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Oracle Billing & Revenue Management

AGENDA

What does billing do.

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About Accounting Cycles

About Billing Cycle

How BRM sets billing day of month[BDOM]

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Billing

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What does billing do?

- Apply Cycle fees
- Calculate payment due
 - pending items on current bill
 - open items from previous bill object.
- Apply adjustments
- Apply pending items
- Create Bill numbers
- Check for bill suppression
- Create bill object which is stored in the database for later use by invoicing
- Adjust PIN_FLD_NEXT_BILL_T which is then used by pin_bill_* (pin_bill_day, pin_bill_accts, pin_bill_month, pin_bill_week) to determine when to bill the account next.

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About Billing Customers

- BRM billing is based on monthly cycles.
- Each account's bill unit has a billing day of month (**DOM**), which is typically the day of month on which the account is created.

For example:

If an account is created on May 7, all of its bill units, by default, would have the seventh day of the month as their billing DOM. If the account is billed monthly, its bills are generated on June 7, July 7, August 7, and so on.

- Most customer accounts are billed monthly, but you can bill accounts at any monthly interval.

For example:

bimonthly, quarterly, semiannually, or annually.

Note:

By default, all bill units in an account have the same billing DOM and billing frequency, but you can modify each bill unit to have a different billing DOM and billing frequency.

Accounting & Billing Cycles

Accounting Cycle



Billing Cycle

- Accounting Cycle duration is always one month
- Billing Cycle is multiple of Accounting Cycle

Accounting & Billing Cycles

Billing is carried out in *cycles*. There are two types of cycles:

Accounting cycle:

- compiles all of a customer's balance impacts and stores them in bill items.
- The accounting cycle is always monthly.
- By default, an accounting cycle always ends at midnight—specifically at 23:59:59—and the next accounting cycle always begins at 00:00:00.

Accounting & Billing Cycles

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Accounting cycle:

- compiles all of a customer's balance impacts and stores them in bill items.
- The accounting cycle is always monthly.
- By default, an accounting cycle always ends at midnight—specifically at 23:59:59—and the next accounting cycle always begins at 00:00:00.
- BRM carries out a number of tasks at the end of one accounting cycle and the beginning of the next accounting cycle:

Billing cycle:

- defines how often to request a payment for the balance impacts contained in the bill items.
- You can request payments every month, or in any number of complete months; for example, quarterly.

Note:

- Accounting cycle and the billing cycle always start on the same date, but they can be different lengths.
- In monthly bill cycle, there is one accounting cycle. In a quarterly bill cycle, there are 3 accounting cycles.

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About Account Cycle

Accounting Cycle Task

BRM carries out a number of tasks at the end of one accounting cycle and the beginning of the next accounting cycle:

At the end of an accounting cycle, BRM performs these tasks:

- Applies balance impacts from deferred cycle forward events.
- Applies balance impacts from cycle discount events.
- Applies balance impacts for fold events.
For example, if a product uses fold events to remove unused free hours, the fold events are rated and the balance impacts are applied at the end of the accounting cycle.
- Creates one or more cycle forward items, one for each service that the customer owns. The cycle forward items include any cycle forward balance impacts that apply to the following month. The cycle forward items have a status of pending.
- Applies balance impacts from cycle rollover events.
- Calculates deferred taxes, if any, and applies them as balance impacts.
- Applies balance impacts from cycle arrears events to the current usage item.
- Applies balance impacts from cycle forward arrears events to the next cycle's cycle forward arrears item.

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At the beginning of a new accounting cycle, BRM performs these tasks:

- Creates a usage item. Balance impacts from usage fees, cancel fees, and purchase fees are added as they occur. The usage item has a status of pending.
- Creates pre-created items for each service that is specified in the `/config/item_tags` and `/config/item_types` storable objects. These items have a status of pending.

If the account uses a multi-month billing cycle, new cycle forward and usage items are created every month, resulting in multiple cycle forward and usage items.

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Accounting Types for Billing

BRM bills include the charges incurred during the current billing cycle and, optionally, any unpaid charges from previous billing cycles .

