

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

Implementation Guide

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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.

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).

Additional Resources

The following additional resources are available:

Resource	Location
Installation Guide	http://edelivery.oracle.com/
Managing BPEL	http://www.oracle.com/technology/documentation/index.html

About the Integration Product

This document provides general information about the functionality and processing of 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.

About the Products

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.

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.

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.

Supported Business Process

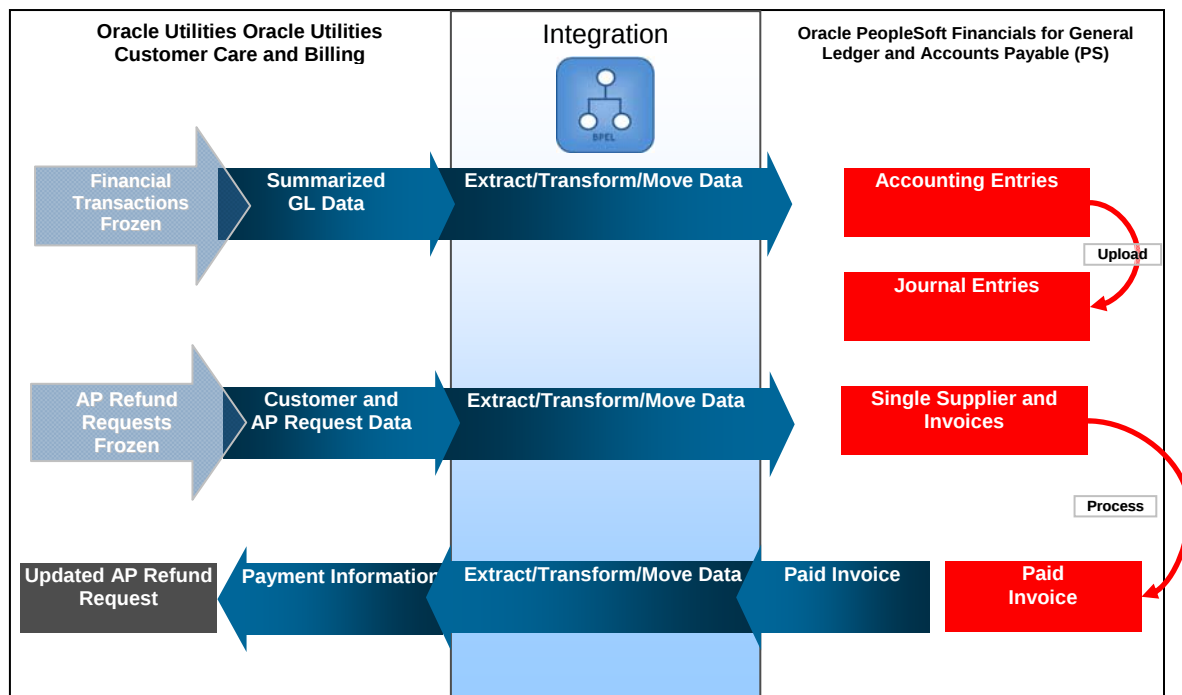
This integration of products incorporates three areas of key functionality to facilitate the transfer of information between two applications. Data is sent from Oracle Utilities Customer Care and Billing to Oracle PeopleSoft Financials for General Ledger and Accounts Payable and vice versa to support the following transactions and actions:

Oracle Utilities Customer Care and Billing	Oracle PeopleSoft Financials for General Ledger and Accounts Payable
A bill is created/ cancelled	The general ledger is updated with the journal information.
A payment is created/ cancelled	
An adjustment is created/ cancelled	

An adjustment whose type indicates AP Request is created	An accounts payable single payment voucher is created and associated with a single payment vendor.
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Oracle PeopleSoft Financials for General Ledger and Accounts Payable	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 Oracle PeopleSoft Financials for General Ledger and Accounts Payable to Oracle Utilities Customer Care and Billing. The AP Request is updated with the 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 flow of data between the two systems is illustrated below:



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.

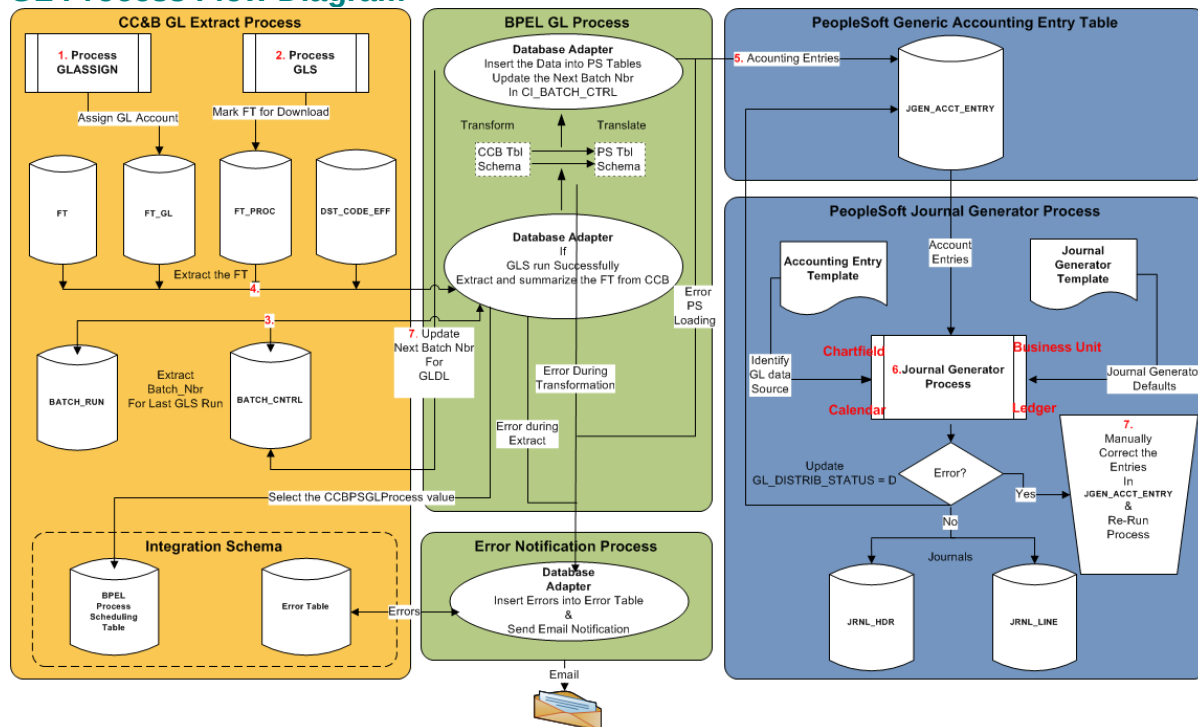
- Financial transactions are moved from the sub-ledger to the general ledger when two consecutive Oracle Utilities Customer Care and Billing batch processes, GLASSIGN and GLS, are run according to a set schedule. These are standard processes released with Oracle Utilities Customer Care and Billing.
- 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.

Please refer to the Oracle Utilities Customer Care and Billing documentation for more information on GLASSIGN and GLS Batch jobs.

