# Oracle Utilities Customer Care and Billing Integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payable

Release 3.1.0

Implementation Guide

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Oracle Utilities Customer Care and Billing Integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payable Implementation Guide, Release 3.1.0

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## Implementation Guide

# Preface

## Audience

This document is intended for anyone implementing the Oracle Utilities Customer Care and Billing Integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payables.

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# Part 1

# Understanding the Integration

This section provides an overview of the participating applications and information regarding the business processes addressed by this integration.

This section contains the following chapters:

- Overview
- Understanding the Integration Process

# Chapter 1

# Overview

This document provides configuration and administration information for the integration between Oracle Utilities Customer Care and Billing and PeopleSoft Financials for General Ledger (GL) and Accounts Payable (AP).



## 1.1 Additional Resources

The following additional resources are available:

| Resource | Location |
|---|---|
| Oracle Utilities Customer Care and Billing Integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payable Installation Guide | Same folder as this document, with the distribution for this product. |
| Oracle Utilities Customer Care and Billing Integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payable Release Notes | Same folder as this document, with the distribution for this product. |
| Oracle Utilities Customer Care and Billing Documentation | Refer to Oracle Utilities Customer Care and Billing documentation located on the Oracle Software Delivery Cloud or on the Oracle Technology Network. https://edelivery.oracle.com/ http://www.oracle.com/technetwork/documentation |

| Resource | Location |
|---|---|
| PeopleSoft FinancialsDocumentation | Refer to PeopleSoft Financials documentation located on the Oracle Software Delivery Cloud or on the Oracle Technology Network. https://edelivery.oracle.com/ http://www.oracle.com/technetwork/documentation |
| Managing BPEL | http://www.oracle.com/technology/documentation/index.html |

**Note:** For specific edge application patch level details, refer to the Oracle Utilities Integrations page at:

http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm

**Note**: The latest versions of these documents are available on the Oracle Technology Network at http://www.oracle.com/technetwork/index.html

## 1.2 Prerequisites

All participating applications must be installed, set up, and working properly.

## 1.3 About the Integration Product

This section provides general information about the functionality and processing of the Oracle Utilities Customer Care and Billing Integration to PeopleSoft Financials for General Ledger and Accounts Payable. This is an AIA Direct Integration using SOA and does not require AIA Foundation Pack to be installed.

### 1.3.1 About the Products

The following products are involved in the integration:

- Oracle Utilities Customer Care and Billing
- Oracle PeopleSoft Financials for General Ledger and Accounts Payable

#### 1.3.1.1 Oracle Utilities Customer Care and Billing

Oracle Utilities Customer Care and Billing (CCB) is a customer and billing system that manages all aspects of customer service needed by most utilities to operate their business. Basic objects form the core of the system: person, account, premise, service agreement, and service point. These objects hold demographic, geographic, and financial information about a company's customers and properties. Related to these objects are the processes that they manage: bills, payments, meter readings, field activities, etc.

**Note**: Refer to the Additional Resources section for current application version details.

#### 1.3.1.2 Oracle PeopleSoft Financials for General Ledger and Accounts Payable

Oracle PeopleSoft Financials for General Ledger and Accounts Payable (PS) is a family of applications in Oracle's PeopleSoft product line. This system helps to automate and standardize business processes by providing a single repository of physical and financial data on an organization's equipment and assets. This information can then be incorporated into the budgeting and planning process. Accounts Payable, Accounts Receivable, and General Ledger functionality can be used to manage disbursements and collections, monitor credit risks, and capture and access financial information based on configurable requirements.

> **Note**: Refer to the Additional Resources section for current application version details.

#### 1.3.1.3 Oracle BPEL Process Manager

The Oracle Fusion middleware product, Oracle BPEL Process Manager, coordinates the data flow and data mapping of the integration. Used as an Oracle standard across most integrations, Oracle BPEL Process Manager provides a comprehensive solution for creating, deploying, and managing cross-application business processes with both automated and manual workflow steps. It supports standards such as BPEL, XML, XSLT, XPATH, JMS, JCA, and Web Services.

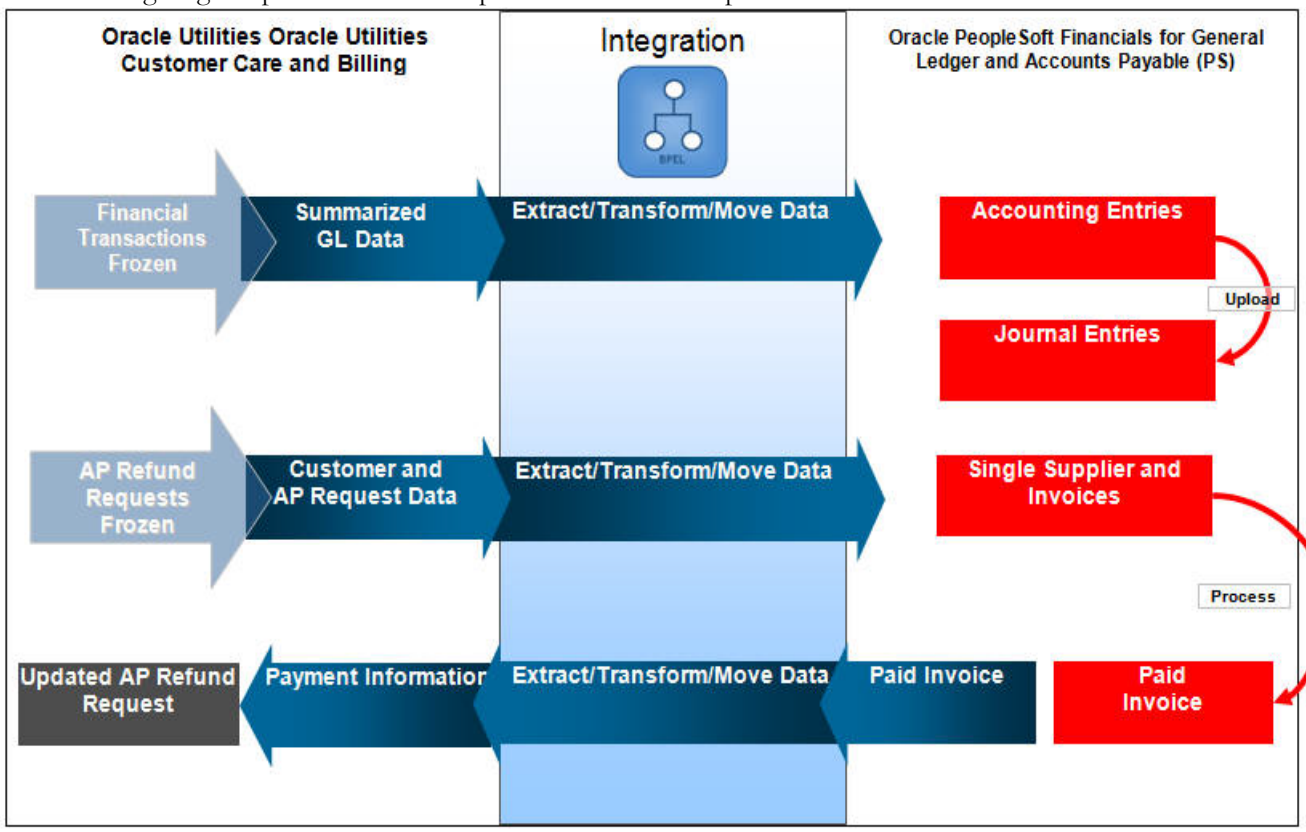
## 1.4 Supported Business Processes

The Oracle Fusion Middleware product, Oracle BPEL Process Manager, coordinates the data flow and data mapping of the integration. Used as an Oracle standard across most integrations, Oracle BPEL Process Manager provides a comprehensive solution for creating, deploying, and managing cross-application business processes with both automated and manual workflow steps. It supports standards such as BPEL, XML, XSLT, XPATH, JMS, JCA, and Web Services:

| Business Process | Description |
|---|---|
| A bill is created/ cancelled | The general ledger is updated with journal information. |
| A payment is created/ cancelled | |
| An adjustment is created/ cancelled | |
| An adjustment whose type indicates AP Request is created | Customer and AP Request information is used to create a one-time supplier and supplier site. An account payable voucher is created and associated with this supplier and supplier site. |

| Oracle JD Edwards | Oracle Utilities Customer Care and Billing |
|---|---|
| A payment is created for an invoice related to an Oracle Utilities Customer Care and Billing AP request. | Payment information is sent from PeopleSoft Financials for General Ledger and Accounts Payable to Oracle Utilities Customer Care and Billing. The AP Request is updated with payment information. |
| A check related to an invoice linked to an AP request is re-issued. | |
| A check related to an invoice linked to an AP request is voided and the liability is closed. | The AP request and its associated adjustment are cancelled. |

The following diagram provides a visual representation of these processes:




**Integration Points**

## 1.5 Process Scheduling

Depending on the size and complexity of your accounting system and business practices, transactions generated in either of the participating applications are sent to the alternate application on a daily or weekly schedule. Schedule the transfer of this information between applications to occur according to a frequency that is most appropriate for your organization.

# 1.6 Best Practices

The following sections provide business information that helps achieve accurate and error-free movement of data between Oracle Utilities Customer Care and Billing and PeopleSoft Financials for General Ledger and Accounts Payable.

- One-Time Configuration Settings
- General Ledger Integration
- Accounts Payable (AP) Request and AP Data Integrations

**Note**: Information on how to configure settings that are specific to the integration is provided in the chapter titled Configuring the Integration. Refer to product specific documentation for information on how to complete product specific configuration tasks.

## 1.6.1 One-Time Configuration Settings

Some one-time configuration settings must be coordinated manually to ensure proper results from the movement of data between Oracle PeopleSoft Financials for General Ledger and Accounts Payable and Oracle Utilities Customer Care and Billing.

#### General Ledger Configuration

Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger is the overriding source for all General Ledger information. Oracle Utilities Customer Care and Billing is considered to be the sub-ledger. It is assumed that the General Ledger has already been configured to accommodate your business needs.

#### Distribution Codes

Oracle Utilities Customer Care and Billing uses distribution codes to map sub-ledger transactions to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger accounts. As part of your Oracle Utilities Customer Care and Billing setup it is assumed that you have properly mapped your distribution codes to the General Ledger chart of accounts.

#### General Ledger Divisions for Non-Integrated Transactions

If some of the transactions created in Oracle Utilities Customer Care and Billing should not be integrated to your General Ledger you should configure a separate General Ledger Division for these. You should then configure the integration product to distinguish which General Ledger Division should be integrated with the General Ledger (it ignores all others).

**Note**: Refer to the Implementation Guide, Oracle Utilities Customer Care and Billing documentation, or Oracle PeopleSoft Financials for General Ledger and Accounts Payable documentation for more information on any of the configuration settings referenced in this section.

## 1.6.2 General Ledger Integration

Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger accounts is structured using account segments. These are set up in your existing Oracle PeopleSoft Financials for General Ledger and Accounts Payable configuration according to your business practices. Oracle Utilities Customer Care and Billing distribution codes must be configured to mirror the segments in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. The segment positions are separated by dots '.' in Oracle Utilities Customer Care and Billing so that the first segment is Account, the second segment is Department ID, and so on.

Create your chart of accounts in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger then set up your Oracle Utilities Customer Care and Billing distribution codes to map to the General Ledger account structure using dot separators.

Do not become confused by the dual use of the word account, for the Oracle PeopleSoft Financials for General Ledger and Accounts Payable general ledger accounts and the Oracle Utilities Customer Care and Billing customer billing accounts. A customer billing account is simply information associated with a customer that is used in the Oracle Utilities Customer Care and Billing payment and billing process, and does not relate to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable accounting definition of account (General Ledger Account). The Oracle Utilities Customer Care and Billing distribution code translates to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable general ledger account.

The following sections cover:

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger Settings
- Oracle Utilities Customer Care and Billing General Ledger Settings
- Integration Software General Ledger Settings
- Accounting

### 1.6.2.1 Oracle PeopleSoft Financials for General Ledger and Accounts Payable General Ledger Settings

Configure General Ledger settings in Oracle PeopleSoft Financials for General Ledger and Accounts Payable according to the following guidelines and keeping in mind that Oracle PeopleSoft Financials for General Ledger and Accounts Payable is the overriding source for the general ledger.

- **Journal Generator Process**: Schedule the Journal Generator process to create journal vouchers from Oracle Utilities Customer Care and Billing information inserted into interface tables by the integration software. When you configure Oracle PeopleSoft Financials for General Ledger and Accounts Payable to run this process automatically at a preset time please ensure you have matched this timing with the timing of other actions completed by Oracle Utilities Customer Care and Billing and the integration product. Alternatively you may use the standard user interface within Oracle PeopleSoft Financials for General Ledger and Accounts Payable to run the Journal Generator process manually.
- **Accounting Entry Definition**: If not already configured, pre-configure an accounting entry definition in Oracle PeopleSoft Financials for General Ledger

and Accounts Payable to indicate the staging table where incoming accounting entries should be stored, and the mapping from staging table fields to active chartfields. Ensure that all mandatory fields on the staging tables are mapped.

- **Journal Generator Template**: If not already configured, pre-configure a Journal Generator Template in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to set the journal processing defaults for incoming Oracle Utilities Customer Care and Billing data.
- The integration software relies on other Oracle PeopleSoft Financials for General Ledger and Accounts Payable configuration information including: Business Unit, Calendars, Ledger groups and Ledger. These are normally already configured as part of your implementation. If these do not already exist please configure them for the Integration software to run correctly.

#### 1.6.2.2 Oracle Utilities Customer Care and Billing General Ledger Settings

Configure General Ledger settings in Oracle Utilities Customer Care and Billing according to the following guidelines and keeping in mind that Oracle PeopleSoft Financials for General Ledger and Accounts Payable is the overriding source for the general ledger.

- Schedule the GLASSIGN and GLS batch processes to run at an appropriate time of day. These processes get sub ledger information in Oracle Utilities Customer Care and Billing and all information not previously integrated to the General Ledger ready to extract, transform and load to the General Ledger. When you configure Oracle Utilities Customer Care and Billing to run this process automatically at a preset time please ensure you have matched this timing with the timing of other actions done by Oracle PeopleSoft Financials for General Ledger and Accounts Payable and the integration product. (Alternatively you may use the standard user interface within Oracle Utilities Customer Care and Billing to run these batch processes manually).
- Verify that the Oracle Utilities Customer Care and Billing General Ledger Division matches the General Ledger Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.
- Ensure that Distribution Codes are configured in Oracle Utilities Customer Care and Billing to properly reflect the General Ledger accounts that should be debited and credited for each type of financial transaction created.

#### 1.6.2.3 Integration Software General Ledger Settings

As part of the technical configuration of this integration product you must indicate certain values to the product so that it can properly extract data from one application, transform it, and insert it for use by the other application. The following information must be configured:

- Email address of the person who should notified if the integration software detect and logs an error while performing the integration.
- General Ledger line description to use for journal voucher lines in Oracle PeopleSoft Financials for General Ledger and Accounts Payable that came from Oracle Utilities Customer Care and Billing through the integration.

- The Journal ID, General Ledger, and Ledger group to use for journal vouchers in Oracle PeopleSoft Financials for General Ledger and Accounts Payable that came from Oracle Utilities Customer Care and Billing through the integration.
- If you enter a Oracle Utilities Customer Care and Billing GL Division name in the BPEL configuration table then only financial transactions associated with this GL Division are extracted for integration to Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL. NOTE: Leave this configuration information blank if you want all Oracle Utilities Customer Care and Billing financial transactions to be integrated to Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL.

  **Note**: If all Oracle Utilities Customer Care and Billing financial transactions should come across the integration then do not name any General Ledger Divisions in the integration product configuration table.

#### 1.6.2.4 Accounting

The following shows the basic accounting debits and credits that can be achieved through the setup indicated above:

| Oracle Utilities Customer Care and Billing Event | Debit Account | Credit Account |
|---|---|---|
| Charges generated by billing | Accounts Receivable | Revenue |
| Customer making payment | Cash | Accounts Receivable |
| AP Request adjustment | Accounts Receivable | Accounts Payable Clearing |

### 1.6.3 Accounts Payable (AP) Request and AP Data Integrations

This section covers:

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Settings
- Oracle Utilities Customer Care and Billing AP Settings
- Integration Software AP Settings
- Accounting

#### 1.6.3.1 Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Settings

Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Voucher Build Application Engine Process (AP_VCHRBLD) is run as scheduled to read the data from the AP Voucher Build Interface tables and create single payment vouchers corresponding to the Oracle Utilities Customer Care and Billing AP Requests.

Oracle PeopleSoft Financials for General Ledger and Accounts Payable single payment vendors are used to identify standard customer related information used for all AP Requests coming from Oracle Utilities Customer Care and Billing. These must be setup in Oracle PeopleSoft Financials for General Ledger and Accounts Payable for the integration to process these transactions correctly.

Configuration needed for AP Request and AP Payment integrations includes:

- **Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Voucher Build Application Engine Process**: Schedule this process to create AP Vouchers from Oracle Utilities Customer Care and Billing information inserted into interface tables by the integration product software. When you configure Oracle PeopleSoft Financials for General Ledger and Accounts Payable to run this process automatically at a preset time please ensure you have matched this timing with the timing of other actions done by Oracle Utilities Customer Care and Billing and the integration product. (Alternatively you may use the standard user interface within Oracle PeopleSoft Financials for General Ledger and Accounts Payable to run the Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Voucher Build Application Engine Process manually).
- **Single Payment Vendor**: Pre-configure a single payment vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to accommodate payments sent to customers within Oracle Utilities Customer Care and Billing. A Oracle PeopleSoft Financials for General Ledger and Accounts Payable single payment vendor translates the concept of a customer from Oracle Utilities Customer Care and Billing to the concept of vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, and helps avoid the creation of a new vendor for every customer that needs to be issued a payment. The single payment vendor record holds default information for customers from Oracle Utilities Customer Care and Billing. If you have already set up single payment vendor you can choose to use the existing vendor. No Oracle Utilities Customer Care and Billing specific setup is required while configuring the single payment vendor for this Integration Point.
- **Accounting Entry Template**: Pre-configure an accounting entry template in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to indicate the accounts that accompany the refund. Each voucher that comes from the Oracle Utilities Customer Care and Billing system is accompanied by a General Ledger account. An Accounting Entry template is needed in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to define the off-set account for the incoming Oracle Utilities Customer Care and Billing account. If you have already set up an accounting entry template you can choose to use the existing template. No Oracle Utilities Customer Care and Billing specific setup is required while configuring the accounting entry template for this Integration Point.
- **Payment Terms Cod**e: Create a new payment terms code for processing the payments for Oracle Utilities Customer Care and Billing customers. This Payment terms code needs to be of the type 'Single Payment'. These codes are used to define defaults for when payments should be made based on the invoice date, which status should be paid, any applicable discounts, rebates etc.

  **Note**: For specific guidelines on configuring these settings, refer the Oracle PeopleSoft Financials for General Ledger and Accounts Payable User documentation.

### 1.6.3.2 Oracle Utilities Customer Care and Billing AP Settings

Configure Accounts Payable settings in Oracle Utilities Customer Care and Billing according to the following guidelines and keeping in mind that Oracle PeopleSoft Financials for General Ledger and Accounts Payable is the overriding source for the general ledger account information.

- **CIS Division**: The Oracle Utilities Customer Care and Billing CIS Division characteristic value for AP Business Unit must match the AP Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable,
- **Characteristic for Distribution Code**: An Oracle Utilities Customer Care and Billing characteristic associated with the distribution code assigned to an adjustment type used to create AP Requests in Oracle Utilities Customer Care and Billing, must be setup and its value must match the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Accounting Entry template to be used.

  **Note**: For more information on the configuration settings referenced in this section, refer the Oracle Utilities Customer Care and Billing user documentation.

### 1.6.3.3 Integration Software AP Settings

The integration product extracts the unprocessed AP Requests from Oracle Utilities Customer Care and Billing and loads the Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Voucher Build Interface tables after applying the necessary translations and transformations on the Supplier/Invoice data extracted from Oracle Utilities Customer Care and Billing.

As part of the technical configuration of this integration product you must indicate certain values to the product so that it can properly extract data from one application, transform it, and insert it for use by the other application. It is assumed that you have configured this information including:

- The email address of the person who should notified if the integration software detects and logs an error while performing the AP Request and AP Data integrations,
- AP Voucher information required by Oracle PeopleSoft Financials for General Ledger and Accounts Payable including build keys, Voucher Style, and Vendor Set ID.
- The Single Vendor ID, Location, Address Sequence Number, Payment Terms code, AP Rate Type, Multiplier, Division, Match Action, Voucher Source, Physical Nature Code, AP Business Unit Code, Bank Code, Bank account key, payment method, payment handling code, and the Oracle Utilities Customer Care and Billing characteristic types holding the Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Business Unit must all be setup to valid values in the integration settings table,
- The AP data remit vendor must be set to valid values in the integration settings table.

#### 1.6.3.4 Accounting

The following shows the basic accounting debits and credits that can be achieved through the above AP setup:

| Event | Debit Account | Credit Account |
|---|---|---|
| AP Request Adjustment in Oracle Utilities Customer Care and Billing (As part of the General Ledger Integration) | Accounts Receivable | Accounts Payable Clearing |
| AP Invoice Created in Oracle PeopleSoft Financials for General Ledger and Accounts Payable | Accounts Payable Clearing | AP Liability |
| AP Invoice Payment in Oracle PeopleSoft Financials for General Ledger and Accounts Payable | AP Liability | Cash |

# Chapter 2

# Understanding the Integration Process

This section provides detailed business process overviews and technical overviews of each of the business processes facilitated by this integration. These include the following:

- About the Integration
- Integration Business Processes

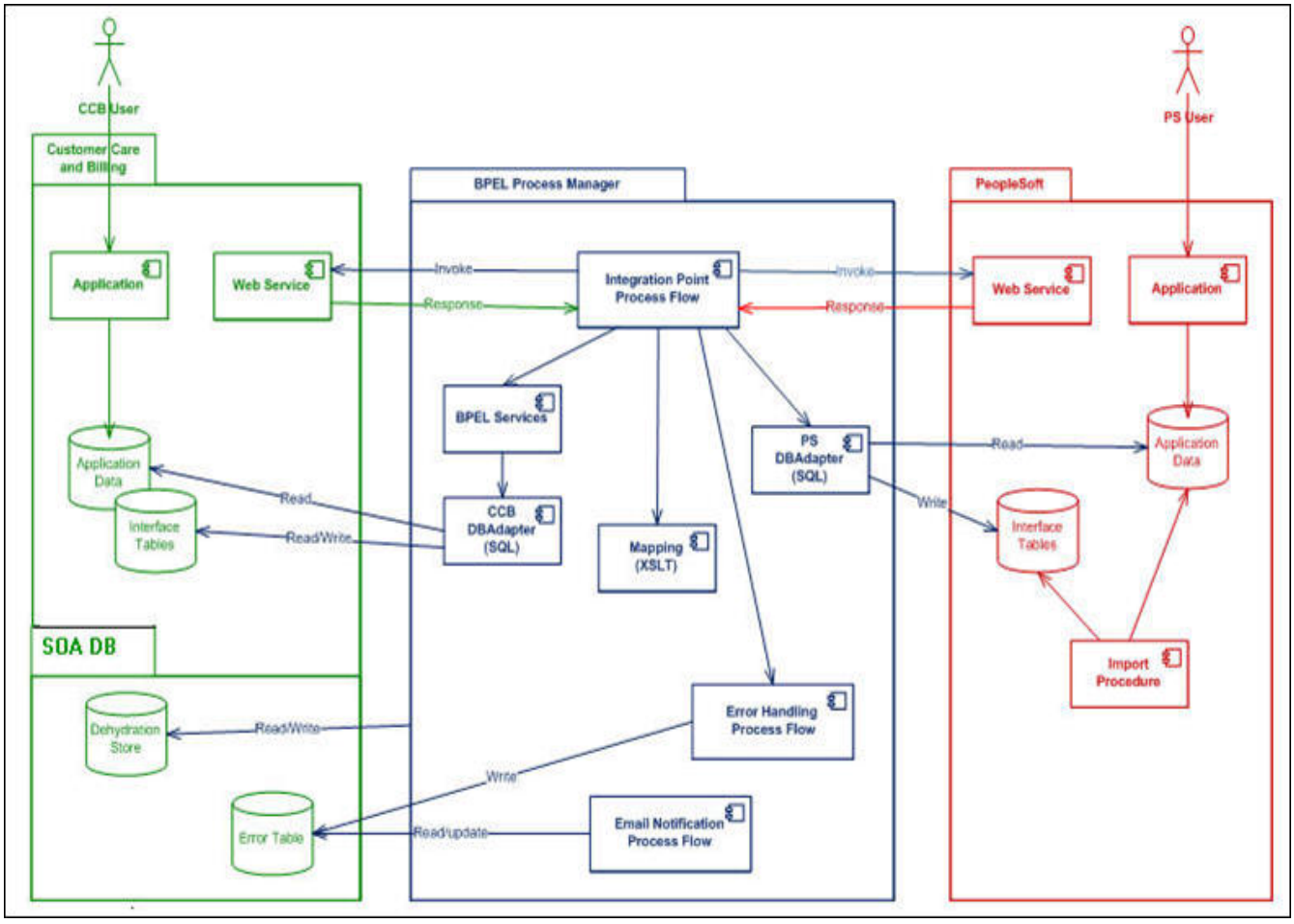
## 2.1 About the Integration

Oracle BPEL Process manager uses standard data mapping to extract, transform and load data to take it from the source system and insert into the target system.

- After the source system generates financial data the financial data:
  - BPEL extracts and consolidates the data as XML-based data.
  - BPEL then transforms the data into the appropriate format based on the mapping XSLT.
  - BPEL then loads the data into the appropriate table in the target.
  - When the target system receives this data, it validates and converts imported data into the appropriate format of entries in the target application.
- The process integration points do not use Enterprise Business Objects (EBOs) or other Application Integration Architecture (AIA) objects to complete the integration. Rather, the integration uses the Oracle BPEL Process Manager to extract, transform and load the data into the target system.

The following table shows the integration process, source application, and target application, tables, and process used to load the data that is imported from the other system:

| Integration Process | Source System | Target System | Process | Target Table |
|---|---|---|---|---|
| General Ledger | CCB | PS | Journal Generator | PS_JGEN_ACCT_ENTRY |
| AP Request | CCB | PS | Voucher Build | PS_VCHR_HDR_STG<br>PS_VCHR_LINE_STG<br>PS_VCHR_DIST_STG<br>PS_VCHR_PYMT_STG<br>PS_VCHR_VNDR_STG<br>PS_VCHR_BANK_STG |
| AP Data | PS | CCB | | The appropriate AP Request within Oracle Utilities Customer Care and Billing. |




**High Level Architecture Diagram**

### 2.1.1 Integration Schema

The integration requires a database to host the required integration schema. This schema can be created in any of the following:

- an integration database, if one exists.
- as part of the Oracle Utilities Customer Care and Billing database.
- as part of another database as determined by your specific technical needs.

The tables listed here are created in the integration schema defined during installation, for the purpose of this integration product.

> **Note**: The integration does not require any database objects to be added to Oracle Utilities Customer Care and Billing or Oracle PeopleSoft Financials for General Ledger and Accounts Payable for General Ledger and Accounts Payable databases other than the objects mentioned here.

