

**Oracle® Utilities Customer Care and Billing
Integration to Oracle E-Business Suite
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 (CCB) and Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

Additional Resources

The following additional resources are available:

| Resource | Location |
|--------------------|---|
| Installation Guide | Same folder as this document with the distribution for this product. |
| Managing BPEL | http://www.oracle.com/technology/documentation/index.html |

About the Integration Product

This section provides general information about the functionality and processing of the Oracle Utilities Customer Care and Billing Integration to Oracle E-Business Suite 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 E-Business Suite Financials for General Ledger and Accounts Payable

Oracle E-Business Suite (EBS) is a resource-planning software which enforces industry best-practice controls on data input and process flows as tasks are completed within the system. Processes are separated into modules, and each module consists of a collection of forms where data is entered at each stage of the business process.

As part of the Enterprise Resource Planning functionality, Oracle E-Business Suite Financials for General Ledger and Accounts Payable offers flexible ledger architecture, consistent financial and operational information, dynamic planning, budgeting and forecasting, and multi-dimensional profitability analysis.

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 Processes

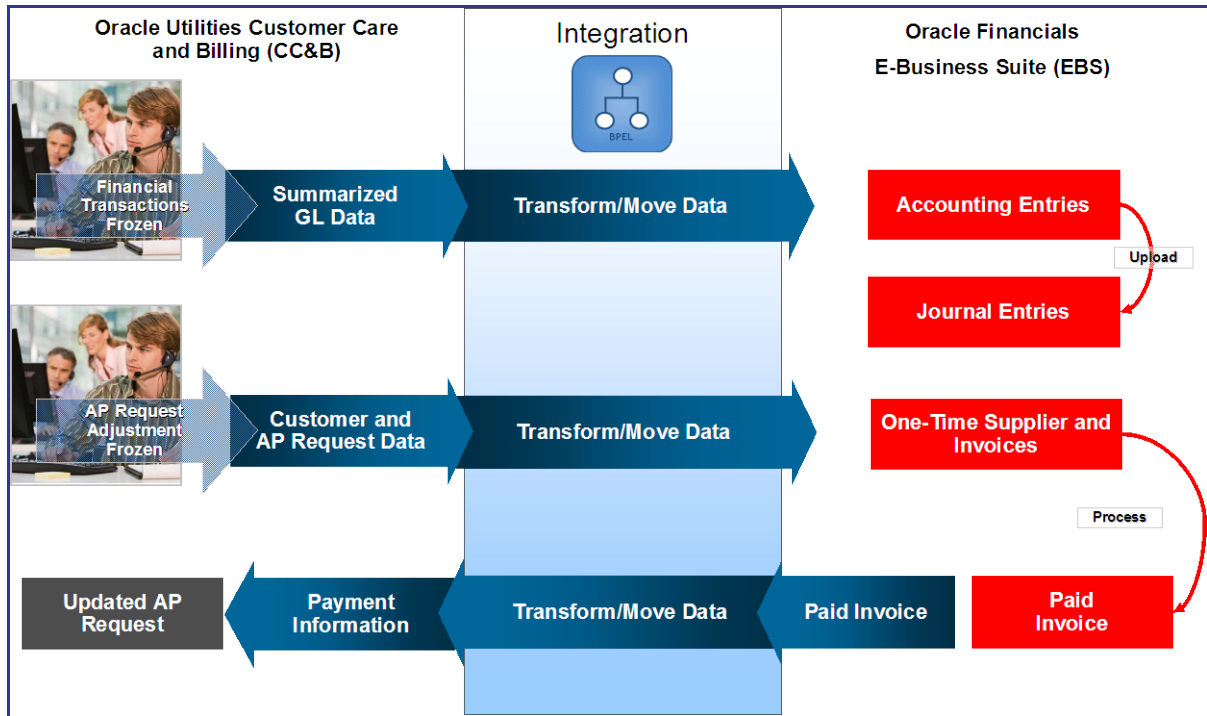
This integration of products incorporates three areas of key functionality to facilitate the transfer of information between two applications. Data is sent from Oracle Utilities Customer Care and Billing to Oracle E-Business Suite Financials for General Ledger and Accounts Payable and vice versa to support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

| Oracle Utilities Customer Care and Billing | Oracle E-Business Suite |
|--|---|
| 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 | Customer and AP Request information is used to create a one-time supplier and supplier site. An accounts payable invoice is created and associated with this supplier and supplier site. |
|--|--|

| Oracle E-Business Suite | 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 E-Business Suite 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 E-Business Suite Financials for General Ledger and Accounts Payable considered the general ledger.

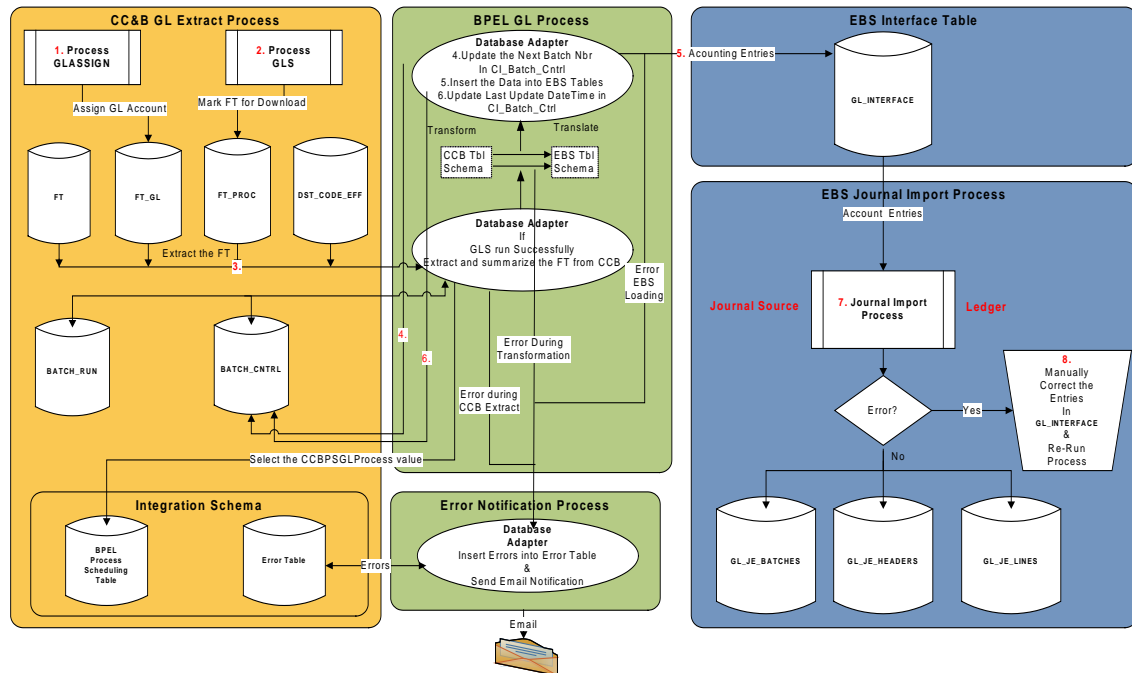
- General Ledger transactions are written in one direction; from Oracle Utilities Customer Care and Billing to Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

- 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 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 E-Business Suite Financials for General Ledger and Accounts Payable General Ledger integration table. The standard General Ledger integration table released with the Oracle E-Business Suite Financials for General Ledger and Accounts Payable product is used.
- Once the entries are created in Oracle E-Business Suite Financials for General Ledger and Accounts Payable staging tables, the journal creation, editing and posting to the ledger must be executed within Oracle E-Business Suite Financials for General Ledger and Accounts Payable. The standard Journal Import process must be executed to create the necessary journal entries within the General Ledger.

You can accomplish this by scheduling the standard Oracle E-Business Suite Financials for General Ledger and Accounts Payable Journal Import process or by manually running this process through the Standard Request Submission (SRS) provided within the Oracle E-Business Suite Financials for General Ledger and Accounts Payable product.

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

GL Process Flow Diagram



These are the steps for the GL Process flow:

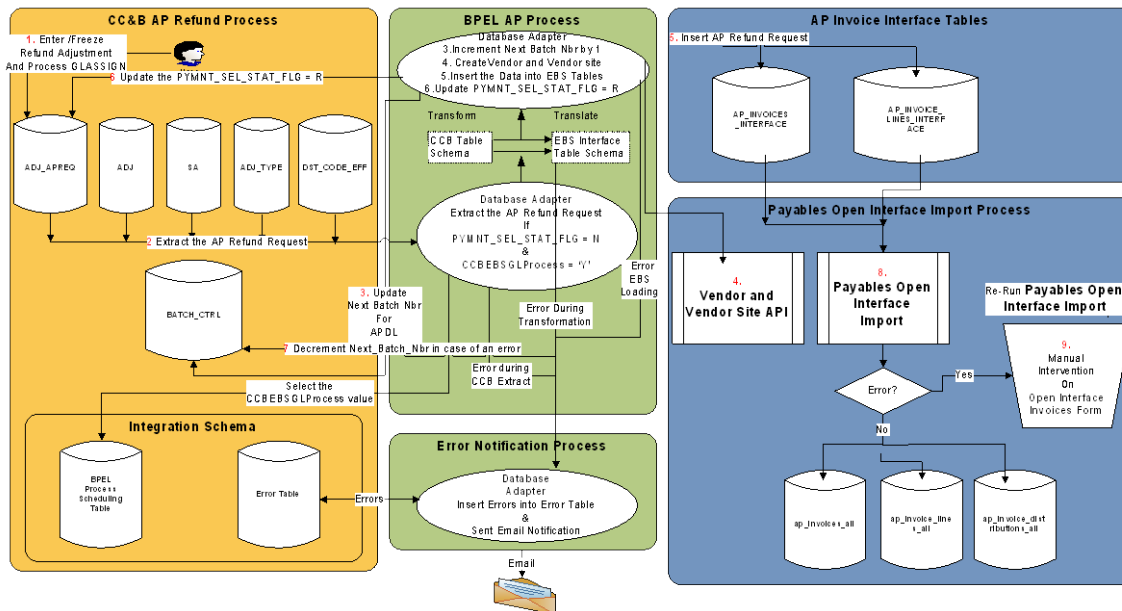
- Run GLASSIGN batch program in Oracle Utilities Customer Care and Billing.