GL Process Flow Diagram



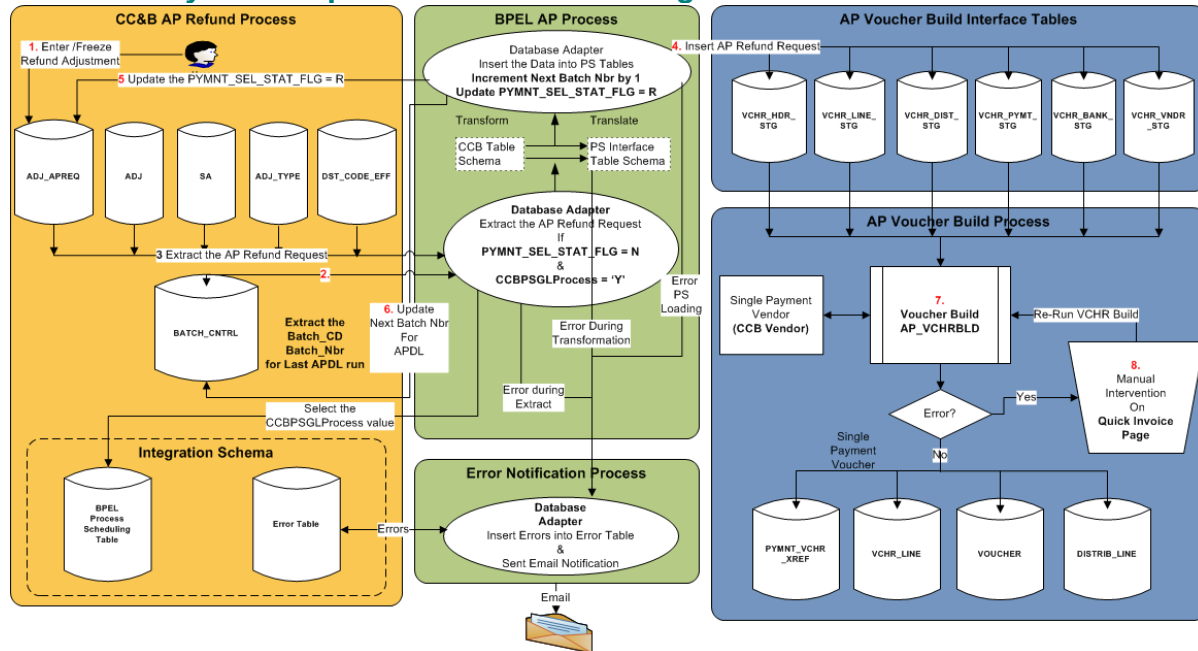
These are the steps for the GL Process flow:

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.

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'.

Account Payable Request Process Flow Diagram



These are the steps in AP Request flow:

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.

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.

Please refer to the table below to review how cancelled payments are handled.

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 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.

Payment Cancellation Process

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

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

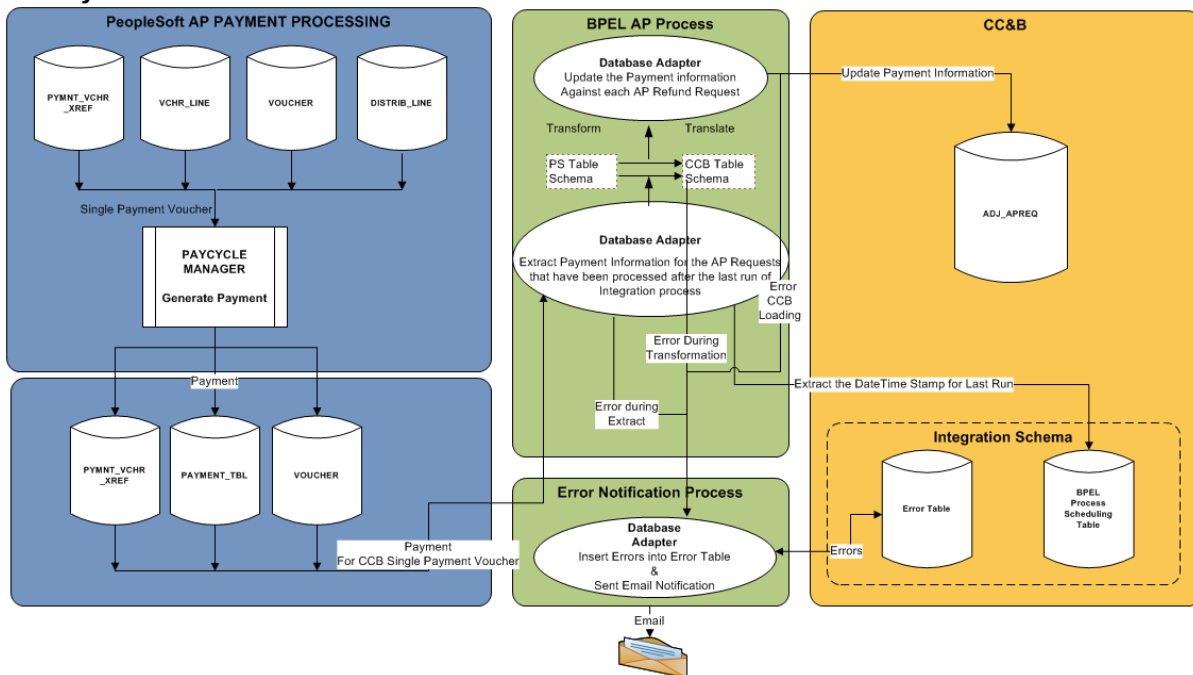
If the payment is voided or stopped and all liability is closed, the integration cancels the AP Request and then calls a service in Oracle Utilities Customer Care and Billing to cancel the adjustment related to the request. The AP Request payment status flag in Oracle Utilities Customer Care and Billing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

AP Payment Process

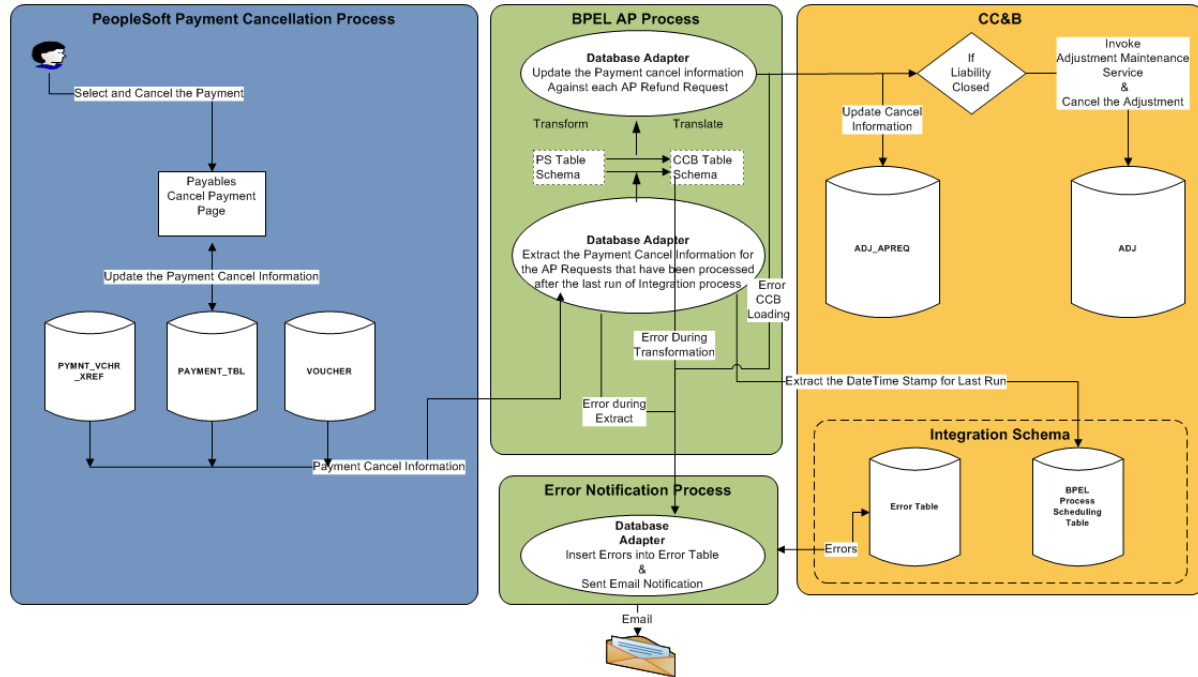


These are the steps in the AP Payment process

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 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.

