

**Oracle® Communications  
Billing and Revenue Management**

Release Notes

Release 7.5

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# Preface

This book includes information about this release of Oracle Communications Billing and Revenue Management (BRM).

## Audience

This book is intended for all BRM users.

## Documentation Accessibility

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

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## Document Revision History

The following table lists the revision history for this document:

Version	Date	Description
E16716-01	November 2011	Initial release.
E16716-02	March 2012	Documentation updates for Oracle Communications BRM Pipeline Configuration Center (PCC). <ul style="list-style-type: none"><li>Added "Pipeline Configuration Center".</li><li>Documentation for the following known problems was added:<ul style="list-style-type: none"><li>Cannot Sort List in the Dialog Box That Opens by Clicking More in PCC</li><li>Cannot Uninstall PCC in Silent Mode</li><li>Manual Cleanup Required If Incorrect WebLogic Password Used during PCC Uninstall</li><li>PCC Does Not Warn You to Save Your Changes</li><li>PCC Opens in a Dialog Box on Top of a Timed-Out Instance of PCC</li></ul></li></ul>

Version	Date	Description
E16716-03	May 2012	Documentation updates for BRM 7.5 Patch Set 1. <ul style="list-style-type: none"> <li>Minor formatting and text changes.</li> </ul>
E16716-04	August 2012	Documentation updates for BRM 7.5 Patch Set 2. <ul style="list-style-type: none"> <li>Minor formatting and text changes.</li> </ul>
E16716-05	October 2012	Documentation updates for Oracle Communications BRM Pipeline Configuration Center (PCC). <ul style="list-style-type: none"> <li>Documentation for the following PCC known issues was added: <ul style="list-style-type: none"> <li><a href="#">An Empty Error Message Appears in PCC Installer Screen</a></li> <li><a href="#">PCC Help Window Displays Incorrect Message after It Times Out</a></li> </ul> </li> <li>Minor text changes were also made.</li> </ul>
E16716-06	December 2012	Documentation updates for BRM 7.5 Patch Set 3. <ul style="list-style-type: none"> <li>Added HP OpenView in "<a href="#">Unsupported BRM Components</a>" section.</li> </ul>
E16716-07	March 2013	Documentation updates for BRM 7.5 Patch Set 4. <ul style="list-style-type: none"> <li>Minor text changes.</li> </ul>
E16716-08	October 2014	Documentation updates for BRM 7.5 Patch Set 10. <ul style="list-style-type: none"> <li>Updated "<a href="#">Unsupported BRM Components</a>".</li> </ul>



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## Release Notes

This chapter includes descriptions of the new and enhanced features and components introduced between Oracle Communications Billing and Revenue Management (BRM) 7.4 and BRM 7.5.

### New Features

This section lists new features.

#### Accounts Receivable

This section contains the enhancements to accounts receivable introduced in BRM 7.5.

##### **BRM Now Supports Paymentech Batch Version 3.0.0 Revision 4.2**

BRM now supports Paymentech Batch version 3.0.0 revision 4.2, which includes the following:

- All Paymentech batch requests/responses now use Paymentech's 120-byte batch request/response format.
- Any custom client to Paymentech can now interact with Paymentech Manager using the Account Verification function in batch mode.
- All electronic check processing (ECP) transactions in Paymentech Manager are now processed in accordance with National Automated Clearing House Association (NACHA) operating rules.

The valid ECP authorization method values are as follows:

- **A** (accounts receivable)
- **I** (internet)
- **P** (point of purchase)
- **T** (telephone)
- **W** (written)

When **ECP Authorization Method** is set to **A**, values for **Check Serial Number** and **Image Reference Number** are mandatory. When **ECP Authorization Method** is set to **P**, values for **Check Serial Number**, **Terminal City**, **Terminal State**, and **Image Reference Number** are mandatory. The Paymentech Data Manager (DM) automatically accepts these values in the input flist. However, no changes are made to the Connection Manager (CM) flist. When the Paymentech DM accepts the flist sent by the CM, these values are blank. Hence, setting **ECP Authorization Method** to either **A** or **P** is not supported for end-to-end payment operations in

BRM. However, Paymentech Manager supports these new authorization method values and the corresponding information as required by Paymentech.

For more information about Paymentech's 120-byte batch format, see the Chase Paymentech documentation at the following location:

<http://www.chasepaymentech.com>

### Paymentech Manager Account Verification

Paymentech Manager includes enhancements for account verification of transactions and batch processing. For more information, see the discussion of configuring BRM-initiated payment processing in *BRM Configuring and Collecting Payments*.

## Billing and Invoicing

This section describes BRM billing and invoicing enhancements introduced in BRM 7.5.

### Enhanced Invoice Document

The invoice document now displays the breakdown of usage charges, including the gross usage charges and applicable discounts and taxes. For example, if the net usage charge is \$355.08, the invoice document displays the breakdown as:

Gross Charge: 348, Discount: (25.20), and Tax: 32.28.

### Invoice Utilities

Previously, the `pin_inv_doc_gen` utility displayed an error message when the `InvoiceList.xml` file listed more than 14 account and bill unit pairs. Because the `InvoiceList.xml` file can now list more than 14 account and bill unit pairs, the utility no longer displays an error message.

For more information, see the discussion about generating BI Publisher invoice documents for a list of accounts in *BRM Designing and Generating Invoices*.

