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Preface

About This Document

This document will help you to understand the batches that you can use for generating bills in Oracle Revenue Management and Billing.

Intended Audience

This document is intended for the following audience:

- End-users
- Implementation Team
- Consulting Team
- Development Team

Organization of the Document

The information in this document is organized into the following chapters:

Chapter No.	Chapter Name	Chapter Description
Section 1	Introduction	Provides an overview of the billing process.
Section 2	Billing Batches	Lists and describes the batches used during the billing process.

Related Documents

You can refer to the following documents for more information:

Document	Description
Oracle Revenue Management and Billing Banking User Guide	Lists and describes various banking features in Oracle Revenue Management and Billing. It also describes all screens related to these features and explains how to perform various tasks in the application.

Contents

1. Introduction

Oracle Revenue Management and Billing enables you to carry out billing based on the bill cycle (defined for the account). In other words, you are able to generate a bill for a bill cycle using the billable charges whose start or end date is earlier than or equal to the cut-off date. You can generate bills online or through a batch process. If you generate bills through a batch process, the batch business date is treated as the cut-off date.

> **Note:** If you want to consider the billable charges whose start date is earlier than or equal to the cut-off date, you need to set the value of the **Billable Charges Date** option type in the **C1_FINTRANOP** feature configuration to **S**. And, if you want to consider the billable charges whose end date is earlier than or equal to the cut-off date, you need to set the value of the **Billable Charges Date** option type in the **C1_FINTRANOP** feature configuration to **E**.

Oracle Revenue Management and Billing provides you with a batch named **BILLING**, which generates the bills based on the bill cycle defined for the account. In the **BILLING** batch, multi-threading is based on Account ID and chunks for multi-threading are created based on numerical distribution of Account ID. This chunking logic might not be efficient while handling voluminous data. To handle high volume with better performance, you must generate bills using the following three batches (in the specified order):

1. Pending Bill Generation (C1-PNDBL)
2. Bill Segment Generation (C1-BLGEN)
3. Bill Completion (C1-BLPPR)

These three are multi-threaded batches. In the C1-PNDBL and C1-BLPPR batches, multi-threading is based on Account ID and chunks for multi-threading are created based on numerical distribution of Account ID. However, in the C1-BLGEN batch, chunks for multi-threading are created based on the billable charges. The billable charges are equally distributed in each chunk (work unit).

> **Note:**
>
> These three batches are primarily designed and developed for the Banking and Payments industries.
>
> You must specify same parameters in the C1-PNDBL, C1-BLGEN and C1-BLPPR batches. Otherwise, erroneous results will be generated.

Before you execute any of these batches (i.e. BILLING, C1-PNDBL, C1-BLGEN, or C1-BLPPR), you must do the following:

- Set the **Bill Segment Freeze Option** field in the **Billing** tab of the **Installation Options** screen to **Freeze At Will**.

- Set the **Billable Charges Date** option type in the **C1_FINTRANOP** feature configuration to either **S** or **E** depending on whether you want to consider the billable charges whose start or end date is earlier than or equal to the cut-off date.

There might be situations where you have received certain billing information after the bill is generated for the bill cycle. In such scenarios, you would like to generate a separate bill for the newly created billable charges. The system allows you to generate an adhoc bill through a batch named **Adhoc Billing (C1-FABL)**.

2. Billing Batches

This section lists and describes the following batches:

- Billing (BILLING)

- Pending Bill Generation (C1-PNDBL)

- Bill Segment Generation (C1-BLGEN)

- Bill Completion (C1-BLPPR)

- Adhoc Billing (C1-FABL)

- Upload and Validate Usage Data File (C1-ODFU)

- Billable Charge Creation (C1-ODBCH)

- Freeze and Complete Adhoc Bills (C1-FCADH)

2.1 Billing (BILLING)

The **Billing (BILLING)** batch is used to generate bills based on the bill cycle defined for the account.

Based on the batch business date, the system identifies the bill cycles for which the bills must be generated. Once the bill cycles are identified, the system identifies a set of accounts on which these bill cycles are defined. Then, based on a set of parameters specified while executing this batch, the bills are generated for accounts that meet the criteria.

In addition, based on the batch business date, the system identifies the billable charges for which bill segments must be generated. Once the billable charges are identified, the bill segments are generated in the bills.

