**Oracle® Communications
Billing and Revenue Management**

Patch Set 23 Installation Guide

Release 7.5

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Oracle Communications Billing and Revenue Management Patch Set 23 Installation Guide, Release 7.5

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Contents

Preface

This guide provides general information on how to install and uninstall Oracle Communications Billing and Revenue Management (BRM) 7.5 Patch Set 23.

> **Important:** To install BRM 7.5 Patch Set 23 on Solaris 10, you must have either BRM 7.5 Maintenance Patch Set 1 or a later patch set installed on your system.
>
> To install BRM 7.5 Patch Set 23 on Solaris 11, you must have the BRM 7.5 complete software installed on your system using the BRM 7.5 installer package for Solaris 11.

> **Note:** BRM 7.5 Patch Set 23 is cumulative from BRM 7.5 Patch Set 14 and includes all the changes introduced since Patch Set 14.

Audience

This guide is intended for system administrators and those involved in planning BRM systems.

Accessing Oracle Communications Documentation

BRM documentation and additional Oracle documentation, such as Oracle Database documentation, is available from Oracle Help Center:

http://docs.oracle.com

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

https://edelivery.oracle.com

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Installing BRM 7.5 Patch Set 23

This chapter describes how to install and uninstall Oracle Communications Billing and Revenue Management (BRM) 7.5 Patch Set 23 on top of a base BRM 7.5 system on which BRM 7.5 Maintenance Patch Set 1 or a later patch set through BRM 7.5 Patch Set 22 is installed.

About the Patch Set

> **Important:** Test the patch on a non-production system before you deploy it on a production system.

BRM 7.5 Patch Set 23 is a patch that must be applied to the following:

- BRM 7.5
- Pipeline Manager

> **Note:** BRM 7.5 Patch Set 23 is cumulative from BRM 7.5 Patch Set 14 and contains all the changes introduced since Patch Set 14.

The patch is available for Oracle Linux, AIX, HP-UX IA64, and Oracle Solaris operating systems.

> **Important:** To install BRM 7.5 Patch Set 23 on Linux, AIX, HP-UX IA64, and Solaris 10, you must have either BRM 7.5 Maintenance Patch Set 1 or a later patch set through BRM 7.5 Patch Set 22 installed on your system. For instructions, see *BRM Maintenance Patch Set Installation Guide* or the corresponding BRM 7.5 patch set installation guide.
>
> To install BRM 7.5 Patch Set 23 on Solaris 11, you must have the BRM 7.5 complete software installed on your system using the installer package for Solaris 11. For instructions, see *BRM Installation Readme Release 7.5 for Solaris 11* in the BRM 7.5 software pack for Solaris 11 on the Oracle software delivery Web site (https://edelivery.oracle.com).
>
> To install BRM 7.5 Patch Set 23 without downtime, you must have BRM 7.5 Patch Set 15 or a later patch set through BRM 7.5 Patch Set 22 installed on your system. For instructions, see "Performing Zero Downtime Upgrade".

> **Note:** If you are upgrading from BRM 7.4 to BRM 7.5 Patch Set 23 on Solaris 10, see "Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 10".
>
> If you are upgrading from BRM 7.4 to BRM 7.5 Patch Set 23 on Solaris 11, see "Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 11".

The patch contains multiple packages to upgrade different BRM and Pipeline Manager components. You can upgrade the following components by installing their corresponding packages:

- BRM
- BRM SDK
- Pipeline Manager

Only files that have been changed are updated. The patch installer makes a backup of any file it updates. You use the backup files to merge your customizations and to uninstall the patch. The prepatch version of each updated file (*FileName*) is renamed to *FileName*.*PatchNumber*.**bak** and is left in its original directory. For example, when you install BRM 7.5 Patch Set 23 to upgrade Pipeline Manager, the existing **sample.reg** file is renamed to **sample.reg.30343682.bak**.

Performing Zero Downtime Upgrade

> **Note:** If you perform the zero downtime upgrade, billing might fail for some accounts. In that case, rerun billing for the failed bill units by running the billing utility with the **-retry** option.

You can use the zero downtime upgrade method to upgrade your existing BRM installation with very minimal disruption to your existing installation and the services that are provided to your customers.

Before you perform the zero downtime upgrade, ensure the following:

- You have two instances of BRM 7.5 Patch Set 15 or a later patch set through BRM 7.5 Patch Set 22 installed on your system.

- The primary and secondary instances of the BRM 7.5 patch set and all applications in the components connected to your BRM system are currently running.

- Both *primary* and *secondary* instances are connected to the same BRM and Pipeline Manager database schemas.

To perform the zero downtime upgrade:

> **Important:** Do not shut down the applications in the components connected to your BRM system while the upgrade is running.

1. Route all traffic (for example, phone calls or data usage) from the *primary* instance to the *secondary* instance.

2. Upgrade the *primary* instance and the BRM database schema to BRM 7.5 Patch Set 23. For instructions, see "Installing the Patch Set".

3. Start the *primary* instance. For instructions, see the discussion about starting and stopping BRM in *BRM System Administrator's Guide*.

4. Reroute all traffic from the *secondary* instance to the *primary* instance.

> **Caution:** During the database upgrade on the *primary* instance, ensure that the services or operations in the *secondary* instance are running until all the requests are rerouted to the *primary* instance.

5. Upgrade the *secondary* instance to BRM 7.5 Patch Set 23. For instructions, see "Installing the Patch Set".

> **Important:** Because you have already upgraded the BRM database schema during the *primary* instance upgrade, you can skip "Upgrading the BRM Database Schema".

6. Perform the post-installation tasks on both *primary* and *secondary* instances. See "Post-Installation Tasks".

> **Note:** The batch operations might fail for a few accounts during the upgrade; for example, billing. Restart the applications to complete your batch operations.

Installing the Patch Set

> **Caution:** When upgrading a multischema system, pay close attention to the system on which each task is performed.

Perform the following tasks on your BRM system to install BRM 7.5 Patch Set 23:

1. Shutting Down the Current Instance

Shutting Down the Current Instance

> **Important:** In multischema systems, all BRM instances must be shut down.

To shut down BRM:

1. Ensure that no users are logged in.

Users include customers, client applications, customer service representatives (CSRs), and so on.

2. Stop all BRM processes.

Only the database instances should be running during the patch installation. For more information, see the discussion about starting and stopping the BRM system in *BRM System Administrator's Guide*.

Backing Up Files

> **Important:** In multischema systems, perform this task first on the primary BRM installation machine and then on the secondary BRM installation machines.