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.

Best Practices

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

Information on how to configure settings that are specific to the integration is provided in the section titled Setting Up the Process Integration. Refer to product specific documentation for information on how to complete product specific configuration tasks.

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).

Please 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.

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.

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.

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.

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 be notified if the integration software detects 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.

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.

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

Accounts Payable (AP) Request and Payment Integrations

Oracle PeopleSoft Financials for General Ledger and Accounts Payable AP Settings

The 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 Code:** 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.

Please refer to the Oracle PeopleSoft Financials for General Ledger and Accounts Payable User documentation for specific guidelines on configuring these settings.

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:** A 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.

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 be 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.

Accounting

The following shows the basic accounting debits and credits that should 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 PS	Accounts Payable Clearing	AP Liability
AP Invoice Payment in PS	AP Liability	Cash

About the Integration

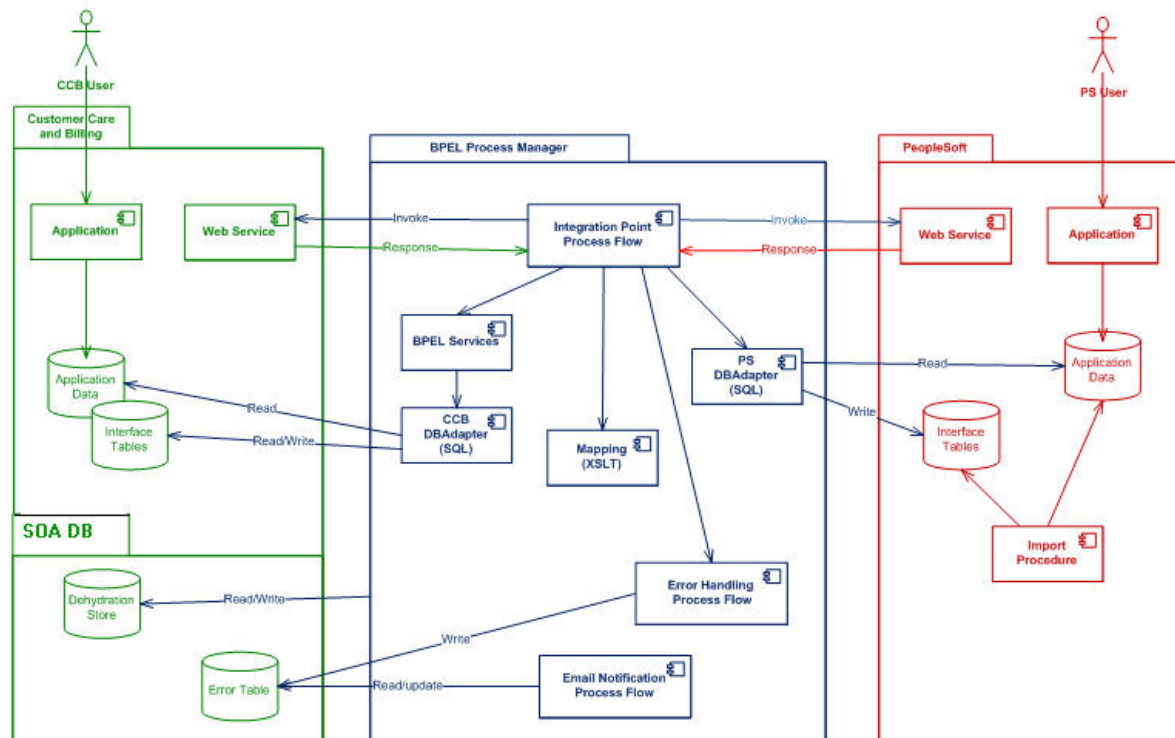
Oracle BPEL Process manager uses standard data mapping to extract, transform and load data to take it from the source system and insert into the target system.

- After the source system generates financial data the financial data:
 - o BPEL extracts and consolidates the data as XML-based data.
 - o BPEL then transforms the data into the appropriate format based on the mapping XSLT.
 - o BPEL then loads the data into the appropriate table in the target.
 - o 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, target application and the tables 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	PeopleSoft_JGEN_ACCT_ENTRY
AP Request	CCB	PS	Voucher Build	PeopleSoft_VCHR_HDG_STG, PeopleSoft_VCHR_LINE_STG PeopleSoft_VCHR_DIST_STG PeopleSoft_VCHR_PYMT_STG PeopleSoft_VCHR_VNDR_STG
AP Data	PS	CCB		The appropriate AP Request within

				Oracle Utilities Customer Care and Billing.
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High Level Architecture Diagram

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 that 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.

Part 2: Implementing the Integration Product

This section provides details about how to configure the participating applications and the middle layer for the integration. Information on error handling, monitoring, customization options, and data mapping is also included.

Setting Up the Process 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.

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.

Please refer to the installation guide for this product for complete installation details.
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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.

Configuration Check List

Please print the following checklists to help ensure accurate completion of the implementation tasks.

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 .

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 . The value you create in this characteristic (Example: STANDARD) must

Step	Information	Comments
		match what you documented in step A6 .
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 . 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. 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).

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
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Step	INTEGRATION_KEY	INTEGRATION_VALUE	Comments
C1	CCB_PS_GL CCB_PS_AP 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.
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.

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 A5 .
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
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.

Step	INTEGRATION_KEY	INTEGRATION_VALUE	Comments
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.INVOICEVOUCHER.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.INVOICEVOUCHER.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.

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.LASTRUNDTIME	01-01-2011 10:01:01	Last Updated time of BPTEL 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

Step	INTEGRATION_KEY	INTEGRATION_VALUE	Comments
			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.
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

Verify 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: GL Integration Point.
F2	AP Request Integration Point		Use the steps outlined in this document to test this integration point. Verifying the Implementation: AP Request 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.

If the integration point tests are not successful, please refer to the sections on troubleshooting and error correction information in this document.

Configuring the Integration

The integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable Financials 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

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

Please refer to your product-specific user documentation for regarding steps to configure the GL.

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.

AP Request Integration Point

Configure 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.

Identify 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.

Configure 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:

1. Open Oracle PeopleSoft Financials for General Ledger and Accounts Payable Financials and navigate to Vendors Page. **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.
Terms Options	Default	This field denotes the payment terms of the voucher. It has two possible values 1. Default: Values defaulted from higher level setup. 2. Specify: Terms must be specified in the Terms field.
Currency Options	Default	This field denotes the currency code specifications. 2 possible values are: 1. Default: Values defaulted from higher level setup. 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. 2 possible values are: 1. Default: Values defaulted from higher level setup. 2. Specify: Terms must be specified in the Terms field.
Banking Options	Default	This field denotes the Banking options for this Vendor. 2 possible values are: 1. Default: Values defaulted from higher level setup. 2. Specify: Terms must be specified in the Terms field.

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

Configure 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.
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 End of Relative Month Fixed Month Day Values Specific Due Date	Timing Basis Option
Timing Adjustment	Day Increment Month Increment 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.
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

Field Label	Value	Comments
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
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

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.

Oracle Utilities Customer Care and Billing Configuration

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

Please refer to your user documentation for instructions regarding specific steps in Oracle Utilities Customer Care and Billing.

GL Integration Point

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

Configure 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.

Configure 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

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.

Configure Fund Code

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.

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.