### New `Infranet.properties` Entry for Processing Account and Bill Unit Pairs

The `Infranet.properties` file includes the following new parameter:

- `infranet.dmsearchargs.size`: Specifies the number of account and bill unit pairs to process at one time. The maximum value is 14.

For example, if the `InvoiceList.xml` file lists 20 account and bill unit pairs, and the `infranet.dmsearchargs.size` value is set to 6, the `InvoiceList.xml` file processes six account and bill unit pairs at a time.

For more information, see the discussion about configuring the `Infranet.properties` file for `pin_inv_doc_gen` in *BRM Designing and Generating Invoices*.

### Support for Rebilling and Corrective Invoices

In order to generate a corrective invoice for a customer whenever the customer's account is modified in a manner that affects an invoice already sent to the customer, the corrective invoicing feature enables BRM to generate a new type of bill and invoice:

- **Corrective bill.** A bill containing changes to item charges that affect the amount due in a finalized bill. Although corrective bills are associated with the bill they correct, they do not have the same bill number.

- **Corrective invoice.** An invoice containing changes to an invoice already generated and sent to a customer. Corrective invoices are issued for noncharge corrections, such as address or language changes and for charge corrections that affect the amount due in a finalized bill.

Customer service representatives (CSRs) can now use Customer Center to generate corrective bills for a specified account and billing period. Additionally, a new utility, **pin\_make\_corrective\_bills**, generates corrective bills based on user-specified criteria such as bill number, account number, accounts receivable (A/R) item type, adjustment reason, threshold amount, date range, correction reason, and corrective invoice type. This new utility can generate corrective bills individually or, when large numbers of bills are changed by processes such as rerating and backdating, in a batch.

The **pin\_inv\_accts** utility has been enhanced to generate both regular and corrective invoices. By default, BRM supports either of the following formats for a corrective invoice:

- **Replacement invoice.** A replacement invoice includes all A/R actions, bill items (corrected and uncorrected), and events (corrected and uncorrected) for the specified billing period. Adjustments are included for the corrected items and events that apply to the current corrective bill.
- **Invoice correction letter.** An invoice correction letter includes only the A/R actions that occurred after the preceding bill for the specified billing period was finalized and only the corrected bill items and events that apply to the current corrective bill (plus their corresponding adjustments).

BRM provides a summary and a detailed version of both invoice formats.

For more information, see the discussion of rebilling and corrective invoices in *BRM Configuring and Running Billing*.

## BRM Integration

This section describes BRM integration enhancements included in BRM 7.5.

### Defining Infinite Start and End Date Values for External Applications

In some external applications, the infinite date value is represented as a NULL (empty XML element) value and in other external applications as the epoch time (01-01-1970 1200 AM UTC).

You can now specify the values EAI Manager and JCA Resource Adapter use to represent infinite date values. For more information, see the discussion of setting infinite start date and end data values in *BRM Developer's Guide* and *BRM JCA Resource Adapter*.

## Collections Manager

This section contains the Collections Manager enhancements introduced in BRM 7.5.

### Requiring Agent to Progress with Manual Bill Collections Task

BRM enables you to set the status of a bill collection agent's tasks such that the collection agent must take action on the assigned collection tasks (and change their status). For more information, see the discussion of working with collections tasks in *BRM Collections Center Online Help*.

## Conversion Manager

This section contains the Conversion Manager enhancements introduced in BRM 7.5.

### Providing Timestamp Validation Mode for Data in Partitioned Classes

A timestamp validation mode can be encoded in the Portal object ID (POID) of objects that are in finite partitioned classes and imported through Conversion Manager into the BRM database. For more information on specifying how BRM encodes the appropriate creation time in the POID of each such object, see *BRM Managing Customers*.

## Customer Center

This section describes Customer Center enhancements included in BRM 7.5.

### Correct Validity Period Set When Product Is Purchased Using Customer Center

In earlier releases, the correct product validity period was not saved in the BRM database when doing product customizations. This issue is now fixed and Customer Center now passes the appropriate values for the unit and offset fields to the subscription and registration opcodes.

### Display Event Timestamps in Customer Center with Seconds Precision

You can now set up Customer Center to display event timestamps with seconds precision: for example, 4:30:55 p.m. In previous releases, the timestamp of any event displayed only the hours and minutes precision and did not include seconds precision. For more information, see the discussion of setting seconds precision in *BRM Developer's Guide*.

### Improved Account Search Performance in Customer Center

Customer Center includes enhancements that increase account search performance. You see the most significant performance improvements when you search for accounts by using exact search criteria, such as an account ID or device ID, rather than by using wildcard characters.

### New Permission Types

BRM includes enhancements to the permissions you set in Customer Center. You can provide permissions to CSR roles to allow them to modify customer data associated with services, plan product purchase details, and so on.

## Data Manager

This section contains the enhancements to Data Manager introduced in BRM 7.5.

### Limits to Shared Memory Size for "Big" Shared Memory Structures

The DM sets limits to the values you provide for the size of shared memory for "big" shared memory structures. For more information, see the discussion of setting DM shared memory size in *BRM Developer's Guide*.

## EAI Manager

This section contains the enhancements to EAI Manager introduced in BRM 7.5.

