Oracle® Communications
Billing and Revenue Management
Collections Manager
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This guide describes how to use Oracle Communications Billing and Revenue Management (BRM) Collections Manager to manage collections for your business.

**Audience**

This guide is intended for anyone who installs, configures, or administers Collections Manager and for those who manage collections for your business.

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**Related Documents**

For more information, see the following documents in the BRM Release 12.0 documentation set:

- BRM Release Notes
- BRM Concepts
Understanding Collections Manager

This document provides an overview of using Oracle Communications Billing and Revenue Management (BRM) Collections Manager to manage collections for your business.

See also:
- Installing and Configuring Collections Manager
- Setting Up Collections Manager
- List of Collections Features
- BRM Concepts

About Collections

Collections, or debt management, is a proactive process used by businesses to collect overdue payments from their customers. Collections includes identifying accounts that have overdue balances, determining whether those accounts meet predefined criteria for action, and then taking those actions.

Every business defines its own processes, but collections generally involves a series of increasingly serious steps taken against the customer:

- There is usually a minimum amount due that qualifies for collections. Very small amounts may not be worth the effort required to collect them.
- In most cases, businesses allow a grace period after payment is due. If payment is received within the grace period, no action is taken.
- After the grace period ends, a first action such as a reminder on an invoice, a dunning letter, or a phone call takes place. A late fee may also be assessed.
- If no payment is received as the result of the first collections action, additional steps can be taken. These actions range from additional letters or phone calls to stopping service to referring the case to a collections agency.
- An account is removed from collections when the overdue amount and any late fees are paid or when the debt is written off.

About Collections Manager

Collections Manager is an optional product that manages in-house debt collection. Collections Manager performs all of its activities at the bill unit (/billinfo object) level rather than at the account level. When an account has multiple bill units, Collections
Collections Manager targets only those bill units that have overdue balances, but it ignores the account’s bill units that do not qualify for collections.

Collections Manager provides tools that enable you to:

- Configure collections criteria
- Determine which bill units have overdue balances
- Apply your collections criteria to those bill units
- Perform automatic collections activities, such as imposing late fees and sending dunning letters
- Manage manual collections activities, such as phone calls by collections agents, or converting payments to installments
- Replace a billing scenario based on the severity

Collections Manager includes client and server components that work together, as shown in Figure 1–1.

Collections Manager includes these main components:

- **Collections Configuration**: A GUI application used to define collections scenarios and actions, set up aging buckets, and define user roles for collections personnel. See "Setting Up Collections Manager".

Figure 1–1 Collections Manager Components
About Collections Manager

- **Collections Center**: A GUI application used by collections agents and collections managers. Collections agents use it to view, add, and cancel collections actions for bill units. Collections managers use it to oversee the collections process and to assign bill units to agents.

- **Collections Reports**: A comprehensive reporting feature that you use to display information such as the bill unit status, the delinquent amount, and the total balance for all bill units in collections. Reports can be displayed in summary or detailed form. See "Collections Manager Reports" in *BRM Reports*.

- **Utilities**: Command-line applications that perform specific collections tasks.
  - The `pin_collections_process` utility is a daily batch process that identifies bill units that should be placed in collections and performs automatic collections actions. `pin_collections_process` uses criteria set up in Collections Configuration to identify bill units.
  - The `pin_collections_send_dunning` utility is a daily batch process that generates dunning letters based on data collected by `pin_collections_process`. Dunning letters can be sent via email or printed.
  - The `pin_load_template` utility loads dunning letter templates into the database.
  - The `load_config` utility loads additional criteria to be used for assigning a bill unit to a collections scenario.

- **Collections Manager Facilities Modules (FMs)**: Opcodes that are called by the collections applications and utilities. There are standard opcodes that perform the basic collections functionality and policy opcodes that you use to customize that functionality. See "Collections Manager FM Standard Opcodes" and "Collections Manager FM Policy Opcodes" in *BRM Developer’s Reference*.

- **Storable classes**: New and extended classes, including `/config` subclasses, that store collections-related data.

You use Collections Center to perform day-to-day collections tasks. It supports the work of both collections agents and collections managers.

You assign collections roles (agent and manager) in the Collections Configuration application. All collections personnel must have customer service representative (CSR) accounts.

Collections agents monitor and execute collections activities for the bill units assigned to them. Using Collections Center, collections agents can:

- View collections tasks for bill units assigned to them.
- Monitor the status of both automatic and manual actions defined by the collections scenario.
- Insert new actions for a particular bill unit.
- Reschedule actions.
- Receive credit card payments.

Collections managers supervise the work of collections agents. Using Collections Center, managers can:

- Find specific bill units in collections.
- View bill units.
- View all collections tasks scheduled for a bill unit.
- Assign bill units to collections agents.
- View collections tasks assigned to particular agents.
- Exempt bill units from collections.
- Perform all collections agent tasks.

How Collections Manager Processes Bill Units

The main Collections Manager process (triggered by the `pin_collections_process` utility) searches the BRM database to find bill units with overdue balances and bill units that are already in collections.

---

**Note:** You should run `pin_collections_process` every day to ensure that bill units enter collections promptly. The timing of actions, such as invoice reminders, dunning letters, and late fees, is based on the day the bill unit enters collections. See "About Overdue and Entry Dates".

---

Collections Manager processes bill units in two phases:

- During collections preprocessing, the bill unit is evaluated to determine if it should enter, exit, or remain in collections.
- During scenario processing, a bill unit that enters or remains in collections is processed based on its collections profile. These profiles are used only for collections and are not the same as the customer profiles associated with accounts.

Collections Manager Preprocessing

During preprocessing, Collections Manager determines whether an account’s bill unit should enter, exit, or remain in collections. Preprocessing differs depending on whether the bill unit is already in collections.

- **For bill units already in collections**, the process compares the current overdue balance to the exit criteria you defined in the collections scenario (see "About Scenario Processing"). If the overdue balance is less than or equal to the exit criteria for the bill unit’s scenario, the bill unit is removed from collections. If the overdue balance is greater than the exit criteria, the bill unit remains in collections and enters scenario processing.

  For example, if the exit criteria is an overdue balance less than or equal to $10, a bill unit with an overdue balance of $8 would be removed from collections, and a bill unit with an overdue balance of $20 would remain in collections.

- **For bill units not in collections**, the process compares the current overdue balance to the minimum collections value that you defined. (See "Setting the Minimum Overdue Balance to Process").

  - If the overdue balance is less than the minimum collections value, the bill unit remains out of collections and no further action takes place.
  - If the overdue balance is greater than the minimum collections value, the bill unit is assigned to a collections profile based on criteria you defined in advance. By default, all bill units belong to a single collections profile, but you can create any number of custom profiles. For example, you can assign bill units to profiles based on credit score or payment history. See "Setting Up Collections Profiles".
After a bill unit is assigned to a collections profile, the collections process checks if the bill unit meets the entry criteria for any of the scenarios that are valid for the bill unit’s profile. The default entry criteria are based on severity, overdue balance and the number of days overdue. For example, you can specify an overdue balance of $100 that is at least 30 days old. You can define additional parameters for the entry criteria. See “About Collections Scenarios”.

- If the bill unit does not meet the entry criteria for any of the scenarios for its collections profile, it remains out of collections and no further action takes place.
- If the bill unit meets the entry criteria for a scenario, it is assigned to that scenario, enters collections, and proceeds to scenario processing.
- If the bill unit meets the entry criteria for more than one scenario, it is assigned to the scenario with the highest entry criteria or the highest severity.

For example, you might have the following three scenarios for a collections profile:
- $50 entry requirement and severity 1
- $100 entry requirement and severity 1
- $100 entry requirement and severity 2

A bill unit with an overdue balance of $101 is assigned to the scenario with the $100 requirement with severity 1 because it has the highest entry criteria and the highest severity.