Configure 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.

AP Request Integration Point

Configure 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
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 Distribution Code:

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.ALLP RD...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.

Configure 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.
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.

Field Label	Value	Comments
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.

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.
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 Label	Value	Comments
XAI In Service Name	AdjustmentMaintenance	This service is used to change data associated with adjustment transactions.
Transaction Type	Update	
Cancel	Checked	Cancel check box 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.

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.

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.

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)

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.

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 PS.
Oracle PeopleSoft Financials for General Ledger and Accounts Payable	AP Voucher Build Application Engine Process (AP_VCHRBLD)	Creates single payment vouchers in PS.

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.

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 on 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.
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.

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

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.

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.

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.

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.

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

Steps to enable E-mail notification:

1. Log in to the Enterprise Manager console.
2. Expand **SOA** → **right click on soa-infra** → **SOA Administration** → **Workflow Notification Properties**
3. On this screen select E-mail from the drop down.
4. Provide the e-mail IDs for From address.

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.

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
--------	-----------

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.

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.

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	COLUMN	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)

TABLE	COLUMN	DATA TYPE
CI_SA	CIS_DIVISION	CHAR (5)

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)

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

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.

General Ledger

The General Ledger Integration uses set based processing. This means that either all or none of the transactions in the 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.
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. After the process is successfully completed, the Distribution Status of all the rows in the Interface table is updated to 'D'.

Error Scenario	Process	Details	Resolution
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. After the process has completed successfully, the Distribution Status of the row still remains in 'N'. (does not change to 'D')
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.

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.

AP Data

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

Error Scenario	Process	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.

Customization Options

Extension Methods

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

- Pre Transformation Extension Point
- Post Transformation Extension Point
- Custom Transformations

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.

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.

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.

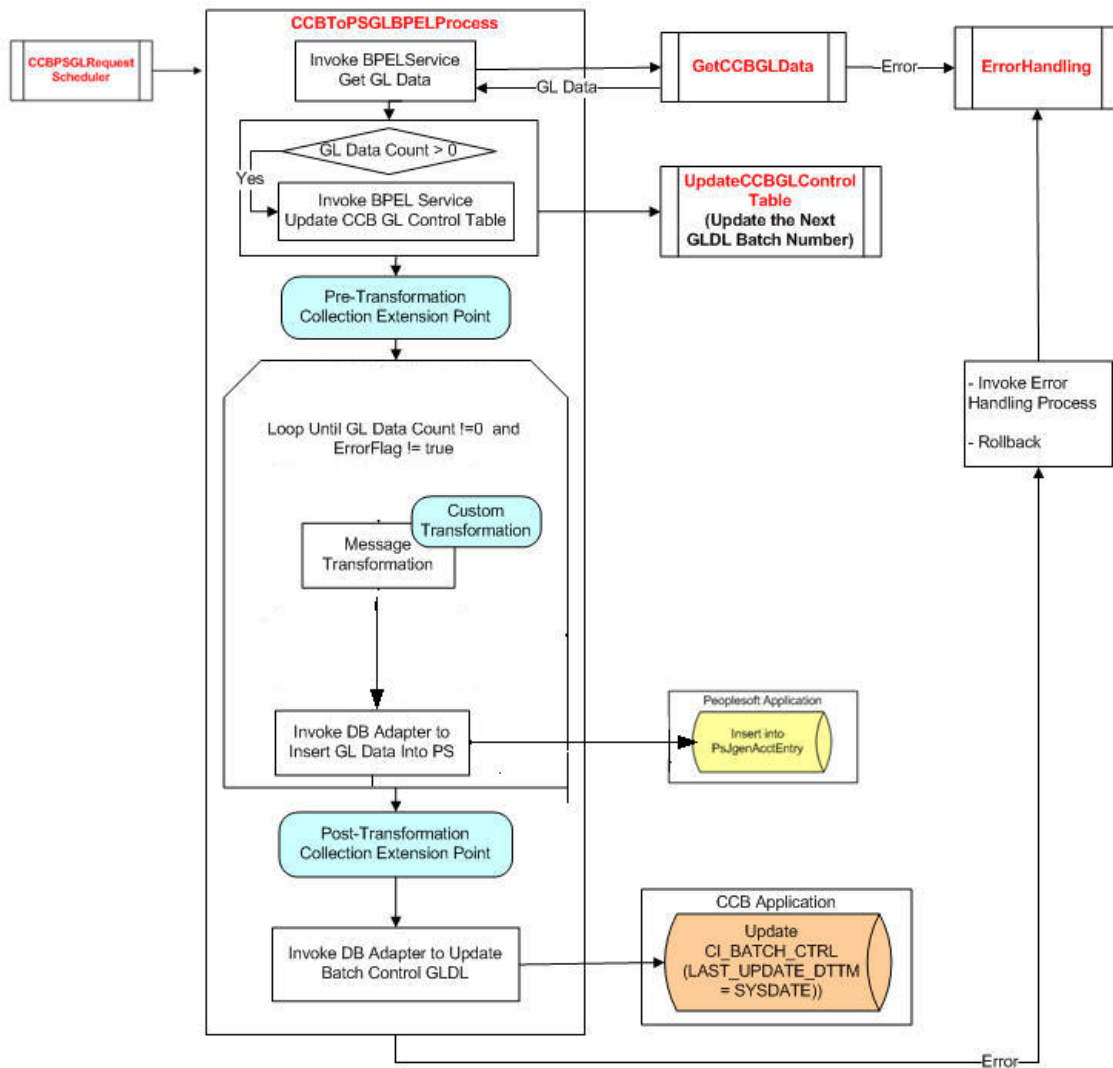
The custom elements in the Target variable are not passed to the Database Adapter but they are passed to Post Collection Extension point.

Available Extension Points

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

Integration Point	BPEL process
GL	CCBToPSGLBPELProcess
AP Data	PSToCCBAPDataBPELProcess
AP Request	CCBToPSAPBPELProcess or InsertPSVoucher