## Specifying the Date and Time Format for Business Events

EAI Manager now allows you to specify the format of the date field passed in business events to external applications. You can specify the date format by using the following new EAI Manager `Infranet.properties` file entry:

- **`infranet.eai.date_pattern`**: Specifies the date format based on the ISO-8601 standard. For example, you can set this entry to either of the following formats:
  - **`infranet.eai.date_pattern=dd/MMM/yyyy:hh:mm:ss`**
  - **`infranet.eai.date_pattern=yyyy-MM-dd'T'hh:mm:ss`**. Use this format if EAI Manager uses Oracle Application Integration Architecture (AIA) to exchange data with external applications.

For more information, see the discussion of setting the EAI Manager date and time format in *BRM Developer's Guide*

## General Ledger Data

This section contains the general ledger (G/L) enhancements introduced in BRM 7.5.

### Customizing G/L Data Before Storing It in /journal Objects

During event processing, BRM retrieves balance impacts from each event and adds it to the revenue summary in the appropriate `/journal` object. You can customize the data before it is written into `/journal` objects by:

- Enabling the **`CustomJournalUpdate`** business parameter.
- Customizing the `PCM_OP_GL_POL_PRE_UPDATE_JOURNAL` policy opcode.

For more information, see the discussion of customizing G/L data in *BRM Collecting General Ledger Data*.

## JCA Resource Adapter

This section contains the enhancements to JCA Resource Adapter introduced in BRM 7.5.

### Enhanced Transaction Management

JCA Resource Adapter now supports global transaction, no transaction, and local transaction levels as defined in the JCA 1.5 specification. This enhancement makes JCA Resource Adapter compliant with the JCA that can support different transaction levels in AIA systems.

### Multiple BRM Accounts in One Transaction

JCA Resource Adapter allows you to create multiple BRM accounts in one transaction and do so in any order within the transaction. For more information, see the discussion of connecting J2EE-compliant applications to BRM in *BRM JCA Resource Adapter*.

### Support for Additional Date Formats

JCA Resource Adapter now supports the following ISO-8601 date formats:

#### Short formats (with seconds)

- `yyyy-mm-ddT`
- `yyyy-mm-ddThh`

- yyyy-mm-ddThhZ
- yyyy-mm-ddT+hh
- yyyy-mm-ddT-hh
- yyyy-mm-ddThh+hh
- yyyy-mm-ddThh-hh
- yyyy-mm-ddThhZ+hh
- yyyy-mm-ddThhZ-hh
- yyyy-mm-ddThh:mm
- yyyy-mm-ddThh:mmZ
- yyyy-mm-ddThhmm
- yyyy-mm-ddThhmmZ
- yyyy-mm-ddT+hhmm
- yyyy-mm-ddT-hhmm
- yyyy-mm-ddThh:mm+hh
- yyyy-mm-ddThh:mm-hh
- yyyy-mm-ddThh:mmZ+hh
- yyyy-mm-ddThh:mmZ-hh
- yyyy-mm-ddThhmm+hh
- yyyy-mm-ddThhmm-hh
- yyyy-mm-ddThhmmZ+hh
- yyyy-mm-ddThhmmZ-hh
- yyyy-mm-ddThh+hh:mm
- yyyy-mm-ddThh-hh:mm
- yyyy-mm-ddThhZ+hh:mm
- yyyy-mm-ddThhZ-hh:mm
- yyyy-mm-ddThh+hhmm
- yyyy-mm-ddThh-hhmm
- yyyy-mm-ddThhZ+hhmm
- yyyy-mm-ddThhZ-hhmm
- yyyy-mm-ddThh:mm+hh:mm
- yyyy-mm-ddThh:mm-hh:mm
- yyyy-mm-ddThh:mmZ+hh:mm
- yyyy-mm-ddThh:mmZ-hh:mm
- yyyy-mm-ddThh:mm+hhmm
- yyyy-mm-ddThh:mm-hhmm
- yyyy-mm-ddThh:mmZ+hhmm
- yyyy-mm-ddThh:mmZ-hhmm

- yyyy-mm-ddThhmm+hhmm
- yyyy-mm-ddThhmm-hhmm
- yyyy-mm-ddThhmmZ+hhmm
- yyyy-mm-ddThhmmZ-hhmm
- yyyy-mm-ddThhmm+hh:mm
- yyyy-mm-ddThhmm-hh:mm
- yyyy-mm-ddThhmmZ+hh:mm
- yyyy-mm-ddThhmmZ-hh:mm

**Long formats (with seconds)**

- yyyy-mm-ddThh:mm:ss
- yyyy-mm-ddThh:mm:ssZ
- yyyy-mm-ddThhmmss
- yyyy-mm-ddThhmmssZ
- yyyy-mm-ddThh:mm:ss+hh
- yyyy-mm-ddThh:mm:ss-hh
- yyyy-mm-ddThh:mm:ssZ+hh
- yyyy-mm-ddThh:mm:ssZ-hh
- yyyy-mm-ddThhmmss+hh
- yyyy-mm-ddThhmmss-hh
- yyyy-mm-ddThhmmssZ+hh
- yyyy-mm-ddThhmmssZ-hh
- yyyy-mm-ddThh:mm:ss+hh:mm
- yyyy-mm-ddThh:mm:ss-hh:mm
- yyyy-mm-ddThh:mm:ssZ+hh:mm
- yyyy-mm-ddThh:mm:ssZ-hh:mm
- yyyy-mm-ddThh:mm:ss+hhmm
- yyyy-mm-ddThh:mm:ss-hhmm
- yyyy-mm-ddThh:mm:ssZ+hhmm
- yyyy-mm-ddThh:mm:ssZ-hhmm
- yyyy-mm-ddThhmmss+hh:mm
- yyyy-mm-ddThhmmss-hh:mm
- yyyy-mm-ddThhmmssZ+hh:mm
- yyyy-mm-ddThhmmssZ-hh:mm
- yyyy-mm-ddThhmmss+hhmm
- yyyy-mm-ddThhmmss-hhmm
- yyyy-mm-ddThhmmssZ+hhmm
- yyyy-mm-ddThhmmssZ-hhmm

You can use a negative or positive offset from -12:00 to +14:00; for example, -05:00 or +10:00. Optionally, you can use a colon to separate the offset hours and offset minute values.

