

Switches according to the specification DMS100 Family North American DMS-100 Station Message Detail Recording Reference Guide, DMSCCM12 Standard 19.03 October 2000. The cartridge pack also filters, enhances and distributes SMDR records to multiple destinations, including a Billing Centre and an Oracle database.

New Features

This section lists the new features.

Version 6.0.0

This cartridge pack now works with Oracle Communications Offline Mediation Controller 6.0.

Architecture

Figure 2–1 displays the architecture of the SMDR solution.

Figure 2–1   Nortel DMS SMDR Cartridge Architecture
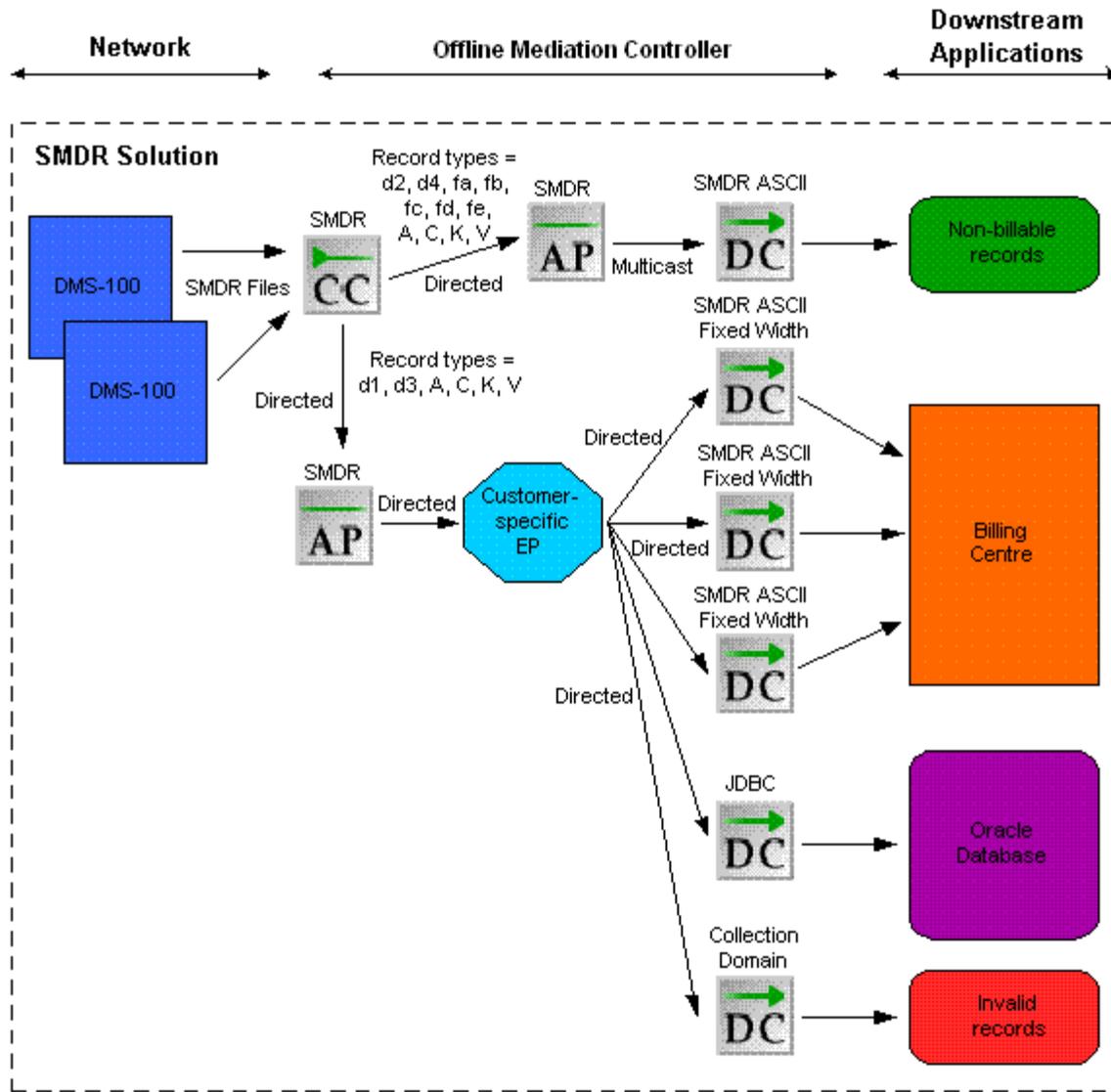
Alarms

All Offline Mediation Controller alarms are listed in the **alarms.txt** file located in the *OMC_Home* directory (*OMC_Home* is the directory in which you installed Offline Mediation Controller.) No new alarms are introduced in this cartridge pack. The following new alarms are introduced in this cartridge pack:

Fault category: Connectivity

- **Specific Fault**: FTP login problem - Device *<IP Address> <Port number>*
- **Specific Fault**: FTP error - Device *<IP Address> <Port number>*

Behavior

The following are known behaviors for this cartridge pack:

- The DMS SMDR CC raises a major alarm when it receives a file with a name longer than 30 characters.

The SMDR discard count parameter does not appear in the Offline Mediation Controller statistics report file.

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Installing the Cartridge Pack

This chapter contains information on the requirements for installing and setting up Oracle Communications Offline Mediation Controller Nortel DMS SMDR cartridge pack.

Pre-Installation Tasks

Complete the following pre-installation tasks before installing the cartridge pack:

1. Ensure Offline Mediation Controller 6.0 is installed.

2. Stop Node Manager, Administration Server, and Administration Client.

3. Delete any existing DMS SMDR cartridge .jar files from the *OMC_Home*/**cartridges** directory, where *OMC_Home* is the directory in which Offline Mediation Controller is installed.

Installation Instructions

In a Solaris or Linux environment, you must install the cartridge pack on every UNIX server running Node Manager or Administration Server.

Installing on a Solaris or Linux Workstation

To install the cartridge pack on a Solaris or Linux workstation:

1. Download the **smdr_r6_0_0.jar** to the *OMC_Home*/**cartridges** directory.

2. Copy the **smdr_r6_0_0.jar** file to another directory - any directory except the *OMC_Home*/**customization** directory and unjar the file.

3. Restart Node Manager, Administration Server, and Administration Client.

Post Installation Instructions

After the Cartridge Pack has been installed, restart Node Manager, Administration Server, and Administration Client.

Testing the Cartridge Pack Installation

Verify that the Cartridge Pack has been properly installed by viewing Version Info from the Help menu in Administration Client. The Cartridge Pack name and version information should appear, along with the information about Node Manager, Administration Server, and Administration Client.

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Configuring the Nodes

This chapter contains information on the requirements for creating and configuring the Oracle Communications Offline Mediation Controller Nortel DMS SMDR nodes for use in the SMDR node chains.

Creating and Configuring the DMS SMDR CC

The DMS SMDR CC is responsible for collecting SMDR files from DMS-100 switches. The CC uses FTP to periodically transfer SMDR/DIRP-encoded files from each switch. One DMS SMDR CC can poll and transfer files from many switches. The CC makes the Record Code attribute available for routing, which enables records to be separated into billable and non-billable streams.

To create and configure the DMS SMDR CC:

1. Log on to Offline Mediation Controller Administration Client.

   The Node Hosts & Nodes (logical view) screen appears.

2. In the **Mediation Hosts** table, select a host.

3. In the **Nodes on Mediation Host** section, click **New**.

   The Create a Node dialog box appears.

