Oracle® Communications Billing and Revenue Management

Reports

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Oracle Communications Billing and Revenue Management Reports, Release 7.5

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Preface

This books describes the Oracle Communications Billing and Revenue Management (BRM) reports.

Audience

This document is intended for developers and system administrators.

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:

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Document Revision History

The following table lists the revision history for this book.

Version	Date	Description
E16718-01	November 2011	Initial release.
E16718-02	May 2012	Documentation updates for BRM 7.5 Patch Set 1. ▪ Made minor formatting and text changes.

Version	Date	Description
E16718-03	August 2012	Documentation updates for BRM 7.5 Patch Set 2. ■ Updated the "About the BRM Reports Packages" section.
E16718-04	December 2012	Documentation updates for BRM 7.5 Patch Set 3. ■ Made minor formatting and text changes.
E16718-05	March 2013	Documentation updates for BRM 7.5 Patch Set 4. ■ Replaced multidatabase information with multischema information.
E16718-06	August 2014	Documentation updates for BRM 7.5 Patch Set 9. ■ Documentation added for RADIUS Manager. ■ In the "Payments Summary Report", "Reversals Summary Report", and "Refunds Summary Report" sections, added SEPA to the payment types. ■ In the "Payments Detail Report", "Reversals Detail Report", and "Refunds Detail Report" sections, added SEPA to the payment types and IBAN to the mask numbers.
E16718-07	October 2014	Documentation updates for BRM 7.5 Patch Set 10. ■ In the following sections, added a note about displaying only tokens: Payments Detail Report Reversals Detail Report Refunds Detail Report Credit Card Charges or Declines Report Credit Cards Due to Expire Report Credit Card Transactions Report ■ Updated the following sections: Installing BI Publisher Uninstalling BRM Reports on Windows
E16718-08	August 2015	Documentation updates for BRM 7.5 Maintenance Patch Set 1. ■ Updated the following sections: Installing the BRM Base Reports on Windows Installing the BRM Base Reports on Linux, Solaris, and AIX Installing BRM Reports for Optional Managers on Windows Installing BRM Reports on Linux, Solaris, and AIX ■ Removed Taxware information.

Version	Date	Description
E16718-09	April 2016	Documentation updates for BRM 7.5 Patch Set 15. ■ Made minor formatting and text changes.

1

About BRM Reports

This chapter provides an overview of Oracle Communications Billing and Revenue Management (BRM) Reports implemented with Oracle Business Intelligence (BI) Publisher.

Introducing BRM Reports

BRM Reports is a set of report templates that you can use to track customer activity and billing. These templates are designed to be used with a BRM database and BI Publisher.

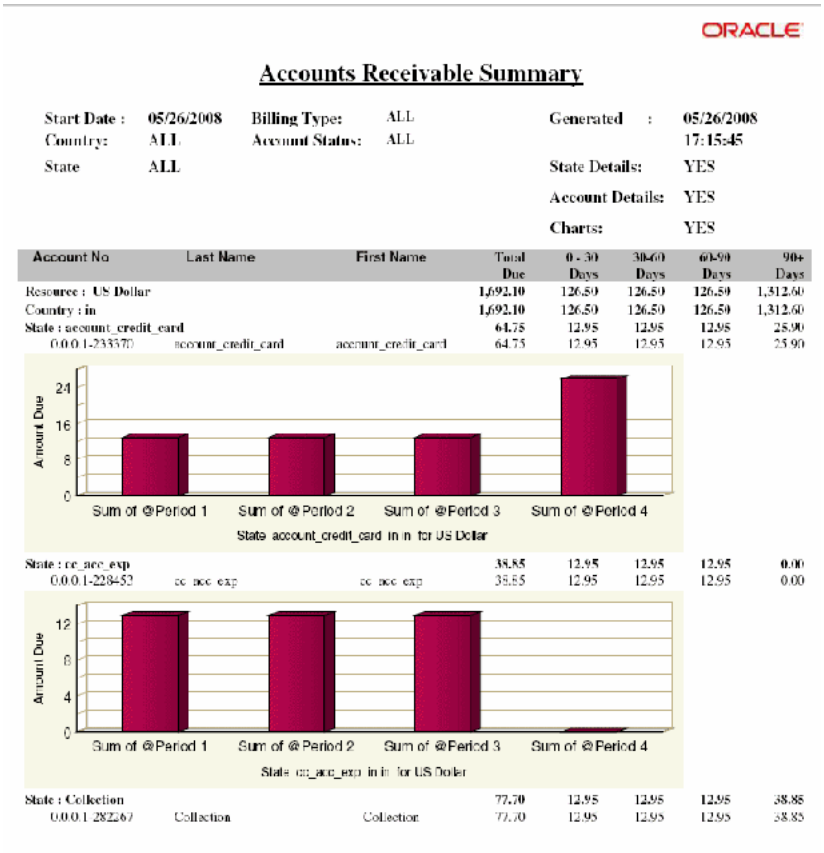
Before using BRM Reports, you should be familiar with basic BRM terms and concepts. For more information, see *BRM Concepts*.

You can run the reports from any Windows computer that has access to your BRM database.

You can display and print report results in tabular text format, a chart, or both. You can also save reports to disk, convert reports to Portable Document Format (PDF) or Rich Text Format (RTF), and display reports on HTML Web pages, all with BI Publisher. BI Publisher also supports XML data format.

Figure 1–1 shows the output for an **AR Summary** report:

Figure 1–1 AR Summary Report



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Accounts Receivable Summary

Start Date :	05/26/2008	Billing Type:	ALL	Generated :	05/26/2008 17:15:45
Country:	ALL	Account Status:	ALL		
State	ALL			State Details:	YES
				Account Details:	YES
				Charts:	YES

Account No	Last Name	First Name	Total Due	0 - 30 Days	30-60 Days	60-90 Days	90+ Days
Resource : US Dollar			1,692.10	126.50	126.50	126.50	1,312.60
Country : in			1,692.10	126.50	126.50	126.50	1,312.60
State : account_credit_card			64.75	12.95	12.95	12.95	25.90
0.0.0.1-233370	account_credit_card	account_credit_card	64.75	12.95	12.95	12.95	25.90

State : cc_acc_exp			38.85	12.95	12.95	12.95	0.00
0.0.0.1-228452	cc_acc_exp	cc_acc_exp	38.85	12.95	12.95	12.95	0.00

State : Collection			77.70	12.95	12.95	12.95	38.85
0.0.0.1-282267	Collection	Collection	77.70	12.95	12.95	12.95	38.85

About the BRM Reports Packages

The BRM reports are distributed in the following packages:

- **BRM base reports** include reports about accounts receivables, credit card usage, general ledger, and tax calculation. See "BRM Base Reports".
- **Brand Manager reports** show data for only one brand. See "Reporting by Brand".

  Important: Brand Manager is an optional feature that requires a separate license.

- **Content Manager reports** support Content Manager, an optional component that allows you to bill customers for content offered by content providers and to remit content providers for content purchased. You use these reports to show content usage, charges incurred for content usage, and the amount to remit to content providers for content purchased. See "Content Manager Reports".

  Important: Content Manager is an optional feature that requires a separate license.

- **MultiDB Manager reports** retrieve and display A/R data from more than one BRM database schema in the same report. See "Running Reports against Multiple Schemas".

> **Important:** Multischema capabilities are optional features that require a separate license.

- **Number Manager reports** support Number Manager. You use this report to track number inventory and information relating to tracking telephone numbers. See "Number Manager Reports".

> **Important:** Number Manager is an optional feature that requires a separate license.

- **Revenue Assurance Rating Summary reports** support Revenue Assurance Manager. You use them to track revenue assurance data collected by auditing billing utilities and Pipeline Manager.
- **SIM Manager reports** support SIM (Subscriber Identity Module) Manager. You use these reports to track the status of SIM cards you have ordered and the state of SIM cards currently in inventory. See "SIM Manager Reports".

> **Important:** BRM SIM Manager is an optional feature that requires a separate license.

- **Suspense Manager reports** support the standard recycling and Suspense Manager features. You use them to track suspended call records, processed by Suspense Manager for a specific time period, and those with a status of written-off, for each brand.
- **Roaming Manager reports** support TAP (Transfer Account Procedure) Roaming Manager reports that are implemented with Oracle Business Intelligence (BI) Publisher. These reports enable roaming partners that have not implemented Near Real Time Roaming Data Exchange (NRTRDE) to exchange high-usage roaming information with each other. See "Roaming Manager Reports".
- **Wireless access service reports** support GPRS Manager. You use them to track usage and error information for your General Packet Radio Service (GPRS) services. See "Wireless Reports".

> **Important:** GPRS Manager is an optional feature that requires a separate license.

- **Collections Manager reports** support Collections Manager, which you use to manage in-house debt collections. See "Collections Manager Reports".

> **Important:** Collections Manager is an optional feature that requires a separate license.

- **SMS Settlement reports** support SMS (Short Message Service) settlement. You use them to track the aggregated information about SMS messages exchanged between home network and other networks.

> **Important:** SMS Settlement Reports is an optional feature that requires a separate license.

- **Voucher inventory management reports** support Voucher Manager. You use them to track what vouchers are in the system. See "Voucher Inventory Management Report".

> **Important:** Voucher Manager is an optional feature that requires a separate license.

- **Voucher device management reports** support Voucher Manager. You use them to track the contents and attributes of a voucher. See "Voucher Device Management Report".

> **Important:** Voucher Manager is an optional feature that requires a separate license.

About Customizing BRM Reports

Each report template includes a set of parameters that determines what data is extracted from the BRM database and how that data is displayed in the report output. To tailor the output for your needs, you specify values for the parameters when you run reports.

In addition, if you have BI Publisher design privileges and structured query language (SQL) experience, you can customize the report templates. For example:

- You can change the values in parameter lists, and you can add parameters to or delete them from the templates.
- You can convert dates, decrypt credit card numbers, and localize report input and output.
- You can produce reports that show data for a specific brand.
- You can automatically list output from several BRM database schemas in one report.

For more information about customizing BRM reports, see the following topics:

- Customizing BRM Reports in Business Intelligence Publisher
- Reporting by Brand

2

Installing BRM Reports

This chapter explains how to install Oracle Communications Billing and Revenue Management (BRM) reports that are implemented with Oracle Business Intelligence (BI) Publisher 11*g* and 10*g*.

Note: Running reports and generating invoices with BI Publisher 11*g* running on Windows is not supported.

For an overview of BRM reports, see "About BRM Reports".

Installation Overview

To set up your system to run BRM reports with BI Publisher, perform the following tasks:

1. Installing and Configuring BI Publisher
2. Installing BRM Reports

Installing and Configuring BI Publisher

To set up BI Publisher software, you need the following:

- For Windows operating systems, *Windows administrator privileges* on the computer where you install BI Publisher. Administrators can assign user rights. Depending on the rights administrators give to themselves and to others, users can design and customize reports or schedule reports to run.
- A BI Publisher Enterprise license

Stop Oracle WebLogic Server

For BI Publisher 11*g* only: stop the server on which Oracle WebLogic server is running before installing BI Publisher 11*g*.

Installing BI Publisher

To install BI Publisher, follow the instructions in the BI Publisher documentation.

Note: For BI Publisher 11*g*, before installing BRM Reports, verify if the *BIP_Home*/**file_location/BIPExtension.jar** file is installed, where *BIP_Home* is the directory in which BI Publisher is installed. If the **BIPExtension.jar** file is installed, you must manually move the file to a directory that is not included in the CLASSPATH. This is because the required version of the **BIPExtension.jar** file is installed when you install BRM Reports.

Setting the BI Publisher Home Environment Variable

The following information describes how to set the BI Publisher home environment variable.

Setting the BI Publisher Home Environment Variable on Windows

For BI Publisher 10*g* only: set the BI Publisher 10*g* home environment variable in Windows:

1. Right-click **My Computer**, and select **Properties**.
2. On the **Advanced** tab, click **Environment Variable**.
3. In the **System Variable** section, click **New**.
4. In the **Variable name** field, enter **BIP_Home**.
5. In the **Variable value** field, enter the path where the BI Publisher server is installed.
6. Click **OK**.
7. In the **Environment Variables** dialog box, click **OK**.
8. In **System Properties** dialog box, click **OK**.

Setting the BI Publisher Home Environment Variable on Solaris, Linux, and AIX

To set the BI Publisher Home environment variable on Solaris, Linux, and AIX, run the following command:

```
setenv BIP_Home BIP_server_path
```

where *BIP_server_path* is the directory in which the BI Publisher software is installed.

Configuring a JDBC Data Source

By default, the reports are configured to run against a JDBC data source named BRM_DATA_SOURCE. See “Setting up Data Sources” in the BI Publisher documentation for information about configuring a JDBC data source on your system.

Configuring Run-Time Properties

You need to configure run-time properties to allow BI Publisher to refer to external references such as plug-ins.

To configure run-time properties:

1. Follow the instructions in "Accessing BI Publisher".
2. Click the **Admin** tab.
3. Under Runtime Configuration, click the **Properties** link.

4. From the **Disable external references** list, select **False**.
5. Click **Apply**.

Installing BRM Reports

To install BRM Reports, perform the following tasks:

1. Installing BRM Base Reports
2. Loading the BI Publisher Utility File
3. Installing BRM Reports for Optional Managers

Installing BRM Base Reports

Caution: You need to install BRM base reports before you can install any other reports.

Installing the BRM Base Reports on Windows

For BI Publisher 10g only: to install BRM base reports:

1. Create a temporary directory *(temp_dir)*.
2. Go to the My 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 **16429299** 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 **p16429299_750**_*platform*.**zip** software pack to *temp_dir*, where *platform* is **WINNT**.
10. Unzip the **p16429299_750**_*platform*.**zip** file.
11. Go to t*emp_dir* and run the following command:

    `7.5PS4_BIP_BRM_Base_Reports_10g`_*platform*_**`32_opt.exe`**

    The Installation Wizard appears.
12. Click **Next**.

    In the next screen do one of the following:

    - If you are installing BRM base reports for the first time:

      a. Select **Full Installation**.

This installs the **.rtf, .xdo**, and **.source** files, and the BI Publisher utility file, **BIPExtension.plb**.

b. Follow the instructions in "Loading the BI Publisher Utility File".

- If you are not installing BRM base reports for the first time, do one of the following:
  - To install only BRM base reports, select **Reports only**.

    This installs the **.rtf, .xdo**, and **.source** files.
  - To install libraries without overwriting customized reports, select **Libraries only**.

    This installs the BI Publisher utility file, **BIPExtension.plb**.

Note: You must upload the **.source** files that are in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures see "Loading Stored Procedures".

---

13. Execute the source files with SQL*Plus before you use reports in BI Publisher.

Installing the BRM Base Reports on Linux, Solaris, and AIX

To install BRM base reports:

1. Create a temporary directory *(temp_dir)*.
2. Go to the My 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 **16429299** 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 **p16429299_750**_*platform*.**zip** software pack to *temp_dir,* where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.
10. Unzip the **p16429299_750**_*platform*.**zip** file.
11. Go to *temp_dir* and enter one of the following command:
    - For BI Publisher 10*g*:

      7.5PS4_BIP_BRM_Base_Reports_10g_*platform*_**32_opt.bin -console**
    - For BI Publisher 11*g*:

      7.5PS4_BIP_BRM_Base_Reports_*platform*_**32_opt.bin -console**

12. Follow the instructions displayed during installation.

    BRM base reports and BRM base libraries are installed.

13. Execute the source files by using SQL*Plus in the BRM environment before using reports in BI Publisher. For BI Publisher 11*g*, the source files are located in: *BIP_HOME*/**user_projects/domains/bifoundation_domain/config/bipublisher/repository/Reports/BRM_Reports/Base_BRM_Reports/StoredProcedures**.

Configuring Post-Installation Tasks

The following post-installation tasks are only applicable to BI Publisher 11*g*:

1. Restart Oracle WebLogic Server.
2. Log in to BI Publisher 11*g*.

   If BRM reports are not visible, your report repository is pointing to an incorrect location. See the BI Publisher documentation for more information.

3. If you are using a custom BI Publisher server setup, do the following:

   a. Copy the *BIP_home*/**user_projects/domains/bifoundation_domain/servers/AdminServer/tmp/***WebLogic_user*/**bipublisher_11.1.1/6uc731/lib/BIPExtension.jar** file to your domain **lib** directory.

   b. Stop and restart the Oracle WebLogic Server, which adds the **BIPExtension.jar** file to the Oracle WebLogic server classpath and enables the BI Publisher extension library.

4. If you are using custom paths, copy the BRM-BI Publisher template files from *BIP_home*/**user_projects/domains/bifoundation_domain/config/bipublisher/repository/Reports** to your custom directories.

Loading the BI Publisher Utility File

1. Open a command window and enter the following command:

   cd *Local_drive*:*BIP_Home***BRM Reports\Utils\StoredProcedures**

   where *BIP_Home* is the directory in which BI Publisher is installed.

2. At the prompt, enter the following command, which opens SQL*Plus:

   ```
   sqlplus user_name/password@Database_Name
   ```

   where:

   - *user_name* is your user name.
   - *password* is your password.
   - *Database_Name* is the service name or database alias of the Oracle database.

3. At the SQL prompt, enter the following command:

   ```
   @BIPExtension.plb
   ```

   The **BIPExtension.plb** file is loaded into *Database_Name*.

   The BI Publisher utility file includes functions that you can use to customize reports.

4. Quit SQL*Plus, and close the command window.

Installing BRM Reports for Optional Managers

The following information describes how to install BRM reports for optional managers.

Installing BRM Reports for Optional Managers on Windows

To install BRM reports for optional managers:

1. Back up any BI Publisher Reports **.rtf**, **.xdo**, and **.source** files that you customized. If you do not, your customized report files will be overwritten.
2. Create a temporary directory *(temp_dir)*.
3. Go to the My Oracle Support Web site:

   https://support.oracle.com
4. Sign in with your user name and password.
5. Click the **Patches & Updates** tab.
6. From the list, select **Patch Name or Number**.
7. In the text field, enter **16429299** and click **Search**.

   The Patch Search Results page appears.
8. Click the patch name.

   The patch details appear.
9. From the **Platform** list, select the platform and click **Download**.

   The File Download dialog box appears.
10. Download the appropriate **p16429299_750**_*platform*.**zip** software pack to *temp_dir*, where *platform* is **WINNT**.
11. Unzip the **p16429299_750**_*platform*.**zip** file.
12. Go to *temp_dir* and run the following command:

    ```
    7.5PS4_BIP_BRM_Base_Reports_10g_platform_32_opt.exe
    ```

    The Installation Wizard appears.
13. During installation, you must select **Reports only**.

    This installs the.**rtf**, **xdo**, and **source** files.
14. Execute the source files with SQL*Plus before you use reports in BI Publisher.

Installing BRM Reports on Linux, Solaris, and AIX

To install BRM reports for optional managers:

1. Create a temporary directory *(temp_dir)*.
2. Go to the My 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 **16429299** 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 **p16429299_750**_*platform*.**zip** software pack to *temp_dir,* where *platform* is **linux**, **aix**, **hpux_ia64**, or **solaris**.

10. Unzip the **p16429299_750**_*platform*.**zip** file.

11. Go to *temp_dir* and enter one of the following command:

    - For BI Publisher 10*g*:

      ```
      7.5PS4_BIP_BRM_Base_Reports_10g_platform_32_opt.bin -console
      ```

    - For BI Publisher 11*g*:

      ```
      7.5PS4_BIP_BRM_Base_Reports_platform_32_opt.bin -console
      ```

12. Follow the instructions displayed during installation.

13. Execute the source files by using SQL*Plus in the BRM environment before using reports in BI Publisher. For BI Publisher 11*g*, the source files are located in: *BIP_home*/**user_projects/domains/bifoundation_domain/config/bipublisher/repository/Reports/BRM_Reports/Base_BRM_Reports/StoredProcedures**.

14. If you are using a custom BI Publisher server setup, do the following:

    a. Copy the *BIP_home*/**user_projects/domains/bifoundation_domain/servers/AdminServer/tmp/***WebLogic_user*/**bipublisher_11.1.1/6uc731/lib/BIPExtension.jar** file to your domain **lib** directory.

    b. Stop and restart the Oracle WebLogic Server, which adds the **BIPExtension.jar** file to the Oracle WebLogic server classpath and enables the BI Publisher extension library.

15. If you are using custom paths, copy the BRM-BI Publisher template files from *BIP_home*/**user_projects/domains/bifoundation_domain/config/bipublisher/repository/Reports** to your custom directories.

Uninstalling BRM Reports

> **Caution:** Do not uninstall BRM base reports before uninstalling all other reports.
>
> When you uninstall BRM base reports, the **SubTemplates** folder is deleted and all the reports that use the **sub-template-parameters.rtf** file will not display the correct data.

Complete the procedure for the appropriate operating system.

Uninstalling BRM Reports on Windows

To uninstall BRM reports:

1. Do one of the following to start the uninstaller:
   - (Windows 8.1) Use the Windows uninstall feature.
   - (Other Windows versions) From the start options, select **Uninstall Portal** *Report_name*, which is under **Portal** or use the Windows uninstall feature, where *Report_name* is the report you want to uninstall.
2. Do one of the following:
   - To uninstall a complete report:
     a. Click *Report_name.*
     b. Select **View Components only**.
     c. Click **Uninstall**.
   - To uninstall individual components of a report:
     a. Click *Report_name.*
     b. Select **View Components and Features**.
     c. Select the individual component.
     d. Click **Uninstall**.
3. Click **Finish**.

Uninstalling BRM Reports for Linux, Solaris, and AIX

To uninstall BRM reports for optional managers:

- To uninstall BRM optional reports with BI Publisher 11*g*, enter the following command:

  ```
  BIP_Home/uninstaller/BIP_BRM_OptionalMgr_Reports/uninstaller.bin
  ```

- To install BRM optional reports with BI Publisher 10*g*, enter the following command:

  ```
  BIP_BRM_OptionalMgr_Reports/uninstaller.bin -console
  ```

- To uninstall BRM base reports with BI Publisher 11*g*, enter the following command:

  ```
  BIP_Home/uninstaller/BIP_BRM_Base_Reports/uninstaller.bin
  ```

- To uninstall BRM base reports with BI Publisher 10*g*, enter the following command:

  ```
  BIP_BRM_Base_Reports/uninstaller.bin -console
  ```

3

Running BRM Reports

This chapter contains general information about running Oracle Communications Billing and Revenue Management (BRM) reports that are implemented with Oracle Business Intelligence (BI) Publisher.

For an overview of BRM Reports, see "About BRM Reports".

Selecting BI Publisher

You can run BRM reports from the following BI Publisher components:

- **BI Publisher Enterprise**

  To run BRM reports from BI Publisher Enterprise, you need scheduling privileges.

  See the discussion of scheduling a report in the *BI Publisher User's Guide* for information about scheduling a report.

- **BI Publisher Desktop**

  To view BRM reports from BI Publisher Desktop, you need BI Publisher design privileges.

  To view reports with this component, see the discussion of using BI Publisher Desktop to schedule reports in the *BI Publisher User's Guide*.

Understanding the Standard Parameters

Most reports contain parameters whose values are set by users before they run the reports. These parameters determine what data is extracted from the database and how that data is displayed in the reports. Table 3–1 describes the most commonly used parameters.

Note: The default values for these parameters vary from report to report.

Table 3–1 Standard Report Parameters

Parameter	Description	Valid Values
Account Details	The account number, customer name, and other pertinent account details. Select **YES** to display this information.	**YES** or **NO**.
Account Status	The current account status.	Select one of the following: ■ **ALL** specifies all accounts regardless of current status. ■ **ACTIVE** specifies currently active accounts. ■ **INACTIVE** specifies currently inactive accounts. ■ **CLOSED** specifies currently closed accounts.
Billing Type	The method of payment for an account.	Select one of the following billing types: ■ **ALL** ■ **CHECK** ■ **CREDIT CARD** ■ **DIRECT DEBIT** ■ **INVOICE** ■ **SUBORDINATE** ■ **CASH** ■ **FAILED** ■ **INTERBANK TRANSFER** ■ **POSTAL ORDER** ■ **PREPAID** ■ **UNDEFINED** ■ **VOUCHER** ■ **WIRE-TRANSFER**
Country	The country in the customer's billing address.	Select **ALL**, or select the name of one country. If your BRM system lets CSRs enter multiple abbreviations for the same country (for example, U.S. and USA), select ALL to ensure that all records for all the countries are included in the report.