You control whether BRM bills include charges from previous billing cycles by setting the accounting type:

Open Item Accounting:

- A customer is billed only for charges from the bill items in the current bill.
- If a customer does not pay a bill, the next bill does not include charges for the bill that the customer did not pay.
- You typically use open item accounting for non-credit card accounts, where a customer receives an invoice. Each invoice includes the items that apply to a single billing cycle. If a customer does not pay a bill, the customer still has the invoice for the old bill when the customer receives the next invoice.

Balance Forward Accounting:

- A customer's bill includes all the charges that a customer owes, including those from previous billing cycles.
- If a customer does not pay a bill, the next bill includes the charges from the previous bill.
- Accounts for customers who pay by credit card should always use balance forward accounting.
- Balance forward accounting is the default.
- Accounting types are set at the bill unit (**/billinfo** object) level rather than at the account level.

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About billing cycles

Billing cycles consist of a **billing DOM** and a **billing frequency**:

- The billing DOM specifies the date on which BRM finalizes a bill and requests payment from the customer. The billing DOM is determined by the bill unit's billing segment, the DOM of the account's other bill units, the default setting in the Connection Manager (CM) configuration file, or the current date
 - The billing frequency specifies how often to finalize a bill and request payments from customers. The billing cycle length is any whole multiple of the accounting cycle. For example, a monthly billing cycle corresponds to one accounting cycle, and a quarterly billing cycle corresponds to three accounting cycles.
 - The billing DOM and billing frequency are set at the bill unit (/billinfo object) level.
- Accounts with multiple bill units can have different billing cycle settings for each bill. For example, an account with two bill units can have:
- One bill unit with a billing DOM of 5 and a monthly billing frequency.
 - One bill unit with a billing DOM of 15 and a quarterly billing frequency.

Note:

- Child bill units must have the same billing DOM and billing frequency as their parent bill unit.

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About actions performed at the end of a billing cycle

Typically, at the end of a billing cycle, BRM performs the following:

- Changes the status of the bill items associated with each bill unit to open. This means that no further balance impacts are added to those items and that BRM can request payments for those items.
- Finalizes a bill for each bill unit in the BRM database. A bill includes balance impacts from the bill items. If the billing cycle includes more than one accounting cycle, the bill includes balance impacts from multiple bill items. For example, a quarterly bill includes balance impacts from three usage items and at least three cycle forward items.
- Depending on the payment method, either requests a BRM-initiated payment (either credit card or direct debit) or creates an invoice for the bill. For some payment methods, such as Undefined, BRM makes no payment request.
- Collecting payments does not occur automatically at the end of a billing cycle. You need to set up billing applications that automatically request payments at the end of an account's billing cycle.

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How BRM sets the billing DOM

BRM sets a bill unit's billing DOM based on the following order of priority:

- The DOM assigned to the billing segment. BRM assigns the DOM set for the billing segment in the **/config/billing_segment** object.
- The DOM used by the first bill unit in the account. If a DOM is not assigned to the billing segment, BRM assigns the DOM to that of the first bill unit in the account.
- Default setting in the CM pin.conf file. If a DOM is not assigned to the billing segment nor is available from another bill unit, the DOM is set to the value assigned in the **actg_dom** entry in the CM configuration file (**\$PIN_HOME/sys/cm/pin.conf**).
- The current date. If a DOM is not available from the billing segment, other bill units, or the CM pin.conf file, BRM assigns the DOM to the current date.

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Billing Process

To bill customers, you need to run a set of billing applications.

A bill is produced for every bill unit. One billing application, **pin_bill_accts**, finds every bill unit that has a billing date of the previous day (or earlier if you do not run the billing applications daily). After finding the bill units, BRM does the following to them:

1. Performs monthly accounting:

BRM compiles the total amount of balance impacts that have occurred in the past month. This can include usage fees and subscription fees. This monthly accounting occurs at the end of each accounting cycle.

2. Finalizes the bill:

To finalize a bill, BRM changes the status of all the bill items associated with the bill from pending to open so that they stop accumulating charges and so that payments can be applied to them.

In addition, a payment due date is added to the bill.