4. Select **Voice over IP (VoIP)** and click **Next**.

5. Select **Collection Cartridge (CC)** and click **Next**.

6. Select **DMS SMDR** and click **Finish**.

7. In the node configuration window, type a name for the node in the **Name** field.

8. Accept the default **Rule File**.

9. On the **General** tab, accept the default field settings, as shown in the sample below:
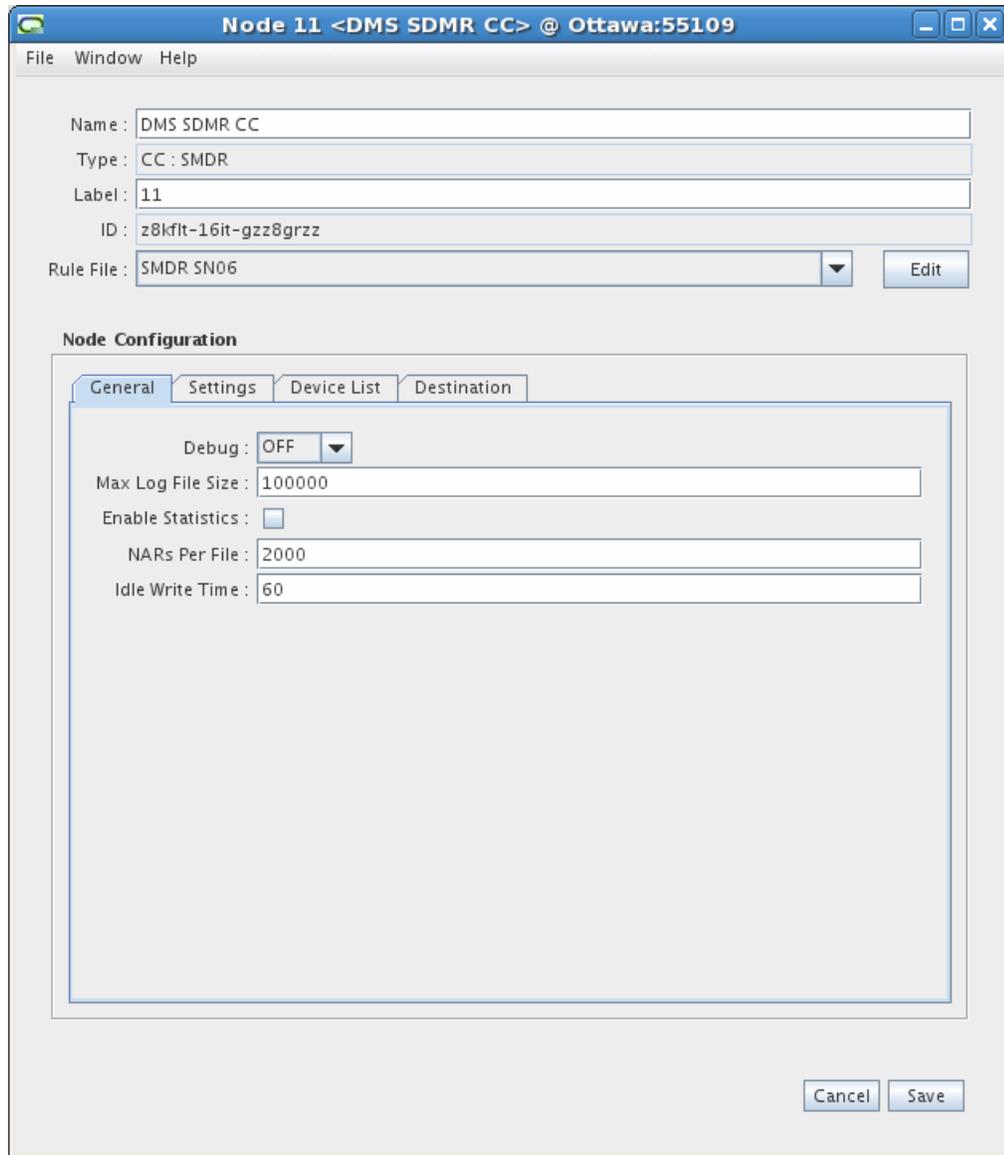
10. On the **Settings** tab, configure the fields as required. The field definitions are as follows:

   ■ **Directory for unprocessed files**: Local directory to store unprocessed files from the device.

   ■ **Directory for bad data files**: Local directory to store bad or invalid data files.

   ■ **Delete or Keep processed files**: Select a button to delete or keep processed files.

   ■ **Directory for processed files**: Local directory to store files that have been processed by the CC.

   ■ **Duration to keep each file**: Amount of time the processed files are kept in the local directory. Enter a numeric value and select **Days** or **Hours** from the drop-down list.

   ■ **Unprocessed file prefix**: File prefix of unprocessed files on the remote device.

- **Rename Unprocessed to Processed**: Select this checkbox if you want the CC to rename the files on the remote device after successful transfer via FTP.

- **Processed file prefix**: File prefix of processed files on the remote device.

- **Retries per poll**: Number of additional FTP attempts for each polling interval. If the node is unable to retrieve the files, it raises an alarm and will not attempt to re-poll the device until the next scheduled poll interval.

- **Polling interval**: Time interval between FTP polls.

- **Process daily at fixed time**: Select this checkbox if you want the CC to align its polling schedule to a specific time of day. Set the time of day using the drop-down lists.

11. On the **Device List** tab, click the **Add** button.

    The **Add Device** window appears.

12. Configure the fields as required. The field definitions are as follows:

    - **Name**: Enter a name for the device, if desired.

- **IP Address**: Enter the IP address of the device.

- **Port**: Enter the port you will connect to on the device.

- **FTP User ID**: Enter the user or account ID for the remote device.

- **Password**: Enter your password for the remote device.

- **Confirm Password**: Re-enter your password for the remote device.

- **Disk Volumes**: Enter the disk volume name and click Add to add it to the list.

13. Click **Save**.

    The device appears in the list on the **Device List** tab.