Table 3–1 (Cont.) Standard Report Parameters

Parameter	Description	Valid Values
End Date	The end date of the report. In some reports, you can also specify an end time. **Important** ■ User-specified end *dates* are not inclusive. ■ User-specified end *date-times* are inclusive. ■ Default end *dates* are not inclusive. For example, to show data for the period 1/1/02 00:00:00 through 1/30/02 23:59:59, do one of the following: ■ Enter the Start Date value **1/1/02** and the End Date value **1/31/02**. ■ Enter the Start Date value **1/1/02 00:00:00** and the End Date value **1/30/02 23:59:59**. For the **GLSummary**, **GLDetail**, **GLSummaryB**, and **GLDetailB** reports, another second is added to the time. For example, if the specified Start Date value is **1/1/02 00:00:00**, the End Date value is **1/31/02 00:00:00**. For information about the Start Date parameter, see "Start Date".	Any valid date or date-time specification in one of the following formats: ■ *MM/DD/YY* (or *YYYY*) TIMEZONE ■ *MM/DD/YY* (or *YYYY*) *HH:MI:SS* TIMEZONE You can enter one-digit day, month, and year specifications. Reports use the current date and time as default end date and time.
Include Chart	A graphical representation of report data. Some reports produce pie charts, some produce bar charts, and some do not produce charts. Select **YES** to display the chart. The data displayed is up to two decimal points. A chart is displayed even if the value of a field is zero.	**YES** or **NO**.
Start Date	The start date of the report. In some reports, you can also specify a start time. User-specified and default start *dates* and *date-times* are inclusive. For example, to show the start date 1/1/02 00:00:00, enter the Start Date value **1/1/02** or **1/1/02 00:00:00**. For information about the End Date parameter, see "End Date".	Any valid date or date-time specification in one of the following formats: ■ *MM/DD/YY* (or *YYYY*) TIMEZONE ■ *MM/DD/YY* (or *YYYY*) *HH:MI:SS* TIMEZONE You can enter one-digit day, month, and year specifications. Reports use the current date and time as default start date and time.
State	The state in the customer's billing address.	Select **ALL**, or enter the name of one state.

Note: The dates displayed in the reports reflect the local time and time zone of the BI Publisher server. For example, if the date is 12/11/2003, reports display the time as 12/12/2003 after 18:30:00 on a BI Publisher server in the GMT+0530 time zone, whereas reports display the time as 12/12/2003 07:00 on a BI Publisher server in the GMT-0700 time zone. This is expected behavior of BI Publisher.

Reports in XML data format display all the records even if you select a specific value for a parameter.

Specifying Time Ranges

You often enter minute, hour, and day ranges in response to report parameter prompts. This section explains how BRM reports handle time ranges:

- Minute Ranges
- Hour Ranges
- Day Ranges

Minute Ranges

Minute ranges are used to group events by duration. Table 3–2 shows an example set of minute-range parameter values and the column headings generated by the values.

Note: Offset values might or might not be present, depending on the report.

Table 3–2 Example Minute-Range Parameter Values and Column Headings

Values Entered by the User	Headings Displayed in the Report
Offset Mins: **5**	Column 1: "5 - 20 Minutes"
Period 1 Mins: **15**	Column 2: "20 - 35 Minutes"
Period 2 Mins: **15**	Column 3: "35 - 50 Minutes"
Period 3 Mins: **15**	Column 4: "50 + Minutes"

This example uses the Offset Mins value of **5** to skip events that last less than 5 minutes. The 15-minute values are added to the offset and to each preceding time range. The beginning of a minute range is inclusive, but the end is not. For example, the 20–35 minute range includes events lasting from 20:00 minutes through 34:59 minutes. Events lasting 35:00 minutes appear in the 35–50 minute range.

Hour Ranges

Hour ranges are used to group events by the time of day in which they occur. Table 3–3 shows an example set of hour-range parameter values and the column headings generated by the values.

Table 3–3 Hour Ranges

Values Entered by the User	Headings Displayed in the Report
Period 1: **8:00:00AM**	Column 1: "08:00:00 - 17:00:00"
Period 2: **5:00:00PM**	Column 2: "17:00:00 - 23:00:00"
Period 3: **11:00:00PM**	Column 3: "23:00:00 - 08:00:00"

Hour-range start times are inclusive, but their end times are not. For example, the 17:00:00–23:00:00 range includes events beginning anywhere from 5:00:00 p.m. (17:00:00 hours) through 10:59:59 p.m. It does not include events that begin at 11:00:00 p.m. (23:00:00 hours).

Day Ranges

Day ranges are used for two purposes:

- To group accounts by age. For an example, see the "New Account Lifetime Report".
- To group payments within the time periods in which they are due. For an example, see "Accounts Receivable Detail Report".

Table 3–4 shows an example set of day-range parameter values and the column headings generated by the values.

Note: Offset values might or might not be present, depending on the report.

Table 3–4 Day Ranges

Values Entered by the User	Headings Displayed in the Report
Offset Days: **5**	Column 1: "5 - 35 Days"
Period 1 Days: **30**	Column 2: "35 - 65 Days"
Period 2 Days: **30**	Column 3: "65 - 95 Days"
Period 3 Days: **30**	Column 4: "95 + Days"

This example uses the Offset Days value of **5** to skip accounts that are less than 5 days old. The 30-day values are added to the offset and to each preceding period. Each time period is measured backward from the current date or the end date, depending on the report. All start days except the first are exclusive; all end days are inclusive.

For example, "5 - 35 Days" includes all accounts that are 5 through 35 days old, and "35 - 65 Days" includes all accounts that are 36 through 65 days old. Days are measured from 00:00:00 (midnight) to 23:59:59.

Specifying Dates

When entering dates in response to report prompts, note the following restrictions and formatting conventions:

- Year Specifications
- Start and End Date Specifications
- Current Date Specifications

Year Specifications

When specifying a year in the reports, you can enter a one-digit, two-digit, or four-digit value:

- If you enter a one-digit value, the prefix "200" is assumed.
- If you enter a two-digit value between **70** and **99**, the prefix "19" is assumed: 1970–1999.
- If you enter a two-digit value between **00** and **37**, the prefix "20" is assumed: 2000–2037.

> **Note:** *Do not* enter a two-digit year value between **30** and **69** or a four-digit year value before **1970** or after **2037**. If you do, BI Publisher displays an error message.

Start and End Date Specifications

When you specify report start and end dates, follow these rules:

- Day specifications must be less than or equal to the number of days in the month.

  For example, day specifications for September must be less than or equal to 30, and day specifications for October must be less than or equal to 31.
- Month specifications must be less than or equal to 12.
- Day and month specifications must not exceed two digits.
- Year specifications must be one, two, or four digits. For more information, see "Year Specifications".
- Do not use letters instead of numbers.

Current Date Specifications

Follow these rules for current date:

- Do not modify the **Current date** parameter value.
- To modify the current date, change the system date.
- If you modify the **Current date** parameter, logout from BI Publisher, restart the BI Publisher server, log in to BI Publisher, and open the report again.

Using the SQL Queries

> **Important:**
>
> - To customize report queries, you should have SQL experience and be familiar with the BRM database schema.
> - To customize queries in BI Publisher, you must have edit privileges.

For more information on customizing queries, see "Customizing BRM Reports in Business Intelligence Publisher".

Identifying Report Versions

Each BRM report displays a version number in its footer. The version number has the following syntax:

ORACLE BRM *Release_No - Report_Name - Report_Version_No* (**O**)

where

- *Release_No* is the BRM release number.
- *Report_Name* is the report name.
- *Report_Version_No* is the report version number.
- **O** means the report is designed for a BRM Oracle database.

For example, the first Oracle version of the **CCChgDecl** report released with BRM 7.5 displays the following version number:

```
BRM 7.5 - CCChgDecl - 001 (O)
```

This number is embedded in the report template. Use *BRM_Release_No* (7.5 in the preceding example) to identify which BRM database release a report is designed to support. Use *Report_Version_No* (001 in the example) to identify which BRM Reports update or patch a report was released with.

Loading Stored Procedures

To run some reports, you must load a stored procedure into the BRM database you plan to run the reports against.

Important: Reports that require a stored procedure will not run against databases that do not contain the stored procedure.

Note: Because fields used for grouping in BI Publisher are limited to 86 (UTF8) or 255 (ASCII) characters, report queries can return only the first 86 or 255 characters from such fields. To return all the characters from such fields, queries use a stored procedure.

Caution: When you load a stored procedure into a database, any stored procedure with the same name is dropped or replaced. Therefore, if a database contains a customized version of a BRM Reports stored procedure, *back up* the custom stored procedure before loading another procedure with the same name. If you do not, you will lose the custom version.

To load stored procedures, you need the appropriate privileges. For more information, see your database administrator.

Note: You can customize any of the stored procedures.

To load stored procedures:

1. At the DOS command prompt, enter:

   Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports***Report_name***StoredProcedures**

   where *Report_name* is the name of the report.

2. At the prompt, enter the following command:

   ```
   sqlplus user_name/password@Database_Name
   ```

   where:

   - *user_name* is the user name.
   - *password* is the password.
   - *Database_Name* is the service name or database alias of the Oracle database.

3. At the SQL prompt, enter the following query:

   ```
   SELECT value FROM sys.nls_database_parameters WHERE parameter='NLS_
   CHARACTERSET';
   ```

   The query returns the name of the character set in which data is stored in your BRM database.

4. If the character set is not UTF8, do the following:

   a. Open the *Stored_Procedure*.**source** file in a text editor:

      where *Stored_Procedure* is the stored procedure.

   b. Find **UTF8** in the procedure's SELECT clause.

      ```
      SELECT
      CONVERT(SUBSTR(EVENT_ACT_WAP_INTERACTIVE_T.URL,0,254),'US7ASCII', 'UTF8' )
      URL,
      EVENT_BAL_IMPACTS_T.AMOUNT,
      EVENT_T.ACCOUNT_OBJ_ID0,
      (EVENT_ACT_WAP_INTERACTIVE_T.BYTES_IN/1048576) MegaBytes_In,
      ((EVENT_T.TIMEZONE_ADJ_END_T - EVENT_T.TIMEZONE_ADJ_START_T)/3600)
      "DURATION",
      EVENT_T.POID_ID0,
      ACCOUNT_NAMEINFO_T.COUNTRY,
      ACCOUNT_NAMEINFO_T.STATE,
      EVENT_BAL_IMPACTS_T.RESOURCE_ID
      ```

   c. Replace **UTF8** with the name of your database character set.

      Important: Make sure the name is enclosed in single quotation marks (').

   d. Save your changes, and quit the editor.

5. In SQL*Plus, enter this command at the SQL prompt:

   ```
   @Stored_Procedure.source
   ```

   where *Stored_Procedure* is the file name of the stored procedure.

   The stored procedure is loaded into the specified database.

6. Quit SQL*Plus, and close the DOS window.

Loading a List of Values

In BI Publisher, if you want to generate a report for a parameter that is not in the list of values, you must add the parameter to the list of values.

To add parameters to the list of values, you can query the BRM database using SQL statements for the parameters or you can add the parameters manually using the fixed data method.

To run the following reports, you must use the fixed data method to add the parameters to the list of values:

- BillingProvider
- ContentProvider
- DroppedSession
- TaxAllSummary
- TaxExempt
- TaxJurDetail
- TaxJurSummary

The fixed data method allows you to hard code the report parameters in the list of values. For more information on adding parameters to the list of values, see the BI Publisher documentation.

4

Customizing BRM Reports in Business Intelligence Publisher

This chapter describes various ways you can customize the Oracle Communications Billing and Revenue Management (BRM) report templates to meet the needs of your company:

- To change the default set of parameters included in a report, see "Redefining Report Parameters".
- To convert string dates to integer dates and vice versa, see "Converting Dates".
- To read currencies efficiently, see "Reading Different Resources".
- To decrypt encrypted data such as credit card numbers before displaying them in a report, see "Decrypting Data".
- To customize the reports for other languages, see "Localizing BRM Reports".
- To consolidate data from several database schemas into one report, see "Running Reports against Multiple Schemas".

For information about creating brand-specific reports, see "Reporting by Brand".

Important:

- To customize the structured query language (SQL) queries used to select data from the BRM database, you should have SQL experience and be familiar with the BRM database schema.
- To customize queries in Oracle Business Intelligence (BI) Publisher, you must have design privileges.

Redefining Report Parameters

Most reports include a set of user-entered parameters. To change this set, see the following sections:

- Adding Parameters in BI Publisher
- Adding Parameters to the Report Template
- Uploading the Template
- Removing Parameters in BI Publisher
- Removing Parameters from the Report Layout

For more information on redefining parameters, see your BI Publisher documentation.

Accessing BI Publisher

To log on to BI Publisher, do the following:

1. Navigate to the URL provided by your system administrator.
2. Select the language you prefer for the user interface.
3. Enter your credentials to log in to BI Publisher.
4. Select **Accessibility Mode** if you wish to render the Reports home page in an accessible tree structure.
5. Click **Sign In**.

Adding Parameters in BI Publisher

BRM reports include default parameters. For example, the Product parameter displays the default products shipped with BRM.

To add parameters in BI Publisher:

1. Log on to BI Publisher.
2. Open the report you want to modify.
3. Click **Edit**.

   The report and its properties are displayed.
4. Select **Parameters**, and click **New**.
5. Enter a name **Identifier**.
6. Select a **Data Type** from the Data Type list.
7. Enter a **Default Value**.
8. Select a **Parameter Type** from the Parameter Type list.
9. Enter the **Text Setting** details, if required.
10. Click **Save**.

    The item you entered is now displayed under Parameters.
11. Do one of the following:
    - If the parameter type is **Menu**, go to the next step.
    - If the parameter type is not **Menu**, do the following:
      a. Select **List of Values**, and click **New**.
      b. Enter the **required details**.
      c. Click **Save**.
12. Under **Data Model** select the report.
13. In the **Data Template** field, add the **parameter** under parameters section.
14. Modify the **SQL query** as required.
15. Click **Save**.

For more information about adding parameters, see the BI Publisher documentation.

Adding Promotion Code and Software Package Parameters

The data types of the Promotion Code and Software Package parameters, described in Table 4–1, do not change:

Table 4–1 Data Types

Parameter	Description
Promotion Code	Promotion codes defined by your company to track details of account registration. For example, a promotion code can identify the marketing channel that attracted a new customer.
Software Package	The name of the package used to register customers with an automatic account creation mechanism.

Because the BRM system does not require database fields linked to these parameters to be populated when an account is created, the default BRM reports do not contain them. You can, however, add these parameters to a report.

> **Caution:** Add the Promotion Code and Software Package parameters to your reports only if the AAC_PROMO_CODE (Promotion Code) and AAC_PACKAGE (Software Package) fields are always populated in your BRM database. If they are not, reports containing these parameters might not retrieve all applicable records for a particular report instance.
>
> For more information, see "Using Parameters Whose Data Type Does Not Change".

When to Modify Formulas for New Values

In addition to adding the value to the list, you may need to modify one or more formulas in the report to process the new value correctly.

Consider the following when determining whether to modify formulas in the report:

- **Parameters whose values are converted to database values**

  For example, in the Billing Type parameter in the **ARDetail** report, the parameter value **PREPAID** is converted to the database value **10000**. If you add a value to this parameter called **EMPLOYEE**, you need to modify the BillingTypeLowerParam and BillingTypeUpperParam formulas in the report to convert **EMPLOYEE** to the database value **10011**.

  For instructions on editing a formula, see "Adding Parameters to the Report Template".

- **Parameters whose database values are then converted back to parameter values**

  For example, in the Billing Type parameter in the **ARDetail** report, the database value **10000** is converted back to the parameter value **PREPAID** after the information is read from the BRM database. If you add a value to this parameter called **EMPLOYEE**, you then need to modify the BillingType formula in the report to convert **10011** to the parameter value **EMPLOYEE**.

  For instructions on editing a formula, see "Adding Parameters to the Report Template".

- **Parameters whose string data is converted to a different data type**

For example, when users enter dates in *MM/DD/YYYY* format, the reports must convert that format to UTC (Universal Time Coordinate) before querying the database.

For more information, see "Preprocessing Parameters Whose Data Type Changes".

Adding Parameters to the Report Template

BRM reports use two types of user-entered parameters to gather data from the BRM database:

- Parameters whose string data is converted to a different data type

  For example, when users enter dates in *MM/DD/YYYY* format, the reports must convert that format to UTC before querying the database.

  Before adding this type of parameter to a report, see "Preprocessing Parameters Whose Data Type Changes".

- Parameters whose string data is not converted to a different data type

  For example, when users enter USA in the Country parameter, the reports match USA to values stored in the BRM database.

  Before adding this type of parameter to a report, see "Using Parameters Whose Data Type Does Not Change".

Preprocessing Parameters Whose Data Type Changes

Sometimes, parameters accept values in a format that does not match the format of the corresponding data in the BRM database. If you add this type of parameter to a report, you must also add a formula to convert user-entered values to the database format *before* the report compares the values. For examples, see the **SDate** and **Edate** formulas in the **SessionPOP** report.

Using Parameters Whose Data Type Does Not Change

The string data in some report parameters does not undergo a type conversion. When such parameters are set to **ALL**, however, the reports convert **ALL** to an asterisk (*) before querying the BRM database for matches. (Both **ALL** and * are string data.)

An asterisk matches all non-null fields; it does not match null (empty) fields. Because of this, the query will not retrieve database records that do not have values in the field matched with the asterisk, even when those records satisfy all other report criteria. Thus, relevant records might be excluded, producing inaccurate reports. To avoid this, the only parameters with nonchanging data types included in the default BRM reports are parameters linked to database fields automatically populated by the BRM account creation system.

Caution: If you add such parameters to your reports, make sure they are linked to fields that are *always* populated in your BRM database. If they are not, reports containing the parameters might not retrieve all applicable records for a particular report instance.

Adding Parameters to the Report Layout

1. If the report is not open, open it in BI Publisher.
2. Click the **View** button.
3. Select **Data** from the list beside the report name.

4. Click the **Export** button.
5. Click **Save**.
6. Click **OK**. The file is saved as *Report_name*.**xml** file

   where *Report_name* is the report you selected.
7. Open Microsoft Word.
8. Open the *Report_name*.**rtf** file.

   where *Report_name* is the report you selected earlier.
9. On the Data toolbar, click **Load XML**.
10. Select the *Report_name*.**xml** file, and click **Open**.
11. On the Insert toolbar, click **Field**.
12. Select the field, and click **Insert**.
13. Choose **File - Save**.
14. Follow the instructions in "Uploading the Template".

Uploading the Template

You may come across situations where you want to upload a template after modifying a report layout. To upload a template, do the following:

1. In BI Publisher, click **Layouts**.
2. Click the **Browse** button that is beside the Upload template field.
3. Select the **.rtf** file that you modified.
4. Click **Open**.
5. Click the **Upload** button.
6. Click **OK**.
7. Click **Save**.
8. (Optional) To view the report, click **View**.

Editing a Formula

To update a formula in a report:

1. Open the report using Microsoft Word.
2. Double-click the field you want to edit.
3. In the Text Form Field Options dialog, click the **Add Help Text** button.
4. Click the **Status Bar** tab.
5. Select the **Type your own** button.
6. Update the formula in the **Type your own** field.
7. (Optional) If the formula does not fit in the Type your own field, click the **Help Key (F1)** tab, and type the formula in the field.
8. Click **OK**.
9. Click **OK**, and choose **File - Save**.

Removing Parameters in BI Publisher

1. Log on to BI Publisher, and select the folder.
2. Click the report icon.
3. In the Folder and Report Tasks, click the **Download this report** link.
4. Click **Edit**.
   - If the parameter type is not **Menu**, go to the next step.
   - If the parameter type is **Menu**, select the parameter under List of Values, and click the **Delete** button.
5. Select the parameter, and click the **Delete** button.
6. Under **Data Model** select the report.
7. In the **Data Template** field, remove the parameter from the parameters section.
8. Modify the **SQL query** as required.
9. Click **Save**.
10. Follow the instructions in "Removing Parameters from the Report Layout".

Removing Parameters from the Report Layout

1. In BI Publisher, click **Layouts**.
2. Click the **Download** link to download the report file.
3. Click **Save**.
4. Open Microsoft Word.
5. Open the **.rtf** file.
6. Remove the **parameter**.
7. Choose **File - Save**.
8. Follow the instructions in "Uploading the Template".

Important: By default, reports will not generate any data if users do not enter a value for the State parameter. Therefore, if your BRM database does not contain state data, you should remove this parameter from your reports. To do so, you must remove all references to the parameter from the report and change the selection criteria so the queries do not select the ACCOUNT_NAMEINFO_T.STATE field.

Using the BIPExtension Class

Report designers can add functions to the BI Publisher formula language by using the BIPExtension class. When you install BRM Reports, the BRM-supplied BIPExtension class is added to your system. This class is linked to the BI Publisher data engine and include the following functions.

Date Functions

The **BIPExtension** class includes these date functions, which you can use to customize reports:

infStrToTimet (java.lang.String DateString, int nFlag)

Converts dates in string format to dates in efficient integer format. See "Converting Dates".

infTimetToStr (int lTimeIn, int nFlag)

Converts dates in efficient integer format to dates in string format. See "Converting Dates".

Currency Functions

The **BIPExtension** class includes these currency functions, which you can use to customize reports:

infPutBeidBalanceStr (int, string)

Reads the currencies and associated names of currencies from the CONFIG_BEID_BALANCES_T table and stores them in memory. See "Reading Different Resources".

infGetBeidBalanceStr (int)

After you run the **infPutBeidBalanceStr** function, returns the currency name for the specified ISO currency value. See "Reading Different Resources".

Decryption Functions

The **BIPExtension** class includes these decryption functions, which you can use to customize reports:

void cryptInit (String aesKeys, String md5Key)

Initializes the AES and MD5 encryption scheme used to decrypt data. See "Decrypting Data".

String decryptData (String cipherData)

Decrypts the fields containing encrypted data. See "Decrypting Data".

Converting Dates

You use the **infStrToTimet** and **infTimetToStr** functions to convert and print dates. BRM applications store dates by using an efficient integer representation. Although this improves system performance, dates in this format cannot be printed. To convert string dates from BI Publisher to BRM database dates, use the **infStrToTimet** function. To convert integer dates from the BRM database to printable strings, use the **infTimetToStr** function.

Converting BI Publisher Date Format to BRM Date Format

To compare BI Publisher dates against time fields in BRM, you need to convert BI Publisher dates to BRM dates. The **infStrToTimet** function returns an integer (time in BRM database format) based on the user-entered date parameter value.

The **infStrToTimet** function uses these parameters:

String - A valid date string in *MM/DD/YY* or *MM/DD/YYYY* format

Flag - 1, 2, or 3

- 1 - Uses the current time

- 2 - Uses 00:00:00 as the current time
- 3 - Uses 23:59:59 as the current time

Examples

- infStrToTimet ("12/1/02", 1) returns the BRM time 1038794120 (conversion performed at 17:55:20 hours).
- infStrToTimet ("12/1/02", 2) returns 1038729600.
- infStrToTimet ("12/1/02", 3) returns 1038815999.

Converting BRM Date Format to BI Publisher Date Format

To display the converted BRM time fields in a report, you need to convert BRM dates to BI Publisher dates. The **infTimetToStr** function returns a string based on the user-specified format.

The **infTimetToStr** function uses these parameters:

Int - A valid BRM timestamp

Flag - 1, 2, 3, 4, 5, or 6

- 1 - Returns a string containing only the date
- 2 - Returns a string containing only the time
- 3 - Returns a string containing the date and the time
- 4 - Returns a string containing only the day of the month (*DD*)
- 5 - Returns a string containing only the month (*MM*)
- 6 - Returns a string containing only the year (*YYYY*)

Examples

- infTimetToStr (1031554800,1) returns 09/09/2002.
- infTimetToStr (72942,2) returns 12:15:42.
- infTimetToStr (1031598942,3) returns 09/09/2002 12:15:42.

Important: Even though the return value for **infTimetToStr** is formatted as a date string, it cannot be processed as a date field.