The following new database tables are required to operate the Oracle Utilities Customer Care and Billing process integration for the Oracle PeopleSoft Financials for General Ledger and Accounts Payable product:

| Table Name | Description |
|---|---|
| INTEGRATION_LOOKUP_TABLE | A lookup table to store all the configuration parameters used by the BPEL processes. This table is also used to configure the email addresses to be notified if errors occur. This table is seeded with data at the time of integration product installation. |
| INTEGRATION_PROCESS_ACTIVATION | This table is used to activate or de-activate various integration points available in the Integration product. This table is seeded with data at the time of integration pack installation and is by default populated to activate all the available integration points in the product. |
| INTEGRATION_ERROR_STORE | The table is used to hold the information regarding the errors encountered during integration transactions. A record is inserted for each error encountered by the BPEL processes. The mail notification process, MailNotification, accesses this table to get the error information needed to construct the notification email. This table is delivered with no data. |

## 2.2 Integration Business Processes

This section covers the following:

- General Ledger
- AP Request
- AP Data

### 2.2.1 General Ledger

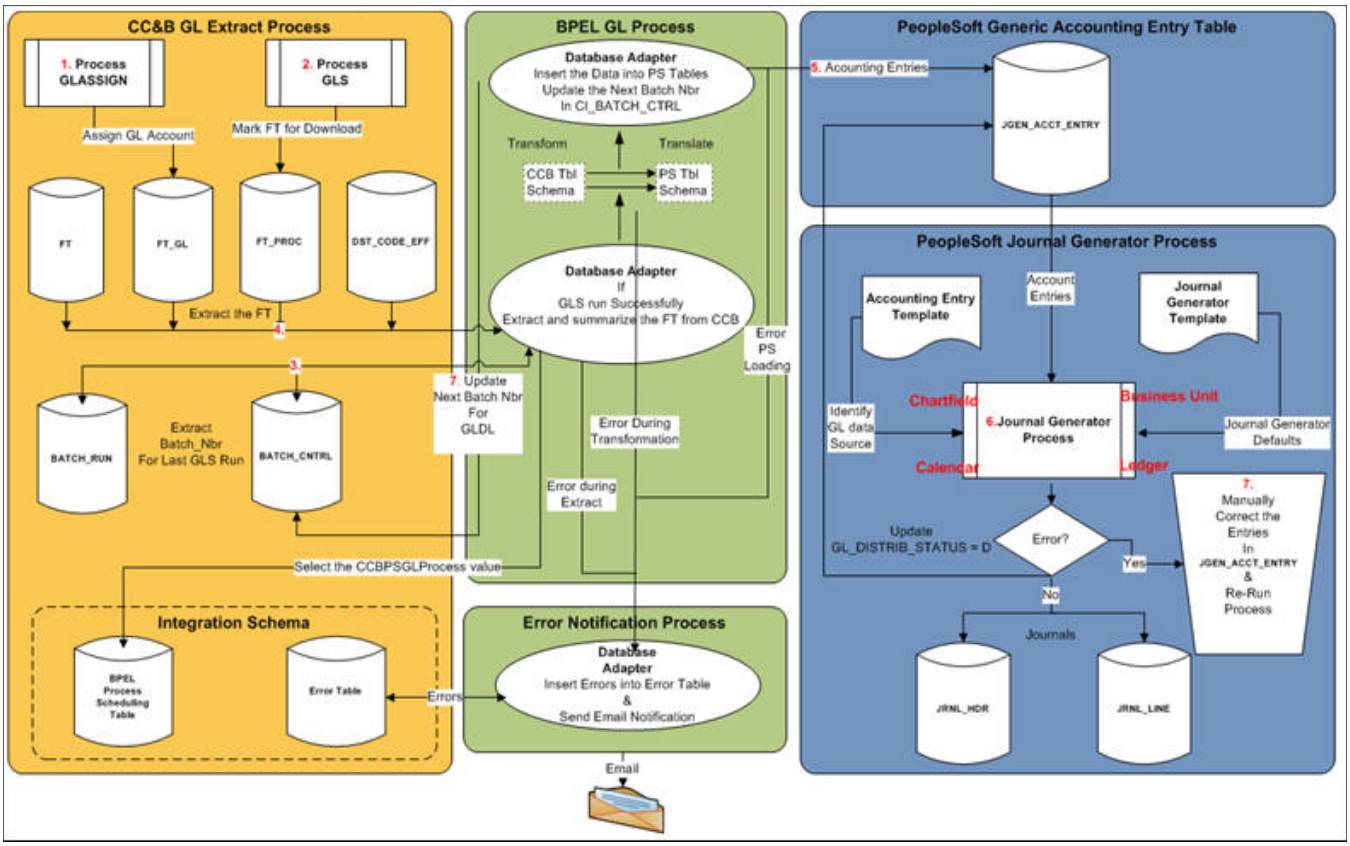
For general ledger transactions, Oracle Utilities Customer Care and Billing is considered the sub-ledger and Oracle PeopleSoft Financials for General Ledger and Accounts Payable is considered the general ledger.

- General Ledger transactions are written in one direction; from Oracle Utilities Customer Care and Billing to Oracle PeopleSoft Financials for General Ledger and Accounts Payable.
- Financial transactions are moved from the sub-ledger to the general ledger when two consecutive Oracle Utilities Customer Care and Billing batch processes, GLASSIGN and GLS, are run according to a set schedule. These are standard processes released with Oracle Utilities Customer Care and Billing.
- The GLASSIGN and GLS processes group all the financial transactions in Oracle Utilities Customer Care and Billing that must be included in a batch. The GL Integration Point looks for batches of financial transactions that are ready to be sent, extracts and summarizes the data, translates the data from a sub-ledger format to the format required by the general ledger, and writes it to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Generic Accounting Entry Table: PeopleSoft_JGEN_ACCNT_ENTRY.
- Once the entries are created in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, the standard journal generation process must be executed to create the necessary journal entries within the General Ledger.

  This can be accomplished by scheduling the standard Oracle PeopleSoft Financials for General Ledger and Accounts Payable journal generator process or by manually running this process through the standard user interface provided within the Oracle PeopleSoft Financials for General Ledger and Accounts Payable product.

  You must set up a journal generator template to facilitate the Journal Generator's upload of data from the Oracle PeopleSoft Financials for General Ledger and Accounts Payable staging tables.

  **Note**: For more information on GLASSIGN and GLS Batch jobs, refer to the Oracle Utilities Customer Care and Billing documentation.



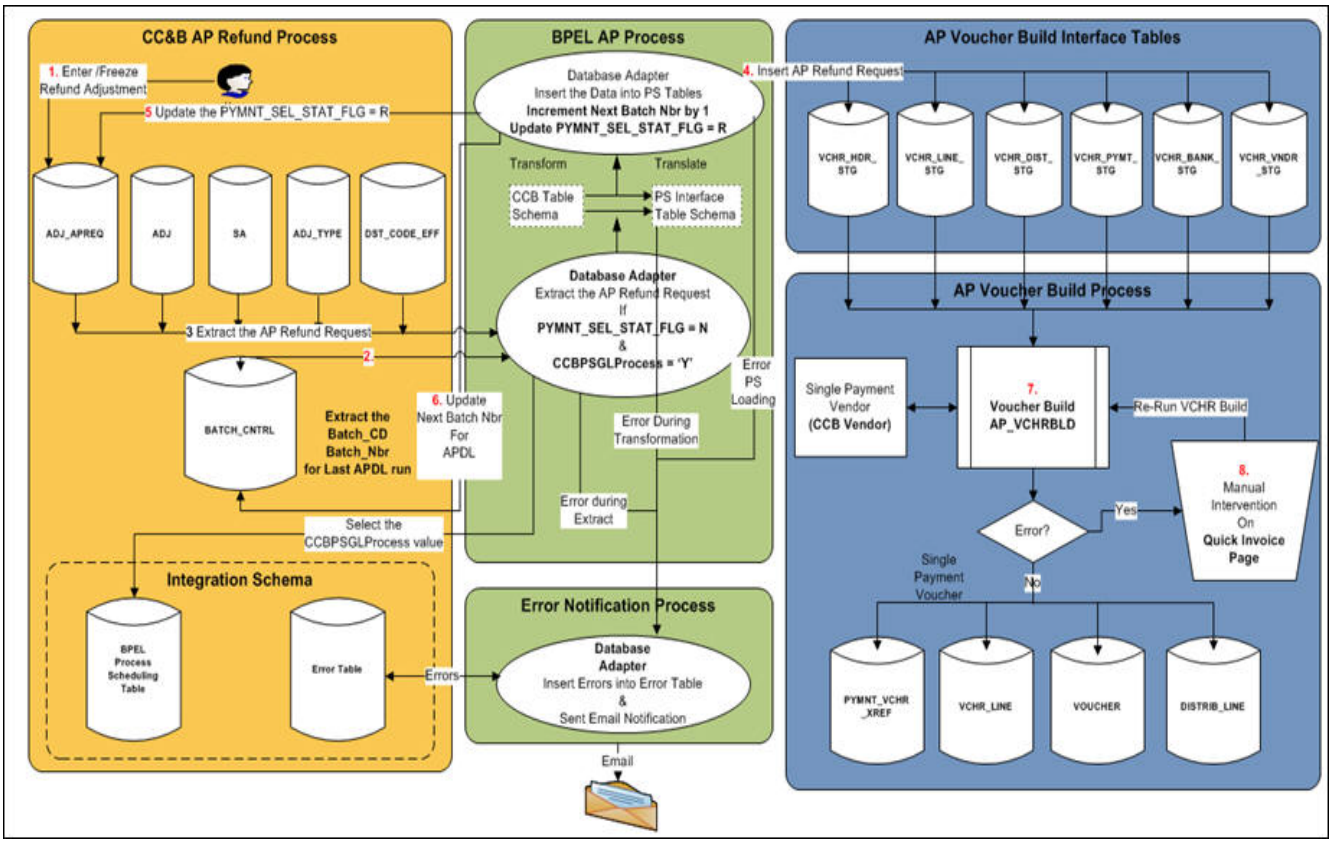

**GL Process Diagram**

These are the steps for the GL Process flow:

1. Run the GLASSIGN batch program in Oracle Utilities Customer Care and Billing.
2. Run GLS batch program in Oracle Utilities Customer Care and Billing.
3. BPEL process extracts FT information from Oracle Utilities Customer Care and Billing.
4. BPEL process updates the Next_Batch_Nbr for GLDL in CI_BATCH_CTRL table in Oracle Utilities Customer Care and Billing.
5. GL BPEL process transforms and inserts the data into Oracle PeopleSoft Financials for General Ledger and Accounts Payable Generic Accounting Entry Table: PeopleSoft_JGEN_ACCNT_ENTRY
6. GL BPEL process updates the Last_Update_DateTime in CI_BATCH_CTRL table in Oracle Utilities Customer Care and Billing.
7. Run Journal Import process in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to import FTs.
8. Any errors in PS interface tables must be corrected in Oracle PeopleSoft Financials for General Ledger and Accounts Payable and Journal Import process must be re-run.

## 2.2.2 AP Request

- AP Request transactions are written in one direction from Oracle Utilities Customer Care and Billing to Oracle PeopleSoft Financials for General Ledger and Accounts Payable. Customer, customer account, and AP Request information is extracted from Oracle Utilities Customer Care and Billing and exported to Oracle PeopleSoft Financials for General Ledger and Accounts Payable as single payment voucher information.
- Once the customer and refund request data is loaded into Oracle PeopleSoft Financials for General Ledger and Accounts Payable, by the integration product, the standard voucher build process must be executed. This can be accomplished using a scheduled process or by manually running the process through the standard user interface provided within the Oracle PeopleSoft Financials for General Ledger and Accounts Payable product.
- You must have set up a single payment vendor to represent the Oracle Utilities Customer Care and Billing refund customers.
- It is also necessary to pre-configure an accounting entry template in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to indicate the accounts that accompany the refund.
- The integration extracts AP Requests from Oracle Utilities Customer Care and Billing where the status of the AP Request is 'N' indicating the AP Request is 'Not Selected for Payment'. Once the data has been integrated the integration software updates the AP Request status in Oracle Utilities Customer Care and Billing to 'R' indicating it has been 'Requested for Payment'.




**AP Request Business Process Diagram**

These are the steps in AP request process:

1. Create and Freeze Adjustment in Oracle Utilities Customer Care and Billing.
2. BPEL process extracts AP Refund Request information from Oracle Utilities Customer Care and Billing.
3. BPEL process updates the Next_Batch_Nbr for APDL in CI_BATCH_CTRL table in Oracle Utilities Customer Care and Billing.
4. BPEL process transforms and inserts the data into PS AP Voucher Build Interface tables.
5. BPEL updates the status of AP Request in Oracle Utilities Customer Care and Billing.
6. In case of an error, BPEL decrements the Next_Batch_Nbr for APDL in CI_BATCH_CTRL table in Oracle Utilities Customer Care and Billing.
7. Run AP Voucher Build Process in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to import Invoices. Any errors in Interface tables must be corrected in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.

### 2.2.3 AP Data

- AP Data transactions are written in one direction from Oracle PeopleSoft Financials for General Ledger and Accounts Payable to Oracle Utilities Customer Care and Billing.
- Payment information for system-generated checks is created and processed in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, then exported to Oracle Utilities Customer Care and Billing.

  This Payment information corresponds to the AP Refund Requests originally generated in Utilities Customer Care and Billing and exported to Oracle PeopleSoft Financials for General Ledger and Accounts Payable for payment processing. The AP Data Integration Point updates the original AP Request in Oracle Utilities Customer Care and Billing with the details of the payment including the check number and date.
- Once a payment has been created in Oracle PeopleSoft Financials for General Ledger and Accounts Payable and the information is integrated to Oracle Utilities Customer Care and Billing, the AP Request status in Oracle Utilities Customer Care and Billing is updated to 'P' indicating that the AP Request has been paid. Additional statuses that can occur include 'C' - Closed or Held and 'X' - Cancelled.

Refer to the table below to review how cancelled payments are handled.

### 2.2.3.1 Payment Cancellation

| Oracle PeopleSoft Financials for General Ledger and Accounts Payable Action | Oracle Utilities Customer Care and Billing AP Request Resulting Action | Oracle Utilities Customer Care and Billing Adjustment Resulting Action |
|---|---|---|
| Payment is completed | Payment information updated and status changes to "P" for Paid | No change |
| Payment cancelled and placed on hold | Payment status changes to "C" for Closed | No change |
| Payment is re-issued | Payment information updated and status changes to "P" for Paid | No change |
| Payment is cancelled and the liability is closed | Payment status changes to "X" for Cancelled | Adjustment is cancelled |

When a payment is cancelled in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, the following options are available:

- Re-Open /Re-Issue
- Re-Open/Hold
- Do not Re-Issue/Close Liability

**Re-Open /Re-Issue**

If a check is cancelled for any reason in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, the new information is updated on the AP Request in Oracle Utilities Customer Care and Billing and the AP Request status is set to 'C' indicating that the AP Request has been closed.

The AP Request in Oracle Utilities Customer Care and Billing only holds the most recent check information sent (no history of checks re-issued).

A new payment schedule is created for the voucher and is picked up for payment processing by the pay cycle. When the payment is re-issued, the new payment information is sent to Oracle Utilities Customer Care and Billing and the AP Request status in Oracle Utilities Customer Care and Billing is set to 'P' indicating that the AP Request has been paid. A payment cannot be re-issued if the corresponding voucher is posted.

**Re-Open/Hold**

If a payment is stopped or voided to be re-opened and put on hold, the cancellation information is sent to Oracle Utilities Customer Care and Billing as updates to the AP Request. The AP Request payment status flag in the Oracle Utilities Customer Care and Billing is set to 'C' indicating a 'Closed' status. This affects only the AP Request, the adjustment in Oracle Utilities Customer Care and Billing is not impacted.

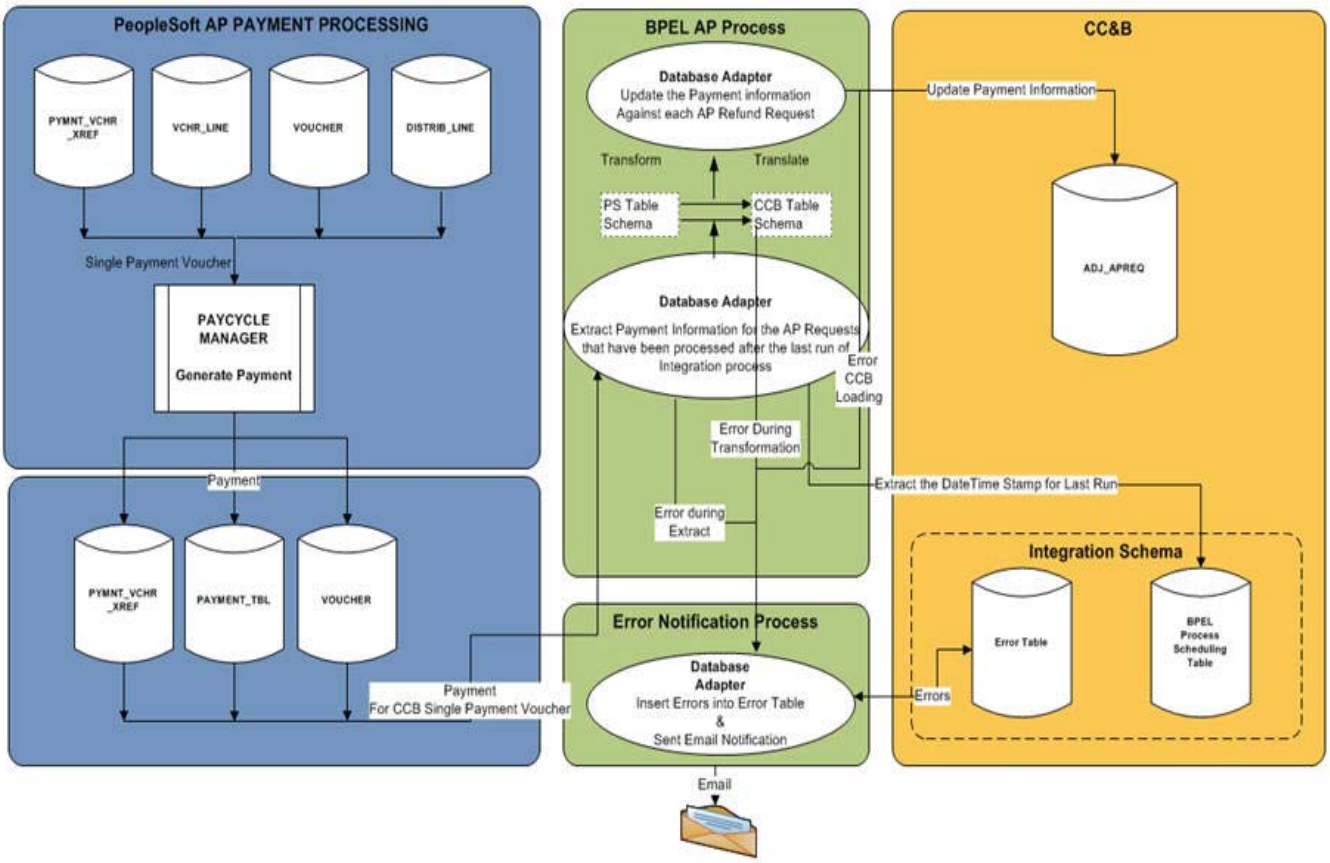
**Do not Re-Issue/Close Liability**

If the payment is voided or stopped and all liability is closed, the integration cancels the AP Request and then calls a service in Oracle Utilities Customer Care and Billing to cancel the adjustment related to the request. The AP Request payment status flag in

Oracle Utilities Customer Care and Billing is set to 'X' indicating a 'Cancelled' status. The adjustment transaction is also cancelled using the standard adjustment maintenance object within the Oracle Utilities Customer Care and Billing application software.

An Oracle Utilities Customer Care and Billing adjustment cancellation algorithm, named CI_ADCA-CRTD - 'Adjustment Cancellation - Create To Do Entry', can be configured to create a To Do List entry to notify the users about the cancellation of the adjustment and AP Request within Oracle Utilities Customer Care and Billing. If this algorithm is configured to the adjustment type you are using for AP Refunds, the Oracle Utilities Customer Care and Billing system creates a To Do Entry when an adjustment of this type is cancelled.

The adjustment cancellation algorithm is shipped and documented as part of standard Oracle Utilities Customer Care and Billing application software.

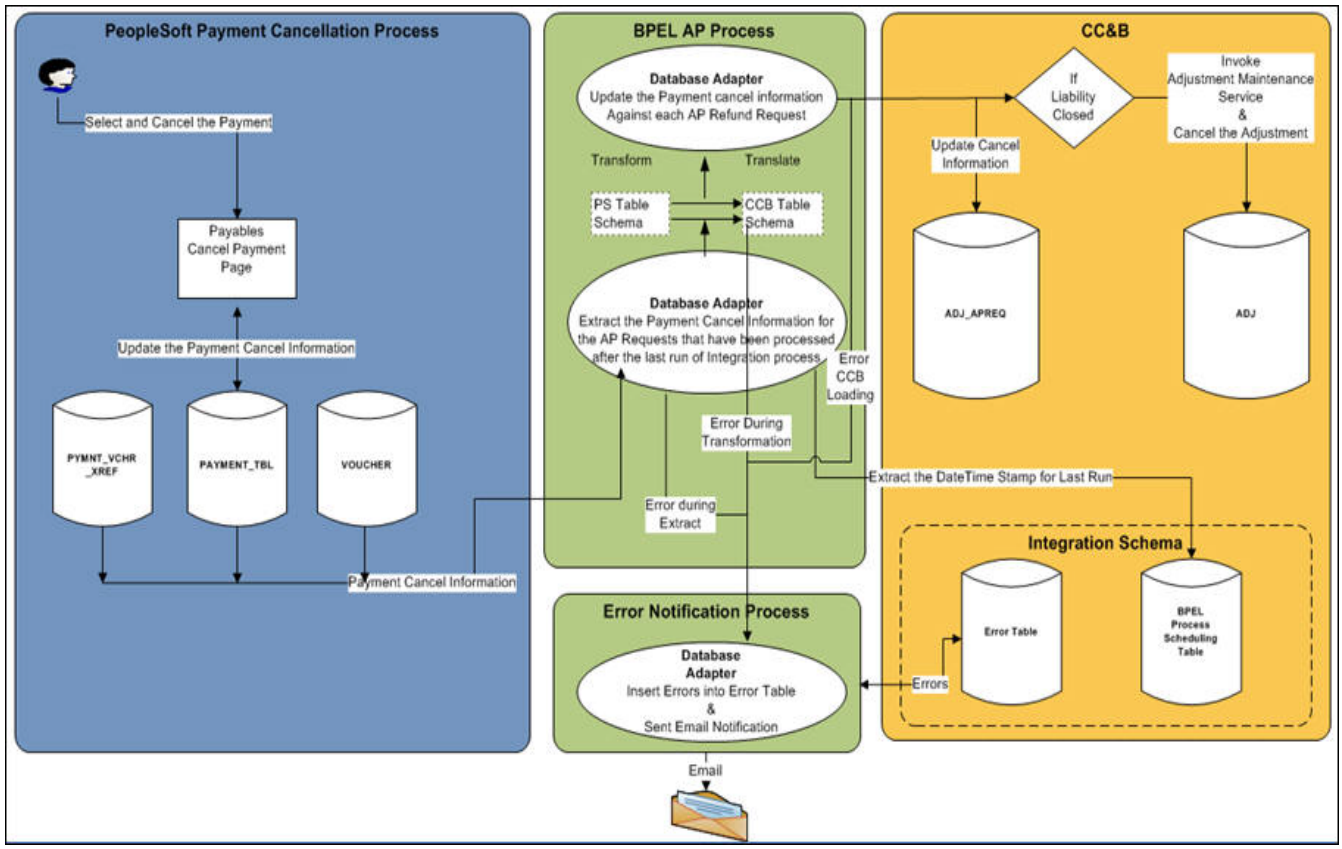



**AP Data Process Diagrams**

These are the steps in AP Data process:

1. Payment is made in Oracle PeopleSoft Financials for General Ledger and Accounts Payable for invoices originated from Oracle Utilities Customer Care and Billing.
2. BPEL process updates the payment information in Oracle Utilities Customer Care and Billing.

3. BPEL process updates the Last Run Date of AP Data process in Integration schema.




**AP Payment Cancellation Process**

These are the steps in the AP Data process flow when a payment is cancelled in Oracle PeopleSoft Financials for General Ledger and Accounts Payable:

1. Payment is cancelled in Oracle PeopleSoft Financials for General Ledger and Accounts Payable for invoices originated from Oracle Utilities Customer Care and Billing.
2. BPEL process updates the Cancellation information in Oracle Utilities Customer Care and Billing.
3. BPEL process invokes AdjustmentMaintenance Web Service in Oracle Utilities Customer Care and Billing to cancel the adjustment
4. BPEL process updates the Last Run Date of AP Data process in Integration schema.

# Part 2

# Implementing the Integration Product

This section provides details on how to configure the participating applications and middleware layer for this AIA direct integration. It also includes information on error handling, monitoring, customization options, and data mapping.

This section contains the following chapters:

- Configuring the Integration
- Monitoring and Troubleshooting
- Customization Options

# Chapter 3

# Configuring the Integration

This section provides a configuration checklist which shows an overview of configuration tasks. Detailed steps and information are included in following sections along with instructions on how to set up security, configure error handling and how to verify the implementation once all steps are complete:



## 3.1 Prerequisites

To implement and configure this product you must have installed the appropriate pre-requisite edge applications and operating platforms.

Prior to starting this implementation, you should have completed and verified the following:

- Installed and Configured Oracle PeopleSoft Financials for General Ledger and Accounts Payable.
- Installed and configured Oracle SOA Suite 11g and all of its pre-requisite components.
- Installed Oracle Utilities Customer Care and Billing, and either installed the provided sample data or pre-configured the software based on the additional configuration identified in this document.
- Completed, and verified, all of the steps identified in the installation guide for this product.

  **Note**: Refer to the installation guide for this product for complete installation details.

## 3.2 Assumptions

It is assumed that the person installing the product has basic knowledge of Oracle SOA Suite programs including the ability to log into BPEL, access the process monitor, invoke a BPEL process, and view a process flow. Knowledge of and access to database tools, such as SQLDeveloper, are also required to implement this product.

## 3.3 Configuration Checklist

This section provides a quick list of configuration tasks. You can print the checklists to use as a reference as you complete the tasks.

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable Configuration
- Oracle Utilities Customer Care and Billing Configuration
- Integration Product Configuration
- Verifying Configuration

Refer to the section of this document titled Configuring the Integration for detailed steps.

### 3.3.1 Oracle PeopleSoft Financials for General Ledger and Accounts Payable Configuration

| Step | Information | Comments |
|---|---|---|
| A1 | GL Business Unit | Identify and document the GL Business Unit(s) to be used with the integrated data. Example: **US001**. This is used in checklist steps **B1** and **D16**. |
| A2 | Accounting Entry Definition | Identify or Create the accounting entry definition you will use with the Journal Generator process. This definition is used as an input parameter for the Journal Generator Process. It specifies the staging table from which the Journal Generator gets the accounting data. Your definition must specify the JGEN_ACCT_ENTRY table. An example is the **GENERIC** accounting entry definition. |
| A3 | AP Business Unit | Document the AP Business Unit(s) to be used with the integrated data. Example: **US001**. This is used in checklist step **B4**. |
| A4 | AP Single Payment Vendor | Create and document the Single Payment Vendor to be used with the integrated data. Example: **CCBVENDOR**. This is used in checklist steps **D7** and **E2**. |
| A5 | Payment Terms Code | Create or document the payment terms code to be used for paying AP vouchers coming from Oracle Utilities Customer Care and Billing. Example: **07** (**CCBREFUND**). This is used in checklist step **D10**. |
| A6 | Accounting Entry Template | Identify and document the Accounting Entry Template to be used with the integrated data. This template defines the offset account. Example: **STANDARD**. This is used in checklist step **B3**. |

### 3.3.2 Oracle Utilities Customer Care and Billing Configuration

| Step | Information | Comments |
|---|---|---|
| B1 | GL Division | Configure the GL Division(s) to be used in the integration. Example: **US001**. This must match the GL Business Unit, in step **A1** above, exactly. |
| B2 | Distribution Codes | Configure your distribution codes. See details of required setup in this document. Example: 111.222.333.… With '111' corresponding to Account, '222' corresponding to Department ID, and so on. See details of all mapping segments later in this document. |
| B3 | Accounting Entry Template Characteristic Type | Configure a characteristic type to hold the value of the Accounting Entry Template to be used. Example characteristic type: **CCBTMPLT**. This is used in checklist step **D22**.<br>The value you create in this characteristic (Example: **STANDARD**) must match what you documented in step **A6.** |

| Step | Information | Comments |
|---|---|---|
| B4 | AP Business Unit Characteristic Type | Configure a characteristic type to hold the value of the AP Business Unit to be used. Example characteristic type: **PSBU**. This is used in checklist step **D23.**<br>The value you create in this characteristic (Example: **US001**) must match what you documented in step **A3**. |
| B5 | Verify Service and Cancel Reason | Verify that the cancel service C1AdjustmentMaintenance is configured and that the Cancel Reason to which it refers is also configured correctly. |
| B6 | Link the characteristic type created in step B4 with the CIS Division | The CIS Division you are using (Example: **CA**) will now have a characteristic type linked to it (Example: **PSBU**) that holds the name of the AP Business Unit to use (Example: **US001**). |
| B7 | Link the characteristic type created in step B3 with the appropriate distribution codes. | For each distribution code, linked with an adjustment type that has an associated AP Request configured, you must link the characteristic type that indicates the accounting entry template.<br>The distribution code you are using (Example: **AP-OVPY**) will now have a characteristic type linked to it (Example: **CCBTMPLT**) that holds the name of the Accounting Entry Template to use (Example: **STANDARD**). |

## 3.3.3 Integration Product Configuration

The default settings for the INTEGRATION_PROCESS_ACTIVATION table are shown below:

| PROCESS_NAME | START_PROCESS (Y/N) | RUN_FREQUENCY (Seconds) | NEXT_RUN_INTERVAL (System Use) |
|---|---|---|---|
| CCB_PS_GL | Y | 0 | 0 |
| CCB_PS_AP | Y | 0 | 0 |
| PS_CCB_APDATA | Y | 0 | 0 |

Configuration is done in the INTEGRATION_LOOKUP_TABLE, except item C1 that uses a different table as identified in the comments. These columns receive a default value as part of the installation of the product. You may choose to override the default as needed.