Back up your BRM files. In particular, make sure you back up all customized files, including source code, policy, **start_all, pin.conf**, **pin_ctl.conf**, **pin_setup.values**, and **Infranet.properties** files.

Backing Up TAP 3.11 Files

If you want TAP Roaming Manager to process both TAP 3.11 (Transferred Account Procedure Number 3 version 11) TD57 specifications version 28 and TAP 3.12 GSM TD57 specifications version 32.1:

1. Go to the TAP 3.11 installation directory.

2. Copy and rename each of the files listed in Table 1–1:

> **Note:** This installation uses the extension **_0311** in renaming the copies of the required files to associate them with the TAP 3.11 version to which they belong. This naming convention will be used when updating the **roaming.reg** file with registry configuration appropriate for the processing of TAP 3.11 roaming usage events.
>
> If you choose a different naming structure, make sure that the **roaming.reg** file is updated to reflect that naming structure for proper processing of TAP 3.11 roaming usage events.

Table 1–1   New Names for TAP 3.11 Files Requiring Backup

Old File Name	New File Name
RAP_0105_AckOutGrammar.dsc	RAP_0105_AckOutGrammar_**0311**.dsc
RAP_0105_FatalReturn.dsc	RAP_0105_FatalReturn_**0311**.dsc
RAP_0105_InGrammar.dsc	RAP_0105_InGrammar_**0311**.dsc
RAP_0105_MissingReturn.dsc	RAP_0105_MissingReturn_**0311**.dsc
RAP_0105_OutGrammar.dsc	RAP_0105_OutGrammar_**0311**.dsc
RAP_0105_StopReturn.dsc	RAP_0105_StopReturn_**0311**.dsc
containerDesc.dsc	containerDesc_**0311**.dsc

After installing the patch, configure your registry file to use both TAP 3.11 and TAP 3.12. See the discussion about setting up TAP Roaming Manager to support TAP 3.11 files in *BRM Configuring Roaming in Pipeline Manager* for more information.

Backing Up Xalan Files

Xalan-Java and Xalan-C++ are not supported in BRM 7.5 Patch Set 21 and later patch sets. BRM 7.5 Patch Set 21 uses Oracle XDK instead of Xalan.

During the BRM 7.5 Patch Set 21 installation, all the Xalan files will be removed from your BRM system. Make sure you back up all the Xalan files in *BRM_home* (where *BRM_home* is the directory in which BRM is installed) and *IFW_home* (where *IFW_home* is the directory in which Pipeline Manager is installed). In particular, back up all the customized Xalan files, including the following files:

- **xalan.jar**
- **serializer.jar**
- **DMTDscntMig**
- **libxalan-c.so**
- **libxalanMsg.so**

> **Important:** Store this backup in a different location.

After upgrading to BRM 7.5 Patch Set 21, you can use a different XSLT processor (with your customization as applicable) for generating HTML invoices. For more

information, see the discussion about using an XSLT Processor other than the Xalan XSLT Processor in *BRM Designing and Generating Invoices*.

Backing Up Your BRM Database

> **Important:** In multischema systems, perform this task first on the primary database schema and then on the secondary database schemas.

Make a complete offline backup of your BRM database using the appropriate backup tools for your database version and ensure that the backup is completely valid and usable. The backup must contain both the database definition and all the database contents. See your database software documentation for more information on performing full database backups.

> **Important:** Store this backup in a safe location. The data in these files will become necessary if you encounter any issues in the upgrade process.

Backing Up Your Pipeline Manager Database

> **Important:** In multischema systems, perform this task first on the primary database schema and then on the secondary database schemas.

Make a complete offline backup of your Pipeline Manager database using the appropriate backup tools for your database version and ensure that the backup is completely valid and usable. The backup must contain both the database definition and all the database contents. See your database software documentation for more information on performing full database backups.

> **Important:** Store this backup in a safe location. The data in these files will become necessary if you encounter any issues in the upgrade process.

Configuring SSL for the BRM Database

> **Important:** SSL-enabled database is not supported on multischema systems.

On single-schema systems, you can configure secure sockets layer (SSL) for the BRM database by creating wallets for storing certificates and then modifying the following configuration files in the *Oracle_home*/**network/admin** directory, where *Oracle_home* is the directory in which the Oracle database is installed, to point to the appropriate wallet:

- **sqlnet.ora**
- **tnsnames.ora**

■ **listener.ora**

You can use the **Orapki** utility to create the wallets.

For information about configuring SSL for the Oracle database, see the Oracle Database documentation.

Installing Java Runtime Environment

For the latest version of Java Runtime Environment (JRE) certified with BRM, see the discussion about BRM software compatibility in *BRM Installation Guide*.

To verify the JRE version:

1. On the system on which the BRM server and the BRM client application are installed, run the following command:

   ```
   java -version
   ```

   The Java version is displayed.

   If the latest version of Java certified with BRM is not displayed, the latest version of JRE is not installed.

Install the latest version of JRE certified with BRM on the following:

■ The system on which the BRM server is installed

■ Each Windows system on which the BRM client application is installed

For information about installing JRE, see the Oracle Java documentation.

Installing Solaris Patches

If BRM is installed on a Solaris server, install the 148198-03 for SPARC patch on that server.

To install the 148198-03 for SPARC patch on Solaris:

1. On the Solaris server on which BRM is installed, run the following command:

   ```
   showrev -p
   ```

   All the patches that are installed on the server are listed.

2. If the 148198-03 for SPARC patch is not listed, download and install the 148198-03 for SPARC patch from the Oracle support Web site:

   https://support.oracle.com

   For more information about installing the Solaris patches, see the Oracle Solaris documentation.

Installing the Required 32-Bit Libraries for Oracle Linux 6 Update 3

If BRM is installed on an Oracle Linux 6 Update 3 server, install the required 32-bit libraries for Oracle Linux 6 Update 3 on that server.

To install the required 32-bit libraries for Oracle Linux 6 Update 3:

1. On the Oracle Linux 6 Update 3 server on which BRM is installed, run the following commands:

   ```
   yum -y install glibc.i686
   yum -y install glibc-devel.i686
   ```

```
yum -y upgrade libXext
yum -y install libXext.i686
yum -y upgrade libXtst
yum -y install libXtst.i686
yum -y upgrade libgcc
yum -y install libgcc.i686
yum -y upgrade libstdc++
yum -y install libstdc++.i686
yum -y install libaio.i686
```

> **Note:**   If you use a proxy server as an intermediary for Internet access, configure a proxy server to access the Yum repository. See the Oracle Linux document at: http://docs.oracle.com/cd/E37670_01/E37355/html/ol_yum_config.html#ol_proxy_config.