    Repeat steps 9 to 11 to add more devices to the list. You can also edit device profiles by clicking the **Edit** button or delete device profiles by clicking the **Delete** button.
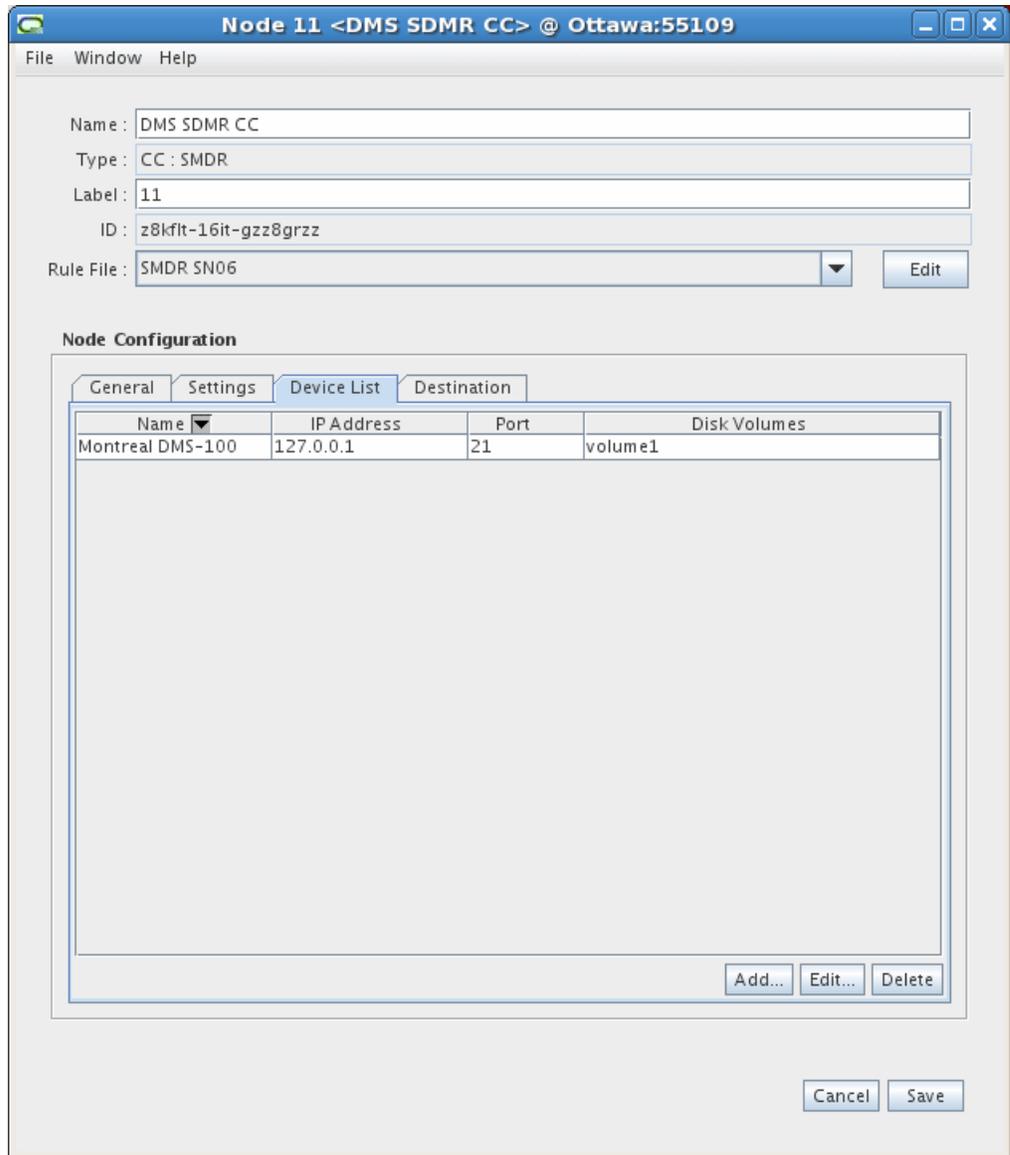
You do not need to perform any tasks on the **Destinations** tab.
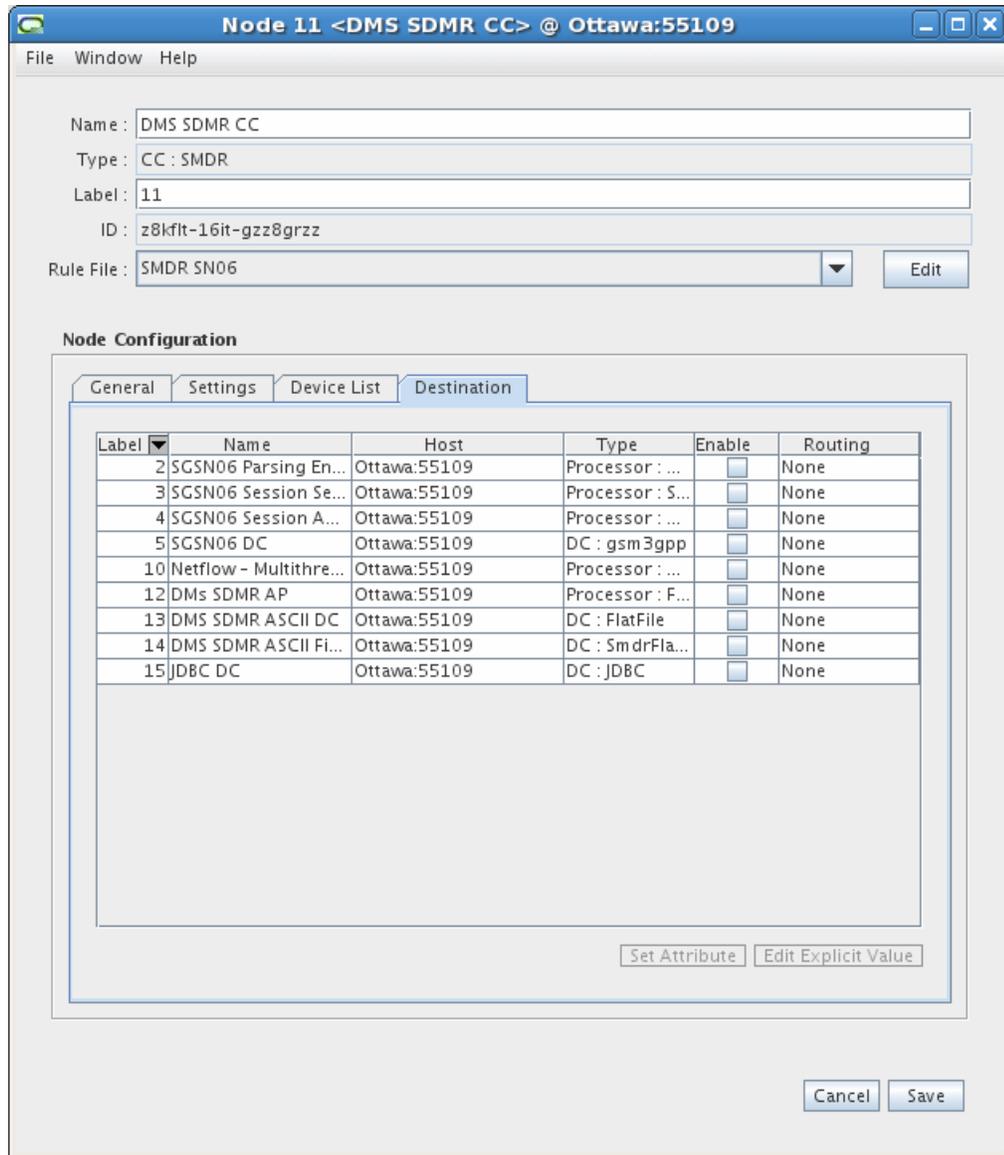
14. Click **Save**.

Creating and Configuring the DMS SMDR AP

The DMS SMDR AP allows the hexadecimal value of the following fields to be mapped to the corresponding text name:

- Console-Number = Attendant Console Name (from A records)

- Customer-Group-Number = Customer Group Name (from C records)

- Origination ID = Trunk Group CLLI (from K records) or Virtual Facility Group Name (from V records)

The DMS SMDR AP maps the customer-group translation records (C records), attendant console records (A records), virtual facility group name records (V records) and trunk-group-CLLI records (K records) for each DMS-100 switch. The AP tags SMDR records with the text names for each hexadecimal identifier. This allows you to direct records to specific locations based on the text names instead of the changeable

hexadecimal identifier. The AP makes the following attributes available for routing: Office ID, Attendant Console Name, Customer Group Name, Trunk Group CLLI and Virtual Facility Group Name.

To create and configure the DMS SMDR AP:

1. Log on to Offline Mediation Controller Administration Client.

   The Node Hosts & Nodes (logical view) screen appears.

2. In the **Mediation Hosts** table, select a host.

3. In the **Nodes on Mediation Host** section, click **New**.

   The Create a Node dialog box appears.

4. Select **Voice over IP (VoIP)** and click **Next**.

5. Select **Aggregation Processor (AP)** and click **Next**.

6. Select **DMS SMDR Aggregation** and click **Finish**.

7. In the node configuration window, type a name for the node in the **Name** field.

8. Accept the default **Rule File**.

9. On the **General** tab, accept the default field settings, as shown in the sample below:
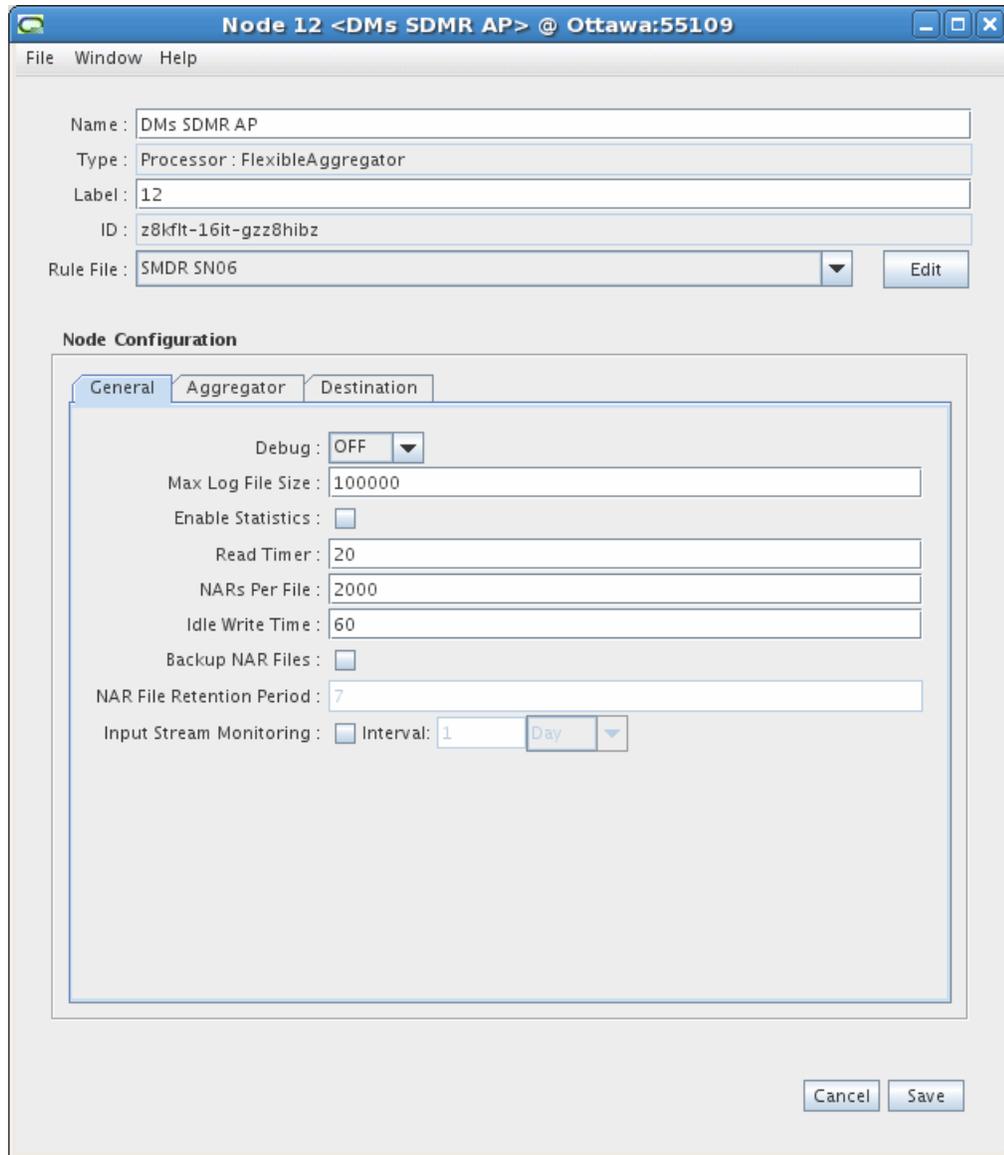
10. On the **Aggregator** tab, configure the settings as required. The field definitions are as follows:

   ■ **Flush time**: Number of seconds before an aggregated NAR is sent to the next node in the chain. You may need to increase this value depending on how long it takes for the AP to process a single file.