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. BPEL process transforms and inserts the data into Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface tables.
6. 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 E-Business Suite Financials for General Ledger and Accounts Payable to import FTs.
8. Any errors in interface tables must be corrected in Oracle E-Business Suite 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 E-Business Suite Financials for General Ledger and Accounts Payable. Customer, customer account, and AP Request information is extracted from Oracle Utilities Customer Care and Billing and imported to the Oracle E-Business Suite Financials for General Ledger and Accounts Payable Payables as Invoice import information. Customer and AP Request information is used to create a one-time supplier and supplier site that is used for invoice creation.
- The integration extracts AP Requests from Oracle Utilities Customer Care and Billing where the status of the AP Request is 'N' which indicates that 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'.
- Once the customer and refund request data is loaded into Oracle E-Business Suite Financials for General Ledger and Accounts Payable by the integration product, the standard **Payables Open Interface Import (APXIIMPT)** process must be executed to create invoices. This can be accomplished using a scheduled process or by manually running the process through the standard user interface provided within the Oracle E-Business Suite Financials for General Ledger and Accounts Payable product.

Account Payable Request Process Flow Diagram



These are the steps in AP Request flow:

1. Create and Freeze an Adjustment in Oracle Utilities Customer Care and Billing and run GLASSIGN batch program.
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 invokes Vendor and Vendor Site API in Oracle E-Business Suite Financials for General Ledger and Accounts Payable to create/update Vendor and Vendor Site.
5. BPEL process transforms and inserts the data into Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface tables
6. BPEL updates the status of A/P Request in Oracle Utilities Customer Care and Billing
7. 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
8. Run Payables Open Interface Import process in Oracle E-Business Suite Financials for General Ledger and Accounts Payable to import Invoices.
9. Any errors in Interface tables must be corrected in Oracle E-Business Suite Financials for General Ledger and Accounts Payable and the Payables Open Interface Import process must be re-run.

AP Data

- AP Data transactions are written in one direction from Oracle E-Business Suite Financials for General Ledger and Accounts Payable to Oracle Utilities Customer Care and Billing.

- Payment information for system-generated checks to customers is generated and processed in Oracle E-Business Suite Financials for General Ledger and Accounts Payable and then exported to Oracle Utilities Customer Care and Billing.

This Payment information corresponds to the AP Refund Requests originally generated in Oracle Utilities Customer Care and Billing and exported to Oracle E-Business Suite Financials for General Ledger and Accounts Payable for payment processing. The 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 E-Business Suite 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 on Hold and 'X' – Cancelled.

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

| Oracle E-Business Suite Financials for General Ledger and Accounts Payable Action | Oracle Utilities Customer Care and Billing AP Request Resulting Action | Oracle Utilities Customer Care and Billing Adjustment Resulting Action |
|---|--|--|
| Payment is completed | Payment information updated and status changes to "P" for Paid | No change |
| Payment stopped 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 E-Business Suite Financials for General Ledger and Accounts Payable, the following options are available:

Re-Issue

If a check is re-issued for any reason in Oracle E-Business Suite Financials for General Ledger and Accounts Payable, the new information is sent across the integration and is updated on the AP Request in Oracle Utilities Customer Care and Billing and the AP Request status is set to 'P' indicating that the AP Request has been paid.

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

Initiate Stop/Void Hold

If a payment is stopped or 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 Oracle Utilities Customer Care and Billing is set to 'C' indicating a 'Closed' status. Only the AP Request is affected, the adjustment in Oracle Utilities Customer Care and Billing is not impacted.

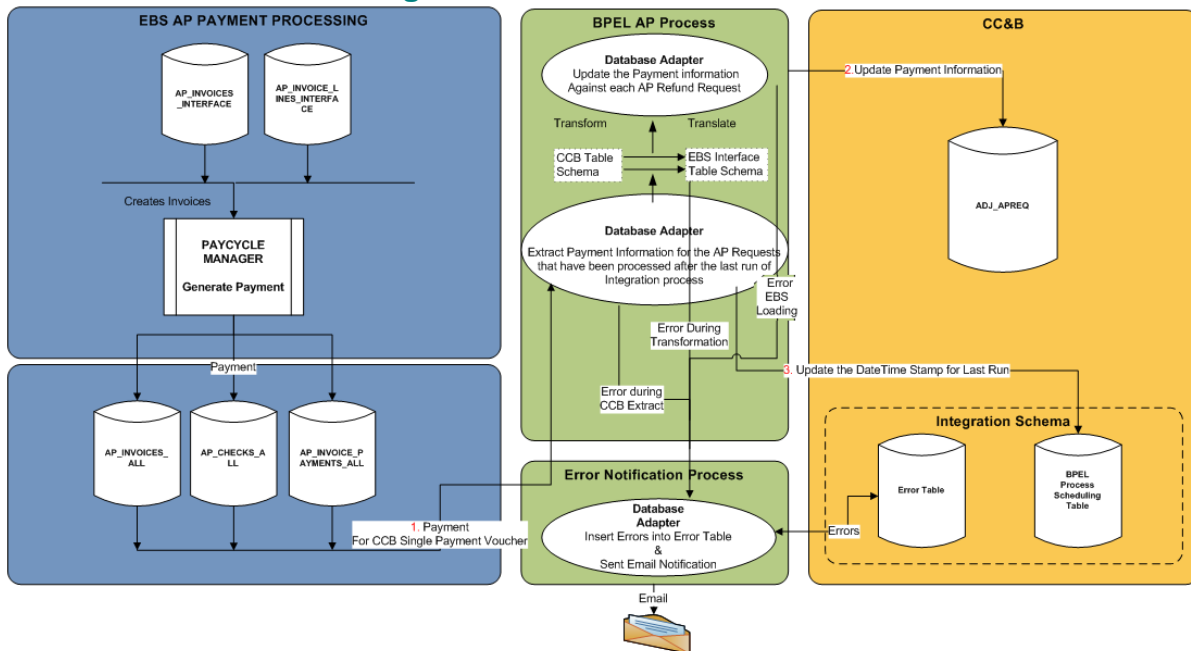
Void cancel

If the payment is void cancelled and all liability is closed, the integration cancels the AP Request and then calls an Oracle Utilities Customer Care and Billing service 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 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 algorithm 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.

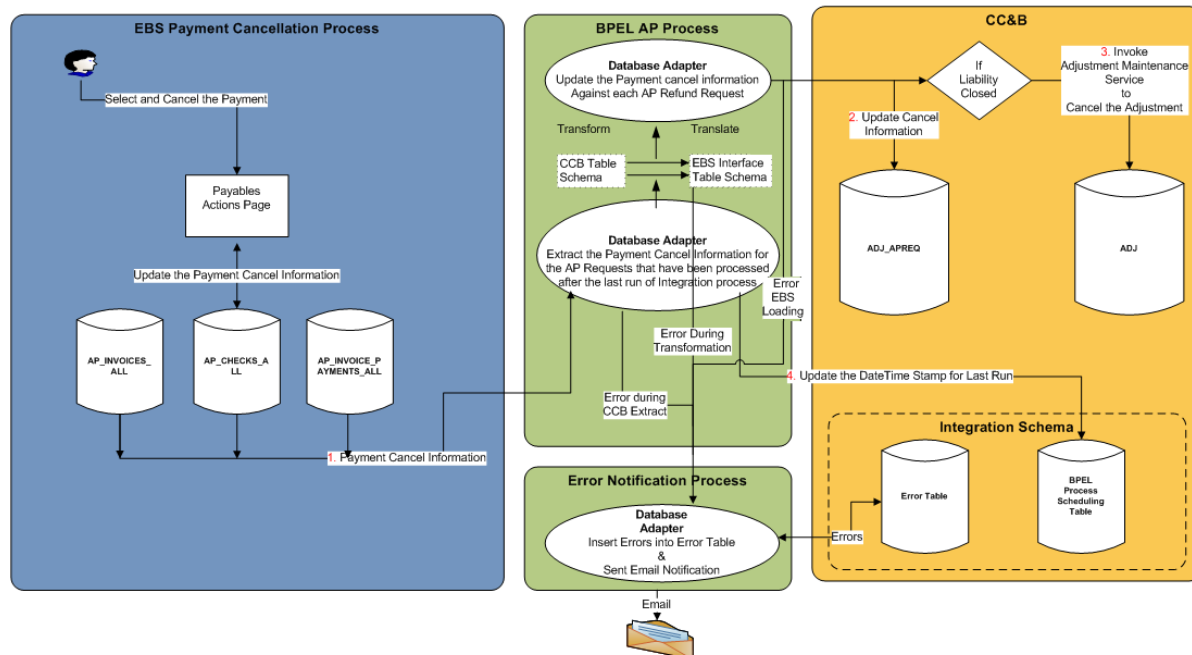
The adjustment cancellation algorithm is shipped and documented as part of standard Oracle Utilities Customer Care and Billing application software.

AP Data Process Flow Diagrams



These are the steps in AP Data process flow when a payment is made in Oracle E-Business Suite Financials for General Ledger and Accounts Payable

1. Payment is made in Oracle E-Business Suite Financials for General Ledger and Accounts Payable for Invoices originated from Oracle Utilities Customer Care and Billing.
2. BPEL process transforms and updates the Payment information in Oracle Utilities Customer Care and Billing
3. BPEL process updates the Last Run Date of the AP Data process in Integration schema.



These are the steps in the AP Data process flow when a payment is cancelled in Oracle E-Business Suite Financials for General Ledger and Accounts Payable

1. Payment is cancelled in Oracle E-Business Suite 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 Oracle Utilities Customer Care and Billing and Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

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 the two applications.

General Ledger Configuration

Oracle E-Business Suite Financials for General Ledger and Accounts Payable is the source of truth 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 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 must not be integrated to your General Ledger, you must configure a separate General Ledger Division for these transactions. You must then configure the integration product to distinguish which General Ledger Division must be integrated with the General Ledger (it ignores all others).