For more information about installing the 32-bit libraries for Oracle Linux 6 Update 3, see the Oracle Linux 6 documentation.

Disabling SSL/TLS

If your BRM components use Secure Sockets Layer (SSL) or Transport Layer Security (TLS) to provide secure communication between the components, disable SSL/TLS before you start the upgrade.

To disable SSL/TLS:

1. Open the *BRM_home*/**sys/cm/pin.conf** file in a text editor.

2. Set the following parameter:

    - cm enable_ssl 0

3. Save and close the file.

4. Open the *BRM_home*/**sys/***data_manager*/**pin.conf** file in a text editor, where *data_manager* is the directory for the Data Manager (DM) you want to disable SSL/TLS for.

5. Set the following parameter:

    - dm enable_ssl 0

6. Save and close the file.

7. Open the **pin.conf** file of the PCM client application in a text editor.

8. Set the following parameter:

    - nap enable_ssl 0

9. Save and close the file.

Installing Optional Components

> **Important:**   In multischema systems, perform this task first on the primary BRM installation machine and then on the secondary BRM installation machines.

If the optional components that you require are not installed, install the optional managers.

For instructions on installing optional components, see the documentation for those components.

Installing the Patch

> **Important:** In multischema systems, perform this task first on the primary BRM installation machine and then on the secondary BRM installation machines.

To install the patch:

1. Create a temporary directory (*temp_dir*).

2. Go to the Oracle support Web site:

   https://support.oracle.com

3. Sign in with your user name and password.

4. Click the **Patches & Updates** tab.

5. From the list, select **Patch Name or Number**.

6. In the text field, enter **30343682** and click **Search**.

   The Patch Search Results page appears.

7. Click the patch name.

   The patch details appear.

8. From the **Platform** list, select the platform and click **Download**.

   The File Download dialog box appears.

9. Download the appropriate **p30343682_750_***platform***.zip** software pack to *temp_dir*, where *platform* is **linux**, **aix**, **hpux_ia64**, **solaris** (for Solaris 10), or **solaris11**.

10. Unzip the **p30343682_750_***platform***.zip** file.

11. Install the Third-Party software by doing the following:

    a. Go to *temp_dir* and run the following command:

       7.5PS23_ThirdParty_*platform***_32_opt.bin -console**

       where *platform* is **linux**, **aix**, **hpux_ia64**, **solaris** (for Solaris 10), or **solaris11**.

    b. When prompted, enter the path to the *Third-party_Home* directory, where *Third-party_Home* is the directory in which the Third-Party software is installed.

       > **Important:** If you have BRM 7.5 Patch Set 18 or 19 installed, install the Third-Party software in a different directory.

    c. Follow the instructions displayed during installation.

       The latest supported version of Perl is installed and the corresponding files in the *Third-party_Home*/**tools** directory are replaced. For information on the

latest supported version, see the discussion about BRM software compatibility in *BRM Installation Guide*.

d. Verify that the latest version of Perl certified with BRM is installed by running the following command:

Perl -v

e. Verify that the Perl path specified in the BRM files is pointing to the location of the latest version certified with BRM; for example, **opt/portal/7.5/ThirdPartyApps/perl/5.28.1**.

On the system on which the BRM server is installed, run the following command:

where perl

The Perl paths are displayed. For example:

```
opt/portal/7.5/bin/perl
opt/portal/7.5/ThirdPartyApps/perl/5.28.1/bin/perl
/tools/opt/bin/perl
/usr/bin/perl
```

If the latest version of Perl certified with BRM is not displayed, update the path to point to the location of the latest version of Perl.

f. Unset the PERL5LIB and PERL5INC environment variables.

g. Go to *BRM_home* and source the **source.me** file, where *BRM_home* is the directory in which BRM is installed:

Bash shell:

source source.me.sh

C shell:

source source.me.csh

12. Go to *temp_dir* and run the following command, which installs the patch software:

*PatchPackageName***.bin -console**

where *PatchPackageName* is:

■ **7.5PS23_30343682_Portal_Base_***platform***_opt** for upgrading BRM plus any BRM optional components installed on your system.

■ **7.5PS23_30343682_Portal_SDK_***platform***_opt** for upgrading the BRM SDK.

■ **7.5PS23_30343682_Pipeline_***platform***_opt** for upgrading Pipeline Manager.

Important: On HP-UX IA64, the Pipeline Manager patch installation fails with JRE 1.7. To work around this issue, use the Java package included with the HP-UX IA64 Third-Party software.

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where *platform* is **linux**, **aix**, **hpux_ia64**, **solaris** (for Solaris 10), or **solaris11**.

13. Follow the instructions displayed during installation.

14. Run the following command, which installs the database upgrade package for upgrading the BRM patch set database schema plus the database schema for any BRM optional components installed on your system:

`7.5PS23_PortalBase_Upgrade_75_75PS_`*`platform`*`_32_opt.bin -console`

where *platform* is **linux**, **aix**, **hpux_ia64**, **solaris** (for Solaris 10), or **solaris11**.

15. Follow the instructions displayed during installation.

> **Important:** From BRM 7.5 Patch Set 10, the OpenSSL software is no longer part of the BRM patch set installation package. Installing BRM 7.5 Patch Set 16 removes the OpenSSL libraries that were installed by a previous patch set. For BRM, Oracle recommends that you use the OpenSSL software bundled with the host operating system. Ensure that the latest version of the OpenSSL software is installed for your operating system.

Upgrading the BRM Database Schema

The database objects associated with the optional components that are not already installed are not created or updated.

To upgrade the BRM database schema, perform one of the following procedures:

- Upgrading the Schema on Single-Schema Systems
- Upgrading the Schema on Multischema Systems

If Oracle In-Memory Database (IMDB) Cache is installed, upgrade the BRM Cache Groups Schema in IMDB Cache. See "Upgrading the BRM Cache Groups Schema in IMDB Cache".