Reading Different Resources

BRM supports multiple resources. To prevent different resources from being added together, BRM reports group resources values by resource type. The resource types are stored in ISO 8859-1 format (for example, 840 for U.S. dollars). You obtain the resource name by linking to the CONFIG_BEID_BALANCES_T table and include the following query:

```
INNER JOIN "CONFIG_BEID_BALANCES_T" ON "ACCOUNT_T"."CURRENCY" = "CONFIG_BEID_
BALANCES_T"."REC_ID"
```

Note: The maximum number of resources supported by BRM Reports is 1000. If your CONFIG_BEID_BALANCES_T table contains more than 1000 values, you will not be able to generate reports that reference that table.

Decrypting Data

You can encrypt confidential data, for example credit card numbers, when you store them in the BRM database. To decrypt the encrypted data before displaying it in a report, you must add the decryption functions to the report. The initialization function you use is specific to the encryption scheme of your data: (Advanced Encryption Standard) AES or (Message-Digest Algorithm) MD5:

- If your data is encrypted with the MD5 or AES encryption scheme, use the **cryptInit(String aesKeys, String md5Key)** function to initialize the encryption scheme that decrypts MD5-encrypted data.
  - **aesKeys** - String object to hold the keys (delimited with a space character) used for Encryption using AES scheme.
  - **md5key** - String object to hold the key used for Encryption using MD5 scheme.

Once the encryption scheme is initialized, you use the **decryptData(String cipherData)** decryption function (regardless of the encryption scheme) to decrypt the field values. The parameter for this function is the name of the encrypted field. For example, if the EVENT_BILLING_CHARGE_CC_T.DEBIT_NUM field in the BRM database is encrypted, the report must call the **decryptData** function as follows:

decryptData (*DEBIT_NUM*)

where *DEBIT_NUM* is the alias XML tag for EVENT_BILLING_CHARGE_CC_T.DEBIT_NUM in the BRM database.

Decrypting and Displaying AES and MD5-Encrypted Data

If your data is encrypted with the AES encryption scheme, a report must call all the **AES** and **MD5** keys used in BRM database.

To retrieve the values, create a new data template as follows:

1. Log on to BI Publisher.
2. Select the report in which you want to display decrypted data.
3. Click **Edit**.
4. Select **Data Model**, and click the *Report_name*.
5. Enter the following text at the end of the SELECT statement in the **Data Template** field:

   ```
   bipext.infcryptkeys() as cryptkeys
   ```

6. Click **Save.**
7. Click **Layouts**.
8. In the Manage Template Files section, click the *Report_name*.**rtf**, to download the report.

   where *Report_name* is the name of the report you have opened.
9. Create a namespace by adding the following text anywhere in the of the report:

   ```
   <?namespace:cryptext=http://www.oracle.com/XSL/Transform/java/com.portal.pcm.Crypt?>
   ```

10. Enter the following text at the beginning of the report page:

    ```
    <?cryptext:cryptInit(CRYPTKEYS, 'Abracadabra dabracaabrA')?>
    ```

11. Add the following text in the required location, to decrypt data.

    ```
    <?cryptext:decryptData(decrypt_parameter)?>
    ```

    where *decrypt_parameter* is the parameter.

    For example, for the Debit_num field add the following text:

    ```
    <?if:$PARAM_MASKCCNO=0?><?bipext:infReplicateString(cryptext:decryptData(DEBIT_
    NUM),'*', 4)?>
    <?end if?>
    <?if:$PARAM_MASKCCNO=1?><?cryptext:decryptData(DEBIT_NUM)?>
    <?end if?>
    ```

12. Choose **File - Save**.
13. Follow the instructions in "Uploading the Template", to display both the AES and MD5 decrypted data.

Decrypting and Displaying MD5-Encrypted Data Only

If your data is encrypted with the MD5 encryption scheme, the report must call the MD5 keys used in the **DM pin.conf** file.A report must call this function before decrypting the data.

To retrieve the values, create a new data template as follows:

1. Log on to BI Publisher.
2. Select the report in which you want to display decrypted data.
3. Click **Edit**.
4. Select **Data Model**, and click the *Report_name*.
5. Enter the following text at the end of the SELECT statement in the **Data Template** field:

   ```
   bipext.infcryptkeys() as cryptkeys
   ```

6. Click **Save.**
7. Click **Layouts**.
8. In the Manage Template Files section, click the *Report_name*.**rtf**, to download the report.

   where *Report_name* is the name of the report you have opened.

9. Create a namespace by adding the following text anywhere in the of the report:

   ```
   <?namespace:cryptext=http://www.oracle.com/XSL/Transform/java/com.portal.pcm.Cr
   ypt?>
   ```

10. Enter the following text at the beginning of the report page:

    ```
    <?cryptext:cryptInit('', 'Abracadabra dabracaabrA')?>
    ```

11. Add the following text in the required location, to decrypt data.

    ```
    <?cryptext:decryptData(decrypt_parameter)?>
    ```

    where *decrypt_parameter* is the parameter.

    For example, for the Debit_num field add the following text:

```
<?if:$PARAM_MASKCCNO=0?><?bipext:infReplicateString(cryptext:decryptData(DEBIT_
NUM),'*', 4)?>
<?end if?>
<?if:$PARAM_MASKCCNO=1?><?cryptext:decryptData(DEBIT_NUM)?>
<?end if?>
```

12. Choose **File - Save**.
13. Follow the instructions in "Uploading the Template", to display MD5 decrypted data.

For more information on decrypting data, see the discussion about generating an encrypted AES key in *BRM Developer's Guide*.

Designing a Report Layout

You can design a report layout using BI Publisher and Microsoft Word. For more information about designing a report layout, see your BI Publisher documentation.

Localizing BRM Reports

BRM reports are designed to be used with the English version of BI Publisher. In addition, the reports are designed to accept only English input and to gather, process, and display only English data from BRM databases.

Running Reports against Multiple Schemas

BRM reports cannot consolidate data from multiple BRM database schemas into a single output stream. However, they can be customized to run automatically against several schemas in succession and to list the output from each schema consecutively in the same report.

To run a report automatically against multiple schemas, follow the procedures in "Modifying Reports to Run against Multiple Schemas".

Note: To examine a report already configured to run against multiple schemas, see the **ARSummaryMDB** report in the *Local_drive*:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\MultiDB Reports\ARSummaryMDB**.

Configuring JDBC Data Sources for Multiple Schemas

To provide an SQL interface between the BRM reports and your BRM database schemas, you must configure a JDBC data source for *each* schema you run the reports against.

By default, the reports are configured to run against a JDBC data source named BRM_DATA_SOURCE. If your system already has a BRM_DATA_SOURCE data source, you can use BRM_DATA_SOURCE for your primary schema and use the names BRM_DATA_SOURCE1, BRM_DATA_SOURCE2, and so on, for your secondary schemas.

See "Setting Up Data Sources" in the BI Publisher documentation for information about configuring a JDBC data source for secondary database schemas in your system.

Note:

- When the procedure tells you to enter the data source name BRM_DATA_SOURCE, enter the name for a secondary data source instead. For example, enter **BRM_DATA_SOURCE1**.
- Repeat the procedure for each schema you want to run the reports against.

Modifying Reports to Run against Multiple Schemas

To modify a report to run automatically against multiple database schemas, you must configure the report for every schema you want to run the report against.

Important: To modify reports to run against multiple schemas, you should have experience designing reports in BI Publisher.

1. Log on to BI Publisher, and select the folder.
2. Open the **ARSummaryMDB** report.
3. Click **Report**.
4. Select **BRM_DATASOURCE** from the **Default Data Source** list.
5. Click **Save**.
6. Under **Data Model**, select **ARSummaryMDBTemplate**.
7. In the **Data Template** field, add the following text:

   ```
   <dataTemplate name="ARSummaryMDB_report" dataSourceRef="BRM_DATA_SOURCE">
   ```

8. Click **Save**.
9. Under **Data Model**, select **ARSummaryMDBTemplate2**.
10. In the **Data Template** field, add the following text:

    ```
    <dataTemplate name="ARSummaryMDB_report" dataSourceRef="BRM_DATA_SOURCE1">
    ```

11. Click **Save**.
12. Click **View**.
13. Provide the required **parameters**.
14. Click **View**.

5

BRM Base Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports contained in the BRM Base Reports installation package.

For general information on how to run reports, see "Running BRM Reports".

Accounts Receivable Reports

You use these reports to get information about payments due, payments received, payment reversals, refunds, and bad debt write-offs.

The Accounts Receivable Summary report and Accounts Receivable Detail report show the accounts receivable (A/R) data in your BRM database. The summary report shows data for A/R accounts (amounts for subordinate accounts are rolled into the A/R account totals). The detail report shows item data for individual accounts, including nonpaying (subordinate) child accounts.

The reports on payments received, payment reversals, and refunds show information about account payment and refund activity that occurred during time periods you specify. These reports have two versions:

- The Payments Summary report, Reversals Summary report, and Refunds Summary report show the total amount of a period's payments, reversals, or refunds by type. Types include cash, check, credit card, direct debit, interbank transfer, postal order, and wire transfer.
- The Payments Detail report, Reversals Detail report, and Refunds Detail report show event information—such as account number, customer name, amount, and transaction ID—for one payment, reversal, or refund type only. You can generate a detail report for each type.

The Bad Debt Write-Offs report lists all the bad debt write-offs recorded in your BRM system during a specified time period, grouped by account.

Accounts Receivable Summary Report

The Accounts Receivable Summary report (**ARSummary.rtf**) summarizes the amounts currently due in the aging time periods you specify. You can specify up to three time periods dating back from the current date. You specify the time periods by selecting the number of days in each period. The default time periods are 30 days long.

Note: The end date for this report is always the current date.

When the Account Details parameter is set to **NO**, the **ARSummary** report shows data for states or countries, but not for individual accounts.

When the Account Details parameter is set to **YES**, the report shows data for A/R accounts only; amounts owed by subordinate accounts are rolled into the A/R account totals. To see information about nonpaying (subordinate) child accounts, use the Accounts Receivable Detail report.

The SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ARDetail\ARSummary.xdo**

ARSummary Parameters

You can change the following parameters to modify the output of the **ARSummary** report:

- State Details
- Account Details
- Include Chart
- Period 1 Days
- Period 2 Days
- Period 3 Days
- Country
- State
- Billing Type
- Account Status

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–1, see "Understanding the Standard Parameters".

Table 5–1 ARSummary Parameters

Parameter	Description	Valid Values	Default Value
Period 1 Days	Number of days to be covered by the first of three time periods. See "Day Ranges". **Note**: The end date for the **ARSummary** report is always the current date.	**1–366**.	**30** (0–30 days before the current date).
Period 2 Days	Number of days to be covered by the second time period. See "Day Ranges".	**1–366**.	**30** (31–60 days before the current date).
Period 3 Days	Number of days to be covered by the third time period. See "Day Ranges".	**1–366**.	**30** (61–90 days before the current date).

Accounts Receivable Detail Report

The Accounts Receivable Detail report (**ARDetail.rtf**) expands the **ARSummary** information by displaying item details for individual accounts. The time periods

function the same way they do in the **ARSummary** report. Accounts within the same billing group (A/R accounts and subordinate accounts) are enclosed within dotted lines.

Note: This report sorts items by the ITEM_T.CREATED_T.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ARSummary\ARDetail.xdo**

No charts are available for this report.

ARDetail Parameters

You can change the following parameters to modify the output of the **ARDetail** report:

- State Details
- Period 1 Days
- Period 2 Days
- Period 3 Days
- Country
- State
- Billing Type
- Account Status

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–2, see "Understanding the Standard Parameters".

Table 5–2 ARDetail Parameters

Parameter	Description	Valid Values	Default Value
Period 1 Days	Number of days to be covered by the first of three time periods. See "Day Ranges". **Note:** The end date for the **ARDetail** report is always the current date.	**1–366**.	**30** (0–30 days before the current date).
Period 2 Days	Number of days to be covered by the second time period. See "Day Ranges".	**1–366**.	**30** (31–60 days before the current date).
Period 3 Days	Number of days to be covered by the third time period. See "Day Ranges".	**1–366**.	**30** (61–90 days before the current date).

Payments Summary Report

Note: You must upload the **PaymentsSummary.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Payments Summary report (**PaymentsSummary.rtf**) shows the total amount of payments received during a specified time period. The amount is listed by type. payment methods include cash, check, credit card, direct debit, postal order, SEPA, wire transfer, and interbank transfer. The amounts shown are the sum of *all* payments received during the period, including advance, full, partial, and overpayments.

You can generate two versions of this report: a version that shows totals for all payment methods and a version that shows the total for only one payment method.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\PaymentsSummary.source**

No charts are available for this report.

PaymentsSummary Parameters

You can change the following parameters to modify the output of the **PaymentsSummary** report:

- Country
- State
- Account Status
- Payment Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–3, see "Understanding the Standard Parameters".

Table 5–3 Payments Summary Parameters

Parameter	Description	Valid Values	Default Value
Payment Type	The method used by customers to pay a bill. Select **ALL** to include information for all payment methods, or select a specific payment method to include information for that type only.	Any of the following: ▪ **ALL** ▪ **CASH** ▪ **CHECK** ▪ **CREDIT CARD** ▪ **DIRECT DEBIT** ▪ **FAILED** ▪ **FRENCH DIRECT DEBIT** ▪ **INTERBANK TRANSFER** ▪ **POSTAL ORDER** ▪ **SEPA** ▪ **SMART CARD** ▪ **UNDEFINED** ▪ **VOUCHER** ▪ **WIRE-TRANSFER**	**ALL**

Payments Detail Report

Note:

- You must upload the **PaymentsDetail.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Payments Detail report (**PaymentsDetail.rtf**) shows detailed information about only one type of payment. You can generate a **PaymentsDetail** report for each of the payment methods (cash, check, credit card, direct debit, postal order, SEPA, wire transfer, interbank transfer, and failed).
- Failed payments are failed unconfirmed payments and have a balance of **0**.

This report lists all payments of the specified type that were received during a particular time period. It shows the account number, customer name, payment amount, and transaction ID associated with each payment event.

Credit card versions of this report show the credit card numbers, and direct debit versions show the direct debit numbers, and SEPA versions show IBAN numbers. If you choose to mask these numbers, the report shows only the last four digits of each number. Otherwise, the full numbers are displayed.

Note: If credit card tokenization is enabled, the credit card versions of this report show only the tokens.

Two dates are shown for every payment. The Payment Entered date is the time the payment was entered in the BRM system. The Payment Effective date is the time the payment had an impact on the account balance.

> **Note:** Credit card and direct debit versions of this report show only the payment effective date.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\PaymentsDetail.source**

No charts are available for this report.

Failed payment report displays records of failed confirmed payments that are rejected. Failed unconfirmed payments are not displayed. BRM obtains failed confirmed payments that are rejected from the **/event/billing/payment/failed** object. Failed unconfirmed payments that are rejected are obtained from the **/event/billing/fee/failed_payment** object.

PaymentsDetail Parameters

You can change the following parameters to modify the output of the **PaymentsDetail** report:

- Country
- State
- Account Status
- Payment Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)
- Mask CC/DD/IBAN Numbers

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–4, see "Understanding the Standard Parameters".

Table 5–4 PaymentsDetail Parameters

Parameter	Description	Valid Values	Default Value
Payment Type	The method used by customers to pay a bill.	Any of the following: ■ **CASH** ■ **CHECK** ■ **CREDIT CARD** ■ **DIRECT DEBIT** ■ **FAILED** ■ **FRENCH DIRECT DEBIT** ■ **INTERBANK TRANSFER** ■ **POSTAL ORDER** ■ **SEPA** ■ **SMART CARD** ■ **UNDEFINED** ■ **VOUCHER** ■ **WIRE-TRANSFER**	**CASH**.
Mask CC/DD/IBAN Numbers	The way credit card and direct debit numbers and International Bank Account Numbers (for SEPA) are displayed. Select **YES** to show only the last four digits of all credit card or direct debit or IBAN numbers. Select **NO** to display the entire number. This parameter applies to credit card and direct debit reports only.	**YES** or **NO**	**YES**

Reversals Summary Report

Note:

- You must upload the **ReversalsSummary.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Reversals Summary report (**ReversalsSummary.rtf**) shows the total amount of the payment reversals that were made during a specified time period. The amount is listed by type. Reversal types include check, credit card, direct debit, postal order, SEPA, wire transfer, and interbank transfer.

You can generate two versions of this report: a version that shows totals for all reversal types and a version that shows the total for only one reversal type.

Caution: Do no perform cross payment reversals. For example, if the payment is by check, you should not reverse the payment to a credit card. This will display wrong data in the report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\ReversalsSummary.source**

No charts are available for this report.

ReversalsSummary Parameters

You can change the following parameters to modify the output of the **ReversalsSummary** report:

- Country
- State
- Account Status
- Reversal Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–5, see "Understanding the Standard Parameters".

Table 5–5 ReversalsSummary Parameters

Parameter	Description	Valid Values	Default Value
Reversal Type	The method used by customers to make the payment that was reversed. Select **ALL** to include information for all reversal types, or select a specific reversal type to include information for that type only.	Any of the following: ▪ **ALL** ▪ **CHECK** ▪ **CREDIT CARD** ▪ **DIRECT DEBIT** ▪ **POSTAL ORDER** ▪ **SEPA** ▪ **WIRE-TRANSFER** ▪ **INTERBANK TRANSFER**	**ALL**

Reversals Detail Report

Note:

- You must upload the **ReversalsDetail.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Reversals Detail report (**ReversalsDetail.rtf**) shows detailed information about only one type of payment reversal. You can generate a **ReversalsDetail** report for each of the reversal types (check, credit card, direct debit, postal order, SEPA, wire transfer, and interbank transfer).

This report lists all reversals of the specified type that were made during a particular time period. It shows the account number, customer name, amount, and transaction ID associated with each reversal event. It also shows the reason each reversal was made.

Credit card versions of this report show the credit card numbers, and direct debit versions show the direct debit numbers, and SEPA versions show IBAN numbers. If you choose to mask these numbers, the report shows only the last four digits of each number. Otherwise, the full numbers are displayed.

Note: If credit card tokenization is enabled, the credit card versions of this report show only the tokens.

Two dates are shown for every reversal. The Reversal Entered date is the time the reversal was entered in the BRM system. The Reversal Effective date is the time the reversal had an impact on the account balance.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\ReversalsDetail.source**

No charts are available for this report.

ReversalsDetail Parameters

You can change the following parameters to modify the output of the **ReversalsDetail** report:

- Country
- State
- Account Status
- Reversal Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)
- Mask CC/DD/IBAN Numbers

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–6, see "Understanding the Standard Parameters".

Table 5–6 ReversalsDetail Parameters

Parameter	Description	Valid Values	Default Value
Reversal Type	The method used by customers to make the payment that was reversed.	Any of the following: ▪ **CHECK** ▪ **CREDIT CARD** ▪ **DIRECT DEBIT** ▪ **POSTAL ORDER** ▪ **SEPA** ▪ **WIRE-TRANSFER** ▪ **INTERBANK TRANSFER**	**CHECK**
Mask CC/DD/IBAN Numbers	The way credit card and direct debit numbers and International Bank Account Numbers (for SEPA) are displayed. Select **YES** to show only the last four digits of all credit card or direct debit or IBAN numbers. Select **NO** to display the entire number. This parameter applies to credit card and direct debit reports only.	**YES** or **NO**.	**YES**

Refunds Summary Report

Note:

- You must upload the **RefundsSummary.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Refunds Summary report (**RefundsSummary.rtf**) shows the total amount of the refunds that were applied to accounts during a specified time period. The amount is listed by type. Refund types include cash, check, credit card, direct debit, postal order, SEPA, wire transfer, and interbank transfer.

You can generate two versions of this report: a version that shows totals for all refund types and a version that shows the total for only one refund type.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\RefundsSummary.source**

No charts are available for this report.

RefundsSummary Parameters

You can change the following parameters to modify the output of the **RefundsSummary** report:

- Country
- State
- Account Status
- Refund Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–7, see "Understanding the Standard Parameters".

Table 5–7 RefundsSummary Parameters

Parameter	Description	Valid Values	Default Value
Refund Type	The method used to give back a payment. Select **ALL** to include information for all refund types, or select a specific refund type to include information for that type only.	Any of the following: ■ **ALL** ■ **CASH** ■ **CHECK** ■ **CREDIT CARD** ■ **DIRECT DEBIT** ■ **POSTAL ORDER** ■ **SEPA** ■ **WIRE-TRANSFER** ■ **INTERBANK TRANSFER**	**ALL**

Refunds Detail Report

Note:

- You must upload the **RefundsDetail.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Refunds Detail report (**RefundsDetail.rtf**) shows detailed information about only one type of refund. You can generate a **RefundsDetail** report for each of the refund types (cash, check, credit card, direct debit, postal order, SEPA, wire transfer, and interbank transfer).

This report lists all refunds of the specified type that took place during a particular time period. It shows the account number, customer name, amount, and transaction ID associated with each refund event.

Credit card versions of this report show the credit card numbers, and direct debit versions show the direct debit numbers, and SEPA versions show IBAN numbers. If you choose to mask these numbers, the report shows only the last four digits of each number. Otherwise, the full numbers are displayed.

> **Note:** If credit card tokenization is enabled, the credit card versions of this report show only the tokens.

Two dates are shown for every refund. The Refund Entered date is the time the refund was entered in the BRM system. The Refund Effective date is the time the refund had an impact on the account balance.

> **Note:** Credit card and direct debit versions of this report show only the refund effective date.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\RefundsDetail.source**

No charts are available for this report.

RefundsDetail Parameters

You can change the following parameters to modify the output of the **RefundsDetail** report:

- Country
- State
- Account Status
- Refund Type
- Start Date (date *or* date-time)
- End Date (date *or* date-time)
- Mask CC/DD/IBAN Numbers

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–8, see "Understanding the Standard Parameters".

Table 5–8 RefundsDetail Parameters

Parameter	Description	Valid Values	Default Value
Refund Type	The method used to give back a payment.	Any of the following: ■ **CASH** ■ **CHECK** ■ **CREDIT CARD** ■ **DIRECT DEBIT** ■ **POSTAL ORDER** ■ **SEPA** ■ **WIRE-TRANSFER** ■ **INTERBANK TRANSFER**	**CASH**
Mask CC/DD/IBAN Numbers	The way credit card and direct debit numbers and International Bank Account Numbers (for SEPA) are displayed. Select **YES** to show only the last four digits of all credit card or direct debit or IBAN numbers. Select **NO** to display the entire number. This parameter applies to credit card and direct debit reports only.	**YES** or **NO**.	**YES**

Bad Debt Write-Offs Report

The Bad Debt Write-Offs report (**BadDebtWriteOff.rtf**) lists all the bad debt write-offs recorded in your BRM system for a specified time period. This report groups write-offs by account number. For each write-off, the report shows the associated customer name, a comment explaining the reason for the write-off, the date the write-off became effective, and the amount written off.

> **Note:** For information on how BRM handles bad debt, see "About Writing Off Bad Debt" in *BRM Managing Accounts Receivable*.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\BadDebtWriteOff\BadDebtWriteOff.xdo**

BadDebtWriteOff Parameters

You can change the following parameters to modify the output of the **BadDebtWriteOff** report:

- State Details
- Country
- State
- Billing Type
- Start Date (date only, not date-time)

- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

Credit Card Reports

To help you manage credit card payments, the following reports are designed specifically for tracking credit card information:

- The Credit Card Charges or Declines report enables you to track successful and unsuccessful credit card charges.
- The Credit Cards Due to Expire report shows you when your customers' credit cards will expire, enabling you to provide continuous service to your customers by reminding them to update their credit information before it is outdated.
- The Credit Card Transactions report helps you monitor transactions between your BRM system and your credit card processor.

Credit Card Charges or Declines Report

Note: You must upload the **CCChgDecl.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Credit Card Charges or Declines report (**CCChgDecl.rtf**) displays *either* successful credit card charges or those that were declined (a single report cannot show both). Both versions of this report show the customer name, transaction date, credit card number, and amount charged or declined. In the decline version, the decline code is included for each transaction.

Note: If credit card tokenization is enabled, the credit card versions of this report show only the tokens.