- If you have configured additional parameters for the entry criteria, the bill unit is evaluated for the new scenario. If the new scenario is different from the existing scenario, the bill unit is exited from the existing scenario and is assigned to the new scenario. For example: while in collections, the customer makes a partial payment that reduces the overdue balance sufficiently to allow a scenario replacement to something less severe. The customer service representative (CSR) triggers an automated scenario replacement process that reevaluates the scenario assignment logic on the bill unit and assigns the bill unit to a new scenario.

About Scenario Processing

A collections scenario defines severity, entry and exit criteria as well as the sequence of actions that take place while an account’s bill unit is in collections. See “About Collections Scenarios”.

During scenario processing, Collections Manager first determines if any actions are due for this bill unit today. The timing of actions is based on the number of days since the bill unit entered the scenario. (For more information about the dates used in scenario processing, see “About Overdue and Entry Dates”.) If an action is due today, Collections Manager then determines whether the action has a Pending status. (See "About Collections Action Dependencies".)

- If no actions are due, the process moves to the next bill unit.
- If the scenario includes actions to be carried out today but they have a Waiting For Dependents status, the process moves to the next bill unit.
- If the scenario includes actions to be carried out today and they have a Pending status, these actions are executed. Some actions happen automatically, some require manual intervention.
  - Automatic actions are performed by Collections Manager. They include predefined actions, such as sending dunning letters or invoice reminders, as well as custom actions that you define. See “Understanding System Actions”
and "Understanding Custom Actions".

Manual actions, such as making phone calls, or converting payments to installments, are performed by collections agents. Collections agents use Collections Center to track the bill units and actions, either mandatory or optional, for which they are responsible. See "Understanding Manual Actions".

After all scheduled actions have taken place, Collections Manager updates the bill unit's balance and checks to see if the bill unit now meets the exit criteria for the scenario. (It is possible that a payment was received as part of a manual action or that the scenario calls for writing off the balance.)

- If the new overdue balance is less than or equal to the amount specified in the scenario's exit criteria, the bill unit exits the scenario and leaves collections.
- If the overdue balance is still greater than the exit criteria, the bill unit remains in collections.

### About Collections Scenarios

Collections scenarios determine the way bill units are handled in Collections Manager. Scenarios define the entry criteria that determine whether a bill unit will be handled by the collections system, the sequence of actions that take place when a bill unit is in collections, the exit criteria that determine when a bill unit leaves collections, and the severity level that determines priority of the scenario assignment to a bill unit when a bill unit is eligible for two scenarios that have the same entry criteria.

For example, you can define a scenario with the following characteristics:

- A bill unit enters collections with a minimum overdue balance of $100 that is at least 30 days old.
- A bill unit leaves collections when the overdue balance falls below $25.
- The customer receives a courtesy phone call after 10 days in collections.
- A late fee is assessed and a dunning letter is sent after 30 days in collections.
- A second dunning letter is sent after 45 days.
- The bill unit is closed and the debt written off after 120 days.
- The bill unit is inactivated after 180 days.
- The severity level that determines the priority of the scenario assignment.

Each scenario includes a list of actions that are performed either:

- On their due date. For example, a manual phone call is made 5 days after the bill unit enters collections, and a dunning letter is sent 10 days after the bill unit enters collections.
- In a specified order. For example, a CSR must make a courtesy phone call to the customer before the system refers the account to a collections agency.

### About Overdue and Entry Dates

There are two important dates that collections managers use when processing bill units:

- The overdue date is the due date of the bill that causes the bill unit to enter collections. By default, Collections Manager uses the due date of the latest overdue bill at the time that the bill unit enters collections.
You can configure Collections Manager to use the earliest due date instead. See "Configuring How Collections Manager Determines Dates".

- The **entry date** is the date on which the bill unit enters a collections scenario. By default, Collections Manager defines the entry date as the overdue date plus the number of days specified in the scenario’s entry criteria. For example, if the bill due date is June 15 and the scenario specifies that the bill must be at least 10 days overdue, the entry date is June 25. You can configure Collections Manager to use the actual date on which the bill unit is processed and enters collections. See "Configuring How Collections Manager Determines Dates".

**Note:** Do not schedule actions for the same calendar date as the entry date. Scheduling actions on the entry date can cancel the actions.

Collections Manager stores the overdue date in the PIN_FLD_OVERDUE_T field of the /collections_scenario object.

Collections Manager uses the overdue date to determine the aging buckets into which a bill unit falls during scenario processing. Aging buckets are used to display information about the age of overdue balances. This information is displayed in Collections Center. For example, you could define 30-day, 60-day, and 90-day buckets. The 30-day bucket holds balances that are 1 to 30 days overdue. The 60-day bucket holds balances that are 31 to 60 days overdue, and the 90-day bucket holds balances that are 61 to 90 days overdue. Balances older than 90 days fall into an implicit fourth bucket.

Collections Manager uses the entry date to determine when the actions specified in a scenario take place. For example, you can define a scenario so that a dunning letter is sent 30 days after the bill unit enters the scenario.

**Important:** If you run Collections Manager irregularly or at long intervals, the overdue and entry dates for a bill unit could be misleading. For example, if you do not run collections for several months, a bill unit that has not paid its bill during this period will enter collections with overdue and entry dates based on the latest of several overdue bills. As a result, collections actions will begin after a lengthy period of nonpayment. To avoid this risk, you should run collections regularly, preferably daily.

### About Collections Action Dependencies

Collections action dependencies ensure that all of a scenario’s actions are performed in order and maintain the interval between actions. To do this, Collections Manager:

- Determines whether a scenario’s preceding action has been completed or canceled before performing an action on its due date.
- After an action is completed or canceled, reschedules the due date of all of the scenario’s remaining actions.

For example, assume a collections scenario includes the following actions:

- **Action 1:** Collections agent makes a courtesy phone call two business days after the bill unit enters collections.
- **Action 2:** Collections Manager sends an invoice reminder four business days after the bill unit enters collections.
Action 3: Collections Manager applies a late fee six business days after the bill unit enters collections.

On day four, Collections Manager determines whether Action 1 has been completed or canceled and, since Action 1 is still open, does not send an invoice reminder. After the collections agent makes the courtesy phone call on day five, Action 1 is marked as completed and then Collections Manager reschedules Action 2 for seven business days after the bill unit enters collections and Action 3 for nine business days after the bill unit enters collections. This ensures that there are two business days between the courtesy phone call and the invoice reminder, and four business days between the courtesy phone call and the late fee.

Collections Manager creates dependencies between actions in a scenario by using action status settings:

- **Pending**: This status specifies that the action can be executed on its due date. All preceding actions have been canceled or completed.

- **Waiting For Dependents**: This status specifies that the action cannot be performed until the preceding action is canceled or completed. If an action is set to this status on its due date, Collections Manager does not perform the action and then moves to the next bill unit.

When a bill unit first enters a collections scenario, Collections Manager sets the first action’s status to Pending and all other actions’ status to Waiting For Dependents. After the first action is completed or canceled, Collections Manager updates the second action’s status from Waiting For Dependents to Pending and then reschedules the due date of all remaining actions. After the second action is completed or canceled, Collections Manager updates the third action’s status from Waiting For Dependents to Pending and reschedules the due date of all remaining actions. This process continues for all of the scenario’s remaining actions.

**About Collections Groups**

Some countries have legal requirements that prevent actions, such as collections, from being taken against minors. This law applies to minors even when they have their own accounts and pay their own bills. Collections groups enable you to define the legal entity, such as a parent or guardian, who is responsible for a bill if it enters into collections.

When you create an account and its bill units, you can specify whether collections actions must be taken against another account and bill unit. To do this, you create a collections group, which consists of the following:

- A parent bill unit: During collections processing, Collections Manager enters only the parent bill unit into a collections scenario. The parent bill unit is assigned a collections scenario based on:
  - The combined overdue balance from all bill units in the collections group. For example, if one child bill unit is $100 past due and a second child bill unit is $50 past due, the overdue balance is $150.
  - The oldest due date from all bill units in the collections group. For example, if one child bill unit had a due date of June 1 and the second child bill unit had a due date of June 10, the overdue date is June 1.