General Ledger Integration

Oracle E-Business Suite Financials for General Ledger and Accounts Payable accounts are structured using account segments. These are set up in your existing Oracle E-Business Suite Financials for General Ledger and Accounts Payable Flexfield according to your business practices. Oracle Utilities Customer Care and Billing distribution codes must be configured to mirror the segments in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. The segment positions are separated by dots '.' in Oracle Utilities Customer Care and Billing according to the Oracle E-Business Suite Financials for General Ledger and Accounts Payable segments defined in the Accounting Flexfield.

Create your Accounting Flexfield in the Oracle E-Business Suite Financials for General Ledger and Accounts Payable General Ledger (if it does not exist) then set up your Oracle Utilities Customer Care and Billing distribution codes to map to the General Ledger account structure using dot separators.

There is a dual use of the word "account" for the Oracle E-Business Suite general ledger accounts and the Oracle Utilities Oracle Utilities Customer Care and Billing customer billing accounts. A customer billing account is a collection of 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 E-Business Suite accounting definition of account (General Ledger Account). The Oracle Utilities Customer Care and Billing distribution code is used to map to the Oracle E-Business Suite general ledger account.

Oracle E-Business Suite Financials for General Ledger and Accounts Payable General Ledger Settings

Configure General Ledger settings in Oracle E-Business Suite Financials for General Ledger and Accounts Payable according to the following guidelines, keeping in mind that Oracle E-Business Suite Financials for General Ledger and Accounts Payable is the source of truth for the general ledger.

- **Journal Import Process:** Schedule the Journal import process to create journals from Oracle Utilities Customer Care and Billing information inserted into Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface tables by the integration software. When you configure Oracle E-Business Suite Financials for General Ledger and Accounts Payable to run this process automatically at a preset time, 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 Request Submission (SRS) within Oracle E-Business Suite Financials for General Ledger and Accounts Payable to run the Journal Import process manually.
- **Accounting Entry Definition:** If not already configured, pre-configure an Accounting Flexfield definition in Oracle E-Business Suite Financials for General Ledger and Accounts Payable to indicate the staging table where incoming accounting entries must be stored. Ensure that all mandatory fields on the staging tables are mapped.
- The integration software relies on other Oracle E-Business Suite Financials for General Ledger and Accounts Payable configuration information including: Calendars, Ledger, Journal source, Journal Category. These are usually already configured as part of your implementation. If these do not already exist, 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, keeping in mind that Oracle E-Business Suite 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 that has not been posted to the General Ledger, making them 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, ensure you have coordinated this timing with the timing of other actions done by Oracle E-Business Suite 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).
- Ensure that Distribution Codes are configured in Oracle Utilities Customer Care and Billing to properly reflect the General Ledger accounts that must be debited and credited for each type of financial transaction created.

Integration Software General Ledger Settings

As part of the technical configuration, you must configure the following information:

- E-mail address of the person who must be notified if the integration software detects and logs an error while performing the integration
- The Ledger ID, Ledger Source, and Ledger Category to use for journals in Oracle E-Business Suite Financials for General Ledger and Accounts Payable that came from Oracle Utilities Customer Care and Billing through the integration.
- If you enter an 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 E-Business Suite Financials for General Ledger and Accounts Payable GL.

If all Oracle Utilities Customer Care and Billing financial transactions must come across the integration, then do not specify 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 AP Data Integrations

Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Settings

The Oracle E-Business Suite Financials for General Ledger and Accounts Payable **Payables Open Interface Import (APXIIMPT)** must be run to read the data from the AP Invoice Interface tables and create invoices corresponding to the Oracle Utilities Customer Care and Billing AP Requests. This process can be run manually or scheduled to run at a pre-determined time.

Configuration needed for AP Request and AP Payment integrations includes:

- **Payables Open Interface Import (APXIIMPT):** Schedule this process to create AP Invoices for the Oracle Utilities Customer Care and Billing information inserted into Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface tables by the integration product software. When you configure Oracle E-Business Suite Financials for General Ledger and Accounts Payable to run this process automatically at a preset time, 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 can use the Standard Request Submission (SRS) within Oracle E-Business Suite Financials for General Ledger and Accounts Payable to run the **Payables Open Interface Import (APXIIMPT)** process manually).
- **Payment Terms Code:** Create a new payment terms code for processing the payments for Oracle Utilities Customer Care and Billing customers. These codes are used to define defaults such as when payments must be made based on the invoice date, which status must be paid, any applicable discounts, rebates and other pertinent payment information.
- **Invoice Source:** Create an Invoice Source so that all the invoices that come from Oracle Utilities Customer Care and Billing are identified with this source in Oracle E-Business Suite Financials for General Ledger and Accounts Payable system.

Refer to the Oracle E-Business Suite 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, keeping in mind that Oracle E-Business Suite 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 Operating Unit must match the AP Org Id in Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

-

Refer to the Oracle Utilities Oracle Utilities Customer Care and Billing User documentation for more information on the configuration settings referenced in this section.

Integration Software AP Settings

The integration product extracts the AP Requests that have not been processed yet from Oracle Utilities Customer Care and Billing. After the necessary translations and transformations on the Supplier/Invoice data extracted from Oracle Utilities Customer Care and Billing are applied, the data is loaded into the Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Invoice Interface tables.

This integration product requires you to configure the following:

- E-mail address of the person who must be notified if the integration software detects and logs an error while performing the AP Request and AP Data integrations.
- Oracle Utilities Customer Care and Billing characteristic type holding the Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Org ID.
- AP Invoice information required by Oracle E-Business Suite Financials for General Ledger and Accounts Payable including Vendor, Vendor Site, Invoice Source, Payment terms, Payment Method, and AP Org Id.

Accounting

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

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

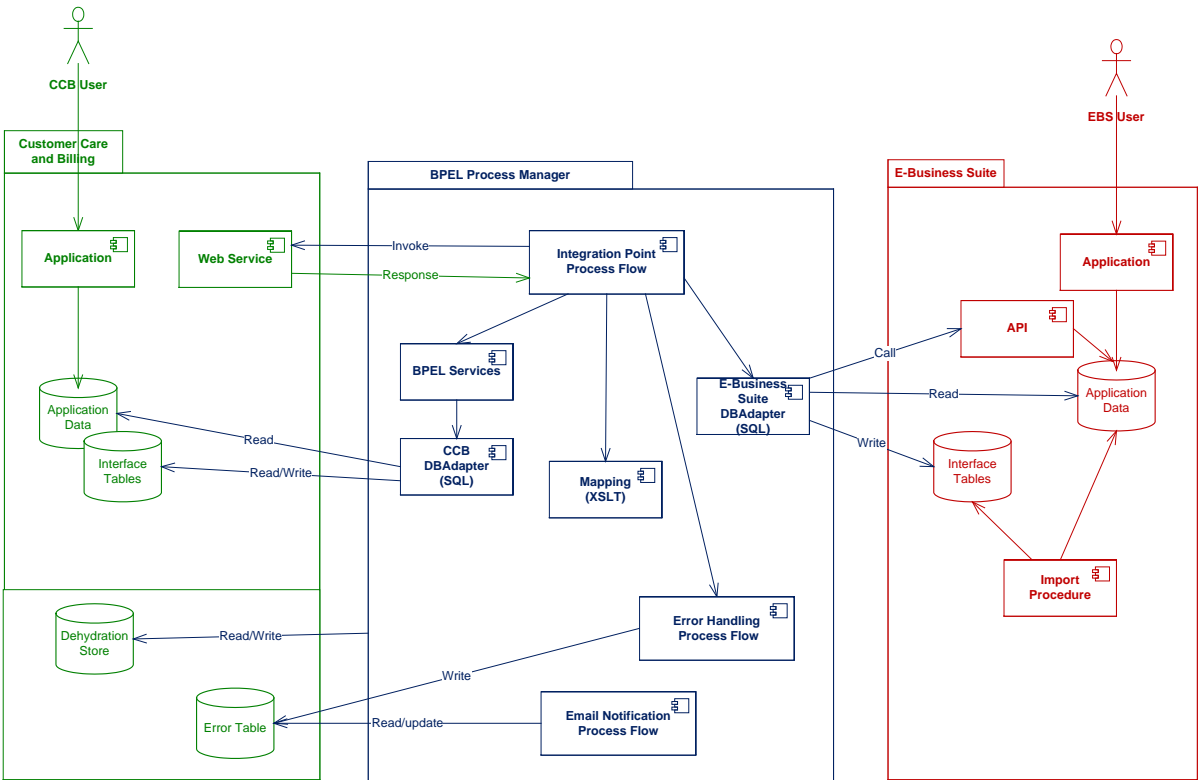
About the Integration

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

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

| Integration Process | Source System | Target System | Process | Target Table |
|---------------------|---------------|---------------|--------------------------------|---|
| General Ledger | CCB | EBS | Journal Import | GL_INTERFACE |
| AP Request | CCB | EBS | Payables Open Interface Import | AP_INVOICES_INTERFACE AP_INVOICE_LINES_INTERFACE |
| AP Data | EBS | CCB | | The appropriate AP Request within Oracle Utilities Customer Care and Billing. |



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 E-Business Suite Financials 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 E-Business Suite Financials for General Ledger and Accounts Payable Financials 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. |

| Table Name | Description |
|--------------------------------|--|
| 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 already installed all the participating applications and operating platforms. Complete and verify the following prior to starting this implementation:

- Install and configure Oracle E-Business Suite Financials for General Ledger and Accounts Payable.
- Install Oracle Utilities Customer Care and Billing, and either install the provided sample data or pre-configure the software based on the additional configuration identified in this document.
- Install and configure Oracle SOA Suite 11g and all of its prerequisite components.
- Complete and verify all installation steps identified in the installation guide for this product.

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 SQL Developer are also required to implement this product.

Configuration Check List

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

Refer to the section of this document titled [Configuring the Integration](#) for detailed steps.