Extension Points Available in GL

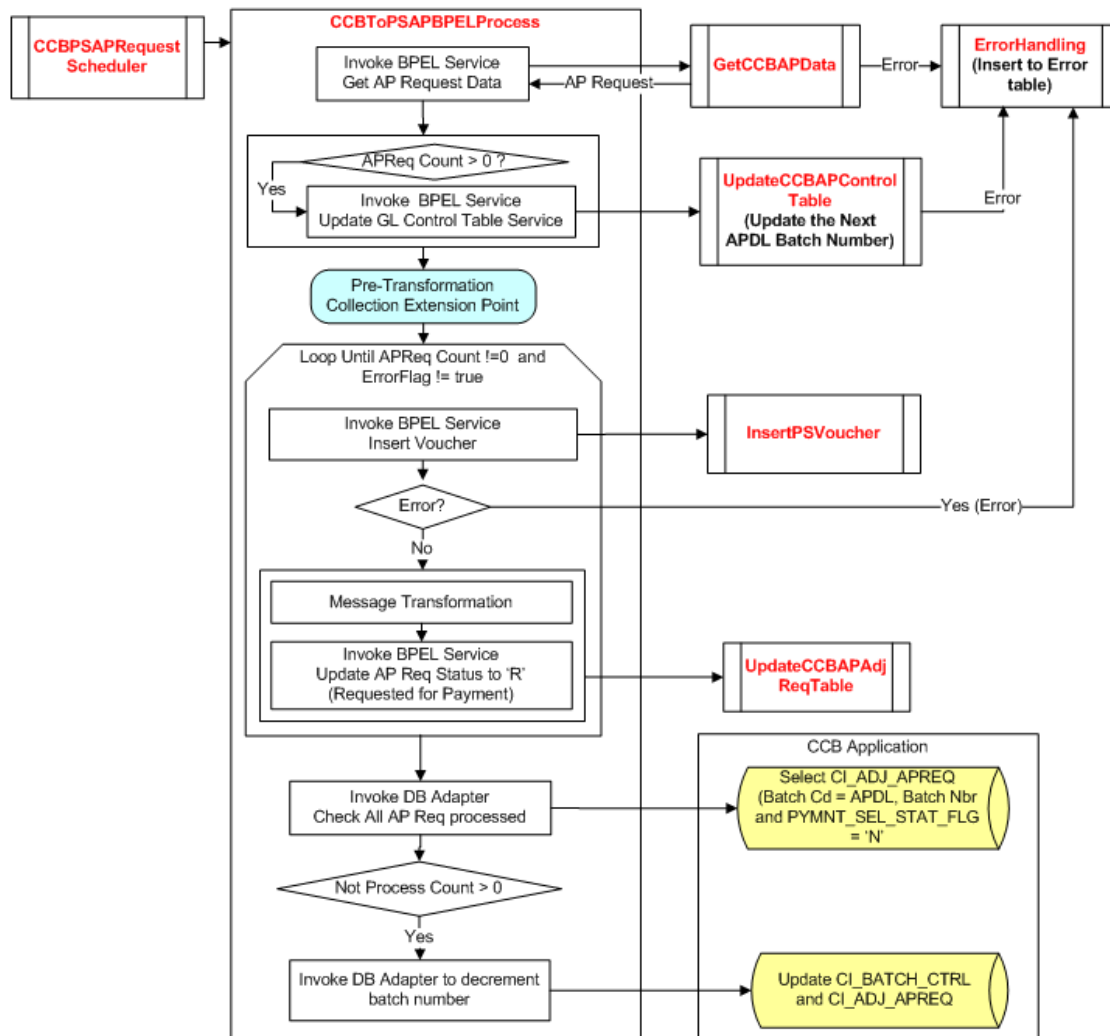


Main BPEL Process - CCBToPSGLBPELProcess

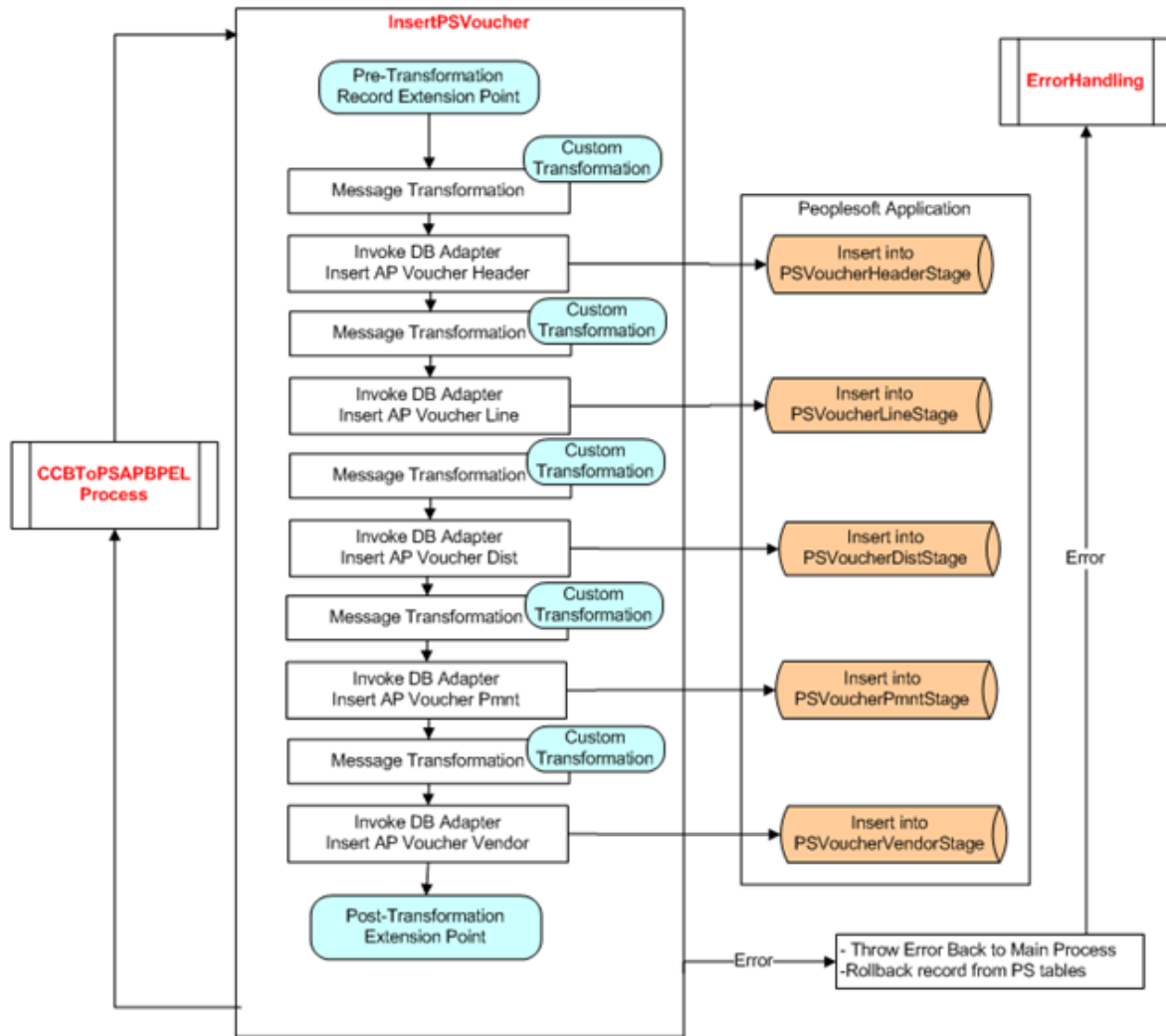
Process where extensibility options are stored:	CCBToPSGLBPPELProcess
Pre Transformation Collection Extension Point	CCB.PS.GL.XFORMCCBCOLL.PRE.EXTN.FLAG If this value defined in the integration lookup table is set to true, the pre transformation extension point is invoked at the collection level before any transformation is executed.
Post Transformation Collection Extension Point	CCB.PS.GL.AFTERPSCOLLINSERT.POST.EXTN.FLAG 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.xml; custom transformation is TransformationCCBToPSGLData_Custom.xml)