If the **Freeze and Complete** check box is selected for the bill cycle for which the bill is generated, the status of the bill segments is set to **Frozen** and the status of the bill is set to **Complete**. But, if the **Freeze and Complete** check box is not selected for the bill cycle for which the bill is generated, the status of the bill segments is set to **Freezable** and the status of the bill is set to **Pending**.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
Batch Business Date	No	Used to identify the following: • Bill cycles within which the specified date falls • Billable charges for which bill segments must be generated **Note:** All billable charges whose start or end date is earlier than or equal to the specified date are considered during bill segment generation. If you do not specify any date, the batch business date is set to the current date.
Thread Count	No	Used to specify the number of threads you want to spawn in parallel. **Note:** By default, the thread count is set to 0.
Override Maximum Number of Errors	No	Used to override the maximum number of errors after which the batch must be terminated.
Division	No	Used when you want to generate bills for accounts belonging to a particular division.
Bill Cycle	No	Used when you want to generate bills for accounts having a particular bill cycle. You can specify maximum twenty comma separated values in this field.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch.

Post Execution Check/Clean Up:

On successful completion of this batch, bills are generated for the accounts.

2.2 Pending Bill Generation (C1-PNDBL)

The **Pending Bill Generation (C1-PNDBL)** batch is used to generate pending bills for accounts that meet the criteria.

Based on the batch business date, the system identifies the bill cycles for which the pending bills must be generated. Once the bill cycles are identified, the system identifies a set of accounts on which these bill cycles are defined. Then, based on a set of parameters specified while executing this batch, the pending bills are generated for accounts that meet the criteria.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
Batch Business Date	No	Used to identify the bill cycles within which the specified date falls. **Note:** If you do not specify any date, the batch business date is set to the current date.
Thread Count	No	Used to specify the number of threads you want to spawn in parallel. **Note:** By default, the thread count is set to 0.
Override Maximum Number of Errors	No	Used to override the maximum number of errors after which the batch must be terminated.
Division	No	Used when you want to generate pending bills for accounts belonging to a particular division.
Bill Cycle	No	Used when you want to generate pending bills for accounts having a particular bill cycle. You can specify maximum twenty comma separated values in this field.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch.
Delete Existing Bill	No	Used to indicate whether you want to delete existing bills which are in the **Pending** status. The valid value is: • Y **Note:** If you do not want to delete the existing pending bill, you must leave this field blank. In such case, new pending bill is not generated, and the existing pending bill (available for the account and bill cycle combination) is used for further processing. The system does not delete the existing bills which are in the **Complete** status. If the existing pending bills have any bill segments in the **Freezable** or **Error** status, the bills are deleted. But, if the existing pending bills have any bill segments in the **Frozen** or **Cancelled** status, the bills are not deleted.

Post Execution Check/Clean Up:

On successful completion of this batch, the pending bills are generated for the accounts that meet the criteria.

2.3 Bill Segment Generation (C1-BLGEN)

The **Bill Segment Generation (C1-BLGEN)** batch is used to generate the bill segments. Based on the batch business date, the system identifies the billable charges for which bill segments must be generated. Once the billable charges are identified, the bill segments are generated in the pending bills (which are generated using the **Pending Bill Generation (C1-PNDBL)** batch) of the respective account.

If the **Freeze and Complete** check box is selected for the bill cycle for which the pending bill is generated, the status of the bill segments is set to **Frozen**. But, if the **Freeze and Complete** check box is not selected for the bill cycle for which the pending bill is generated, the status of the bill segments is set to **Freezable**.

> **Note:**
>
> There might be situations where you have received certain billing information after the bill and bill segments are generated. In such scenarios, you must first execute the **Pending Bill Generation (C1-PNDBL)** batch to fetch the newly created billable charges and then execute the **Bill Segment Generation (C1-BLGEN)** batch. While executing the **Pending Bill Generation (C1-PNDBL)** batch, you must leave the **Delete Existing Bill** parameter blank indicating that you want to use the existing pending bill for further processing.
>
> In addition, there might be situations when you want to regenerate the bill segments before freezing them. In such case, you need to set the **Bill Segment Regeneration on Freeze** option type of the **C1_FINTRANOP** feature configuration to **Y**, and then execute the **Pending Bill Generation (C1-PNDBL)** and **Bill Segment Generation (C1-BLGEN)** batches once again. While executing the **Pending Bill Generation (C1-PNDBL)** batch, you must leave the **Delete Existing Bill** parameter blank indicating that you want to use the existing pending bill for further processing. If the **Freeze and Complete** check box is selected for the bill cycle and the **Bill Segment Regeneration on Freeze** option type is set to **Y**, then the bill segments are regenerated and the status of the bill segments is set to **Frozen**. Note that if the **Freeze and Complete** check box is not selected for the bill cycle, then the bill segments are always regenerated irrespective of whether the **Bill Segment Regeneration on Freeze** option type is set to **Y** or not.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
Batch Business Date	No	Used to identify the billable charges for which bill segments must be generated. All billable charges whose start or end date is earlier than or equal to the specified date are considered during bill segment generation. **Note:** If you do not specify any date, the batch business date is set to the current date.
Thread Count	No	Used to specify the number of threads you want to spawn in parallel. **Note:** By default, the thread count is set to 0.
Override Maximum Number of Errors	No	Used to override the maximum number of errors after which the batch must be terminated.