- One or more child bill units: During collections processing, Collections Manager skips all child bill units in the group. The child bill unit and parent bill unit do not need to be linked hierarchically.
A bill unit can belong to only one collections group, and a parent bill unit cannot be a child bill unit of the same collections group. You can change a collections group’s parent and add or remove child bill units at any time.

When you define a collections action in Collections Configuration Center, you can specify whether the action applies to the parent bill unit, to all the child bill units, or to the parent and all the child bill units. For example, you can specify that all "Referring the Account to a Collections Agency" actions apply to the parent bill unit only, and all "Sending a Dunning Letter" actions apply to the parent and all child bill units.

**Corrective Billing and Collections**

When BRM generates a corrective bill for a bill that is not yet in collections, the Collections Manager uses the sum of the adjustments for the bill to determine whether an account’s bill unit should enter collections.

If BRM generates a corrective bill for a bill already in collections, Collections Manager takes the following actions based on the sum of the adjustments for the bill:

- If the sum of the adjustments for the bill goes below the threshold, BRM moves that bill out of collections.
- If the sum of the adjustments for the bill remains above the threshold, BRM maintains the account’s bill unit in collections but replaces the bill number of that bill with the bill number of the corrective bill.

**Promise-to-Pay Agreements**

When a bill unit is in collections, the customer can request a promise-to-pay agreement. This agreement allows you to defer running the collections actions for a bill unit, allowing the customer to pay the due amount at a date beyond the original payment due date. The customer can pay the due amount in installments.

Using Collections Center, you can add or update a customer’s payment method and reschedule payment dates and amounts for Promise to Pay and Collect Payment actions.

To use these options in Collections Center, you must set the following permissions through Permissioning Center:

- `/collectionapps/collections/updatepayment`: To allow you to update promise-to-pay payment details in Collections Center.
- `/collectionapps/collections/newcard`: To register a new credit card or direct debit account details.
- `/collectionapps/collections/maskcarddetails`: To see all the digits of the credit card or the direct debit account.

**Note:** If credit card tokenization is enabled, you can view only the last four digits of the credit card. See "About Credit Card Tokenization" in BRM Implementing Payment Processing.

By default, the Promise to Pay option is available in the Collections Center Actions menu. To disable the Promise to Pay option in the Collections Center Actions menu, use the `/collectionapps/collections/promisetopay` permission.

You can customize the system’s behavior using the policy opcodes. See BRM Opcode Guide for more information.
About Defining Rule-Based Collections Scenario Assignment

By default, Collections Manager assigns the collections scenario to the bill unit based on the overdue balance and the number of overdue days. You can use the `load_config` utility to load additional parameters to be used for the collections scenarios assignment. The utility loads the additional parameters into the `/config/collections/scenario_params` object that is used to define an evaluation formula. Each formula is in turn linked to the collections scenario assigned to the bill unit.

Using Collections Configuration, you can add, modify, or delete the value of the additional parameters from the scenario definitions.

About Collections Scenario Replacement

When a bill unit meets the entry criteria for a collections scenario, it is assigned to that scenario, enters collections, and proceeds to scenario processing. If there is a change in the criteria, such as the customer making a partial payment, the bill unit may not meet the entry criteria for the collections scenario. Collections Manager reevaluates the entry criteria based on additional parameters and replaces the assigned collections scenario with a new collections scenario. See `BRM Opcode Guide` for more information.

When a bill unit is in collections, you can use Collections Center to replace the collections scenario assigned to the bill unit.

Customizing Collections

You can use opcodes to customize collections, for example:

- You can customize dunning letter data before it is stored in the BRM database. For example, you can enrich the standard data with additional information, such as the date on which the account will be inactivated.
- You can apply finance charges to overdue amounts.
- You can customize how BRM calculates the collections due date (for example, to take holidays into account).
- You can customize how BRM charges late fees for overdue charges.

See the chapter about collections opcodes in `BRM Opcode Guide`. 
This document lists the collections features in Oracle Communications Billing and Revenue Management (BRM).

**Collections Features**

This table lists collections features.

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<th>Topics</th>
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<td>Integrating Collections Manager with Custom Client Applications</td>
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</tbody>
</table>
Installing and Configuring Collections Manager

This document explains how to install the Oracle Communications Billing and Revenue Management (BRM) Collections Manager software. Installation includes both client and server components.

**Note:** Collections Manager Reports are installed separately. See "Installing BRM Reports" in *BRM Reports.*

See also:
- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

### Installing and Configuring Collections Manager Server

The Collections Manager server components include opcodes, utilities, and storable classes.

### Installing Collections Manager

You can install Collections Manager in the `BRM_home` directory. For instructions, see "Installing Individual BRM Components" in *BRM Installation Guide.*

### Configuring Collections Manager

This section describes how to configure the Collections Manager software.

#### Updating Partitions

If your event tables are partitioned during installation, run the `partition_utils` utility with the `-o update` parameter from the `BRM_home/apps/partition_utils` directory:

```
perl partition_utils.pl -o update
```

For more information, see "Updating Partitions" and "partition_utils" in *BRM System Administrator’s Guide.*

#### Configuring the pin_bill_day Script to Run Collections

To run collections automatically, you need to edit the `pin_bill_day` script.
1. Open the `pin_bill_day` script in a text editor. The script is located in `BRM_home\bin`.

2. Find the Collections Manager section of the script. If the following lines are commented out, remove the comment marks:
   ```
cd ${PINDIR}/apps/pin_collections
pin_collections_process
pin_collections_send_dunning
```

3. Save and close the file.

**Uninstalling BRM Collections Manager**

To uninstall BRM Collections Manager, See "Uninstalling Optional Components" in *BRM Installation Guide*.

**Installing Collections Manager Client**

Before installing BRM Collections Configuration Center, you must install:

- BRM Collections Manager. See "Installing and Configuring Collections Manager Server".
- An application such as WinZip for extracting compressed files.

*Table 3–1* shows the disk space required to download, extract, and install the Collections Manager client application:

<table>
<thead>
<tr>
<th>Application</th>
<th>Required Space (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collections Configuration Center</td>
<td>110</td>
</tr>
</tbody>
</table>

**Installation Collections Configuration Center**

You install the Collections Configuration Center in the same way that you install other BRM clients. See "Installing BRM Clients" in *BRM Installation Guide*.

**Uninstalling Collections Configuration Center**

To uninstall Collections Configuration Center, See "Uninstalling BRM Client Applications" in *BRM Installation Guide*. 
Assigning Collections Personnel Roles

This document explains how to set up roles in Oracle Communications Billing and Revenue Management (BRM) Collections Manager.

See also:
- Understanding Collections Manager
- List of Collections Features

Assigning Collections Personnel Roles

If you use Collections Center to manage collections activity, you need to assign personnel roles to collections agents and collections managers. You assign collections roles in Collections Configuration. The tasks that collections personnel can perform and the information they can see depend on their role.

Collections Configuration displays a list of all CSR accounts. You select the accounts that should have a collections role.

To customize how agents are assigned, use the PCM_OP_COLLECTIONS_POL.Assign.Agent and PCM_OP_COLLECTIONS_POL.Assign.DCA opcodes. See BRM Opcode Guide.
This chapter explains how to set up Oracle Communications Billing and Revenue Management (BRM) Collections Manager.

Topics in this document:
- Adding Custom Pay Types
- Setting the Minimum Overdue Balance to Process
- Setting the Number of Bill Units Retrieved during Step Searches
- Setting Up Invoice Reminders
- Creating Dependencies between Collections Actions in a Scenario
- Adding Custom Reason Codes for Collections Center

See also:
- Understanding Collections Manager
- List of Collections Features

Adding Custom Pay Types

When you run the `pin_collections_process` utility to trigger collections actions, the utility considers only bill units with the default pay types. If you created a custom payment type, you need to configure collections to support it.