Extension Points Available in AP Request



Main BPEL Process - CCBToPSAPBPELProcess



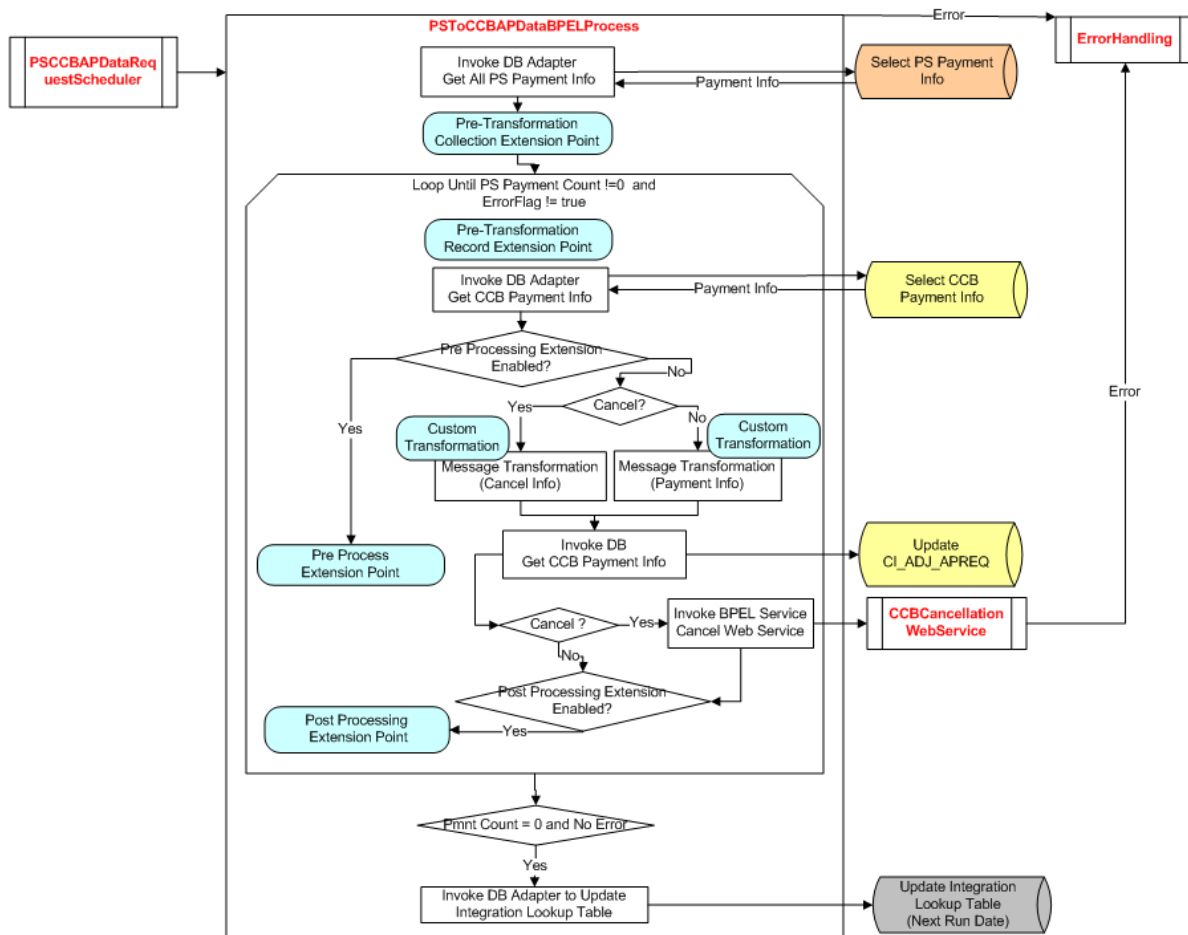
Insert Voucher BPEL Process – InsertPSVoucher

Process where extensibility options are stored:	CCBToPSAPBPELProcess InsertPSVoucher
Pre Transformation Collection Extension Point	CCB.PS.AP.XFORMCCBAPREQCOLL.PRE.EXTN.FLAG 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.AP.INSERTVOUCHER.INVOKEVOUCHER.PRE.EXTN.FLAG 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 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.xml; custom transformation is Transformation_Header_Custom.xml)

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 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 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 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	If PS.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.xml; custom transformation is Transformation_PSPaymentToCCBPayment-P_Custom.xml)

Extension Points

To implement extension points

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/CCBToPSGLBPELProcessEx
        tension/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/CCBToPSGLBPELProcessEx
          tension/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.

Custom Transformations

To implement custom transformations

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

Data Mapping

The following sections show the fields that are mapped for the integration.

GL Transaction

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

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
BUSINESS_UNIT	CHAR (5)	BUSINESS UNIT				Business Unit that sends the GL Transactions. This is left blank for 3 rd Party Data.
TRANSACTION_ID	CHAR (10)	REPORT ID	CI_FT_PROC	BATCH_NUMBER	NUMBER (10)	Identifies a Transaction. This just a cross reference back to the source system. This is the CCB GLDL Batch Number.
TRANSACTION_LINE	NBR (3)	TRANSACTION LINE				Derived from BPEL, It identifies a line within a transaction Id. 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. 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 Value = UGBUCCB

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
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 Value = UGBUCCB
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. Initial value derived by BPEL Value = 0
ACCOUNTING_PERIOD	NBR(3)	ACCOUNTING PERIOD				Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator. Initial value derived by BPEL Value = 0
JOURNAL_ID	CHAR (10)	JOURNAL ID				Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator. Initial value derived by BPEL Value = NEXT

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
JOURNAL_DATE	DATE (10)	JOURNAL DATE				Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator. Initial value derived by BPEL Value = NULL
JOURNAL_LINE	NBR(9)	GL JOURNAL LINE NUMBER				Populated by Oracle PeopleSoft Financials for General Ledger and Accounts Payable Journal Generator. Initial value derived by BPEL 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.
ALTACCOUNT	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.
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

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
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
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

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
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 to CCB field Leave the field Blank
RT_TYPE	CHAR (5)	RATE TYPE				This field is not mapped to CCB field Leave the field Blank
RATE_MULTI	SIGN NBR (7.8)	RATE MULTIPLIER				This field is not mapped to CCB field 0
RATE_DIV	NBR (7.8)	RATE DIVISOR				This field is not mapped to CCB field 0
MONETARY_AMOUNT	SIGN NBR (23.3)	MONETARY AMOUNT	CI_FT_GL	AMOUNT	NUMBER(15, 2)	Base Currency Amount
FOREIGN_AMOUNT	SIGN NBR (23.3)	FOREIGN AMOUNT				This field is not mapped to CCB field 0
STATISTIC_AMOUNT	SIGN NBR (13.2)	STATISTIC AMOUNT	CI_FT_GL	STATISTIC_AMOUNT	NUMBER(15, 2)	

Column	Data Type	Description	CCB Table	Column	Data Type	Remarks
MOVEMENT_FLAG	CHAR (1)	MOVEMENT FLAG				Defines the sign of the Amount when debit/credit options are separate Value = N
DOC_TYPE	CHAR (8)	DOCUMENT TYPE				This field is not mapped to CCB field Blank
DOC_SEQUENCE_NBR	CHAR (12)	DOCUMENT SEQUENCE NUMBER				This field is not mapped to CCB field Blank
DOC_SEQUENCE_DATE	DATE (10)	DOCUMENT SEQUENCE DATE				This field is not mapped to CCB field Null
JRNL_LINE_REF	CHAR (10)	JOURNAL LINE REFERENCE	CI_FT_PROC	BATCH_NUMBER	NUMBER (10)	Identifies the Source of the Transaction. Mapped to CCB Batch Number for reference.
LINE_DESCRIPTOR	CHAR (30)	JOURNAL LINE DESCRIPTION				Derived in BPEL. Describes a transaction.
IU_SYSTEM_TRANSACTION_CODE	CHAR (8)	SYSTEM TRANSACTION				This field is not mapped to CCB field Blank
IU_TRANSACTION_CODE	CHAR (8)	TRANSACTION CODE				This field is not mapped to CCB field Blank
IU_INTERUNIT_FLAG	CHAR (1)	INTERUNIT ANCHOR				This field is not mapped to CCB field Blank
GL_DISTRIBUTION_STATUS	CHAR (1)	DISTRIBUTION STATUS				Derived from BPEL. Value = N (Ready for Distribution).
PROCESS_INSTANCE	NBR (10)	PROCESS INSTANCE				Populated by Journal Generator Initial value Derived from BPEL. Value =0

AP Request

PS_VCHR_HDG_STG

Columns in PS_VCHR_HDG_STG	Data Type	Description	CCB 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_SEQUENCE_NUM	NUMBER (38)	Address Sequence Number	Derived from BPEL. Value = 1			
GRP_AP_ID	VARCHAR2 (10)	Control Group ID				Value = Blank
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