   ■ **Compression threshold**: Number of stale records the node allows before compressing the aggregation table.
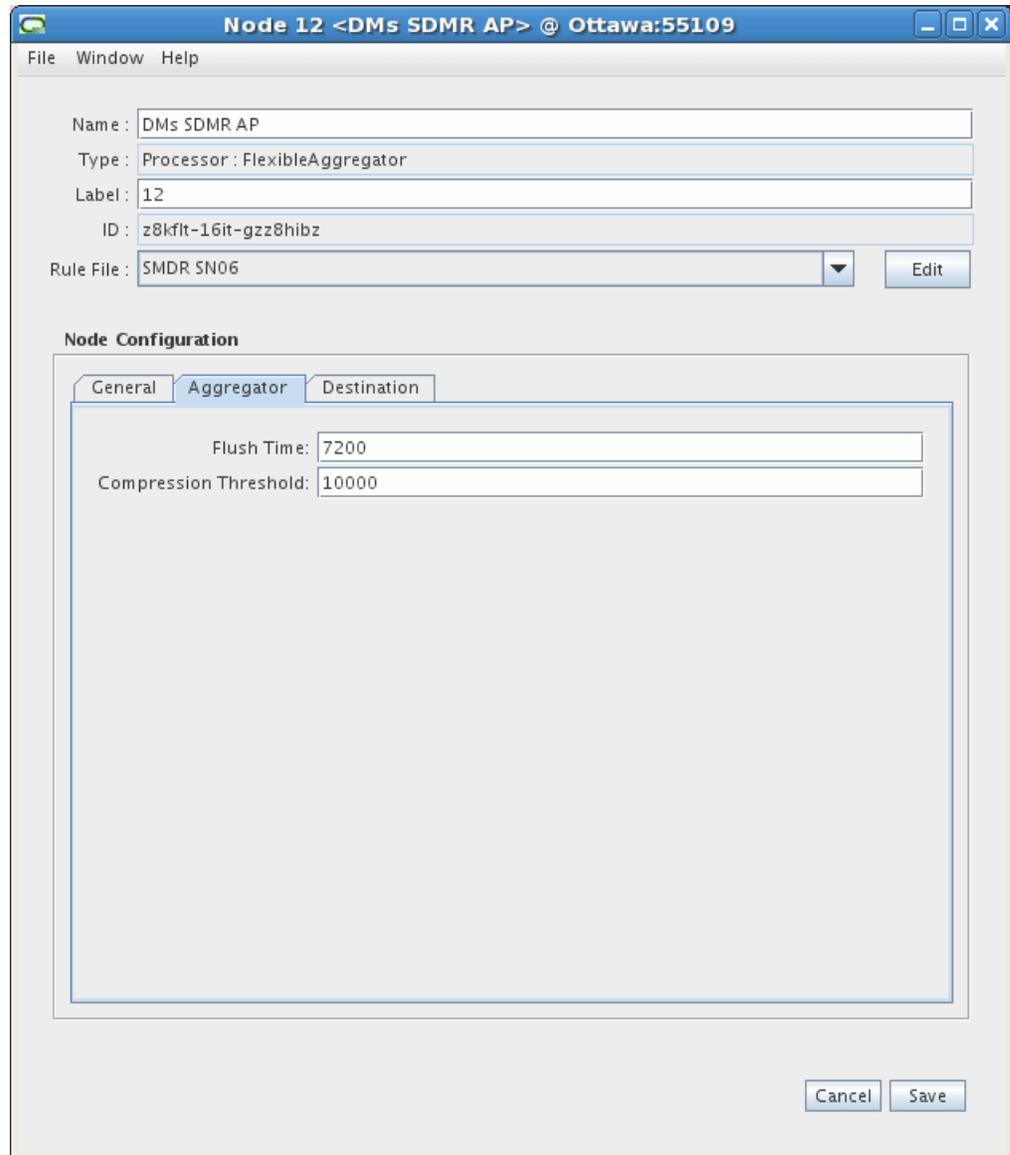
You do not need to perform any tasks on the **Destinations** tab.
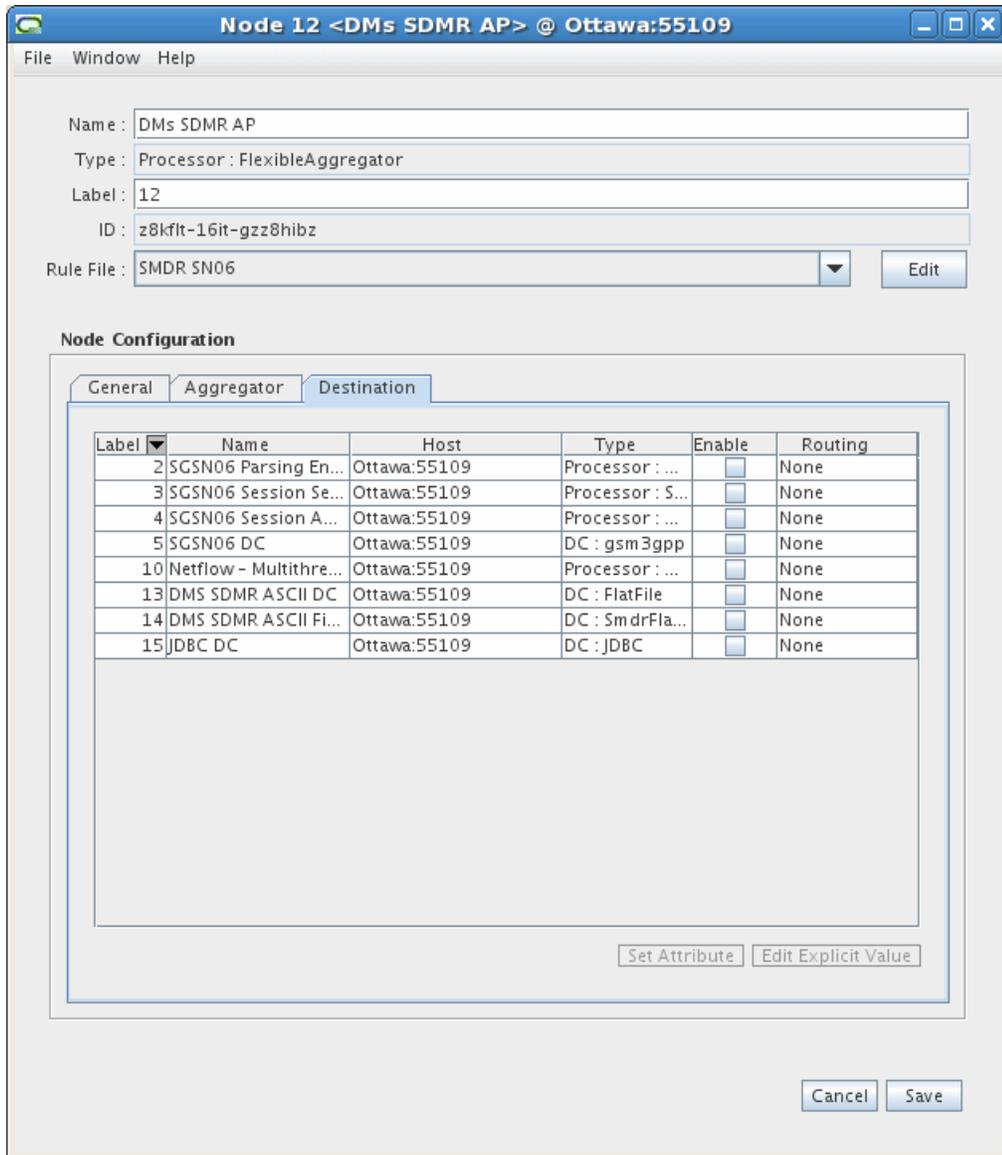
11. Click **Save**.