To add custom pay types:

1. Open the `pin_collections` configuration file (`BRM_home/apps/pin_collections/pin.conf`) in a text editor, where `BRM_home` is the directory in which the BRM server software is installed.

2. Enter the custom BRM pay type code in the `pay_type` entry:

   - `pin_collections_process pay_type PaymentType`

   For example, enter `10013` for the wire transfer payment type:
   
   - `pin_collections_process pay_type 10013`

   To add multiple custom pay types, separate the `PaymentType` entries by a comma.

   - `pin_collections_process pay_type 10013,10014`

**Note:** You can find valid pay type codes in the `BRM_home/include/pin_cust.h` file, under PAY_TYPE.
3. Save and close the file.

Setting the Minimum Overdue Balance to Process

You can specify the minimum overdue balance that triggers Collections Manager. When you run pin_collections_process, only bill units with overdue balances greater than or equal to the amount you specify are considered.

**Important:** The value you specify in the collections pin.conf file is a system-wide minimum value. Collections scenarios cannot have entry criteria lower than this value. For example, if the minimum value in the collections pin.conf file is $20 and a collections scenario has an entry criteria of $10, a bill unit will enter collections only if its overdue balance is $20 or more.

To set the minimum overdue balance for collections:

1. Open the pin_collections configuration file (BRM_home/apps/pin_collections/pin.conf) in a text editor.
2. Set the minimum_due entry to the minimum overdue balance:
   - pin_collections_process minimum_due Amount
   For example, enter 25 to specify $25:
   - pin_collections_process minimum_due 25.00

   **Note:** The default is 0.0.

3. Save and close the file.

Setting the Number of Bill Units Retrieved during Step Searches

The Collections Facilities Module (FM) opcodes use step search when searching for bill units. The step size determines the number of bill units retrieved at one time. You can improve performance by changing this value.

To specify the number of bill units to retrieve in step searches:

1. Open the Connection Manager (CM) configuration file (BRM_home/sys/cm/pin.conf) in a text editor.
2. Set the account_search_batch entry to the number of bill units.
   - fm_collections account_search_batch Amount
   For example, enter 500 to retrieve 500 bill units with each step of the search.
   - fm_collections account_search_batch 500

   **Note:** The default is 1000.

3. Save and close the file.
4. Stop and restart the CM.
Setting Up Invoice Reminders

Collections Manager uses the Universal Message Store (UMS) framework to deliver invoice reminders. See "Using BRM Messaging Services" in BRM Developer’s Guide for general information.

To use invoice reminders as part of the collections process, you must complete three tasks related to the UMS framework:

- Enable messaging by modifying the PCM_OP_INV_POL_PREP_INVOICE policy opcode. See “Enabling Messaging” in BRM Developer’s Guide.
- Load a message style sheet (message.xsl) that makes it possible to display messages in invoices. See "Loading the Message Style Sheet” in BRM Developer’s Guide.
- Load invoice reminder templates into /string objects in the BRM database. See "Creating and Loading Message Templates" in BRM Developer’s Guide. Collections Manager includes a sample invoice reminder template that you can modify and rename as necessary. The file is BRM_home/sys/msgs/messages/message_invoice_reminder.en_US.

Creating Dependencies between Collections Actions in a Scenario

By default, Collections Manager performs automated collections actions on their due date, regardless of whether the preceding collections actions have been completed or canceled. This can cause collections actions to be completed out of order.

You can configure Collections Manager to create dependencies between collections actions in a scenario and thus perform collections actions in order.

When so configured, Collections Manager performs the following additional steps during scenario processing:

- Performs a collections action on its due date only if the action’s status is set to Pending.
- After completing or canceling a collections action, Collections Center asks whether to reschedule the due dates of any outstanding collections actions in the scenario. When set, Collections Manager calculates the difference in days between the action’s completed or canceled date and the action’s due date, and then moves the due dates of all outstanding actions by the calculated number of days. For example, assume a collections scenario contains two collections actions:
  - Action 1: A manual phone call from an agent 5 days after the bill unit enters collections.
  - Action 2: Referring the case to an outside collections agency 10 days after the bill unit enters collections.

  If action 1 does not occur until day 7, Collections Manager changes the due date of action 2 from day 10 to day 12. This maintains the interval between Action 1 and Action 2.

To create dependencies between collections actions in a collections scenario:

1. Open the CM configuration file (BRM_home/sys/cm/pin.conf) in a text editor.
2. Set the collections_action_dependency entry to 1.
   - fm_collections collections_action_dependency 1
Adding Custom Reason Codes for Collections Center

In Collections Center, you can perform operations such as inserting new actions, rescheduling actions, and exempting bill units from collections.

For many of these operations, you choose a reason that is associated with the action. Collections Center includes a default set of reasons, which you can modify.

To modify the default reasons, you can add or change reason codes in each reasons.locale file.

---

**Note:** The default is 0, which disables dependencies between collections actions.

3. Save and close the file.

4. Stop and restart the CM.
This document describes how to set up collections dunning letters in Oracle Communications Billing and Revenue Management (BRM).

Topics in this document:

- About Setting Up Dunning Letters
- Loading Dunning Letter Templates
- Setting Dunning Letter Delivery Preferences for Noninvoice Bill Units
- Setting the Delivery Option
- Setting the Email Delivery Preference
- Specifying a File for the Email Body

See also:

- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

### About Setting Up Dunning Letters

To set up Collections Manager to generate dunning letters, you must run Email Data Manager (DM) and load your dunning letter templates.

You can customize dunning letter data before it is stored in the BRM database. For example, you can enrich the standard data with additional information, such as the date on which the account will be inactivated. To do so, customize the PCM_OP_COLLECTIONS_POL_PREP_DUNNING_DATA opcode. See *BRM Opcode Guide*.

PCM_OP_COLLECTIONS_POL_PREP_DUNNING_DATA enables customization of dunning letter data before it is stored in the database. You can modify the type of data gathered by customizing the opcode. For example, you can enrich the standard data with additional information, such as the date on which the account will be inactivated.

### Loading Dunning Letter Templates

You load dunning letter templates by using the `pin_load_template` utility. These dunning letter templates are used in Collections Configuration to set the dunning letters action and the invoice reminders action.

Dunning letter templates are XSL documents that provide the basic content of the letter, leaving placeholders for specific information such as the customer’s name,
overdue balance, and so on. You can design and load multiple dunning letter templates for different scenarios and situations.

Collections Manager includes two sample dunning letter templates: `dunning_first.xsl` and `dunning_last.xsl`. Both templates are stored in `BRM_home/sys/data/config/stylesheets`. You can use a third-party XSL editor to modify these templates or to create your own templates.

After creating your template, load it into the BRM database by using the `pin_load_template` utility. Templates are available in Collections Configuration immediately after you load them. See "Defining Collections Actions".

To load a dunning letter template:

1. Go to a directory that contains a valid configuration (`pin.conf`) file.

   **Tip:** A configuration file is installed automatically in `BRM_home/apps/pin_collections`.

   The `pin_load_template` utility uses information in the configuration file to connect to the BRM database. See "Creating Configuration Files for BRM Utilities" in BRM System Administrator’s Guide.

2. Load the XSL template by entering the following command:

   ```
   pin_load_template -brand brand_POID - name template_name -type dunning -locale locale_name -template file_name -usexsl
   ```

   where:
   - `brand_POID` is the Portal object ID (POID) of the root account.
   - `template_name` is the name of the template as it should appear in Collections Configuration.
   - `locale_name` is the BRM locale of the template. See "Locale Names" in BRM Developer’s Guide.
   - `file_name` is the name and full path of the template file.