Columns in PS_VCHR_H DG_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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_TERM S_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			
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_DCLRPTN_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			

Columns in PS_VCHR_H DG_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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			
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			

Columns in PS_VCHR_H DG_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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_BSEDT_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			
DOC_TYPE	VARCHAR2 (8)	Document Type	Derived from BPEL. Value = Blank			
DSCNT_DUEDT	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			

Columns in PS_VCHR_H DG_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
ETRANSID	VARCHAR2 (15)	EC Transaction ID	Derived from BPEL. Value = Blank			
FRGHT_CHAR GE_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_CHAR GE_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	
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	Derived from BPEL. 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	CCB 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		

Columns in PS_VCHR_LINE_ STG	Data Type	Description	CCB Table	Columns	Data Type	Rema rks
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		
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		

Columns in PS_VCHR_LINE_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		
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		

Columns in PS_VCHR_LINE_ STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		
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		

Columns in PS_VCHR_LINE_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		
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		

Columns in PS_VCHR_LINE_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		
USER_SCHED_CHAR1	VARCHAR2 (1)	Schedule User Field		Derived from BPEL. Value = Blank		

PS_VCHR_DIST_STG

Columns in PS_VCHR_DIST_STG	Data Type	Description	CCB 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		
DISTRIB_LINE_NUM	NUMBER (38)	Distribution Line		Derived from BPEL. Value = 0		

Columns in PS_VCHR_DIST_STG	Data Type	Description	CCB 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				
DEPTID	VARCHAR2 (10)	Department				
STATISTICS_CODE	VARCHAR2 (3)	Statistics Code				
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		
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		

Columns in PS_VCHR_DIST_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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 Distrib 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		
AFFILIATE_INTRA2	VARCHAR2 (10)	Operating Unit Affiliate		Derived from BPEL. Value = Blank		

Columns in PS_VCHR_DIST_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		Derived from BPEL. 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		Derived from BPEL. 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		
OPEN_ITEM_KEY	VARCHAR2 (30)	Open Item Key		Derived from BPEL. Value = Blank		
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		

Columns in PS_VCHR_DIST_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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	CCB 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		

Columns in PS_VCHR_PYMT_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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		
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		
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	CCB Table	Columns	Data Type	Rema Rks
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)	
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		
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		

Columns in PS_VCHR_VNDR_STG	Data Type	Description	CCB Table	Columns	Data Type	Remarks
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)	

AP Data

PS AP Data table mapping to Oracle Utilities Customer Care and Billing

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_V	PYMNT_MESSAGE	VARCHAR2 (70)	

CCB Table	Columns	Data Type	Description	PS Table	Columns	Data Type	Remarks
				CHR_XREF			
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_SELECTION_STAT_FLAG	CHAR (1)	Payment Selection Status		Derived from BPEL. When PS_PAYMENT_TBL.CANCEL_ACTION=R or H then Value=C 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.

Please refer to your product documentation for further information on Oracle PeopleSoft Financials for General Ledger and Accounts Payable and Oracle Utilities Customer Care and Billing tables.

GL Integration Point

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

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

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.

PeopleSoft_VCHR_HDG_STG

PeopleSoft_VCHR_LINE_STG

PeopleSoft_VCHR_DIST_STG

PeopleSoft_VCHR_PYMT_STG

PeopleSoft_VCHR_VNDR_STG

AP Data Integration Point

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:

PeopleSoft_PAYMENT_TBL

PeopleSoft_VOUCHER

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

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 transactions 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

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 Name	Source/Value/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

Field Name	Source/Value/Description
	department. For example 101.73653.8873..87
CIS_DIVISION	The CIS Division
GL_DIVISION	The GL Division
CURRENCY_CD	The currency the amount, 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_CNTRL LAST_UPDATE_DTTM to SYSDATE WHERE BATCH_CD = 'GLDL'

AP Request Integration Point

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

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

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
Calls From	None
Inputs	None
Outputs	None
Synch/Asynch	Asynchronous

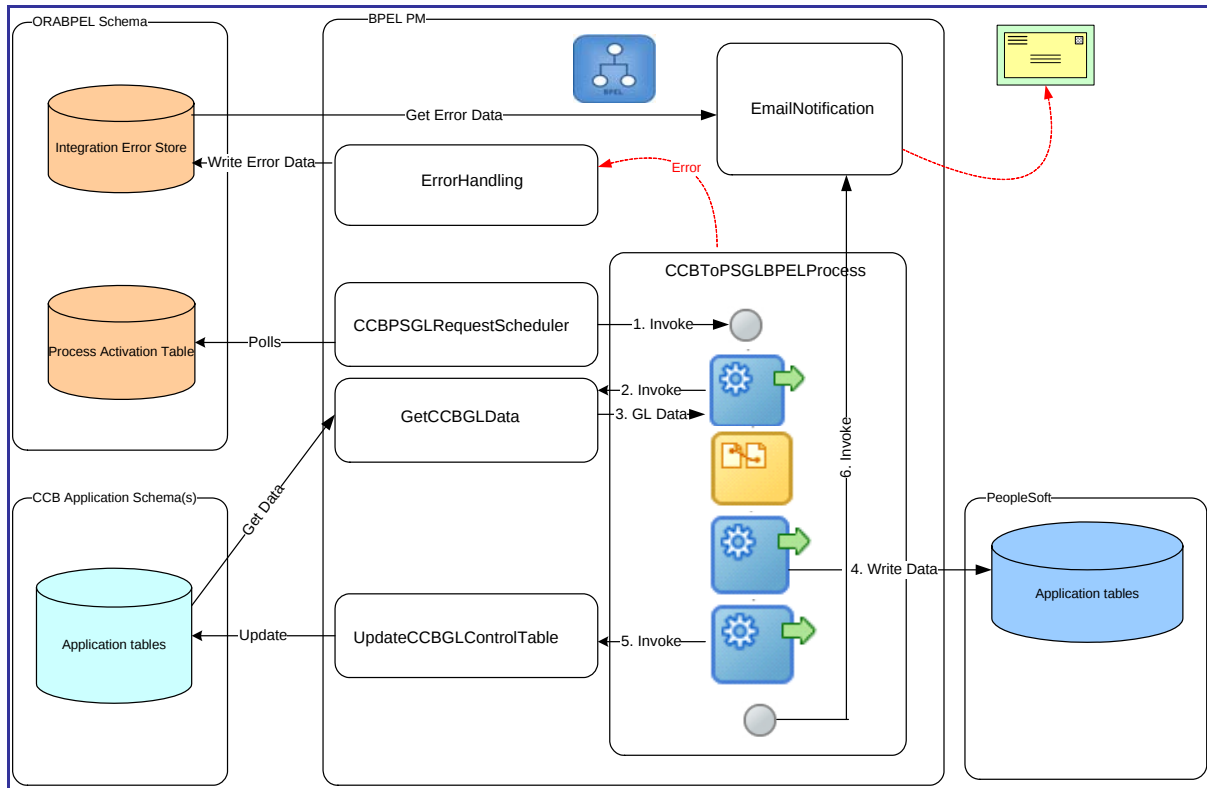
Exceptions/Errors	Possible Exceptions - None
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Process Name	CCBToPSGLBPELProcess
Description	Main process of the GL Integration. Gets the GL data from Oracle Utilities Customer Care and Billing, transforms it, and inserts it into Oracle PeopleSoft Financials 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
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	CCBPSAPRequestScheduler
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	CCBPSAPRequestScheduler
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