Creating and Configuring the Customer Specific EP

You must create and configure an EP that will enhance the NAR with the customer name. The customer name must be stored in the NAR using the NAR attribute ID 140157. The customer name value is used by the DMS SMDR ASCII Fixed Width File DC to populate the header and footer records.

Creating and Configuring the DMS SMDR ASCII DC

The DMS SMDR ASCII DC outputs all incoming fields for each record. These records can be used internally as non-billable information whereas the ASCII Fixed Width records can be used for billing purposes.

To create and configure the DMS SMDR ASCII DC:

1. Log on to Offline Mediation Controller Administration Client.

The Node Hosts & Nodes (logical view) screen appears.

2. In the **Mediation Hosts** table, select a host.

3. In the **Nodes on Mediation Host** section, click **New**.

   The Create a Node dialog box appears.

4. Select **Voice over IP (VoIP)** and click **Next**.

5. Select **Distribution Cartridge (DC)** and click **Next**.

6. Select **DMS SMDRASCII** and click **Finish**.

7. In the node configuration window, type a name for the node in the **Name** field.

8. Accept the default **Rule File**.

9. On the **General** tab, accept the default field settings, as shown in the sample below.

10. On the **Flat File Output** tab, configure the settings as necessary. The default values are shown below.
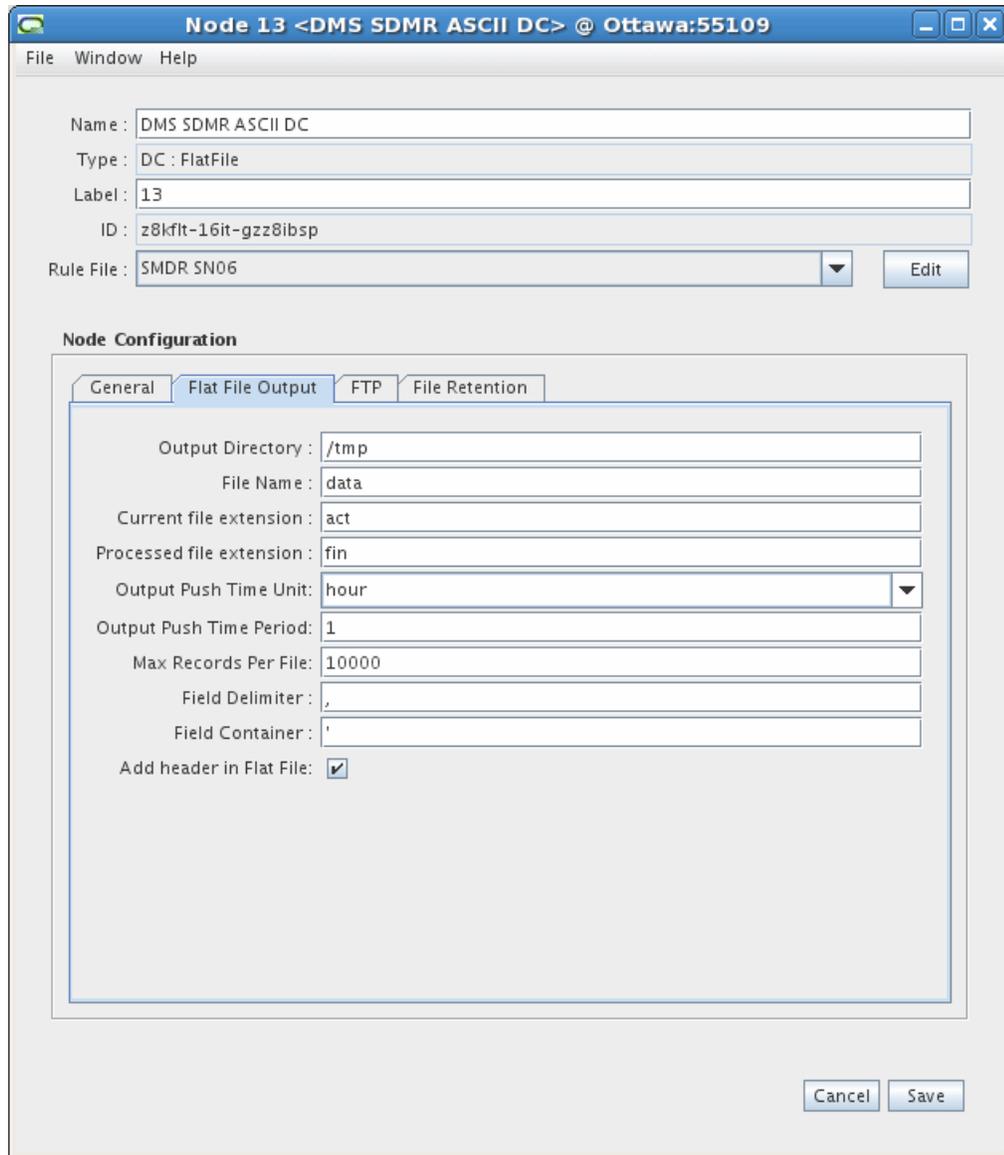
11. On the **FTP** tab, configure the settings as necessary.

12. Click **Save**.

DMS SMDR ASCII DC Data Output - Non-billable

```
RecordCode,OfficeId,CustomerGroupNumber,OriginationType,OriginationIdentification,
DataCallIdentification,InformationDigit1And2,ConsoleNumber,SubGroup,TerminationTyp
e,TerminationIdentification,RouteInformationDigit,StartTime,ElapsedTime,Originatin
gFeatureCode,TerminatingFeatureCode,CalledNumber,Spare,RotationTime,NANI2,NANI,NON
I2,NONI,NANIF2,NANIF,NANOF2,NANOF,NLNI2,NLNI,NLOI2,NLOI,NLIF2,NLIF,RestartType,Old
Time,NewTime,RecordCode_D5,DigitsOutpulsed,DigitsMissing,RecordCode_D6_
A,RecordType_A,NumOfAuthDigsInComb_A,Digits_A,RecordCode_D6_B,RecordType_
B,NumOfAuthDigsInComb_B,Digits_B,RecordCode_DA,TrunkGroupId,Spare_
DA,TrunkNumberId,NetworkCLID,RecordCode_
DB,MSNOriginationType,MSNN00CallType,InformationDigits,ANINumber,ANISuffix,Carrier
AccessCode,AccessDirectoryNumber,MSNANIMapping,Spare_DB,OriginationTime_
DB,Treatment,Reorigination,BillingDigits,RecordCode_
DC,PINOrTCNNumber,Description,Spare_DC,RecordCode_DD,BCType,BandWidth,RecordCode_
DE,OriginationTime_
DE,BillingNumber,MessageArea,LMNNumber,TreatmentCode,PayPhone,MobilePhone,NetworkI
```

```
dentification,NetworkClassOfService,ContractSubscriberNumber,NotificationOfTimeAnd
Charge,CallbackAnswerTime,NoCharge,ISDNAccessIndicator,RecordCode_DF01,SMDRITC_
CALLID,SMDRITC_TIME,RecordCode_
DF02,SignalingType,MessageType,LengthCount,Information,RecordCode_
DF03,AltBillingBumber_DF03,BusinessCustomerId_DF03,SignificantDigitsInNextField_
DF03,AdditionalDigitsDialed_DF03,RecordCode_
DF04,OriginalCallingNumber,AltBillingBumber_DF04,BusinessCustomerId_
DF04,SignificantDigitsInNextField_DF04,AdditionalDigitsDialed_DF04,RecordCode_
DF05,CarrierType,ATCValue,MessageDirection,DeferredCharge,CarrierId,AssociatedChar
geArea,RecordCode_DF06,UnitChargeIndicator,ChargeInformationType,MessageDirection_
DF06,DeferredCharge_DF06,MNA_L_Digits,RecordCode_
DF07,AdditionalUserTypeName,MessageTypeCode,UserTypeValue,RecordCode_
DF09,ClassFeatureCode,BillDN,EventYear,EventMonth,EventDay,EventHour,EventMinute,E
ventSecond,NumberAvailable,NumberUnavailable,NameAvailable,NameUnavailable,Confere
ncePegs,SCFListSize,SCAListSize,SCRJListSize,DRCWListSize,Spare1_DF09,Spare2_
DF09,AttendantConsoleName,CustomerGroupName,TrunkGroupCLLI,VirtualFacilityGroupNam
e
'd2','905509','003','0','4166608127a','a','00','ff','0','3','09ba0002aaa0','0','04
5142844','000006','0','0','6133358234aa','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','',''
'd2','905509','003','3','09ca0002aaa','a','00','ff','0','5','04aa0000aaaa','0','04
8151712','000004','0','0','84162911000a','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','',''
'd2','905509','003','5','04aa0000aaa','a','00','ff','0','3','0c6a0005aaa0','0','04
8151712','000004','0','0','14162911000a','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','',''
'd2','905509','003','3','09ca0001aaa','a','00','ff','0','5','04aa0000aaaa','0','04
8151904','000005','0','0','84162911000a','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
,'','','','','','','','','','','','','','','','','','','','','','','','','','','','
'','','','','','',''
```

Creating and Configuring the DMS SMDR ASCII Fixed Width File DC

The DMS SMDR ASCII Fixed Width File DC outputs records in a fixed width format for billing purposes. The files are generated based on a customer name and office ID combination.