Oracle E-Business Suite Financials for General Ledger and Accounts Payable Configuration

| Step | Information | Comments |
|------|-----------------------------|--|
| A1 | Accounting Flexfield | Identify and document the Accounting Flexfield to be used with the integrated data. You must decide this at the start of the integrations so all the journals are accounted and posted to these accounts. |
| A2 | Ledger Id / Set of Books ID | Document the ledger(s) to which all the accounting entries are to be created and posted. In E-Business Suite Release12, the Ledger ID is used. In Release 11.5.10, the Set of Book ID is used. |
| A3 | Journal Source | Specify the Source of the journal from which it is created. |
| A4 | Journal Category | Specify the Category to which all the journals belong. |
| A5 | Organization ID | Document the AP Operating Unit(s) to be used with the integrated data. Example: 'Vision Operations'. Derive the Organization ID with respect to the Operating Unit. Example: '204'. This is used in checklist step B3. |
| A6 | Payment Terms Code | Create or document the payment terms code(s) to be used for paying AP vouchers coming from Customer Care and Billing. Example: Net07 (CCBREFUND). |
| A7 | Invoice Source | Create the invoice source to be used in Payables Import program. Example: 'CCB' to group all invoices coming from CCB. |
| A8 | Lookup for Multi-Org setup | Populate values in INT_CCB_EBS_MORG_SETUPS lookup for Multi-Org setup. |
| A9 | Country and State Codes | Define/Identify the Country and State codes for addresses. These should match the codes in Customer Care and Billing. |
| A10 | Currency Codes | Currency Codes should match with the currency codes in Customer Care and Billing. |

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: US1. This must match the GL Division specified in step C7. |
| B2 | Distribution Codes | Configure your distribution codes. See details of required setup in this document. Example: 01.520.5250.0000.000 with '01' corresponding to Company, '520' corresponding to Department and so on. See details of all mapping segments later in this document. This needs to be set up in sync with the Oracle E-Business Suite |

| Step | Information | Comments |
|------|---|--|
| | | Financials for General Ledger and Accounts Payable Flexfield. |
| B3 | Operating Unit Characteristic Type | Configure a characteristic type to hold the value of the Operating Unit to be used. Example characteristic type: EBSORGID. This is used in checklist step D4 . The value you create in this characteristic (Example: 204) must match what you documented in step A5 . |
| B4 | Create Cancel Reason Code | Create a Cancel Reason code. This must match the Cancel Reason code specified in step E3 . |
| B5 | Link the characteristic type created in step B3 with the CIS Division | The CIS Division you are using (Example: CA) now has a characteristic type linked to it (Example: EBSORGID) that holds the name of the Org ID to use (Example: 204). |
| B6 | General Ledger Characteristic Type | Configure a characteristic type to hold the value of the General Ledger ID for E-Business Suite Release 12 or Set of Books ID for Release 11.5.10. Example characteristic type: GLEDGER. This is used in checklist step C3 . The value you create in this characteristic (Example: 1) must match what you documented in step A2 . |
| B7 | Link the characteristic type created in step B6 with the CIS Division | Add the characteristic type (Example: GLEDGER) to all CIS Divisions and specify the Ledger/Set of Books value to be used (Example: 1). |
| B8 | Payment Terms Characteristic Type | Configure a characteristic type to hold the value of the Payment Terms ID to be used when creating Invoices in E-Business Suite. This is used in checklist step D3 . The value you create in this characteristic must match what you documented in step A6 . |
| B9 | Link the characteristic type created in step B8 with the CIS Division | Add the characteristic type (Example: TERMS) to all CIS Divisions and specify the Payment Terms ID value to be used. |

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_EBS_GL | Y | 0 | 0 |
| CCB_EBS_AP | Y | 0 | 0 |

| | | | |
|----------------|---|---|---|
| CCB_EBS_APDATA | Y | 0 | 0 |
|----------------|---|---|---|

Configuration is done in the INTEGRATION_LOOKUP_TABLE except item C1 that is done in INTEGRATION_PROCESS_ACTIVATION table. 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.

Note: For more information about extensions, refer to [Customization Options section](#) in this guide.

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|------|--|--------------------|---|
| C1 | CCB_EBS_GL CCB_EBS_AP CCB_EBS_APDATA | Y Y Y | Ensure that integration points are enabled in the INTEGRATION_PROCESS_ACTIVATION table as needed. |
| C2 | CCB.EBS.GL.EMAIL | Abc.gl@xyz.com | Enter the e-mail address to be notified if errors occur in the GL integration point. Example: abc.gl@xyz.com . |
| C3 | CCB.EBS.AP.CHAR_TYPE_CD_ GLEDGERID | GLEDGER | Characteristic Type to store Ledger ID for E-Business Suite Release 12 and Set of Books ID for E-Business Suite Release 11.5.10. This must match what you documented in step B6. |
| C4 | CCB.EBS.GL. USER_JE_CATEGORY_NAME | CCB EBS | This is journal category. Example: 'CCB EBS' |
| C5 | CCB.EBS.GL. USER_JE_SOURCE_NAME | CCB EBS | This is the Journal Source. Example: 'CCB EBS' |
| C6 | CCB.EBS.GL. ACTUAL_FLAG | A | To create the Actual Journals. Example: 'A' |
| C7 | CCB.EBS.GL.GL_DIVISION | US1 or Leave Blank | 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. Examples: blank or US1. |
| C8 | CCB.EBS.GL.XFORMCCBCOLL. 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.EBS.GL.AFTEREBSCOLLIN SERT.POST.EXTN.FLAG | false | If set to true, the post transformation extension service is invoked after all the record are inserted in the E-Business Suite GL_INTERFACE table. |
| C10 | CCB.EBS.ADMIN_EMAIL | abc@oracle.com | Technical errors encountered during Error Handling are sent to this e-mail ID. |

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.

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|------|--|-------------------------|---|
| D1 | CCB.EBS.APREQUEST.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.EBS.APREQUEST.INVOICE_SOURCE | CCB | Invoice Source to use when the integration creates invoices in E-Business Suite. |
| D3 | CCB.EBS.AP.CHAR_TYPE_CD_TERMSID | TERMS_ID | Characteristic Type to store Payment Terms ID of E-Business Suite. This must match what you documented in step B8. |
| D4 | CCB.EBS.AP.CHAR_TYPE_CD_ORGID | EBSORGID | Characteristic Type to store Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Operating Unit. This must match what you documented in step B3. Example: EBSORGID. |
| D5 | CCB.EBS.APREQUEST.ORG_ID | 204 | Valid ID for Organization code in E-Business Suite to be used when integration creates vendors in E-Business Suite Release 11.5.10. For E-Business Suite Release 12, the Org ID will be retrieved from the CIS Division Characteristic value. |
| D6 | CCB.EBS.APREQUEST.PAYMENT_METHOD | CHECK | Specifies the payment method for the invoices created by the integration. The supported value is 'CHECK'. Do not modify this default value. |
| D7 | CCB.EBS.APREQUEST.DEFAULT.HEADER.DESCRPTION | Refund Request from CCB | Default Header description for Invoices in EBS |
| D8 | CCB.EBS.APREQUEST.DEFAULT.LINE.DESCRPTION | Refund Request from CCB | Default Line description for Invoices in EBS |
| D9 | CCB.EBS.APREQUEST.VENDOR.NAME.SUFFIX | ADJ_ID | The column whose value is suffixed to the vendor name when creating a supplier in EBS. Possible values are PER_ID, ACCT_ID, ADJ_ID, SA_ID, AP_REQ_ID. |
| D10 | CCB.EBS.APREQUEST.XFORMCCBCOLLECTION.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. |
| D11 | CCB.EBS.APREQUEST.XFORMCCBRECORD.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 EBS format. |

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|------|---|-------------------|---|
| D12 | CCB.EBS.APREQUEST.XFORMEBSRECORD.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 E-Business Suite Invoice Interface tables. |

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

| Step | INTEGRATION_KEY | INTEGRATION_VALUE | Comments |
|------|---|---------------------|--|
| E1 | EBS.CCB.APDATA.EMAIL | abc@oracle.com | Enter the e-mail address to be notified if errors occur in the AP Data integration point. |
| E2 | EBS.CCB.APDATA.LASTRUNDTM | 11-02-2008 10:01:01 | Last Updated time of BPEL process run. This is used to determine the payment data to be extracted and moved across the integration point. This column is updated by the integration application each time it is run. |
| E3 | EBS.CCB.CANCEL.CANCEL_REASON | APVC | Valid cancel reason code to be passed to CC&B when cancelling the adjustment associated with the AP Request. |
| E4 | EBS.CCB.APDATA.XFORMEBSPAYMENTSCOLL.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 EBS and before any transformation is done. |
| E5 | EBS.CCB.APDATA.XFORMEBSPAYMENTSRECORD.PRE.EXTN.FLAG | false | If set to true, the pre transformation extension service is invoked at the record level before transforming the EBS payment record from EBS to CCB format. |
| E6 | EBS.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 | EBS.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. |

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 |
|------|-------------|-------------|----------|
|------|-------------|-------------|----------|

| 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, refer to the troubleshooting and error correction information in this document.

Configuring the Integration

The integration between Oracle Utilities Customer Care and Billing and Oracle E-Business Suite Financials for General Ledger and Accounts Payable Financials incorporates three integration points to facilitate transfer of information between the two applications. You must complete configuring all involved products to prepare the integration product for use.

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

Oracle E-Business Suite Financials for General Ledger and Accounts Payable Configuration

Configure GL accounts (Accounting Flexfield) and other information in Oracle E-Business Suite.

Refer to your product-specific user documentation for steps to configure the GL.

GL Integration Point

As long as the Accounting Flexfield and respective segments and other GL definitions and settings (Ledger) are configured in Oracle E-Business Suite, there are no new settings required for the GL integration point.