3. Requests a payment.

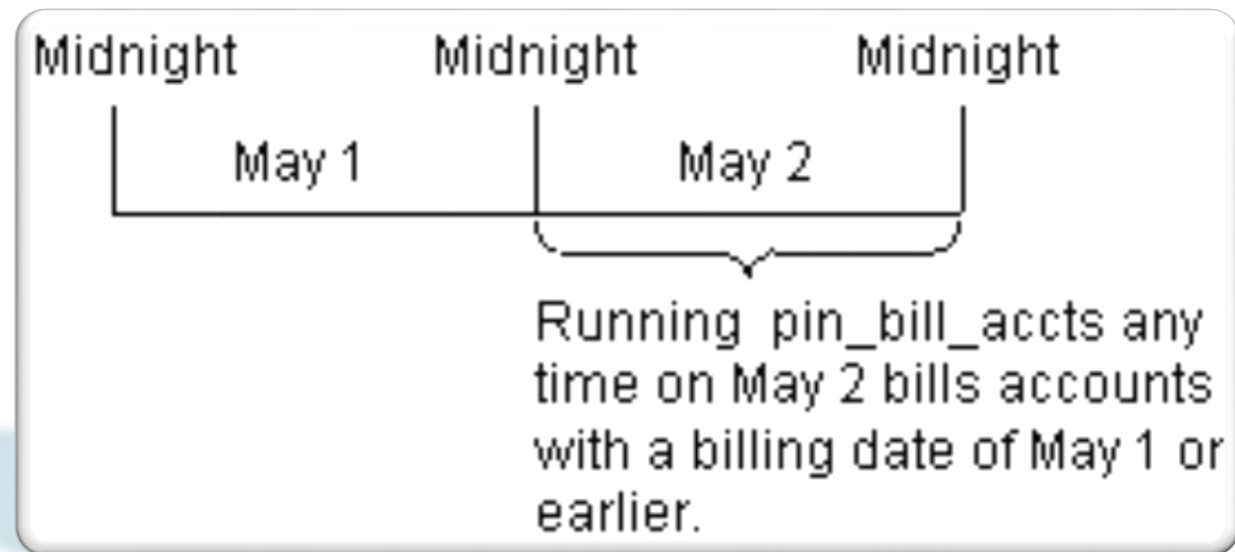
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Billing

Use `pin_bill_accts` utility to run billing for customers whose bill due date has reached.

The **`pin_bill_accts`** utility calculates the balance due for each account *bill unit*, including all usage and cycle fees, and creates a bill for the balance due.

It creates bills for accounts whose billing date is any day before midnight of the day that you run the **`pin_bill_accts`** utility.



The **`pin_bill_accts`** utility also performs the accounting cycle activity, such as creating new *bill items*.

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pin_bill_accts

Syntax:

pin_bill_accts [-active | -close | -inactive] [-pay_type *pay_type_code*] [-end *mm/dd/yy* | *number_of_days*]

Pay type	Pay type code
Undefined	0
Prepaid accounts	10000
Invoice accounts	10001
Debit card accounts	10002
Credit card accounts	10003
Direct debit accounts	10005
Subordinate accounts	10007
Guest accounts	10009

Important

If you use **-pay_type 10007** Subordinate, you must run the **pin_bill_accts** utility twice.

- first time you run the utility with this parameter to calculate the child account's balance
- second time you run the utility without the parameter to roll up the balance due to the parent account and then bill the parent account.

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Trial Billing

- Trial billing is a process that simulates BRM billing.
- You use trial billing to validate billing results without running actual billing.
- It can additionally create and store trial invoices in the BRM database.
- You use trial invoices to validate customer charges before creating the final bills.
- To run trial billing, you run the **pin_trial_bill_accts** utility.

Note

If you don't specify an **end** date, **pin_trial_bill_accts** uses the current date for the **end** date.