To create and configure the DMS SMDR ASCII Fixed Width File DC:

1. Log on to Offline Mediation Controller Administration Client.

   The Node Hosts & Nodes (logical view) screen appears.

2. In the **Mediation Hosts** table, select a host.

3. In the **Nodes on Mediation Host** section, click **New**.

   The Create a Node dialog box appears.

4. Select **Voice over IP (VoIP)** and click **Next**.

5. Select **Distribution Cartridge (DC)** and click **Next**.

6. Select **DMSSMDR ASCII Fixed Width File** and click **Finish**.

7. In the node configuration window, type a name for the node in the **Name** field.

8. Accept the default **Rule File**.

9. On the **General** tab, accept the default field settings, as shown in the sample below.

10. On the **File Output** tab, configure the settings as necessary. The default values are shown below.
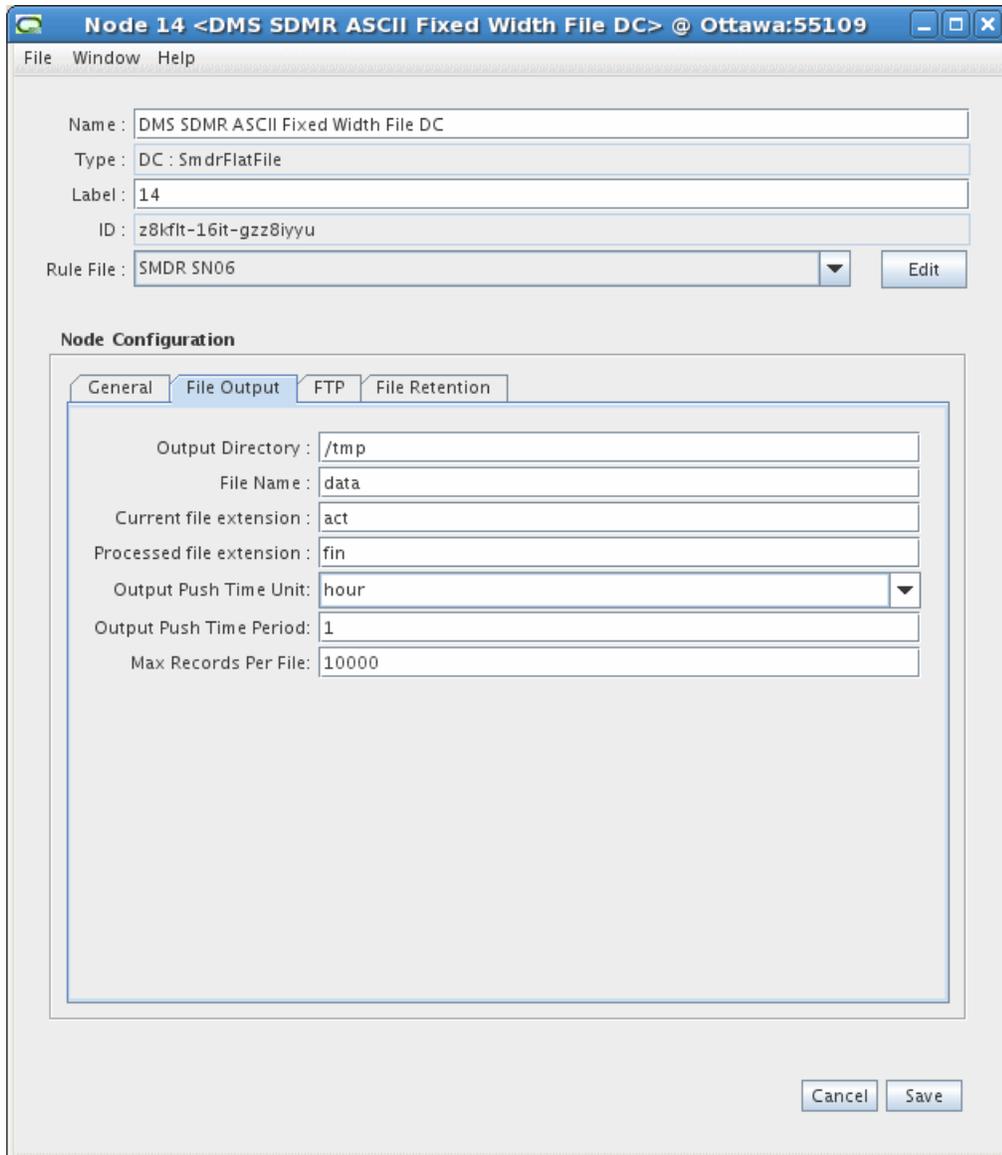
11. On the **FTP** tab, configure the settings as necessary. The default values are shown below.
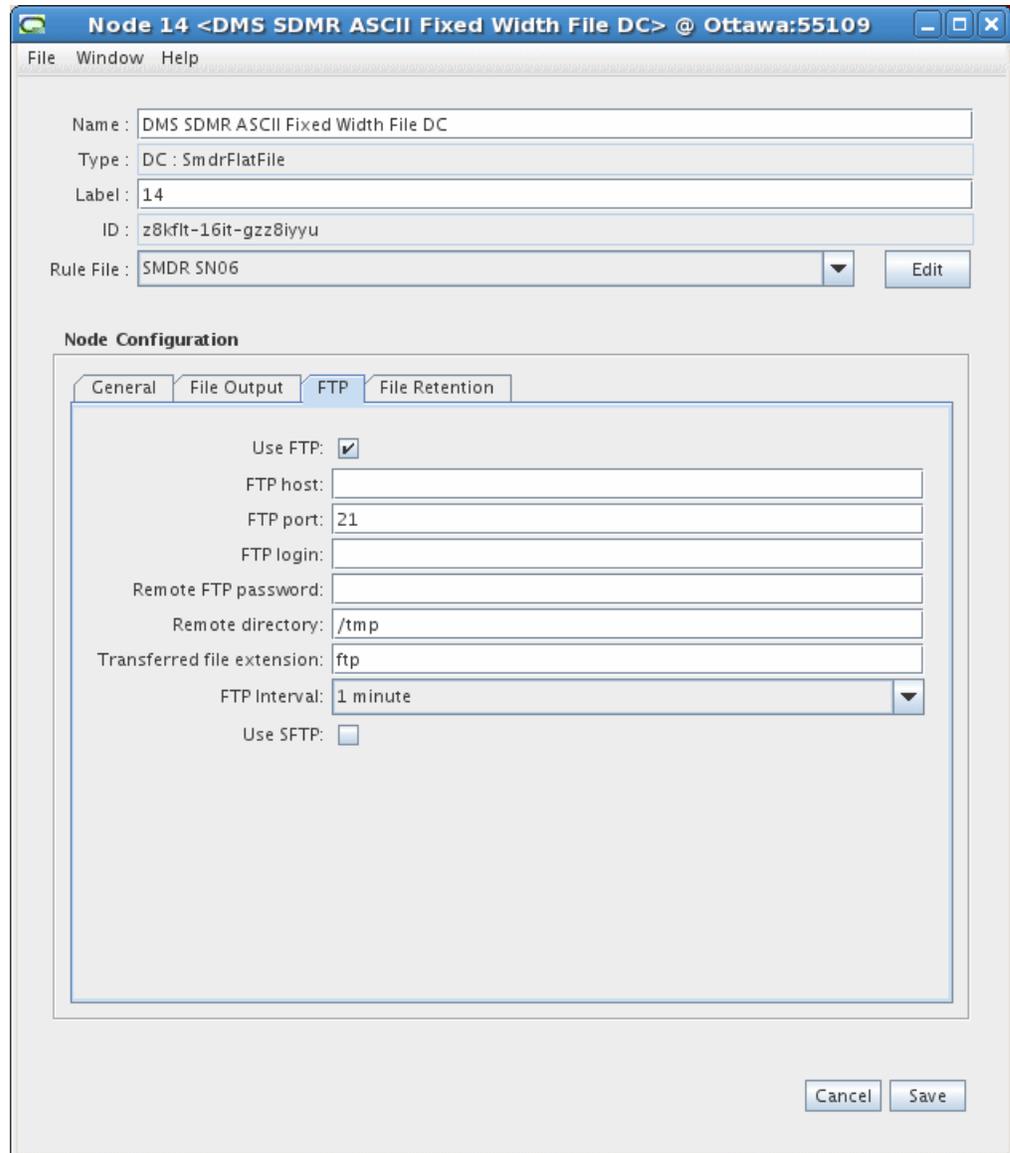
12. Click **Save**.