You can also choose to mask the credit card numbers displayed in either version of this report. If you do, the report shows only the last four digits of each credit card number.

Note: This report sorts credit card transactions by transaction ID. Because transaction IDs are stored as string data, this sorting method produces lists that are randomly, not chronologically, ordered. For example, the transaction ID **T,13d,a** might be assigned at an earlier date than the ID **T,111d,a.** When sorted, however, the string **T,111d,a** is listed before the string **T,13d,a.**

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\CCChgDecl.source**

No charts are available for this report.

CCChgDecl Parameters

You can change the following parameters to modify the output of the **CCChgDecl** report:

- Country
- State
- Account Status
- Charge or Decline
- Start Date (date only, not date-time)
- End Date (date only, not date-time)
- Mask CC Numbers

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–9, see "Understanding the Standard Parameters".

Table 5–9 CCChgDecl Parameters

Parameter	Description	Valid Values	Default Value
Charge or Decline	The type of transaction displayed in the report. Select **CHARGE** to display successful charges or **DECLINE** to display unsuccessful charges.	**CHARGE** or **DECLINE**	**CHARGE**
Mask CC Numbers	The way credit card numbers are displayed. Select **YES** to show only the last four digits of all credit card numbers. Select **NO** to display the entire number.	**YES** or **NO**	**YES**

Credit Cards Due to Expire Report

Note: You must upload the **CCExpire.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Credit Cards due to Expire report (**CCExpire.rtf**) shows information about all accounts whose credit cards will expire during a one-month, two-month, or three-month time period. This information enables you to remind subscribers to update the expiration date of their cards or to provide new credit card numbers so that their service will continue without interruption.

The report shows the account numbers and customer names associated with the expiring credit cards. It also shows the number, owner name, and expiration date for each card.

You can choose to mask the credit card numbers displayed in the report. If you do, the report shows only the last four digits of each credit card number.

> **Note:** If credit card tokenization is enabled, the report shows only the tokens.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\CCExpire.source**

No charts are available for this report.

CCExpire Parameters

You can change the following parameters to modify the output of the **CCExpire** report:

- Country
- State
- Account Status
- Expiration Period
- Mask CC Numbers

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–10, see "Understanding the Standard Parameters".

Table 5–10 CCExpire Parameters

Parameter	Description	Valid Values	Default Value
Expiration Period	The time period covered by the report: ▪ **Current Month** shows all credit cards that expire in the current month. ▪ **Current & Next Months** shows all credit cards that expire in the current month and the month after that. ▪ **Current & Next 2 Months** shows all credit cards that expire in the current month and the next two months after that.	**Current Month**, **Current & Next Months**, or **Current & Next 2 Months**	**Current Month**
Mask CC Numbers	The way credit card numbers are displayed. Select **YES** to show only the last four digits of all credit card numbers. Select **NO** to display the entire number.	**YES** or **NO**	**YES**

Credit Card Transactions Report

The Credit Card Transactions report (**CCTransactions.rtf**) shows the status of all credit card transactions, both successful and failed, that were recorded in your BRM database during a specified time period. You can use this report to do the following:

- Monitor quality of service on the lease line between your BRM system and your credit card processor.

- Identify the types of credit card transactions that are failing. (For information on resolving failed credit card transactions, see "Resolving Failed BRM-Initiated Payment Transactions" in *BRM Configuring and Collecting Payments*.)
- Check the total monetary amount of outstanding credit card transactions.
- Learn the status of a particular customer's unresolved charge.

The **CCTransactions** report has two versions:

- **Without Transaction Details**: This version shows the total number and monetary amount of credit card transactions that occurred during the specified time period. It divides the transactions into two groups: Successful and Failed. Within these groups, it lists the transactions by charge operation. Charge operations, shown in the Command column, include the following:
  - **Verify**: Verifies a customer's address.
  - **Authorize Only**: Authorizes a charge.
  - **Deposit**: Deposits a previously authorized charge.
  - **Conditional Deposit**: Authorizes *and* deposits a charge.
  - **Refund**: Refunds a charge.
  - **Recover Payment**: Creates payment events. See "pin_recover" in *BRM Configuring and Collecting Payments*.
  - **Unknown**: Indicates the charge operation is not known.
- **With Transaction Details**: This version expands the report by displaying information about each transaction, including credit card number, transaction ID, date, and monetary amount.

  Note: If credit card tokenization is enabled, the report shows only the tokens.

  You can also choose to mask the credit card numbers displayed in this version. If you do, the report shows only the last four digits of each credit card number.

Both versions group totals by resource.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\CCTransactions\CCTransactions.xdo**

CCTransactions Parameters

You can change the following parameters to modify the output of the **CCTransactions** report:

- Transaction Details
- Start Date (date only, not date-time)
- End Date (date only, not date-time)
- Mask CC Numbers

For information on parameters not described in Table 5–11, see "Understanding the Standard Parameters".

Table 5–11 CCTransactions Parameters

Parameter	Description	Valid Values	Default Value
Transaction Details	The credit card number, ID, date, and amount of each transaction. Select **YES** to display this information.	**YES** or **NO**	**NO**
Mask CC Numbers	The way credit card numbers are displayed. Select **YES** to show only the last four digits of all credit card numbers. Select **NO** to display the entire number. This parameter applies only when Transaction Details is set to **YES**.	**YES** or **NO**	**YES**

Customer Account Reports

The customer account reports track the number and service length of new and closed accounts. They also track the credit remaining in batches of accounts and track changes in the number of product subscriptions.

The Account Changes - Single Time Period report displays new and closed account information for a single time period that you specify, and the Account Changes – Multiple Time Periods report displays new and closed account information in weekly or monthly intervals, whichever you select.

The New Account Lifetime report displays the service length of accounts opened during the specified time period. The Closed Account Lifetime report displays the service length of accounts closed during the specified time period. You can use this information to find out how many customers remain with the company after a particular sales promotion.

Note: The "period" reports display information for new *and* closed accounts. The "lifetime" reports display information for new *or* closed accounts, whichever you select.

The Product Subscriptions report displays information about changes in the number of subscriptions for a particular product during a time period you specify. The Product Cancellations report shows whether a subscription was canceled because the customer discontinued it or because the account containing the subscription was closed.

Account Changes - Single Time Period Report

The Account Changes - Single Time Period report (**NCSinglePeriod.rtf**) displays the number of new accounts, the number of closed accounts, and the net change in new and closed accounts for a single time period.

Note: If the same account is opened *and* closed during the reporting period, the account is counted twice: once as a new account and once as a closed account.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\NCSinglePeriod\NCSinglePeriod.xdo**

NCSinglePeriod Parameters

You can change the following parameters to modify the output of the **NCSinglePeriod** report:

- State Details
- Account Details
- Include Chart
- Country
- State
- Billing Type
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For parameter descriptions, see "Understanding the Standard Parameters".

Account Changes – Multiple Time Periods Report

Note:

- You must upload the **NCMultiplePeriods.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".
- The Account Changes - Multiple Time Periods report (**NCMultiplePeriods.rtf**) displays the number of new and closed accounts and the net change in the number of accounts over multiple time periods. The difference between this report and the **NCSinglePeriod** report is that **NCMultiplePeriods** includes data for several time periods. You can choose to have these time periods divided into weeks or months. The weekly report shows 13 one-week periods, covering one fiscal quarter. The monthly report shows 12 one-month periods, covering one fiscal year. The multiple periods report does not include account details.
- If the same account is opened *and* closed during the reporting period, the account is counted twice: once as a new account and once as a closed account.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\NCMultiplePeriods.source**

NCMultiplePeriods Parameters

You can change the following parameters to modify the output of the **NCMultiplePeriods** report:

- State Details
- Include Chart
- Country
- State
- Billing Type
- Time Period
- Weekly Start Date
- Monthly Start Date

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

If you generate a chart, the first bar refers to the sum of New Account and the second bar refers to the sum of Closed Account for each period.

For information on parameters not described in Table 5–12, see "Understanding the Standard Parameters".

Table 5–12 NCMultiplePeriods Parameters

Parameter	Description	Valid Values	Default Value
Time Period	The way the report output is divided. Can be by weeks or by months.	**WEEKS** or **MONTHS**	**WEEKS**
Weekly Start Date	The first day of the first week for the report. You set this parameter when you select **WEEKS** for the Time Period parameter. To select **MONTHS**, set the Monthly Start Date parameter instead. The report covers from 00:00:00 on the first day of the week you specify to 23:59:59 on the previous day of the week 13 weeks later. For example, if you enter "07/12/01," which is a Thursday, the report measures from 00:00:00 (midnight) on that Thursday to 23:59:59 on Wednesday, 10/10/01.	Use *MM/DD/YY* or *MM/DD/YYYY* date format for the start date.	91 days (13 weeks) before the current date. The default value is not displayed in the parameter prompt box.
Monthly Start Date	The first day of the first month for the report. You set this parameter when you select **MONTHS** for the Time Period parameter. To select **WEEKS**, set the Weekly Start Date parameter instead. The report measures from 00:00:00 on the first day of the month you specify to 23:59:59 on the last day of the month 12 months later.	Use *MM/YY* or *MM/YYYY* date format for the month.	12 months before the current month. The default value is not displayed in the parameter prompt box.

New Account Lifetime Report

The New Account Lifetime report (**NewLifetime.rtf**) displays the length of service of currently active accounts created during a specified time period. This information is

valuable if you want to see how many customers who opened accounts during a specified time period are still with your company.

Use the Offset Days and Period Days parameters to sort accounts by age.

> **Note:** The BRM Reports package includes a brand-specific version of the **NewLifetime** report. See "Brand Manager Reports".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\NewLifetime\NewLifetime.xdo**

NewLifetime Parameters

You can change the following parameters to modify the output of the **NewLifetime** report:

- State Details
- Include Chart
- Offset Days
- Period 1 Days
- Period 2 Days
- Period 3 Days
- Country
- State
- Billing Type
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–13, see "Understanding the Standard Parameters".

Table 5–13 NewLifetime Parameters

Parameter	Description	Valid Values	Default Value
Offset Days	The minimum number of days old an account must be before it is included in the report. For example, if you set Offset Days to **5** and an active account created during the reporting period is only four days old, it is not included. See "Day Ranges".	**0–366**.	**0**
Period 1 Days	Number of days covered by the first time period. This number is added to the Offset Days value to define the first time period range. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 0–30 days before the current date).
Period 2 Days	Number of days covered by the second time period. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 31–60 days before the current date).
Period 3 Days	Number of days covered by the third time period. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 61–90 days before the current date).

If you do not enter valid values for the above parameters, a blank report is generated.

Closed Account Lifetime Report

The Closed Account Lifetime report (**ClosedLifetime.rtf**) displays the number of accounts closed during a specified time period, and it measures the number of days the accounts were open before they were closed.

Use the Offset Days and Period Days parameters to sort accounts by length of life.

> **Note:** The BRM Reports package includes a brand-specific version of the **ClosedLifetime** report. See "Brand Manager Reports".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ClosedLifetime\ClosedLifetime.xdo**

ClosedLifetime Parameters

You can change the following parameters to modify the output of the **ClosedLifetime** report:

- State Details
- Include Chart
- Offset Days
- Period 1 Days
- Period 2 Days
- Period 3 Days
- Country
- State

- Billing Type
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–14, see "Understanding the Standard Parameters".

Table 5–14 ClosedLifetime Parameters

Parameter	Description	Valid Values	Default Value
Offset Days	The minimum number of days old an account must be to be included in the report. For example, if you set Offset Days to **5**, a four-day-old account closed during the reporting period is not included. See "Day Ranges".	**0–366**.	**0**
Period 1 Days	Number of days covered by the first time period. This number is added to the Offset Days value to define the first time period range. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 0–30 days before the current date).
Period 2 Days	Number of days covered by the second time period. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 31–60 days before the current date).
Period 3 Days	Number of days covered by the third time period. See "Day Ranges".	**1–366**.	**30** (Offset Days plus 61–90 days before the current date).

If you do not enter valid values for the above parameters, a blank report is generated.

Product Subscriptions Report

The Product Subscriptions report (**ProductSubscriptions.rtf**) shows the change in the number of subscriptions for a particular product over a time period you specify. You can use this information to determine which products are driving your company's revenue.

This report shows the following information:

- **Subscriptions at Beginning**: The number of subscriptions in active accounts at the beginning of the time period.
- **New Subscriptions**: The number of subscriptions purchased during the time period.
- **Inactivated Subscriptions**: The number of subscriptions in accounts whose status changed to inactive during the time period.
- **Activated Subscriptions**: The number of subscriptions in accounts whose status changed to active during the time period.
- **Canceled/Closed Subscriptions**: The number of subscriptions that were canceled during the period. To find out how many cancellations were due to account

closures and how many were due to discontinued subscriptions, run the Product Cancellations report with the same parameter settings you used to run this report.

- **Subscriptions at End**: The number of subscriptions in active accounts at the end of the period.

> **Note:** If an account becomes active and then is closed during the reporting period, the account is counted twice in the report (once as an active account and once as a closed account).

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ProductSubscriptions\ProductSubscriptions.xdo**

ProductSubscriptions Parameters

You can change the following parameters to modify the output of the **ProductSubscriptions** report:

- Country
- State
- Product
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–15, see "Understanding the Standard Parameters".

Table 5–15 ProductSubscription Parameters

Parameter	Description	Valid Values	Default Value
Product	The name of the product for which you want to track subscriptions.	Any valid product name or **ALL**. The parameter value list might not include all the product names stored in your BRM database. To add product names to this list, see "Adding Parameters in BI Publisher".	**ALL**

Product Cancellations Report

The Product Cancellations report (**ProductCancellations.rtf**) shows the total number of product subscriptions that were canceled during a time period you specify. This report lists cancellations by product. For each product, the following information is provided:

- **Total Cancellations**: The total number of subscriptions that were canceled during the specified time period. This number matches the number in the Canceled/Closed Subscriptions column of the Product Subscriptions report for the same time period.
- **Cancellations due to Account Closure**: The number of subscriptions that were indirectly canceled when the accounts containing them were closed. This is a subset of Total Cancellations.

- **Cancellations due to Discontinued Subscriptions**: The number of subscriptions that were directly canceled, even though the accounts containing them remained active. This is a subset of Total Cancellations.

> **Note:** This report sorts products numerically by POID, not alphabetically by product name.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ProductCancellations\ProductCancellations.xdo**

ProductCancellations Parameters

You can change the following parameters to modify the output of the **ProductCancellations** report:

- Product
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

For information on parameters not described in Table 5–16, see "Understanding the Standard Parameters".

Table 5–16 ProductCancellations Parameters

Parameter	Description	Valid Values	Default Value
Product	The name of the product whose cancellations you want to show.	Any valid product name or **ALL** The parameter value list might not include all the product names stored in your BRM database. To add product names to this list, see "Adding Parameters in BI Publisher".	**ALL**

Device Management Framework Reports

The Device Management framework reports provide information about devices in BRM. For information on the Device Management framework, see "Managing Devices with BRM" in *BRM Developer's Guide*.

These reports help you track the current status and status history of your devices.

Device Status Report

The Device Status report (**DeviceStatus.rtf**) shows the current status of devices grouped by device type. See "Creating Devices" in *BRM Developer's Guide*.

For each device, the report shows the following information:

- **Device Status**: The current status of the device.
- **Device ID**: The unique ID given to the device.

To generate a report that shows devices with a specific status, you must select a device type. If you select a status, such as **ASSIGNED**, but not a type, such as **/device/sim/**, data will not be returned.

No charts are available for this report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\DeviceStatus\DeviceStatus.xdo**

No charts are available for this report.

DeviceStatus Parameters

You can change the following parameters to modify the output of the **DeviceStatus** report:

- Device Status
- Device Type

For information on parameters not described in Table 5–17, see "Understanding the Standard Parameters".

Table 5–17 DeviceStatus Parameters

Parameter	Description	Valid Values	Default Value
Device Status	The status of the device, such as new. For information, see "Managing the Device Life Cycle" in *BRM Developer's Guide*.	Any valid device status or **ALL**	**ALL**
Device Type	A group of devices that have similar characteristics, such as **/device/num** for BRM Number Manager devices.	Any valid device type or **ALL**	**ALL**

Device History Report

The Device History report (**DeviceHistory.rtf**) shows the history of devices, grouped by device type. See "Creating Devices" in *BRM Developer's Guide*.

For each device, the report shows the following information:

- **Device ID**: The unique ID given to a device.
- **Device Status**: The status of the device on the date the report is generated date as well as all prior changes in status.
- **Start Date**: The date and time that a device entered a certain device status.
- **End Date**: The date and time that a device stopped being in a certain device status.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\DeviceHistory\DeviceHistory.xdo**

DeviceHistory Parameters

You can change the following parameters to modify the output of the **DeviceHistory** report:

- Device Type
- Device ID
- Start Date
- End Date

For information on parameters not described in Table 5–18, see "Understanding the Standard Parameters".

Table 5–18 DeviceHistory Parameters

Parameter	Description	Valid Values	Default Value
Device Type	A group of devices that have similar characteristics, such as **/device/num** for BRM Number Manager devices.	Any valid device type, or **ALL**	**ALL**
Device ID	The unique ID associated with an individual device.	Any valid device ID, or **ALL**	**ALL**

Dialup Usage Reports

The dialup usage reports provide information about dialup connections. These reports measure the quantity and duration of customer dialup sessions.

The POP Usage report displays the POP usage of customers for both network and terminal server activity.

The Current Sessions by Session Length report and Historic Sessions by Session Length report display the number and duration of currently open and past customer dialup sessions, respectively.

POP Usage Report

Note: You must upload the **SessionPOP.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The POP Usage report (**SessionPOP.rtf**) lists the POPs (Points of Presence) your customers use to dial in to the Internet, the number of sessions handled by each POP, and the average length of those sessions. This report tracks dialup usage by terminal server or by network ID.

Note: Terminal servers are also known as Network Access Servers (NASs).

The values displayed in the Average Length of Session column are rounded to two decimal places from six decimal places stored in the BRM database. Totals for this column are derived by adding the original six-decimal values and then rounding the sum to two decimals. Sometimes the rounding makes the displayed total look incorrect.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\SessionPOP.source**

SessionPOP Parameters

You can change the following parameters to modify the output of the **SessionPOP** report:

- State Details

- Include Chart
- Country
- State
- Billing Type
- Account Status
- Terminal Server or Network ID
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–19, see "Understanding the Standard Parameters".

Table 5–19 POP Usage Report Parameters

Parameter	Description	Valid Values	Default Value
Terminal Server or Network ID	The way POPs are identified in the report. Select **T** to identify POPs by terminal server ID. Select **N** to identify POPs by network ID.	**T** or **N**	**T**

Current Sessions by Session Length Report

The Current Sessions by Session Length report (**UsageTimeCurrent.rtf**) displays the number of customer dialup sessions that are open at the time the report is generated. The sessions are grouped by duration. The duration time periods are measured in minutes before the current time.

UsageTimeCurrent Parameters

You can change the following parameters to modify the output of the **UsageTimeCurrent** report:

- State Details
- Include Chart
- Offset Mins
- Period 1 Mins
- Period 2 Mins
- Period 3 Mins
- Country
- State
- Billing Type

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–20, see "Understanding the Standard Parameters".

Table 5–20 Current Sessions by Session Length Report Parameters

Parameter	Description	Valid Values	Default Value
Offset Mins	The minimum number of minutes old a usage session must be before it is included in the report. For example, if you set Offset Mins to **5** and a particular usage session is less than 5 minutes old, it is not included. See "Minute Ranges".	**0–1440**.	**0**
Period 1 Mins	Number of minutes covered by the first time period. See "Minute Ranges".	**1–1440**.	**15** (Offset Mins plus 0–15 minutes before the current time).
Period 2 Mins	Number of minutes covered by the second time period. See "Minute Ranges".	**1–1440**.	**15** (Offset Mins plus 15–30 minutes before the current time).
Period 3 Mins	Number of minutes covered by the third time period. See "Minute Ranges".	**1–1440**.	**15** (Offset Mins plus 30–45 minutes before the current time).

Historic Sessions by Session Length Report

The Historic Sessions by Session Length report (**UsageTimeHistoric.rtf**) displays the number of customer dialup sessions that took place within a specified time period. Only sessions that ended within the time period are shown in this report. The sessions are grouped by duration.

Note: The BRM Reports package includes a brand-specific version of the **UsageTimeHistoric** report. See "Brand Manager Reports".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\UsageTimeHistoric\UsageTimeHistoric.xdo**

UsageTimeHistoric Parameters

You can change the following parameters to modify the output of the **UsageTimeHistoric** report:

- State Details
- Include Chart
- Offset Mins
- Period 1 Mins
- Period 2 Mins
- Period 3 Mins

- Country
- State
- Billing Type
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For information on parameters not described in Table 5–21, see "Understanding the Standard Parameters".

Table 5–21 Historic Sessions by Session Length Report Parameters

Parameter	Description	Valid Values	Default Value
Offset Mins	The minimum number of minutes old a usage session must be to be included in the report. For example, if you set Offset Mins to **5** and a particular usage session that falls within the start and end dates of the report is less than 5 minutes old, it is not included. See "Minute Ranges".	**0–1440**.	**0**
Period 1 Mins	Number of minutes covered by the first time period. See "Minute Ranges".	**1–1440**.	**15** (sessions that were Offset Mins plus 0–15 minutes long).
Period 2 Mins	Number of minutes covered by the second time period. See "Minute Ranges".	**1–1440**.	**15** (sessions that were Offset Mins plus 15–30 minutes long).
Period 3 Mins	Number of minutes covered by the third time period. See "Minute Ranges".	**1–1440**.	**15** (sessions that were Offset Mins plus 30–45 minutes long).

Dropped Sessions Report

Note: You must upload the **DroppedSessions.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Dropped Sessions report (**DroppedSessions.rtf**) shows dialup sessions that were not rated because of a lost connection between the RADIUS server and your BRM system.

Because RADIUS Manager authorizes and tracks customer dialup sessions in real time, usage events are rated as they take place, and revenue leaks rarely occur. However, revenue leaks can occur if the connection between the RADIUS server and BRM is dropped in the middle of a session. To help you identify such leaks, this report lists dialup sessions that have no end time.

Important: Dropped sessions are indistinguishable from current sessions until users log back in to the terminal server with the same account they used for the dropped session. When they do, BRM creates a new session for the account and updates the dropped session's EVENT_SESSION_DIALUP_T.TERM_CAUSE field to indicate that the session was dropped. This report shows data only for sessions that BRM has identified as dropped.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\DroppedSessions.source**

DroppedSessions Parameters

You can change the following parameters to modify the output of the **Dropped Sessions** report:

- State Details
- Country
- State
- Terminal Server
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–22, see "Understanding the Standard Parameters".

Table 5–22 Dropped Sessions Report Parameters

Parameter	Description	Valid Values	Default Value
Terminal Server	A terminal server that your customers connect to when dialing in to your IP services. Also known as a Network Access Server (NAS).	Any valid terminal server IP address or host name, or **ALL** If terminal servers can be identified by either IP address or host name in your BRM system, select **ALL** to ensure that all records for every terminal server are included in the report.	**ALL**

General Ledger Reports

The general ledger (G/L) reports provide information about your company's revenue:

- The General Ledger Summary report lists the balance impacts for G/L debit and credit accounts by resource for a time period you specify.
- The General Ledger Detail report lists the balance impacts by customer account.

> **Important:** You must run the General Ledger Summary and General Ledger Detail reports in conjunction with the **pin_ledger_report** utility. See "pin_ledger_report" in *BRM Collecting General Ledger Data*. To populate the BRM database with the data needed for these two reports, you first run the **pin_ledger_report** utility with the same parameters you plan to specify for the BRM reports. You then run the BRM reports to format and display that data in more ways than you can with the **pin_ledger_report** utility. For more information about running the **pin_ledger_report** utility, see "Creating General Ledger (G/L) Reports" in *BRM Collecting General Ledger Data*.

- The General Ledger Chart of Accounts report lists all G/L debit accounts and G/L credit accounts by G/L ID and G/L ID description. This report is helpful if you want to see all the G/L accounts currently configured in the BRM database.
- The Product Revenue report breaks your company's revenue down by product for a time period you specify. You do not need to assign G/L IDs to your products to include them in this report.