## Number Administration Center

This section contains the enhancements to Number Administration Center introduced in BRM 7.5.

### Extending/Shrinking Number Blocks in Number Administration Center

In previous releases, you could not extend or shrink a block of numbers after they were created. You can now extend or shrink the existing number blocks using Number Administration Center.

For more information, see the discussion of managing telephone numbers in *BRM Telco Integration*.

## Operating System Support

This section contains the enhancements to operating system support introduced in BRM 7.5.

### BRM Reports Supported on Linux

BRM reports that are implemented with BI Publisher are certified on Linux operating systems. For more information, see *BRM Reports*.

### Designing and Generating Invoices in BI Publisher on Linux

BRM invoices that are designed, generated, and customized with BI Publisher are certified on Linux operating systems. For more information, see *BRM Designing and Generating Invoices*.

### Enhanced Processing of BI Publisher Invoice Documents

BRM enables you to specify the number of account and bill pair units the `pin_inv_doc_gen` utility should process at one time. For more information, see *BRM Designing and Generating Invoices*.

## Pipeline Configuration Center

BRM 7.5 now includes Oracle Communications BRM Pipeline Configuration Center (PCC), which is a Web-based application used to configure pipeline setup components for Pipeline Manager.

For information about pipelines and Pipeline Manager, see the BRM documentation.

For information about installing and administering PCC, see *BRM Installation Guide*.

For information about using PCC to configure pipeline setup components, see the PCC Help.

## Pipeline Manager

This section contains the enhancements to Pipeline Manager introduced in BRM 7.5.



## Enhanced Pipeline Throughput Performance

BRM allows you to specify whether Pipeline Manager ignores the event data records (EDRs) with a balance group already locked by another transaction and continue processing the remaining EDRs in the EDR file or roll back already processed EDRs and reprocess the same file. For more information, see the discussion of configuring discounting modules and components in *BRM Configuring Pipeline Rating and Discounting*.

## Preventing Parser Stack Overflow Errors

Pipeline Manager can encounter parser stack overflow errors when a pipeline registry section contains a large number of nested subsections.

You can now break up large nested subsections and prevent parser stack overflow errors by using anonymous blocks in your registry file. An anonymous block consists of a nested subsection with braces { } and no subsection name.

For more information, see the discussion of breaking up large nested subsections in *BRM System Administrator's Guide*.

## Rating Multiple Events for a Service

In previous releases, you could map multiple Pipeline Manager service codes to a single BRM service type. However, you could map only one event type to a single BRM service type. This implied that you could map only one event type to a Pipeline Manager service code. For example, to rate GSM usage events, you map the Pipeline Manager service code TEL to only one event type, `/event/delayed/session/telco/gsm`.

Now, the one-to-one event type and service type mapping restriction has been removed. You can now map multiple event types to a single service type to rate multiple events for a service. For example, to rate GSM and GSMTEL usage events for GSM Telephony service, you can map the `/event/delayed/session/telco/gsm` and `/event/delayed/session/telco/gsmtel` event types to the `/service/telco/gsm/telephony` service type.

For more information, see the discussion of mapping events to services in *BRM Setting Up Pricing and Rating*.

## Reducing Pipeline Startup Times

Pipeline Manager now has reduced startup times. The startup process is now multithreaded, allowing Pipeline Manager to:

- Load all pipelines in parallel.
- Load data modules in parallel.
- Load function modules in parallel.

For more information, see the discussion of optimizing Pipeline Manager performance in *BRM Configuring Pipeline Rating and Discounting*.

## Pricing Center

This section contains the enhancements to Pricing Center introduced in BRM 7.5.

### Loading Price List Data into Pricing Center

Previously, choosing **File - New** in Pricing Center opened the Database Snapshot pane and the price list work area and loaded all the existing pricing objects such as plans,

deals, products, and discounts from the BRM database into the Database Snapshot pane. This took a long time when there were a large number of pricing objects.

Pricing Center includes the following enhancements:

- After creating a new pricing object, or after editing or deleting an existing one from the work area, the Database Snapshot pane is refreshed automatically after you choose **File - Commit to BRM Database**. You do not need to choose **File - Update Snapshot** or click **Update Snapshot from the BRM Database** icon.
- Choosing **File - New** opens the Database Snapshot pane and the price list work area, but it no longer loads the existing pricing objects into the Database Snapshot pane. This change affects the following Pricing Center tasks:
  - Creating a new price list
  - Creating a new pricing object

### **Mapping Multiple Events to a Service Type**

BRM allows you to map multiple event types to a service type, create multiple reference mappings with the unique combination of reference ID, referenced object, and referenced parameter. For more information, see the discussion of defining reference mapping in *BRM Pricing Center Online Help*.