**Note**: No user interface exists in this release. Use approved database tools to set column values.

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| C1 | CCB_PS_GL<br>CCB_PS_AP<br>PS_CCB_APDATA | 1800 seconds or 30 minutes. | Ensure that integration points are enabled in the INTEGRATION_PROCESS_ACTIVATION table as needed. Set RUN_FREQUENCY times, in seconds, for each integration point as needed. The default is every 1800 seconds or 30 minutes. |
| C2 | CCB.PS.GL.EMAIL | abc.gl@xyz.com | Enter the e-mail address to be notified if errors occur in the GL integration point.. |
| C3 | CCB.PS.GL.LINE_DESCR | CCB Journal Line. | The Journal Voucher line description to be used. |
| C4 | CCB.PS.GL.APPL_JRNL_ID | GENERIC | This is journal generator template and it is used in conjunction with the Accounting Entry Definition by the GL Integration point. |
| C5 | CCB.PS.GL.LEDGER | US1 or UGBUCCB | Create or identify the ledger to be used. |
| C6 | CCB.PS.GL.LEDGER_GROUP | US or UGBUCCB | Create or identify the ledger group to be used. . |
| C7 | CCB.PS.GL.GL_DIVISION | blank or US1 | If this value is blank, then financial transactions associated with all GL divisions in Oracle Utilities Customer Care and Billing are integrated. If this column has a value, then only financial transactions associated with this specific GL Division indicated are integrated. . |
| C8 | CCB.PS.GL.COLLECTION.PRE.EXTN.FLAG | false | If set to true, the pre-transformation extension service is invoked at the collection level after retrieving all the FT records from CCB and before any transformation is done. |

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| C9 | CCB.PS.GL.COLLECTION.POST.EXTN.FLAG | false | If set to true, the post transformation extension service is invoked at the record level after transforming the FT record from CCB to PS format. |
| C10 | CCB.PS.GL.OVERRIDE.GLDATA | false | If set to 'true' TransformationCCBToPSGLData.xsl result will be overridden by TransformationCCBToPSGLData_Override_Custom.xsl mappings. |

Configuration is done in the INTEGRATION_LOOKUP_TABLE (AP Request Integration Point). Most of these columns receive a default value as part of the installation of the product. You may choose to override the default as needed.

**Note**: No user interface exists in this release. Use approved database tools to set column values.

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| D1 | CCB.PS.AP.EMAIL | | Enter the e-mail address to be notified if errors occur in the AP Request integration point. Example abc.ap@oracle.com. |
| D2 | CCB.PS.AP.VCHR_BLD_KEY_N1 | 0 | Voucher Build Key Num 1 |
| D3 | CCB.PS.AP.VCHR_BLD_KEY_N2 | 0 | Voucher Build Key Num 2 |
| D4 | CCB.PS.AP.VOUCHER_STYLE | SGLP | This indicates to the system a Single Payment voucher style. |
| D5 | CCB.PS.AP.VENDOR_SETID | SHARE | Vendor SetID |
| D6 | CCB.PS.AP.VENDOR_ID | CCBVENDOR | Vendor ID. This must match the vendor ID setup in step **A4**. Example: CCBVENDOR. |
| D7 | CCB.PS.AP.VNDR_LOC | 1 | Vendor Location |
| D8 | CCB.PS.AP.ADDRESS_SEQ_NUM | 1 | Address Sequence Number |
| D9 | CCB.PS.AP.PYMNT_TERMS_CD | 07 | Payment Terms ID. This must match what you documented in step **A**5. |
| D10 | CCB.PS.AP.RT_TYPE | CRRNT | Rate Type |
| D11 | CCB.PS.AP.RATE_MULT | 1 | Rate Multiplier |
| D12 | CCB.PS.AP.RATE_DIV | 1 | Rate Divisor |
| D13 | CCB.PS.AP.MATCH_ACTION | N | Match Action |

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| D14 | CCB.PS.AP.VCHR_SRC | XML | Voucher Source |
| D15 | CCB.PS.AP.BUSINESS_UNIT_GL | US001 | GL Business Unit. This must match what you documented in step **A1**. |
| D16 | CCB.PS.AP.PHYSICAL_NATURE | S | Physical Nature |
| D17 | CCB.PS.AP.BANK_CD | USBNK | Bank Code |
| D18 | CCB.PS.AP.BANK_ACCT_KEY | CHCK | Bank Account |
| D19 | CCB.PS.AP.PYMNT_METHOD | CHK | Payment Method |
| D20 | CCB.PS.AP.PYMNT_HANDLING_CD | RE | Payment Handling |
| D21 | CCB.PS. AP.CHAR_TYPE_CD | TEMPLATE | Characteristic Type to store the PS Accounting Entry Template. This must match what you documented in step **B3**. Example: CCBTMPLT. |
| D22 | CCB.PS. AP. CHAR_TYPE_CD_BU | PSBU | Characteristic Type to store PS AP Business Unit. This must match what you documented in step **B4**. Example: PSBU. |
| D24 | CCB.PS.AP.DST_CNTRL_ID | CCBTMPLT | |
| D25 | CCB.PS.AP.VOUCHER_ORIGIN | | Origin field on voucher header. If a value is defined, make sure it is a valid origin value in PeopleSoft code table.Default is blank. |
| D26 | CCB.PS.AP.XFORMCCBAPREQCOLL.PRE.EXTN.FLAG | false | If set to true, the pre transformation extension service is invoked at the collection level after retrieving all the AP Request records from CCB and before any transformation is done. |
| D27 | CCB.PS.AP.INSERTVOUCHER.INVOKEVOUCHER.PRE.EXTN.FLAG | false | If set to true, the pre transformation extension service is invoked at the record level before transforming the AP Request record from CCB to PS format. |
| D28 | CCB.PS.AP.INSERTVOUCHER.INVOKEVOUCHER.POST.EXTN.FLAG | false | If set to true, the post transformation extension service is invoked at the record level after the record is inserted in the PeopleSoft Voucher tables. |

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| D29 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERDIST | false | If set to 'true' TransformationCCBVoucherToPSVoucherDist.xsl result will be overridden by XformCCBVoucherToPSVoucherDist_Override_Custom.xsl mappings. |
| D30 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERVENDOR | false | If set to 'true' TransformationCCBVoucherTOPSVoucherVendor-1.xsl result will be overridden by XformCCBVoucherTOPSVoucherVendor_Override_Custom.xsl mappings. |
| D31 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERPYMNT | false | If set to 'true' TransformCCBVoucherToPSVoucherPayment.xsl result will be overridden by XformCCBVoucherToPSVoucherPayment_Override_Custom.xsl mappings. |
| D32 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERHEADER | false | If set to 'true' TransformationCCBVoucherToPSVoucherHeader.xsl result will be overridden by XformCCBVoucherToPSVoucherHeader_Override_Custom.xsl mappings. |
| D33 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERLINE | false | If set to 'true' TransformationCCBVoucherToPSVoucherLine.xsl result will be overridden by XformCCBVoucherToPSVoucherLine_Override_Custom.xsl mappings. |
| D34 | CCB.PS.AP.INSERTVOUCHER.OVERRIDE.VOUCHERBANK | false | If set to 'true' TransformationCCBVoucherTOPSVoucherBank-1.xsl result will be overridden by XformCCBVoucherTOPSVoucherBank_Override_Custom.xsl mappings. |

Configuration is done in the INTEGRATION_LOOKUP_TABLE (AP Data Integration Point).

**Note**: No user interface exists in this release. Use approved database tools to set column values.

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| E1 | PS.CCB.APDATA.EMAIL | abc@oracle.com | Enter the e-mail address to be notified if errors occur in the AP Data integration point. |
| E2 | PS.CCB.APDATA.REMIT_VENDOR | CCBVENDOR | Remit Vendor. This must match what you documented in step **A4**. |
| E3 | PS.CCB.APDATA.LASTRUNDTTM | 01-01-2011 10:01:01 | Last Updated time of BPEL process run. This is used to determine the payment data to be extracted and moved across the integration point. This column is updated by the integration application each time it is run. |
| E4 | PS.CCB.APDATA.XFORMPSPAYMENTSCOLL.PRE.EXTN.FLAG | false | If set to true, the pre transformation extension service is invoked at the collection level after retrieving all the payment records from PeopleSoft Financials for General Ledger and Accounts Payable and before any transformation is done. |
| E5 | PS.CCB.APDATA.XFORMPSPAYMENTSRECORD.PRE.EXTN.FLAG | false | If set to true, the pre transformation extension service is invoked at the record level before transforming the PeopleSoft Financials for General Ledger and Accounts Payable payment record from PS to CCB format. |
| E6 | PS.CCB.APDATA.PROCESSPAYMENTINFO.PRE.EXTN.FLAG | false | If set to true, the pre processing extension point is invoked. Base payment and cancellation processing are not invoked. |

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|---|---|---|---|
| E7 | PS.CCB.APDATA.POSTPROCESSPAYMENTINFO.PRE.EXTN.FLAG | false | If set to true, the post processing extension point is invoked. After the base payment and cancellation processing are invoked, additional processing can be done here. |
| E8 | PS.CCB.CANCEL.CANCEL_REASON | APVC | Cancel reason code. This must match the cancel reason setup in Oracle Utilities Customer Care and Billing |

### 3.3.4 Verifying Configuration

To verify the configuration, you must manually create data and run each integration point to verify results.

| Step | Information | Success (Y /N) | Comments |
|---|---|---|---|
| F1 | GL Integration Point | | Use the steps outlined in this document to test this integration point. Verifying the Implementation: AP Request Integration Point. |
| F2 | AP Request Integration Point | | Use the steps outlined in this document to test this integration point. Verifying the Implementation: GL Integration Point. |
| F3 | AP Data Integration Point | | Use the steps outlined in this document to test this integration point. Verifying the Implementation: AP Data Integration Point. |

**Note:** If the integration point tests are not successful, refer to the troubleshooting and error correction information in this document.

## 3.4 Configuring the Integration

The integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable incorporates three integration points to facilitate transfer of information between the two applications. Configuration must be completed for all involved products to prepare the integration product for use.

The following sections describe how to configure each area for each integration point:

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable Configuration
- Oracle Utilities Customer Care and Billing Configuration
- Integration Product Configuration

- Process Scheduling

## 3.4.1 Oracle PeopleSoft Financials for General Ledger and Accounts Payable Configuration

Configure GL accounts and other information in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.

**Note**: For steps to configure the GL, refer to your product-specific user documentation.

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

### 3.4.1.1 GL Integration Point

As long as your chart of accounts and other GL definitions and settings are configured in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, there are no new settings required in Oracle PeopleSoft Financials for General Ledger and Accounts Payable for the GL integration point.

If you plan to send Oracle Utilities Customer Care and Billing data to an existing GL business unit, your existing Oracle PeopleSoft Financials for General Ledger and Accounts Payable configuration suffices. If you need to segregate Oracle Utilities Customer Care and Billing data by GL business unit from other financial data within Oracle PeopleSoft Financials for General Ledger and Accounts Payable, create a new GL Business Unit definition in the GL Definition. Take note of the GL Business Unit being used and document it in the implementation checklist, as you require this in subsequent steps.

If you already have an Accounting Entry Definition defined to specify the staging table from which the Journal Generator should get the accounting data sent in by the GL Integration Point, then you do not need to setup a new one. You should however document the name of this Accounting Entry Definition in your implementation checklist.

### 3.4.1.2 AP Request Integration Point

This covers the following:

- Configuring an AP Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable (Optional)
- Identifying the Accounting Entry Template
- Configuring the Single Payment Vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable
- Configuring the Payment Terms Code in Oracle PeopleSoft Financials for General Ledger and Accounts Payable

**Configuring an AP Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable (Optional)**

If you plan to send Oracle Utilities Customer Care and Billing data to an existing AP business unit, your existing Oracle PeopleSoft Financials for General Ledger and Accounts Payable configuration suffices. If you need to segregate Oracle Utilities Customer Care and Billing data by AP business unit from other data within Oracle PeopleSoft Financials for General Ledger and Accounts Payable, create a new AP Business Unit definition. Take note of the AP Business Unit being used, as you require this in subsequent steps.

**Identifying the Accounting Entry Template**

If you already have an Accounting Entry Template defined to offset incoming Oracle Utilities Customer Care and Billing Accounts, then you do not need to setup a new one. You should however document in the implementation checklist the name of this Accounting Entry Template as it is used to accommodate the accounts that accompany the vouchers coming from Oracle Utilities Customer Care and Billing and you require it in subsequent implementation steps.

**Configuring the Single Payment Vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable**

You must set up a Single Payment Vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to represent default accounting information for all of the incoming AP Requests from Oracle Utilities Customer Care and Billing. To do this, you require the name of the Accounting Entry template in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to offset incoming Oracle Utilities Customer Care and Billing Accounts.

The field values described below in the table are minimum setup values required to setup a single payment vendor. Based on the client requirements values for other fields may or may not be required. To Configure the Single Payment Vendor in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, perform the following steps:

1. Open Oracle PeopleSoft Financials for General Ledger and Accounts Payable Financials and navigate to Vendors Page.
   Navigation path: **Vendors** > **Vendor Information** > **Add/Update** > **Vendor**
2. Create Single Payment Vendor by selecting the **Add a New Value** tab. Choose the **Single Payment Vendor (SGLP)** persistence.
3. Use the following settings:

| Field Label | Value | Comments |
|---|---|---|
| SetID | SHARE | |
| VENDOR | CCBVENDOR | This is an example value. You may use any value you wish but take note of it for future configuration steps. |
| ShortName | CCBVENDOR | Example. |
| Name | CCB Single Payment Vendor | Example. |
| Description | CCB Single Payment Vendor | Example. |

| Field Label | Value | Comments |
|---|---|---|
| Terms Options | Default | This field denotes the payment terms of the voucher. It has two possible values:<br>1. Default: Values defaulted from higher level setup.<br>2. Specify: Terms must be specified in the Terms field. |
| Currency Options | Default | This field denotes the currency code specifications. Two possible values are:<br>1. Default: Values defaulted from higher level setup.<br>2. Specify: Terms must be specified in the Terms field. |
| Handling Options | Default | This field denotes Payment Handling options for individual payments of this vendor. Two possible values are:<br>1. Default: Values defaulted from higher level setup.<br>2. Specify: Terms must be specified in the Terms field. |
| Banking Options | Default | This field denotes the Banking options for this Vendor. Two possible values are:<br>1. Default: Values defaulted from higher level setup.<br>2. Specify: Terms must be specified in the Terms field. |

Refer to your Oracle PeopleSoft Financials for General Ledger and Accounts Payable documentation for further instructions.

**Configuring the Payment Terms Code in Oracle PeopleSoft Financials for General Ledger and Accounts Payable**

To Configure the Payment Terms Code in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, follow these steps:

1. Open Oracle PeopleSoft Financials for General Ledger and Accounts Payable Financials and navigate to the Procurement Options Payment Terms Timing Codes tab.
   **Navigation Path**: **Set Up Financials/Supply Chain** > **Product Related** > **Procurement Options** > **Payments** > **Payment Terms Timing Codes**
2. Create a Payment Terms Timing Code by selecting the Add a New Value tab.

   **SetID**: Share

   **Timing Definition ID**: 07 (example)

3. Define additional timing code values on the Payment Terms Timing Codes screen.

| Field Label | Value | Comments |
|---|---|---|
| SetID | SHARE | SetID |
| Timing ID | 07 | Timing Definition ID |
| Description | 7 Days | Description |
| Short Description | 7 Days | Short Description |
| Timing Basis Option | None<br>End of Relative Month<br>Fixed Month Day Values<br>Specific Due Date | Timing Basis Option |
| Timing Adjustment | Day Increment<br>Month Increment<br>Year Increment | Timing Adjustment |

   In this example the Days Increment is set to "7" to indicate that the amount will be paid seven days after the Invoice date.

4. Create a Payment Terms Code using the Payment Terms Timing Code that was created.

   **Navigation Path: Set Up Financials/Supply Chain > Product Related > Procurement Options > Payments > Payment Terms-Single Payment**

5. Create a Payment Terms - Single Payment Code by selecting the Add a New Value tab.

   **SetID**: Share

   **Timing Definition ID**: 07 (example)

6. Select the desired Payment Terms Timing code in the Timing ID field to complete the creation of the Payment Terms Code.

| Field Label | Value | Comments |
|---|---|---|
| SetID | SHARE | SetID |
| Description | CCB Refund Payment Terms Code | Description |
| Payment Terms ID | 07 | Payment Terms ID |
| Short Description | CCBREFUND | Short Description |
| Effective Date | 01/01/1900 | Effective Date |
| Terms Applicability | Vendor-Only Terms | Terms Applicability |
| Status | Active | Effective Status |
| Split Net Terms | No | Split Net Terms |
| Basis From and To Days | 01 and 31 | Only apply when… Starting and Ending Day of the month |
| Timing ID | 07 | Net Terms Timing ID |
| Rebate Term Available | No | Rebate Term Available |

| Field Label | Value | Comments |
|---|---|---|
| Daily Rebate Percent | 0 | Daily Rebate Percent |
| Maximum Rebate | 0 | Maximum Rebate Percent |
| Discount Terms Available | No | Discount Terms Available |
| Discount Terms | No | Discount Terms |

#### 3.4.1.3 AP Data Integration Point

No configuration is required in Oracle PeopleSoft Financials for General Ledger and Accounts Payable for this integration point. Product-delivered application tables are used for selecting data from Oracle PeopleSoft Financials for General Ledger and Accounts Payable to export payment information to Oracle Utilities Customer Care and Billing.

### 3.4.2 Oracle Utilities Customer Care and Billing Configuration

To configure the Oracle Utilities Customer Care and Billing portion of the integration define settings for all three integration points.

> **Note**: For instructions on specific steps in Oracle Utilities Customer Care and Billing, refer the user documentation.

This section includes:

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

#### 3.4.2.1 GL Integration Point

To enable this integration point, configure the following information in Oracle Utilities Customer Care and Billing:

- Configuring GL Division
- Configuring Distribution Codes
- Configuring Fund Code
- Configuring GLASSIGN, and GLS for Oracle Utilities Customer Care and Billing Extract

**Configuring GL Division**

You must map your GL Division in Oracle Utilities Customer Care and Billing to the GL Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL Business Unit. To do this, you must know what GL Business Unit(s) you will be using within the GL and create GL Divisions in Oracle Utilities Customer Care and Billing to match these exactly.

You can then associate these GL Divisions with the appropriate Service Agreement Types in Oracle Utilities Customer Care and Billing.

**Configuring Distribution Codes**

You must map your distribution codes in Oracle Utilities Customer Care and Billing with the appropriate GL Accounts in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL. First configure the distribution codes and then assign them to various entities within the Oracle Utilities Customer Care and Billing applications.

Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL accounts are structured using account segments. These are set up in your existing Oracle PeopleSoft Financials for General Ledger and Accounts Payable configuration according to your business practices. Oracle Utilities Customer Care and Billing distribution codes must be configured to mirror the segments in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. The segment positions in Oracle Utilities Customer Care and Billing are dot '.' separated so that the first segment is Account, the second segment is Department ID, and so on, as shown in the following table:

| Oracle PeopleSoft Financials for General Ledger and Accounts Payable Account Column name | Oracle Utilities Customer Care and Billing Distribution (GL_ACCT ) segment position |
|---|---|
| ACCOUNT | Position1 |
| DEPTID | Position 2 |
| OPERATING_UNIT | Position 3 |
| PRODUCT | Position 4 |
| CLASS_FLD | Position 5 |
| PROGRAM_CODE | Position 6 |
| ALTACCT | Position 7 |
| PROJECT_ID | Position 8 |
| AFFILIATE | Position 9 |
| AFFILIATE_INTRA1 | Position 10 |
| AFFILIATE_INTRA2 | Position 11 |
| BUDGET_REF | Position 12 |
| CHARTFIELD1 | Position 13 |
| CHARTFIELD2 | Position 14 |
| CHARTFIELD3 | Position 15 |

* Use a dot (.) as the delimiter to indicate a break between positions. Use 2 dots (..) to indicate skipping a position and giving that position a null value.

A sample GL Account string is 400000.10000.NEWYORK.ALLPR...211004

When interpreted by the standard mapping in the product this GL Account String in the sub-ledger equates to the following in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL:

- Account 400000
- Department ID 10000
- Operating Unit NEWYORK

- Product ALLPRD
- Alternate account 211004

**Note**: Only fields relevant to the integration are included in this table:

| Field Label | Value | Comments |
|---|---|---|
| Distribution Code | Example: R-ELERES | The distribution code to be used for financial transactions of a certain type. |
| Description | Example: Electric residential revenue | A description of how the distribution code is used. |
| GL Account Algorithm | GLCNST-DFLT | The standard product, or customer modified, algorithm you use for determining the GL Account String from the distribution code. |
| GL Account Details | 1 of 1 | Create at least one set of account details as needed by your chosen algorithm above. Only one is used based on status and effective date. |
| Effective Date | 01-01-1900 | The date you wish the following GL Account string to become active and used by the system, and therefore the integration software. |
| Status | Active | Only active status accounts are used by the product and therefore the integration. |
| GL Account | 400000.10000.NEWYORK.ALLPRD…211004. | Input the GL Account String as explained above. |

**Configuring Fund Code**

**Note**: This section is only relevant for some organizations. The Fund Code configuration is needed only if your organization practices fund accounting (this type of accounting is typically performed by municipal utilities).

If you are using fund accounting, you must map your fund codes in Oracle Utilities Customer Care and Billing with the appropriate fund codes in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable. First configure the appropriate fund codes and then assign them to their respective distribution codes within the Oracle Utilities Customer Care and Billing applications

For more information about enabling Fund Accounting and configuration of Fund Code, refer to Oracle Utilities Customer Care and Billing Implementation and User Guides.

**Note**: When setting up the fund code in Oracle Utilities Customer Care and Billing, please ensure that the length of the FUND_CD is not greater than five (5) characters as this is the maximum number of characters supported by the Oracle PeopleSoft Financials for General Ledger and Accounts Payable fund code.

**Configuring GLASSIGN, and GLS for Oracle Utilities Customer Care and Billing Extract**

To successfully execute extracts from Oracle Utilities Customer Care and Billing, two processes must be configured with the appropriate batch parameters and set to run on a scheduled basis. These processes can be scheduled using the Oracle Utilities Customer Care and Billing scheduling tool or an enterprise scheduler that meets the open architecture standards used by Oracle Utilities Customer Care and Billing.

### 3.4.2.2 AP Request Integration Point

This includes the following:

- Configuring the Accounting Entry Template Characteristic Type
- Note: Only fields relevant to the integration are included in this table.Configuring the AP Business Unit Characteristic Type

**Configuring the Accounting Entry Template Characteristic Type**

For each Adjustment Type that has an associated AP Request, you must identify, in Oracle Utilities Customer Care and Billing, the accounting entry template to be used in Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL. This template is used by the Oracle PeopleSoft Financials for General Ledger and Accounts Payable applications to determine the offset account associated with the distribution code and GL account information sent from Oracle Utilities Customer Care and Billing with the AP Request information.

Complete the following configuration in Oracle Utilities Customer Care and Billing to reference the Accounting Entry Template corresponding to the distribution code as follows.

1. Create a Characteristic Type.
   **Admin** menu>**C>Characteristic Type**

   The value for this characteristic type stores the value of the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Accounting Entry Template. In this example, it is CCBTMPLT. Use the name of the template you have established for this purpose in Oracle PeopleSoft Financials for General Ledger and Accounts Payable Enterprise Management.

2. Set up the details on the Characteristic Type as follows:

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Type | TEMPLATE | The code associated with your characteristic type. This is used in future steps. |
| Description | Oracle PeopleSoft Financials for General Ledger and Accounts Payable Template | A description of the use for this characteristic type. |
| Type of Char Value | Predefined Value | No freeform text is allowed, only a predefined set of values. |
| Allow Search by Char Val | Allowed | Allow Searches |

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Value | CCBTMPLT | The name of the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Template to be used. |
| Description | CCB Account Template | |

3. Select the **Characteristic Entities** tab to allow the Characteristic Type to be associated with the CIS Division:

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Entity | Distribution Code | This characteristic type can be inserted on a distribution code. |

4. Attach the Characteristic Type, created above, to any distribution codes that will be used for AP Request Adjustments. In sample data an example is provided as the A/P - OVPY Distribution Code that is attached to the REFUNDAP Adjustment Code. **Admin** menu > **D** > **Distribution Code**

| Field Label | Value | Comments |
|---|---|---|
| Distribution Code | Example: A/P-OVPY | The distribution code to be used for financial transactions of a certain type. |
| Description | Example: AP overpayment refund | A description of how the distribution code is used. |
| GL Account Algorithm | GLCNST-DFLT | The standard product, or customer modified, algorithm you use for determining the GL Account String from the distribution code. |
| GL Account Details | 1 of 1 | Create at least one set of account details as needed by your chosen algorithm above. Only one is used based on status and effective date. |
| Effective Date | 01-01-1900 | The date you wish the following GL Account string to become active and used by the system, and therefore the integration software. |
| Status | Active | Only active status accounts are used by the product and therefore the integration. |
| GL Account | 400000.10000.NEWYORK.ALLPRD…211004. | Input the GL Account String as explained above. |
| Characteristic Type | Oracle PeopleSoft Financials for General Ledger and Accounts Payable Template | The characteristic type you created above. |
| Characteristic Value | Example: CCBTMPLT | The value you gave to the characteristic type created above. |

**Note**: Only fields relevant to the integration are included in this table.

**Configuring the AP Business Unit Characteristic Type**

For each CIS Division used in Oracle Utilities Customer Care and Billing, you must configure the AP Business Unit to be used in Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL.

Complete the following configuration in Oracle Utilities Customer Care and Billing to reference the AP Business Unit corresponding to the CIS Division as follows:

1. Create a Characteristic Type.
   **Admin** menu > **C** > **Characteristic Type**

   The value for this characteristic type stores the value of the Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Business Unit. In this example it is CCBTMPLT. You will use the name of the template you have established for this purpose in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.

2. Set up the details on the Characteristic Type as follows:

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Type | PSBU | The code associated with your characteristic type. This will be used in future steps. |
| Description | Oracle PeopleSoft Financials for General Ledger and Accounts Payable Business Unit | A description of the use for this characteristic type. |
| Type of Char Value | Predefined Value | No freeform text is allowed, only a predefined set of values. |
| Allow Search by Char Val | Allowed | Allow Searches |
| Characteristic Value | US001 | The name of the Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Business Unit to be used. |
| Description | US001 Business Unit | |

3. Select the Characteristic Entities tab to allow the Characteristic Type to be associated with the Distribution Code:

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Entity | CIS Division | This characteristic type can be inserted on a CIS Division. |

4. Attach the Characteristic Type, created above, to any CIS Divisions that will be used for AP Request Adjustments. In sample data an example is provided as the CA CIS Division.
   **Admin** menu > **C** > **CIS Division**

| Field Label | Value | Comments |
|---|---|---|
| CIS Division | Example: CA | The CIS Division to be used. |
| Description | Example: California | A description of how the CIS Division is used. |

| Field Label | Value | Comments |
|---|---|---|
| Characteristic Tab | | |
| Effective Date | Example: 01-01-1900 | The date you wish the characteristic type and value to become active and used by the system, and therefore the integration software. |
| Characteristic Type | Oracle PeopleSoft Financials for General Ledger and Accounts Payable Business Unit | The characteristic type you created above. |
| Characteristic Value | Example: US001 | The value you gave to the characteristic type created above. |

**Note**: Only fields relevant to the integration are included in this table.

#### 3.4.2.3 AP Data Integration Point

No Oracle Utilities Customer Care and Billing configuration is required to enable this integration point.