> **Note:** You do not need to run the **pin_ledger_report** utility before you run the General Ledger Chart of Accounts and Product Revenue reports.

General Ledger Chart of Accounts Report

The General Ledger Chart of Accounts report (**GLAccounts.rtf**) shows a simple list of all G/L debit accounts, G/L credit accounts, G/L IDs, and G/L ID descriptions in your BRM database. You can run this report to check the G/L information that has been set up for your BRM database or to see the G/L ID descriptions referenced by G/L ID numbers in a **GLDetail** report. The **GLAccounts** report has no user-entered parameters.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\GLAccounts\GLAccounts.xdo**

General Ledger Summary Report

The General Ledger Summary report (**GLSummary.rtf**) lists the balance impacts for G/L debit and credit accounts by resource for a time period and bill type you specify. You can choose to show only a particular resource or only the G/L accounts for a particular G/L ID.

> **Important:** Before you run this report, you must run the **pin_ledger_report** utility. See "pin_ledger_report" in *BRM Collecting General Ledger Data* with the same parameters you plan to specify for this report. Specifically, you must use the same start and end dates and the same bill type. By default, the utility creates summary reports.
>
> The **GLSummary** report uses the data generated by the most recent run of **pin_ledger_report**.

The BRM Reports package includes a brand-specific version of the **GLSummary** report. See "Brand Manager Reports".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\GLSummary\GLSummary.xdo**

GLSummary Parameters

You can change the following parameters to modify the output of the **GLSummary** report:

- Report Type
- Resource Name
- G/L Attribute
- G/L Segment
- G/L ID
- Start Date (date used for last run of **pin_ledger_report** utility)
- End Date (date used for last run of **pin_ledger_report** utility)

For information on parameters not described in Table 5–23, see "Understanding the Standard Parameters".

Table 5–23 General Ledger Summary Report Parameters

Parameter	Description	Valid Values	Default Value
Report Type	The type of billing items you want to show in the report. For information on each item type, see "About Revenue Recognition" in *BRM Collecting General Ledger Data*.	Any of the following: ▪ **BILLED** ▪ **UNBILLED** ▪ **BILLED EARNED** ▪ **BILLED UNEARNED** ▪ **UNBILLED EARNED** ▪ **UNBILLED UNEARNED** ▪ **PREV BILLED EARNED**	**BILLED**
Resource	The resource affected by the G/L debit and credit account entries.	**All Resources**, **All Currencies**, **ALL Non-Currencies**, or individual resources set up for your BRM database. The parameter list might not include all the resource names stored in your BRM database. To add resource names to this list, see "Adding Parameters in BI Publisher".	**All Resources**
G/L Attribute	The G/L account pair attribute you want to display report data for. See "About G/L IDs" in *BRM Collecting General Ledger Data*.	**ALL**, **NET**, **DISC**, **TAX**, or **GROSS**.	**ALL**.
G/L Segment	The G/L segment you want to run the report for. See "About Collecting G/L Data for Brands or Selected Accounts" in *BRM Collecting General Ledger Data*.	The G/L segment you specified when you ran **pin_ledger_report**.	A period (.), which means to run the report with the default BRM G/L segment value. If you did not use the default G/L segment to run **pin_ledger_report**, make sure you enter the value you did use.
G/L ID	The general ledger ID value that maps to G/L debit and credit accounts.	Any G/L ID set up for your BRM database or **ALL**. The parameter list might not include all the G/L IDs stored in your BRM database. To add G/L IDs to this list, see "Adding Parameters in BI Publisher". To list all the G/L IDs in your database, run the **GLAccounts** report.	**ALL**

General Ledger Detail Report

The General Ledger Detail report (**GLDetail.rtf**) lists the balance impacts for G/L debit and credit accounts by customer account for a time period and bill type you specify. You can choose to show only a particular resource or only the G/L accounts for a particular G/L ID.

This report shows customer accounts, affected resources, G/L accounts, and the impact of each G/L entry. This report also shows the date, G/L ID, and bill number of each G/L entry.

> **Important:** Before you run this report, you must run the **pin_ledger_report** utility. See "pin_ledger_report" described in *BRM Collecting General Ledger Data* with the same parameters you plan to specify for this report. Specifically, you must use the same start and end dates and the same bill type. You must also use the **-detail** parameter.
>
> The **GLDetail** report uses the data generated by the most recent run of **pin_ledger_report**.

The BRM Reports package includes a brand-specific version of the **GLDetail** report. See "Brand Manager Reports".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\GLDetail\GLDetail.xdo**

GLDetail Parameters

You can change the following parameters to modify the output of the **GLDetail** report:

- Report Type
- Resource
- G/L Attribute
- G/L Segment
- G/L ID
- Start Date (date used for last run of **pin_ledger_report** utility)
- End Date (date used for last run of **pin_ledger_report** utility)

For information on parameters not described in Table 5–24, see "Understanding the Standard Parameters".

Table 5–24 General Ledger Detail Report Parameters

Parameter	Description	Valid Values	Default Value
Report Type	The type of billing items you want to show in the report. For information on each item type, see "About Revenue Recognition" in *BRM Collecting General Ledger Data*.	Any of the following: ▪ **BILLED** ▪ **UNBILLED** ▪ **BILLED EARNED** ▪ **BILLED UNEARNED** ▪ **UNBILLED EARNED** ▪ **UNBILLED UNEARNED** ▪ **PREV BILLED EARNED**	**BILLED**
Resource	The resource affected by the G/L debit and credit account entries.	**All Resources**, **All Currencies**, **ALL Non-Currencies**, or individual resources set up for your BRM database. The parameter value list might not include all the resource names stored in your BRM database. To add resource names to this list, see "Adding Parameters in BI Publisher".	**All Resources**
G/L Attribute	The G/L account pair attribute you want to display report data for. See "About G/L IDs" in *BRM Collecting General Ledger Data*.	**ALL**, **NET**, **DISC**, **TAX**, or **GROSS**	**ALL**
G/L Segment	The G/L segment you want to run the report for. See "About Collecting G/L Data for Brands or Selected Accounts" in *BRM Collecting General Ledger Data*.	The G/L segment you specified when you ran **pin_ledger_report**.	A period (**.**), which means to run the report with the default BRM G/L segment value. If you did not use the default G/L segment to run **pin_ledger_report**, make sure you enter the value you did use.
G/L ID	The general ledger ID value that maps to G/L debit and credit accounts.	Any G/L ID set up for your BRM database or **ALL**. The parameter value list might not include all the G/L IDs stored in your BRM database. To add G/L IDs to this list, see "Adding Parameters in BI Publisher". To list all the G/L IDs in your database, run the **GLAccounts** report.	**ALL**

Product Revenue Report

The Product Revenue report (**ProductRevenue.rtf**) shows revenue by product for a time period you specify. It shows the gross and net revenue and the discount (if any) for each product. You do not need to assign G/L ID to your products to include them in this report.

Note: This report shows the total revenue for each product, but it does not show which part of the revenue is earned and which is unearned. To see that, you must assign G/L IDs to the products and run a General Ledger Detail report. See "About G/L IDs" in *BRM Collecting General Ledger Data*.

The **ProductRevenue** report includes a six-section pie chart. Each of the top five revenue-making products is represented by one of the pie sections. The sixth section represents the revenue attributed to the rest of the products. This report produces a pie chart for each reported currency (US Dollar, euro, and so on).

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\ProductRevenue\ProductRevenue.xdo**

ProductRevenue Parameters

You can change the following parameters to modify the output of the **ProductRevenue** report:

- Include Chart
- Country
- State
- Product
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–25, see "Understanding the Standard Parameters".

Table 5–25 Product Revenue Report Parameters

Parameter	Description	Valid Values	Default Value
Product	The name of the product whose revenue you want to show.	Any valid product name or **ALL** The parameter value list might not include all the product names stored in your BRM database. To add product names to this list, see "Adding Parameters in BI Publisher".	**ALL**

Miscellaneous Adjustments Reports

The miscellaneous adjustments reports display miscellaneous adjustments only; they do not show A/R adjustments. (You can see A/R adjustments for accounts by using

Customer Center.) You can generate summary reports (see "Miscellaneous Adjustments Summary Report") or detail reports (see "Miscellaneous Adjustments Detail Report"). The only difference between these two reports is that the detail report includes event data, showing every adjustment rather than just the total amount adjusted for each account. You can use these reports to track the activity of CSRs and to see what resources they are adjusting.

Miscellaneous Adjustments Summary Report

The Miscellaneous Adjustments Summary report (**MASummary.rtf**) displays the adjusted resources, amount credited or debited, and net change for the time period you select. CSR information is obtained by determining the session in which the adjustment event occurred and then getting the service login (the CSR's login name) used for that session. You can include a pie chart in this report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\MASummary\MASummary.xdo**

MASummary Parameters

You can change the following parameters to modify the output of the **MASummary** report:

- State Details
- Include Chart
- Country
- State
- Billing Type
- Account Status
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For parameter descriptions, see "Understanding the Standard Parameters".

Miscellaneous Adjustments Detail Report

The Miscellaneous Adjustments Detail report (**MADetail.rtf**) expands the **MASummary** report by displaying each adjusted account, including the account number, the adjustments made to the account during the specified time period, the date of each adjustment, the reason for the adjustment, and the CSR who made the adjustment.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\MADetail\MADetail.xdo**

MADetail Parameters

You can change the following parameters to modify the output of the **MADetail** report:

- State Details
- Country
- State
- Billing Type
- Account Status
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

To add the Promotion Code and Software Package parameters to this report, see "Adding Promotion Code and Software Package Parameters".

For parameter descriptions, see "Understanding the Standard Parameters".

Tax Reports

The following reports display taxation information for the United States and Canada:

- The "Tax Jurisdiction Summary Report" shows the total amount of city, county, state, *or* Federal sales tax by jurisdiction for items billed during a specified time period.
- The "Tax Jurisdiction Detail Report" expands the summary report by displaying subordinate bill unit data.
- The "Summary of All Taxes Report" shows the sum of all city, county, state, *and* Federal sales taxes for items billed during a specified time period.
- The "Tax Exempt Accounts Report" displays tax exemption information for all tax-exempt accounts.

These reports show data for billed events only.

Some of these reports show secondary city, county, and Federal taxes. (Secondary taxes are applied when more than one entity has tax jurisdiction.) If your tax calculation software supports different jurisdictions, you must customize the reports. In all the tax reports except Tax Exempt Accounts, taxes are grouped by tax supplier if you set the Tax Supplier Details parameter to **YES**.

Note: You must upload the **BIPTaxes.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

Tax Jurisdiction Summary Report

> **Note:** You must upload the **TaxJurSummary.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Tax Jurisdiction Summary report (**TaxJurSummary.rtf**) displays the gross sales, the amount of the gross that is tax exempt, the amount of the gross that is taxable, and the total city, county, state, *or* Federal sales tax for items billed during a specified time period. Taxes are grouped by jurisdiction. If you show tax supplier details, the report also groups the information by tax supplier. The **TaxJurSummary** report shows only parent account information; subordinate bill unit information is displayed in the **TaxJurDetail** report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\TaxJurSummary.source**

TaxJurSummary Parameters

You can change the following parameters to modify the output of the **TaxJurSummary** report:

- Country (either **US** for the United States or **CA** for Canada)
- State
- Federal, State, County, or City Tax
- Tax Supplier Details
- Tax Supplier
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–26, see "Understanding the Standard Parameters".

Table 5–26 Tax Jurisdiction Summary Report Parameters

Parameter	Description	Valid Values	Default Value
Federal, State, County, or City Tax	The tax jurisdiction: ▪ **FEDERAL** shows Federal taxes only. ▪ **STATE** shows state taxes and secondary state taxes. ▪ **COUNTY** shows county taxes and secondary county taxes. ▪ **CITY** shows city taxes and secondary city taxes.	**FEDERAL**, **STATE**, **COUNTY**, or **CITY**	**FEDERAL**
Tax Supplier Details	The parameter that determines whether taxes are sorted by tax supplier. Select **YES** to sort taxes by supplier.	**YES** or **NO**	**NO**
Tax Supplier	The supplier of a product, deal, or service.	Any valid tax supplier name or **ALL**	**ALL**

Tax Jurisdiction Detail Report

Note: You must upload the **TaxJurDetail.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Tax Jurisdiction Detail report (**TaxJurDetail.rtf**) displays tax information for items billed during a specified time period. This report expands the **TaxJurSummary** report by displaying subordinate bill unit data. You can use this report for auditing purposes.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\TaxJurDetail.source**

TaxJurDetail Parameters

You can change the following parameters to modify the output of the **TaxJurDetail** report:

- Country (either **US** for the United States or **CA** for Canada)
- State
- Federal, State, County, or City Tax
- Tax Supplier Details
- Tax Supplier
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–27, see "Understanding the Standard Parameters".

Table 5–27 Tax Jurisdiction Detail Report Parameters

Parameter	Description	Valid Values	Default Value
Federal, State, County, or City Tax	The tax jurisdiction: ▪ **Federal** shows Federal taxes only. ▪ **State** shows state taxes and secondary state taxes. ▪ **County** shows county taxes and secondary county taxes. ▪ **City** shows city taxes and secondary city taxes.	**FEDERAL**, **STATE**, **COUNTY**, or **CITY**	**FEDERAL**
Tax Supplier Details	The parameter that determines whether taxes are sorted by tax supplier. Select **YES** to sort taxes by supplier.	**YES** or **NO**	**NO**
Tax Supplier	The supplier of a product, deal, or service.	Any valid tax supplier name or **ALL**	**ALL**

Summary of All Taxes Report

Note: You must upload the **TaxAllSummary.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Summary of All Taxes report (**TaxAllSummary.rtf**) displays summary information for Federal, state, county, and city taxes. Secondary taxes for state, county, and city taxes are included. Individual account information is displayed, but item details are not available for this report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\TaxAllSummary.source**

TaxAllSummary Parameters

You can change the following parameters to modify the output of the **TaxAllSummary** report:

- State Details
- Country (either **US** for the United States or **CA** for Canada)
- State
- Tax Supplier Details
- Tax Supplier
- Start Date (date only, not date-time)

- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–28, see "Understanding the Standard Parameters".

Table 5–28 Summary of all Taxes Report Parameters

Parameter	Description	Valid Values	Default Value
Tax Supplier Details	The parameter that determines whether taxes are sorted by tax supplier. Select **YES** to sort taxes by supplier.	**YES** or **NO**	**NO**
Tax Supplier	The supplier of a product, deal, or service.	Any valid tax supplier name or **ALL**	**ALL**

Tax Exempt Accounts Report

Note: You must upload the **TaxExempt.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Tax Exempt Accounts report (**TaxExempt.rtf**) displays primary and secondary tax exemptions for Federal, state, county, and city taxes. All tax-exempt accounts in your BRM system are included in this report. For each account, the report shows the account number, customer name, and billing address. It then lists the account's tax exemption certificates, including each certificate's jurisdiction, exemption percentage, number, effective date, and expiration date. Expired certificates are flagged with an asterisk (*). Certificates that are not yet effective are flagged with a plus sign (+).

There are no start and end dates for this report.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\StoredProcedures\TaxExempt.source**

TaxExempt Parameters

You can change the following parameters to modify the output of the **TaxExempt** report:

- State Details
- Country
- State
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

See "Understanding the Standard Parameters" for parameter descriptions.

Other Reports

These reports help you track the following information:

- Elements in your price list, including plans, deal, products, rates, and tiers. See the "Price List Report".
- Payments owed to each remittance account in your BRM system. See the "Remittance Report".

Price List Report

The Price List report (**PriceList.rtf**) shows a detailed outline of all the elements in a price list, including plans, deal, products, rates, and tiers. This report provides a convenient way to examine the structure and content of a price list without using Pricing Center. In addition, this report has a more readable format than the report generated by the Pricing Center **Print** command.

> **Note:** You cannot use this report to print the contents of an IPL file that has not been committed to your BRM database. To print the contents of an uncommitted IPL file, see the Pricing Center Help.

For information on price lists, see "About Creating a Price List" in *BRM Setting Up Pricing and Rating*.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\PriceList\PriceList.xdo**

Remittance Report

The Remittance report (**Remittance.rtf**) lists the remittance owed to each remittance account in your BRM system.

> **Important:** Before running the **Remittance** report, you must run the **pin_remittance** utility. See "pin_remittance" in *BRM Configuring and Running Billing* to populate the BRM database with data required by the **Remittance** report. The time period covered by the report should match the period covered by one or more runs of **pin_remittance**.

> **Caution:** Do not run this report in a multischema environment. If you do, it might be inaccurate. For more information, see "Creating Remittance Reports" in *BRM Configuring and Running Billing*.

For information on the BRM remittance feature, see "Remitting Funds to Third Parties" in *BRM Configuring and Running Billing*.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Base BRM Reports\Remittance\Remittance.xdo**

Remittance Parameters

You can change the following parameters to modify the output of the **Remittance** report:

- Account Number
- Country
- State
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 5–29, see "Understanding the Standard Parameters".

Table 5–29 Remittance Report Parameters

Parameter	Description	Valid Values	Default Value
Account Number	The number of the remittance account whose payments you want to show in the report. **Note**: Remittance accounts do not make payments; they receive payments. The payments shown in this report are payments you make to third parties.	Any valid remittance account number or **ALL**	**ALL**

6

Collections Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support Collections Manager, an optional component that you use to manage in-house debt collections.

Important: Collections is an optional feature that requires a separate license.

You can use these reports to manage collections information for accounts that are in collections and those that are exempt from collections.

For information about Collections, see "Understanding Collections Manager" in *BRM Collections Manager*.

For general information on how to run reports, see "Running BRM Reports".

Collection Report

The Collection report (**Collection.rtf**) shows information about all accounts that BRM has identified as being in collections for the specified time period. It groups information by a collections profile. These profiles are used only for collections and are not the same as the customer profiles that can be displayed in Customer Center.

You can generate two versions of the Collection report. The value you select in the Report Type parameter determines which subreport is used to generate the report.

- If you set Report Type to **SUMMARY**, the report shows billinfo status, number of accounts, delinquent amount, and total account balance without disclosing specific account information. For more information, see "Collection Summary Report".
- If you set Report Type to **DETAIL**, the report shows account number, account name, billinfo status, date the action is due, delinquent amount, and balance for each account. For more information, see "Collection Detail Report".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Collections Reports\Collection\Collection.xdo**

Collection Summary Report

This report groups accounts in collections by Scenario Name, Resource, and Action.

The report shows the following information:

- **BillInfo Status**: The current bill unit status, such as active.

- **Number of Accounts**: The number of accounts in each BillInfo status category.
- **Delinquent Amount**: The amount that is overdue.
- **Balance**: The total account balance, including the delinquent amount.
- **Scenario Name**: The scenario name.
- **Resource**: The currency resource, such as US Dollar.
- **Action**: The collection action name.
- **Profile Name**: The collection profile name.
- **Bill Unit**: The name of the bill unit, such as US Dollar.

No charts are available for this report.

> **Note:** The Collection summary report displays all the data even if you set a filter on any of the parameters.

Collection Summary Parameters

You can change the following parameters to modify the output of the **Collection** summary report:

- Report Type
- Resource
- Billinfo Status
- Scenario
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

For information on parameters not described in Table 6–1, see "Understanding the Standard Parameters".

Table 6–1 Collections Summary Parameters

Parameter	Description	Valid values	Default value
Report Type	The type of information you want to show in the report: **SUMMARY** shows the total number of accounts and the amount in the specified collections scenario without disclosing specific account information. **DETAIL** specifies the account number, customer name, other account details, and the amount in the specified collections action.	**SUMMARY** or **DETAIL**.	**SUMMARY**.
Resource	The account currency.	Any valid ISO currency code in the CONFIG_BEID_BALANCES_T table or **ALL**. The parameter list might not include all the currency codes in your BRM database. To add currency codes to the list, see "Adding Parameters in BI Publisher".	**ALL**
Scenario	The collection state or risk that the customer is assigned to.	Select **ALL** or enter the name of any valid scenario. To check the spelling of a scenario, see the NAME field in the CONFIG_COLLECTIONS_SCENARIO_T table.	**ALL**
Bill Unit Status	The bill status.	Select **ALL** or enter the name of any valid status.	**ALL**
Bill Unit	The bill unit name.	Select **ALL** or enter the name of any valid bill unit. To check the spelling of the bill unit, see the BILL_INFO_ID field in the BILLINFO_T table.	**ALL**
Bill Day	Range of bill day.	Select the range from 1 to 28 and also the selected days only.	**None**
Days Overdue	Range of days overdue.	Select the range of days due or selected number of days overdue.	**None**
Profile	Profile name associated with the bill.	Select **ALL** or enter the name of any valid profile. To check the spelling of a scenario, see the PROFILE_NAME field in the CONFIG_COLLECTIONS_PROFILE_T table.	**ALL**
Amount Due	The amount due to the bill.	Select the range of amount or selected amount overdue.	**None**

Collection Detail Report

This report groups accounts in collections by Scenario Name, Resource, and Action.

The report shows the following information:

- **Account Number**: The customer's account number.
- **Account Name**: The customer's name on the account.
- **BillInfo Status**: The current BillInfo status, such as active. (If the BillInfo status parameter is not set to **ALL**, this information is not displayed.)
- **Date Action Due**: The date that the action is due.
- **Delinquent Amount**: The amount that is overdue.
- **Balance**: The total account balance, including the delinquent amount.
- **Resource**: The currency resource, such as US Dollar.
- **Action**: The collection action name.
- **Profile Name**: The collection profile name.
- **Bill Unit**: The name of the bill unit, such as US Dollar.
- **Days Overdue**: The number of days the bill is overdue.

No charts are available for this report.

Collection Detail Parameters

You can change the following parameters to modify the output of the **Collection** detail report:

- Report Type
- Resource
- BillInfo Status
- Scenario
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

For information on parameters not described in Table 6–2, see "Understanding the Standard Parameters".

Table 6–2 Collection Detail Parameters

Parameter	Description	Valid values	Default value
Report Type	The type of information you want to show in the report: **SUMMARY** shows the total number of accounts and the amount in the specified collections scenario without disclosing specific account information. **DETAIL** specifies the account number, customer name, other account details, and the amount in the specified collections action.	**SUMMARY** or **DETAIL**	**SUMMARY**
Resource	The account currency.	Any valid ISO currency code in the CONFIG_BEID_BALANCES_T table or **ALL** The parameter list might not include all the currency codes in your BRM database. To add currency codes to the list, see "Adding Parameters in BI Publisher".	**ALL**
Scenario	The collection state or risk that the customer is assigned to.	Select **ALL** or enter the name of any valid scenario. To check the spelling of a scenario, see the NAME field in CONFIG_COLLECTIONS_SCENARIO_T table.	**AL**L
Bill Unit Status	The bill status.	Select **ALL** or enter the name of any valid status.	**ALL**
Bill Unit	The bill unit name.	Select **ALL** or enter the name of any valid bill unit. To check the spelling of the bill unit, see the BILL_INFO_ID field in the BILLINFO_T table.	**ALL**
Bill Day	Range of bill day.	Select the range from 1 to 28 and also the selected days only.	**None**
Days Overdue	Range of days overdue.	Select the range of days due or selected number of days overdue.	**None**
Profile	Profile name associated with the bill.	Select **ALL** or enter the name of any valid profile. To check the spelling of a scenario, see the PROFILE_NAME field in the CONFIG_COLLECTIONS_PROFILE_T table.	**ALL**
Amount Due	The amount due to the bill.	Select the range of amount or selected amount overdue.	**None**

CollectionExemptBillinfo Report

The **CollectionExemptBillinfo** report (**CollectionExemptBillinfo.rtf**) shows the accounts that are exempt from collections, such as accounts for employees. The report includes the current balance due for exempt accounts.

You can generate two versions of the **CollectionExemptBillinfo** report. The value you select in the Report Type parameter determines which subreport is used to generate the report.

- If you set Report Type to **SUMMARY**, the report shows the total number of accounts and the amount for accounts that have the specified status without disclosing account information. For more information, see "CollectionExemptBillinfo Summary Report".
- If you set Report Type to **DETAIL**, the report shows details such as the customer's name and account number. For more information, see "CollectionExemptBillinfo Detail Report".