   For example, the following command loads the `dunning_first.xsl` template for the root account:

   ```
   pin_load_template -brand "0.0.0.1/account 1" -type dunning -locale en_US -template BRM_home/config/dunning_first.xsl -name DunningTemplate -usexsl
   ```

---

### Setting Dunning Letter Delivery Preferences for Noninvoice Bill Units

You specify how to deliver dunning letters to noninvoice bill units by using the `pin_collections` configuration file (`BRM_home/apps/pin_collections/pin.conf`).

For noninvoice bill units, you can set the following delivery options:

- Whether to deliver the dunning letter as hardcopy or by email.
- For email delivery, whether to send the dunning letter as part of the message body or as an attachment.
- For dunning letters sent as email attachments, the file path to use for providing customized content in the email body.
**Setting the Delivery Option**

By default, dunning letters are printed and sent as hardcopy.

To set the delivery option for dunning letters:

1. Open the `BRM_home/apps/pin_collections/pin.conf` file in a text editor.
2. Change the value of the `delivery_preference` entry:
   - To deliver dunning letters as hardcopy, enter a nonzero value. This is the default.
   - To deliver dunning letters by email, enter 0.
     
     For example:
     ```
     - pin_collections_send_dunning delivery_preference 0
     ```
3. Save and close the file.

**Setting the Email Delivery Preference**

By default, dunning letters are delivered in the body of the email.

To set the email delivery preference for dunning letters:

1. Open the `BRM_home/apps/pin_collections/pin.conf` file in a text editor.
2. Change the value of the `email_option` entry:
   - To deliver dunning letters as email attachments, enter 1.
   - To deliver dunning letters in the email body, enter 0. This is the default.
     
     For example:
     ```
     - pin_collections_send_dunning email_option 0
     ```
3. Save and close the file.

**Specifying a File for the Email Body**

When you send dunning letters as email attachments, you can include customized information in the email body. You specify the path to a text file for the content of the message.

To specify the path to the message content:

1. Open the `BRM_home/apps/pin_collections/pin.conf` file in a text editor.
2. Set the path in the `email_body` entry:
   ```
   - pin_collections_send_dunning email_body Path
   ```
   
   For example, the following entry specifies the path to the `letter` file:
   ```
   - pin_collections_send_dunning email_body ./letter
   ```

   **Important:** This option takes effect only if `email_option` is set to 1.

3. Save and close the file.
Collections actions are individual steps that are performed in the process of collecting overdue balances. An action might be applying a late fee or making a phone call.

This document describes how to set up collections actions in Oracle Communications Billing and Revenue Management (BRM).

Topics in this document:

- About Defining Collections Actions
- Understanding Manual Actions
- Understanding System Actions
- Performing Scheduled Collections Actions after Reinstalling Collections Manager
- Understanding Custom Actions
- Increasing the Size of the CM Cache for Actions Data

See also:

- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

About Defining Collections Actions

Collections actions are individual steps that are performed in the process of collecting overdue balances. An action might be applying a late fee or making a phone call.

You can define as many actions as you need. For example, you can define different phone call actions for different situations: courtesy calls, warning calls, and so on. The same action can be included in multiple scenarios.

When you define a collections action, you specify the following in Collections Configuration:

- The collections action name
- The action type: manual, one of several system types, or custom
- For bill units in a collections group, the target bill units: the specified bill unit only (Self), the parent and all child bill units (All Members and Parent), or all child bill units (All Members)
Understanding Manual Actions

Manual actions are completed by collections agents. When a scenario calls for a manual action, BRM saves information about the action in the database. Collections Center displays this information so that a collections agent can complete the action.

For example, suppose that a scenario calls for the customer to receive a courtesy phone call when the account’s bill unit is 10 days into the collections process. When a bill unit enters collections, this phone call is included in the list of actions for the bill unit. On the day when the phone call is due, the phone call appears in the list of tasks for the collections agent assigned to the bill unit.

The most common manual action is a phone call, but you can create any others that your business requires.

Understanding System Actions

System actions are performed automatically by BRM when either of the following two utilities is run:

- `pin_collections_process`
- `pin_deferred_act` (as a part of the `pin_bill_day` script)

If an error occurs during any collections action performed when `pin_collections_process` is run, the status of the collections action object (`/collections_action`) and the schedule object (`/schedule`) corresponding to the collections action is updated to `Error`.

If an error occurs during any collections action performed when `pin_deferred_act` is run, the status of the collections action remains `Pending` but the schedule object corresponding to the collections action is updated to `Error`. When `pin_collections_process` is run and the collections actions is processed again, if an error occurs, then the collections action object is updated to `Error`.

The status of collections actions is updated to `Completed` on successful completion of the actions.

By default, Collections Manager supports the following types of system collections actions:

- **Charging a late fee.** For late fees, you specify the currency type, such as US dollars, and the late fee type, either a specified amount or a percentage of the overdue amount.

- **Adding a finance charge.** For finance charges, you specify to charge a certain percentage of the overdue amount.

- **Sending a dunning letter.** For dunning letters, you specify the dunning letter template to use. You can have different templates for different purposes. For example, you could define several dunning letter templates with varying levels of severity. These templates could be used at different times in the same scenario or in separate scenarios.
Increasing the Size of the CM Cache for Actions Data

- Sending an invoice reminder. For invoice reminders, you specify the invoice reminder template to use. You can have different templates for different purposes. For example, you could define several invoice reminder templates with varying levels of severity. These templates could be used at different times in the same scenario or in separate scenarios.

You can customize each system action’s behavior by modifying policy opcodes. See the chapter on collections opcode workflows in BRM Opcode Guide for information.

Performing Scheduled Collections Actions after Reinstalling Collections Manager

By default, if you run the `pin_collections_process` utility after reinstalling Collections Manager, the scheduled collections actions that have a due date prior to the date on which you reinstalled Collections Manager are not performed.

You can perform all the scheduled collections actions after reinstalling Collections Manager and running the `pin_collections_process` utility irrespective of whether the collections actions have a due date prior to the date or after the date on which you reinstalled Collections Manager and ran `pin_collections_process`.

To perform all scheduled collections actions irrespective of whether they have a due date prior to the date or after the date on which you reinstalled Collections Manager and ran `pin_collections_process`:

1. Open the `pin_collections_process` configuration file (`BRM_home/apps/pin_collections/pin.conf`) in a text editor.

2. Add the following entry:

   ```
   - pin_collections_process execute_all_actions value
   ```

   where `value` is:

   - 1 to perform all collections actions irrespective of whether they have a due date prior to the date or after the date on which you run `pin_collections_process` after reinstalling Collections Manager.

   - 0 to perform only those collections actions that have a due date later than the date on which `pin_collections_process` is run after reinstalling Collections Manager. This is the default.

3. Save and close the file.

4. Stop and restart the CM.

Understanding Custom Actions

Custom actions are system actions that you create. You define custom actions and descriptions in Collections Configuration and implement the actions by modifying the `PCM_OP_COLLECTIONS_POL_EXEC_POLICY_ACTION` policy opcode.

Increasing the Size of the CM Cache for Actions Data

When defining actions, you might need to increase the space allocated to the action data in the CM cache.

To increase the CM cache size for actions data:

1. Open the CM configuration file (`BRM_home/sys/cm/pin.conf`).
2. Increase `cache_size` in the following entry:

   - `cm_cache fm.collections_config_actions_cache number_of_entries, cache_size, hash_size`

   **Note:** The default is 40960 bytes.

3. Save the file.

4. Stop and restart the CM.
This document explains how to set up scenarios in Oracle Communications Billing and Revenue Management (BRM) Collections Manager.

See also:
- Understanding Collections Manager
- List of Collections Features

**Defining Collections Scenarios**

When you create a new scenario, you decide which collections profile it applies to. You can define multiple scenarios with different characteristics for the same profile. For example, you could set up one scenario for relatively small overdue balances and another for larger balances.