Parameter Name	Mandatory (Yes or No)	Description
Division	No	Used when you want to generate bill segments for accounts belonging to a particular division.
Bill Cycle	No	Used when you want to generate bill segments for accounts having a particular bill cycle. You can specify maximum twenty comma separated values in this field.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch.
Billing Processing Sequence	No	Used to specify the billing processing sequence of the contract's contract type whose bill segments you want to generate. This field is useful when you want to generate bill segments in a particular order of importance. You can specify comma separated values in this field. For example, 10, 20, 30. In such case, the bill segments of contracts whose contract types' billing processing sequence is 10, 20, or 30 will be generated simultaneously.

Post Execution Check/Clean Up:

On successful completion of this batch, the bill segments are generated in the pending bills of the respective account.

2.4 Bill Completion (C1-BLPPR)

The **Bill Completion (C1-BLPPR)** batch is used to generate post processing bill segments during the bill completion process and change the status of the bill to **Complete**.

Based on the batch business date, the system identifies the bill cycles whose pending bills must be completed. Once the bill cycles are identified, the system identifies a set of accounts on which these bill cycles are defined. Then, based on a set of parameters specified while executing this batch, the pending bills are completed for accounts that meet the criteria. In addition, if any post processing bill segments need to be generated during the bill completion process, they are generated while executing this batch.

If the **Freeze and Complete** check box is selected for the bill cycle for which the pending bill is generated, the status of the post processing bill segments is set to **Frozen** and the status of the bill is changed to **Complete**. But, if the **Freeze and Complete** check box is not selected for the bill cycle for which the pending bill is generated, the status of the post processing bill segments is set to **Freezable** and the status of the bill remains as **Pending**.

> **Note:**
>
> There might be situations where you have selected the **Freeze and Complete** check box for the bill cycle after all three batches are executed. In such scenarios, the system allows you to re-execute these batches. However, to enhance performance, you must first execute the **Bill Segment Generation (C1-BLGEN)** batch and then execute the **Bill Completion (C1-BLPPR)** batch. The status of the bill segments and bills is changed accordingly.
>
> In addition, there might be situations when you want to regenerate the post processing bill segments before freezing them. In such case, you need to set the **Bill Segment Regeneration on Freeze** option type of the **C1_FINTRANOP** feature configuration to **Y**, and then execute the **Bill Completion (C1-BLPPR)** batch once again. If the **Freeze and Complete** check box is selected for the bill cycle and the **Bill Segment Regeneration on Freeze** option type is set to **Y**, then the post processing bill segments are regenerated, and the status of the bill segments is set to **Frozen**. Note that if the **Freeze and Complete** check box is not selected for the bill cycle, then the post processing bill segments are always regenerated irrespective of whether the **Bill Segment Regeneration on Freeze** option type is set to **Y** or not.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
Batch Business Date	No	Used to identify the bill cycles within which the specified date falls. **Note:** If you do not specify any date, the batch business date is set to the current date.
Thread Count	No	Used to specify the number of threads you want to spawn in parallel. **Note:** By default, the thread count is set to 0.
Override Maximum Number of Errors	No	Used to override the maximum number of errors after which the batch must be terminated.
Division	No	Used when you want to complete bills of accounts belonging to a particular division.
Bill Cycle	No	Used when you want to complete bills of accounts having a particular bill cycle. You can specify maximum twenty comma separated values in this field.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch.

Post Execution Check/Clean Up:

On successful completion of this batch, the post processing bill segments (if any) are generated and the status of the bill is changed to **Complete**.