AP Request Integration Point

Configure the Payment Terms in Oracle E-Business Suite Financials for General Ledger and Accounts Payables

To configure the Payment Terms follow the steps below:

1. Open Oracle E-Business Suite and navigate to Payables Vision Operations (USA) Responsibility. Go to **Setup > Invoice > Payment**.
2. Define the payment terms as per the table below.

| Field Label | Value |
|---------------------|--------------------------|
| Name | Net 07 |
| Description | Payment Due after 7 Days |
| Effective Date From | 01-JAN-1990 |
| % Due | 100 |
| Days | 7 |

- Capture the TERMS_ID by navigating to **Help->Diagnostics->Examine**. Change the **Field name** to 'TERM_ID'. This value must be specified in Step **A6** of the checklist.

Configure the Invoice Source in Oracle E-Business Suite Financials for General Ledger and Accounts Payables

To Configure the Invoice Source follow these steps:

- Open Oracle E-Business Suite and Navigate to Payables Vision Operations (USA) Responsibility. Go to **Setup > Lookups > Payable**.
- Search for lookup type 'SOURCE' and add a new lookup code as follows:

| Field Label | Value |
|-------------|--|
| Code | CCB |
| Meaning | Oracle Utilities Customer Care and Billing |
| Description | Oracle Utilities Customer Care and Billing |

- The Code value must be specified in Step **A7** of the checklist.

Configure the Journal Source in Oracle E-Business Suite Financials for General Ledger and Accounts Payables

To Configure the Journal Source follow these steps:

- Open Oracle E-Business Suite and Navigate to General Ledger, Vision Operations (USA) Responsibility. Go to **Setup > Journal > Sources**.
- Add a new source as follows:

| Field Label | Value |
|---------------------------|---------------------|
| Source | CCB EBS |
| Source Key | CCB EBS |
| Description | CCB EBS Journals |
| Import Journal References | Select the checkbox |

- The Source value must be specified in Step **A3** of the checklist.

Configure the Journal Category in Oracle E-Business Suite Financials for General Ledger and Accounts Payables

To Configure the Journal Category follow these steps:

1. Open Oracle E-Business Suite and navigate to General Ledger, Vision Operations (USA) Responsibility.
Go to **Setup > Journal > Categories**.
2. Add a new Category as follows:

| Field Label | Value |
|--------------|--|
| Category | CCB EBS |
| Category Key | CCB EBS |
| Description | Oracle Utilities Customer Care and Billing |

The Category value must be specified in Step **A4** of the checklist.

Configure the Lookup for Multi-Org setup in Oracle E-Business Suite Financials for General Ledger and Accounts Payables

User and Responsibility are required to set the Org Context in the pl/sql procedure to create a Supplier and Site.

To setup the values in the Lookup follow these steps:

1. Open Oracle E-Business Suite and navigate to Applications Developer Responsibility.
Go to **Application > Lookups > Common**.
2. Search for **INT_CCB_EBS_MORG_SETUPS** Lookup Type:

| Code | Meaning | Comments |
|-------------------|-----------------------------------|--|
| INT_USER | OPERATIONS | Provide the User Name |
| INT_PAYABLES_RESP | Payables, Vision Operations (USA) | Provide the Payables Responsibility Name |

AP Data Integration Point

No configuration is required in Oracle E-Business Suite Financials for General Ledger and Accounts Payable for this integration point. Standard application tables are used for selecting data from Oracle E-Business Suite 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.

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

If you decide to integrate the financial transactions for a specific GL Division in Oracle Utilities Customer Care and Billing to E-Business Suite, identify the GL Division. This value must be specified in Step C7 of the check list.

Configure Distribution Codes

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

The following table shows a sample configuration of one distribution code. 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. |

| Field Label | Value | Comments |
|-------------|----------------------|---|
| GL Account | 01.520.5250.0000.000 | Input the GL Account String as explained below. |

The distribution code links the GL Account to activities. As in the example above, a bill payment receives the code R-ELERES so that this revenue for electric residential service is applied to the account 01.520.5250.0000.000. The Algorithm, GLCNST-DFLT provides the hook which allows the integration to get the GL Account from the distribution code and recognize it in Oracle E-Business Suite to the correct GL Journal entry.

GL Account String

Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL accounts are structured using account segments. These are set up in your existing Oracle E-Business Suite Financials for General Ledger and Accounts Payable system according to your business practices.

Oracle Utilities Customer Care and Billing GL Account positions must be configured to mirror the segments & values in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. The segment positions are fixed in Oracle Utilities Customer Care and Billing so that the first segment is Company, the second segment is Department ID, and so on, as shown in the following table.

| Oracle E-Business Suite Financials for General Ledger and Accounts Payable Account Column name | Oracle Utilities Customer Care and Billing Distribution (GL_ACCT) segment position |
|--|---|
| Company | Position1 |
| Department | Position 2 |
| Account | Position 3 |
| Sub-Account | Position 4 |
| Product | Position 5 |

As you configure the segments, separate each with a dot (.).

Example

A sample GL Account string is 01.520.5250.0000.000

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

- Company - 01
- Department - 520
- Account - 5250
- Sub-Account - 0000
- Product -000

Please refer to the data mapping table for details on how the segments must be mapped.

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.

Configure the General Ledger ID Characteristic Type

For each CIS Division used in Oracle Utilities Customer Care and Billing, you must configure a Characteristic Value to have the General Ledger ID to be used in Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL.

1. Create a Characteristic Type.

Admin Menu>>C>>Characteristic Type

The value for this characteristic type stores the value of the Ledger ID for Release 12.0 or Set of Books ID for Release 11.5.10 in Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

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

| Field Label | Value | Comments |
|--------------------------|-------------------|---|
| Characteristic Type | GLEDGER | The code associated with your characteristic type. |
| Description | General Ledger ID | 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 | xxx | |

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

| 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 are used.

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 | GLEDGER | The characteristic type you created above. |
| Characteristic Value | xxx | The characteristic value created above. |

AP Request Integration Point

Language to fetch the Adjustment Description

The language to be used to fetch the Adjustment Description will be obtained from the Account's Main Person's Language Preference.

Configure the AP Operating Unit Characteristic Type

For each CIS Division used in Oracle Utilities Customer Care and Billing, you must configure a Characteristic Value to have the AP Operating Unit to be used in Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL.

Complete the following configuration in Oracle Utilities Customer Care and Billing to reference the AP Operating 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 E-Business Suite Financials for General Ledger and Accounts Payable Org ID. In this example it is EBSORGID. Add the Org ID of Oracle E-Business Suite Financials for General Ledger and Accounts Payable as a Characteristic value.

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

| Field Label | Value | Comments |
|--------------------------|---|---|
| Characteristic Type | EBSORGID | The code associated with your characteristic type. This will be used in future steps. |
| Description | EBS Org ID | 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 | 204 | The name of the Oracle E-Business Suite Financials for General Ledger and Accounts Payable Org ID to be used. |
| Description | Oracle E-Business Suite Financials for General Ledger and Accounts Payable Operating Unit | |

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

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

- Attach the Characteristic Type, created above, to any CIS Divisions that are 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. |
| Characteristic Type | Oracle E-Business Suite Financials for General Ledger and Accounts Payable Org ID | The characteristic type you created above. |
| Characteristic Value | Example: 204 | The value you gave to the characteristic type created above. |

Configure the Payment Terms ID Characteristic Type

For each CIS Division used in Oracle Utilities Customer Care and Billing, you must configure a Characteristic Value to have the Payment Terms ID to be used in Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL.

- Create a Characteristic Type.

Admin Menu>>C>>Characteristic Type

The value for this characteristic type stores the value of the Payment Terms ID in Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

- Set up the details on the Characteristic Type as follows:

| Field Label | Value | Comments |
|--------------------------|------------------|---|
| Characteristic Type | TERMS_ID | The code associated with your characteristic type. |
| Description | Payment Terms ID | 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 | xxx | Payment Terms ID in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |

- Select the Characteristic Entities tab to allow the Characteristic Type to be associated with the CIS Division:

| 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 are used for AP Request Adjustments.

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. |
| Characteristic Type | TERMS_ID | The characteristic type you created above. |
| Characteristic Value | xxx | The characteristic value created above. |

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

AP Data Integration Point

Configure Adjustment Cancel Reason

Create the Adjustment Cancel Reason to be used when cancelling an adjustment. This value must be specified in Step E3 of the checklist.

1. Create an Adjustment Cancel Reason

Admin Menu>>A>>Adjustment Cancel Reason

2. Provide the Cancel Reason and Description

AP payment data is extracted from Oracle E-Business Suite Financials 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 in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. The service uses the cancel reason specified in the Integration 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 2.2.0 and later.

You must 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 | Adjustment Maintenance | 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 | Adjustment Maintenance | 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 the integration. 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 do not plan to use.

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 | RUN_FREQUENCY | NEXT_RUN_INTERVAL |
|--------------|---------------|---------------|-------------------|
|--------------|---------------|---------------|-------------------|

| | (Y/N) | (Seconds) | (System Use) |
|----------------|-------|-----------|--------------|
| CCB_EBS_GL | Y | 0 | 0 |
| CCB_EBS_AP | Y | 0 | 0 |
| EBS_CCB_APDATA | Y | 0 | 0 |

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

Lookup Table

The database table INTEGRATION_LOOKUP_TABLE contains configurable parameters used in the integration for the GL, AP Data, and AP Request integration points. The values for these parameters must be set to match your configuration of Oracle Utilities Customer Care and Billing and Oracle E-Business Suite Financials for General Ledger and Accounts Payable.

Note: The INTEGRATION_PROCESS_ACTIVATION and INTEGRATION_LOOKUP_TABLE tables are created in the integration schema, during installation, for the BPEL processes to access these tables.

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 Oracle Utilities Customer Care and Billing product. You may schedule the Oracle E-Business Suite Financials for General Ledger and Accounts Payable processes using the standard tools shipped with the Oracle E-Business Suite Financials for General Ledger and Accounts Payable product. You may schedule the BPEL processes to the time intervals you have configured. Each of the main BPEL processes that form this process integration have been designed to check if data that must be extracted exists. 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 6:00 A.M. each weekday. 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 E-Business Suite Standard Request Submission (SRS).