DMS SMDR ASCII Fixed Width DC data output - billable

```
a141616902014040109040109
d1416169020143138a0074 4000015037a000b 00091133340003360099057755286 9999999999
d1416169020140905836872l 4000003138a0079aaa000091138230000532099058580988
9999999999
d1416169020140905836l846 4000003138a006caaa000091138230000602099058572240
9999999999
d1416169020143138a007b 4000015037a000c 0009113934000014009905895322
9999999999
d1416169020140905836l846 4000003138a006faaa000091138540000562099054777575
9999999999
d1416169020143138a0072 4100015037a0001 00091138580000830099058536611
9999999999
d1416169020143138a0079 4000013061a0068aaa000091139440000410097057264153
9999999999
d1416169020143138a0077 4100015037a0013 00091138510001090099054765507
```

```
9999999999
d1416169020143138a006e 4000015037a0000 00091138090001530099058536611
9999999999
d1416169020143138a0073 4100015037a0005 00091139230000960099054761792
d1416169020143138a0069aaa0 0009114006000036209905896333
9999999999
d1416169020143138a0065aaa0 0009113835000129209416259632
9999999999
d1416169020143138a0073 4100015037a0005 00091139230000960099054761792
9999999999
d1416169020143138a0074aaa0 0009114018000044209905790373
9999999999
d1416169020143138a0076aaa0 0009114050000034209905470317
9999999999
d1416169020143138a0072aaa0 0009114226000016209905470317
9999999999
d1416169020143138a0075aaa0 0009114132000085209905470701
9999999999
d1416169020143138a0070 4100013061a0069aaa0 00091142190001420097057264153
9999999999
d1416169020143138a006 4000015037a0006 00091138330003810099058984657
9999999999
d1416169020143138a0068aaa0 0009114445000010209905729482
9999999999
d1416169020143138a0076 4000015037a0004 00091141540001920099058950337
9999999999
d1416169020143138a0069 4100015037a0007 00091142450001400099058360988
9999999999
d1416169020143138a007c 4000015037a0010 00091137140004890099058984657
9999999999
d1416169020143138a006daaa0 0009114455000028209905796543
9999999999
d1416169020143138a007baaa0 0009114400000088209905829540
9999999999
d1416169020143138a006c 4100015037a0008 00091145020000330099054765507
9999999999
t1416169020140401090401009                    0000000250000000000000000000
```

Creating and Configuring the JDBC DC

The SMDR AP sends a copy of all SMDR records to the JDBC DC for storage in the database. The original file name of the SMDR file from which a CDR originated is stored in the database.

To create and configure the JDBC DC:

1. Log on to Offline Mediation Controller Administration Client.

   The Node Hosts & Nodes (logical view) screen appears.

2. In the **Mediation Hosts** table, select a host.

3. In the **Nodes on Mediation Host** section, click **New**.

   The Create a Node dialog box appears.

4. Select **Cartridge Kit** and click **Next**.

5. Select **Distribution Cartridge (DC)** and click **Next**.

6. Select **JDBC DC**.

7. Click **Finish**.

8. In the node configuration window, type a name for the node in the **Name** field.

9. You must create a **Rule File** for this DC. See the *Offline Mediation Controller CDK Developer's Guide* and *NPL Reference Guide* for more information.

10. On the **General** tab, refer to the online help for field definitions. The default field settings are shown in the sample below.

11. On the **Database Info** tab, use the following guidelines to configure the settings:

   - **Batch Size** - number of records to transmit in one batch to the database.

   - **User** - user name to connect to the database to which the node sends data.

   - **Password** - alphanumeric string to log in to the database.

   - **Verify Password** - type the password again to verify the accuracy.

   - **Host** - IP Address of the database.

   - **Port** - port number used to communicate with the database.

■ **SID** - service instance of the database - the identification number for the database.

12. Click **Save**.

5
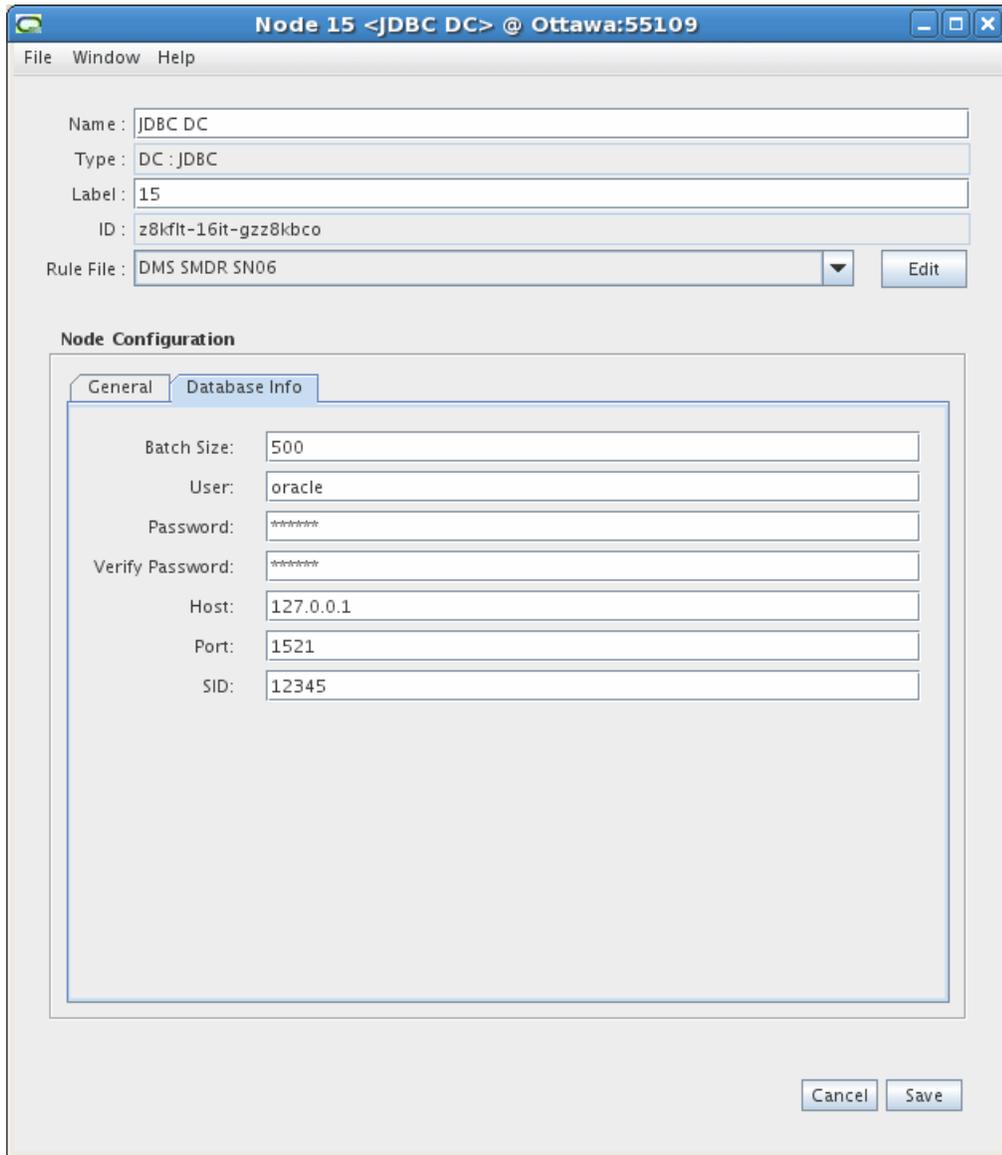
Configuring the Node Chains

This chapter contains information on the requirements for configuring the Oracle Communications Offline Mediation Controller Nortel DMS SMDR node chains that comprise the DMS SMDR solution. See Figure 2–1, "Nortel DMS SMDR Cartridge Architecture" to see the architecture diagram of the node chains.