2.5 Adhoc Billing (C1-FABL)

The **Adhoc Billing (C1-FABL)** batch is used to generate an adhoc bill for a usage data file and account combination or for an account when the bill after date is equal to or earlier than the batch business date. Both, automatically generated and manually created billable charges (with the **Adhoc Bill** flag set to **Y**) are considered during adhoc billing.

While generating adhoc bills through the **On Demand Billing** screen, a batch job is created using this batch automatically when the total number of billable charges for a usage data file exceeds the online bill creation limit.

> **Note:** The online bill creation limit is defined using the **On Demand Billing (C1-ODBFC)** feature configuration.

Once the billable charges are identified, bill segments are generated in the adhoc bill. The status of bill segments is set to **Freezable** and the status of adhoc bill is set to **Pending**. In the following scenarios, the system behaves in the following manner:

- If an adhoc bill with the **Pending** status already exists for a usage data file and account combination, then the existing bill is deleted and regenerated.

- If an adhoc bill with the **Completed** status already exists for a usage data file and account combination, then a new bill is generated (but the existing bill is not deleted).

- If a completed bill of a usage data file and account combination is cancelled (in other words, bill segments in an adhoc bill are cancelled), a new bill is generated (but the existing bill is not deleted).

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
Batch Business Date	No	Used to identify the billable charges for which bill segments must be generated. If the file name is specified, the billable charges that meet the following criteria are considered during adhoc billing: • Billable charges are created for accounts whose usage data is uploaded through the specified file. • The **Adhoc Bill** flag of the billable charge is set to **Y**. • Billable charges whose bill after date is earlier than or equal to the specified date. If the file name is not specified, the billable charges that meet the following criteria are considered during adhoc billing: • Billable charges which are automatically generated through the On Demand Billing screen and/or manually created through the

Parameter Name	Mandatory (Yes or No)	Description
		user interface for any account.
		• The **Adhoc Bill** flag of the billable charge is set to **Y**.
		• Billable charges whose bill after date is earlier than or equal to the specified date.
		Note: If you do not specify any date, the batch business date is set to the current date.
File Name	No	Used to indicate the usage data file for which you want to generate the adhoc bills. You need to specify the file name along with the path where the file is located.
		Note: If a batch job is created automatically, the value for this parameter is automatically specified in the batch job.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch.
		Note: If a batch job is created automatically, the value defined in the **Thread Pool Name** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.

Post Execution Check/Clean Up:

On successful completion of this batch, an adhoc bill is generated for a usage data file and account combination when the bill after date is equal to or earlier than the current or specified date.

In addition, a To Do entry is created using the **C1-FABL** To Do type. You can view this To Do entry only when you are assigned a To Do role which is mapped to the **C1-FABL** To Do type. This To Do indicates whether the batch was successfully executed or not. If the batch was successfully executed, it indicates the following:

- Number of billable charges which were processed
- Number of billable charges for which the bill after date is a future date
- Number of adhoc bills generated for the usage data file
- Number of billable charges which could not be processed successfully

2.6 Upload and Validate Usage Data File (C1-ODFU)

The **Upload and Validate Usage Data File (C1-ODFU)** batch is used to upload and validate a usage data file. It is also used for revalidating a usage data file which is already uploaded in the system.

While uploading or revalidating a usage data file, a batch job is created using this batch automatically when the usage data file size exceeds the value derived by multiplying average record size and transaction limit.

Note: The average record size and transaction limit are defined using the **On Demand Billing (C1-ODBFC)** feature configuration.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
File Name	Yes	Used to specify the name of the usage data file that you want to upload or revalidate.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch. **Note:** If a batch job is created automatically, the value defined in the **Thread Pool Name** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.
File Type	Yes	Used to specify the type of usage data file.
Billing Method	Yes	Used to specify the type of billing you want to use for the usage data file. The valid values are: • ADB • RLB **Note:** ADB stands for adhoc billing and RLB stands for regular billing.
Bill After Date	Yes (Conditional)	Used to specify the date after which the bills must be generated for the usage data file. **Note:** This parameter is required only when the billing method is **ADB**.
Default Usage Start Date	Yes	Used to specify the date from when the product was used. The default usage start date is used when the start date is not specified for a record in the usage data file.