### **Validation to Prevent Accidentally Overwriting Products and Discounts**

When you drag a product or discount object onto a price list work area, Pricing Center currently validates that the object's name does not match the name of any existing object on the work area. If Pricing Center finds a matching name, it creates a copy of the object on the work area.

However, a product or discount object can exist in two Pricing Center work areas but have different names. To prevent you from accidentally overwriting these objects during drag operations, Pricing Center now compares an object internally against all existing objects on the work area. If it finds an identical object with a different name, Pricing Center now displays a warning message and asks if you want to replace the object or cancel the operation.

If you select to replace, Pricing Center overwrites the product or discount object on the price list work area. If you select to cancel, Pricing Center cancels the operation.

## **Reports**

This section contains the enhancements to Reports introduced in BRM 7.5.

### **New Stored Procedures**

You can now use stored procedures to generate the following reports:

- DroppedSessions
- SessionPop
- TaxAllSummary
- TaxExempt
- TaxJurSummary
- TaxJurDetail
- GPRSAPNUsage

- GPRSPRODUCTUSAGE
- GPRSErrorSummary
- GPRSErrorDetail
- BillingProvider
- ContentProvider

## Roaming Manager

This section contains the enhancements to Roaming Manager introduced in BRM 7.5.

### NRTRDE - TD35 Enhancements

Roaming Manager includes the following enhancements for NRTRDE (Near Real Time Roaming Data Exchange):

- Generating TD35-compliant NRTRDE file: NRTRDE is achieved by transferring roaming usage data records in TD35 file format. The generated NRTRDE file is compliant with TD35 file format. A TD35 record is structurally similar to a TAP (Transfer Account Procedure) record and contains basic call details (without the charging information), to allow HPMN (Home Public Mobile Network) operators to quickly analyze the usage data. The actual charge information is still exchanged using TAP records.
- Processing roaming usage data for NRTRDE: The incoming TD35 files are sent to the NRTRDE processing pipeline, where the input module uses NRTRDE input grammar to convert the TD35 records into EDR format and performs file and record validations based on the TD35 specifications.
- Generating NRTRDE Error report: This report lists the TD35 records that failed the NRTRDE incollect validation process. You can generate the report for a specific VPMN (Visited Public Mobile Network) operator or for all VPMNs. You send this report to the VPMN for corrections. Each NRTRDE Error report includes a header record, one or more detail records, and a trailer record.
- Generating NRTRDE File Delivery report: This report lists all the TD35 files processed by the HPMN. You can generate the report for a specific VPMN operator or for all VPMNs. Each NRTRDE File Delivery report includes a header record, one or more detail records, and a trailer record.

For more information, see the discussion of NRTRDE in *BRM Configuring Roaming in Pipeline Manager*.

### Roaming Manager Reports

BRM reports support TAP3.11 Roaming Manager that are implemented with BI Publisher. These TAP3.11 reports enable roaming partners that have not implemented NRTRDE to exchange high-usage roaming information with each other. For more information, see the discussion of Roaming Manager reports in *BRM Reports*.

### Support for TAP3.11 TD57 Version #28

BRM now supports TAP3.11 GSM TD57 specifications version #28.

## Simplified Plan Transitions

BRM provides a simpler way to configure plan-to-plan transitions using a policy opcode by passing the transition rules to the plan transition opcode. For more

information, see the discussion of managing customer services and products in *BRM Managing Customers*.

## Simple Network Management Protocol (SNMP)

This section contains the enhancements to SNMP introduced in BRM 7.5.

### SNMP Sub-Agent Probe Object ID Now Includes Process ID and Registry ID

In previous releases, the OID of a probe was not unique across the SNMP sub-agents. The SNMP sub-agent probe OID was independent of the SNMP sub-agent process ID and registry ID that the SNMP sub-agent registered with the SNMP master agent.

Now, the SNMP sub-agent probe OID includes the process ID and registry ID that the SNMP sub-agent registers with the SNMP master agent, making the OID of a probe unique across the SNMP sub-agents.

## Subscription Management

This section contains the enhancements to Subscription Management introduced in BRM 7.5.

### Backdating Events beyond Specified Billing Cycles without Automatic Rerating

BRM allows you to backdate events beyond the number of billing cycles without requesting to automatically rerate the events and then manually rerate the events. For more information, see the discussion of configuring comprehensive rerating in *BRM Setting Up Pricing and Rating*.

### Enabling Accounts to Be Created with Backdated Services or Resources

By default, when you create an account, its associated services and resources must have a creation date on or after the account creation date. You can now configure BRM to allow accounts to be created with the service or resource date backdated prior to the account creation date.

For more information, see the discussion of allowing accounts to be created with backdated services or resources in *BRM Managing Customers*.

### Enforce Deal Dependency in Canceled or Inactive States

To enable deal dependency validations when products or discounts are in the canceled or inactive state, the **ProductLevelValidation** parameter has been introduced in the `/config/business_params` object for subscription. For more information, see the discussion of deal dependency validations involving inactive or canceled products or discounts in *BRM Managing Customers*.

### Improved Billing Performance

Enhancements were made to improve the billing performance while retrieving product offerings and overridden products from the BRM database. For information on how to exclude closed offerings from being retrieved and how to exclude searches for overridden products, see the discussion of improving BRM performance in *BRM System Administrator's Guide*.