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 two minutes from the time you start them the first time. If data exists the integration is completed for the integration point. Otherwise, the system does nothing and tries again two minutes later.

If you wish to extend the time between runs, 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 two minutes so you cannot schedule the runs in less than two 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_EBS_GL | Y | 14400 | 0 |
| CCB_EBS_AP | Y | 7200 | 0 |
| EBS_CCB_APDATA | Y | 7200 | 0 |

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

Every two 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 E-Business Suite Financials for General Ledger and Accounts Payable.

| Product | Process Name | Description |
|---------|----------------------------|--|
| CCB | GLASSIGN | Assigns GL account numbers to the GL details associated with financial transactions by referencing the distribution code that calls the appropriate assignment algorithm. |
| CCB | 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 | CCBToEBSGLBPELProcess | Extracts financial transactions from Oracle Utilities Customer Care and Billing into BPEL to be transformed and prepared for upload to Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |
| EBS | EBS Journal Import Process | Reads the staged data in the GL_INTERFACE Interface Table and creates journal entries in the Oracle E-Business Suite Financials for General Ledger and Accounts Payable 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 E-Business Suite Financials for General Ledger and Accounts Payable.

| Product | Process Name | Description |
|---------|-----------------------|---|
| BPEL | CCBToEBSAPBPELProcess | Extracts AP Requests from Oracle Utilities Customer Care and Billing into BPEL to be transformed and prepared for upload to Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |

| | | |
|-----|---|--|
| EBS | Payables Open Interface Import (APXIIMPT) | Creates Invoices in Oracle E-Business Suite Financials for General Ledger and Accounts Payable |
|-----|---|--|

AP Data

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

| Product | Process Name | Description |
|---------|---------------------------|--|
| BPEL | EBSToCCBAPDataBPELProcess | Extracts all payments and cancellations 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.

Setting up Security

Follow these steps to enable security for connecting to Oracle Utilities Customer Care and Billing from SOA11g middleware:

1. Login to the WebLogic EM console using admin username and password.
2. Expand **WebLogic Domain** and right click **soa_domain --> Security --> Credentials**
3. Select **Create Map** and enter **oracle.wsm.security** as the MAP name.
4. Click **OK**.
5. Select the newly created oracle.wsm.security map then click **Create Key**.
This opens a pop-up window where you can select oracle.wsm.security MAP.
6. Enter the Key name as **OU_CCB_01**.
Key name must be set to this value or else the authentication fails.
7. From the dropdown select **Type as Password**.
User Name and Password must be valid ID 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 CI_FT table that must be sent to Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL 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. Run the GLS process.
5. Invoke the GL Integration Point process from Oracle BPEL Process Manager or wait for its next run to occur. The package does 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 E-Business Suite financials for General Ledger and Accounts Payable.
6. Use the Oracle E-Business Suite GL Journal import Process to load the GL data into the Oracle E-Business Suite financials for General Ledger and Accounts Payable GL base tables.

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. Run the GLASSIGN process to assign the Account Number to the FT in CI_FT.
3. Invoke the Oracle BPEL Integration Point Process to extract the AP Request Information, and the corresponding customer information from Oracle Utilities Customer Care and Billing, transform it, and load it into Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Invoice Interface tables.

4. Run the Payables Open Interface Import (APXIIMPT) in Oracle E-Business Suite Financials for General Ledger and Accounts Payable to create Invoices from the AP Check Request and Customer data that is staged in the Invoice Interface tables.

AP Data Integration Point

1. Generate a payment in Oracle E-Business Suite Financials for General Ledger and Accounts Payable Payables for an Invoice 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 E-Business Suite 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 E-Business Suite Financials for General Ledger and Accounts Payable Payables.
4. Invoke the Oracle BPEL Process Manager process to update the AP Check Request table (CI_ADJ_APREQ) with the Payment Information from Oracle E-Business Suite Financials for General Ledger and Accounts Payable. This cancels the AP Request and adjustment.

Troubleshooting

If your integration is configured properly and your data is entered correctly into Oracle Utilities Customer Care and Billing and Oracle E-Business Suite Financials for General Ledger and Accounts Payable, you must not experience errors related to the integration. The following sections address some 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 in the Integration 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 email to the corresponding email 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 email address corresponding to the GL interface. After the email 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. Navigate to SOA → right click **soa-infra** → **SOA Administration** → **Workflow Notification Properties**
3. On this screen select **E-mail** from the drop down.
4. Provide the e-mail IDs in the **From** address field.

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 Oracle Utilities Customer Care and Billing batch processes have successfully completed. |
| Errors occurring during the execution of the journal generator | Oracle E-Business Suite 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 must 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 either 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; however, the error notification process, if configured, notifies the user by e-mail of the error and the error details. The layout of the error table INTEGRATION_ERROR_STORE is shown below:

| COLUMN | DATA TYPE |
|-----------------------|-----------------|
| SOURCE_SYSTEM | VARCHAR2 (3) |
| INT_BATCH_NUMBER | NUMBER |
| INTERFACE_NAME | VARCHAR2 (30) |
| BPEL_INSTANCE_ID | NUMBER |
| ERROR_CODE | VARCHAR2(400) |
| 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 email.

GL Integration Point

If errors occur during the extraction of Financial Transactions from Oracle Utilities Customer Care and Billing tables or during loading these transactions into Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL_INTERFACE table, BPEL inserts the error into INTEGRATION_ERROR_STORE.

The following business data is stored in the ERROR_MESSAGE field of INTEGRATION_ERROR_STORE. This information is included in the notification email.

| 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

If errors occur during the extraction of Financial Transactions from Oracle Utilities Customer Care and Billing tables or during loading these transactions into Oracle E-Business Suite Financials for General Ledger and Accounts Payable Invoice Interface tables, BPEL inserts the error into INTEGRATION_ERROR_STORE.

The following business data is stored in the ERROR_MESSAGE field of INTEGRATION_ERROR_STORE. This information is included in the notification email.

| TABLE | COLUMN | DATA TYPE |
|--------------|-----------|-----------|
| CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) |

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

AP Data Integration Point

The following business data is stored in the ERROR_MESSAGE field of INTEGRATION_ERROR_STORE. This information is included in the notification email.

| TABLE | COLUMN | DATA TYPE |
|-----------------|-------------------------|----------------|
| AP_CHECKS_ALL | CHECK_NUMBER | NUMBER (15) |
| | CHECK_ID | NUMBER (15) |
| | CHECK_DATE | DATE |
| | AMOUNT | NUMBER |
| | BANK_ACCOUNT_NUM | VARCHAR2 (30) |
| AP_INVOICES_ALL | INVOICE_NUM | VARCHAR2 (50) |
| | PAYMENT_REASON_COMMENTS | VARCHAR2 (240) |
| | INVOICE_ID | NUMBER (15) |
| | VENDOR_ID | NUMBER (15) |
| | VENDOR_SITE_ID | NUMBER (15) |

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 |
|----------------|---------|---------|------------|
|----------------|---------|---------|------------|

| 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 will resume 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 a batch are successful.

| Error Scenario | Process | Details | Resolution |
|--|--------------|--|--|
| Data failed to insert in the Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface table. | BPEL Process | If one row fails to insert into the Oracle E-Business Suite 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 email. | 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 Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface table, but data has errors. | EBS Process | If the integration process completes successfully and data is inserted into the Oracle E-Business Suite 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 Oracle E-Business Suite Financials for General Ledger and Accounts Payable and load the journal voucher using the online tools provided in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |
| Journal Generator process cannot complete successfully. | EBS Process | When the Journal Generator process encounters errors, the error status/reason associated with the Journal Generator process is also identified in the Oracle E-Business Suite 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'. | Correct the information directly in Oracle E-Business Suite Financials for General Ledger and Accounts Payable and load the journal voucher using the online tools provided in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |

| Error Scenario | Process | Details | Resolution |
|---|-----------------|--|--|
| Journal Generator process completes successfully with bad data. | EBS 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 Oracle E-Business Suite Financials for General Ledger and Accounts Payable and load the journal voucher using the online tools provided in Oracle E-Business Suite 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'. |
| Row of bad data in Oracle E-Business Suite Financials for General Ledger and Accounts Payable interface table does not get picked up. | EBS Process | The Journal Generator process does not error out and the row of bad data in the Oracle E-Business Suite 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 Oracle E-Business Suite Financials for General Ledger and Accounts Payable. 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 E-Business Suite Financials for General Ledger and Accounts Payable, the Accounting information is incorrect. | Since the source of truth is Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL, the user needs to correct the Accounting Structure in the Oracle Utilities Customer Care and Billing distribution code using information from the Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL. |
| Wrong GL Operating Unit | CCB | The financial information being sent to Oracle E-Business Suite Financials for General Ledger and Accounts Payable has the wrong Operating Unit associated with it. | Correct the GL Division setup in Oracle Utilities Customer Care and Billing to match the GL Operating Unit in Oracle E-Business Suite Financials for General Ledger and Accounts Payable. |

AP Request

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

| Error Scenario | Process | Details | Resolution |
|----------------|---------|---------|------------|
|----------------|---------|---------|------------|

| 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 is 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 email is 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 Data in Oracle E-Business Suite Financials for General Ledger and Accounts Payable staging table and the process fails. | EBS Process | All the data is successfully inserted into the Oracle E-Business Suite Financials for General Ledger and Accounts Payable Interface tables, but there is an error while running the Invoice build process. | Load the Invoices directly into Oracle E-Business Suite Financials for General Ledger and Accounts Payable and resolve any incorrect data. |
| Error Data in Oracle E-Business Suite Financials for General Ledger and Accounts Payable staging table and the process does not fail. | EBS Process | Oracle E-Business Suite Financials for General Ledger and Accounts Payable Invoice Build process ends successfully but the Invoices are in recycle status. | Load the Invoices directly in Oracle E-Business Suite Financials for General Ledger and Accounts Payable 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 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. It aids in the transformation of the target xml that is input into the target system.