You can find the SQL query for this report in the following file:

*Local_drive:\BIP_Home***xmlp\XMLP\Reports\BRM Reports\Collections Reports\CollectionExemptBillinfo\CollectionExemptBillinfo.xdo**

CollectionExemptBillinfo Summary Report

This report groups billinfo status by resource.

For each account, the report shows the following information:

- **BillInfo Status**: The current bill unit, such as active.
- **Number of Accounts**: The number of exempt accounts in each billinfo status category.
- **Balance**: The total account balance.

No charts are available for this report.

CollectionExemptBillinfo Summary Parameters

You can change the following parameters to modify the output of the **CollectionExemptBillinfo** summary report:

- Report Type
- Resource
- BillInfo Status

For information on parameters not described in Table 6–3, see "Understanding the Standard Parameters".

Table 6–3 CollectionExemptBillinfo Summary Parameters

Parameter	Description	Valid values	Default value
Report Type	The type of information you want to show in the report: **SUMMARY** shows the total number of accounts and the amount in the specified collections scenario without disclosing specific account information. **DETAIL** specifies the account number, customer name, other account details, and the amount in the specified collections action.	**SUMMARY** or **DETAIL**	**SUMMARY**
Resource	The account currency.	Any valid ISO currency code in the CONFIG_BEID_BALANCES_T table or **ALL** The parameter list might not include all the currency codes in your BRM database. To add currency codes to the list, see "Adding Parameters in BI Publisher".	**ALL**
Bill Unit Status	The Bill Status	Select All or enter the name of any valid Status.	**ALL**

CollectionExemptBillinfo Detail Report

This report groups accounts by resource and billinfo status.

For each account, the report shows the following information:

- **Account Number**: The customer's account number.
- **Account Name**: The customer's name on the account.
- **Balance**: The total account balance.

No charts are available for this report.

CollectionExemptBillinfo Detail Parameters

You can change the following parameters to modify the output of the **CollectionExemptBillinfo** detail report:

- Report Type
- Resource
- Billinfo Status

For information on parameters not described in Table 6–4, see "Understanding the Standard Parameters".

Table 6–4 CollectionExemptBillinfo Detail Parameters

Parameter	Description	Valid values	Default value
Report Type	The type of information you want to show in the report: **SUMMARY** shows the total number of accounts and the amount in the specified collections scenario without disclosing specific account information. **DETAIL** specifies the account number, customer name, other account details, and the amount in the specified collections action.	**SUMMARY** or **DETAIL**	**SUMMARY**
Resource	The account currency.	Any valid ISO currency code in the CONFIG_BEID_BALANCES_T table or **ALL** The parameter list might not include all the currency codes in your BRM database. To add currency codes to the list, see "Adding Parameters in BI Publisher".	**ALL**
Bill Unit Status	The Bill Status	Select All or enter the name of any valid Status.	**ALL**

7

Content Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support Content Manager, an optional component you use to bill customers for purchased content. See "Understanding Content Manager" in *BRM Content Manager*.

> **Important:** Content Manager is an optional component, not part of base BRM.

For general information on how to run reports, see "Running BRM Reports".

Billing Provider Report

> **Note:** You must upload the **BillingProvider.source** file that is in the **StoredProcedures** folder to the database after the Content Manager reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Billing Provider report (**BillingProvider.rtf**) shows customer content usage by category, charges incurred for content usage, and amount to remit to content providers for content purchased by their customers.

> **Caution:** Do not run this report in a multischema environment. If you do, it might be inaccurate. For more information, see "Creating Content Manager Reports" in *BRM Content Manager*.

When the Account Details parameter is set to **NO**, the **BillingProvider** report shows data only for states or countries, but not for individual accounts.

No charts are available for this report.

For each content provider, the report shows the following information:

- **Content Category**: Any type of information distributed through the Internet or other electronic media.
- **Quantity**: Depending on the type of content, this could be the number of sessions or units of service.

- **Charged Amount**: Charges incurred by customers for purchased content.
- **Remittance Info**: The amount you need to remit to the content provider for content purchased by their customers.

The information in this report is grouped by content provider.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Content_Manager_Reports\StoredProcedures\BillingProvider.source**

BillingProvider Parameters

You can change the following parameters to modify the output of the **BillingProvider** report:

- Content Provider
- State Details
- Account Details
- Account Number
- Country
- State
- Start Date
- End Date

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 7–1, see "Understanding the Standard Parameters".

Table 7–1 BillingProvider Parameters

Parameter	Description	Valid Values	Default Value
Content Provider	The supplier of a session or service.	Select **ALL**, or enter the name of any valid content provider. To check the spelling of a content provider name, see the CONTPROVIDER field in the EVENT_ACT_CONTENT_T table.	**ALL**

Content Provider Report

Note: You must upload the **ContentProvider.source** file that is in the **StoredProcedures** folder to the database after the Content Manager reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Content Provider report (**ContentProvider.rtf**) shows content usage by category and the amount to remit to the content provider. This report is a statement for your content providers that shows purchased content and amount to remit.

Caution: Do not run this report in a multischema environment. If you do, it might be inaccurate. For more information, see "Creating Content Manager Reports" in *BRM Content Manager*.

When the Session Details parameter is set to **NO**, the **ContentProvider** report shows only the total quantity of the content category.

No charts are available for this report.

When you generate the **ContentProvider** report, the first section of the report always shows the total amount to remit to *all* content providers, whether you select **ALL** or enter the name of a content provider.

The second section lists details about each content provider. Each provider's information starts on a new page. You can use the pages of this section as statements to send to your content providers.

For each content provider, the report shows the following information:

- **Content Category**: Any type of information distributed through the Internet or other electronic media.
- **Quantity**: Depending on the type of content, this could be the number of sessions or units of service.
- **Remittance Info**: The amount you need to remit to the content provider for the content purchased by their customers.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Content_Manager_Reports\StoredProcedures\ContentProvider.source**

ContentProvider Parameters

You can change the following parameters to modify the output of the **ContentProvider** report:

- Content Provider
- Session Details
- Start Date
- End Date

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 7–2, see "Understanding the Standard Parameters".

Table 7–2 ContentProvider Parameters

Parameter	Description	Valid Values	Default Value
Content Provider	The supplier of a session or service.	Select **ALL**, or enter the name of any valid content provider. To check the spelling of a content provider name, see the CONTPROVIDER field in the EVENT_ACT_CONTENT_T table.	**ALL**
Session Details	The session date, session time, user ID, and quantity of each session. Select **YES** to display this information.	**YES** or **NO**	**NO**

8

Number Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support Number Manager, an optional component that you use to create and manage telephone numbers. Number Manager supports Global System for Mobile communications (GSM) wireless telephony services. See "About Managing Telephone Numbers" in *BRM Telco Integration*.

> **Important:** Number Manager is an optional component, not part of base BRM.

For general information on how to run reports, see "Running BRM Reports".

Number Inventory Management Report

> **Note:** You must upload the **NumberInventoryMgmt.source** file that is in the **StoredProcedures** folder to the database after the base reports are installed. For more information about loading stored procedures see "Loading Stored Procedures".

The Number Inventory Management report (**NumberInventoryMgmt.rtf**) tracks number inventory and information relating to tracking telephone numbers. The value you select in the Report Type parameter determines what information about your telephone number inventory is shown.

- When Report Type is set to **NUMBER CATEGORY**, the report shows a summary of the status of telephone numbers within a block of numbers. For more information, see "Report Type set to NUMBER CATEGORY".
- If Report Type is set to **VANITY NUMBER**, the report shows telephone numbers with a vanity type applied to the number. For more information, see "Report Type set to VANITY NUMBER".

The default value for the Report Type parameter is **NUMBER CATEGORY**.

You can also change the Start Date and End Date parameters to modify the output of the **NumberInventoryMgmt** report. For information on these parameters, see "Understanding the Standard Parameters".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Number Manager Reports\StoredProcedures\NumberInventoryMgmt.source**

Report Type set to NUMBER CATEGORY

The **NumberInventoryMgmt** report with Report Type set to **NUMBER CATEGORY** groups telephone numbers by the following:

- **Number Block**: This is a block of telephone numbers that share the same block name, telephone number attributes, and brand.
- **Brand**: The name of the brand that has the block of telephone numbers. This can be your company or a branded service provider. Brand Manager is an optional component, not part of base BRM.

  For information on brands, see "About Branding" in *BRM Managing Customers*.
- **Status**: This is the status of the telephone number.

No charts are available for this report.

Report Type set to VANITY NUMBER

The **NumberInventoryMgmt** report with Report Type set to **VANITY NUMBER** groups the phone numbers by the following:

- **Number Block**: This is a block of telephone numbers that share the same block name, telephone number attributes, and brand.
- **Brand**: The name of the brand that has the block of telephone numbers. This can be your company or a branded service provider. Brand Manager is an optional component, not part of base BRM.

  For information on brands, see "About Branding" in *BRM Managing Customers*.
- **Vanity Type**: This is the vanity type applied to the block of numbers.
- **Status**: This is the status of the telephone number.

No charts are available for this report.

9

Revenue Assurance Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support Revenue Assurance Manager, which you use to collect revenue assurance data generated by running billing or the processing event data records (EDRs) through the pipeline.

For general information on how to run reports, see "Running BRM Reports".

For information about Revenue Assurance Manager, see "Understanding Revenue Assurance Manager" in *BRM Collecting Revenue Assurance Data*.

Revenue Assurance Rating Summary Report

Note: You must upload the **RevAssuranceRating.source** file that is in the **StoredProcedures** folder to the database after the report is installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Revenue Assurance Rating Summary report (**RevAssuranceRatingSummary.rtf**) shows revenue assurance data collected from pipeline rating. This report returns information for a specified time period.

There are different subreports created for different rating **/process_audit** objects.

The SQL query for this report is in the *BIP_Home***xmlp\XMLP\Reports\BRM Reports\Revenue Assurance Reports\StoredProcedures\RevAssuranceRating.source** file, where *BIP_Home* is the directory in which Oracle Business Intelligence (BI) Publisher is installed.

No charts are available for this report.

Revenue Assurance Rating Summary Report Parameters

You can change the following parameters to modify the output of the Revenue Assurance Rating Summary report:

- Start Date (process start date or date-time)
- End Date (process end date or date-time)
- Trans Start Date (transaction start date or date-time)
- Trans End Date (transaction end date or date-time)
- Flow

- Control Point
- Service Type

> **Note:** If you want to generate a report for the service types that are not in the list of the default service types, add the service type in the list of values in BI Publisher. For more information on adding the list of values, see the BI Publisher documentation.

- Batch Type

For information on parameters not described in Table 9–1, see "Understanding the Standard Parameters".

Table 9–1 Revenue Assurance Rating Summary Parameters

Parameter	Description	Valid Values
Flow	A collection of linked control points in a pipeline. For details, see "About Flows" in *BRM Collecting Revenue Assurance Data*.	Any valid flow name. Default: not specified
Control point	An instance of FCT_AggreGate that you configure in your pipeline to collect revenue assurance data. For details, see "About Control Points" in *BRM Collecting Revenue Assurance Data*. For example, CP_Afterrating.	Any valid control point names or **ALL**. Default: **ALL**
Service Type	A commodity sold by your company and that your customers can purchase and use. For example, SMS or TEL.	Any valid service type names. Default: not specified
Batch Type	The type of batch that the EDRs belong to. ■ **0** for normal ■ **1** for rerating ■ **2** for recycling ■ **3** for write-off	The batch type numbers. Default: not specified

Revenue Assurance Rating Detail Report

> **Note:** You must upload the **RevAssuranceRating.source** file that is in the **StoredProcedures** folder to the database after the report is installed. For more information about loading stored procedures, see "Understanding the Standard Parameters".

The Revenue Assurance Rating Detail report (**RevAssuranceRatingDetail.rtf**) shows detailed statistics for the revenue assurance data collected from pipeline rating. By default, the statistics are organized by EDR status. For each status, this report displays the following:

- Volume sent
- Volume received

The SQL query for this report is in the *BIP_Home***xmlp\XMLP\Reports\BRM Reports\Revenue Assurance**

Reports\StoredProcedures\RevAssuranceRating.source file, where *BIP_Home* is the directory in which BI Publisher is installed.

No charts are available for this report.

Revenue Assurance Rating Detail Parameters

You can change the following parameters to modify the output of the Revenue Assurance Rating Detail report:

- Start Date (process start date or date-time)
- End Date (process end date or date-time)
- Trans Start Date (transaction start date or date-time)
- Trans End Date (transaction end date or date-time)
- Flow
- Control Point
- Service Type
- Batch Type
- Batch ID
- Successful records
- Failed records
- Written Off records
- Dynamic Data
- Revenue Assurance Scope

For information on parameters not described in Table 9–2, see "Understanding the Standard Parameters".

Table 9–2 Revenue Assurance Rating Detail Parameters

Parameter	Description	Valid Values
Flow	A collection of linked control points in a pipeline. For example, Flow1. **Important**: This field is mandatory.	Any valid flow name. Default: not specified
Control point	An instance of FCT_AggreGate that you configure in your pipeline to collect revenue assurance data. For example, CP_Afterrating. **Important**: This field is mandatory.	Any valid control point names or **ALL**. Default: **ALL**
Service Type	A commodity sold by your company and that your customers can purchase and use. For example, SMS or TEL.	Any valid service type names. Default: not specified
Batch Type	The type of batch that the EDRs belong to. ■ **0** for normal ■ **1** for rerating ■ **2** for recycling ■ **3** for write-off	The batch type numbers. Default: not specified

Table 9–2 (Cont.) Revenue Assurance Rating Detail Parameters

Parameter	Description	Valid Values
Batch ID	Batch ID of the EDRs. For example, MED1 or MED2. **Important**: This field is mandatory.	Any valid batch ID. Default: not specified
Successful Records	The status of successful EDRs.	The name given to define the successful EDRs in pipeline rating. Default: **Successful**
Failed Records	The status of failed EDRs.	The name given to define the failed EDRs in pipeline rating. Default: **Suspense**
Written Off Records	The status of written-off EDRs.	The name given to define the written-off EDRs in pipeline rating. Default: **Written-off**
Dynamic Data	Determines whether the revenue assurance data is dynamic or static. Select **YES** to show dynamic data. Select **NO** to display static data. The static data displays data on the call data records (CDRs) rated from the mediation batches. The dynamic data displays data on the CDRs that are rejected, recycled, or rerated.	**YES** or **NO**. Default: **NO**
Revenue Assurance Scope	Refers to the Batch Type parameter.	Batch rating or rerating. Default: not specified

Revenue Assurance Billing Summary Report

Note: You must upload the **RevAssuranceBilling.source** file that is in the **StoredProcedures** folder to the database after the report is installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Revenue Assurance Billing Summary report (**RevAssuranceBillingSummary.rtf**) shows summary information on the revenue assurance data collected from billing for a specified time period.

The report shows the number of successfully billed records, the number of records that failed to be billed, and the revenue associated with successfully billed records.

Depending on the parameters you select for the report, the report can also categorize and display revenue data by the billing day of month (DOM) and the billing segment and show the count of bills suppressed, the revenue associated with suppressed bills, and the accounts that failed to be billed and their associated error codes.

Note: A summary of the revenue assurance data collected from billing by billing segments is available from control points in **pin_bill_accts** only.

The SQL query for this report is in the *BIP_Home***xmlp\XMLP\Reports\BRM Reports\Revenue Assurance Reports\StoredProcedures\RevAssuranceBilling.source** file, where *BIP_Home* is the directory in which BI Publisher is installed.

No charts are available for this report.

Revenue Assurance Billing Summary Report Parameters

You can change the following parameters to modify the output of the Revenue Assurance Billing Summary report:

- Start date (date or date-time)
- End date (date or date-time)
- Control Point
- DOM
- Segment
- Billing method
- Split method

For information on parameters not described in Table 9–3, see "Understanding the Standard Parameters".

Table 9–3 Revenue Assurance Billing Summary Parameters

Parameter	Description	Valid Values
Control Point	The billing utilities that collect the revenue assurance data.	Any one of the following values: ■ **Invoice Generated** ■ **Revenue Collected** ■ **Scheduled Deferrals Executed** ■ **Cycle Fees Generated** ■ **NONE** **Note** ■ The report header will display **Control Point** only if the value selected is not NONE. ■ If the value selected is not **NONE**, the values of Billing Method, Split Method, and DOM are irrelevant. Default: **NONE**
DOM	The day of the month on which billing is run. This parameter is required when you display split revenue assurance data in the report (when the value of the **Split method** parameter is **1**). **Note:** If the value of the **Split method** parameter is **0**, the **DOM** value is ignored because the DOM is always specified as **0** in revenue assurance objects that do not contain split data. For more information, see "About the Split Method Parameter".	For a specific DOM, from **0** to **31**. Default: **0**

Table 9–3 (Cont.) Revenue Assurance Billing Summary Parameters

Parameter	Description	Valid Values
SEGMENT	The billing segment for which billing is run. This parameter is required when you display split revenue assurance data in the report (when the value of the **Split method** parameter is **1**). **Note:** If the value of the **Split method** parameter is **0**, the **SEGMENT** value is ignored because the billing segment is always specified as **0** in revenue assurance objects that do not contain split data. For more information, see "About the Split Method Parameter".	Any numeric value that represents a specific billing segment. Default: **0**
Billing method	The billing method for which billing is run.	Any one of the following values: ▪ **Regular** ▪ **Trial** ▪ **Bill Now** ▪ **Bill on demand** ▪ **Auto Triggered** ▪ **All out of cycle bills** ▪ **ALL** (includes all billing methods *except* **Trial**.) Default: **Regular**
Split method	Specifies whether to collect summary data from revenue assurance objects that contain or do not contain split revenue assurance data: ▪ If billing method is **Bill Now**, **Bill on demand**, **Auto Triggered**, or **All out of cycle bills**, specify **1** as the split method. These billing methods all contain split revenue assurance data. ▪ If billing method is **Regular**, **Trial**, or **ALL**, you can specify either **1** or **0**. For more information, see "About the Split Method Parameter".	▪ **0** - Collects summary data only from revenue assurance objects that do not contain split data. ▪ **1** - Collects summary data only from revenue assurance objects that contain split data. **Note:** For summary reports from all revenue assurance objects, with and without split data, generate two reports: one for each **Split method** value. Default: **1**

About the Split Method Parameter

When billing generates revenue assurance data that is split into detailed categories, the split data (along with other revenue assurance data) is stored in the revenue assurance objects (**/process_audit/billing** objects).

Split revenue details have been stored in revenue assurance objects starting with Revenue Assurance Manager release 3.0. Revenue assurance objects prior to this release do not contain split revenue details.

The **Split method** parameter specifies whether to collect summary data from revenue assurance objects that contain split revenue assurance data or do not contain split revenue assurance data. BRM uses this parameter to determine whether it needs to filter the split data to report only summary data.

The **Split method** parameter can take one of these values, which you specify when running the report:

- Select **1** to collect summary data only from revenue assurance objects that contain split data.

If you select **1** as the split method, the summary report categorizes and displays the data by the billing day of month (DOM) and billing segment, which you specify as report parameters.

Note:

- If you ran billing or trial billing for a limited number of accounts and bill units, the summary report does not categorize the data by segment and DOM and displays **0** for the segment and DOM values. This is because BRM can retrieve the accounts and bill units directly and does not use the segment or DOM for searching the database.
- You run billing or trial billing for a limited number of accounts by specifying the **-file** parameter when you run the **pin_bill_accts** utility or by specifying the **-f** or **-f_control** parameter when you run the **pin_trial_bill_accts** utility. For more information, see "Billing Only Specified Accounts and Bill Units" and "Running Trial Billing" in *BRM Configuring and Running Billing*.

When **Split method** is **1**, the following information is included in the summary report:

- The number of successfully billed accounts.
- The number of accounts that failed to be billed.
- The total revenue associated with successfully billed accounts.
- The count of suppressed bills.
- The revenue associated with suppressed bills.
- The accounts and bill units that failed to be billed and their associated error codes.

- Select **0** to collect summary data only from revenue assurance objects that do not contain split data.

  If you select **0** as the split method, the summary report does not categorize the data by DOM and billing segment. This is because the value of the DOM and billing segment are always 0 in revenue assurance objects that do not contain split data.

  When **Split method** is **0**, the following information is displayed in the report:

  - The number of successfully billed accounts.
  - The number of accounts that failed to be billed.
  - The total revenue associated with successfully billed accounts.
  - The accounts and bill units that failed to be billed and their associated error codes.

The Revenue Assurance Billing Summary report will be blank in the following cases:

- You select **0** and all revenue assurance objects contain split data.
- You select **1** and no revenue assurance objects contain split data.

If you have some revenue assurance objects that contain split data and some that do not contain split data, you can generate a summary for all revenue assurance objects by running the summary report twice: once for each **Split method** value.

Revenue Assurance Billing Detail Report

Note: You must upload the **RevAssuranceBilling.source** file that is in the **StoredProcedures** folder to the database after the report is installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The Revenue Assurance Billing Detail report (**RevAssuranceBillingDetail.rtf)** shows detail information on the revenue assurance data collected from the billing utilities for a specific or a range of DOMs and segment values for a specified time period.

The report shows the DOM, segment, error accounts, error code associated with error accounts, successfully billed records, failed billed records, revenue associated with successfully billed records split by the item and service type, count of bills suppressed, and revenue associated with suppressed bills.

Note: Summary of the revenue assurance data collected from billing (for example, number of records billed or number of records failed) by billing segment is available for **pin_bill_accts** (anticipated revenue) control points only.

The SQL query for this report is in the *BIP_Home***xmlp\XMLP\Reports\BRM Reports\Revenue Assurance Reports\StoredProcedures\RevAssuranceBilling.source** file, where *BIP_Home* is the directory in which BI Publisher is installed.

No charts are available for this report.

Revenue Assurance Billing Detail Report Parameters

You can change the following parameters to modify the output of the Revenue Assurance Billing Detail report:

- Start Date (date or date-time)
- End Date (date or date-time)
- DOM
- Segment
- Billing method

For information on parameters not described in Table 9–4, see "Understanding the Standard Parameters".

Table 9–4 Revenue Assurance Billing Detail Parameters

Parameter	Description	Valid Values
DOM	The date of the month on which billing is run.	From 1 to 31. Default: not specified
Segment	The billing segment for which billing is run.	Any numeric value. Default: not specified
Billing method	The billing method for which billing is run.	Any one of the following values: ▪ **Regular** ▪ **Trial** ▪ **Bill Now** ▪ **Bill on demand** ▪ **Auto Triggered** ▪ **All out of cycle bills** ▪ **ALL** (includes all billing methods *except* **Trial**.) Default: **Regular**

10

SIM Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support SIM Manager, an optional component that you use to create and manage SIM cards. SIM Manager supports Global System for Mobile communications (GSM) wireless telephony services. See "About Managing SIM Card Inventory" in *BRM Telco Integration*.

> **Important:** SIM Manager is an optional component, not part of base BRM.

For general information on how to run reports, see "Running BRM Reports".

SIM Order Management Report

The SIM Order Management report (**SIMOrderMgmt.rtf**) shows the order status for a batch of SIM cards. It tracks each order from the time the order is placed until it is received.

No charts are available for this report.

For each SIM card order, the report shows the following information:

- **Order Number**: The number assigned to a particular order.
- **Order Status**: The status of the order.
- **Order Date**: The date the order was placed.
- **Brand**: The name of the brand that ordered the SIM cards. This can be your company or a branded service provider. Brand Manager is an optional component, not part of base BRM.

  For information on brands, see "About Branding" in *BRM Managing Customers*.
- **Quantity Ordered**: The amount of SIM cards ordered.
- **Quantity Received**: The number of SIM cards received.

You can find the SQL query for this report in the following file:

*Local_drive:\BIP_Home***xmlp\XMLP\Reports\BRM Reports\SIM Card Manager Reports\SIMOrderMgmt\SIMOrderMgmt.xdo**

SIMOrderMgmt Parameters

You can change the following parameters to modify the output of the **SIMOrderMgmt** report:

- Order Number
- Order Status
- Brand
- Start Date
- End Date

For information on parameters not described in Table 10–1, see "Understanding the Standard Parameters".