### Managing Discount End Dates during Mid-Cycle Cancellations

When the discount validity rule is set to **Full Discount** and a discount is canceled in the middle of a cycle, BRM, by default, cancels the discount at the end of the

accounting cycle. You can now configure BRM to cancel the discount immediately by using the **CancelFullDiscountImmediate** business parameter. For more information, see the discussion of managing discount end dates in *BRM Configuring Pipeline Rating and Discounting*.

### Support for Backdated Sequential Discounting

Previous releases did not support backdating the purchase, cancellation, or modification of sequential discounts beyond the current cycle. BRM now supports backdating the purchase, cancellation, or modification of sequential discounts when the validity rules are set to **Prorated discount**. BRM does not support backdating the purchase, cancellation, or modification of sequential discounts when the validity rules are set to **Full discount** or **No discount**.

## System Administration

This section contains the enhancements in BRM system administration introduced in BRM 7.5.

### IMDB Cache Manager Enhancements

Oracle In-Memory Database (IMDB) Cache DM includes the following enhancements:

- Oracle IMDB Cache DM is now certified with the following BRM components:
  - Auditing
  - Backdating
  - Batch rating via Pipeline Manager
  - Billing (with deferred taxation)
  - Branding
  - Collections
  - Invoicing
  - Rated Event (RE) Loader
  - Remittance
  - Reporting
  - Rerating
  - Revenue Assurance
- Oracle IMDB Cache DM is now certified with all BRM utilities.
- The `EVENT_BAL_IMPACTS_T` table is now stored in expanded format.
- Oracle IMDB Cache DM now supports union searches. This ensures that BRM finds usage events in both the Oracle IMDB Cache database and the BRM database.
- Account Migration Manager (AMM) now supports migration of subscriber data across IMDB Cache grids and across logical partitions in an IMDB Cache grid.
- Oracle IMDB Cache DM now uses the TimesTen Global Search feature to search for data that is spread across multiple logical partitions in a cache grid (or schema). This increases search performance and accuracy.

For more information, see the discussion of IMDB Cache Manager in *BRM System Administrator's Guide*.

### **Storage of Passwords in Configuration Files**

By default, the BRM installer stores database and account passwords in encrypted form in the **Infranet.properties** and **pin.conf** configuration files. The BRM applications can automatically decrypt the passwords when retrieving them from the configuration files.

By default, the passwords in the configuration files are encrypted in the Advanced Encryption Standard (AES) format. For more information, see the discussion of storage of passwords in configuration files in *BRM System Administrator's Guide*.

## **Third-Party Software**

This section contains the enhancements to Third-Party software introduced in BRM 7.5.

### **Enabling Collection of Client-Specific Information**

BRM provides support for RDA 4.21, which collects customer-specific information in its Third-Party installation package. For more information, see the discussion of monitoring and maintaining your BRM system in *BRM System Administrator's Guide*.

## **Web Services Manager**

This section contains the enhancements to Web Services Manager introduced in BRM 7.5.

### **Web Services Manager Sample Programs**

Web Services Manager now includes sample programs that demonstrate how to write code for various tasks when customizing Web services.

For more information, see the discussion of sample programs in *BRM Web Services Manager*.

## **New Opcodes**

This section contains the standard and policy opcodes introduced in BRM 7.5.

## **New Policy Opcodes**

The following tables list the new policy opcodes in BRM 7.5:

- [Accounts Receivable FM Policy Opcodes](#)
- [Billing FM Policy Opcodes](#)
- [Customer FM Policy Opcodes](#)
- [General Ledger FM Policy Opcodes](#)
- [Number Manager FM Policy Opcodes](#)

### **Accounts Receivable FM Policy Opcodes**

The following table lists the new Accounts Receivable Facilities Module (FM) policy opcodes in BRM 7.5.

New Policy Opcode	Description
PCM_OP_AR_POL_PRE_EVENT_ADJUSTMENT	Allows you to customize the input flist by adding or deleting events. Customizing the input flist allows you to include amounts from events into the total amount available for adjustments.

### Billing FM Policy Opcodes

The following table lists the new Billing FM policy opcodes in BRM 7.5.

New Policy Opcode	Description
PCM_OP_BILL_POL_VALID_CORRECTIVE_BILL	Validates a bill unit ( <b>/billinfo</b> object) at the time of corrective billing. It performs default policy validations and any custom validations that you provide. This policy opcode is called by the PCM_OP_BILL_MAKE_CORRECTIVE_BILL opcode.

### Customer FM Policy Opcodes

The following table lists the new Customer FM policy opcodes in BRM 7.5.

New Policy Opcode	Description
PCM_OP_CUST_POL_PRE_DELETE_PAYINFO	Performs custom actions on a <b>/payinfo</b> storable object prior to the deletion of that <b>/payinfo</b> object.

### General Ledger FM Policy Opcodes

The following table lists the new General Ledger FM policy opcodes in BRM 7.5.

New Policy Opcode	Description
PCM_OP_GL_POL_PRE_UPDATE_JOURNAL	Allows customization of general ledger data before it is recorded into <b>/journal</b> objects.

### Number Manager FM Policy Opcodes

The following table lists the new Number Manager FM policy opcodes in BRM 7.5.