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 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

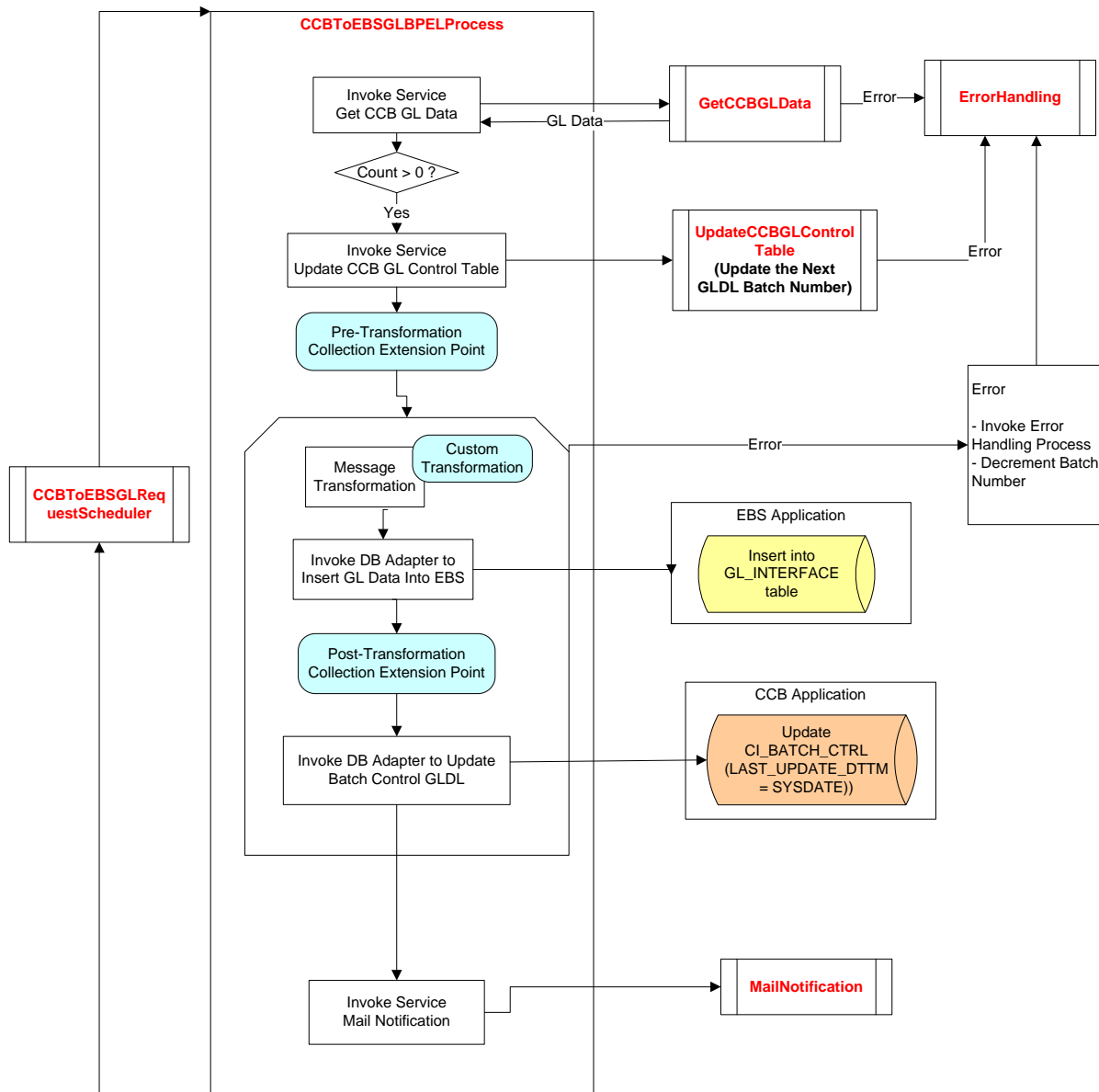
This integration has placeholders for custom elements in the incoming schema and outgoing schema at record level. When querying data into incoming message, the custom elements will be empty. This can be populated through the Extension points.

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

Extension Points Available in GL



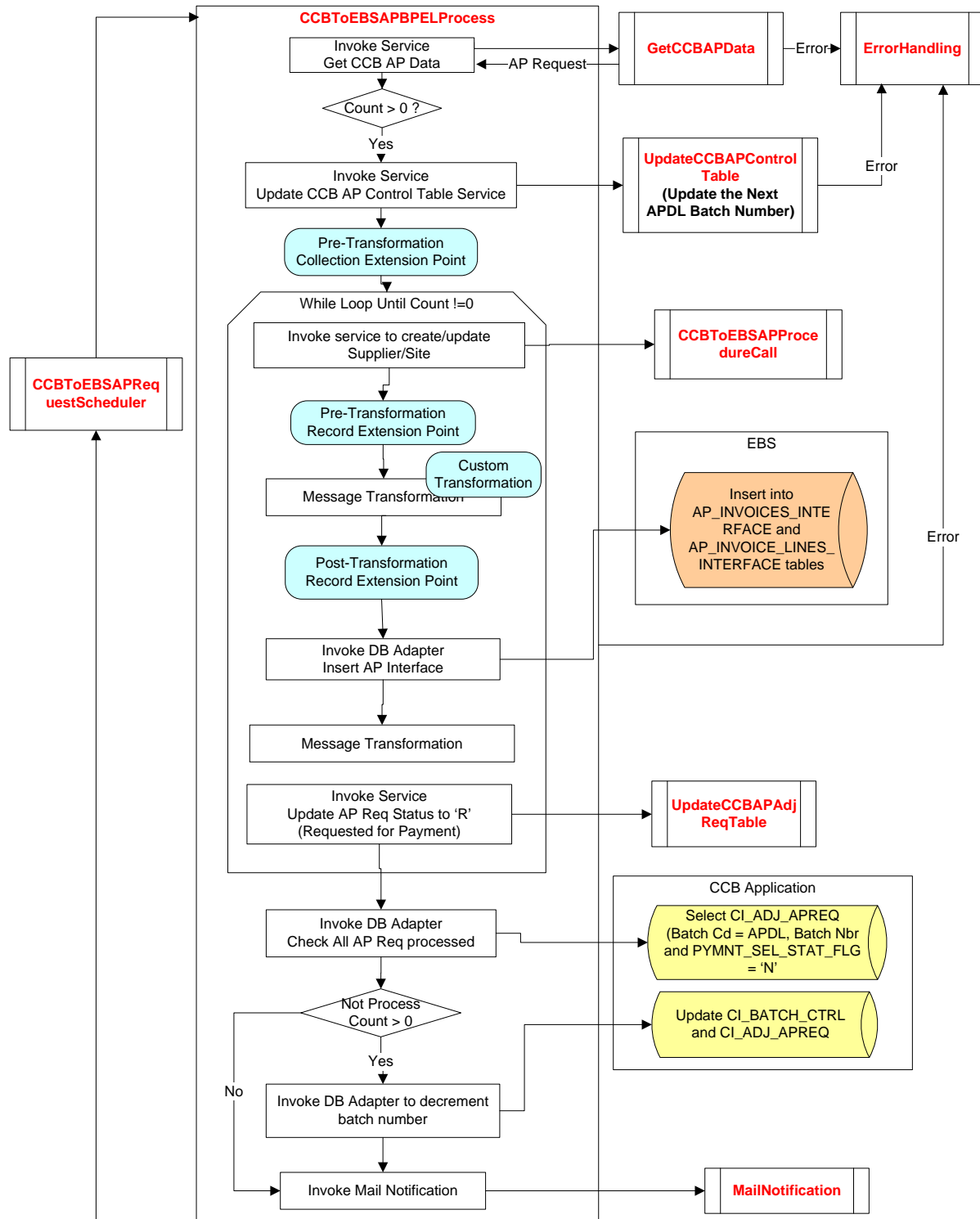
Main BPEL Process - CCBToEBSGLBPPELProcess

| | |
|---|------------------------|
| Process where extensibility options are stored: | CCBToEBSGLBPPELProcess |
|---|------------------------|

| | |
|--|---|
| Pre Transformation Collection Extension Point | CCB.EBS.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.EBS.GL.AFTEREBSROLLINSERT.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 inserted into the GL_INTERFACE table in EBS. |

- 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 GL_INTERFACE table in Oracle E-Business Suite Financials for General Ledger and Accounts Payable that are still unmapped.
- The main transformation invokes the custom transformation. (Example: main transformation is TransformationCCBToEBSGLData.xsl; custom transformation is TransformationCCBToEBSGLData_Custom.xsl)