A single scenario cannot be used with multiple collections profiles. If you want to implement scenarios with the same functionality across several profiles, you can define multiple scenarios with the same characteristics but different names.

A scenario includes an ordered list of actions that are taken against the bill unit. When you define a scenario, you select from a list of actions that you have previously defined and then specify the following characteristics:

- The order in which the actions should take place.
- The number of days after entering collections that the action should be completed. For example, 5 days after entering collections.
- Whether an action is optional or mandatory.

**Note:** If you define a collections scenario that includes both a writeoff and a bill unit inactivation, the writeoff must come before the inactivation. When a bill unit is inactivated, an event with a credit balance is created to cancel the remaining service for the bill unit. The cycle fees are then prorated and the remaining credit is returned to the bill unit, in some cases as a separate item. If the bill unit has already been inactivated, the writeoff will fail because of the unallocated item. In this case, a customer service representative (CSR) must manually allocate the item so that it can be written off.
Loading Additional Parameters for Scenario Assignment

You load additional parameters for a collections scenario assignment by using the `load_config` utility. See "load_config" in BRM Developer’s Guide for more information.

The utility takes an XML file as input and creates or updates the `/config/collections/scenario_params` object in the BRM database. Collections Configuration reads the `/config/collections/scenario_params` object and displays the parameters while defining the evaluation formula to associate with a collections scenario.

To load additional collections scenario parameters:

1. Open the `BRM_home/sys/data/config/config_collections_scenario_params.xml` file in a text editor.
2. Edit the file, which includes examples and instructions. Table 8–1 describes the parameters in this file:

Table 8–1  Elements Used to Store Additional Scenario Parameters

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAM_NAME</td>
<td>Name of the parameter.</td>
</tr>
<tr>
<td>TYPE</td>
<td>The type of value that the parameter can be assigned, from one of the following types:</td>
</tr>
<tr>
<td></td>
<td>■ 1: STR (alphanumeric)</td>
</tr>
<tr>
<td></td>
<td>■ 2: INT (integer)</td>
</tr>
<tr>
<td></td>
<td>■ 3: ENUM (indicating that the parameter is one of an ordered list of possible values. An array of values must be provided for this selection.)</td>
</tr>
<tr>
<td></td>
<td>■ 4: DECIMAL</td>
</tr>
<tr>
<td></td>
<td>■ 5: TSTAMP (timestamp)</td>
</tr>
<tr>
<td>CLASS_NAME</td>
<td>The storable class object associated with the parameter.</td>
</tr>
<tr>
<td>FIELD_NAME</td>
<td>The field inside the storable class referenced in the <code>&lt;CLASS_NAME&gt;</code> element. To enter the field name of a field present under an array or a substruct, use the format <code>&lt;FIELD_NAME&gt;array.field&lt;/FIELD_NAME&gt;</code>, which includes the parent field of the attribute separated by periods (.). For example: <code>&lt;FIELD_NAME&gt;PIN_FLD_COLLECTIONS_PARAMS.PIN_FLD_CREDIT_PROFILE&lt;/FIELD_NAME&gt;</code>.</td>
</tr>
<tr>
<td>VALUES</td>
<td>An array list of values that the parameter can assume. The <code>&lt;VALUES&gt;</code> array list is present only if the selection for the <code>&lt;TYPE&gt;</code> element is 3.</td>
</tr>
</tbody>
</table>

For example, the following entry defines a new parameter called Payment Method:

```xml
<PARAMS elem="0">
  <PARAM_NAME>Payment Method</PARAM_NAME>
  <TYPE>3</TYPE>
  <CLASS_NAME>/billinfo</CLASS_NAME>
  <FIELD_NAME>pay_type</FIELD_NAME>
  <VALUES elem="0">
    <NAME>CC</NAME>
    <VALUE>10003</VALUE>
  </VALUES>
  <VALUES elem="1">
    <NAME>DD</NAME>
    <VALUE>10005</VALUE>
  </VALUES>
</PARAMS>
```
In this example:
- The name of the parameter is Payment Method.
- The type of value is 3 (which is ENUM, and so an array of values follows.)
- The storable class is /billinfo.
- The field inside the storable class object is pay_type.
- The Values array lists the four possible payment methods: CC, DD, Cash, and Check.

For example, the following entry defines a parameter called Credit Profile:

```xml
<PARAMS elem="3">
  <PARAM_NAME>Credit Profile</PARAM_NAME>
  <TYPE>2</TYPE>
  <CLASS_NAME>/profile/collections_params</CLASS_NAME>
  <FIELD_NAME>PIN_FLD_COLLECTIONS_PARAMS.PIN_FLD_CREDIT_PROFILE</FIELD_NAME>
</PARAMS>
```

In this example:
- The name of the parameter is Credit Profile.
- The type of value is 2 (which is INT.)
- The storable class is /profile/collections_params.
- The field including the path to the storable class object is PIN_FLD_COLLECTIONS_PARAMS.PIN_FLD_CREDIT_PROFILE.

By default, the config_collections_scenario_params.xml file contains sample data for the following parameters:
- Payment Method (Credit Card, Direct Debit, cash, check) from the /billinfo storable class
- Account Status from the /account storable class
- Account Type from the /account storable class

To define additional data during scenario evaluation, you can create and maintain the required data (parameters and their values) in a customized storable class or by extending the /profile storable class. This storable class should have a link to the bill unit to which the data is applicable. There can be only one record per bill unit. The parameter used should be at the 0th level of the storable class.

3. Save and close the file.
4. Open the BRM_home/apps/load_config/pin.conf file in a text editor.
5. Uncomment the following entry:

   - load_config validation_module libLoadValidCollections  LoadValidCollections_init
6. Save and close the file.

7. Load the updated file by running the following command:

   `load_config -v config_collections_scenario_params.xml`

---

**Important:**

- The `load_config` utility requires a configuration (pin.conf) file.
- If you do not run the utility from the directory in which the configuration file is located, include the complete path to the file. For example,

   `load_config -v BRM_home/sys/data/config/config_collections_scenario_params.xml`

For more information on the `load_config` utility, see BRM Developer’s Guide.

---

8. Stop and restart the CM.

To verify that the updated collections parameter configurations were loaded, you can display the `/config/collections/scenario_params` object by using Object Browser, or use the `robj` command with the `testnap` utility.

---

### Increasing the Size of the CM Cache for Scenario Data

When evaluating scenarios, you might need to increase the space allocated to the scenario data in the CM cache.

To increase the CM cache size for scenario data:

1. Open the CM configuration file (`BRM_home/sys/cm/pin.conf`).
2. Increase `cache_size` in the following entry:

   ```
   - cm_cache fm_collections_config_scenario_cache number_of_entries, cache_size, hash_size
   ```

**Note:** The default is 40960 bytes.

If the file does not have this entry, add it.

3. Save and close the file.

4. Stop and restart the CM.
Setting Up Collections Profiles

This document describes how to set up collections profiles in Oracle Communications Billing and Revenue Management (BRM).

Topics in this document:

- Setting Up Collections Profiles
- Increasing the Size of the CM Cache for Profiles Data

See also:

- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

Setting Up Collections Profiles

*Collections profiles* define categories into which you organize bill units for collections purposes. For example, you could organize bill units by credit score. Bill units with a score below a certain number are assigned to one collections profile, and bill units with higher scores are assigned to a different profile.

A bill unit’s collections profile helps determine to which collections scenario a bill unit is assigned. (Scenarios define entry and exit criteria for collections as well as what happens to a bill unit while it is in collections.)

For example, bill units in the low-credit-score profile might be assigned to scenarios with more aggressive collections actions and lower entry criteria. Customers in the high-credit-score profile could be assigned to scenarios with more lenient policies.

By default, all bill units belong to a single collections profile. If you do not need a more complex system, you do not have to define any additional profiles. You can map all your scenarios to the default profile.