Upgrading the Schema on Single-Schema Systems

To upgrade the schema on single-schema systems:

1. Ensure that the PERL_VERSION environment variable is set to the latest version of Perl certified with BRM.

2. Go to *BRM_home* and source the **source.me** file:

- Bash shell:

  `source source.me.sh`

- C shell:

  `source source.me.csh`

3. Go to the *BRM_home*/**setup/scripts** directory and run the following script:

`pin_75_75ps23_upgrade.pl`

4. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

Upgrading the Schema on Multischema Systems

To upgrade the schema on multischema systems:

1. On the primary BRM installation machine, do the following:

a. Ensure that the DMs in your secondary BRM installation machines are up and running.

b. Ensure that the PERL_VERSION environment variable is set to the latest version of Perl certified with BRM.

c. Go to *BRM_home* and source the **source.me** file:

Bash shell:

```
source source.me.sh
```

C shell:

```
source source.me.csh
```

d. Go to the *BRM_home*/**apps/multi_db** directory and run the following script:

```
./install.sh
```

Follow the on-screen instructions, entering this information for the primary schema and for each secondary schema when requested:

– Schema user name

– Schema password

– Schema SID (the BRM database alias of the schema)

Important: Repeat the "Do you have secondary schema to process" step for each secondary schema in your system.

The install script fixes any data errors caused by conflicting storable class IDs. The errors might have occurred during extended architecture (XA) transactions involving multiple schemas or when accounts were migrated from one schema to another.

Note: As the install script runs, it generates the *BRM_home*/**apps/multi_db/fix_multi_schema.log** file. To view the progress of the script, display the log file in a different console window.

---

e. Go to the *BRM_home*/**setup/scripts** directory and run the following script:

```
pin_75_75ps23_upgrade.pl
```

f. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

g. Ensure that the BRM processes are not running.

2. On each secondary BRM installation machine, do the following:

a. Ensure that the BRM processes are not running.

b. Go to *BRM_home* and source the **source.me** file:

Bash shell:

```
source source.me.sh
```

C shell:

```
source source.me.csh
```

   c. Go to the *BRM_home***/setup/scripts** directory and run the following script:

```
pin_75_75ps23_upgrade.pl
```

   d. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

3. On the primary BRM installation machine, do the following:

   a. Go to the *BRM_home***/setup/scripts** directory and run the following command:

```
pin_multidb.pl -i
```

   b. At the following prompt, enter **y**, which begins the configuration:

```
Do you want to start the configuration now? (y/n):   y
```

   c. At the following prompt, enter **2**, which initializes the primary database:

```
Please enter the starting step (0-8). If you don't know, enter 0:   2
```

   d. Follow the instructions displayed and exit the **pin_multidb.pl** script.

      The refresh groups are recreated in the primary database.

   e. Run the following command:

```
pin_multidb.pl -R all
```

      The Connection Managers (CMs) in your secondary BRM installation machines are now started. The views, based on the information in the refresh groups, are re-created in the secondary databases.

Upgrading the BRM Cache Groups Schema in IMDB Cache

> **Important:** In multischema systems, perform these tasks first on the primary BRM installation machine and then on the secondary BRM installation machines.

On the system on which Oracle IMDB Cache Manager is installed, when you upgrade the BRM Cache Groups schema in IMDB Cache, you destroy the data stores in IMDB Cache and then re-create them.

To upgrade the BRM Cache Groups schema in IMDB Cache:

1. If you have created any customizations in the cache groups, save the *BRM_home***/bin/pin_tt_schema_gen.values** file to a different location. Note down the name and location of this file.

> **Note:** In a multischema system, save the **pin_tt_schema_gen.values** file for each schema.

2. Connect to IMDB Cache using **ttIsql**.

3. Run the following command for each cache group to unload:

```
UNLOAD CACHE GROUP CacheGroupName
```

where *CacheGroupName* is the name of the cache group to be unloaded.

All cache instances from all cache tables in *CacheGroupName* are unloaded.

> **Important:** Unload all cache groups before you start the upgrade.

For information about unloading a cache group, see the discussion about cache group operations in *Oracle In-Memory Database Cache User's Guide*.

4. Detach all IMDB nodes from the cache grid.

- For high-availability (HA) systems:

  > **Important:** If the grid member is an active standby pair, detach the active master and standby master databases separately.

  Run the following commands, in the order indicated, which detach the IMDB node on the active standby pair from the cache grid:

  ```
  ttCWAdmin -stop -dsn DataStoreName
  ttCWAdmin -drop -dsn DataStoreName
  ```

  where *DataStoreName* is the name of the data store to detach.

  For more information on detaching grid members in an HA environment, see *Oracle In-Memory Database Cache User's Guide*.

- For non-HA systems:

  Run the following command, which detaches all the IMDB nodes:

  ```
  ttGridDetach();
  ```

  For information about the **ttGridDetach()** command, see the discussion about cleaning up the caching environment in *Oracle In-Memory Database Cache User's Guide*.

5. Run the following command, which stops the replication agent on each database:

   ```
   CALL ttRepStop;
   ```

   For more information on stopping the replication agent, see the discussion about managing the replication agent in *Oracle In-Memory Database Cache User's Guide*.

6. Drop the cache groups by doing the following:

   a. Run the following command, which drops all the default BRM cache groups:

      ```
      BRM_home/bin/tt_drop.sql
      ```

   b. Run the following command for each custom cache group to drop:

      ```
      DROP CACHE GROUP CacheGroupName
      ```

      where *CacheGroupName* is the name of the custom cache group to be dropped.

   For information about dropping cache groups, see *Oracle In-Memory Database Cache User's Guide*.

7. Run the following command, which stops the TimesTen cache agent:

   ```
   call ttCacheStop;
   ```

For information about stopping the TimesTen cache agent, see *Oracle In-Memory Database Cache User's Guide*.

8. Destroy the data store by doing the following:

   a. Disconnect from all databases.

   b. Stop the TimesTen main daemon process, which manages all databases under the same TimesTen installation, by running the following command:

   ttdaemonadmin -stop

   c. Restart the TimesTen main daemon process by running the following command:

   ttdaemonadmin -start

   d. Destroy the data store by running the following command:

   ttDestroy *DataStoreName*

   where *DataStoreName* is the name of the data store to be destroyed.

   For information about **ttDestroy**, see the discussion about cleaning up the caching environment in *Oracle In-Memory Database Cache User's Guide*.

9. Stop the CM processes.

   For more information, see the discussion about starting and stopping the BRM system in *BRM System Administrator's Guide*.

10. Stop the IMDB Cache DM processes.

   For more information, see the discussion about starting and stopping Oracle IMDB Cache DM in *BRM System Administrator's Guide*.

11. Re-create the data store in IMDB Cache.

   For more information, see the discussion about creating the data store in Oracle IMDB Cache in *BRM System Administrator's Guide*.