New Policy Opcode	Description
PCM_OP_NUM_POL_DEVICE_DELETE	<ul style="list-style-type: none"> <li>▪ Checks the state of the device.</li> <li>▪ If the device state is PIN_NUM_STATE_NEW or PIN_NUM_STATE_UNASSIGNED, allows you to delete the device; otherwise, it generates an error and does not allow you to delete the device.</li> </ul> <p>This policy opcode is called by the PCM_OP_DEVICE_POL_DELETE policy opcode.</p>

### New Standard Opcodes

The following tables list the new standard opcodes in BRM 7.5:

- [Billing FM Standard Opcodes](#)
- [Price List FM Standard Opcodes](#)

### Billing FM Standard Opcodes

The following table lists the new Billing FM standard opcodes in BRM 7.5.

New Standard Opcode	Description
PCM_OP_BILL_MAKE_CORRECTIVE_BILL	Allows you to create a corrective bill for a <b>/bill</b> object at the time of billing. This opcode is called by the <b>pin_make corrective_bill</b> utility, Customer Center, and any external application configured to do so.

### Price List FM Standard Opcodes

The following table lists the new Price List FM standard opcodes in BRM 7.5.

New Standard Opcode	Description
PCM_OP_PRICE_GET_DISCOUNT_INFO	Retrieves real-time discount data along with pipeline discount model data from the BRM database.

## New Utilities

No utilities were introduced in BRM 7.5.

## New Storable Classes

The following table lists the new storable classes in BRM 7.5.

New Storable Class	Description
<b>/event/billing/corrective_bill</b>	This event object is created when a corrective bill is generated.
<b>/history_bills</b>	This object represents a copy of the bill unit ( <b>/bill</b> object). It is created when a corrective bill is generated.
<b>/status_dm</b>	Oracle IMDB Cache Manager uses this object to maintain transaction consistency between Oracle IMDB Cache and the BRM database. This object is loaded by the Oracle IMDB Cache Manager installer.

## New Notification Events

No notification events were introduced in BRM 7.5.

## New Pipeline Manager Modules, iScripts, and iRules

The following tables list the new Pipeline Manager modules, iScripts, and iRules in BRM 7.5.

### New Modules

The following table lists the new modules in BRM 7.5.

New Module	Description
FCT_AccountLPRouter	Looks up the logical partition in which an account resides and writes it to the LOGICAL_PARTITION_ID EDR field



## New iScript Functions

The following table lists the new iScript functions in BRM 7.5.

Function	Description
IRL_EventTypeSplitting_tt	Sends EDRs to separate output streams based on the IMDB Cache logical partition and service code.

## Known Problems

This section provides known problems and workarounds for this release.

### A/R Actions between Billing and Invoicing Not Captured in Invoice

SR number: NA

BugDB number: 12943360

The invoicing process does not pick up the details of any A/R action that occurs between the time when a bill is generated and when the invoice for that bill is produced.

Workaround: Run billing and invoicing as an atomic operation without other A/R actions in between. For more information, see *BRM Configuring and Running Billing*.

### An Empty Error Message Appears in PCC Installer Screen

SR number: NA

BugDB number: 14671011

If an empty error message appears in the PCC installer's WebLogic Administration Server Connection screen, it indicates that you selected the **Use SSL?** check box but did not enter the path of the client-side keystore file in the **Keystore Location** field.

To fix this problem, close the message, enter the keystore location in the **Keystore Location** field, and click **Next**.

See *BRM PCC Installation and System Administration Guide* for more information.

### Bill Not Displayed for Nonpaying Child for Period before Child Moved

SR number: NA

BugDB number: 12699367

In a server with multischema setup, with both primary and secondary schema, when using secondary schema, you can successfully move a child account in hierarchy with its parent account. While moving the child account as a subordinate account under the selected parent, the **Bill Now** option is selected to apply the current charges of the child account in a bill payable by the child account. Later for the subordinate child account, when you click **Refresh** from the **Balance** tab, the option to display the bills when the account was a paying account or to display the bills generated after it was moved as a nonpaying account is not displayed.

### Bill Now Generates Two Audit Objects for Nonpaying Child Items

SR number: NA

BugDB number: 12650966

When you run Bill Now on parent account selecting items corresponding to the nonpaying child account, two audit objects are created: one audit object for the parent account with an amount of 0 as revenue and another audit object for the child account, instead of just one object for the child account.

## Bill Write-Offs Always Stored in a Single Event

SR number: NA

BugDB number:13007880

When you write off a bill in Customer Center and select the **Create separate BRM event for tax** check box, BRM should create two write-off events: one for the net amount and one for the tax amount.

However, BRM currently creates one event with both the net and tax amounts, regardless of whether **Create separate BRM event for tax** is selected. Currently, there is no workaround.

## Cannot Automatically Allocate Payments to Bills with Zero Balance

SR number: NA

BugDB number: 12673735

After a bill's balance is zero, Customer Center disables the **Balance** tab's **Allocate** button. This prevents you from allocating adjustments to the bill.

Workaround: To automatically allocate adjustments to bills, use **allocate\_rerating\_adjustments**. For more information, see the discussion about allocating payments in *BRM Configuring and Collecting Payments*.

## Cannot Sort List in the Dialog Box That Opens by Clicking More in PCC

SR number: NA

BugDB number: 13581147

When you click the **More** link in a list, a dialog box that contains arrows for sorting data appears. Clicking the arrows does not sort data in the list. No workaround exists.

## Cannot Uninstall PCC in Silent Mode

SR number: NA

BugDB number: 13721053

You cannot uninstall PCC in silent mode by using the response file template.