To set up additional profiles, you complete two sets of tasks:

1. Define names and descriptions for the profiles by using Collections Configuration.
   When you define a new profile, Collections Configuration creates a `/config/collections/profile` object, which stores definitions of collections profiles.

2. Customize the `PCM_OP_COLLECTIONS_POL_SELECT_PROFILE` policy opcode. You need to write code that defines the characteristics of the collections profiles and maps bill units to them.
Increasing the Size of the CM Cache for Profiles Data

When setting up additional profiles, you might need to increase the space allocated to the profiles data in the CM cache.

To increase the CM cache size for profiles data:

1. Open the CM configuration file (`BRM_home/sys/cm/pin.conf`) in a text editor.
2. Increase `cache_size` in the following entry:
   
   ```
   - cm_cache fm_collections_config_profiles_cache number_of_entries, cache_size, hash_size
   ```

   **Note:** The default is 20480 bytes.

3. Save and close the file.
4. Stop and restart the CM.

---

**Important:** This step requires programming.
This document describes how to configure dates for Oracle Communications Billing and Revenue Management (BRM) Collections Manager.

See also:

- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

### Configuring How Collections Manager Determines Dates

You can configure how Collections Manager determines the overdue and entry dates it uses (described in Table 10–1). For information about how Collections Manager uses these dates, see "About Overdue and Entry Dates".

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overdue date</td>
<td></td>
</tr>
<tr>
<td>(Default) The overdue date is the due date of the latest overdue bill when the bill unit enters collections. This date is not updated as long as the bill remains in collections.</td>
<td></td>
</tr>
<tr>
<td>The overdue date is the due date of the oldest overdue bill when the bill unit enters collections, even if the overdue balance from that bill is not sufficient by itself to meet a scenario’s entry criteria.</td>
<td></td>
</tr>
<tr>
<td>See &quot;Configuring the Overdue Date&quot; for instructions.</td>
<td></td>
</tr>
<tr>
<td>Entry date</td>
<td></td>
</tr>
<tr>
<td>(Default) The entry date is the overdue date plus the number of days specified in the entry criteria of the scenario. This date is updated if the overdue date changes.</td>
<td></td>
</tr>
<tr>
<td>The entry date is the actual date on which a bill unit is processed and enters collections. This date is not updated as long as the bill unit remains in collections. If Collections Manager is run at irregular or long intervals with this setting, the entry date can differ significantly from the overdue date.</td>
<td></td>
</tr>
<tr>
<td>See &quot;Configuring the Entry Date&quot; for instructions.</td>
<td></td>
</tr>
</tbody>
</table>

To customize how due dates are set, use the PCM_OP_COLLECTIONS_POL_CALC_DUE_DATE opcode. See BRM Opcode Guide.

The following examples illustrate overdue and entry dates based on the four possible combinations of configuration options. The examples are based on the following assumptions:

- There is a monthly charge of $15, due on the 15th of the month.
The collections scenario specifies a minimum overdue balance of $20, at least 10 days late.

No payments are received in January, February, or March, but a $15 payment is received before the due date in April.

Collections Manager runs every day.

The tables show the overdue and entry dates as of the end of each month.

### Case 1: Default Settings for Both Dates

Table 10–2 shows the results of the default setting for both dates. The overdue and entry dates stay the same as long as the bill unit remains in collections.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment received</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>15.00</td>
</tr>
<tr>
<td>Overdue amount</td>
<td>15.00</td>
<td>30.00</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Overdue date</td>
<td>None</td>
<td>Feb. 15</td>
<td>Feb. 15</td>
<td>Feb. 15</td>
</tr>
<tr>
<td>Entry date</td>
<td>None</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
</tr>
</tbody>
</table>

### Case 2: Optional Settings for Both Dates

Table 10–3 shows the results of the optional setting for both dates. When the bill unit enters collections, the overdue date is January 15 even though the overdue balance for that month was not sufficient by itself to enter the scenario. Also note that the overdue date changes when a payment eliminates the overdue balance for January.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment received</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>15.00</td>
</tr>
<tr>
<td>Overdue amount</td>
<td>15.00</td>
<td>30.00</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Overdue date</td>
<td>None</td>
<td>Jan. 15</td>
<td>Jan. 15</td>
<td>Feb. 15</td>
</tr>
<tr>
<td>Entry date</td>
<td>None</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
</tr>
</tbody>
</table>

### Case 3: Default Setting for Overdue Date and Optional Setting for Entry Date

In Table 10–4, the dates are identical with those for Case 1, but the entry date is determined by the actual processing date. If the collections process was not run daily, the entry date would not necessarily be the same as the date determined by the scenario’s entry criteria.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment received</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>15.00</td>
</tr>
<tr>
<td>Overdue amount</td>
<td>15.00</td>
<td>30.00</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Overdue date</td>
<td>None</td>
<td>Feb. 15</td>
<td>Feb. 15</td>
<td>Feb. 15</td>
</tr>
<tr>
<td>Entry date</td>
<td>None</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
<td>Feb. 25</td>
</tr>
</tbody>
</table>

### Case 4: Optional Setting for Overdue Date and Default Setting for Entry Date
In Table 10–5, the entry date changes when the overdue date is updated to reflect the payment. This would have the effect of delaying any remaining collections actions defined in the scenario.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment received</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>15.00</td>
</tr>
<tr>
<td>Overdue amount</td>
<td>15.00</td>
<td>30.00</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Overdue date</td>
<td>None</td>
<td>Jan. 15</td>
<td>Jan. 15</td>
<td>Feb. 15</td>
</tr>
<tr>
<td>Entry date</td>
<td>None</td>
<td>Jan. 25</td>
<td>Jan. 25</td>
<td>Feb. 25</td>
</tr>
</tbody>
</table>

### Configuring the Overdue Date

To configure how Collections Manager determines the overdue date:

1. Open the CM configuration file (`BRM_home/sys/cm/pin.conf`) in a text editor.
2. Change the value of the `old_overdue_behavior` entry:
   - To use the latest overdue bill date, enter **0**. This is the default.
   - To use the earliest overdue bill date, enter **1**.
     For example:
     ```
     - fm_collections old_overdue_behavior 1
     ```
3. Save and close the file.
4. Stop and restart the CM.

### Configuring the Entry Date

To determine how Collections Manager determines the entry date:

1. Open the `pin_collections` configuration file (`BRM_home/apps/pin_collections/pin.conf`) in a text editor.
2. Change the value of the `use_current_time` entry:
   - To use the entry date, enter **0**. This is the default.
   - To use the current date, enter **1**.
     For example:
     ```
     - pin_collections_process use_current_time 1
     ```
3. Save and close the file.
Integrating Collections Manager with Custom Client Applications

This document describes how to integrate your custom application with Oracle Communications Billing and Revenue Management (BRM) Collections Manager.

Topics in this document:

- About Integrating Collections Manager with Custom Client Applications
- About Calling the Collections Manager API
- About Notifying Custom Client Applications when Collections Activity Occurs
- Sending Collections Notifications to Custom Client Applications
- Creating CollectionsInfoChange Business Events

See also:

- Understanding Collections Manager
- Setting Up Collections Manager
- List of Collections Features

About Integrating Collections Manager with Custom Client Applications

To enable a custom client application to manage collections activities:

- Configure BRM to send collections notification events to your custom client application. See "Sending Collections Notifications to Custom Client Applications".

- Customize your client application to call the Collections FM opcodes. See BRM Opcode Guide.

- (Application Integration Architecture systems only) Configure the pin_collections_process utility to publish a CollectionsInfoChange business event. See "Creating CollectionsInfoChange Business Events".

Collections Manager can be integrated with a custom client application, such as Siebel CRM, so customer service representatives (CSRs) can track and manage collections activities directly in the custom client application.