12. Generate the schema SQL and load SQL scripts to set up the cache group schema by doing the following:

   > **Note:** In a multischema system, complete these steps for each schema.

   a. Configure the **pin_tt_schema_gen.values** file.

   For more information, see the discussion about configuring the **pin_tt_schema_gen.values** file in *BRM System Administrator's Guide*.

   Optionally, if you saved your *BRM_home***/bin/pin_tt_schema_gen.values** file in step 1, use it.

   b. Run the following command, which generates your schema SQL and load SQL scripts:

   pin_tt_schema_gen

   For more information, see the discussion about generating your schema SQL and load SQL scripts in *BRM System Administrator's Guide*.

13. Initialize your data stores.

    For more information, see the discussion about initializing your data stores in Oracle IMDB Cache in *BRM System Administrator's Guide*.

14. Connect your data stores to the BRM database.

    For more information, see the discussion about connecting your data stores to the BRM database in *BRM System Administrator's Guide*.

15. Connect the IMDB Cache DM to your data stores.

    For more information, see the discussion about connecting the IMDB Cache DM to your data stores in *BRM System Administrator's Guide*.

16. Configure the CM to connect to the Oracle DM.

    For more information, see the discussion about using configuration files to connect and configure components in *BRM System Administrator's Guide*.

17. Go to the *BRM_home*/**setup/scripts** directory and run the following script:

    ```
    pin_75_75ps23_upgrade.pl
    ```

Adding Customizations

> **Important:** In multischema systems, incorporate customizations first on the secondary BRM installation machines and then on the primary BRM installation machine.

Incorporate any customizations you made, including source code, policy, **pin.conf**, **pin_ctl.conf**, **pin_setup.values**, and **Infranet.properties** files, if you have not already incorporated them.

If you have already loaded customized versions of the following files, incorporate any customizations you made and reload the files using the **load_localized_strings** utility:

- *BRM_home*/**sys/msgs/lifecycle_states/lifecycle_states.en_US**

- *BRM_home*/**sys/msgs/active_mediation/active_mediation.en_US**

- *BRM_home*/**sys/msgs/note/note.en_US**

- *BRM_home*/**sys/msgs/reasoncodes/reasons.en_US**

For more information about loading these files, see the discussion about localizing and customizing strings in *BRM Developer's Guide*.

(Production system only) Remove all entries for the **pin_virtual_time** utility from the configuration files.

Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 10

> **Important:** If you are upgrading from BRM 7.4 to BRM 7.5 Patch Set 23 on Solaris 11, see "Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 11".

> **Note:** In multischema systems, perform this task first on the primary BRM installation machine and then on the secondary BRM installation machines.

To upgrade BRM 7.4 to the BRM 7.5 patch set on Solaris 10:

1. Upgrade BRM 7.4 to BRM 7.5. See the discussion about upgrading from BRM 7.4 to BRM 7.5 in *BRM Upgrade Guide*.

   > **Note:** Do not upgrade the BRM 7.4 database schema to the base BRM 7.5 database schema.

2. If BRM is installed on a Solaris server, install the 148198-03 for SPARC patch on that server. See "Installing Solaris Patches".

3. Open the *BRM_home*/**setup/pin_setup.values** file in a text editor.

4. Set the following parameters:

   ```
   $SETUP_CREATE_PARTITIONS = "NO";
   $ENABLE_PARTITION = "NO";
   $SETUP_DROP_ALL_TABLES = "NO";
   $SETUP_INIT_DB = "NO";
   $CREATE_DATABASE_TABLES = "NO";
   ```

5. Save and close the file.

6. Go to the *BRM_home*/**setup** directory and run the following command:

   ./pin_setup

7. Install BRM 7.5 Maintenance Patch Set 1. See *BRM Maintenance Patch Set 1 Installation Guide*.

8. Install the BRM 7.5 patch set software. See "Installing the BRM 7.5 Patch Set".

9. Upgrade the BRM patch set database schema. See "Upgrading the BRM 7.5 Patch Set Database Schema".

Installing the BRM 7.5 Patch Set

> **Important:** In multischema systems, perform this task first on the primary BRM installation machine and then on the secondary BRM installation machines.

To install the BRM 7.5 patch set:

1. Create a temporary directory (*temp_dir*).

2. Go to the Oracle support Web site:

   https://support.oracle.com

3. Sign in with your user name and password.

4. Click the **Patches & Updates** tab.

5. From the list, select **Patch Name or Number**.

6. In the text field, enter **30343682** and click **Search**.

    The Patch Search Results page appears.

7. Click the patch name.

    The patch details appear.

8. From the **Platform** list, select the platform and click **Download**.

    The File Download dialog box appears.

9. Download the appropriate **p30343682_750_***platform***.zip** software pack to *temp_dir*, where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.

10. Unzip the **p30343682_750_***platform***.zip** file.

11. Install the Third-Party software by doing the following:

    a. Go to *temp_dir* and run the following command:

    ```
    7.5PS23_ThirdParty_platform_32_opt.bin -console
    ```

    where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.

    b. When prompted, enter the path to the *Third-party_Home* directory, where *Third-party_Home* is the directory in which the Third-Party software is installed.

    Important: If you have BRM 7.5 Patch Set 18 or 19 installed, install the Third-Party software in a different directory.

    ---

    c. Follow the instructions displayed during installation.

    The latest supported version of Perl is installed and the corresponding files in the *Third-party_Home*/**tools** directory are replaced. For information on latest supported version, see the discussion about BRM software compatibility in *BRM Installation Guide*.

    d. Verify that the latest version of Perl certified with BRM is installed by running the following command:

    ```
    Perl -v
    ```

    e. Verify that the Perl path specified in the BRM files is pointing to the location of the latest version of Perl certified with BRM; for example, opt/portal/7.5/ThirdPartyApps/perl/5.28.1.

    To verify, on the system on which the BRM server is installed, run the following command:

    ```
    where perl
    ```

    The Perl paths are displayed if exists. For example:

    ```
    opt/portal/7.5/bin/perl
    opt/portal/7.5/ThirdPartyApps/perl/5.28.1/bin/perl
    /tools/opt/bin/perl
    /usr/bin/perl
    ```

    If the latest version of Perl certified with BRM is not displayed, update the path to point to the location of the latest version of Perl.

    f. Unset the PERL5LIB and PERL5INC environment variables.

g. Go to *BRM_home* and source the **source.me** file, where *BRM_home* is the directory in which BRM is installed:

Bash shell:

```
source source.me.sh
```

C shell:

```
source source.me.csh
```

12. Go to *temp_dir* and run the following command, which installs the patch software:

```
PatchPackageName.bin -console
```

where *PatchPackageName* is:

- **7.5PS23_30343682_Portal_Base_***platform***_opt** for upgrading BRM plus any BRM optional components installed on your system.