AP payment data is extracted from Oracle PeopleSoft Financials for General Ledger and Accounts Payable when an AP Request invoice is paid. This data is then translated by the BPEL service and inserted into the Oracle Utilities Customer Care and Billing AP Request that initiated the invoice in the first place.

Oracle BPEL Process Manager invokes the Oracle Utilities Customer Care and Billing service, named **C1AdjustmentMaintenance**, when a payment is canceled and the liability is closed in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. The service uses the cancel reason contained in its configuration when canceling the adjustment associated with an AP Request. The sample data cancel reason comes pre-configured as "APVC' (Accounts Payable Void Check) in Oracle Utilities Customer Care and Billing version 2.2 and later.

You should verify that the cancel service C1AdjustmentMaintenance is configured and that the Cancel Reason to which it refers is also configured correctly:

.**Admin** Menu > **X** > **XAI Inbound Service**

| Field Label | Value | Comments |
|---|---|---|
| XAI In Service Name | AdjustmentMaintenance | This service is used to change data associated with adjustment transactions. |
| Description | Adjustment Maintenance for AP Cancel | |
| Long Description | Adjustment Maintenance for AP Cancel | |
| Active | Checked | Active check box checked. |
| Request Schema | C1AdjustmentMaintenance.xsd | Used by BPEL to call this service. |

| Field Label | Value | Comments |
|---|---|---|
| Response Schema | C1AdjustmentMaintenance.xsd | Used by BPEL to receive the response from this service. |
| Transaction Type | Update | Service used to update an existing adjustment transaction. |

You may wish to test this service using XAI Dynamic Submission as follows:

**Admin** menu >**X** >**XAI Dynamic Submission**

| Field Labels | Value | Comments |
|---|---|---|
| XAI In Service Name | AdjustmentMaintenance | This service is used to change data associated with adjustment transactions. |
| Transaction Type | Update | |
| Cancel | Checked | **Cancel** checkbox checked. |
| Adjustment ID | Example: 078644601179 | The key value of the adjustment for which you wish to test the cancel service. |
| Cancel Reason | Example: APVC | AP Void Check cancel reason. This must be a configured cancel reason. |

Click **Submit** and review the results.

## 3.4.3 Integration Product Configuration

At this time there is no user interface for entering the configuration parameters associated with Customer Care and Billing Integration Pack for Oracle PeopleSoft Financials for General Ledger and Accounts Payable. The implementer must use an approved database access tool to establish the appropriate configuration parameters in the following tables and columns.

### 3.4.3.1 Process Activation Manager

The table INTEGRATION_PROCESS_ACTIVATION controls the activation or deactivation of the specific integration points. The initial install defaults all of the START_PROCESS values to 'Y'. Set the START_PROCESS value to 'N' for any given PROCESS_NAME that you are not using.

Set the run frequency to the time interval you wish to have between integration runs for each of the integration points..

| PROCESS_NAME | START_PROCESS (Y/N) | RUN_FREQUENCY (Seconds) | NEXT_RUN_INTERVAL (System Use) |
|---|---|---|---|
| CCB_PS_GL | Y | 0 | 0 |
| CCB_PS_AP | Y | 0 | 0 |
| PS_CCB_APDATA | Y | 0 | 0 |

**Note**: You cannot use APDATA if you do not also use AP Request.

## 3.4.4 Process Scheduling

You may schedule these processes independently or using an enterprise scheduling tool. To schedule the processes independently, you may schedule the Oracle Utilities Customer Care and Billing processes using the standard tools available with the product. You may schedule the Oracle PeopleSoft Financials for General Ledger and Accounts Payable processes using the standard tools shipped with the product. You may schedule the BPEL processes to at the time intervals you have configured. Each of the main BPEL processes that form this process integration have been designed to first look and see if data exists that should be extracted. If data exists, it is extracted, transformed, and loaded to the target system. If data does not exist, then the process does nothing until the next time it tries again.

For example, schedule the Oracle Utilities Customer Care and Billing GL processes to run at 6AM each weekday morning. Then initiate the BPEL GL process at 7:00 AM and have it run every 4 hours to see if data exists. Accounting staff could then schedule the Journal Generator to run at 9:00 AM each morning using the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Process Scheduler.

You may run the integration manually by initiating each process using the tools provided with each application. Or you can use an enterprise scheduler to initiate all or some of the processes mentioned above.

The frequency of the run for each integration point is at the client's discretion. As a default, each integration point runs every 2 minutes from the time you start them the first time. If data exists, the integration is completed for the integration point. Else, the system does nothing and the integration point tries again 2 minutes later.

If you wish to extend the time between runs you may insert a value of time, in seconds, in the RUN_FREQUENCY column of the INTEGRATION_PROCESS_ACTIVATION table for the appropriate integration point. This column controls the timing of the integration points 'waking up' to see if there is data to integrate. The integration points only check this table every 2 minutes so you cannot schedule the runs in less than 2 minute increments.

Set the run frequency to the time interval, in 120 second increments, you wish to have between integration runs for each of the integration points.

| PROCESS_NAME | START_PROCESS (Y/N) | RUN_FREQUENCY (Seconds) | NEXT_RUN_INTERVAL (System Use) |
|---|---|---|---|
| CCB_PS_GL | Y | 14400 | 0 |
| CCB_PS_AP | Y | 7200 | 0 |
| PS_CCB_APDATA | Y | 7200 | 0 |

In the above example the GL integration point looks for data every 4 hours (14,400 second), and the AP Request and AP Data integration points look for data to integrate every 2 hours (7200 seconds).

Every 2 minutes each integration point checks this table with the following logic:

```
If START_Process flag is NOT Y do nothing
 else
 If Run Frequency is 0 run the IP
 else
 If next run interval is =< 0 run the integration point AND set
Next_run_interval = run_frequency
```

```
 else
 DO not run the Integration Point, just set Next_run_interval =
Next_run_interval - 120 (the polling interval set in BPEL)
```

This section includes:

- General Ledger (GL)
- AP Request
- AP Data

### 3.4.4.1 General Ledger (GL)

The following processes must be run in sequence to extract, transform, and load GL transactions from Oracle Utilities Customer Care and Billing to Oracle PeopleSoft Financials for General Ledger and Accounts Payable.

| Product | Process Name | Description |
|---|---|---|
| Oracle Utilities Customer Care and Billing | GLASSIGN | Assigns GL account numbers to the GL details associated with financial transactions by referencing the distribution code that calls the appropriate assignment algorithm. |
| Oracle Utilities Customer Care and Billing | GLS | Follows GLASSIGN to create financial transaction (FT) download staging records for all financial transactions that are ready to be posted to the GL. |
| BPEL | CCBToPSGLBPELProcess | Extracts financial transactions from CCB into BPEL to be transformed and prepared for upload to PS. |
| Oracle PeopleSoft Financials for General Ledger and Accounts Payable | PeopleSoft Journal Generator | Reads the staged data in the Generic Accounting Entry Table and creates journal entries in the PS GL. This process can be scheduled or run manually. |

### 3.4.4.2 AP Request

The following processes must be run in sequence to extract, transform, and load AP Requests from Oracle Utilities Customer Care and Billing to Oracle PeopleSoft Financials for General Ledger and Accounts Payable:

| Product | Process Name | Description |
|---|---|---|
| BPEL | CCBToPSAPBPELProcess | Extracts AP Requests from Oracle Utilities Customer Care and Billing into BPEL to be transformed and prepared for upload to Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |
| Oracle PeopleSoft Financials for General Ledger and Accounts Payable | AP Voucher Build Application Engine Process (AP_VCHRBLD) | Creates single payment vouchers in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |

#### 3.4.4.3 AP Data

The following process must be run, sometime after the Oracle PeopleSoft Financials for General Ledger and Accounts Payable check run, to extract, transform, and load AP Data from Oracle PeopleSoft Financials for General Ledger and Accounts Payable to Oracle Utilities Customer Care and Billing.

| Product | Process Name | Description |
|---|---|---|
| BPEL | CCBToPSDataBPELProcess | Extracts all payments and cancelations created during pay cycle processing. |

**Note**: The BPEL processes mentioned above are exposed as standard, stand-alone SOAP Web Services. They can therefore be invoked as regular web services by the BPEL console or any platform supporting scheduling web service invoke activities. These services do not require any external inputs to run. Industry standard enterprise scheduling tools that support this capability may therefore be used to initiate these processes if desired.

There is an open source tool bundled with the SOA Suite called Quartz, which can be used as a scheduler. In fact the BPEL Process Manager uses the Quartz scheduler internally.

## 3.5 Setting up Security

Steps to enable security for connecting to Oracle Customer Care and Billing from SOA11g middleware:

1. Login to the WebLogic EM console using admin username and password.
2. Expand **WebLogic Domain** and right click **soa_domain** --> **Security** --> **Credentials.**
3. Select **Create Map** and enter the *oracle.wsm.security* as the MAP name.
4. Click the **OK** button.
5. Select the newly created oracle.wsd.security map then click the **Create Key**. This opens a pop-up window where you can select oracle.wsd.security MAP.
6. Enter the **Key** name as OU_CCBPS_01.
   The key name must set to this value or else the authentication fails.
7. From the dropdown select Type as Password.
   User Name and Password should be valid userid and password for the installed Oracle Utilities Customer Care and Billing instance.
8. Click **OK**.

## 3.6 Verifying the Implementation

The best way to verify the implementation is to start each application individually then manually running the integration points:

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

### 3.6.1 GL Integration Point

1. Identify financial transactions in the CI_FT table that must be sent to Oracle PeopleSoft Financials for General Ledger and Accounts Payable for creating journal entries. If needed, generate a bill, adjustment or payment event to create financial transactions.
2. Run the GLASSIGN process to assign the Account Number to the FT in CI_FT.
3. Run the GLS process to mark the FTs in the CI_FT table for download. The staging process to create a GL download (GLS) creates a staging record for every financial transaction that is ready for download. This process populates the FT / Batch Process table with the unique ID of all financial transactions to be interfaced to the GL. This process marks each staging record with the batch process ID (defined on the installation record) for the GL interface. It also stamps the current run number for the respective batch control record.

   **Note**: The integration BPEL process uses the information on this staging table to create the consolidated journal entries that are interfaced to your GL. The Oracle BPEL process reads the CI_BATCH_JOB table to check for new BATCH_JOB_ID and BATCH_JOB_STAT_FLG.
4. Invoke the GL Integration Point process from Oracle BPEL Process Manager or wait for its next run to occur. The package should do the following:
   - Select the FT in the CI_FT table based on the batch code and the run number provided to it by Oracle BPEL Process Manager.
   - Extract and group (summarize) the Financial Transactions (FT) and push them into Oracle BPEL Process Manager.
   - Update the Distribution status to 'D' after extracting the FT and increment the NEXT _BATCH_NBR in the CI_BATCH_CTL table.
   - Data is transformed by the BPEL process and written to the GL journal staging table in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.
5. Use the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator to Load the GL data into the Generic Accounting Entry Table: PeopleSoft_JGEN_ACCNT_ENTRY.

### 3.6.2 AP Request Integration Point

1. Create an AP Request for a refund customer in Oracle Utilities Customer Care and Billing. You must generate an adjustment of the appropriate type to do this.
2. Invoke the Oracle BPEL Integration Point Process to extract the AP Request Information, and the corresponding customer information from Oracle Customer Care and Billing, transform it, and load it into Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP voucher build integration tables.
3. Run the voucher build process in Oracle PeopleSoft Financials for General Ledger and Accounts Payable to create vouchers from the AP Check Request and Customer data that is staged in the voucher build integration tables.

### 3.6.3 AP Data Integration Point

1. Generate a payment in Oracle PeopleSoft Financials for General Ledger and Accounts Payable Payables for a voucher created by the Oracle Utilities Customer Care and Billing AP Request process above.
2. Invoke the Oracle BPEL Integration Point process to update the AP Check Request table (CI_ADJ_APREQ) with the Payment Information from Oracle PeopleSoft Financials for General Ledger and Accounts Payable.
3. If you wish to further test a cancellation of payment functionality, cancel the Payment you made above in Oracle PeopleSoft Financials for General Ledger and Accounts Payable Payables and close the liability.
4. Invoke the Oracle BPEL Process Manager process to update the AP Check Request table (CI_ADJ_APREQ) with the Payment Information from Oracle PeopleSoft Financials for General Ledger and Accounts Payable. This should also cancel the AP request and adjustment.

# Chapter 4

# Monitoring and Troubleshooting

If your integration is configured properly and your data entry into Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable is correct, you should not experience errors related to the integration. The following sections address common scenarios which may produce errors and offer possible solutions toward error resolution.

It covers the following sections:



## 4.1 E-mail Notification

If errors occur during the main integration processes, they are logged and stored in the Oracle BPEL Process Manager error table, INTEGRATION_ERROR_STORE and the notification sub process is invoked.

The e-mail notification sub process reads the information in the error table and sends an e-mail notification based on settings configured for the integration layer.

Each time the e-mail notification process runs, it picks up records from the BPEL error table where NOTIFIED = 'N' (meaning that notifications have not yet been sent). It loops through all the distinct INTERFACE_NAME entries and sends one e-mail to the corresponding e-mail address (specific to the interface name) with the error information of all the entries in the table. So if there are 6 records with INTERFACE_NAME="GL" one e-mail is sent out to the e-mail address corresponding to the GL interface. After the e-mail is sent, the system updates the indicator so that NOTIFIED = 'Y.'

This e-mail contains the following information about each of the 6 GL transactions that failed:

- Subject: "Source System" "Target System" "Interface Name" "Process Instance"
- Body:
- Source system
- Integration batch number
- BPEL Instance ID
- Error Code

- Error Summary
- Error Message

### 4.1.1 Steps to Enable E-mail Notification

Perform the following steps:

1. Log in to the Enterprise Manager console.
2. Navigate to **SOA**, right-click **soa-infra**, and then navigate to **SOA Administration** > **Workflow Notification Properties**.
3. Select **E-mail** from the drop-down list.
4. Provide the e-mail IDs in the **From** address field.

## 4.2 Locating Error Logs

The following sections indicate where to locate error messages and logged error data in each of the integration products.

In general, the following types of errors are reported in the location indicated.

| Error | Reported In | |
|---|---|---|
| Errors occurring when GLASSIGN or GLS batches are run | Oracle Utilities Customer Care and Billing product batch run tree. | If an error occurs in the Oracle Utilities Customer Care and Billing batch processes, you must correct the underlying condition causing the error and then rerun the batch processes. The rest of the integration cannot occur until the two CCB batch processes have successfully completed. |
| Errors occurring during the execution of the journal generator | Oracle PeopleSoft Financials for General Ledger and Accounts Payable process monitor. | The monitor shows the status of the process and an error log. |
| Errors occurring during the integration such as when financial transactions are extracted or summarized, when data formats are translated, or when data is inserted into one of the edge applications | Logged and reported by the integration product in the INTEGRATION_ERROR_STORE table. | Use standard database (SQL based) tools to view the error information in the table if necessary, however the e-mail notification you receive should include all of the information necessary to investigate and correct the error. |

### 4.2.1 BPEL Processing Errors

The integration has an error table in the integration schema which keeps a record of all transactions that have failed during BPEL processing, including insertion of data in the target system.

When errors are found during data extraction Oracle BPEL Process Manager inserts errors into the error table, INTEGRATION_ERROR_STORE. There is no user interface to access this table. The INTEGRATION_ERROR_STORE table includes the following information:

| COLUMN | DATA TYPE |
|---|---|
| SOURCE_SYSTEM | VARCHAR2 (3) |
| INT_BATCH_NUMBER | NUMBER |
| INTERFACE_NAME | VARCHAR2 (30) |
| BPEL_INSTANCE_ID | NUMBER |
| ERROR_CODE | NUMBER |
| ERROR_SUMMARY | VARCHAR2 (3000) |
| ERROR_MESSAGE | VARCHAR2 (3000) |
| NOTIFIED | VARCHAR2 (1) |
| LAST_UPDATE_DATE_TIME | DATE |

If errors occur during the extraction or load process for any of the integration points, the system logs an error in INTEGRATION_ERROR_STORE. Business data is stored in the ERROR_MESSAGE field of the table, and the information is also included in the notification e-mail.

This section covers:

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

#### 4.2.1.1 GL Integration Point

Extraction of financial transactions from Oracle Utilities Customer Care and Billing or load of transactions into the PeopleSoft_JGEN_ACCT_ENTRY table.

| TABLE | COLUMN | DATA TYPE |
|---|---|---|
| CI_FT_PROC | BATCH_NBR | NUMBER (10) |
| CI_FT_GL | DST_ID | CHAR (10) |
| CI_FT_GL | GL_ACCT | VARCHAR2 (48) |
| CI_FT | CIS_DIVISION | CHAR (5) |
| CI_FT | GL_DIVISION | CHAR (5) |

The GL integration point utilizes set based processing. If BPEL detects an error, with any part of the batch, the entire batch is rejected.

#### 4.2.1.2 AP Request Integration Point

Extraction of financial transactions from Oracle Utilities Customer Care and Billing tables or load of transactions into the voucher build integration tables.

| TABLE | CLOUMN | DATA TYPE |
|---|---|---|
| CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) |
| | BATCH_NBR | NUMBER (10) |
| | ENTITY_NAME | VARCHAR2 (64) |
| | SCHEDULED_PAY_DT | DATE |
| CI_ADJ | ADJ_ID | CHAR (12) |
| | CRE_DT | CHAR (12) |
| | ADJ_TYPE_CD | CHAR (8) |
| | ADJ_AMT | NUMBER (15,2) |
| CI_SA | CIS_DIVISION | CHAR (5) |

#### 4.2.1.3 AP Data Integration Point

Extraction of financial transactions from Oracle Utilities Customer Care and Billing tables or load of transactions into the voucher build integration tables.

| TABLE | COLUMN | DATA TYPE |
|---|---|---|
| PS_PAYMENT_TBL | BANK_CD | VARCHAR2 (5) |
| | BANK_ACCT_KEY | VARCHAR2 (4) |
| | PYMNT_ID | VARCHAR2 (10) |
| | PYMNT_ID_REF | VARCHAR2 (20) |
| | BANK_ACCOUNT_NUM | VARCHAR2 (17) |
| | REMIT_VENDOR | VARCHAR2 (10) |
| PS_PYMNT_VCHR_XREF | VOUCHER_ID | VARCHAR2 (8) |
| | PYMNT_MESSAGE | VARCHAR2 (70) |
| PS_VOUCHER | INVOICE_ID | VARCHAR2 (30) |

## 4.3 Error Resolution

The following sections detail error scenarios which may occur, and how to resolve them. Usually when errors occur, you must correct configuration settings, data errors, or both:

- Any Integration Point
- General Ledger
- AP Request
- AP Data

### 4.3.1 Any Integration Point

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| System or Network Down | BPEL Process | If BPEL goes down in the middle of an integration process. | If BPEL goes down in the middle of a long running process, it can be restarted and it resumes where it went down. A retry policy can be set up in the Oracle BPEL Process Manager which administratively enables BPEL process instances to retry adapter connectivity. |

### 4.3.2 General Ledger

The General Ledger Integration uses set based processing. This means that either all or none of the transactions in a batch are successful.

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| Data failed to insert in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface table. | BPEL Process | If one row fails to insert into the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Interface table during a batch, the entire batch rolls back. In this instance, the BPEL process shows a status of error and an error notification is sent via e-mail. | Re-establish the connections between BPEL and the edge applications if necessary. Correct the configuration and/or transactional data in the Oracle Utilities Customer Care and Billing database if necessary. Make sure that the GLASSIGN and GLS processes are run again. The Integration process must also be re-run once you have taken the above actions. |

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| Data successfully inserted in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface table, but data has errors. | PS Process | If the integration process completes successfully and data is inserted into the Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface tables, but the data has errors in it, the Journal Generator process may not be able to process the data and create journal vouchers from it. | Correct the information directly in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable application and load the journal voucher using the online tools provided in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |
| Journal Generator process cannot complete successfully. | PS Process | When the Journal Generator process encounters errors, the error status/reason associated with the Journal Generator process is also identified in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Process monitor. All the rows in the interface table remain unprocessed and the Distribution Status remains unchanged as 'N'. | |
| Journal Generator process completes successfully with bad data. | PS Process | In this instance, journals are created for the row of bad data, which can be detected and rectified by viewing, editing, and loading the journal online. | Correct the information directly in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable application, and load the journal voucher using the online tools provided in Oracle PeopleSoft Financials for General Ledger and Accounts Payable.<br>After the process is successfully completed, the Distribution Status of all the rows in the Interface table is updated to 'D'. |
| Row of bad data in Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface table does not get picked up. | PS Process | The Journal Generator process does not error out and the row of bad data in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface table does not get picked up. This situation can occur if the Accounting Date lies outside the Open Period. | Correct the Accounting Date manually in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable application.<br>After the process has completed successfully, the Distribution Status of the row still remains in 'N'.(does not change to 'D'). |

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| GL Account Mapping inconsistency | BPEL, CCB Setup | When the Journal Voucher is created in Oracle PeopleSoft Financials for General Ledger and Accounts Payable, the Accounting information is incorrect. | Since the source of truth is Oracle PeopleSoft Financials for General Ledger and Accounts Payable, the user needs to correct the Accounting Structure in the Oracle Utilities Customer Care and Billing distribution code using information from the Oracle PeopleSoft Financials for General Ledger and Accounts Payable |
| Wrong GL Business Unit | CCB | The financial information being sent to Oracle PeopleSoft Financials for General Ledger and Accounts Payable has the wrong business unit associated with it. | Correct the GL Division setup in Oracle Utilities Customer Care and Billing to match the GL Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |

### 4.3.3 AP Request

The AP Request Integration uses row-by-row processing.

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| Data in AP Request row and BPEL process does not fail. | CCB Process | If a particular AP Request has an error in Oracle Utilities Customer Care and Billing, it is not picked by the integration process but the remaining requests of that BPEL run are picked up and inserted into the interface tables and the BPEL process status will be successful. If one or more rows have failed at any point in the integration, the information is logged in the integration log table and an error e-mail generated. | Correct the specific AP Request in error using the tools provided by Oracle Utilities Customer Care and Billing. Then rerun the BPEL integration process. |

| Error Scenario | Process | Details | Resolution |
|---|---|---|---|
| Error Data in Oracle PeopleSoft Financials for General Ledger and Accounts Payable staging table and Oracle PeopleSoft Financials for General Ledger and Accounts Payable process fails. | PS Process | All the data is successfully inserted into the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Interface tables, but there is an error while running the voucher build process. | Load the vouchers directly into the Oracle PeopleSoft Financials for General Ledger and Accounts Payable application and resolve any incorrect data. |
| Error Data in Oracle PeopleSoft Financials for General Ledger and Accounts Payable staging table and Oracle PeopleSoft Financials for General Ledger and Accounts Payable process does not fail. | PS Process | Oracle PeopleSoft Financials for General Ledger and Accounts Payable Voucher Build process ends successfully but the vouchers are in recycle status. | Load the vouchers directly in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable application and resolve any incorrect data. |

### 4.3.4 AP Data

The AP Data Integration uses row-by-row processing.

| Error Scenario | Details | Details | Resolution |
|---|---|---|---|
| The integration is unable to update the AP Request table with payment information. | BPEL Process | It is likely that the error is technical in nature (data mapping etc). | Review BPEL error table and product error logs. Update BPEL and/or product configurations as needed to correct the errors reported. Re-run the integration once corrections have been made. |
| The integration is unable to invoke the Adjustment Maintenance Service. | BPEL Process | It is likely that the error is technical in nature (service retired etc). | Review BPEL error table and product error logs. Update BPEL and/or product configurations as needed to correct the errors reported. Re-run the integration once corrections have been made. |

# Chapter 5

# Customization Options

This chapter provides information on the various methods that can be used to extend or customize the integration:

- Extension Methods
- Available Extension Points

## 5.1 Extension Methods

The Integration Process allows extensibility of transaction messages using the following methods:

- Pre-transformation Extension Point
- Post-transformation Extension Point
- Custom Transformations

### 5.1.1 Pre-transformation Extension Point

The pre-transformation extension point is invoked before the main transformation is executed. This transformation helps in transforming the source xml coming as an input to the integration process.

The integration layer defines an external call from the pre-transformation extension point which accepts the source xml as input and gives the source xml as output. The wsdl the integration layer points to an abstract wsdl and can be plugged in by a concrete wsdl by the implementation team.

This helps the implementation to invoke any external web service and transform the input xml.

### 5.1.2 Post-transformation Extension Point

The post transformation extension point is invoked after the main transformation is executed. This transformation helps in transforming the target xml going as an input to the Target queue.

The Integration layer defines an external call from the Post transformation extension point which accepts the target xml as input and gives the target xml as output. The wsdl the integration layer points to an abstract wsdl and can be plugged in by a concrete wsdl by the implementation team.

This helps the implementation to invoke any external web service and transform the output xml.

### 5.1.3 Custom Transformations

This integration has placeholders for custom elements in the incoming schema and outgoing schema at record level. When querying data into incoming message, the custom elements will be empty. This can be populated through the Extension points.

The custom transformations have a standard template to map elements to existing fields that are still unmapped and a custom template to map custom elements. The main transformation invokes custom transformation. Empty custom transformations are shipped with the product.

> **Note**: The custom elements in the Target variable are not passed to the Database Adapter but they are passed to Post Collection Extension point.