Syntax:

pin_trial_bill_accts

[-start mm/dd/yy | +/- numberOfDays | 0] [-end mm/dd/yy | +/- numberOfDays | 0] [-f inputFile] [-active | -inactive | -closed]

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Trial Bill Examples

Create trial invoices for accounts whose billing date is on or before **4/1/2002** (current date is 3/15/2002):

pin_trial_bill_accts -end 04/01/2002

pin_trial_bill_accts -end +17

Create trial invoices for accounts whose billing date is on or before **3/1/2002** (current date is 3/15/2002)

pin_trial_bill_accts -end 03/01/2002

pin_trial_bill_accts -end -14

Create trial invoices for accounts whose billing date is on or before the current date:

pin_trial_bill_accts -end 0

To specify a list of specific accounts to be trial billed, use the -f parameter:

pin_trial_bill_accts -end 4/1/2002 -f inputFile

The input file lists the account POIDs and bill unit POIDs in flist array format.

```
0 PIN_FLD_RESULTS      ARRAY [0] allocated 1, used 1
1  PIN_FLD_ACCOUNT_OBJ  POID [0] 0.0.0.1 /account 9605
1  PIN_FLD_POID         POID [0] 0.0.0.1 /billinfo 2342
0 PIN_FLD_RESULTS      ARRAY [1] allocated 1, used 1
1  PIN_FLD_ACCOUNT_OBJ  POID [0] 0.0.0.1 /account 9765
1  PIN_FLD_POID         POID [0] 0.0.0.1 /billinfo 2570
```

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Difference between Trial Bill and Normal Bill

Billing with pin_bill_accts	Trial billing with pin_trial_bill_accts
Performs billing on an account's billing day of month.	Performs trial billing before or after an account's billing day of month.
Creates cycle forward and usage item objects in the BRM database.	Creates cycle forward and usage item objects, but the objects are not recorded in the BRM database.
Creates bill objects in the BRM database.	Creates bill objects, but the objects are not recorded in the BRM database.
Calculates and totals the balance impacts for the previous billing cycle.	Calculates and totals the balance impacts for any billing cycle.
Calculates and updates account balances.	Calculates but does not update account balances.
Does not create invoices.	Creates and stores trial invoices in the BRM database unless you specify not to.
Balance due in the bill object shows the exact amount that is due.	Balance due in the trial invoices may not show the exact amount due at time of actual billing. This is because events that have a balance impact can occur after you run trial billing

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On Demand Billing

- Usually, you bill a customer at the end of the customer's billing cycle.
- However, you can bill a customer immediately for a purchase, even if the customer's billing cycle has not ended. To perform on-demand billing, you create a deal or plan and flag it for on-demand billing.
- A bill for purchase fees only is created and finalized as soon as the plan or deal is purchased.
- If the purchase is for a parent **/billinfo**, a **/bill** object is created with just that parent's purchase total.
- If the purchase is for a subordinate **/billinfo**, the parent receives the bill, but it includes only the subordinate **/billinfo** total.

BILL NOW - Billing an account immediately

- When a customer asks to close an account, your company might want to bill the account immediately for bill-in-progress charges, rather than wait until the account's next regularly scheduled billing day.
- You can also bill immediately when moving an account into or between hierarchical
- Account groups, or removing an account from a hierarchical group.

BILL NOW - Triggering Points

- During disconnection of services, Customer wants a bill straightaway instead of normal bill – CSR team can initiate a bill as "HOT Bill".
- Before settle a payment, customer can demand the outstanding as a bill, to settle due.
- During MNP port-out.

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Opcodes Used for different types of bill

OPCODE NAME	Description
PCM_OP_BILL_MAKE_BILL	Creates a /bill storable object for an account or balance group.
PCM_OP_BILL_MAKE_BILL_NOW	<p>Creates a bill for a specified /billinfo object immediately The PIN_FLD_NAME field in the /bill object contains the type of billing the /bill object is for:</p> <ul style="list-style-type: none">▪ Regular billing▪ Billing on demand▪ Bill Now▪ Bill Now for the current cycle▪ Bill Now on the next cycle
PCM_OP_BILL_MAKE_TRIAL_BILL	Creates a trial invoice.

Note:

- Refer the BRM documentation for input flist and output flist Specifications.
- Use testnap Utility to execute the opcodes.