- **7.5PS23_30343682_Portal_SDK_***platform***_opt** for upgrading the BRM SDK.

- **7.5PS23_30343682_Pipeline_***platform***_opt** for upgrading Pipeline Manager.

where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.

13. Follow the instructions displayed during installation.

14. Run the following command, which installs the database upgrade package for upgrading the BRM patch set database schema plus the database schema for any BRM optional components installed on your system:

```
7.5PS23_PortalBase_Upgrade_75_75_platform_32_opt.bin -console
```

where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.

15. Follow the instructions displayed during installation.

> **Important:** From BRM 7.5 Patch Set 10, the OpenSSL software is no longer part of the BRM patch set installation package. Installing BRM 7.5 Patch Set 16 removes the OpenSSL libraries that were installed by a previous patch set. For BRM, Oracle recommends that you use the OpenSSL software bundled with the host operating system. Ensure that the latest version of the OpenSSL software is installed for your operating system.

Upgrading the BRM 7.5 Patch Set Database Schema

The database objects associated with the optional components that are not already installed are not created or updated.

To upgrade the BRM 7.5 patch set database schema, perform one of the following procedures:

- Upgrading the Schema on Single-Schema Systems

- Upgrading the Schema on Multischema Systems

If Oracle In-Memory Database (IMDB) Cache is installed, upgrade the BRM Cache Groups Schema in IMDB Cache. See "Upgrading the BRM Cache Groups Schema in IMDB Cache".

Upgrading the BRM 7.5 Patch Set Schema on Single-Schema Systems

To upgrade the BRM 7.5 patch set schema on single-schema systems:

1. Ensure that the PERL_VERSION environment variable is set to the latest version of Perl certified with BRM.

2. Go to *BRM_home* and source the **source.me** file:

   - Bash shell:

     source source.me.sh

   - C shell:

     source source.me.csh

3. Go to the *BRM_home*/**setup/scripts** directory and run the following script:

   pin_75_75ps23_upgrade.pl

4. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

Upgrading the BRM 7.5 Patch Set Schema on Multischema Systems

To upgrade the BRM 7.5 patch set schema on multischema systems:

1. On the primary BRM installation machine, do the following:

   a. Ensure that the DMs in your secondary BRM installation machines are up and running.

   b. Ensure that the PERL_VERSION environment variable is set to the latest version of Perl certified with BRM.

   c. Go to *BRM_home* and source the **source.me** file:

      Bash shell:

      source source.me.sh

      C shell:

      source source.me.csh

   d. Go to the *BRM_home*/**apps/multi_db** directory and run the following script:

      ./install.sh

      Follow the on-screen instructions, entering the following information for the primary schema and for each secondary schema when requested:

      – Schema user name

      – Schema password

      – Schema SID (the BRM database alias of the schema)

      Important: Repeat the "Do you have secondary schema to process" step for each secondary schema in your system.

      The install script fixes any data errors caused by conflicting storable class IDs. The errors might have occurred during extended architecture (XA)

transactions involving multiple schemas or when accounts were migrated from one schema to another.

Note: As the install script runs, it generates the *BRM_home***/apps/multi_db/fix_multi_schema.log** file. To view the progress of the script, display the log file in a different console window.

---

   e. Go to the *BRM_home***/setup/scripts** directory and run the following script:

   ```
   pin_75_75ps23_upgrade.pl
   ```

   f. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

   g. Ensure that the BRM processes are not running.

2. On each secondary BRM installation machine, do the following:

   a. Ensure that the BRM processes are not running.

   b. Go to *BRM_home* and source the **source.me** file:

   Bash shell:

   ```
   source source.me.sh
   ```

   C shell:

   ```
   source source.me.csh
   ```

   c. Go to the *BRM_home***/setup/scripts** directory and run the following script:

   ```
   pin_75_75ps23_upgrade.pl
   ```

   d. Merge the contents of the backed up **pin_ctl.conf** file into the new **pin_ctl.conf** file.

   e. Ensure that the Oracle DM in your secondary BRM installation machine is running.

3. On the primary BRM installation machine, do the following:

   a. Go to the *BRM_home***/setup/scripts** directory and run the following command:

   ```
   pin_multidb.pl -i
   ```

   b. At the following prompt, enter **y**, which begins the configuration:

   ```
   Do you want to start the configuration now? (y/n):   y
   ```

   c. At the following prompt, enter **2**, which initializes the primary database:

   ```
   Please enter the starting step (0-8). If you don't know, enter 0:   2
   ```

   d. Follow the instructions displayed and exit the **pin_multidb.pl** script.

   The refresh groups are recreated in the primary database.

   e. Run the following command:

   ```
   pin_multidb.pl -R all
   ```

The Connection Managers (CMs) in your secondary BRM installation machines are now started. The views, based on the information in the refresh groups, are re-created in the secondary databases.

Upgrading the BRM 7.5 Patch Set Cache Groups Schema in IMDB Cache

> **Important:** In multischema systems, perform these tasks first on the primary BRM installation machine and then on the secondary BRM installation machines.

On the system on which Oracle IMDB Cache Manager is installed, when you upgrade the BRM 7.5 Cache Groups schema in IMDB Cache, you destroy the data stores in IMDB Cache and then re-create them.

To upgrade the BRM 7.5 patch set Cache Groups schema in IMDB Cache:

1. If you have created any customizations in the cache groups, save the *BRM_home***/bin/pin_tt_schema_gen.values** file to a different location. Note the name and location of this file.

    > **Note:** In a multischema system, save the **pin_tt_schema_gen.values** file for each schema.

2. Connect to IMDB Cache using **ttIsql**.

3. Run the following command for each cache group to unload:

    UNLOAD CACHE GROUP *CacheGroupName*

    where *CacheGroupName* is the name of the cache group to be unloaded.

    All cache instances from all cache tables in *CacheGroupName* are unloaded.

    > **Important:** Unload all cache groups before you start the upgrade.

    For information about unloading a cache group, see the discussion about cache group operations in *Oracle In-Memory Database Cache User's Guide*.

4. Detach all IMDB nodes from the cache grid.

    ■ For high-availability (HA) systems:

    > **Important:** If the grid member is an active standby pair, detach the active master and standby master databases separately.