The custom client application manages collections activity, such as preparing dunning letters or applying late fees, by calling the Collections Manager API. Collections Manager notifies the custom client application when a collections activity occurs, such as an account entering collections, by using the event notification system. Figure 11–1
About Calling the Collections Manager API

CSRs need to perform the following collections tasks in their custom client application:

- Manage the collection of overdue balances
- Retrieve information about collections activities
- Perform manual collections activities
- Prepare dunning letters for customers

To perform these tasks, you must configure your client application to accept the required information and pass it to the Collections Manager API. You can determine the information required by looking at the target opcode’s input flist. For more information about calling the Collections Manager API, see BRM Opcode Guide.

Note: You can pass information to the Collections Manager API either directly from the custom client application or through Oracle Application Integration Architecture (AIA). For more information about AIA, see "Using BRM With Oracle Application Integration Architecture" in BRM Concepts.
About Notifying Custom Client Applications when Collections Activity Occurs

Collections Manager uses event notification to alert custom client applications when collections activities occur, such as an account entering collections or a dunning letter being sent. Collections Manager sends an alert in the form of an `/event/audit/collections/action` notification event, which includes information about the collections action, such as:

- The POID of the `/collections_action` object
- The action type: manual, custom, or system
- A description of the action
- The action status

To notify custom client applications when collections activity occurs:

- Configure BRM to publish `/event/audit/collections/action` notification events. See "Sending Collections Notifications to Custom Client Applications".
- Customize your client application to retrieve notification events from the database queue.

Sending Collections Notifications to Custom Client Applications

To configure BRM to send collections notifications:

1. Install the EAI Framework on your system. See "Integrating BRM With Enterprise Applications" in BRM Developer’s Guide.

2. Install the Synchronization Queue DM on your system. See "Installing and Configuring the Synchronization Queue DM" in BRM Synchronization Queue Manager.

3. Configure the Synchronization Queue DM to publish the CollectionsAction business event to the database queue. When configuring the system, make sure you perform the following:
   - Merge the `BRM_home/sys/eai_js/payloadconfig_collections.xml` file with your existing EAI payload configuration file.
   - Verify that the `BRM_home/sys/eai_js/Infranet.properties` file points to the correct EAI payload configuration file. You set the path and file name in the `infranet.eai.configFile` entry.
   - Merge the `BRM_home/sys/data/config/pin_notify_collections` file with your existing `BRM_home/sys/data/config/pin_notify` file. Load the merged file into the database by using the `load_pin_notify` utility.
   - Uncomment the CollectionsAction business event in your `BRM_home/sys/dm_aq/aq_queueNames` file.

   For more information, see "Installing and Configuring the Synchronization Queue DM" in BRM Synchronization Queue Manager.

4. Start the Synchronization Queue DM. See "Starting and Stopping the Synchronization Queue DM" in BRM Synchronization Queue Manager.

BRM publishes the CollectionsAction business event to the database queue whenever an `/event/audit/collections/action` notification event occurs.
Creating CollectionsInfoChange Business Events

If your custom application connects to BRM through Oracle Application Integration Architecture (Oracle AIA), the Oracle Advance Queue (AQ) needs to be notified with a CollectionsInfoChange business event when a collections job has run.

To create a CollectionsInfoChange business event:

1. Open the pin_collections_process configuration file (`BRM_home/apps/pin_collections/pin.conf`) in a text editor.

2. Add a publish_run details entry and set it to 1:
   - `pin_collections_process publish_run_details 1`

3. Save and close the file.
This chapter provides reference information for Oracle Communications Billing and Revenue Management (BRM) Collections Manager utilities.

Topics in this document:

- `pin_collections_process`
- `pin_collections_send_dunning`
- `pin_load_template`
pin_collections_process

Use this utility to find bill units (/billinfo objects) that are in collections and to trigger collections actions defined by the bill unit’s collections scenario.

You must set a minimum value that this utility uses to determine whether bill units should be considered for collections. See "Setting the Minimum Overdue Balance to Process".

This utility is included in the pin_bill_day script. It should be run daily before "pin_collections_send_dunning". See "About Billing Your Customers" in BRM Configuring and Running Billing for more information about the billing scripts.

Note: To connect to the BRM database, pin_collections_process requires a configuration (pin.conf) file in the directory from which you run the utility. A configuration file is installed automatically in BRM_home/apps/pin_collections when you install BRM Collections Manager.

Location

BRM_home/bin

Syntax


Parameters

-billinfo BillInfoPOID
Triggers collections actions against the specified bill unit. Use this parameter to perform collections against a single bill unit that belongs to a collections group.

-debug
Sets the log level to debug and outputs debug information into the log file for this process. If not set, only error-level information is output.

-verbose
Displays progress information.

-report
Shows the summary of this billing run that includes information about how many account bill units are in collections, how many exited collections, and which system actions were performed.

-help
Displays the syntax and parameters for this utility.

Results

The collections status of all bill units with overdue balances is evaluated and, if necessary, updated. For bill units that enter or remain in collections, all actions defined by the relevant collections scenario are performed.
pin_collections_send_dunning

Use this utility to email or print dunning letters. This application is called by "pin_collections_process", but it can also be run independently.

The delivery method for bill units that use the invoice payment type is specified in Billing Care:

- If the delivery method is set to Email, pin_collections_send_dunning emails the dunning letter.
- If the delivery method is set to Postal, pin_collections_send_dunning prints the dunning letter.

For noninvoice bill units, you specify the delivery option in the collections configuration (pin.conf) file. See "Setting Dunning Letter Delivery Preferences for Noninvoice Bill Units".

---

**Important:** The Email Data Manager must be running when you run this utility, even for printing. For information, see "Sending Email to Customers Automatically" in BRM Managing Customers and "Configuring the Email Data Manager for Printing" in BRM Designing and Generating Invoices.

---

The data used to create the dunning letter is generated by "pin_collections_process" and stored in the database. This data is combined with a dunning letter template to create the final letter.

---

**Note:** To connect to the BRM database, pin_collections_send_dunning requires a configuration (pin.conf) file in the directory from which you run the utility. A configuration file is installed automatically when you install BRM Collections Manager.

---

**Location**

BRM_home/bin

**Syntax**

pin_collections_send_dunning [-verbose] [-export Path]

**Parameters**

- **-verbose**
  Displays progress information.

- **-export Path**
  Exports the generated dunning letters to the directory you specify.

**Results**

The dunning letters whose data is collected by "pin_collections_process" are prepared and sent using the delivery method for each bill unit.
pin_load_template

Use this utility to load dunning letter templates into the BRM database as /config/invoice_templates/dunning objects. These objects contain the XSL templates that you use to format dunning letters and invoice reminders.

For additional information, see "Loading Dunning Letter Templates".

---

**Important:** To connect to the BRM database, pin_collections_process requires a configuration (pin.conf) file in the directory from which you run the utility. A configuration file is installed automatically in BRM_home/apps/pin_collections when you install BRM Collections Manager.

---

**Location**

BRM_home/bin

**Syntax**

pin_load_template [-brand poid] -name template_name [-type template_type] -format template_output_format -locale locale_string -template template_file [-usexsl] [-debug] [-logfile log_file]

**Parameters**

- **-brand poid**
  Specifies the root account POID for which you are loading the template: 0.0.0.1/account 1 must be used.

- **-name template_name**
  Specifies the template name. The name is displayed in the Collections Configuration application.

  **Important:** If the name contains spaces, use quotation marks.

- **-type template_type**
  Specifies the template category. Use dunning for dunning letter templates.

- **-format template_output_format**
  Specifies the output format for the dunning letter templates.

- **-locale locale_string**
  Specifies the locale string. The default is en_US.

- **-template template_file**
  Specifies the template file name and path.

- **-usexsl**
  Specifies the use of XSL to format dunning letters. Must be used when loading an XSL dunning letter template.
-debug
Logs the flist and detailed messages in the log file.

-logfile log_file
Specifies the full path and name of the log file.

Results
 Loads the specified file into the BRM database as a /config/invoice_templates/dunning object.

The utility fails if the specified file or path is invalid.