## 5.2 Available Extension Points

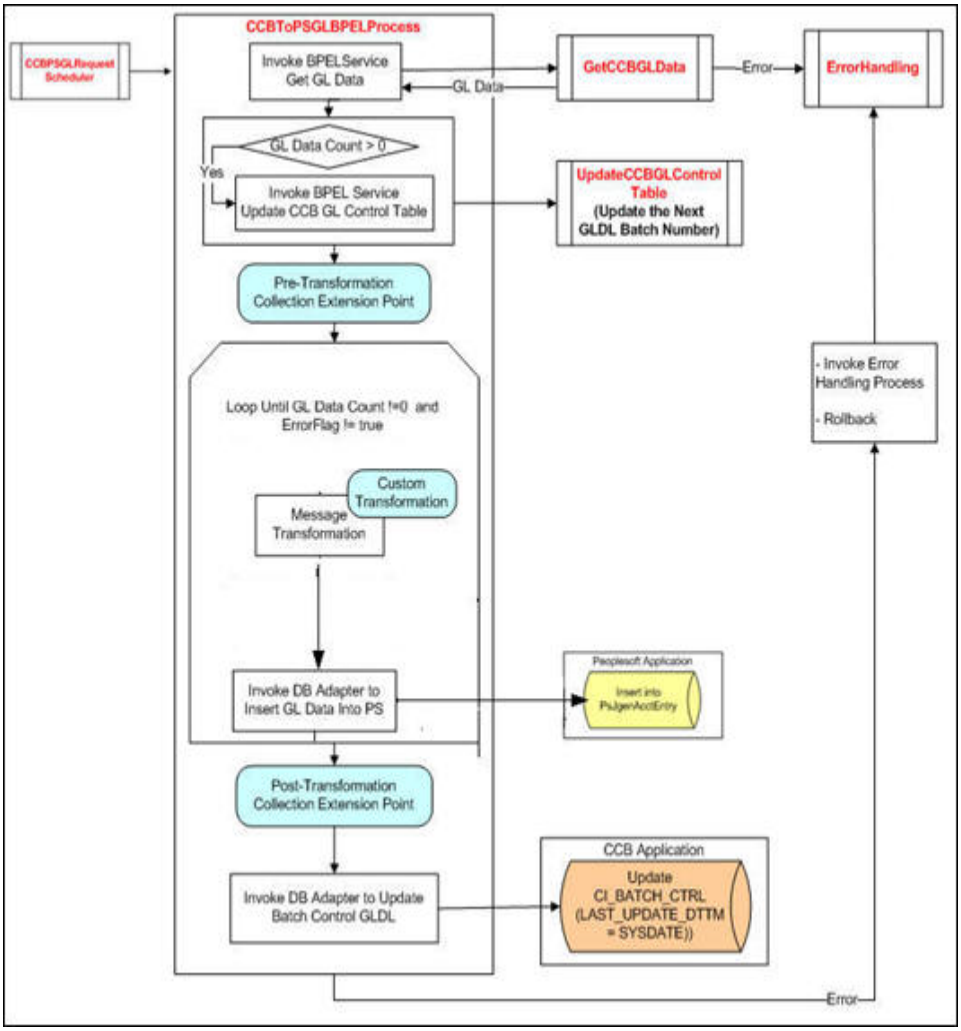
The integration includes the following extension points. This section provides information on these in detail.

| Integration Point | Main BPEL Process |
|---|---|
| GL | CCBToPSGLBPELProcess |
| AP Request | CCBToPSAPBPELProcess or InsertPSVoucher |
| AP Data | PSToCCBAPDataBPELProcess |

This section includes:

- Extension Points Available in GL
- Extension Points Available in AP Request
- Extension Points Available in AP Data

## 5.2.1 Extension Points Available in GL

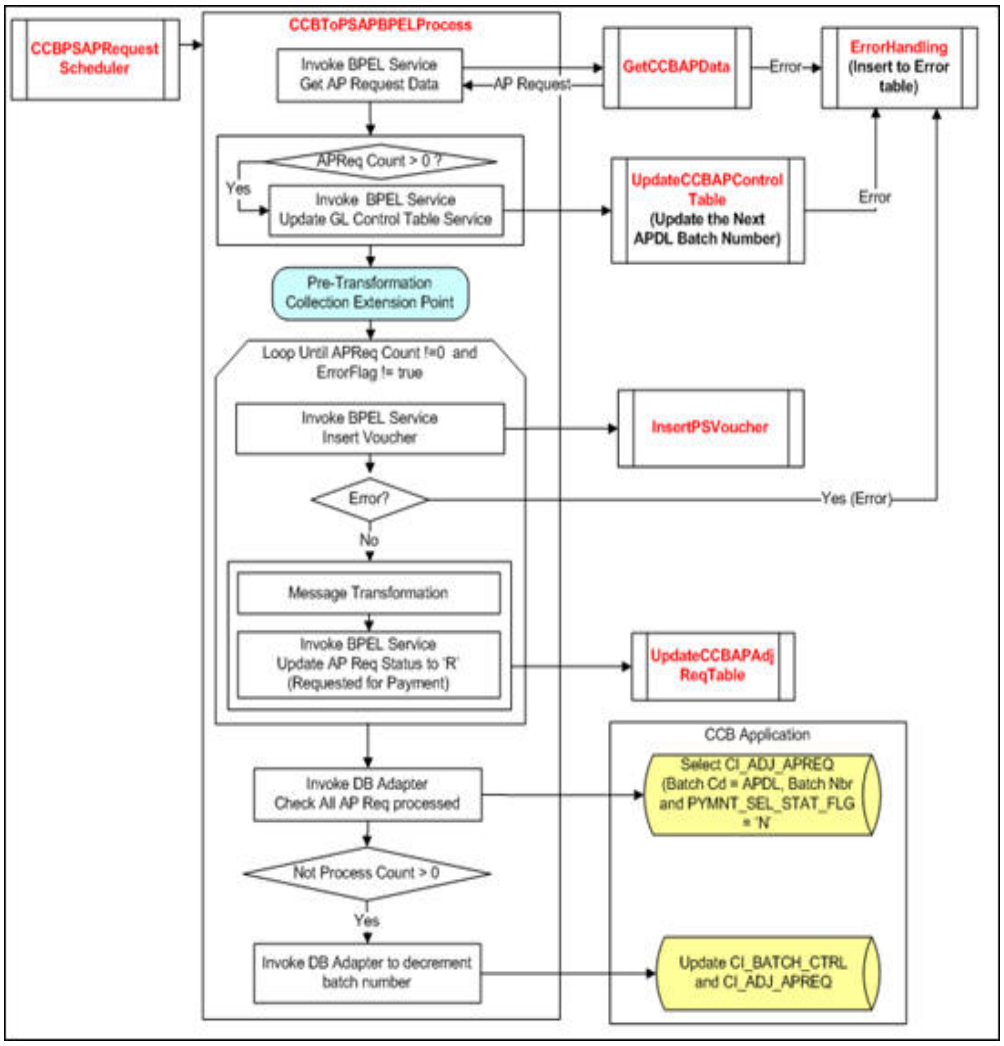



**Main BPEL Process - CCBToPSGLBPELProcess**

| | |
|---|---|
| **Process where extensibility options are stored:** | CCBToPSGLBPELProcess |
| **Pre Transformation Collection Extension Point** | CCB.PS.GL.XFORMCCBCOLL.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the collection level before any transformation is executed. |
| **Post Transformation Collection Extension Point** | CCB.PS.GL.AFTERPSCOLLINSERT.POST.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the post transformation extension point is invoked after all the records are insert to the Peoplesoft_GEN_ACCT_ENTRY table. |

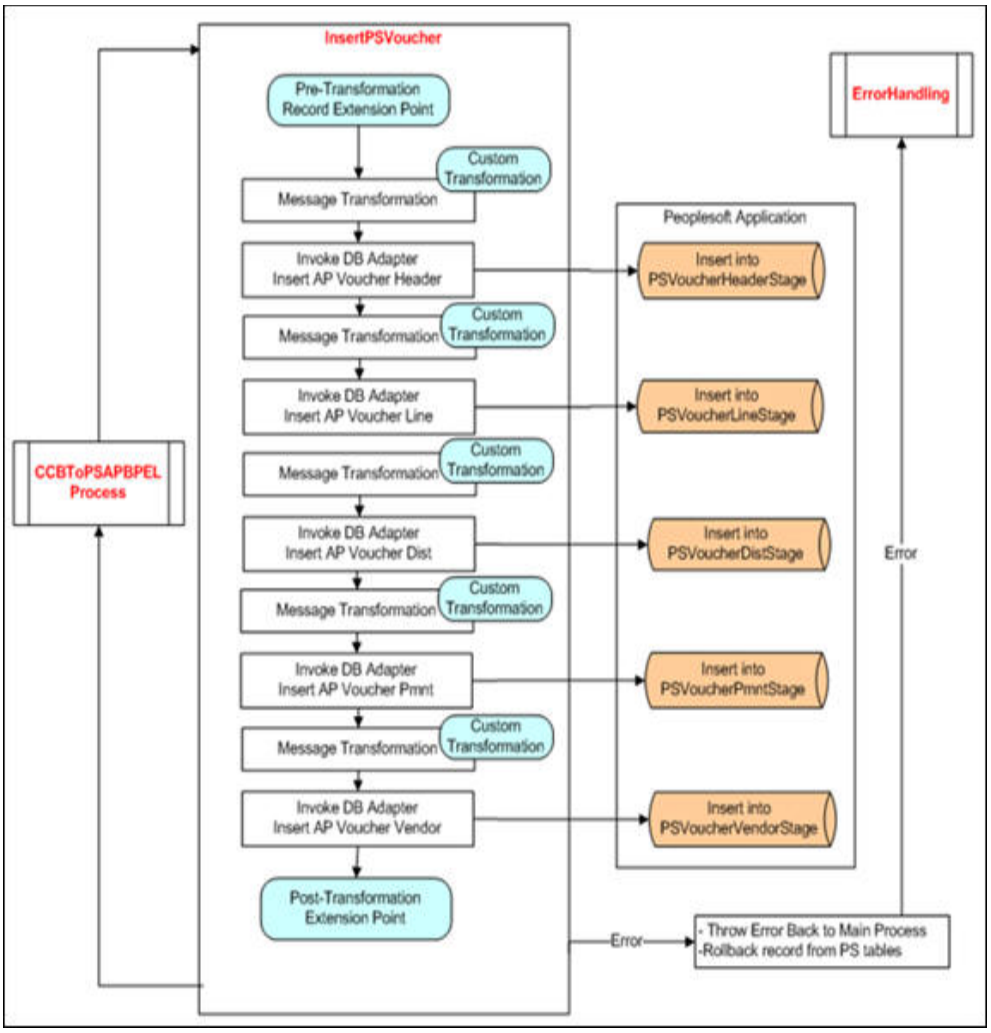
- The custom transformation is used to map elements coming from the GL/FT tables in Oracle Utilities Customer Care and Billing to fields in the Peoplesoft_JGEN_ACCT_ENTRY table that are still unmapped.
- The main transformation invokes the custom transformation. (Example: main transformation is TransformationCCBToPSGLData.xsl; custom transformation is TransformationCCBToPSGLData_Custom.xsl).

## 5.2.2 Extension Points Available in AP Request




**Main BPEL Process - CCBToPSAPBPELProcess**

| | |
|---|---|
| **Process where extensibility options are stored:** | CCBToPSAPBPELProcess |
| **Pre Transformation Collection Extension Point** | CCB.PS.APREQUEST.XFORMCCBCOLL.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the collection level before any transformation is executed. |
| **Pre Transformation Record extension point** | CCB.PS.APREQUEST.XFORMCCBRECORD.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the record level before the AP Request record coming from Oracle Utilities Customer Care and Billing is transformed to the PeopleSoft Financials for General Ledger and Accounts Payable format. Note: This extension point is being invoked twice before inserting into PS Journal table and Voucher table. |
| **Post Transformation Record extension point** | CCB.PS.APREQUEST.XFORMPSRECORD.POST.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the post transformation extension point is invoked at the record level after the AP record coming from Oracle Utilities Customer Care and Billing is transformed to the PeopleSoft Financials for General Ledger and Accounts Payable format but before inserting into the F0411Z1 AND F0911Z1 tables in PeopleSoft Financials for General Ledger and Accounts Payable. |



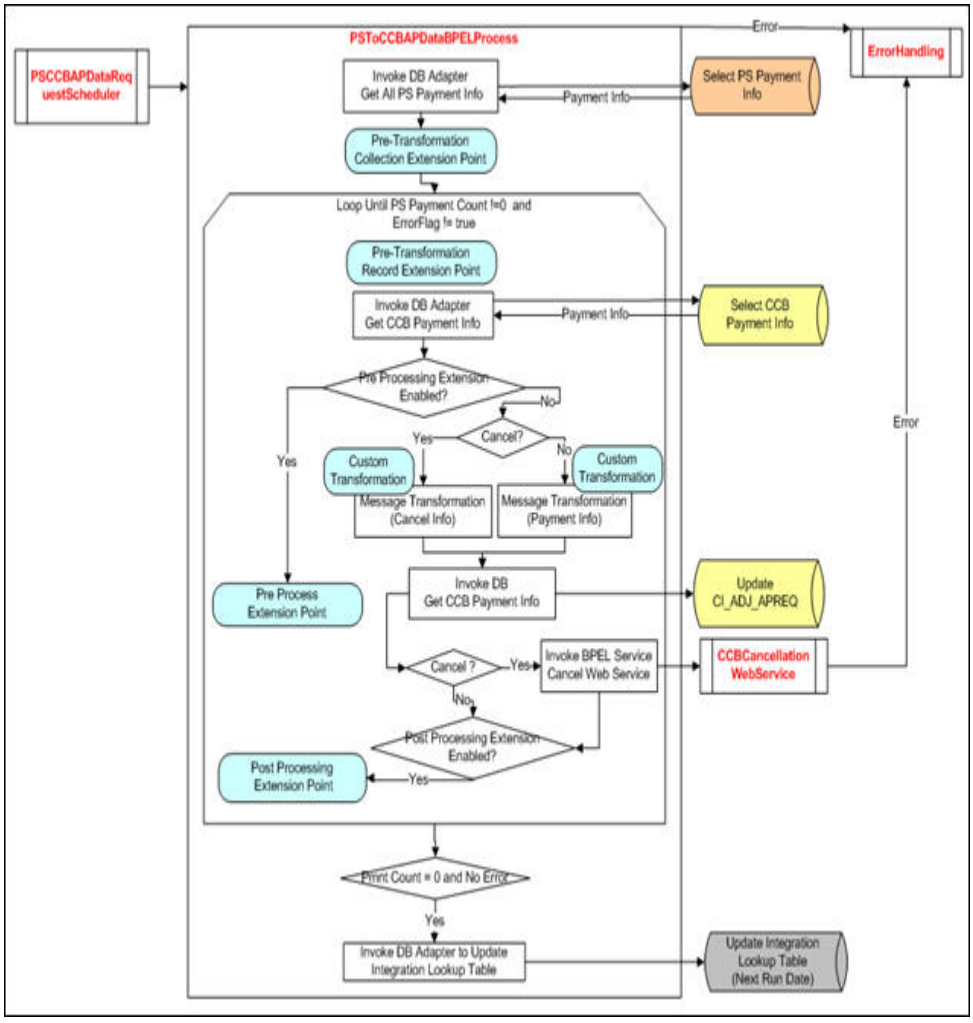

**Insert Voucher BPEL Process - InsertPSVoucher**

| | |
|---|---|
| **Process where extensibility options are stored:** | CCBToPSAPBPELProcess<br>InsertPSVoucher |
| Pre Transformation Collection Extension Point | CCB.PS.AP.XFORMCCBAPREQCOLL.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the collection level before any transformation is executed. |

| | |
|---|---|
| **Process where extensibility options are stored:** | CCBToPSAPBPELProcess<br>InsertPSVoucher |
| Pre Transformation Record extension point | CCB.PS.AP.INSERTVOUCHER.INVOKEVOUCHER.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the record level before the AP Request record coming from Oracle Utilities Customer Care and Billing is transformed to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable format. |
| Post Transformation Record extension point | CCB.PS.AP.INSERTVOUCHER.INVOKEVOUCHER.POST.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the post transformation extension point is invoked at the record level after the GL record coming from Oracle Utilities Customer Care and Billing is transformed to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable format but before the insert to the Peoplesoft_JGEN_ACCT_ENTRY table. |

- The custom transformation is used to map elements coming from the Adjustment AP Request tables in Oracle Utilities Customer Care and Billing to fields in the PeopleSoft Voucher Staging tables that are still unmapped.
- The main transformation invokes the equivalent custom transformation. (Example: main transformation is Transformation_Header.xsl; custom transformation is Transformation_Header_Custom.xsl).

## 5.2.3 Extension Points Available in AP Data




**Main BPEL Process - PSToCCBAPDataBPELProcess**

| | |
|---|---|
| **Process where extensibility options are stored:** | PSToCCBAPDataBPELProcess |
| **Pre Transformation Collection Extension Point** | PS.CCB.APDATA.XFORMPSPAYMENTSCOLL.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the collection level before any transformation is executed. |
| **Pre Transformation Record extension point** | PS.CCB.APDATA.XFORMPSPAYMENTSRECORD.PRE.EXTN.FLAG<br>If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the record level before the Payment or Cancellation record coming from Oracle PeopleSoft Financials for General Ledger and Accounts Payable is transformed to the CCB format. |
| **Pre Processing extension point** | PS.CCB.APDATA.PROCESSPAYMENTINFO.PRE.EXTN.FLAG<br>If this value is defined in the integration lookup table is set to true, the pre processing extension point is invoked. |
| **Post Processing extension point** | IfPS.CCB.APDATA.POSTPROCESSPAYMENTINFO.PRE.EXTN.FLAG defined in the integration lookup table is set to true, the ipost processing extension point is invoked. |

- The custom transformation is used to map elements coming from the PeopleSoft Payment table to fields in the Oracle Utilities Customer Care and Billing Adjustment AP Request table that are still unmapped.
- The main transformation invokes the equivalent custom transformation. (Example: main transformation is Transformation_PSPaymentToCCBPayment-P.xsl; custom transformation is Transformation_PSPaymentToCCBPayment-P_Custom.xsl).

## 5.3 Steps to Implement Extension Points

To implement extension points, perform the following:

1. Each process in the integration has pre and post transformation extension points which can be used to invoke web services and transform the payload.
2. The desired extension point can be triggered from the process by enabling the pre and post transformation extension flags defined in the integration lookup table.
3. The processes that include extension points have their own concrete wsdl. This is used to read the endpoint location for the extension service.
4. The binding and service elements for the extension service must be added to the concrete wsdl in the product install home at CCB_PS_INSTALL_HOME/MDS-Artifacts/ MetaData/ExtensionServiceLibrary and the wsdl must be updated in MDS.
5. These concrete wsdl files are located in MDS under the directories /apps/CCB-PS/ MetaData/ExtensionServiceLibrary. Refer to the instructions in the Installation Guide for updating MDS.

6. Re-deploy the composite or restart the SOA server for the extension point to invoke the web service in the concrete wsdl.
   For example: To enable the extension points for CCBToPSGLBPELProcessExtension add the binding and service elements to the CCBToPSGLBPELProcessExtensionConcrete.wsdl

```
<binding name="CCBToPSGLBPELProcessV1ExtensionServiceSOAP11Binding"
   type="ccbext:CCBToPSGLBPELProcessV1ExtensionService">
   <soap:binding style="document" transport="http://schemas.xmlsoap.org/
soap/http"/>
     <operation name="PreXformCollectionCCBtoPS">
      <soap:operation style="document" soapAction="http://xmlns.oracle.com/
CCBToPSGLBPELProcess/CCBToPSGLBPELProcessExtension/V1/
PreXformCollectionCCBtoPS"/>
       <input>
        <soap:body use="literal" parts="CollectionCCBtoPS"/>
       </input>
       <output>
        <soap:body use="literal" parts="CollectionCCBtoPS"/>
       </output>
       <fault name="fault">
        <soap:fault name="fault" use="literal"/>
       </fault>
     </operation>
     <operation name="PreInvokePSJGenTable">
      <soap:operation style="document" soapAction="http://xmlns.oracle.com/
CCBToPSGLBPELProcess/CCBToPSGLBPELProcessExtension/V1/
PreInvokePSJGenTable"/>
      <input>
       <soap:body use="literal" parts="PSRecord"/>
      </input>
      <output>
       <soap:body use="literal" parts="PSRecord"/>
      </output>
      <fault name="fault">
       <soap:fault name="fault" use="literal"/>
      </fault>
     </operation>
   </binding>
   <service name="CCBToPSGLBPELProcessV1ExtensionService">

<!-- Sample: Port name must match the port name used for the Extension
service in the composite.xml for the process -->

   <port name="CCBToPSGLBPELProcessV1ExtensionService"
      binding="ccbext:CCBToPSGLBPELProcessV1ExtensionServiceSOAP11Binding">
      <soap:address location="http://intser9.idc.oracle.com:8001/soa-infra/
services/default/GLTestExtensionService/GLExtService"/>
    </port>
   </service>
```

7. For the custom BPEL process invoked from the extension point to be in the same global transaction as the main BPEL process, make sure that the transaction flag on the Custom BPEL component is set to "Required" :

```
<component name="ExtensionService">
 <implementation.bpel src="ExtensionService.bpel"/>
    <property name="bpel.config.transaction"
          many="false" type="xs:string">required</property>
 </component>
```

8. Also, if security policies are attached to the composites, then "oracle/Utilities_wss_http_token_service_policy_OPT_ON" should be attached to the service and "oracle/Utilities_wss_http_token_client_policy_OPT_ON" should be attached to all the references of the custom BPEL process invoked from the Extension Points.

## 5.4 Steps to Implement Custom Transformations

To implement custom transformations, perform the following:

1. Each process in the integration has its own xsd files for the incoming and outgoing messages. The messages have custom elements at record level which can be used to pass additional data.
2. Each xsd has a corresponding CustomType xsd in which the complexType elements for each customElements tag are defined.
3. To pass additional elements in the customElements tag the corresponding complexType needs to be modified. Add the additional elements required in both the complexType elements i.e. xsd for both edge applications.
4. The custom xsd files are located in the product install home under the directories CCB_PS_INSTALL_HOME/MDS-Artifacts/CCB-PS/MetaData/ApplicationObjectLibrary/OUCCB/V1/schemas and CCB_PS_INSTALL_HOME/MDS-Artifacts/CCB-PS/MetaData/ApplicationObjectLibrary/Peoplesoft/V1/schemas
5. The custom elements in the incoming message can be populated through the Extension points.
6. Each transformation file has a corresponding Custom xsl, and standard and custom templates are defined in the Custom xsl.
7. Each transformation invokes the standard and custom templates at the record level.
8. The Custom xsl has a standard template to map elements that are still unmapped coming from the Oracle Utilities Customer Care and Billing DB Adapter Table schema to fields in the Oracle PeopleSoft Financials for General Ledger and Accounts Payable DB Adapter Table schema or vice versa.
9. The Custom xsl has a custom template to map custom elements.
10. The custom xsl files are located in the product install home under the directory CCB_PS_INSTALL_HOME/services/industry/Utilities/EnterpriseBusinessFlow/<Process Name>/xsl
11. After updating the xsd and xsl files in the product install home, update MDS using the ant scripts and restart the SOA server.

    Refer to the instructions for updating MDS located in the Installation Guide.

    Example:

    ```
    CCB Schema: GetCCBGLData.xsd
    PS Schema: InsertIntoPS_table.xsd
    ```

    To modify the GL integration process to map Accounting Date from CCB to PS. Modify TransformationCCBToPSGLData_Custom.xsl

    ```
    <xsl:template name="PsJgenAcctEntry_standardElements">
      <!-- this template is use for custom transformation of CCB GL Data to PS
    Journal Entry -->
      <ns0:journalDate>
         <xsl:value-of select=" ccbgl:ACCOUNTING_DT"/>
        </ns0:journalDate>
     </xsl:template>
    </xsl:stylesheet>
    ```

# Appendix A

## Data Mapping

This section provides mapping details for each integration point, including:

- GL Transaction
- AP Request
- AP Data
- Database Tables Involved in Integration
- Logic Used in the Integration Points
- BPEL Process Overview
- Shared Integration Processes

# GL Transaction

This section covers the following:



## Oracle PeopleSoft Financials for General Ledger and Accounts Payable GL Table Mapping to Oracle Utilities Customer Care and Billing

| Column | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | CHAR (5) | BUSINESS UNIT | CI_FT | GL_DIVISION | | Derived from BPEL, Identifies the GL Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |
| TRANSACTION_ID | CHAR (10) | REPORT ID | CI_FT_PROC | BATCH_NBR | NUMBER (10) | Identifies a Transaction. This is just a cross reference back to the source system. This is the Oracle Utilities Customer Care and Billing GLDL Batch Number. |
| SEQUENCENO | NBR (3) | SEQUENCENO | | | | Derived from BPEL, It identifies a line within a transaction ID.<br>BPEL inserts number starting with 1. |
| LEDGER_GROUP | CHAR(10) | LEDGER GROUP | | | | Derived from BPEL. Identifies the Oracle PeopleSoft Financials for General Ledger and Accounts Payable Ledger Group to use for posting.<br>Value = UGBUCCB |
| LEDGER | CHAR(10) | LEDGER | | | | Derived from BPEL. Identifies the Oracle PeopleSoft Financials for General Ledger and Accounts Payable ledger to use for posting.<br>Value = UGBUCCB |
| ACCOUNTING_DT | DATE(10) | ACCOUNTING DATE | CI_FT | ACCOUNTING_DT | DATE | Date used by GL to define the accounting period into which the Financial Transaction is booked. |
| APPL_JRNL_ID | CHAR(10) | JOURNAL TEMPLATE | | | | Derived from BPEL. Identifies the Journal Template to use.<br>Value = UGBUCCB |

| Column | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT_GL | CHAR(5) | GL BUSINESS UNIT | CI_FT | GL_DIVISION | | Derived from BPEL, Identifies the GL Business Unit in Oracle PeopleSoft Financials for General Ledger and Accounts Payable. |
| FISCAL_YEAR | NBR(4) | FISCAL YEAR | | | | Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator.<br>Initial value derived by BPEL<br>Value = 0 |
| ACCOUNTING _PERIOD | NBR(3) | ACCOUNTING PERIOD | | | | Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator.<br>Initial value derived by BPEL<br>Value = 0 |
| JOURNAL_ID | CHAR(10) | JOURNAL ID | | | | Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator.<br>Initial value derived by BPEL<br>Value = NEXT |
| JOURNAL_DATE | DATE(10) | JOURNAL DATE | | | | Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator.<br>Initial value derived by BPEL<br>Value = NULL |
| JOURNAL_LINE | NBR(9) | GL JOURNAL LINE NUMBER | | | | Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator.<br>Initial value derived by BPEL<br>Value = 0 |
| ACCOUNT | CHAR(10) | ACCOUNT | CI_FT_GL | GL_ACCT Position1 | Varchar2(254) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| ALTACCT | CHAR (10) | ALTERNATE ACCOUNT | CI_FT_GL | GL_ACCT Position 7 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |

| Column | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| DEPTID | CHAR (10) | DEPARTMENT | CI_FT_GL | GL_ACCT Position 2 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| OPERATING_UNIT | CHAR (8) | OPERATING UNIT | CI_FT_GL | GL_ACCT Position 3 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| PRODUCT | CHAR (6) | PRODUCT | CI_FT_GL | GL_ACCT Position 4 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| FUND_CODE | CHAR (5) | FUND CODE | CI_DST_CODE_EFF | FUND_CD | Varchar2(12) | Null unless fund accounting is enabled in Oracle Utilities Customer Care and Billing. |
| CLASS_FLD | CHAR (5) | CLASS FIELD | CI_FT_GL | GL_ACCT Position 5 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| PROGRAM_CODE | CHAR (5) | PROGRAM CODE | CI_FT_GL | GL_ACCT Position 6 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| BUDGET_REF | CHAR (8) | BUDGET REFERENCE | CI_FT_GL | GL_ACCT Position 12 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| AFFILIATE | CHAR (5) | AFFILIATE | CI_FT_GL | GL_ACCT Position 9 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| AFFILIATE_INTRA1 | CHAR (10) | FUND AFFILIATE | CI_FT_GL | GL_ACCT Position 10 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| AFFILIATE_INTRA2 | CHAR (10) | OPERATING UNIT AFFILIATE | CI_FT_GL | GL_ACCT Position 11 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| CHARTFIELD1 | CHAR (10) | CHARTFIELD1 | CI_FT_GL | GL_ACCT Position 13 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |

| Column | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| CHARTFIELD2 | CHAR (10) | CHARTFIELD2 | CI_FT_GL | GL_ACCT Position 14 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| CHARTFIELD3 | CHAR (10) | CHARTFIELD3 | CI_FT_GL | GL_ACCT Position 15 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| PROJECT_ID | CHAR (15) | PROJECT | CI_FT_GL | GL_ACCT Position 8 | Varchar2(48) | Use (dot) as the delimiter to extract this information from Gl_Acct. 2 dots (..) indicates skip or null. |
| CURRENCY_CD | CHAR (3) | CURRENCY CODE | CI_FT | CURRENCY_CD | CHAR(3) | |
| STATISTICS_CODE | CHAR (3) | STATISTICS CODE | CI_DST_CODE_EFF | STATISTICS_CODE | CHAR(8) | |
| FOREIGN_CURRENCY | CHAR (3) | FOREIGN CURRENCY CODE | | | | This field is not mapped.<br>Leave the field Blank |
| RT_TYPE | CHAR (5) | RATE TYPE | | | | This field is not mapped.<br>Leave the field Blank. |
| RATE_MULT | SIGNNBR (7.8) | RATE MULTIPLIER | | | | This field is mapped with '1' in BPEL process. |
| RATE_DIV | NBR (7.8) | RATE DIVISOR | | | | This field is mapped with '1' in BPEL process. |
| MONETARY_AMOUNT | SIGNNBR (23.3) | MONETARY AMOUNT | CI_FT_GL | AMOUNT | NUMBER(15,2) | Base Currency Amount |
| OREIGN_AMOUNT | SIGNNBR (23.3) | FOREIGN AMOUNT | | | | This field is not mapped. |
| STATISTIC_AMOUNT | SIGNNBR (13.2) | STATISTIC AMOUNT | CI_FT_GL | STATISTIC_AMOUNT | NUMBER(15,2) | |
| MOVEMENT_FLAG | CHAR (1) | MOVEMENT FLAG | | | | Defines the sign of the Amount when debit/credit options are separate.<br>Value = N |
| DOC_TYPE | CHAR (8) | DOCUMENT TYPE | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |

| Column | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| DOC_SEQ_NBR | CHAR (12) | DOCUMENT SEQUENCE NUMBER | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |
| DOC_SEQ_DATE | DATE (10) | DOCUMENT SEQUENCE DATE | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |
| JRNL_LN_REF | CHAR (10) | JOURNAL LINE REFERENCE | CI_FT_PROC | BATCH_NBR | NUMBER (10) | Identifies the Source of the Transaction.<br>Mapped to Oracle Utilities Customer Care and Billing Batch Number for reference. |
| LINE_DESCR | CHAR (30) | JOURNAL LINE DESCRIPTION | | | | Derived in BPEL. Describes a transaction. |
| IU_SYS_TRAN_CD | CHAR (8) | SYSTEM TRANSACTION | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |
| IU_TRAN_CD | CHAR (8) | TRANSACTION CODE | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |
| IU_ANCHOR_FLG | CHAR (1) | INTERUNIT ANCHOR | | | | This field is not mapped to Oracle Utilities Customer Care and Billing field.<br>Blank |
| GL_DISTRIB_STATUS | CHAR (1) | DISTRIBUTION STATUS | | | | Derived from BPEL. Value = N (Ready for Distribution). |
| PROCESS_INSTANCE | NBR (10) | PROCESS INSTANCE | | | | Populated by Journal Generator<br>Initial value Derived from BPEL.<br>Value =0 |
| DTTM_STAMP | DATE(10) | DTTM_STAMP | CI_FT | ACCOUNTING_DT | DATE | Date used by GL to define the accounting period into which the Financial Transaction is booked. |