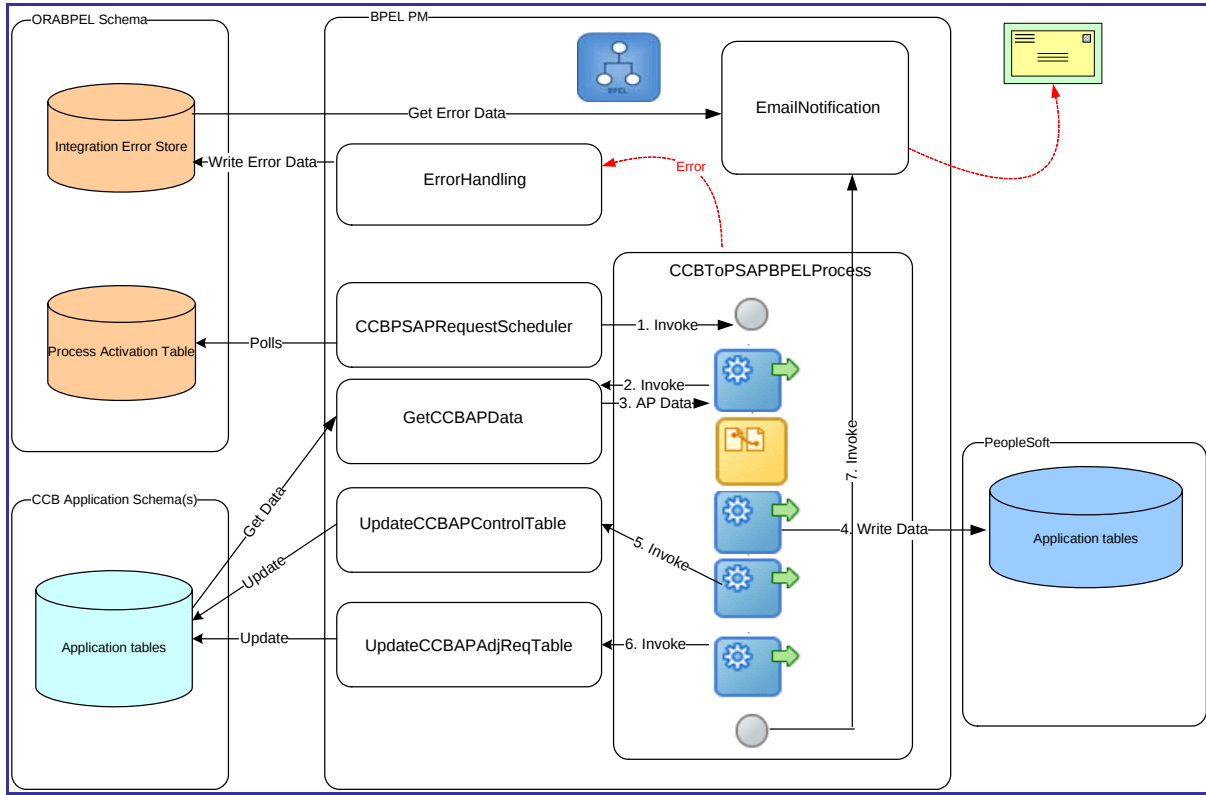
Process Name	UpdateCCBAPControlTable
Description	Updates the next batch number in the AP Batch Control table available in the Oracle Utilities Customer Care and Billing Database.
Calls To	ErrorhandlingProcess (if an error occurs).
Calls From	CCBToPSAPBPELProcess.
Inputs	None
Outputs	None
Synch/Asynch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

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

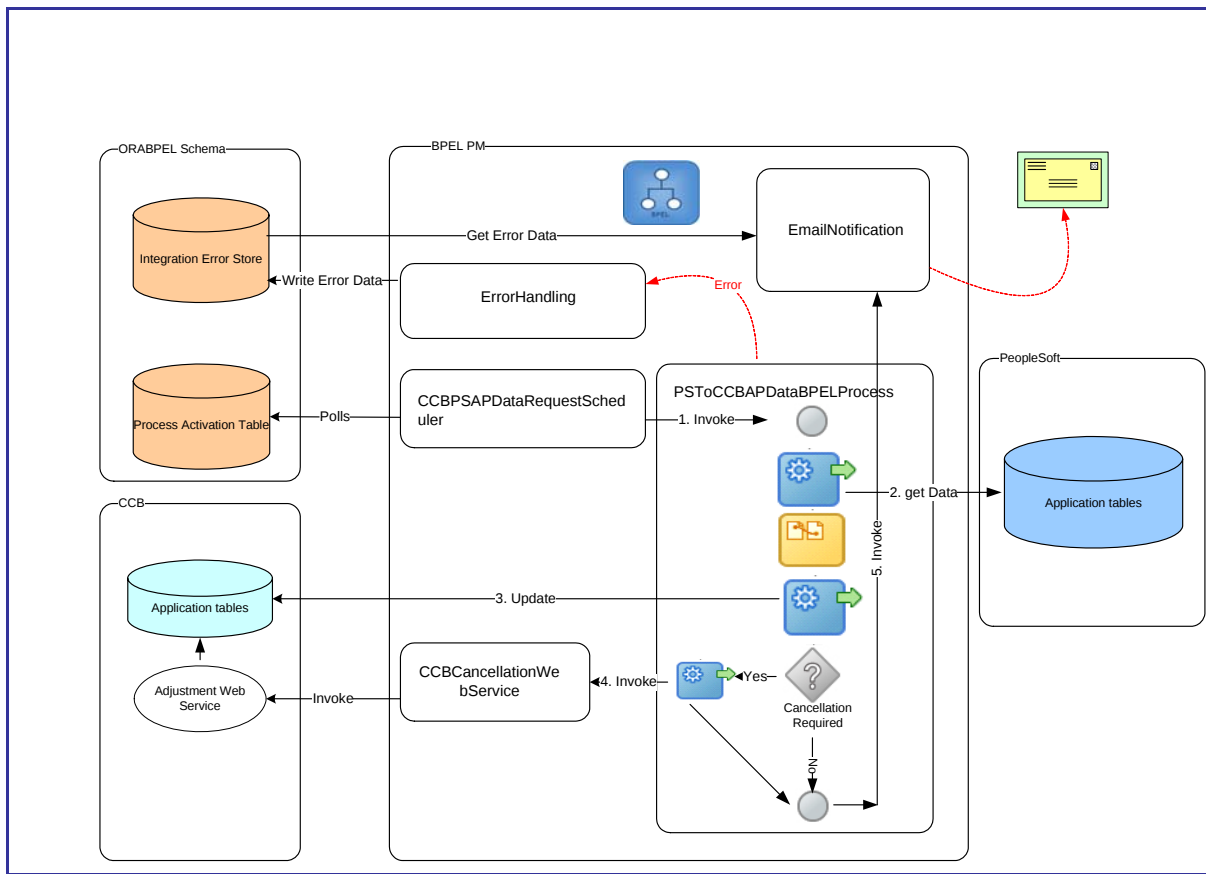
The following is the list processes that comprise the AP Data Integration between Oracle Utilities Customer Care and Billing and Oracle PeopleSoft Financials for General Ledger and Accounts Payable

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	ErrorhandlerProcess.
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, PSToCCBAPDataBPELProcess
Inputs	ErrorHandlingProcessRequest xml object
Outputs	String result
Synch/Asynch	Synchronous
Exceptions/Errors	Possible Exceptions - None

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 CCBToPSAPBPELProcess PSToCCBAPDataBPELProcess
Inputs	MailNotificationInputParameters xml object
Outputs	None
Synch/Asynch	Asynchronous
Exceptions/Errors	Possible Exceptions - None