SMDR Collection With ASCII Distribution

To configure the node chain for SMDR collection with ASCII distribution, you must create and configure a DMS SMDR CC, DMS SMDR AP and a DMS SMDR ASCII DC. Connect the CC to the AP using Directed routing with the Record Code attribute. You can connect the AP to the DC using Multicast routing. The DMS SMDR ASCII DC outputs all incoming fields for each record. These records can be used internally and not for billing since they are not in the fixed width format.

Configuring Directed Routing For the Non-billable Stream

To configure Directed routing:

1. Click on the DMS SMDR CC.

2. Drag the blue output handle to the first DMS SMDR AP.

3. The **Routing Algorithm** window appears.

4. Select **Directed** from the drop-down list and click **OK**.

5. The **Routing Attribute** window appears.

6. Select **Record Code** from the drop-down list and click **OK**.

7. The **Directed Routing Parameters** window appears.

8. In the **Boolean Operator** drop-down list, select **Equals**.

9. Click the **Add** button.

10. The **Enter Explicit Value** window appears.

11. Enter **d2** and click **OK**.

12. Repeat steps 6 and 7 to add the values **d4**, **fa**, **fb**, **fc**, **fd**, **fe**, **A**, **C**, **K** and **V**.

13. In the **Directed Routing Parameters** window, click **OK**.

SMDR Collection With ASCII Fixed Width File Distribution

To configure the node chain for SMDR collection with ASCII fixed width file distribution, use the DMS SMDR CC you created for the previous chain, then create and configure an additional DMS SMDR AP and one or more DMS SMDR ASCII Fixed Width File DCs. Connect the CC to the AP using Directed routing with the Record Code attribute. You can connect the Customer specific EP to the DC using Multicast routing if you want the files to be output based on a customer and switch combination. You can connect the Customer specific EP to multiple DCs using Directed routing based on the available fields for routing. The DMS SMDR ASCII Fixed Width DC outputs records in a fixed width format for billing purposes.

Configuring Directed Routing For the Billable Stream

To configure Directed routing:

1. Click on the DMS SMDR CC.

2. Drag the blue output handle to the second DMS SMDR AP.

3. The **Routing Algorithm** window appears.

4. Select **Directed** from the drop-down list and click **OK**.

5. The **Routing Attribute** window appears.

6. Select **Record Code** from the drop-down list and click **OK**.

7. The **Directed Routing Parameters** window appears.

8. In the **Boolean Operator** drop-down list, select **Equals**.

9. Click the **Add** button.

10. The **Enter Explicit Value** window appears.

11. Enter **d2** and click **OK**.

12. Repeat steps 6 and 7 to add the values **d1**, **d3**, **A**, **C**, **K** and **V**.

13. In the **Directed Routing Parameters** window, click **OK**.

SMDR Collection With Database Distribution

To configure the node chain for SMDR collection with database distribution, you must use the DMS SMDR CC and the EP you created previously, and create and configure a Database Storage and Reporting DC. Connect the EP to the DC using Multicast routing. The DC outputs records to the Oracle database for storage.

SMDR Collection With NAR Distribution

To configure the node chain for SMDR collection with NAR distribution, you must use the DMS SMDR CC and the EP you created previously, and create and configure a NAR DC. Connect the EP to the DC using Multicast routing. This DC outputs records using the Offline Mediation Controller internal NAR format. At this point, you can use the Oracle Communications Offline Mediation Controller Record Editor tool to correct any invalid records and then reintroduce them to the DMS SMDR CC for processing.

6

Database Storage and Reporting

This chapter contains information on the installation and setting up of Database and Reporting software for Oracle Communications Offline Mediation Controller Nortel DMS SMDR cartridge pack.

The Database Storage and Reporting functionality allows you to configure DMS-MSC node chains that can process and distribute data to both a billing system and an Oracle 11*g* database.

Installing and Configuring

To install and configure the database components, see Offline Mediation Controller 6.0 Installation Guide.

The Database Storage tasks are as follows:

- Creating an Oracle user and dba group
- Installing Oracle
- Verifying the Oracle installation
- Loading the Offline Mediation Controller schema
- Configuring Oracle
- Configuring UNIX executables
- Configuring and using the Repository Manager
- Installing the Oracle Client
- Modifying tnsnames.ora
- Installing the Oracle JDBC driver
- Configuring Oracle for automatic restart
- Verifying the Oracle automatic restart

Loading the Offline Mediation Controller Schema

Use the following procedure to load the Offline Mediation Controller schema.

To load the schema:

1. As the oracle user, run the Oracle Enterprise Manager by typing **oemapp worksheet** and pressing **Enter**.

2. Select **connect directly to database**.

3. For Username, type **system**.

4. For Password, type **Oracle**.

5. For Service, type **NMCDRS**.

6. For Connect, type **normal**.

7. Click **OK**.

   You are now connected to the NMCDRS schema.

8. Navigate to the directory where the SMDR jar file was un-jarred.

   For example: **/opt/test/dbstorage/Oracle11g**

9. As the oracle SYSTEM user, load the following tablespace: **DDL_create_tblspc_ SMDRS_MAIN**

   This is a default tablespace, and does not store daily CDRs.

10. After loading this script, modify the DATAFILE to match the directory structure on the machine where you installed Oracle

    For example: *Oracle_Home***/oradata/***dbf.filename*

11. Set the SIZE parameter to a minimum of **10M** (ten megabytes).

12. As the oracle SYSTEM user, load **DDL_create_usr_NMUSER1.sql**.

13. Disconnect as the SYSTEM user and connect as NMUSER1. The default password is NMUSER1.

14. Ensure you are in the directory where the SMDR jar file was un-jarred.

    For example: **/opt/test/dbstorage/Oracle11g**

15. Load **DDL_create_tbl_MSLV_SMDR_STORAGE.sql**.

16. Go to: *<directory where you un-jarred the SMDR jar file>***/dbstorage/Oracle11g/RepoMan**.

17. Load **DDL_create_tbl_SMDR_REPOMAN_CONFIGURATION.sql**.

18. Load **PLSQL_SMDR_PKG.sql**.

19. Load **PLSQL_SMDR_LOGTOFILE.sql**.

20. Load **JAVA_UTIL.sql**.

21. Load **PLSQL_RUN_CMD.sql**.

22. Load **PLSQL_RC.sql**.

23. Load **PLSQL_SMDR_PARFILEWRITER.sql**.

24. Load **PLSQL_BUILD_SMDR_EXCHANGE.sql**.

25. Load **PLSQL_DROP_SMDR_PARTITIONS.sql**.

26. Load **PLSQL_BUILD_SMDR_PARTITIONS.sql**.

27. Load **PLSQL_MSLV_START_SMDR_REPOMAN.sql**.

28. Load **PLSQL_MSLV_STOP_SMDR_REPOMAN.sql**.

All required Oracle objects are now loaded into Oracle database.

7

Uninstalling the Cartridge Pack

This chapter contains information on the requirements for uninstalling Oracle Communications Offline Mediation Controller Nortel DMS SMDR cartridge pack.

Uninstalling the Cartridge Pack from a Solaris or Linux Workstation

To uninstall the Real-Time ASCII File Collection CDK cartridge pack from a Solaris or Linux Workstation:

1. Go to the *OMC_Home*/**cartridges** directory, where *OMC_Home* is the directory in which Offline Mediation Controller is installed.

2. Run the following command, which removes the cartridge pack:

   ```
   rm smdr_r6_0_0.jar
   ```

Removing Scripts From the Database

To remove the scripts from the database:

1. Execute *Oracle_Home*/**bin/oemapp dbastudio&**

   The Oracle Enterprise Console appears.

2. Log on using the following information:

   - User = **system**

   - Password = **oracle**

   - Service = **NMCDRS**

3. In the left-hand frame, expand the **schema** directory, then expand the **NMUSER1** directory, which lists the subdirectories.

4. Expand the sub-directories one by one as follows:

   - Tables

   - Source Types

   - Packages

   - Procedures

   - Functions

   - Java Sources

   - Java Classes

5. For each of the sub-directories, there are files related to the schema. Right-click on each file and select **Remove**.

6. Expand the **Storage** directory and then expand the **TableSpace** directory. It lists the following:

   ■ SMDR_MAIN

   ■ MSLV_<YYYYMMDD> (if partition table got created)

7. Right-click on each item and select **Remove**.

8. Execute the following command as the system user:

```
drop user nmuser1 cascade
```