# AP Request

This section covers the following:

- PS_VCHR_HDR_STG
- PS_VCHR_LINE_STG
- PS_VCHR_DIST_STG
- PS_VCHR_PYMT_STG
- PS_VCHR_VNDR_STG
- PS_VCHR_BANK_STG

## PS_VCHR_HDR_STG

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2 (5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | CHAR (16) | |
| VCHR_BLD_KEY_C1 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | CHAR (5) | |
| VCHR_BLD_KEY_C2 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| VCHR_BLD_KEY_N1 | NUMBER (10) | Voucher Build Key Num 1 | Derived from BPEL. Value = 0 | | | |
| VCHR_BLD_KEY_N2 | NUMBER (10) | Vchr Build Key Num 2 | Derived from BPEL. Value = 0 | | | |
| VOUCHER_ID | VARCHAR2 (8) | Voucher ID | Derived from BPEL. Value = Next | | | |
| VOUCHER_STYLE | VARCHAR2 (4) | Voucher Style | Derived from BPEL. Value = SGLP | | | |
| INVOICE_ID | VARCHAR2 (30) | Invoice Number | CI_ADJ | ADJ_ID | CHAR (12) | |
| INVOICE_DT | DATE | Invoice Date | CI_ADJ | CRE_DT | DATE | |
| VENDOR_SETID | VARCHAR2 (5) | Vendor SetID | Derived from BPEL. Value = SHARE | | | |
| VENDOR_ID | VARCHAR2 (10) | Vendor ID | Derived from BPEL. Value = CCB VENDOR | | | |
| VNDR_LOC | VARCHAR2 (10) | Vendor Location | Derived from BPEL. Value = 1 | | | |
| ADDRESS_SEQ_NUM | NUMBER (38) | Address Sequence Number | Derived from BPEL. Value = 1 | | | |
| GRP_AP_ID | VARCHAR2 (10) | Control Group ID | | | | Value = Blank |

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| ORIGIN | VARCHAR2 (3) | Origin | | | | Value = Blank |
| OPRID | VARCHAR2 (30) | User ID | Derived from BPEL. Voucher Build Process inserts the OPRID. Value = Blank | | | |
| ACCOUNTING_DT | DATE | Accounting Date | | | | Value = Null |
| POST_VOUCHER | VARCHAR2 (1) | Post Voucher Now | | | | Value = Blank |
| DST_CNTRL_ID | VARCHAR2 (10) | Accounting Template | CI_DST_CD_CHAR | CHAR_VAL | CHAR (16) | |
| VOUCHER_ID_RELATED | VARCHAR2 (8) | Related Voucher | | | | Value = Blank |
| GROSS_AMT | NUMBER (26,3) | Gross Invoice Amount | CI_ADJ | ADJ_AMT | NUMBER (15,2) | |
| DSCNT_AMT | NUMBER (26,3) | Discount Amount | Derived from BPEL. Value = 0 | | | |
| TAX_EXEMPT | VARCHAR2 (1) | Tax Exempt Flag | Derived from BPEL. Value = Y | | | |
| SALETX_AMT | NUMBER (26,3) | Sales Tax Amount | Derived from BPEL. Value = 0 | | | |
| FREIGHT_AMT | NUMBER (26,3) | Freight Amount | Derived from BPEL. Value = 0 | | | |
| MISC_AMT | NUMBER (26,3) | Misc Charge Amount | Derived from BPEL. Value = 0 | | | |
| PYMNT_TERMS_CD | VARCHAR2 (5) | Payment Terms ID | Derived from BPEL. Value = 07 | | | |
| ENTERED_DT | DATE | Entered on | Derived from BPEL. Value = System Date | | | |
| TXN_CURRENCY_CD | VARCHAR2 (3) | Transaction Currency | CI_ADJ | CURRENCY_CD | CHAR (3) | |
| RT_TYPE | VARCHAR2 (5) | Rate Type | Derived from BPEL. Value = CRRNT | | | |
| RATE_MULT | NUMBER (15,8) | Rate Multiplier | Derived from BPEL. Value = 1 | | | |
| RATE_DIV | NUMBER (15,8) | Rate Divisor | Derived from BPEL. Value = 1 | | | |
| VAT_ENTRD_AMT | NUMBER (26,3) | Entered VAT Amount | Derived from BPEL. Value = 0 | | | |
| MATCH_ACTION | VARCHAR2 (1) | Match Action | Derived from BPEL. Value = N | | | |
| CUR_RT_SOURCE | VARCHAR2 (1) | Exchange Rate Source | Derived from BPEL. Value = T | | | |
| DSCNT_AMT_FLG | VARCHAR2 (1) | Discount Amount Control | Derived from BPEL. Value = T | | | |
| DUE_DT_FLG | VARCHAR2 (1) | Due Date Control | Derived from BPEL. Value = T | | | |
| VCHR_APPRVL_FLG | VARCHAR2 (1) | Voucher Approval Flag | Derived from BPEL. Value = P | | | |

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSPROCNAME | VARCHAR2 (30) | Business Process Name | Derived from BPEL. Value = Blank | | | |
| APPR_RULE_SET | VARCHAR2 (30) | Approval Rule Set | Derived from BPEL. Value = Blank | | | |
| VAT_DCLRTN_POINT | VARCHAR2 (1) | Declaration Point | Derived from BPEL. Value = Blank | | | |
| VAT_CALC_TYPE | VARCHAR2 (1) | Calculation Type | Derived from BPEL. Value = E | | | |
| VAT_CALC_GROSS_NET | VARCHAR2 (1) | Calculate at Gross or Net | Derived from BPEL. Value = Blank | | | |
| VAT_RECALC_FLG | VARCHAR2 (1) | Recalculate at Payment | Derived from BPEL. Value = Blank | | | |
| VAT_CALC_FRGHT_FLG | VARCHAR2 (1) | Include Freight | Derived from BPEL. Value = N | | | |
| VAT_TREATMENT_GRP | VARCHAR2 (4) | VAT Treatment Group | Derived from BPEL. Value = Blank | | | |
| COUNTRY_SHIP_FROM | VARCHAR2 (3) | Ship From Country | Derived from BPEL. Value = Blank | | | |
| STATE_SHIP_FROM | VARCHAR2 (6) | Ship From State | Derived from BPEL. Value = Blank | | | |
| COUNTRY_SHIP_TO | VARCHAR2 (3) | Ship to Country | Derived from BPEL. Value = Blank | | | |
| STATE_SHIP_TO | VARCHAR2 (6) | Ship to State | Derived from BPEL. Value = Blank | | | |
| COUNTRY_VAT_BILLFR | VARCHAR2 (3) | Seller Registration Country | Derived from BPEL. Value = Blank | | | |
| COUNTRY_VAT_BILLTO | VARCHAR2 (3) | Buyer Registration Country | Derived from BPEL. Value = Blank | | | |
| VAT_EXCPTN_CERTIF | VARCHAR2 (20) | VAT Certificate ID | Derived from BPEL. Value = Blank | | | |
| VAT_ROUND_RULE | VARCHAR2 (1) | VAT Rounding Rule | Derived from BPEL. Value = Blank | | | |
| COUNTRY_LOC_SELLER | VARCHAR2 (3) | Seller Location Country | Derived from BPEL. Value = Blank | | | |
| STATE_LOC_SELLER | VARCHAR2 (6) | Seller Location State | Derived from BPEL. Value = Blank | | | |
| COUNTRY_LOC_BUYER | VARCHAR2 (3) | Buyer Location Country | Derived from BPEL. Value = Blank | | | |
| STATE_LOC_BUYER | VARCHAR2 (6) | Buyer Location State | Derived from BPEL. Value = Blank | | | |
| COUNTRY_VAT_SUPPLY | VARCHAR2 (3) | VAT Place of Supply Country | Derived from BPEL. Value = Blank | | | |
| STATE_VAT_SUPPLY | VARCHAR2 (6) | VAT Place of Supply State | Derived from BPEL. Value = Blank | | | |
| COUNTRY_VAT_PERFRM | VARCHAR2 (3) | Service Performed Country | Derived from BPEL. Value = Blank | | | |
| STATE_VAT_PERFRM | VARCHAR2 (6) | Service Performed State | Derived from BPEL. Value = Blank | | | |

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| STATE_VAT_DEFAULT | VARCHAR2 (6) | Defaulting State | Derived from BPEL. Value = Blank | | | |
| PREPAID_REF | VARCHAR2 (10) | Prepayment Reference | Derived from BPEL. Value = Blank | | | |
| PREPAID_AUTO_APPLY | VARCHAR2 (1) | Automatically Apply Prepayment | Derived from BPEL. Value = Blank | | | |
| DESCR254_MIXED | VARCHAR2 (254) | More Information | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| EIN_FEDERAL | VARCHAR2 (9) | EIN Federal | Derived from BPEL. Value = Blank | | | |
| EIN_STATE_LOCAL | VARCHAR2 (20) | EIN State Local | Derived from BPEL. Value = Blank | | | |
| PROCESS_INSTANCE | NUMBER (10) | Process Instance | Derived from BPEL. Value = 0 | | | |
| IN_PROCESS_FLG | VARCHAR2 (1) | In Process | Derived from BPEL. Value = N | | | |
| BUSINESS_UNIT_PO | VARCHAR2 (5) | PO Business Unit | Derived from BPEL. Value = Blank | | | |
| PO_ID | VARCHAR2 (10) | PO Number | Derived from BPEL. Value = Blank | | | |
| PACKSLIP_NO | VARCHAR2 (22) | Packing Slip Number | Derived from BPEL. Value = Blank | | | |
| PAY_TRM_BSE_DT_OPT | VARCHAR2 (1) | Payment Terms Basis Date Type | Derived from BPEL. Value = I | | | |
| VAT_CALC_MISC_FLG | VARCHAR2 (1) | Include Miscellaneous | Derived from BPEL. Value = N | | | |
| IMAGE_REF_ID | VARCHAR2 (12) | Image Reference ID | Derived from BPEL. Value = Blank | | | |
| IMAGE_DATE | DATE | Image Date | Derived from BPEL. Value = Null | | | |
| PAY_SCHEDULE_TYPE | VARCHAR2 (3) | Pay Schedule Type | Derived from BPEL. Value = Blank | | | |
| TAX_GRP | VARCHAR2 (4) | Tax Group Code | Derived from BPEL. Value = Blank | | | |
| TAX_PYMNT_TYPE | VARCHAR2 (5) | Tax Payment Type Code | Derived from BPEL. Value = Blank | | | |
| INSPECT_DT | DATE | Inspection Date | Derived from BPEL. Value = Null | | | |
| INV_RECPT_DT | DATE | Invoice Receipt Date | Derived from BPEL. Value = Null | | | |
| RECEIPT_DT | DATE | Received Date | Derived from BPEL. Value = Null | | | |
| BILL_OF_LADING | VARCHAR2 (30) | Bill of Lading | Derived from BPEL. Value = Blank | | | |
| CARRIER_ID | VARCHAR2 (10) | Carrier ID | Derived from BPEL. Value = Blank | | | |

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| DOC_TYPE | VARCHAR2 (8) | Document Type | Derived from BPEL. Value = Blank | | | |
| DSCNT_DUE_DT | DATE | Discount Due Date | Derived from BPEL. Value = Null | | | |
| DSCNT_PRORATE_FLG | VARCHAR2 (1) | Prorate Discount | Derived from BPEL. Value = Blank | | | |
| DUE_DT | DATE | Due Date | Derived from BPEL. Value = Null | | | |
| ECQUEUEINSTANCE | NUMBER (38) | ECQUEUEINSTANCE - EC Queue Instance | Derived from BPEL. Value = 0 | | | |
| ECTRANSID | VARCHAR2 (15) | EC Transaction ID | Derived from BPEL. Value = Blank | | | |
| FRGHT_CHARGE_CODE | VARCHAR2 (10) | Freight Charge | Derived from BPEL. Value = Blank | | | |
| LC_ID | VARCHAR2 (12) | Letter of Credit ID | Derived from BPEL. Value = Blank | | | |
| MISC_CHARGE_CODE | VARCHAR2 (10) | MISC_CHARGE_CODE - Miscellaneous Charge | Derived from BPEL. Value = Blank | | | |
| REMIT_ADDR_SEQ_NUM | NUMBER (38) | Remitting Address | Derived from BPEL. Value = 0 | | | |
| SALETX_CHARGE_CODE | VARCHAR2 (10) | Sales Tax Charge | Derived from BPEL. Value = Blank | | | |
| VCHR_BLD_CODE | VARCHAR2 (6) | Voucher Build Code | Derived from BPEL. Value = Blank | | | |
| BUSINESS_UNIT_AR | VARCHAR2 (5) | AR Business Unit | Derived from BPEL. Value = Blank | | | |
| CUST_ID | VARCHAR2 (15) | Customer ID | Derived from BPEL. Value = Blank | | | |
| ITEM | VARCHAR2 (30) | Item ID | Derived from BPEL. Value = Blank | | | |
| ITEM_LINE | NUMBER (38) | Item Line | Derived from BPEL. Value = 0 | | | |
| ERS_INV_SEQ | NUMBER (38) | Invoice Sequence | Derived from BPEL. Value = 0 | | | |
| LS_KEY | NUMBER (15) | Lease Key | Derived from BPEL. Value = 0 | | | |
| VCHR_SRC | VARCHAR2 (4) | VCHR_SRC - Voucher Source | Derived from BPEL. Value = XML | | | |
| VAT_EXCPTN_TYPE | VARCHAR2 (1) | Exception Type | Derived from BPEL. Value = Blank | | | |
| TERMS_BASIS_DT | DATE | Payment Terms Basis Date | CI_ADJ | CRE_DT | DATE | |
| BUSINESS_UNIT_AM | VARCHAR2 (5) | AM Business Unit | Derived from BPEL. Value = Blank | | | |
| ASSET_ID | VARCHAR2 (12) | Asset ID | Derived from BPEL. Value = Blank | | | |

| Columns in PS_VCHR_HDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| LEASE_ID | VARCHAR2 (30) | Lease ID | Derived from BPEL. Value = Blank | | | |
| CLAIM_NO | VARCHAR2 (30) | Claim Number | Derived from BPEL. Value = Blank | | | |
| POLCY_NUM | VARCHAR2 (30) | Policy Number | Derived from BPEL. Value = Blank | | | |
| ENDORSER_PARTY | VARCHAR2 (40) | Endorser Party | Derived from BPEL. Value = Blank | | | |
| BUSINESS_UNIT_BI | VARCHAR2 (5) | Business Unit BI | Derived from BPEL. Value = Blank | | | |
| BI_INVOICE | VARCHAR2 (22) | BI Invoice | Derived from BPEL. Value = Blank | | | |
| CUSTOM_C100_A1 | VARCHAR2 (100) | Custom Field | Derived from BPEL. Value = Blank | | | |
| CUSTOM_C100_A2 | VARCHAR2 (100) | Custom Field | Derived from BPEL. Value = Blank | | | |
| CUSTOM_C100_A3 | VARCHAR2 (100) | Custom Field | Derived from BPEL. Value = Blank | | | |
| CUSTOM_C100_A4 | VARCHAR2 (100) | Custom Field | Derived from BPEL. Value = Blank | | | |
| CUSTOM_DATE_A | Date | Custom Date Field | Value = Null | | | |
| CUSTOM_C1_A | VARCHAR2 (1) | Custom Field | Derived from BPEL. Value = Blank | | | |
| VAT_NRCVR_CHRG_CD | VARCHAR2 (10) | Prorate VAT Non-Recovery | Derived from BPEL. Value = Blank | | | |
| VAT_CF_ANLSYS_TYPE | VARCHAR2 (1) | VAT Chartfield Analysis | Derived from BPEL. Value = Blank | | | |
| USER_VCHR_CHAR1 | VARCHAR2 (1) | User Character Field | Derived from BPEL. Value = Blank | | | |
| USER_VCHR_CHAR2 | VARCHAR2 (1) | User Character Field 2 | Derived from BPEL. Value = Blank | | | |
| USER_VCHR_DEC | NUMBER (26,3) | USER_VCHR_DEC - User Amount Field | Derived from BPEL. Value = 0 | | | |
| USER_VCHR_DATE | DATE | User Date | Value = Null | | | |
| USER_VCHR_NUM1 | NUMBER (38) | USER_VCHR_NUM1 - User Number field | Derived from BPEL. Value = 0 | | | |
| USER_HDR_CHAR1 | VARCHAR2 (1) | Header User Field | Derived from BPEL. Value = Blank | | | |

## PS_VCHR_LINE_STG

| Columns in PS_VCHR_LINE_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2 (5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | CHAR (16) | |
| VCHR_BLD_KEY_C1 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | CHAR (5) | |
| VCHR_BLD_KEY_C2 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| VCHR_BLD_KEY_N1 | NUMBER (10) | Voucher Build Key Num 1 | | Derived from BPEL. Value = 0 | | |
| VCHR_BLD_KEY_N2 | NUMBER (10) | Vchr Build Key Num 2 | | Derived from BPEL. Value = 0 | | |
| VOUCHER_ID | VARCHAR2 (8) | Voucher ID | | Derived from BPEL. Value = NEXT | | |
| VOUCHER_LINE_NUM | NUMBER (38) | Voucher Line Number | | Derived from BPEL. Value = 0 | | |
| BUSINESS_UNIT_PO | VARCHAR2 (5) | PO Business Unit | | Derived from BPEL. Value = Blank | | |
| PO_ID | VARCHAR2 (10) | PO Number | | Derived from BPEL. Value = Blank | | |
| LINE_NBR | NUMBER (38) | Line Number | | Derived from BPEL. Value = 0 | | |
| SCHED_NBR | NUMBER (38) | Schedule Number | | Derived from BPEL. Value = 0 | | |
| DESCR | VARCHAR2 (30) | Description | | Derived from BPEL. Value = Blank | | |
| MERCHANDISE_AMT | NUMBER (26,3) | Merchandise Amt | CI_ADJ | ADJ_AMT | NUMBER (15,2) | |
| ITM_SETID | VARCHAR2 (5) | Item SetID | | Derived from BPEL. Value = Blank | | |
| INV_ITEM_ID | VARCHAR2 (18) | Item ID | | Derived from BPEL. Value = Blank | | |
| QTY_VCHR | NUMBER (15,4) | Quantity Vouchered | | Derived from BPEL. Value = 0 | | |
| STATISTIC_AMOUNT | NUMBER (15,2) | Statistic Amount | | Derived from BPEL. Value = 0 | | |
| UNIT_OF_MEASURE | VARCHAR2 (3) | Unit of Measure | | Derived from BPEL. Value = Blank | | |
| UNIT_PRICE | NUMBER (15,5) | Unit Price | | Derived from BPEL. Value = 0 | | |
| DSCNT_APPL_FLG | VARCHAR2 (1) | Apply Discount | | Derived from BPEL. Value = Blank | | |
| TAX_CD_VAT | VARCHAR2 (8) | VAT Code | | Derived from BPEL. Value = Blank | | |
| BUSINESS_UNIT_RECV | VARCHAR2 (5) | Receiving Business Unit | | Derived from BPEL. Value = Blank | | |
| RECEIVER_ID | VARCHAR2 (10) | Receipt Number | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_LINE_ STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| RECV_LN_NBR | NUMBER (38) | Receipt Line | | Derived from BPEL. Value = 0 | | |
| RECV_SHIP_SEQ_NBR | NUMBER (38) | Receiver Shipping Sequence | | Derived from BPEL. Value = 0 | | |
| MATCH_LINE_OPT | VARCHAR2 (1) | Match Line Option | | Derived from BPEL. Value = N | | |
| DISTRIB_MTHD_FLG | VARCHAR2 (1) | Distribute by | | Derived from BPEL. Value = A | | |
| SHIPTO_ID | VARCHAR2 (10) | Ship To Location | | Derived from BPEL. Value = Blank | | |
| SUT_BASE_ID | VARCHAR2 (10) | Sales/Use Tax Destination | | Derived from BPEL. Value = Blank | | |
| TAX_CD_SUT | VARCHAR2 (8) | Tax Code - Sales and Use Tax | | Derived from BPEL. Value = Blank | | |
| ULTIMATE_USE_CD | VARCHAR2 (8) | Ultimate Use Code | | Derived from BPEL. Value = Blank | | |
| SUT_EXCPTN_TYPE | VARCHAR2 (1) | Sales/Use Tax Exception Type | | Derived from BPEL. Value = Blank | | |
| SUT_EXCPTN_CERTIF | VARCHAR2 (20) | Sales/Use Tax Exception Certif | | Derived from BPEL. Value = Blank | | |
| SUT_APPLICABILITY | VARCHAR2 (1) | Sales/Use Tax Applicability | | Derived from BPEL. Value = Blank | | |
| VAT_APPLICABILITY | VARCHAR2 (1) | VAT Applicability | | Derived from BPEL. Value = Blank | | |
| VAT_TXN_TYPE_CD | VARCHAR2 (4) | VAT Transaction Type | | Derived from BPEL. Value = Blank | | |
| VAT_USE_ID | VARCHAR2 (6) | VAT Use Type | | Derived from BPEL. Value = Blank | | |
| ADDR_SEQ_NUM_SHIP | NUMBER (38) | Address Sequence Number | | Derived from BPEL. Value = 0 | | |
| BUS_UNIT_RELATED | VARCHAR2 (5) | AP Business Unit | | Derived from BPEL. Value = Blank | | |
| VOUCHER_ID_RELATED | VARCHAR2 (8) | Related Voucher | | Derived from BPEL. Value = Blank | | |
| VENDOR_ID | VARCHAR2 (10) | Vendor ID | | Derived from BPEL. Value = CCBVENDOR | | |
| VNDR_LOC | VARCHAR2 (10) | Vendor Location | | Derived from BPEL. Value = 1 | | |
| DESCR254_MIXED | VARCHAR2 (254) | More Information | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| SPEEDCHART_KEY | VARCHAR2 (10) | SpeedChart Key | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_LINE_ STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT_GL | VARCHAR2 (5) | GL Business Unit | | Derived from BPEL. Value = CCB | | |
| ACCOUNT | VARCHAR2 (10) | Account | CI_DST_CODE_EFF | GL_ACCT (Position 1) | VARCHAR2 (254) | |
| ALTACCT | VARCHAR2 (10) | Alternate Account | | Derived from BPEL. Value = Blank | | |
| OPERATING_UNIT | VARCHAR2 (8) | Operating Unit | | Derived from BPEL. Value = Blank | | |
| PRODUCT | VARCHAR2 (6) | Product | | Derived from BPEL. Value = Blank | | |
| FUND_CODE | VARCHAR2 (5) | Fund Code | | Derived from BPEL. Value = Blank | | |
| CLASS_FLD | VARCHAR2 (5) | Class Field | | Derived from BPEL. Value = Blank | | |
| PROGRAM_CODE | VARCHAR2 (5) | Program Code | | Derived from BPEL. Value = Blank | | |
| BUDGET_REF | VARCHAR2 (8) | Budget Reference | | Derived from BPEL. Value = Blank | | |
| AFFILIATE | VARCHAR2 (5) | Affiliate | | Derived from BPEL. Value = Blank | | |
| AFFILIATE_INTRA1 | VARCHAR2 (10) | Fund Affiliate | | Derived from BPEL. Value = Blank | | |
| AFFILIATE_INTRA2 | VARCHAR2 (10) | Operating Unit Affiliate | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD1 | VARCHAR2 (10) | ChartField 1 | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD2 | VARCHAR2 (10) | ChartField 2 | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD3 | VARCHAR2 (10) | ChartField 3 | | Derived from BPEL. Value = Blank | | |
| DEPTID | VARCHAR2 (10) | Department | | Derived from BPEL. Value = Blank | | |
| PROJECT_ID | VARCHAR2 (15) | Project | | Derived from BPEL. Value = Blank | | |
| BUSINESS_UNIT_PC | VARCHAR2 (5) | PC Business Unit | | Derived from BPEL. Value = Blank | | |
| ACTIVITY_ID | VARCHAR2 (15) | Activity | | Derived from BPEL. Value = Blank | | |
| ANALYSIS_TYPE | VARCHAR2 (3) | Analysis Type | | Derived from BPEL. Value = Blank | | |
| RESOURCE_TYPE | VARCHAR2 (5) | Source Type | | Derived from BPEL. Value = Blank | | |
| RESOURCE_CATEGORY | VARCHAR2 (5) | Category | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_LINE_ STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| RESOURCE_SUB_CAT | VARCHAR2 (5) | Subcategory | | Derived from BPEL. Value = Blank | | |
| ECQUEUEINSTANCE | NUMBER (38) | EC Queue Instance | | Derived from BPEL. Value = 0 | | |
| ECTRANSID | VARCHAR2 (15) | EC Transaction ID | | Derived from BPEL. Value = Blank | | |
| TAX_DSCNT_FLG | VARCHAR2 (1) | Include Discount | | Derived from BPEL. Value = Blank | | |
| TAX_FRGHT_FLG | VARCHAR2 (1) | Include Freight | | Derived from BPEL. Value = Blank | | |
| TAX_MISC_FLG | VARCHAR2 (1) | Include Misc Charges | | Derived from BPEL. Value = Blank | | |
| TAX_VAT_FLG | VARCHAR2 (1) | Include VAT | | Derived from BPEL. Value = Blank | | |
| PHYSICAL_NATURE | VARCHAR2 (1) | Physical Nature | | Derived from BPEL. Value = S | | |
| VAT_RCRD_INPT_FLG | VARCHAR2 (1) | Record Input VAT | | Derived from BPEL. Value = Blank | | |
| VAT_RCRD_OUTPT_FLG | VARCHAR2 (1) | Record Output VAT | | Derived from BPEL. Value = Blank | | |
| VAT_TREATMENT | VARCHAR2 (4) | VAT Treatment | | Derived from BPEL. Value = Blank | | |
| VAT_SVC_SUPPLY_FLG | VARCHAR2 (1) | VAT Place of Supply | | Derived from BPEL. Value = Blank | | |
| VAT_SERVICE_TYPE | VARCHAR2 (1) | VAT Service Type | | Derived from BPEL. Value = Blank | | |
| COUNTRY_LOC_BUYER | VARCHAR2 (3) | Buyer Location Country | | Derived from BPEL. Value = Blank | | |
| STATE_LOC_BUYER | VARCHAR2 (6) | Buyer Location State | | Derived from BPEL. Value = Blank | | |
| COUNTRY_LOC_SELLER | VARCHAR2 (3) | Seller Location Country | | Derived from BPEL. Value = Blank | | |
| STATE_LOC_SELLER | VARCHAR2 (6) | Seller Location State | | Derived from BPEL. Value = Blank | | |
| COUNTRY_VAT_SUPPLY | VARCHAR2 (3) | VAT Place of Supply Country | | Derived from BPEL. Value = Blank | | |
| STATE_VAT_SUPPLY | VARCHAR2 (6) | VAT Place of Supply State | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_LINE_ STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| COUNTRY_VAT_PERFRM | VARCHAR2 (3) | Service Performed Country | | Derived from BPEL. Value = Blank | | |
| STATE_VAT_PERFRM | VARCHAR2 (6) | Service Performed State | | Derived from BPEL. Value = Blank | | |
| STATE_SHIP_FROM | VARCHAR2 (6) | Ship From State | | Derived from BPEL. Value = Blank | | |
| STATE_VAT_DEFAULT | VARCHAR2 (6) | Defaulting State | | Derived from BPEL. Value = Blank | | |
| REQUESTOR_ID | VARCHAR2 (30) | Requester | | Derived from BPEL. Value = Blank | | |
| VAT_ENTRD_AMT | NUMBER (26,3) | Entered VAT Amount | | Derived from BPEL. Value = 0 | | |
| VAT_RECEIPT | VARCHAR2 (1) | No VAT Receipt | | Derived from BPEL. Value = Blank | | |
| VAT_RGSTRN_SELLER | VARCHAR2 (12) | Seller VAT Registration | | Derived from BPEL. Value = Blank | | |
| IST_TXN_FLG | VARCHAR2 (1) | Intrastat Transaction Flag | | Derived from BPEL. Value = Blank | | |
| TRANS_DT | DATE | Transaction Date | | Derived from BPEL. Value = Null | | |
| WTHD_SW | VARCHAR2 (1) | Withholding Applicable | | Derived from BPEL. Value = Blank | | |
| WTHD_CD | VARCHAR2 (5) | Withholding Code | | Derived from BPEL. Value = Blank | | |
| MFG_ID | VARCHAR2 (50) | Manufacturer ID | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_CHAR1 | VARCHAR2 (1) | User Character Field | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_CHAR2 | VARCHAR2 (1) | User Character Field 2 | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_DEC | NUMBER (26,3) | User Amount Field | | Derived from BPEL. Value = 0 | | |
| USER_VCHR_DATE | DATE | User Date | | Derived from BPEL. Value = Null | | |
| USER_VCHR_NUM1 | NUMBER (38) | User Number field | | Derived from BPEL. Value = 0 | | |
| USER_LINE_CHAR1 | VARCHAR2 (1) | Line User Field | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_LINE_ STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| CUSTOM_C100_B1 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_B2 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_B3 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_B4 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_DATE_B | DATE | Custom Date Field | | Null | | |
| CUSTOM_C1_B | VARCHAR2 (1) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_C1 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_C2 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_C3 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_DATE_C1 | DATE | Custom Date Field | | Null | | |
| CUSTOM_DATE_C2 | DATE | Custom Date Field | | Null | | |
| CUSTOM_C1_C | VARCHAR2 (1) | Custom Field | | Derived from BPEL. Value = Blank | | |
| PACKSLIP_NO | VARCHAR2 (22) | Pack Slip Number | | Derived from BPEL. Value = Blank | | |
| BUSINESS_UNIT_BI | VARCHAR2 (5) | Business Unit BI | | Derived from BPEL. Value = Blank | | |
| BI_INVOICE | VARCHAR2 (22) | BI Invoice | | Derived from BPEL. Value = Blank | | |
| LINE_SEQ_NUM | NUMBER | Line Sequence Number | | Derived from BPEL. Value = 0 | | |
| CATEGORY_ID | VARCHAR2 (5) | Category ID | | Derived from BPEL. Value = Blank | | |
| USER_SCHED_CHAR1 | VARCHAR2 (1) | Schedule User Field | | Derived from BPEL. Value = Blank | | |
| VAT_RVRSE_CHG_GDS | VARCHAR2 (1) | Domestic Reverse Charge Goods | | Derived from BPEL. Value = Blank | | |