Table 10–1 SIMOrderMgmt Parameters

Parameter	Description	Valid values	Default value
Order Number	The number assigned to a particular order.	Enter **ALL** or a specific order number.	**ALL**
Order Status	The status of the order.	Any valid order status name or **ALL**. For a list of valid order status names, see "About Managing Orders" in *BRM Telco Integration*.	**ALL**

SIM Card Inventory Management Report

The SIM Card Inventory Management report (**SIMCardInventoryMgmt.rtf**) tracks the state of the SIM cards currently in inventory. This report groups the SIM cards by the following:

- **Brand**: The name of the brand that has the SIM cards. This can be your company or a branded service provider. Brand Manager is an optional component, not part of base BRM.

  For information on brands, see "About Branding" in *BRM Managing Customers*.
- **Order Number**: The number assigned to a batch of SIM cards when the order was placed.
- **SIM Device State**: The state of the SIM card.

> **Important:** Before running this report, you must load a stored procedure into your BRM database. See "Loading Stored Procedures".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\SIM Card Manager Reports\SIMCardInventoryMgmt\SIMCardInventoryMgmt.xdo**

No charts are available for this report.

SIMCardInventoryMgmt Parameters

You can change the following parameters to modify the output of the **SIMCardInventoryMgmt** report:

- Order Number
- Order Status

- Start Date
- End Date

For information on parameters not described in Table 10–2, see "Understanding the Standard Parameters".

Table 10–2 SIMCardInventoryMgmt Parameters

Parameter	Description	Valid values	Default value
Order Number	The number assigned to a batch of SIM cards when the order was placed.	Enter **ALL** or a specific order number.	**ALL**
SIM Device State	The state of the SIM card, such as provisioning.	Any valid SIM card state or **ALL**. The parameter value list might not include all the status names stored in your BRM database. To add to this list, see "Adding Parameters in BI Publisher".	**ALL**

11

Suspense Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support the standard recycling and Suspense Manager features.

For general information about standard recycling, see "About Standard Recycling" in *BRM Configuring Pipeline Rating and Discounting*.

For general information on how to run, see "About BRM Reports".

Suspended EDR Report

The Suspended EDR report (**SuspenseHandling.rtf**) shows the totals of suspended call records that were processed by Suspense Manager during a time period you specify. This report displays the status of the suspended call records at the time you ran this report.

You can generate two versions of the Suspended EDR report:

- A summary report that lists suspended call record totals by brand. For each brand this report lists totals of suspended call records by suspense reason, and suspense state (suspended, recycling, successfully reprocessed, and written off). For more information see "Suspended EDR Detail Report".
- A detailed report that lists the same information as the summary report and also includes details for each call record. For details, see "Suspended EDR Detail Report".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Suspense Reports\SuspenseHandling\SuspenseHandling.xdo**

Suspended EDR Report Parameters

You can change the following parameters to modify the output of the suspended EDR summary report:

- Report type

  The type of information you want to show in the report:

  - **SUMMARY**: For each brand, shows the total number of accounts and the amount in the specified collections scenario without disclosing specific account information.
  - **DETAIL**: For each brand, specifies the account number, customer name, other account details, and the amount in the specified collections action. See "Suspended EDR Detail Report" for details.

- Start date
- End date

For details on the start date and end date parameters, see "Running BRM Reports".

Suspended EDR Summary Report

This report returns the following information:

- The brand associated with the suspended call records.
- The suspense reason that caused the call records to fail.
- For each suspense reason, the total number of suspended call records by suspense status (suspended, recycling, successfully reprocessed, and written off) for the brand.
- The total number of suspended call records for all statuses for the brand.

Suspended EDR Detail Report

This report is a more verbose version of the Suspended EDR summary report. It returns the same information as summary version, and includes additional details from the individual call records. This report returns the following:

- The brand associated with the suspended call records.
- The suspense reason that caused the call records to fail.
- For each suspense reason, a list of all the suspended call records.
- Details for each call record, including:
  - The number of times the call has been recycled.
  - The date the call was made.
  - The call duration (in minutes).
  - The calling number.
  - The called number.
- The total number of suspended call records by suspense status (suspended, recycling, successfully reprocessed, and written off) for the brand.

Written-Off EDR Report

The written-off EDR report (**SuspenseHandlingWriteoff.rtf**) shows the total number of suspended call records with a status of written-off, for each brand.

You can generate two versions of the **SuspenseHandlingWriteoff** report:

- A summary report that lists totals of suspended call records with a written-off call status for each brand. For each brand, this reports shows suspended call totals by suspense reason. For details, see "Written-Off EDR Summary Report".
- A detail report that lists the same information as the summary report and also includes details for each call records. For details, see "Written-Off EDR Detail Report".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Suspense Reports\SuspenseHandlingWriteoff\SuspenseHandlingWriteoff.xdo**

Written-Off EDR Report Parameters

You can change the following parameters to modify the output of the written-off EDR report:

- Report type

  The type of information you want to show in the report:

  - Enter **SUMMARY** to show the number of suspended calls in your BRM system, arranged by brand and suspense reason.
  - You can also enter **DETAIL** to specify a more detailed version of this report. See "Suspended EDR Detail Report" for details.
- Start date
- End date

For details on the start date and end date parameters, see "Running BRM Reports".

Written-Off EDR Summary Report

This report returns the following information for each brand in your BRM system:

- For each brand in your BRM system:
  - The name of the brand.
  - The total number of suspended call records listed by suspense reason.
- The total number of suspended call records for all brands.

Written-Off EDR Detail Report

This report returns the following information by brand:

- Name of the brand.
- All the suspended call records associated with that brand, listed by suspense reason. For each call record, the following details are listed:
  - Suspense reason that caused the call to fail.
  - Call record name.
  - Number of times the call was recycled.
  - Date the call was initiated.
  - Call duration (in minutes).
  - Calling number.
  - Called number.
  - The total number of suspended call records by suspense reason for the brand.
  - The total number of all calls written off for each brands.

12

Roaming Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support TAP (Transfer Account Procedure) Roaming Manager that are implemented with Oracle Business Intelligence (BI) Publisher. These reports enable roaming partners that have not implemented Near Real Time Roaming Data Exchange (NRTRDE) to exchange high-usage roaming information with each other.

For general information on how to install and run BRM reports, see "About BRM Reports".

About TAP Roaming Manager Reports

TAP Roaming Manager reports list the visiting mobile subscribers that exceed their daily usage threshold (usage limit) specified in the roaming agreements. These reports adhere to the standards specified in the GSM Association official document version FF.0424.

The TAP Roaming Management reports are:

- Roaming High-Usage reports
- SMS Interworking High-Usage reports
- Combined Roaming and SMS Interworking High-Usage reports

About Roaming High-Usage Reports

The Roaming High-Usage reports enable you to track the visiting mobile subscribers that exceed their daily usage limit specified in the roaming agreements.

A Visited Public Mobile Network Operator (VPMNO) or Associated Public Mobile Network Operator (APMNO) monitors roaming usage of each roaming subscriber on the visited network and generates a Roaming High-Usage report when the Home Public Mobile Network Operator's (HPMNO) criteria for the usage threshold are met.

Depending on the event details that are available on the VPMNO or the APMNO systems, the Roaming report displays one of the following:

- **Summary** report: The summary report lists the totals of all events (incoming and outgoing) per day for each International Mobile Subscriber Identity (IMSI) as a single line item.
- **Detail** report: The detail report displays a summary of the events followed by details of each incoming and outgoing event and their totals.

About Roaming High-Usage Summary Report

For each HPMNO, the Roaming High-Usage summary report displays the following columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–1 lists the valid entries for record type.

Table 12–1 Valid Entries for Record Type

Entry	Type of Record
C	Circuit Switched (voice, data, and SMS) record
H	Header record
M	Content Transaction record
P	Packet Switched record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents Roaming High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the Roaming High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the Roaming High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month

  - *DD* represents the day of the month
- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data. For record type denoted by:
  - **C** and **S**, the value of volume is not present.
  - **M**, the value of volume is optional.
  - **P**, the value of volume is required.
- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.

Roaming High-Usage Summary Report Parameters

You can change the following parameters to modify the output of the Roaming High-Usage summary reports:

- Observation start date
- Observation end date
- Roaming partner name

About Roaming High-Usage Detail Report

For each HPMNO, the Roaming High-Usage detail report displays the following summary and detail columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–2 lists the valid entries for record type.

Table 12–2 Valid Entries for Record Type

Entry	Type of Record
A	Details of a Circuit Switched (voice, data, and SMS) record
C	Circuit Switched (voice, data, and SMS) record

Table 12–2 (Cont.) Valid Entries for Record Type

Entry	Type of Record
H	Header record
M	Content Transaction record
P	Packet Switched record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents Roaming High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the Roaming High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the Roaming High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes

  - *SS* represents seconds
- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data. For record type denoted by:
  - **C** and **S**, the value of volume is not present.
  - **M**, the value of volume is optional.
  - **P**, the value of volume is required.
- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date First event**: The date of the first event.
  - For outgoing events, it is the date of the first outgoing event.
  - For incoming events, it is the date of the first incoming event.
- **Date Last event**: The date of the first event.
  - For outgoing events, it is the date of the first outgoing event.
  - For incoming events, it is the date of the first incoming event.
- **Destination of Events**:
  - For outgoing events, it is the country code of the called country. **PR** refers to outgoing events directed towards Premium Rate numbers.
  - For incoming events, it is always '*****'.
- **NC**: The total number of events.
  - For outgoing events, it is the total number of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total number of events received by the roaming subscriber.
- **(Optional) DC (HHHHMMSS)**: The total duration of events

  - For outgoing events, it is the total duration of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total duration of events received by the roaming subscriber.
- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency.
  - For outgoing events, it is the total amount in SDR currency of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total amount in SDR currency of events received by the roaming subscriber.

Roaming High-Usage Detail Report Parameters

You can change the following parameters to modify the output of the Roaming High-Usage detail reports:

- Observation start date
- Observation end date
- Roaming partner name

About Roaming High-Usage Notification Report

When there are no high-usage activities to report, a roaming notification report is generated to notify the visiting subscribers' home network operator that there are no high-usage reports. The notification report consists of header and trailer records, the observation period during which usage activity was monitored, and general comments.

For each HPMNO, the Roaming High-Usage notification report displays the following columns:

- **R** (**Record Type**): The record type. Table 12–3 lists the valid entries for record type.

Table 12–3 Valid Entries for Record Type

Entry	Type of Record
H	Header record
N	Notification record where no subscribers exceeded any thresholds
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents Roaming High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.

- **Date and Time of Report Creation**: The date and time the Roaming High-Usage report was created, in the *YYYYMMDDHHmmSS* format where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Beginning of Observation Period**: The date when observation of usage activity started, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **End of Observation Period**: The date when observation of usage activity ended, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

Roaming High-Usage Notification Report Parameters

You can change the following parameters to modify the output of the Roaming High-Usage notification reports:

- Observation start date
- Observation end date
- Roaming partner name

SMS Interworking High-Usage Reports

The SMS Interworking High-Usage reports enable you to track the aggregated information about SMS messages exchanged between the home network and other networks. Each report groups the SMS usage by the APMNO, which is the SMS originating carrier ID.

A VPMNO monitors SMS Interworking usage of each roaming subscriber on the visited network and generates an SMS Interworking High-Usage report when the HPMNO's criteria for the usage threshold are met. Depending on the event details that are available on the VPMNO's system, the SMS Interworking report displays one of the following:

- **Summary** report: The summary report lists the totals of all events (incoming and outgoing) per day for each IMSI as a single line item.
- **Detail** report: The detail report displays a summary of the events followed by details of each incoming and outgoing event and their totals.

About SMS Interworking High-Usage Summary Report

For each HPMNO, the Roaming High-Usage summary report displays the following columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–4 lists the valid entries for record type.

Table 12–4 Valid Entries for Record Type

Entry	Type of Record
B	SMS record
C	Circuit Switched (voice, data, and SMS) record
H	Header record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the Roaming High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the Roaming High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **(Optional) DC (HHHHMMSS)**: The total duration of incoming and outgoing events, in the format *HHHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data.
- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.

SMS Interworking High-Usage Summary Report Parameters

You can change the following parameters to modify the output of the SMS Interworking High-Usage summary reports:

- Observation start date
- Observation end date
- Roaming partner name

SMS Interworking High-Usage Detail Report

For each HPMNO, the SMS Interworking High-Usage detail report displays the following columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–5 lists the valid entries for record type.

Table 12–5 Valid Entries for Record Type

Entry	Type of Record
B	SMS record

Table 12–5 (Cont.) Valid Entries for Record Type

Entry	Type of Record
C	Circuit Switched (voice, data, and SMS) record
H	Header record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the SMS Interworking High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the SMS Interworking High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds

- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **(Optional) DC (HHHHMMSS)**: The total duration of incoming and outgoing events, in the format *HHHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data.
- **Special Drawing Right (SDR)**: The total usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.
- **Date first event**: The date of the first incoming or outgoing SMS message for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **Date Last event**: The date of the last incoming or outgoing SMS message for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **Destination of Events**:
  - For outgoing events, it is the country code of the called country. **PR** refers to outgoing events directed towards Premium Rate numbers.
  - For incoming events, it is always '*****'.
- **(Optional) DC (HHHHMMSS)**: The total duration of incoming and outgoing events, in the format *HHHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing SMS messages.

- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency.
  - For outgoing events, it is the total amount in SDR currency of outgoing SMS messages generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming SMS messages, it is the total amount in SDR currency of events received by the roaming subscriber.

SMS Interworking High-Usage Detail Report Parameters

You can change the following parameters to modify the output of the SMS Interworking High-Usage detail reports:

- Observation start date
- Observation end date
- Roaming partner name

About SMS Interworking High-Usage Notification Report

When there are no high-usage activities to report, an SMS Interworking notification report is generated to notify the visiting subscribers' home network operator that there are no high-usage reports. The notification report consists of header and trailer records, the observation period that usage activity was monitored, and general comments.

For each HPMNO, the SMS Interworking High-Usage notification report displays the following columns:

- **R** (**Record Type**): The record type. Table 12–6 lists the valid entries for record type.

Table 12–6 Valid Entries for Record Type

Entry	Type of Record
H	Header record
N	Notification record where no subscribers exceeded any thresholds
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Date and Time of Report Creation**: The date and time the SMS Interworking High-Usage report was created, in the *YYYYMMDDHHmmSS* format where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.

- **Beginning of Observation Period**: The date when observation of usage activity started, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **End of Observation Period**: The date when observation of usage activity ended, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

SMS Interworking High-Usage Notification Report Parameters

You can change the following parameters to modify the output of the SMS Interworking High-Usage notification reports:

- Observation start date
- Observation end date
- Roaming partner name

Combined Roaming and SMS Interworking High-Usage Reports

The Combined Roaming and SMS Interworking High-Usage reports enable you to track the visiting mobile subscribers that exceed their daily usage limit and track the aggregated information about SMS messages exchanged between the home network and other networks in a single report.

A VPMNO monitors both the Roaming and SMS Interworking usage of each subscriber on the visited network and generates a Combined Roaming and SMS Interworking High-Usage report when the HPMNO's criteria for the usage threshold are met.

About Combined Roaming and SMS Interworking High-Usage Summary Report

For each HPMNO, the Combined Roaming and SMS Interworking (Combined) High-Usage summary report displays the following columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–7 lists the valid entries for record type.

Table 12–7 Valid Entries for Record Type

Entry	Type of Record
C	Circuit Switched (voice, data, and SMS) record
H	Header record
M	Content Transaction record

Table 12–7 (Cont.) Valid Entries for Record Type

Entry	Type of Record
P	Packet Switched record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents Combined Roaming and SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the Combined Roaming and SMS Interworking High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the Combined Roaming and SMS Interworking High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes

  - *SS* represents seconds
- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **(Optional) DC (HHHHMMSS)**: The total duration of incoming and outgoing events, in the format *HHHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data. For record type denoted by:
  - **C** and **S**, the value of volume is not present.
  - **M**, the value of volume is optional.
  - **P**, the value of volume is required.
- **Special Drawing Right (SDR)**: The total Combined Roaming and SMS Interworking usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.

Combined Roaming SMS Interworking High-Usage Summary Report Parameters

You can change the following parameters to modify the output of the Combined Roaming and SMS Interworking High-Usage summary reports:

- Observation start date
- Observation end date
- Roaming partner name

Combined Roaming and SMS Interworking High-Usage Detail Report

For each HPMNO, the Combined Roaming and SMS Interworking High-Usage detail report displays the following columns for each IMSI for the period during which the usage activity was monitored:

- **R** (**Record Type**): The record type. Table 12–8 lists the valid entries for record type.

Table 12–8 Valid Entries for Record Type

Entry	Type of Record
A	Details of Circuit Switched record

Table 12–8 (Cont.) Valid Entries for Record Type

Entry	Type of Record
B	SMS record
C	Circuit Switched (voice, data, and SMS) record
H	Header record
M	Content Transaction record
P	Packet Switched record
S	SMS record
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.
- **Recipient**: Identifier of the HPMNO receiving the report.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents Combined Roaming and SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Date and Time of Analysis**: The date and time the Combined Roaming and SMS Interworking High-Usage report was analyzed, in the format *YYYYMMDDHHmmSS*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Date and Time of Report Creation**: The date and time the Combined Roaming and SMS Interworking High-Usage report was created, in the *YYYYMMDDHHmmSS* format.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date first event**: The date of the first incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

- **(Optional) Time first event**: The time of the first incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **Date Last event**: The date of the last incoming or outgoing event for the IMSI, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **(Optional) Time Last event**: The time of the last incoming or outgoing event for the IMSI, in the format *HHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **(Optional) DC (HHHHMMSS)**: The total duration of incoming and outgoing events, in the format *HHHMMSS*, where:
  - *HH* represents hours
  - *MM* represents minutes
  - *SS* represents seconds
- **NC**: The total number of incoming and outgoing events.
- **(Optional) Volume**: The total number of bytes of data. For record type denoted by:
  - **C** and **S**, the value of volume is not present.
  - **M**, the value of volume is optional.
  - **P**, the value of volume is required.
- **Special Drawing Right (SDR)**: The total usage amount in SDR currency, expressed as a maximum-12-digit numeral, with the last 3 places as decimals. For example, 413021 represents 413.021.
- **IMSI**: The visiting subscriber's IMSI. The first five digits of the HPMNO's IMSI is made up of the Mobile Country Code (MCC) and the Mobile Network Code (MNC).
- **Date First event**: The date of the first event.
  - For outgoing events, it is the date of the first outgoing event.
  - For incoming events, it is the date of the first incoming event.
- **Date Last event**: The date of the first event.
  - For outgoing events, it is the date of the first outgoing event.
  - For incoming events, it is the date of the first incoming event.
- **Destination of Events**:
  - For outgoing events, it is the country code of the called country. **PR** refers to outgoing events directed towards Premium Rate numbers.

  - For incoming events, it is always '*****'.
- **NC**: The total number of events.
  - For outgoing events, it is the total number of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total number of events received by the roaming subscriber.
- **(Optional) DC (HHHHMMSS)**: The total duration of events
  - For outgoing events, it is the total duration of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total duration of events received by the roaming subscriber.
- **Special Drawing Right (SDR)**: The total Roaming usage amount in SDR currency.
  - For outgoing events, it is the total amount in SDR currency of outgoing events generated by the roaming subscriber to the destination specified in the **Destination of Events** column.
  - For incoming events, it is the total amount in SDR currency of events received by the roaming subscriber.

SMS Interworking High-Usage Detail Report Parameters

You can change the following parameters to modify the output of the Combined Roaming and SMS Interworking High-Usage detail reports:

- Observation start date
- Observation end date
- Roaming partner name

About Combined Roaming and SMS Interworking High-Usage Notification Report

When there are no high-usage activities to report, a Combined Roaming and SMS Interworking High-Usage notification report is generated to notify the visiting subscribers' home network operator that there are no high-usage reports. The notification report consists of header and trailer records, the observation period that usage activity was monitored, and general comments.

For each HPMNO, the Combined High-Usage notification report displays the following columns:

- **R** (**Record Type**): The record type. Table 12–9 lists the valid entries for record type.

Table 12–9 Valid Entries for Record Type

Entry	Type of Record
H	Header record
N	Notification record where no subscribers exceeded any thresholds
T	Trailer record

- **Sender**: Identifier of the VPMNO or the APMNO sending the report.

- **Recipient**: Identifier of the HPMNO receiving the report.
- **Threshold**: The high-usage limit specified in the roaming agreement.
- **Sequence No**: The report sequence number in the format *NNNNYYYY*, where:
  - *NNNN* represents the report number
  - *YYYY* represents the year of the event

  For example, 02142005 represents SMS Interworking High-Usage report number 0214 sent by the VPMNO or the APMNO to the HPMNO in the year 2005.
- **Date and Time of Report Creation**: The date and time the SMS Interworking High-Usage report was created, in the *YYYYMMDDHHmmSS* format where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
  - *HH* represents hours
  - *mm* represents minutes
  - *SS* represents seconds

  For example, 20050304011803 represents 4 March 2005 at 18 minutes and 3 seconds past 1:00 A.M.
- **Beginning of Observation Period**: The date when observation of usage activity started, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month
- **End of Observation Period**: The date when observation of usage activity ended, in the format *YYYYMMDD*, where:
  - *YYYY* represents a year
  - *MM* represents the month
  - *DD* represents the day of the month

Combined Roaming and SMS Interworking High-Usage Notification Report Parameters

You can change the following parameters to modify the output of the Combined Roaming and SMS Interworking High-Usage notification reports:

- Observation start date
- Observation end date
- Roaming partner name

Setting Up TAP Roaming Manager Reports

To set up TAP Roaming Manager reports:

1. Load the **hur_create_table_report_sequence.source, hur_extract_country_code.source**, and **hur_seq_num_sp.source** stored procedures from the *BIP_Home***xmlp****XMLP****Reports****BRM Reports****Roaming**

Reports\StoredProcedures directory into the BRM database, where *BIP_Home* is the directory in which BI Publisher Reports are installed.

For more information about loading stored procedures, see "Loading Stored Procedures".

2. Set the value of the **Sender** parameter in the **HURDetail** and **HURSummary** report templates in the following way.

Note: The value of the Sender parameter cannot exceed five characters.

For each report:

1. Log on to BI Publisher
2. Open **Roaming Reports**.
3. Under *report_name*, click Edit, where *report_name* is the name of the report. The report properties are displayed.
4. Under **Data Model**, select *report_name*.
5. Under **Data Template**, search for **PORTL**.
6. Replace **PORTL** with the name of the service provider.

Running Roaming Manager Reports

You can run Roaming Manager reports from the following BI Publisher components:

- BI Publisher Enterprise
- BI Publisher Desktop

For more information about running reports, see "Running BRM Reports".

13

Voucher Manager Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support Voucher Manager, an optional component you use to create and manage voucher cards.

Important : Voucher Manager is an optional component, not part of base BRM.

For general information on how to run and troubleshoot reports, see "Running BRM Reports".

For information about vouchers, see "About Managing Voucher Inventory" in *BRM Telco Integration*.

Voucher Management Reports

Voucher Management reports provide reports on your voucher inventory. The Voucher Management reports are:

- Voucher Device Management report
- Voucher Inventory report

Voucher Device Management Report

The Voucher Device Management report details the contents and attributes of one or more vouchers.

No charts are available for this report.

You can choose to mask the PIN numbers displayed in the report. Masking the PIN numbers in the report displays only the last four characters of each PIN number.