To work around this issue, use the PCC installer to uninstall PCC. For more information, see *BRM Installation Guide*.

## Default Invoices Do Not Display Custom Events and Items

SR number: NA

BugDB number: 13074171

The default BI Publisher invoice templates shipped with BRM do not display data from custom **/event** and **/item** objects. If you create custom **/event** or **/item** objects, you must also customize the BI Publisher invoice templates to display your custom data.

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For more information, see the discussion about customizing invoices in *BRM Designing and Generating Invoices*.

### Invoices Do Not Display Charge Sharing Details Separately

SR number: NA

BugDB number: 12795396 and 12714837

The balances associated with charge sharing are not split into original charges and sponsored/shared charges in the invoices.

The total balances are correct and include any effect of charge sharing.

### Invoices Might Display Wrong Discount Amount

SR number: NA

BugDB number: 12975990

Invoices might display the wrong discount amount for subordinate accounts in a discount-sharing group. Currently, there is no workaround.

### Manual Cleanup Required If Incorrect WebLogic Password Used during PCC Uninstall

SR number: NA

BugDB number: 13095198

If you enter an incorrect WebLogic administrator password while uninstalling PCC, PCC is not completely uninstalled.

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**Note:** To view error messages regarding connectivity failure to the WebLogic server, check the log files in the **oraInventory/logs** directory. For more information about the **oraInventory** (Oracle Inventory) directory, see the Oracle documentation on the Oracle Technology Network Web site:

<http://docs.oracle.com>

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To complete the PCC uninstallation, manually delete the following items from the PCC domain WebLogic Server Administration Console:

- **oracle.communications.platform.cui.webapp** Java EE library
- **PipelineConfigurationCenter** enterprise application
- **PipelineDB** JDBC data source
- **Config Admin** group

For more information, see the Oracle WebLogic Server Administration Console Help.

### PCC Does Not Warn You to Save Your Changes

SR number: NA

BugDB number: 12725557

After modifying data, you are not warned that you have unsaved changes when you do the following:

- Close the tab
- Navigate to another tab
- Log out of PCC

If you perform any of those actions before saving your changes, the changes are lost.

## **PCC Help Window Displays Incorrect Message after It Times Out**

SR number: NA

BugDB number: 14622825

When the PCC Help window times out, it displays the following message after you click **OK** in the Page Expired message:

```
No config parameter specified in the url or invalid config parameter. Please
contact your administrator for more information.
```

Do not contact your administrator. Just close the Help window.

## **PCC Opens in a Dialog Box on Top of a Timed-Out Instance of PCC**

SR number: NA

BugDB number: 13611091

If PCC times out while a dialog box is displayed, a browser message similar to the following might appear:

```
Are you sure you want to navigate away from this page?
There are one or more dependent dialogs open.
Navigation from this page will invalidate any open dialogs.
Press OK to continue or Cancel to stay on the current page.
```

If you click **Cancel**, a new instance of PCC opens in the dialog box instead of in the main browser window. Do not work in the dialog box instance of PCC. Instead, close the main browser window, and log in to PCC in a new browser window.

To avoid this problem, click **OK** in the browser message.

## **Refund Is Incorrectly Calculated When Sequential Discount Cancelled**

SR number: NA

BugDB number: 12872595

On cancelling a sequential discount on a cycle forward arrear event, the refund amount is calculated incorrectly.

## **Settlement Taxes Might Be Incorrectly Calculated**

SR number: NA

BugDB number: 5772496

If you adjust only the tax amount in an event (by calling the PCM\_OP\_AR\_EVENT\_ADJUSTMENT opcode with the PIN\_EVENT\_ADJ\_TAX\_ONLY flag) and then dispute the item containing the event, the settlement tax is not calculated correctly; therefore the total due amount of the item is incorrect. The settlement is calculated correctly only when the denied amount is **0**. This occurs with both real-time and deferred taxation. Currently, there is no workaround.

## Summary Invoices Do Not Show Real-Time Discount and Tax Details for Items

SR number: NA

BugDB number: 12685844

Summary invoices display data related to charges at the item level. Details of real-time taxes or real-time discounts are not displayed separately on summary invoices. The charges for the billable items include this data.

To view these details on invoices, generate the invoices in one of the following ways:

- Use the detailed format.
- Customize the item assignment configuration to aggregate the discounts and taxes into their own separate items.

The invoices will contain separate lines for the discounts and taxes. For more information, see *BRM Designing and Generating Invoices*.

## Tax Not Recalculated after Rerating

SR number: NA

BugDB number: 12674568

When you rerate the bill amount after rerating the changes, the tax amount is not recalculated.

To work around this problem, manually adjust the tax amount.

## Unsupported BRM Components

The following BRM components are no longer supported in BRM 7.5:

- AAA Gateway Manager
- TIMOS Manager
- HP OpenView

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**Note:** RADIUS Manager was not supported in the initial BRM 7.5 release. Support for RADIUS Manager was added in BRM 7.5 Patch Set 9.

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To interface BRM with IMS networks, you must now use Oracle Communications Service Broker (OCSB) Online Mediation Controller (OCMC). For more information, see the following documents:

- *Oracle Communications Service Broker Concepts Guide*
- *Oracle Communications Service Broker Online Mediation Controller Implementation Guide*

These documents are part of the Oracle Communications Service Broker 6.0 documentation set.