## PS_VCHR_DIST_STG

| Columns in PS_VCHR_DIST_STG | Date Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2 (5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | CHAR (16) | |
| VCHR_BLD_KEY_C1 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | CHAR (5) | |
| VCHR_BLD_KEY_C2 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| VCHR_BLD_KEY_N1 | NUMBER (10) | Voucher Build Key Num 1 | | Derived from BPEL. Value = 0 | | |
| VCHR_BLD_KEY_N2 | NUMBER (10) | Voucher Build Key Num 2 | | Derived from BPEL. Value = 0 | | |
| VOUCHER_ID | VARCHAR2 (8) | Voucher ID | | Derived from BPEL. Value = NEXT | | |
| VOUCHER_LINE_NUM | NUMBER (38) | Voucher Line Number | | Derived from BPEL. Value = 0 | | |
| DISTRIB_LINE_NUM | NUMBER (38) | Distribution Line | | Derived from BPEL. Value = 0 | | |
| BUSINESS_UNIT_GL | VARCHAR2 (5) | GL Business Unit | | Derived from BPEL. Value = CCB | | |
| ACCOUNT | VARCHAR2 (10) | Account | CI_DST_CODE_EFF | GL_ACCT (Position 1) | VARCHAR2 (254) | |
| ALTACCT | VARCHAR2 (10) | Alternate Account | | Derived from BPEL. Value = Blank | | |
| DEPTID | VARCHAR2 (10) | Department | | Derived from BPEL. Value = Blank | | |
| STATISTICS_CODE | VARCHAR2 (3) | Statistics Code | | Derived from BPEL. Value = Blank | | |
| STATISTIC_AMOUNT | NUMBER (15,2) | Statistic Amount | | Derived from BPEL. Value = 0 | | |
| QTY_VCHR | NUMBER (15,4) | Quantity Vouchered | | Derived from BPEL. Value = 0 | | |
| DESCR | VARCHAR2 (30) | Description | | Derived from BPEL. Value = Blank | | |
| MERCHANDISE_AMT | NUMBER (26,3) | Merchandise Amt | CI_ADJ | ADJ_AMT | NUMBER (15,2) | |
| BUSINESS_UNIT_PO | VARCHAR2 (5) | PO Business Unit | | Derived from BPEL. Value = Blank | | |
| PO_ID | VARCHAR2 (10) | PO Number | | Derived from BPEL. Value = Blank | | |
| LINE_NBR | NUMBER (38) | Line Number | | Derived from BPEL. Value = 0 | | |
| SCHED_NBR | NUMBER (38) | Schedule Number | | Derived from BPEL. Value = 0 | | |
| PO_DIST_LINE_NUM | NUMBER (38) | PO Distribution Line Number | | Derived from BPEL. Value = 0 | | |
| BUSINESS_UNIT_PC | VARCHAR2 (5) | PC Business Unit | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_DIST_STG | Date Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| ACTIVITY_ID | VARCHAR2 (15) | Activity | | Derived from BPEL. Value = Blank | | |
| ANALYSIS_TYPE | VARCHAR2 (3) | Analysis Type | | Derived from BPEL. Value = Blank | | |
| RESOURCE_TYPE | VARCHAR2 (5) | Source Type | | Derived from BPEL. Value = Blank | | |
| RESOURCE_CATEGORY | VARCHAR2 (5) | Category | | Derived from BPEL. Value = Blank | | |
| RESOURCE_SUB_CAT | VARCHAR2 (5) | Subcategory | | Derived from BPEL. Value = Blank | | |
| ASSET_FLG | VARCHAR2 (1) | Assets Applicable | | Derived from BPEL. Value = N | | |
| BUSINESS_UNIT_AM | VARCHAR2 (5) | AM Business Unit | | Derived from BPEL. Value = Blank | | |
| ASSET_ID | VARCHAR2 (12) | Asset Identification | | Derived from BPEL. Value = Blank | | |
| PROFILE_ID | VARCHAR2 (10) | Asset Profile Id | | Derived from BPEL. Value = Blank | | |
| COST_TYPE | VARCHAR2 (1) | Cost Type | | Derived from BPEL. Value = Blank | | |
| VAT_TXN_TYPE_CD | VARCHAR2 (4) | VAT Transaction Type | | Derived from BPEL. Value = Blank | | |
| BUSINESS_UNIT_RECV | VARCHAR2 (5) | Receiving Business Unit | | Derived from BPEL. Value = Blank | | |
| RECEIVER_ID | VARCHAR2 (10) | Receipt Number | | Derived from BPEL. Value = Blank | | |
| RECV_LN_NBR | NUMBER (38) | Receipt Line | | Derived from BPEL. Value = 0 | | |
| RECV_SHIP_SEQ_NBR | NUMBER (38) | Receiver Shipping Sequence | | Derived from BPEL. Value = 0 | | |
| RECV_DIST_LINE_NUM | NUMBER (38) | Receiver Distribution Line | | Derived from BPEL. Value = 0 | | |
| OPERATING_UNIT | VARCHAR2 (8) | Operating Unit | | Derived from BPEL. Value = Blank | | |
| PRODUCT | VARCHAR2 (6) | Product | | Derived from BPEL. Value = Blank | | |
| FUND_CODE | VARCHAR2 (5) | Fund Code | | Derived from BPEL. Value = Blank | | |
| CLASS_FLD | VARCHAR2 (5) | Class Field | | Derived from BPEL. Value = Blank | | |
| PROGRAM_CODE | VARCHAR2 (5) | Program Code | | Derived from BPEL. Value = Blank | | |
| BUDGET_REF | VARCHAR2 (8) | Budget Reference | | Derived from BPEL. Value = Blank | | |
| AFFILIATE | VARCHAR2 (5) | Affiliate | | Derived from BPEL. Value = Blank | | |
| AFFILIATE_INTRA1 | VARCHAR2 (10) | Fund Affiliate | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_DIST_STG | Date Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| AFFILIATE_INTRA2 | VARCHAR2 (10) | Operating Unit Affiliate | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD1 | VARCHAR2 (10) | ChartField 1 | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD2 | VARCHAR2 (10) | ChartField 2 | | Derived from BPEL. Value = Blank | | |
| CHARTFIELD3 | VARCHAR2 (10) | ChartField 3 | | Derived from BPEL. Value = Blank | | |
| PROJECT_ID | VARCHAR2 (15) | Project | | Derived from BPEL. Value = Blank | | |
| BUDGET_DT | DATE | Budget Date | | Value = Null | | |
| ENTRY_EVENT | VARCHAR2 (10) | Entry Event | | Derived from BPEL. Value = Blank | | |
| ECQUEUEINSTANCE | NUMBER (38) | EC Queue Instance | | Derived from BPEL. Value = 0 | | |
| ECTRANSID | VARCHAR2 (15) | EC Transaction ID | | Derived from BPEL. Value = Blank | | |
| JRNL_LN_REF | VARCHAR2 (10) | Journal Line Reference | | Derived from BPEL. Value = Blank | | |
| VAT_APORT_CNTRL | VARCHAR2 (1) | VAT Apportionment Control | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_CHAR1 | VARCHAR2 (1) | User Character Field | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_CHAR2 | VARCHAR2 (1) | User Character Field 2 | | Derived from BPEL. Value = Blank | | |
| USER_VCHR_DEC | NUMBER (26,3) | User Amount Field | | Derived from BPEL. Value = 0 | | |
| USER_VCHR_DATE | DATE | User Date | | Value = Null | | |
| USER_VCHR_NUM1 | NUMBER (38) | User Number field | | Derived from BPEL. Value = 0 | | |
| USER_DIST_CHAR1 | VARCHAR2 (1) | Distribution User Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_D1 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_D2 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_D3 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_C100_D4 | VARCHAR2 (100) | Custom Field | | Derived from BPEL. Value = Blank | | |
| CUSTOM_DATE_D | Date | Custom Date Field | | Value = Null | | |
| CUSTOM_C1_D | VARCHAR2 (1) | Custom Field | | Derived from BPEL. Value = Blank | | |
| OPEN_ITEM_KEY | VARCHAR2 (30) | Open Item Key | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_DIST_STG | Date Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| VAT_RECOVERY_PCT | NUMBER (5,2) | VAT Recovery Percent | | Derived from BPEL. Value = 0 | | |
| VAT_REBATE_PCT | NUMBER (5,2) | VAT Rebate Percent | | Derived from BPEL. Value = 0 | | |
| VAT_CALC_AMT | NUMBER (26,3) | VAT Calculated Amount | | Derived from BPEL. Value = 0 | | |
| VAT_BASIS_AMT | NUMBER (26,3) | VAT Basis Amt | | Derived from BPEL. Value = 0 | | |
| VAT_RCVRY_AMT | NUMBER (26,3) | VAT Recovery Amt | | Derived from BPEL. Value = 0 | | |
| VAT_NRCVR_AMT | NUMBER (26,3) | VAT Non Recoverable | | Derived from BPEL. Value = 0 | | |
| VAT_REBATE_AMT | NUMBER (26,3) | VAT Rebate Amt | | Derived from BPEL. Value = 0 | | |
| VAT_TRANS_AMT | NUMBER (26,3) | VAT Transaction Amount | | Derived from BPEL. Value = 0 | | |
| TAX_CD_VAT_PCT | NUMBER (7,4) | VAT Tax Code Aggregate Pct | | Derived from BPEL. Value = 0 | | |
| VAT_INV_AMT | NUMBER (26,3) | VAT Invoice Amount | | Derived from BPEL. Value = 0 | | |
| VAT_NONINV_AMT | NUMBER (26,3) | VAT Non-Invoice Amount | | Derived from BPEL. Value = 0 | | |
| BUSINESS_UNIT_WO | VARCHAR2 (5) | Business Unit | | Derived from BPEL. Value = Blank | | |
| WO_ID | VARCHAR2 (10) | Work Order ID | | Derived from BPEL. Value = Blank | | |
| WO_TASK_ID | NUMBER (38) | Task Number | | Derived from BPEL. Value = 0 | | |
| RSRC_TYPE | VARCHAR2 (1) | Resource Type | | Derived from BPEL. Value = Blank | | |
| RES_LN_NBR | NUMBER (38) | Resource Line No. | | Derived from BPEL. Value = 0 | | |

## PS_VCHR_PYMT_STG

| Columns in PS_VCHR_PYMT_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2 (5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | CHAR (16) | |
| VCHR_BLD_KEY_C1 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | CHAR (5) | |
| VCHR_BLD_KEY_C2 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| VCHR_BLD_KEY_N1 | NUMBER (10) | Voucher Build Key Num 1 | | Derived from BPEL. Value = 0 | | |
| VCHR_BLD_KEY_N2 | NUMBER (10) | Vchr Build Key Num 2 | | Derived from BPEL. Value = 0 | | |
| VOUCHER_ID | VARCHAR2 (8) | Voucher ID | | Derived from BPEL. Value = NEXT | | |
| PYMNT_CNT | NUMBER (38) | Payments | | Derived from BPEL. Value = 1 | | |
| BANK_CD | VARCHAR2 (5) | Bank Code | | Derived from BPEL. Value = USBNK | | |
| BANK_ACCT_KEY | VARCHAR2 (4) | Bank Account | | Derived from BPEL. Value = CHCK | | |
| PYMNT_METHOD | VARCHAR2 (3) | Payment Method | | Derived from BPEL. Value = CHK | | |
| PYMNT_MESSAGE | VARCHAR2 (70) | Payment Message | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | CI_ADJ_APREQ |
| PYMNT_VCHR_PCT | NUMBER (31,15) | Payment Voucher Ratio | | Derived from BPEL. Value = 0 | | |
| PYMNT_HANDLING_CD | VARCHAR2 (2) | Payment Handling | | Derived from BPEL. Value = RE | | |
| PYMNT_HOLD | VARCHAR2 (1) | Hold Payment | | Derived from BPEL. Value = Blank | | |
| PYMNT_HOLD_REASON | VARCHAR2 (3) | Hold Reason | | Derived from BPEL. Value = Blank | | |
| MESSAGE_CD | VARCHAR2 (6) | Message Code | | Derived from BPEL. Value = Blank | | |
| PYMNT_GROSS_AMT | NUMBER (26,3) | Gross Payment Amount | CI_ADJ | ADJ_AMT | NUMBER (15,2) | |
| PYMNT_SEPARATE | VARCHAR2 (1) | Separate Payment | | Derived from BPEL. Value = N | | This is retrieved from the configurable property CCB.PS.AP.PYMNT_SEPARATE. |
| SCHEDULED_PAY_DT | DATE | Scheduled to Pay | CI_ADJ_APREQ | SCHEDULED_PAY_DT | DATE | |
| PYMNT_ACTION | VARCHAR2 (1) | Payment Action | | Derived from BPEL. Value = S | | |

| Columns in PS_VCHR_PYMT_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| PYMNT_ID_REF | VARCHAR2 (20) | Payment Reference | | Derived from BPEL. Value = Blank | | |
| PYMNT_GROUP_CD | VARCHAR2 (2) | Pay Group Code | | Derived from BPEL. Value = Blank | | |
| EFT_LAYOUT_CD | VARCHAR2 (10) | EFT Layout Code | | Derived from BPEL. Value = Blank | | |

## PS_VCHR_VNDR_STG

| Columns in PS_VCHR_VNDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2 (5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | CHAR (16) | |
| VCHR_BLD_KEY_C1 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | CHAR (5) | |
| VCHR_BLD_KEY_C2 | VARCHAR2 (25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | |
| VCHR_BLD_KEY_N1 | NUMBER (10) | Voucher Build Key Num 1 | | Derived from BPEL. Value = 0 | | |
| VCHR_BLD_KEY_N2 | NUMBER (10) | Vchr Build Key Num 2 | | Derived from BPEL. Value = 0 | | |
| VOUCHER_ID | VARCHAR2 (8) | Voucher ID | | Derived from BPEL. Value = NEXT | | |
| NAME1 | VARCHAR2 (40) | Name 1 | CI_ADJ_APREQ | ENTITY_NAME | VARCHAR2 (64) | |
| NAME2 | VARCHAR2 (40) | Name 2 | | Derived from BPEL. Value = Blank | | |
| EMAILID | VARCHAR2 (70) | Email ID | | Derived from BPEL. Value = Blank | | |
| COUNTRY | VARCHAR2 (3) | Country | CI_ADJ_APREQ | COUNTRY | CHAR (3) | |
| ADDRESS1 | VARCHAR2 (55) | Address Line 1 | CI_ADJ_APREQ | ADDRESS1 | VARCHAR2 (64) | |
| ADDRESS2 | VARCHAR2 (55) | Address Line 2 | CI_ADJ_APREQ | ADDRESS2 | VARCHAR2 (64) | |
| ADDRESS3 | VARCHAR2 (55) | Address Line 3 | CI_ADJ_APREQ | ADDRESS3 | VARCHAR2 (64) | |
| ADDRESS4 | VARCHAR2 (55) | Address Line 4 | CI_ADJ_APREQ | ADDRESS4 | VARCHAR2 (64) | |
| CITY | VARCHAR2 (30) | City | CI_ADJ_APREQ | CITY | VARCHAR2 (30) | |
| NUM1 | VARCHAR2 (6) | Number 1 | | Derived from BPEL. Value = Blank | | |

| Columns in PS_VCHR_VNDR_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|
| NUM2 | VARCHAR2 (4) | Number 2 | | Derived from BPEL. Value = Blank | | |
| HOUSE_TYPE | VARCHAR2 (2) | House Type | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD1 | VARCHAR2 (2) | Address Field 1 | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD2 | VARCHAR2 (4) | Address Field 2 | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD3 | VARCHAR2 (4) | Address Field 3 | | Derived from BPEL. Value = Blank | | |
| COUNTY | VARCHAR2 (30) | County | CI_ADJ_APREQ | COUNTY | VARCHAR2 (30) | |
| STATE | VARCHAR2 (6) | State | CI_ADJ_APREQ | STATE | CHAR (6) | |
| POSTAL | VARCHAR2 (12) | Postal Code | CI_ADJ_APREQ | POSTAL | CHAR (12) | |
| GEO_CODE | VARCHAR2 (11) | Tax Vendor Geographical Code | CI_ADJ_APREQ | GEO_CODE | CHAR (11) | |
| IN_CITY_LIMIT | VARCHAR2 (1) | In City Limit | CI_ADJ_APREQ | IN_CITY_LIMIT | VARCHAR (1) | |

## PS_VCHR_BANK_STG

| PS_VCHR_BANK_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BUSINESS_UNIT | VARCHAR2(5) | Business Unit | CI_CIS_DIV_CHAR | CHAR_VAL | | |
| VCHR_BLD_KEY_C1 | VARCHAR2(25) | Voucher Build Key Char 1 | CI_SA | CIS_DIVISION | | |
| VCHR_BLD_KEY_C2 | VARCHAR2(25) | Voucher Build Key Char 1 | CI_ADJ_APREQ | AP_REQ_ID | | |
| VCHR_BLD_KEY_N1 | NUMBER(10) | Voucher Build Key Num 1 | | Derived from BPEL. Value = 0 | | |
| VCHR_BLD_KEY_N2 | NUMBER(10) | Vchr Build Key Num 2 | | Derived from BPEL. Value = 0 | | |
| VOUCHER_ID | VARCHAR2(8) | Voucher ID | | Derived from BPEL. Value = NEXT | | |

| PS_VCHR_BANK_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| BANK_ID_QUAL | VARCHAR2(3) | Bank ID Qualifier | | Derived from BPEL. Value = Blank | | |
| BNK_ID_NBR | VARCHAR2(20) | Bank ID Number | | Derived from BPEL. Value = Blank | | |
| BRANCH_ID | VARCHAR2(10) | Branch ID | | Derived from BPEL. Value = Blank | | |
| BANK_ACCT_TYPE | VARCHAR2(2) | Bank Account Type | | Derived from BPEL. Value = Blank | | |
| BANK_ACCOUNT_NUM | VARCHAR2(35) | Bank Account Number | | Derived from BPEL. Value = Blank | | |
| CHECK_DIGIT | VARCHAR2(2) | Check Digit | | Derived from BPEL. Value = Blank | | |
| DFI_ID_QUAL | VARCHAR2(2) | DFI Qualifier | | Derived from BPEL. Value = Blank | | |
| DFI_ID_NUM | VARCHAR2(12) | DFI ID | | Derived from BPEL. Value = Blank | | |
| BENEFICIARY_BANK | VARCHAR2(30) | Beneficiary Bank | | Derived from BPEL. Value = Blank | | |
| BENEFICIARY_BNK_AC | VARCHAR2(30) | Beneficiary Bank Alt Char Set | | Derived from BPEL. Value = Blank | | |
| BENEF_BRANCH | VARCHAR2(30) | Beneficiary Branch | | Derived from BPEL. Value = Blank | | |
| BENEF_BRANCH_AC | VARCHAR2(30) | Beneficiary Branch Alt Char | | Derived from BPEL. Value = Blank | | |
| COUNTRY | VARCHAR2(3) | Country | CI_ADJ_APREQ | COUNTRY | CHAR (3) | |
| ADDRESS1 | VARCHAR2(55) | Address Line 1 | CI_ADJ_APREQ | ADDRESS1 | VARCHAR2 (64) | |
| ADDRESS2 | VARCHAR2(55) | Address Line 2 | CI_ADJ_APREQ | ADDRESS2 | VARCHAR2 (64) | |
| ADDRESS3 | VARCHAR2(55) | Address Line 3 | CI_ADJ_APREQ | ADDRESS3 | VARCHAR2 (64) | |
| ADDRESS4 | VARCHAR2(55) | Address Line 4 | CI_ADJ_APREQ | ADDRESS4 | VARCHAR2 (64) | |

| PS_VCHR_BANK_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| CITY | VARCHAR2(30) | City | CI_ADJ_APREQ | CITY | VARCHAR2 (30) | |
| NUM1 | VARCHAR2(6) | Number1 | | Derived from BPEL. Value = Blank | | |
| NUM2 | VARCHAR2(4) | Number1 | | Derived from BPEL. Value = Blank | | |
| HOUSE_TYPE | VARCHAR2(2) | House Type | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD1 | VARCHAR2(2) | Address Field 1 | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD2 | VARCHAR2(4) | Address Field 2 | | Derived from BPEL. Value = Blank | | |
| ADDR_FIELD3 | VARCHAR2(4) | Address Field 3 | | Derived from BPEL. Value = Blank | | |
| COUNTY | VARCHAR2(30) | County | CI_ADJ_APREQ | COUNTY | VARCHAR2 (30) | |
| STATE | VARCHAR2(6) | State | CI_ADJ_APREQ | STATE | CHAR (6) | |
| POSTAL | VARCHAR2(12) | Postal Code | CI_ADJ_APREQ | POSTAL | CHAR (12) | |
| GEO_CODE | VARCHAR2(11) | Tax Vendor Geographical Code | CI_ADJ_APREQ | GEO_CODE | CHAR (11) | |
| IN_CITY_LIMIT | VARCHAR2(1) | In City Limit | CI_ADJ_APREQ | IN_CITY_LIMIT | VARCHAR (1) | |
| COUNTRY_CODE | VARCHAR2(3) | Country Code | | Derived from BPEL. Value = Blank | | |
| PHONE | VARCHAR2(24) | Telephone | | Derived from BPEL. Value = Blank | | |
| EXTENSION | VARCHAR2(6) | Phone Extension | | Derived from BPEL. Value = Blank | | |
| FAX | VARCHAR2(24) | Fax Number | | Derived from BPEL. Value = Blank | | |
| IBAN_CHECK_DIGIT | VARCHAR2(2) | IBAN Check Digit | | Derived from BPEL. Value = Blank | | |

| PS_VCHR_BANK_STG | Data Type | Description | Oracle Utilities Customer Care and Billing Table | Column | Data Type | Remarks |
|---|---|---|---|---|---|---|
| IBAN_ID | VARCHAR2(34) | IBAN ID | | Derived from BPEL.<br>Value = Blank | | |
| EFT_PYMNT_FMT_CD | VARCHAR2(3) | Payment Format | | Derived from BPEL.<br>Value = Blank | | |
| EFT_TRANS_HANDLING | VARCHAR2(1) | Transaction Handling | | Derived from BPEL.<br>Value = Blank | | |
| EFT_DOM_COSTS_CD | VARCHAR2(1) | Domestic Costs | | Derived from BPEL.<br>Value = Blank | | |
| EFT_CORR_COSTS_CD | VARCHAR2(1) | Correspondent's Costs | | Derived from BPEL.<br>Value = Blank | | |
| EFT_CHECK_DRAW_CD | VARCHAR2(1) | Bank Check Drawn On | | Derived from BPEL.<br>Value = Blank | | |
| EFT_CHECK_FWRD_CD | VARCHAR2(1) | Check Forwarding | | Derived from BPEL.<br>Value = Blank | | |
| EFT_PAY_INST_CD1 | VARCHAR2(3) | Payment Instruction 1 | | Derived from BPEL.<br>Value = Blank | | |

# AP Data

This section covers the following:

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable

## Oracle PeopleSoft Financials for General Ledger and Accounts Payable

| CCB Table | Columns | Data Type | Description | PS Table | Columns | Data Type | Remarks |
|---|---|---|---|---|---|---|---|
| CI_ADJ_APREQ | PAY_DOC_ID | VARCHAR2 (20) | Advice ID | PS_PAYMENT_TBL | PYMNT_ID_REF | VARCHAR2 (20) | |
| CI_ADJ_APREQ | PAY_DOC_DT | DATE | Advice Date | PS_PAYMENT_TBL | PYMNT_DT | DATE | |
| CI_ADJ_APREQ | PYMNT_ID | CHAR (10) | Payment Number | PS_PAYMENT_TBL | PYMNT_ID | VARCHAR2 (10) | |
| CI_ADJ_APREQ | PAID_AMT | NUMBER (15,2) | Paid Amount | PS_PAYMENT_TBL | PYMNT_AMT | NUMBER (26,3) | |
| CI_ADJ_APREQ | PYMNT_SEL_STAT_FLG | CHAR (1) | Payment Selection Status | Derived from BPEL. Value = P | | | |
| CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | A/P Request ID | PS_PYMNT_VCHR_XREF | PYMNT_MESSAGE | VARCHAR2 (70) | |
| CI_ADJ_APREQ | ADJ_ID | CHAR (12) | Adjustment ID | PS_VOUCHER | INVOICE_ID | VARCHAR2 (30) | When liability is closed the AdjustmentMaintenance service is invoked for this Adjustment ID. |
| CI_ADJ_APREQ | PYMNT_SEL_STAT_FLG | CHAR (1) | Payment Selection Status | Derived from BPEL.<br>When PS_PAYMENT_TBL.CANCEL_ACTION=R or H then Value=C<br><br>When PS_PAYMENT_TBL.CANCEL_ACTION=C then Value=X | | | |
| CI_ADJ_APREQ | CAN_RSN_CD | CHAR (4) | Cancel Reason Code | | | | APVC |

# Database Tables Involved in Integration

The following sections identify the database tables involved in this integration, including:

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

**Note**: For more information on Oracle PeopleSoft Financials for General Ledger and Accounts Payable and Oracle Utilities Customer Care and Billing tables refer your product documentation.