    Run the following commands, in the order indicated, which detach the IMDB node on the active standby pair from the cache grid:

    ttCWAdmin −stop −dsn *DataStoreName*
    ttCWAdmin −drop −dsn *DataStoreName*

    where *DataStoreName* is the name of the data store to detach.

    For more information on detaching grid members in an HA environment, see *Oracle In-Memory Database Cache User's Guide*.

- For non-HA systems:

  Run the following command, which detaches all IMDB nodes:

  ttGridDetach();

  For information about the **ttGridDetach()** command, see the discussion about cleaning up the caching environment in *Oracle In-Memory Database Cache User's Guide*.

5. Run the following command, which stops the replication agent on each database:

   CALL ttRepStop;

   For more information about stopping the replication agent, see the discussion about managing the replication agent in *Oracle In-Memory Database Cache User's Guide*.

6. Drop the cache groups by doing the following:

   a. Run the following command, which drops all the default BRM cache groups:

   *BRM_home***/bin/tt_drop.sql**

   b. Run the following command for each custom cache group to drop:

   DROP CACHE GROUP *CacheGroupName*

   where *CacheGroupName* is the name of the custom cache group to be dropped.

   For information about dropping cache groups, see *Oracle In-Memory Database Cache User's Guide*.

7. Run the following command, which stops the TimesTen cache agent:

   call ttCacheStop;

   For information about stopping the TimesTen cache agent, see *Oracle In-Memory Database Cache User's Guide*.

8. Destroy the data store by doing the following:

   a. Disconnect from all databases.

   b. Stop the TimesTen main daemon process, which manages all databases under the same TimesTen installation, by running the following command:

   ttdaemonadmin -stop

   c. Restart the TimesTen main daemon process by running the following command:

   ttdaemonadmin -start

   d. Destroy the data store by running the following command:

   ttDestroy *DataStoreName*

   where *DataStoreName* is the name of the data store to be destroyed.

   For information about **ttDestroy**, see the discussion about cleaning up the caching environment in *Oracle In-Memory Database Cache User's Guide*.

9. Stop the CM processes.

   For more information, see the discussion about starting and stopping the BRM system in *BRM System Administrator's Guide*.

10. Stop the IMDB Cache Data Manager (DM) processes.

    For more information, see the discussion about starting and stopping the Oracle IMDB Cache DM in *BRM System Administrator's Guide*.

11. Re-create the data store in IMDB Cache.

    For more information, see the discussion about creating the data store in Oracle IMDB Cache in *BRM System Administrator's Guide*.

12. Generate the schema SQL and load SQL scripts to set up the cache group schema by doing the following:

    > **Note:** In a multischema system, complete these steps for each schema.

    a. Configure the **pin_tt_schema_gen.values** file.

       For more information, see the discussion about configuring the **pin_tt_schema_gen.values** file in *BRM System Administrator's Guide*.

       Optionally, if you saved your *BRM_home***/bin/pin_tt_schema_gen.values** file in step 1, use it.

    b. Run the following command, which generates your schema SQL and load SQL scripts:

       `pin_tt_schema_gen`

       For more information, see the discussion about generating your schema SQL and load SQL scripts in *BRM System Administrator's Guide*.

13. Initialize your data stores.

    For more information, see the discussion about initializing your data stores in Oracle IMDB Cache in *BRM System Administrator's Guide*.

14. Connect your data stores to the BRM database.

    For more information, see the discussion about connecting your data stores to the BRM database in *BRM System Administrator's Guide*.

15. Connect the IMDB Cache DM to your data stores.

    For more information, see the discussion about connecting the IMDB Cache DM to your data stores in *BRM System Administrator's Guide*.

16. Configure the CM to connect to the Oracle DM.

    For more information, see the discussion about using configuration files to connect and configure components in *BRM System Administrator's Guide*.

17. Go to the *BRM_home***/setup/scripts** directory and run the following script:

    `pin_75_75ps23_upgrade.pl`

Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 11

> **Important:** If you are upgrading from BRM 7.4 to BRM 7.5 Patch Set 23 on Solaris 10, see "Upgrading from BRM 7.4 to the BRM 7.5 Patch Set on Solaris 10".

> **Important:** You cannot directly upgrade from BRM 7.4 to BRM 7.5 on Solaris 11. For upgrading to BRM 7.5 on Solaris 11, you must install the BRM 7.5 complete software and the required BRM 7.5 patch sets on Solaris 10 before installing the BRM 7.5 complete software on Solaris 11.

To upgrade BRM 7.4 to the BRM 7.5 patch set on Solaris 11:

1. Upgrade BRM 7.4 to BRM 7.5 on Solaris 10. See the discussion about upgrading from BRM 7.4 to BRM 7.5 in *BRM Upgrade Guide*.

   > **Note:** Do not upgrade the BRM 7.4 database schema to the base BRM 7.5 database schema.

2. If BRM is installed on a Solaris server, install the 148198-03 for SPARC patch on that server. See "Installing Solaris Patches".

3. Open the *BRM_home*/**setup/pin_setup.values** file in a text editor.

4. Set the following parameters:

   ```
   $SETUP_CREATE_PARTITIONS = "NO";
   $ENABLE_PARTITION = "NO";
   $SETUP_DROP_ALL_TABLES = "NO";
   $SETUP_INIT_DB = "NO";
   $CREATE_DATABASE_TABLES = "NO";
   ```

5. Save and close the file.

6. Go to the *BRM_home*/**setup** directory and run the following command:

   ./pin_setup

7. Install BRM 7.5 Maintenance Patch Set 1 on Solaris 10. See *BRM Maintenance Patch Set 1 Installation Guide*.

8. Install BRM 7.5 Patch Set 15 on Solaris 10. See *BRM Patch Set 15 Installation Guide*.

9. Install the BRM 7.5 complete software on Solaris 11 using the installer package for Solaris 11. For instructions, see *BRM Installation Readme Release 7.5 for Solaris 11* in the BRM 7.5 software pack for Solaris 11 on the Oracle software delivery Web site (https://edelivery.oracle.com).

10. Install the BRM 7.5 Patch Set 23 software on Solaris 11. See "Installing the Patch Set".

Post-Installation Tasks

This section provides instructions for the post-installation tasks.

> **Important:** You need to perform only the post-installation tasks relevant to the patch set you are installing. For example, if you are upgrading from BRM 7.5 Patch Set 22 to BRM 7.5 Patch Set 23, run all the tasks from Patch Set 23, but not for Patch Set 22.