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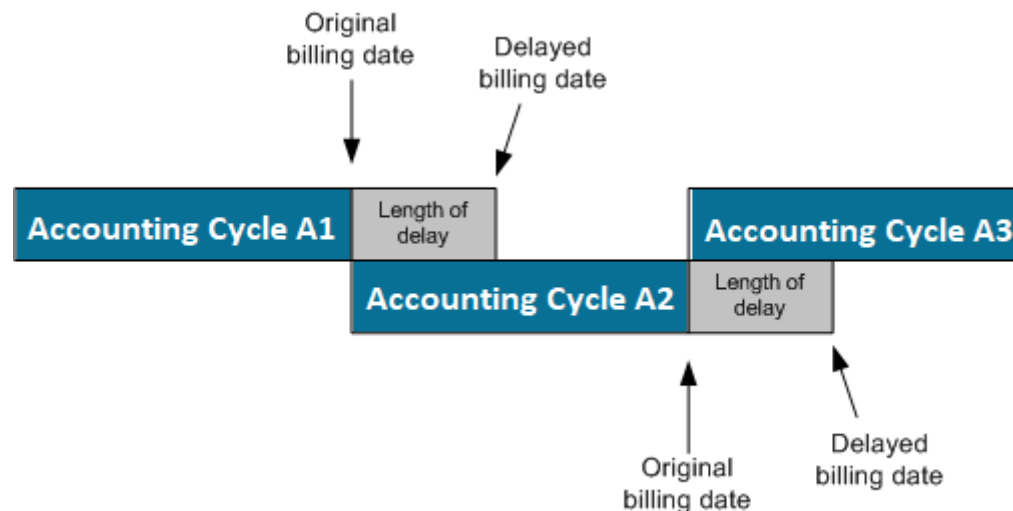
Delayed Billing

BRM allows to delay billing for accounts after the end of a billing cycle.

Delayed billing essentially extends a billing cycle by the delay interval.

You use delayed billing to bill for events that occur within a billing cycle but are not recorded during that cycle.

When you use delayed billing, billing for all the accounts in your BRM system is delayed for the same amount of time.



Important: The length of the delay interval must be shorter one accounting cycle.

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Delayed Billing

- When your system is set up to use delayed billing, an account is created with two pending bills—one for the current cycle and one for the next cycle.
- When delayed billing is used, it is possible that the **/billinfo** object is billed twice; once inside of the delay interval, and again after the delay interval.
- When billing is triggered during the delayed-billing period, the bill for the previous cycle is only partially processed (partial billing), but the bill is not finalized.
- BRM performs partial billing to allow the new event to be rated and applied to the correct billing period. Partial billing ensures that new events impact bill items of the next billing cycle and old events impact bill items of the previous billing cycle.

Partial Billing Activities	Final Billing Activities
<ul style="list-style-type: none">▪ Applies deferred cycle forward fees to the next billing cycle.▪ Applies cycle arrear fees to the previous billing cycle.▪ Applies cycle forward fees.▪ Applies cycle rollovers.	<ul style="list-style-type: none">▪ Applies cycle discounts (billing time discounts).▪ Applies cycle folds.▪ Applies cycle taxes.▪ Calculates a /bill object for the previous billing cycle.▪ Initializes the <i>next</i> billing cycle.▪ Creates a new empty /bill object for the next billing cycle with default and pre-created items.

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Billing Utilities

Script Name	Description
pin_bill_accts	Calculates the balance due for each account & Creates a bill for balance due.
pin_bill_day	It calls other daily scripts like pin_deferred_act, pin_bill_accts, pin_collect, pin_refund, pin_inv_accts , pin_deposit, pin_cycle_fees.
pin_bill_week	Runs pin_collect with the rebill option on all <i>active</i> accounts with a billing date at least one week old. Collects outstanding balances from active credit card or direct debit accounts that could not be collected during regular daily billing
pin_bill_month	Runs pin_collect with the rebill option on all <i>closed</i> and <i>inactive</i> accounts with a billing date at least one month old. Collects outstanding balances from closed or inactive accounts.
pin_trial_bill_accts	Use this utility to calculate the <i>balance due</i> and create a <i>trial</i> invoice for each account.

Note: To run billing scripts, pin.conf file is required.

“Thank You”