## GL Integration Point

This section covers:

- Oracle Utilities Customer Care and Billing
- Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables

#### Oracle Utilities Customer Care and Billing

The following Oracle Utilities Customer Care and Billing tables are used when extracting Financial Transaction data for sending to the GL as Journal Vouchers.

- CI_FT_GL
- CI_DST_CODE_EFF
- CI_FT_PROC (FT Process)
- CI_BATCH_CTRL (Batch Control)
- CI_BATCH_RUN
- CI_BATCH_JOB

Neither the GLDL flat file header record nor the GLDL flat file detail record layouts are used in this integration.

#### Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables

PeopleSoft_JGEN_ACCT_ENTRY is used to stage the incoming accounting entries from Oracle Utilities Customer Care and Billing.

## AP Request Integration Point

This section covers:

- Oracle Utilities Customer Care and Billing
- Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables

**Oracle Utilities Customer Care and Billing**

The Oracle Utilities Customer Care and Billing APREQ table is considered an interface table for this integration point even though it is a core table within Oracle Utilities Customer Care and Billing. BPEL extracts the data directly from the core tables. The following tables are used when extracting AP Request information from Oracle Utilities Customer Care and Billing.

- CI_ADJ_APREQ
- CI_ADJ
- CI_SA
- CI_ACCT
- CI_ACCT_PER
- CI_PER
- CI_PER_NAME

**Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables**

The following AP Invoice staging tables are used to stage the incoming AP Requests from Oracle Utilities Customer Care and Billing.

- PS_VCHR_HDR_STG
- PS_VCHR_LINE_STG
- PS_VCHR_DIST_STG
- PS_VCHR_PYMT_STG
- PS_VCHR_VNDR_STG

## AP Data Integration Point

This section covers:

- Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables
- Oracle Utilities Customer Care and Billing

**Oracle PeopleSoft Financials for General Ledger and Accounts Payable Tables**

No Oracle PeopleSoft Financials for General Ledger and Accounts Payable interface tables are used in this integration point.

The Payment Information is extracted from the following application tables:

- PS_PAYMENT_TBL
- PS_VOUCHER
- PS_PYMNT_VCHR_XREF

**Oracle Utilities Customer Care and Billing**

The CI_ADJ_APREQ application table is updated with the Payment Information received from Oracle PeopleSoft Financials for General Ledger and Accounts Payable. This table is considered an interface table for the purpose of this integration point even though it is a core Oracle Utilities Customer Care and Billing product table.

# Logic Used in the Integration Points

The following describes the logic used in the BPEL services that form part of this integration product:

- GL Integration Point
- AP Request Integration Point
- AP Data Integration Point

## GL Integration Point

This section covers:

- BPEL Polls to Verify whether FTs are ready for Extraction
- Update the NEXT BATCH NUMBER in CI_BATCH_CNTRL
- Extract Financial Transactions from CCB
- Update the LAST UPDATE TIME FOR GLDL in CI_BATCH_CNTRL

**BPEL Polls to Verify whether FTs are ready for Extraction**

Oracle BPEL Process Manager polls Oracle Utilities Customer Care and Billing to verify whether financial tractions are ready for extraction.

```
If GLS has run since the last run of the integration
AND the GLS run has completed successfully
Retrieve the Batch of Rows identified in CI_BATCH_RUN (created by GLS)
Else
Do nothing
```

**Update the NEXT BATCH NUMBER in CI_BATCH_CNTRL**

```
Increment by 1 the NEXT_BATCH_NBR in CI_BATCH_CTRL WHERE BATCH_CD is GLDL
```

**Extract Financial Transactions from CCB**

**Extract Information**

```
Select the information shown in the table below
FROM CI_FT_PROC, CI_FT_GL, CI_FT FT, CI_DST_CODE_EFF
WHERE the rows were marked by GLS as belonging to the latest batch that is ready to be integrated

Summarize and group the rows
BY FTPR.BATCH_NBR, FTGL.DST_ID, FTGL.GL_ACCT, FT.CIS_DIVISION, FT.GL_DIVISION, FT.CURRENCY_CD, DST.STATISTICS_CD, FT.ACCOUNTING_DT, DST.FUND_CD
```

**Extract Information**

| Field | Description |
|---|---|
| Source System | Set to CCB |
| BATCH_NBR | The batch number for the group of FTs extracted. The batch number is assigned to the financial transaction when GLS is run. |
| DIST_ID | The distribution code used in CCB to derive the GL account information. A sample data example is R - ELERES for electric residential revenue financial transactions. |
| GL_ACCT | The actual GL account with '.' separating the substructure numbers like department. For example 101.73653.8873..87. |
| CIS_DIVISION | The CIS Division |
| GL_DIVISION | The GL Division |
| CURRENCY_CD | The currency type, such as USD. |
| STATISTICS_CD | The identifier of the type of statistical amount being sent to GL such as KWH for electricity or CCF for gas. |
| ACCOUNTING_DT | The effective accounting date for the GL transactions |
| AMOUNT | The dollar amount of the GL debit or credit |
| STATISTIC_AMOUNT | The quantity associated with the Statics Code. |

When the above is executed successfully, continue by executing the following:

### Update the LAST UPDATE TIME FOR GLDL in CI_BATCH_CNTRL

```
Set the last update date and time by setting
CI_BATCH_CTRL LAST_UPDATE_DTTM to SYSDATE WHERE BATCH_CD = 'GLDL'
```

## AP Request Integration Point

This section covers:



### Update the NEXT BATCH NUMBER in the CI_BATCH_CNTRL

```
Increment by 1 the NEXT_BATCH_NBR in CI_BATCH_CNTRL where the BATCH_CD is APDL
```

### Poll Oracle Utilities Customer Care and Billing to Verify Extraction

The Oracle BPEL Process Manager polls Oracle Utilities Customer Care and Billing to verify whether AP Requests are ready for extraction.

```
If there are AP Requests where the CI_ADJ_APREQ PYMNT_SEL_STAT_FLG is N (Not selected for Payment)
AND the associated adjustment is in a frozen status
Run the integration point
Else do nothing.
```

### Extract of Customer and AP Refund Request

An extract of Customer and AP refund request is made from Oracle Utilities Customer Care and Billing

```
Select the following information
AP_REQ_ID, GL_ACCT,CHAR_VAL, SA_ID, ADJ_ID, CRE_DT, ADJ_TYPE_CD, CIS_DIVISION, CHAR_VAL, ENTITY_NAME, COUNTRY, ADDRESS1, ADDRESS2, ADDRESS3, ADDRESS4,
CITY, NUM1, NUM2, COUNTY, HOUSE_TYPE, STATE, POSTAL, CURRENCY_CD, CURRENCY_PYMNT, GEO_CODE, IN_CITY_LIMIT, PYMNT_METHOD_FLG, ADJ_AMT, SCHEDULED_PAY_DT
(See mapping table within this document for more details)
FROM CI_ADJ_APREQ, CI_ADJ, CI_SA, CI_ADJ_TYPE, CI_DST_CODE_EFF, CI_DST_CD_CHAR, CI_CIS_DIV_CHAR
Where the PYMNT_SEL_STAT_FLG status flag is N (Not Selected for Payment)
AND the Adjustment is frozen
```

### Updating CI_ADJ_APREQ Status

```
UPDATE CI_ADJ_APREQ
SET PYMNT_SEL_STAT_FLG to R (Requested for Payment)
```

## AP Data Integration Point

This section covers:

- Extract the Payment Information from Oracle PeopleSoft Financials for General Ledger and Accounts Payable

**Extract the Payment Information from Oracle PeopleSoft Financials for General Ledger and Accounts Payable**

```
SELECT the following information
BANK_CD, BANK_ACCT_KEY, PYMNT_ID, PYMNT_ID_REF, BANK_ACCOUNT_NUM, REMIT_VENDOR, PYMNT_AMT, PYMNT_METHOD, PYMNT_STATUS, CANCEL_ACTION, CANCEL_POST_STATUS,
VOUCHER_ID, PYMNT_MESSAGE, INVOICE_ID
FROM PS_PAYMENT_TBL, PS_PYMNT_VCHR_XREF, PS_VOUCHER
WHERE REMIT_VENDOR = 'CCBVENDOR' (The Single Payment Vendor Identified in Configuration)
AND the cancel date is greater than the last date the interface was run
OR the CANCEL_POST_STATUS is P (Paid)
OR the create date is greater than the last date the interface was run
```

'CCBVENDOR' is a configuration parameter.

For each payment selected above, check if this payment is already applied in Oracle Utilities Customer Care and Billing.

```
If PS_PAYMENT_TBL.CANCEL_DT<> Null and PS_PAYMENT_TBL.CANCEL_ACTION IN ('C','H','R') (This payment has been cancelled after it was created)
If PS_PAYMENT_TBL.CANCEL_POST_STATUS='P' (This cancellation is posted)
```

If the Payment has been canceled in Oracle PeopleSoft Financials for General Ledger and Accounts Payable and the liability has been closed update the CI_ADJ_APREQ PYMNT_SEL_STAT_FLG to 'X'(Canceled) and Invoke the service C1AdjustmentMaintenance to cancel the Adjustment corresponding to this payment.

# BPEL Process Overview

The following describes the process flows within the BPEL services that form this product:

- GL Transaction Integration
- AP Request Integration
- AP Data Integration

## GL Transaction Integration

The following is the list processes that comprise the GL Integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable:

| Process Name | CCBPSGLRequestScheduler |
|---|---|
| Description | Polls the INTEGRATION_PROCESS_ACTIVATION table in the ORABPEL Schema at predefined intervals and invokes the CCBToPSGLBPELProcess. |
| Calls to | CCBToPSGLBPELProcess |

| Process Name | CCBPSGLRequestScheduler |
|---|---|
| Calls from | None |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - None |

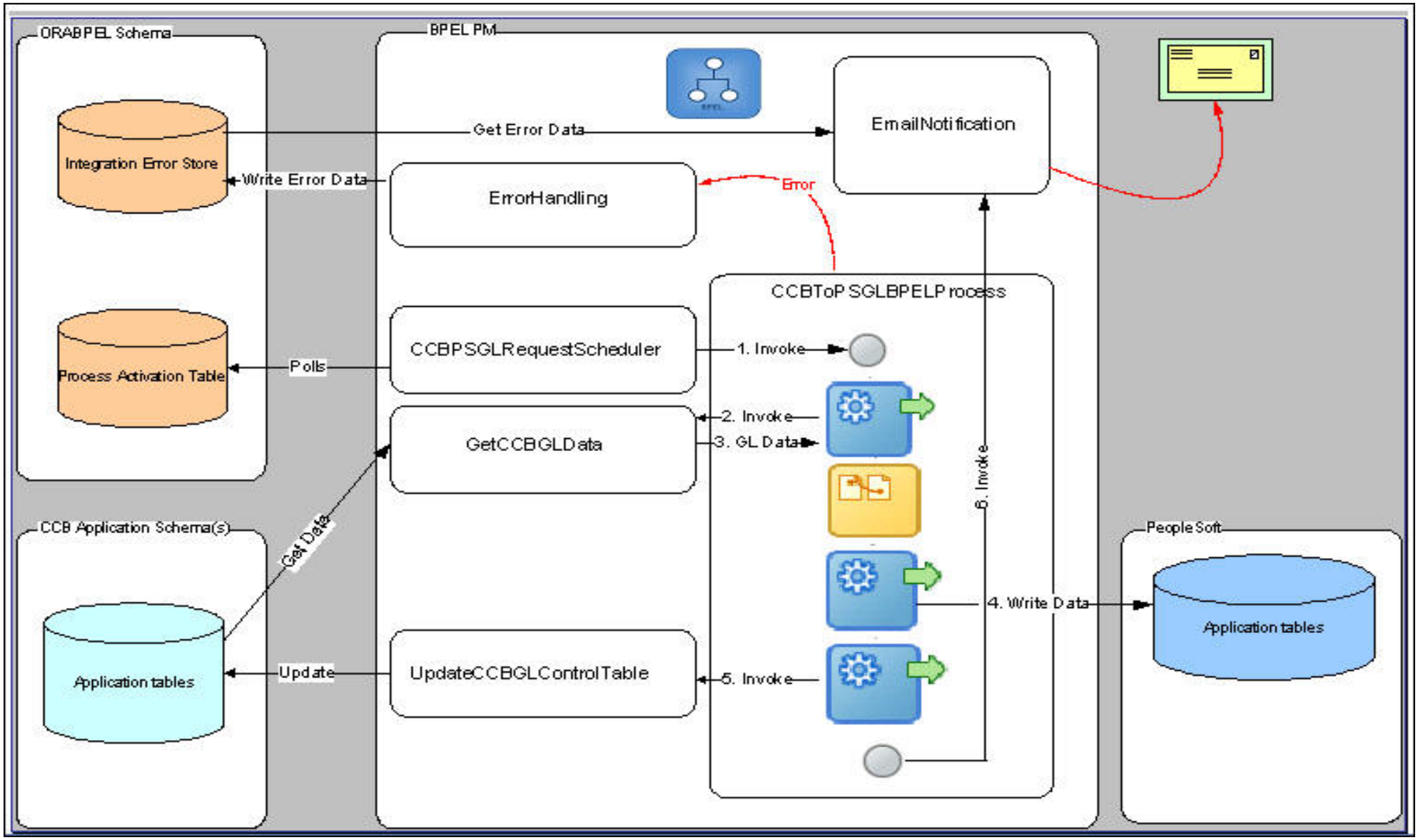
| Process Name | CCBToPSGLBPELProcess |
|---|---|
| Description | Main process of the GL Integration. Gets the GL data from Oracle Utilities Customer Care and Billing, transforms it, and inserts it into Oracle PeopleSoft Financials for General Ledger and Accounts Payable Generic Accounting Entry Table PS_JGEN_ACCT_ENTRY. Additionally, updates Oracle Utilities Customer Care and Billing Batch Control table with the next batch number. Invokes services for error handling and e-mail notification. |
| Calls to | GetCCBGLData, UpdateCCBGLControlTable, ErrorhandlingProcess (if an error occurs), EmailNotification |
| Calls from | CCBPSGLRequestScheduler |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Remote Fault, BPEL Binding Fault. |

| Process Name | GetCCBGLData |
|---|---|
| Description | Checks if GL data is available in Oracle Utilities Customer Care and Billing for transfer. If data is available, it returns a dataset to the calling process. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | CCBToPSGLBPELProcess. |
| Inputs | Input String object containing the Integration Point name invoking this BPEL process e.g. PS, EBS, JDE, etc |
| Outputs | SelectCCBGLRecordsOutput xml object |

| Process Name | GetCCBGLData |
|---|---|
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions – BPEL Remote Fault, BPEL Binding Fault |

| Process Name | UpdateCCBGLControlTable |
|---|---|
| Description | Updates the next batch number in the GL Batch Control table available in the Oracle Utilities Customer Care and Billing Database. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | CCBToPSGLBPELProcess. |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions – BPEL Remote Fault, BPEL Binding Fault |

BPEL flow for GL Transaction Integration Point is shown below:



## AP Request Integration

The following is the list processes that comprise the AP Request Integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable:

| **Process Name** | **CCBToPSAPRequestScheduler** |
|---|---|
| Description | Polls the INTEGRATION_PROCESS_ACTIVATION table in the ORABPEL Schema at predefined intervals and invokes the CCBToPSAPBPELProcess. |
| Calls to | CCBToPSAPBPELProcess |
| Calls from | |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - None |

| **Process Name** | **CCBToPSAPBPELProcess** |
|---|---|
| Description | Main process of the AP Integration. Gets the AP data from Oracle Utilities Customer Care and Billing, transforms it, and inserts it into Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Voucher Build Interface tables (PS_VCHR_HDR_STG, PS_VCHR_LINE_STG, PS_VCHR_DIST_STG, PS_VCHR_VNDR_STG, PS_VCHR_PYMT_STG, PS_VCHR_MSCH_STG, PS_VCHR_BANK_STG, PS_VCHR_IBANK_STG). Additionally, updates status in two of the Oracle Utilities Customer Care and Billing tables. Invokes services for error handling and e-mail notification. |
| Calls to | GetCCBAPData, UpdateCCBAPControlTable, UpdateCCBAPAdjReqTable, ErrorhandlingProcess (if an error occurs)., EmailNotofication |
| Calls from | CCBToPSAPRequestScheduler |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions – BPEL Remote Fault, BPEL Binding Fault. |

| Process Name | GetCCBAPData |
|---|---|
| Description | Checks if AP data is available in Oracle Utilities Customer Care and Billing for transfer. If data is available, it returns a dataset to the calling process. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | CCBToPSAPBPELProcess. |
| Inputs | Input String object containing the Integration Point name invoking this BPEL process - PS, EBS, JDE, etc |
| Outputs | SelectCCBRecordsWithTemplate xml object |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Remote Fault, BPEL Binding Fault |

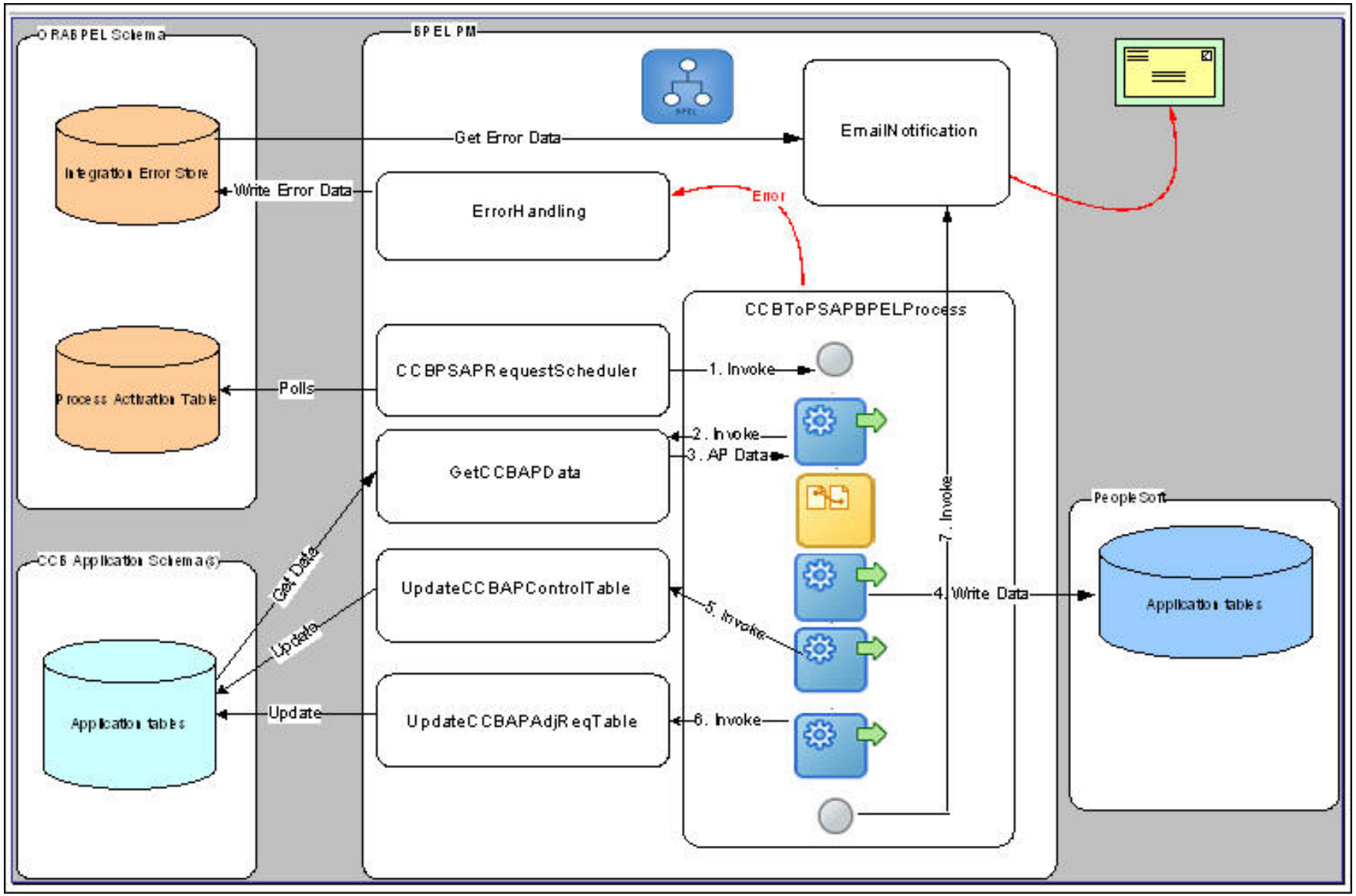
| Process Name | UpdateCCBAPControlTable |
|---|---|
| Description | Updates the next batch number in the AP Batch Control table available in the Oracle Utilities Customer Care and Billing Database. |
| Calls To | ErrorhandlingProcess (if an error occurs). |
| Calls From | CCBToPSAPBPELProcess. |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - |

| Process Name | UpdateCCBAPAdjReqTable |
|---|---|
| Description | Updates PYMNT_SEL_STAT_FLG to R in the CCB AP Adjustment Request table CI_ADJ_APREQ for the provided AP request ID. |
| Calls to | None |
| Calls from | CCBToPSAPBPELProcess. |
| Inputs | CiAdjApreqCollection xml object |

| Process Name | UpdateCCBAPAdjReqTable |
|---|---|
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - None |

| Process Name | InsertPSVoucher |
|---|---|
| Description | Inserts it into Oracle PeopleSoft Financials for General Ledger and Accounts Payable A/P Voucher Build Interface tables (PS_VCHR_HDR_STG, PS_VCHR_LINE_STG, PS_VCHR_DIST_STG, PS_VCHR_VNDR_STG, PS_VCHR_PYMT_STG, PS_VCHR_MSCH_STG, PS_VCHR_BANK_STG, and PS_VCHR_IBANK_STG). |
| Calls to | None |
| Calls from | CCBToPSAPBPELProcess. |
| Inputs | SelectCCBAPRequestRecordsOutput xml object |
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Remote Fault, BPEL Binding Fault. |

BPEL flow for AP Request Integration Point is shown below:



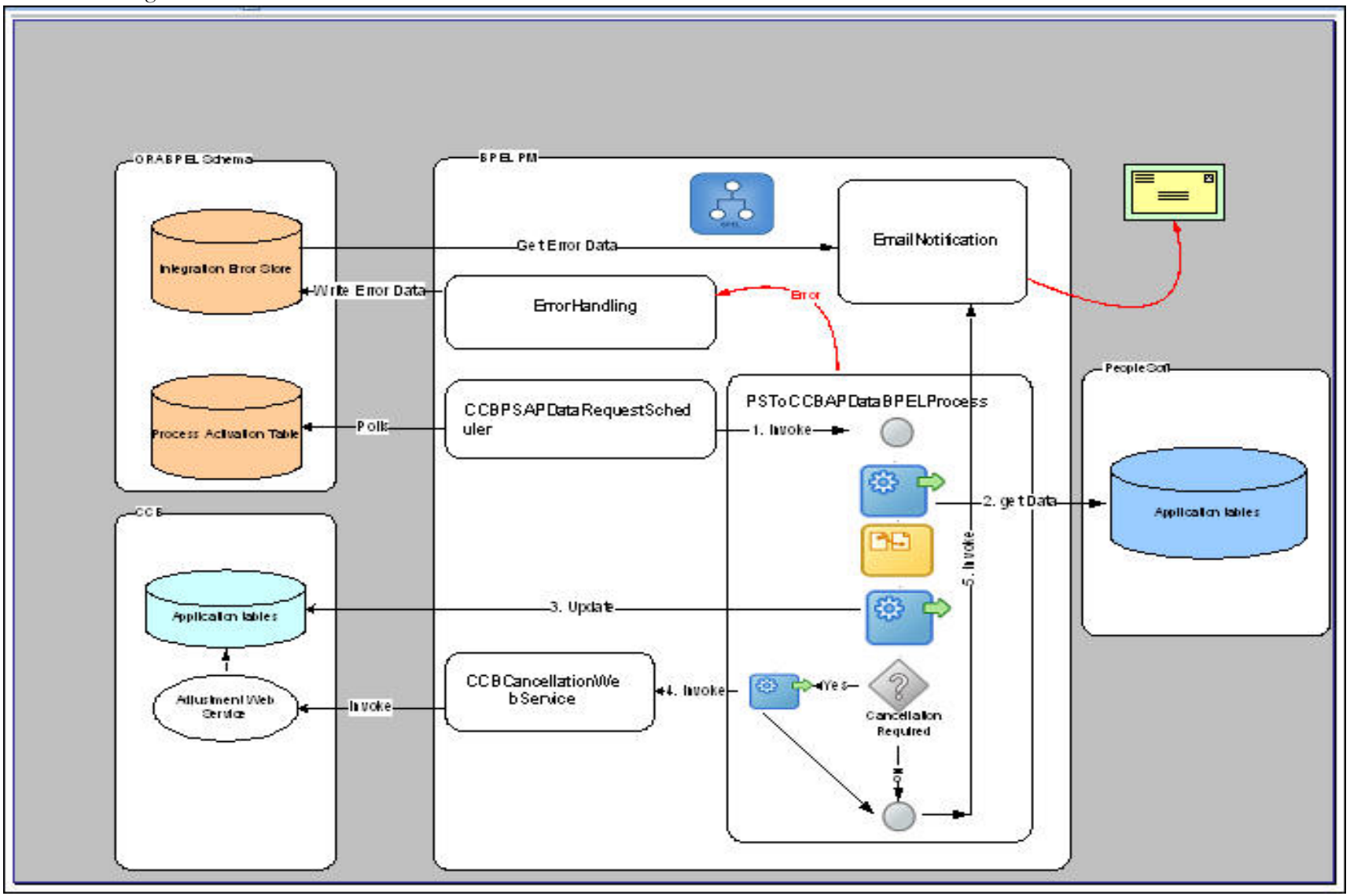
## AP Data Integration

The following is the list processes that comprise the AP Data Integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable:

| **Process Name** | **PSCCBAPDataRequestScheduler** |
|---|---|
| Description | Polls the INTEGRATION_PROCESS_ACTIVATION table in the ORABPEL Schema at predefined intervals and invokes the PSToCCBAPDataBPELProcess. |
| Calls to | PSToCCBAPDataBPELProcess, ErrorhandlingProcess (if an error occurs). |
| Calls from | None |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions – None |

| **Process Name** | **CCBCancellationWebService** |
|---|---|
| Description | This process is a BPEL wrapper to call the Adjustment Maintenance web service in Oracle Utilities Customer Care and Billing to cancel the Adjustment ID corresponding to the AP Request ID for the given payment. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | PSToCCBAPDataBPELProcess. |
| Inputs | String object - AdjustmentID |
| Outputs | String result - Contains APRequest ID to handle success or error messages |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Binding fault, BPEL Remote Fault. |

BPEL flow for AP Data Integration Point is shown below:



# Shared Integration Processes

These BPEL processes are used across multiple integration points within this product.

| Process Name | Error Handling Process |
|---|---|
| Description | Invoked only if an error occurs. Inserts data into error table INTEGRATION_ERROR_STORE in the ORABPEL Schema. |
| Calls to | |
| Calls from | GetCCBGLData, UpdateCCBGLControlTable, CCBToPSGLBPELProcess,GetCCBAPData,UpdateCCBAPControlTable,CCBToPSAPBPELProcess,CCBCancellationWebService,PSToCCBAPDataBPEL Process |
| Inputs | ErrorHandlingProcessRequest xml object |
| Outputs | String result |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - None |

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| Process Name | MailNotification |
|---|---|
| Description | This process is invoked at the end of each batch run. If there was any error generated, it assimilates all these messages into an e-mail and sends the e-mail to configured e-mail address. |
| Calls to | None |
| Calls from | CCBToPSGLBPELProcess<br>CCBToPSAPBPELProcess<br>PSToCCBAPDataBPELProcess |
| Inputs | MailNotificationInpputParameters xml object |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - None |