Increasing Heap Size to Avoid "Out of Memory" Error Messages (Patch Set 23)

To avoid "Out of Memory" error messages in the log file after installation, increase the maximum heap size used by the Java Virtual Machine (JVM). The exact amount varies greatly with your needs and system resources. Increase the maximum heap size to 240 MB by entering the following sample code in a text editor:

```
%IF_EXISTS%("INIT_JAVA_HEAP", "@INIT_JAVA_HEAP@120m") %IF_EXISTS%("MAX_JAVA_HEAP", "@MAX_JAVA_HEAP@240m")
```

where **120m** and **240m** indicate the minimum and maximum heap sizes respectively.

Save the file as *Packagename*.**ja** in the temporary directory (*temp_dir*) to which you downloaded the software pack.

Packagename indicates the name of the software pack. For example, if you downloaded the **7.5PS23_30343682_Portal_Base_solaris_64_opt.bin** file on Solaris, save the file as **7.5PS23_30343682_Portal_Base_solaris_64_opt.ja**.

Setting the Environment Variables (Patch Set 22/Patch Set 23)

You must set the environment variable to the compatible version of Perl certified with BRM. See the discussion about BRM software compatibility for the compatible version of Perl certified with BRM.

To set the environment variables, perform the following on the machine on which you installed the BRM server:

1. Set the PERL_HOME environment variable to the directory in which the latest compatible version of Perl certified with BRM is installed by running the following command:

   ```
   setenv PERL_HOME Perl_path
   ```

   where *Perl_path* is the path to the directory in which the latest version of Perl certified with BRM is installed; for example, **/perl_5_28.1/linux**.

2. Set the environment variable by running the following command:

   - For Bash shell:

     ```
     export -n PATH
     export -n LD_LIBRARY_PATH
     export PATH=/usr/bin:/usr/local/bin:/bin
     ```

   - For C shell:

     ```
     unsetenv PATH
     unsetenv LD_LIBRARY_PATH
     setenv PATH /usr/bin:/usr/local/bin:/bin
     ```

Running the Pipeline Upgrade Scripts (Patch Set 19)

> **Important:** In multischema systems, first run the pipeline upgrade scripts on the primary database schema and then run the pipeline upgrade scripts on the secondary database schemas.

To run the pipeline upgrade scripts:

1. Go to the *Pipeline_home***/database/Oracle/Scripts** directory and run the following script:

   sqlplus *login***/***password***@***database_alias* **< create_pricing_discountmodel_ procedures.plb**

   where:

   - *login* is the user name for the database schema you are updating.

   - *password* is the password for *login*.

   - *database_alias* is the BRM database alias of the schema you are updating.

2. Run the following command, which alters the size of the IMPACT_CATEGORY column in the IFW_DSCBALIMPACT table:

   alter table ifw_dscbalimpact modify impact_category VARCHAR2(255);

Setting the BRM_JRE Environment Variable (Patch Set 18)

On the system on which the BRM server is installed, to use the latest certified version of JRE, set the BRM_JRE environment variable to the location of the latest version of JRE before running any BRM processes. If the BRM_JRE environment variable is not set, BRM uses the JRE configured in the JAVA_HOME environment variable.

To set the BRM_JRE environment variable:

1. Stop all BRM daemons, processes, and managers and all Java processes.

   For more information, see the discussion about starting and stopping the BRM system in *BRM System Administrator's Guide*.

2. Set the BRM_JRE environment variable to the directory in which the latest version of JRE certified with BRM is installed.

   See the discussion about BRM software compatibility in *BRM Installation Guide* for the latest certified version of JRE certified with BRM.

3. Start all BRM processes.

Enabling SSL/TLS (Patch Set 14)

If SSL/TLS was disabled in "Disabling SSL/TLS", you must enable SSL/TLS.

To enable SSL/TLS:

1. Open the *BRM_home***/sys/cm/pin.conf** file in a text editor.

2. Set the following parameter:

   - cm enable_ssl 1

3. Save and close the file.

4. Open the *BRM_home*/**sys**/*data_manager*/**pin.conf** file in a text editor.

5. Set the following parameter:

   – **dm enable_ssl 1**

6. Save and close the file.

7. Open the **pin.conf** file of the PCM client application in a text editor.

8. Set the following parameter:

   – **nap enable_ssl 1**

9. Save and close the file.

Uninstalling the Patch Set from BRM

To uninstall the patch set from BRM:

1. (Optional) Back up the upgraded environment by doing the following:

   ■ Back up the BRM database. See "Backing Up Your BRM Database".

   ■ Back up all of the BRM files. See "Backing Up Files".

2. Stop all BRM daemons, processes, and managers.

3. Log in as user **pin**.

4. Go to the directory in which you installed the Third-Party software and source the **source.me** file:

   ■ Bash shell:

     source source.me.sh

   ■ C shell:

     source source.me.csh

5. Run the *BRM_home*/**uninstaller**/*PatchPackageName*/**uninstaller.bin** program to uninstall the patch software, where *PatchPackageName* is the name of the upgrade package you want to uninstall.

   Note: You can use the **-console** parameter to run the program from a command line.
   ---

6. Follow the instructions displayed during uninstallation.

7. Run the *BRM_home*/**uninstaller/PortalBase_Upgrade_75_75PS2/uninstaller.bin** program to uninstall the upgrade package.

   Note: You can use the **-console** parameter to run the program from a command line.
   ---

8. Follow the instructions displayed during uninstallation.

9. Restore the database from the offline backup of your BRM database that you created in "Backing Up Your BRM Database". See your database software documentation for more information about restoring full database backups.

Uninstalling the Patch Set from Pipeline Manager

To uninstall the patch set from Pipeline Manager:

1. (Optional) Back up the upgraded environment by doing the following:

   - Back up the Pipeline Manager database. See "Backing Up Your Pipeline Manager Database".

   - Back up all of the Pipeline Manager files. See "Backing Up Files".

2. Stop all Pipeline Manager daemons, processes, and managers.

3. Log in as user **pin**.

4. Go to the directory in which you installed the Third-Party software and source the **source.me** file:

   - Bash shell:

     source source.me.sh

   - C shell:

     source source.me.csh

5. Run the *Pipeline_home***/uninstaller/***PatchPackageName***/uninstaller.bin** program, where *PatchPackageName* is the name of the upgrade package you want to uninstall.

   > **Note:** You can use the **-console** parameter to run the program from a command line.

6. Follow the instructions displayed during uninstallation.

7. Restore the database from the offline backup of your Pipeline Manager database that you created in "Backing Up Your Pipeline Manager Database". See your database software documentation for more information about restoring full database backups.