For each Voucher Device, the report shows the following information:

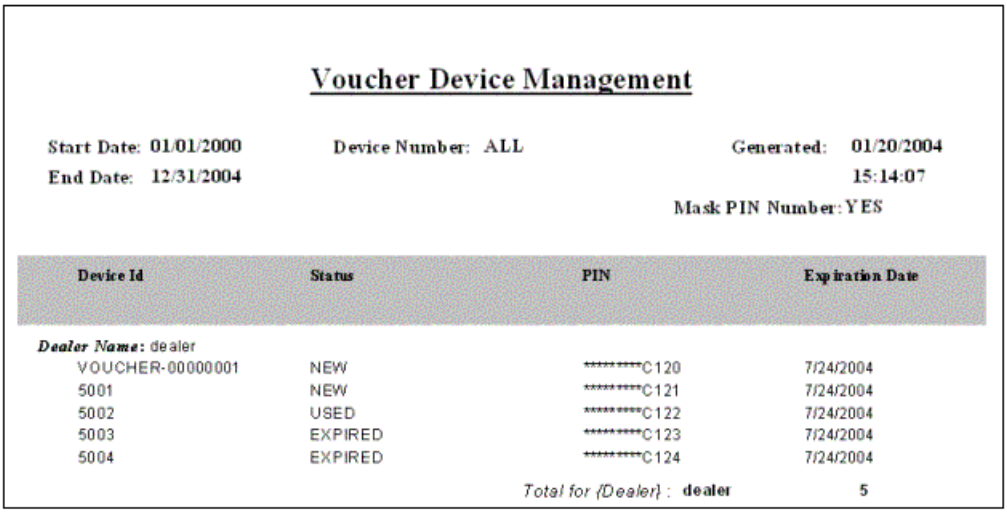
- Device ID: The serial number assigned to the particular device.
- Status: The status of the device.
- PIN: The PIN associated with the voucher.
- Expiration Date: The expiration date of the voucher.
- Dealer Name: The dealer name associated with the voucher.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Voucher Reports\VoucherDeviceMgmt\VoucherDeviceMgmt.xdo**

Figure 13–1 shows output for a **VoucherDevMgmt** report with Device Number set to **ALL**:

Figure 13–1 VoucherDevMgmt Report Output



Voucher Device Management

Start Date: 01/01/2000 Device Number: ALL Generated: 01/20/2004 15:14:07
End Date: 12/31/2004
Mask PIN Number: YES

Device Id	Status	PIN	Expiration Date
Dealer Name: dealer			
VOUCHER-00000001	NEW	**********C120	7/24/2004
5001	NEW	**********C121	7/24/2004
5002	USED	**********C122	7/24/2004
5003	EXPIRED	**********C123	7/24/2004
5004	EXPIRED	**********C124	7/24/2004
		Total for {Dealer} : dealer	5

Voucher Device Management Parameters

You can change the following parameters to modify the output of the **VoucherDevMgmt** report:

- Device ID
- Start Date
- End Date
- Mask PIN Number

For information on parameters not described in Table 13–1, see "Understanding the Standard Parameters".

Table 13–1 VoucherDevMgmt Report Parameters

Parameter	Description	Valid Values	Default Value
Device Number	The number assigned to a particular device.	Enter **ALL** or a specific device number.	**ALL**.
Mask PIN Numbers	The display format of PIN numbers. Select **YES** to show only the last four characters of all credit card numbers. Select **NO** to display the entire number.	**YES** or **NO**.	**YES**.

Voucher Inventory Management Report

The Voucher Inventory Management report **(VoucherInventoryMgmt.rtf)** tracks the state of orders currently in inventory. This report groups the Voucher cards by brand-the name of the brand for the Voucher cards. This can be your company or a branded service provider (BSP).

For information on brands, see "About Branding" in *BRM Managing Customers*.

No charts are available for this report.

The report shows the following information:

- Order Number: The number assigned to a particular order.
- Status: The status of the order.
- Dealer Name: The dealer name associated with the order.
- Expiration Date: The expiration date of the order.

Figure 13–2 shows output for a **VoucherInventoryMgmt** report, with Order Number set to **ALL**:

Figure 13–2 VoucherInventoryMgmt Report Output

Voucher Inventory Management

Start Date: 12/17/2003 Order Number: ALL Generated: 01/15/2004
End Date: 01/15/2004 12:35:47

Order Number	Status	Dealer Name	Expiration Date
***Brand*: ROOT**			
1.8889	NEW	SUPPLIER 1	2/8/2004
1.8890	REQUESTED	SUPPLIER 2	2/8/2004
		TOTAL FOR {BRAND}: ROOT	2

Voucher Inventory Management Parameters

You can change the following parameters to modify the output of the **VoucherInventoryMgmt** report:

- Order Number
- Start Date
- End Date

For information on parameters not described in Table 13–2, see "Understanding the Standard Parameters".

Table 13–2 VoucherInventoryMgmt Report Parameters

Parameter	Description	Valid Values	Default Value
Order Number	The number assigned to a particular order.	Enter **ALL** or a specific order number.	**ALL**

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Wireless Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support GPRS Manager.

For general information on how to run reports, see "Running BRM Reports".

> **Important:** GPRS Manager is an optional component, not part of base BRM.

About General Packet Radio Service Reports

The General Packet Radio Service (GPRS) reports support GPRS Manager. These reports help you identify which GPRS products and services are profitable by tracking the following information:

- GPRS usage by access point name (APN). See "GPRS APN Usage Report".
- GPRS usage by product. See "GPRS Product Usage Report".
- The number of accounts that have subscriptions to particular GPRS products. See "Product Subscriptions Report".

In addition, the GPRS Error Summary Report and GPRS Error Detail Report help you identify GPRS service problems that are causing you to lose revenue.

GPRS APN Usage Report

> **Note:** You must upload the **GPRSAPNUsage.source** file that is in the **StoredProcedures** folder to the database after the GPRS reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The GPRS APN Usage report (**GPRSAPNUsage.rtf**) tracks GPRS usage by access point name (APN), an internally defined name used by a GPRS network to identify an entry point in an external packet data network.

This report enables you to identify the access points in your GPRS network that handle the most traffic and those that generate the most revenue. You can use this report to determine the traffic-to-revenue ratio for each access point.

For each APN listed in the report, the following information is displayed:

- **Balance Impact**: The total income generated during the specified time period by GPRS usage associated with the APN. Income from subscription fees is not included.
- **Accounts with Usage**: The number of accounts for which GPRS usage associated with the APN was reported during the specified time period.
- **Sessions**: The number of GPRS sessions associated with the APN during the specified time period.
- **Megabytes (MB)**: The total megabytes transmitted during all GPRS sessions shown in the Sessions column.
- **Duration (Hours)**: The total length in hours of all GPRS sessions shown in the Sessions column.

The information shown in this report can be grouped by resource, APN, country, or state.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\GPRS Reports\StoredProcedures\GPRSAPNUsage.source**

You can include pie charts that show the percentage of GPRS-related revenue, megabytes, usage time, and sessions handled by each APN during the specified time period.

GPRSAPNUsage Parameters

You can change the following parameters to modify the output of the **GPRSAPNUsage** report:

- State Details
- Include Chart
- Country
- State
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For parameter descriptions, see "Understanding the Standard Parameters".

GPRS Product Usage Report

Note: You must upload the **GPRSProductUsage.source** file that is in the **StoredProcedures** folder to the database after the GPRS reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The GPRS Product Usage report (**GPRSProductUsage.rtf)** tracks GPRS usage by product for a time period you specify. By showing both the network traffic and the revenue generated by each GPRS product, this report enables you to determine which GPRS products have the best traffic-to-revenue ratios.

For each product listed in the **GPRSProductUsage** report, the following information is displayed:

- **Balance Impact**: The total income generated during the specified time period by GPRS usage associated with the product. Income from subscription fees is not included.
- **Accounts with Usage**: The number of accounts for which GPRS usage associated with the product was reported during the specified time period.
- **Sessions**: The number of GPRS sessions associated with the product during the specified time period.
- **Total Megabytes (MB)**: The sum of megabytes transmitted during all GPRS sessions shown in the Sessions column.
- **Average Bytes per Session**: The mean number of bytes transmitted during each GPRS session shown in the Sessions column.
- **Total Duration (Hours)**: The sum of the length of all GPRS sessions shown in the Sessions column.
- **Average Session Duration (Hours)**: The mean length in hours of each GPRS session shown in the Sessions column.

The information shown in this report can be grouped by resource, country, state, or product POID.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\GPRS Reports\StoredProcedures\GPRSProductUsage.source**

You can include pie charts that show the percentage of GPRS revenue, megabytes, usage time, and sessions associated with each product during the specified time period.

GPRSProductUsage Parameters

You can change the following parameters to modify the output of the **GPRSProductUsage** report:

- State Details
- Include Chart
- Country
- State
- Product
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For information on parameters not described in Table 14–1, see "Understanding the Standard Parameters".

Table 14–1 GPRSProductUsage Parameters

Parameter	Description	Valid Values	Default Value
Product	The name of the product whose GPRS usage you want to show.	Any valid product name or **ALL** The parameter value list might not include all the product names stored in your BRM database. To add product names to this list, see "Adding Parameters in BI Publisher".	**ALL**

GPRS Error Summary Report

Note: You must upload the **GPRSErrorSummary.source** file that is in the **StoredProcedures** folder to the database after the GPRS reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The GPRS Error Summary report (**GPRSErrorSummary.rtf**) lists GPRS session errors by error type for a time period you specify.

For each error type listed in a report, the following information is displayed:

- **Balance Impact**: The total income lost during the specified time period because of this type of error.
- **Accounts with Errors**: The number of accounts for which this type of error was recorded during the specified time period.
- **Sessions**: The number of GPRS sessions in which this type of error occurred during the specified time period.
- **Megabytes (MB)**: The total megabytes transmitted during all GPRS sessions shown in the Sessions column.
- **Error Duration (Hours)**: The total length in hours of all GPRS sessions shown in the Sessions column.

The information shown in this report can be grouped by resource, country, state, or termination cause.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\GPRS Reports\StoredProcedures\GPRSErrorSummary.source**

No charts are available for this report.

GPRSErrorSummary Parameters

You can change the following parameters to modify the output of the **GPRSErrorSummary** report:

- State Details
- Country
- State
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For parameter descriptions, see "Understanding the Standard Parameters".

GPRS Error Detail Report

Note: You must upload the **GPRSErrorDetail.source** file that is in the **StoredProcedures** folder to the database after the GPRS reports are installed. For more information about loading stored procedures, see "Loading Stored Procedures".

The GPRS Error Detail report (**GPRSErrorDetail.rtf**) lists GPRS session errors by *account* for a time period you specify.

For each account listed in the report, the following information is displayed:

- **Error Type**: The type of GPRS session error that occurred.
- **Balance Impact**: The total income lost during the specified time period because of this type of error.
- **Sessions**: The number of GPRS sessions in which this type of error occurred during the specified time period.
- **Megabytes (MB)**: The total megabytes transmitted during all GPRS sessions shown in the Sessions column.
- **Error Duration (Hours)**: The total length in hours of all GPRS sessions shown in the Sessions column.

The information shown in this report can be grouped by resource, country, state, or termination cause.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\GPRS Reports\StoredProcedures\GPRSErrorDetail.source**

No charts are available for this report.

GPRSErrorDetail Parameters

You can change the following parameters to modify the output of the **GPRSErrorDetail** report:

- State Details
- Country
- State
- Start Date (date only, not date-time)
- End Date (date only, not date-time)

If your BRM system does not contain state data, see "When to Modify Formulas for New Values".

For parameter descriptions, see "Understanding the Standard Parameters".

Understanding Column Totals

Some of the column totals displayed in the wireless reports are derived by simply adding the values in the preceding rows. For example, the total for the Sessions column in Figure 14–1 is the sum of the preceding sessions:

Figure 14–1 Sessions Column Total

APN	Sessions
Resource: US Dollar	
apn.gold.com	14
apn.platinum.com	2
apn.silver.com	2
Total for US Dollar:	**18**

The following column totals, however, are derived in less obvious ways:

- Accounts with Errors Column (In the GPRS Product Usage and GPRS APN Usage reports)
- Accounts with Usage Column (In the GPRS Error Summary report)
- Average Bytes per Session or Event Column (In the GPRS Product Usage report)
- Average Session or Event Duration Column (In the GPRS Product Usage report)
- Error Duration Column (In the GPRS Error Summary and GPRS Error Detail reports)
- Megabytes Column (In the GPRS APN Usage, GPRS Error Summary, and GPRS Error Detail reports)
- Total Duration Column (In the GPRS Product Usage report)

Accounts with Errors Column

The Accounts with Errors column total represents all the accounts that had one or more of the errors shown in the preceding rows during the specified time period.

For example, Figure 14–2 lists two error types for the country USA and shows two accounts with errors for each of the error types. Because the total number of accounts with errors for USA is also two, this means the same two accounts reported both types of errors.

Figure 14–2 Accounts with Errors Column Total

APN	Accounts with Usage
Resource: US Dollar	
apn.gold.com	2
apn.platinum.com	2
apn.silver.com	2
Total for US Dollar:	**2**

Accounts with Usage Column

The Accounts with Usage column total represents all the accounts that used the APNs, URLs, or products shown in the preceding rows during the specified time period.

For example, Figure 14–3 lists three APNs for the resource US Dollar and shows two accounts with usage for each of the APNs. Because the total number of accounts with usage for US Dollar is also two, this means the same two accounts reported usage for all three APNs.

Figure 14–3 Accounts with Usage Column Totals

APN	Accounts with Usage
Resource: US Dollar	
apn.gold.com	2
apn.platinum.com	2
apn.silver.com	2
Total for US Dollar:	**2**

Average Bytes per Session or Event Column

The reports use this equation to calculate total average bytes per session or event:

(*Total MB* x (1,024 x 1,024))/*Total sessions or events*

Total MB is the nonrounded version of the total shown in the Total Megabytes column. For example, when the equation is applied to the data in Figure 14–4, *Total MB* is 5.9925470829010009765625.

Figure 14–4 Average Bytes per Session or Event Column Total

Product Name	Sessions	Total Megabytes (MB)	Average Bytes per Session
Resource: US Dollar			
Product A	6	3.21	561,071.17
GPRS Limited Access	12	2.14	186,824.17
Product B	1	0.64	675,324.00
Total for US Dollar:	**19**	**5.99**	**330,717.95**

Average Session or Event Duration Column

The reports calculate the Average Session Duration and Average Event Duration column totals by dividing the total in the Total Duration column by the total number of sessions or events as seen in Figure 14–5. The result is rounded up to two decimals.

Figure 14–5 Average Session or Event Duration Column Total

Product Name	Sessions	Total Duration (Hours)	Average Session Duration (Hours)
Resource: US Dollar			
Product A	6	16.53	2.76
GPRS Limited Access	12	48.60	4.05
Product B	1	7.18	7.18
Total for US Dollar:	**19**	**72.32**	**3.81**

Error Duration Column

The Error Duration column contains two types of totals: account totals (circled in blue in the following figure) and geographic totals (circled in red).

The account totals are calculated by adding the nonrounded versions of the preceding error durations. The geographic totals are calculated by adding the nonrounded versions of the preceding account totals as seen in Figure 14–6. In both cases, the results are rounded up to two decimals.

Figure 14–6 Error Duration Column Total

Error Type	Error Duration (Hours)
Resource: US Dollar	
Country: USA	
State: CA	
0.0.0.1-10629 Raphael Macduff	
Partial Content	0.89
Service Unavailable	0.39
Totals for 0.0.0.1-10629	**1.28**
0.0.0.1-11269 Emily Davis	
Partial Content	0.62
Request Timeout	0.28
Totals for 0.0.0.1-11269	**0.89**
Total for CA	**2.18**
Total for USA	**2.18**

Megabytes Column

The values displayed in the Megabytes column are rounded to two decimal places from six decimal places stored in the BRM database. Totals for this column are derived by adding the original six-decimal values and then rounding the sum to two decimals. Sometimes, the rounding makes the displayed total look incorrect.

For example, see Figure 14–7. Although the sum of the six-decimal values is correct (0.044999 + 0.004999 = 0.049998), the rounded version of the equation (0.04 + 0.00 = 0.05) looks incorrect.

Figure 14–7 Megabytes Column Total

APN	Megabytes (MB)
Resource: US Dollar	
apn.gold.com	0.04
apn.silver.com	0.00
Total for US Dollar:	**0.05**

Total Duration Column

The Total Duration column total is derived by subtracting the start times of all sessions or events shown in the preceding rows from their end times and then adding the differences. The values displayed in the preceding rows and the sum of those values are rounded versions of the actual values.

For example, in Figure 14–8, the actual values could be 16.533 + 7.184 = 23.717.

Figure 14–8 Total Duration Column Total

Product Name	Sessions	Total Duration (Hours)
Resource: US Dollar		
Product A	6	16.53
Product B	1	7.18
Total for US Dollar:	**7**	**23.72**

15

SMS Settlement Reports

This chapter describes the Oracle Communications Billing and Revenue Management (BRM) reports that support SMS Settlement, an optional component that you use to manage messages exchanged between subscribers of the home network and other networks. For information on generating SMS usage data, see "About Generating SMS Usage Reports" in *BRM Configuring Roaming in Pipeline Manager*.

> **Important:** SMS Settlement Reports is an optional component, not part of base BRM.

For general information on how to run and troubleshoot reports, see "Running BRM Reports".

SMS Interworking Bulk Data Report

The SMS Interworking Bulk Data report (**SMSinterworkingbulk.rtf**) tracks the aggregated information about SMS messages exchanged between home network and other networks. This report groups the SMS usage by APMN, the SMS originating Carrier ID.

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\SIM Card Manager Reports\SMSinterworkingbulk\SMSinterworkingbulk.xdo**

SMSinterworkingbulk Parameters

You can change the following parameters to modify the output of the SMSinterworkingbulk report:

- Start Date
- End Date
- APMN
- HPMN
- SMSRate

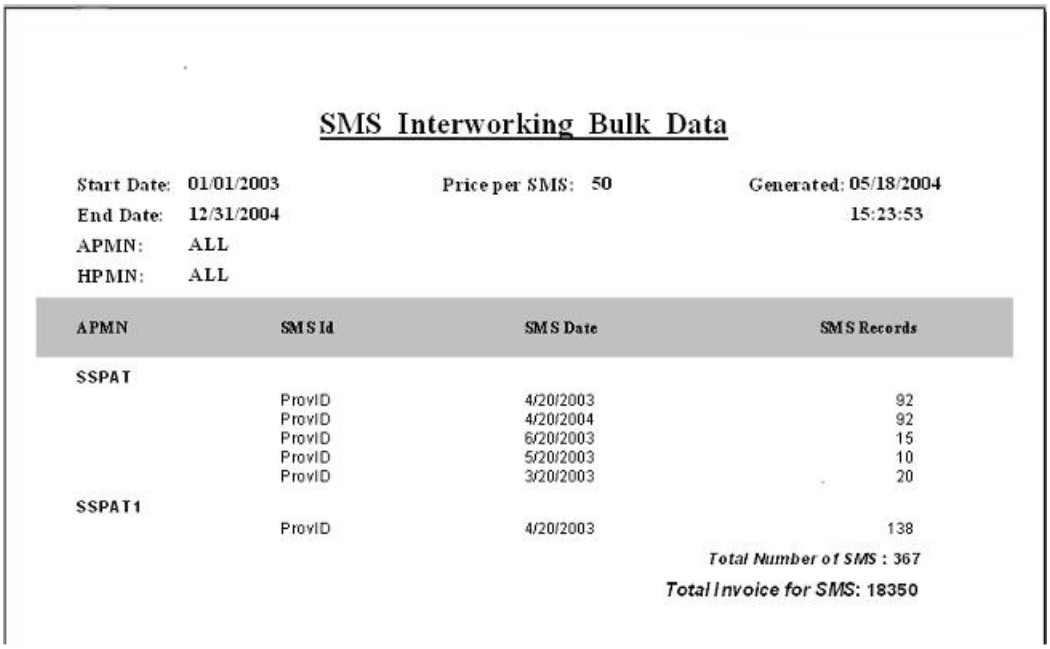
For information on parameters not described in Table 15–1, see "Understanding the Standard Parameters".

Table 15–1 SMSinterworkbulk Report Parameters

Parameter	Description	Valid Values	Default Value
APMN	Origination Carrier ID of the SMS.	Enter **ALL** or a originating carrier ID.	**ALL**
HPMN	Destination Carrier ID of the SMS.	Enter **ALL** or a destination carrier ID.	**ALL**
SMSRate	Price/Rate per SMS.	Enter **ALL** or any valid price.	**50**

Figure 15–1 shows the output of a **SMSinterworkingbulk** report:

Figure 15–1 SMSinterworkingbulk Report Output



SMS Interworking Bulk Data

Start Date: 01/01/2003 Price per SMS: 50 Generated: 05/18/2004 15:23:53
End Date: 12/31/2004
APMN: ALL
HPMN: ALL

APMN	SMS Id	SMS Date	SMS Records
SSPAT			
	ProvID	4/20/2003	92
	ProvID	4/20/2004	92
	ProvID	6/20/2003	15
	ProvID	5/20/2003	10
	ProvID	3/20/2003	20
SSPAT1			
	ProvID	4/20/2003	138

Total Number of SMS : 367

Total Invoice for SMS: 18350

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Reporting by Brand

This chapter describes how to customize Oracle Communications Billing and Revenue Management (BRM) report templates to generate reports for only one brand.

For information on using brands in BRM, see "About Branding" in *BRM Managing Customers*.

For general information on how to run reports, see "Running BRM Reports".

Important:

- To customize the structured query language (SQL) queries used to select the report data from the BRM database, you should have SQL experience and be familiar with the BRM database schema.
- To customize queries in Oracle Business Intelligence (BI) Publisher, you must have design privileges.

About Reporting by Brand

If you host Internet services for other companies, you can display data related to only one brand in your BRM reports. To do this, follow these general procedures:

- Configuring BI Publisher to Support Reporting by Brand
- Brand Manager Reports

Configuring BI Publisher to Support Reporting by Brand

To configure BI Publisher to support reporting by brand and view the reports, perform the following tasks:

1. Creating a Brand User
2. Viewing Brand-Specific Versions of BRM Reports

Creating a Brand User

To create a brand user, do the following:

1. Log in to BI Publisher as **Administrator**, by following the instructions in "Accessing BI Publisher".
2. Click the **Admin** tab.
3. Under Security Center, click the **Users** link.

4. Click the **Create User** button.
5. Enter the brand user name in the **Username** field.
6. Enter the password in the **Password** field.
7. Click the **Apply** button.
8. Click the **Assign Roles** icon for the user.
9. Select **Administrator** from the Available Roles, and click the **Move** button.
10. Click the **Apply** button.
11. Click the **Roles and Permissions** tab.
12. Click the **Create Role** button.
13. Enter the brand user name that you created earlier, in the **Name** field.
14. Enter the description in the **Description** field.
15. Click the **Add Folders** icon for the role.
16. Select the desired folders from the **Available Folders** list, and click the **Move** button.
17. Click the **Apply** button.
18. Click the **Add Data Sources** icon for the role.
19. Select **BRM_DATA_SOURCE** from the **Available Data Sources** under the **Database Connections** section, and click the **Move** button.
20. Click the **Apply** button.
21. Click the **Add Roles** icon for the role.
22. Select **BI Publisher Administrator** from the **Available Roles**, and click the **Move** button.
23. Click the **Apply** button.
24. Click the **Sign Out** link.

Viewing Brand-Specific Versions of BRM Reports

To view brand-specific versions of BRM reports:

1. Log in to BI Publisher as a **brand-specific user**.
2. Click the **Reports** tab.
3. Click the **BRM Reports** link under **Shared Folders**.
4. Click the **Branding Reports** link.
5. Click the **View** link under the report you want to view.
6. Enter the required **parameters**.
7. Click the **View** button.

Brand Manager Reports

The BRM Reports package includes brand-configured versions of the following BRM base reports:

- Historic Sessions by Session Length brand report

This report is a brand-specific version of the "Historic Sessions by Session Length Report".

You can find the SQL query for this report in the following file:

Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Branding Reports\UsageTimeHistoricB\UsageTimeHistoricB.xdo**

- General Ledger Summary brand report

  This report is a brand-specific version of the "General Ledger Summary Report".

  You can find the SQL query for this report in the following file:

  Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Branding Reports\GLSummaryB\GLSummaryB.xdo**

- General Ledger Detail brand report

  This report is a brand-specific version of the "General Ledger Detail Report".

  You can find the SQL query for this report in the following file:

  Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Branding Reports\GLDetailB\GLDetailB.xdo**

- New Account Lifetime brand report

  This report is a brand-specific version of the "New Account Lifetime Report".

  You can find the SQL query for this report in the following file:

  Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Branding Reports\NewLifetimeB\NewLifetimeB.xdo**

- Closed Account Lifetime brand report

  This report is a brand-specific version of the "Closed Account Lifetime Report".

  You can find the SQL query for this report in the following file:

  Local_drive:*BIP_Home***xmlp\XMLP\Reports\BRM Reports\Branding Reports\ClosedLifetimeB\ClosedLifetimeB.xdo**