Parameter Name	Mandatory (Yes or No)	Description
Default Usage End Date	Yes	Used to specify the date till when the product was used. The default usage end date is used when the end date is not specified for a record in the usage data file.
File Path	Yes (Conditional)	Used to specify the path of the usage data file that you want to upload. **Note:** This parameter is not required when you are revalidating a usage data file
Revalidate	Yes	Used to indicate whether you want to revalidate a usage data file. The valid values are: • **Y** – Used when you want to revalidate a usage data file. • **N** – Used when you want to upload and validate a usage data file.
Chunk Size	Yes	Used to specify the number of usage records you want to validate or revalidate in each work unit. **Note:** If a batch job is created automatically, the value defined in the **Validation Chunk Size** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.

Note: If a batch job is created automatically, the values for these parameters are automatically specified in the batch job depending on whether you are uploading or revalidating a usage data file.

Post Execution Check/Clean Up:

On successful completion of this batch, records are either uploaded and validated or revalidated in the system. If a usage record is successfully validated, the status of the usage record is changed to **Valid**. And, if a usage record could not pass through the validation process, the status of the usage record is changed to **Invalid**.

In addition, a To Do entry is created using the **C1-ODFU** To Do type. You can view this To Do entry only when you are assigned a To Do role which is mapped to the **C1-ODFU** To Do type. This To Do indicates whether the batch was successfully executed or not. If the batch was successfully executed, it indicates the following:

- Number of records that were uploaded in the system (appears only on uploading a usage data file)
- Number of records which were successfully validated
- Number of records which could not pass through the validation process
- Number of records which failed to validate due to some technical reasons

2.7 Billable Charge Creation (C1-ODBCH)

The **Billable Charge Creation (C1-ODBCH)** batch is used to create a billable charge for a valid usage record. While submitting or approving usage records, a batch job is created using this batch automatically when the total number of valid records in a usage data file exceeds the transaction limit.

Note: The transaction limit is defined using the **On Demand Billing (C1-ODBFC)** feature configuration.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
File Name	Yes	Used to specify the name of the usage data file for which you want to create the billable charges.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch. **Note:** If a batch job is created automatically, the value defined in the **Thread Pool Name** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.
Chunk Size	Yes	Used to specify the number of valid records for which you want to create billable charges in each work unit. **Note:** If a batch job is created automatically, the value defined in the **Billable Charge Chunk Size** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.

Note: If a batch job is created automatically, the values for these parameters are automatically specified in the batch job.

Post Execution Check/Clean Up:

On successful completion of this batch, a billable charge is created for each valid record. The status of the usage record is changed to **Processed**.

In addition, a To Do entry is created using the **C1-ODBCH** To Do type. You can view this To Do entry only when you are assigned a To Do role which is mapped to the **C1-ODBCH** To Do type. This To Do indicates whether the batch was successfully executed or not. If the batch was successfully executed, it indicates the following:

- Number of records for which billable charges were created
- Number of records for which billable charges could not be created successfully

2.8 Freeze and Complete Adhoc Bills (C1-FCADH)

The **Freeze and Complete Adhoc Bills (C1-FCADH)** batch is used to freeze and complete all adhoc bills of a usage data file which are in the **Pending** status. While executing this batch, the system does not freeze and complete pending adhoc bills which have bill segments in the **Error** status.

While freezing and completing adhoc bills through the **On Demand Billing** screen, a batch job is created using this batch automatically.

You can specify the following parameters while executing this batch:

Parameter Name	Mandatory (Yes or No)	Description
File Name	Yes	Used to specify the name of the usage data file whose adhoc bills you want to freeze and complete. **Note:** If a batch job is created automatically, the value for this parameter is automatically specified in the batch job.
Bill Date	No	Used to specify the accounting date. **Note:** If you do not specify any date, the bill date is set to the current date.
Thread Pool Name	No	Used to specify the thread pool on which you want to execute the batch. **Note:** If a batch job is created automatically, the value defined in the **Thread Pool Name** option type of the **On Demand Billing (C1-ODBFC)** feature configuration is used.

Post Execution Check/Clean Up:

On successful completion of this batch, adhoc bills of the usage data file are completed. The status of the adhoc bills is changed to **Complete**.

In addition, a To Do entry is created using the **C1-FCADH** To Do type. You can view this To Do entry only when you are assigned a To Do role which is mapped to the **C1-FCADH** To Do type. This To Do indicates whether the batch was successfully executed or not. If the batch was successfully executed, it indicates the following:

- Number of bills which were picked up for completion
- Number of bills which were completed
- Number of bills which could not be completed successfully