Extension Points Available in AP Request

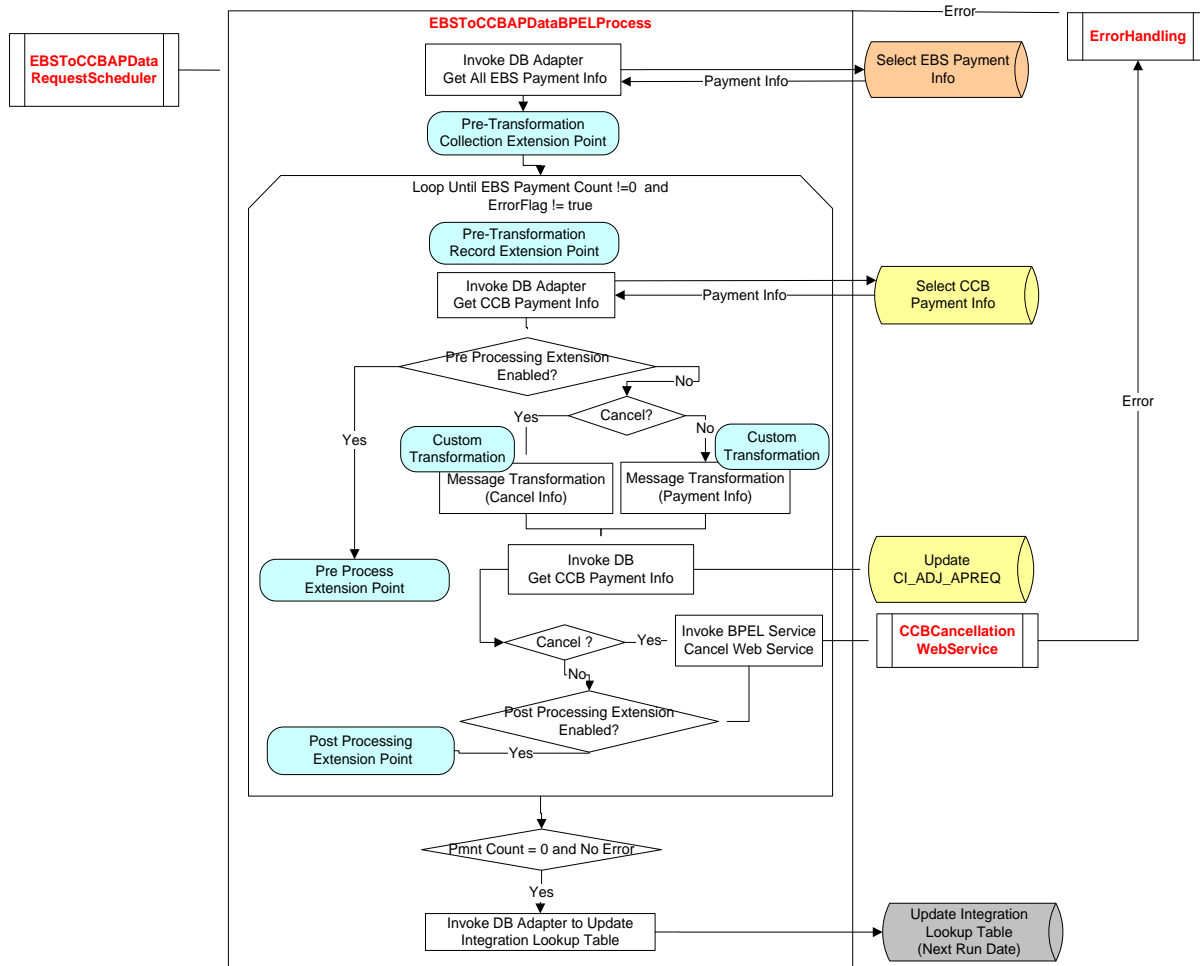


Main BPEL Process - CCBToEBSAPBPELProcess

| | |
|--|--|
| Process where extensibility options are stored: | CCBToEBSAPBPPELProcess |
| Pre Transformation Collection Extension Point | CCB.EBS.AP.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. |
| Pre Transformation Record extension point | CCB.EBS.APREQUEST.XFORMCCBRECORD.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 E-Business Suite Financials for General Ledger and Accounts Payable format. |
| Post Transformation Record extension point | CCB.EBS.APREQUEST.XFORMEBSRECORD.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 AP record coming from Oracle Utilities Customer Care and Billing is transformed to the EBS format but before inserting into the AP_INVOICES_INTERFACE table in EBS. |

- The custom transformation is used to map elements from the Adjustment AP Request tables in Oracle Utilities Customer Care and Billing to fields in the Oracle E-Business Suite Invoice Interface tables that are still unmapped.
- The main transformation invokes the equivalent custom transformation. (Example: main transformation is TransformationCCBPaymentTOEBSInvoice.xsl; custom transformation is TransformationCCBPaymentTOEBSInvoice_Custom.xsl)

Extension Points Available in AP Data



Main BPEL Process – EBSToCCBAPDataBPELProcess

| | |
|---|---|
| Process where extensibility options are stored: | EBSToCCBAPDataBPELProcess |
| Pre Transformation Collection Extension Point | EBS.CCB.APDATA.XFORMEBSPAYMENTSCOLL.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 | EBS.CCB.APDATA. XFORMEBSPAYMENTSRECORD.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 EBS is transformed to the CCB format. |
| Pre Processing extension point | EBS.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 instead of updating the CCB AP Request table or calling the CCB service to Cancel the Adjustment. |

| | |
|---------------------------------|---|
| Post Processing extension point | EBS.CCB.APDATA.PROCESSPAYMENTINFO.POST.EXTN.FLAG If this value defined in the integration lookup table is set to true, the post processing extension point is invoked after the CCB AP Request table is updated and the CCB service is called if the payment was cancelled. |
|---------------------------------|---|

- The custom transformation is used to map elements coming from the Oracle E-Business Suite table to fields in the CCB Adjustment AP Request table that are still unmapped.
- The main transformation invokes the equivalent custom transformation.

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 needs to be added to the concrete wsdl in the product install home at CCB_EBS_INSTALL_HOME/MDS-Artifacts/MetaData/ExtensionServiceLibrary and the wsdl needs to be updated in MDS.
5. These concrete wsdl files are located in MDS under the directories /apps/CCB-EBS/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 CCBToEBSAPBPPELProcess add the binding and service elements to the CCBToEBSAPBPPELProcessExtensionConcrete.wsdl

```
<binding name="CCBToEBSAPBPPELProcessV1ExtensionServiceSOAP11Binding"
  type="tns:CCBToEBSAPBPPELProcessV1ExtensionService">
  <soap:binding style="document"
    transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="PreXformCollectionCCBtoEBS">
    <soap:operation style="document"

soapAction="http://xmlns.oracle.com/CCBToEBSAPBPPELProcess/CCBToEBSAPBPPELProcessExtension/V1/PreXformCollectionCCBtoEBS"/>

    <input>
      <soap:body use="literal" parts="CollectionCCBtoEBS"/>
    </input>
    <output>
      <soap:body use="literal" parts="CollectionCCBtoEBS"/>
    </output>
    <fault name="fault">
      <soap:fault name="fault" use="literal"/>
    </fault>
  </operation>
  <operation name="InvokeInsertInvoiceExt">
    <soap:operation style="document"

soapAction="http://xmlns.oracle.com/CCBToEBSAPBPPELProcess/CCBToEBSAPBPPELProcessExtension/V1/InvokeInsertInvoiceExt"/>

    <input>
      <soap:body use="literal" parts="EBSRecord"/>
    </input>
    <output>
      <soap:body use="literal" parts="EBSRecord"/>
    </output>
    <fault name="fault">
      <soap:fault name="fault" use="literal"/>
    </fault>
  </operation>
</binding>
```



```
<service name="CCBToEBSAPBPPELProcessV1ExtensionService">

  <port name="CCBToEBSAPBPPELProcessV1ExtensionService"

    binding="tns:CCBToEBSAPBPPELProcessV1ExtensionServiceSOAP11Binding">

      <soap:address location="http://xyz.us.oracle.com:0000/soa-
infra/services/default/APReqExtensionService/CCBToEBSAPBPPELProcessV1ExtensionService"/>

    </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".

Example for SOA Suite 11g:

In the Custom BPEL process' composite xml, add the `bpel.config.transaction` property set to "Required" into the `bpel` component.

```
<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" must be attached to the service and "oracle/Utilities_wss_http_token_client_policy_OPT_ON" must be attached to all the references of the custom BPEL process invoked from the Extension Points.

Custom Transformations

To implement custom transformations

9. 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.
10. Each xsd has a corresponding CustomType xsd in which the complexType elements for each customElements tag are defined.
11. 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.
12. The custom xsd files are located in the product install home under the directories
CCB_EBS_INSTALL_HOME/MDS-Artifacts/MetaData/ApplicationObjectLibrary/OUCCB/V1/schemas and
CCB_EBS_INSTALL_HOME/MDS-Artifacts/MetaData/ApplicationObjectLibrary/EBS/schemas/
13. The custom elements in the incoming message can be populated through the Extension points.

14. Each transformation file has a corresponding Custom xsl, and standard and custom templates are defined in the Custom xsl.
15. Each transformation invokes the standard and custom templates at the record level.
16. 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 E-Business Suite DB Adapter Table schema or vice versa.
17. The Custom xsl has a custom template to map custom elements.
18. The custom xsl files are located in the product install home under the directory
CCB_EBS_INSTALL_HOME/services/industry/Utilities/EnterpriseBusinessFlow/<Process
Name>/xsl
19. 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: GetCCBAPData.xsd

EBS Schema: InsertIntoEBSAPInvoiceInterfaceTable_table.xsd

To modify the AP Request integration process to map GEO_CODE from CCB to Oracle E-Business Suite.

Modify TransformationCCBPaymentTOEBSInvoice_Custom.xsl

```
<xsl:template name="ApInvoicesInterface_customElements">
  <xsl:template name="CiAdjApreq_standardElements">
    <ns0:attribute1>
      <xsl:value-of
select="/ns1:GetCCBAPDataProcessResponse/ns1:result/ns2:SelectCCBAPRecordsWithTemplate
Output/ns2:B.GEO_CODE"/>
    </ns0:attribute1>
  </xsl:template>
  <xsl:template name="CiAdjApreq_customElements">
    <!-- Customers add transformations for custom elements here -->
  </xsl:template>
</xsl:stylesheet>
```

Appendix

Data Mapping

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

GL Transaction

Oracle E-Business Suite 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 |
|-----------------------------------|---------------|---|-----------|---------------|-----------|--|
| STATUS | VARCHAR2 (50) | Journal Import status (Required field) | | | | 'NEW', for all new transactions |
| LEDGER_ID (Release 12) | NUMBER | Ledger defining column | | | | Derived from BPEL Identifies the account ledger to use for posting Value = 1 (Corresponds to 'Vision Operations (USA)' Ledger Name) |
| SET_OF_BOOKS_ID (Release 11.5.10) | | | | | | |
| ACCOUNTING_DATE | DATE | Effective date of the transaction (Required) | CI_FT | ACCOUNTING_DT | DATE | Date used by GL to define the accounting period into which the Financial Transaction is booked. |
| CURRENCY_CODE | VARCHAR2 (15) | Currency (Required) | CI_FT | CURRENCY_CD | CHAR (3) | |
| DATE_CREATED | DATE | Standard Who column (Required) | | | | Derived from BPEL Value = sysdate |
| CREATED_BY | NUMBER | Standard Who column (Required) | | | | Value = -1 |
| ACTUAL_FLAG | VARCHAR2 (1) | Balance type (actual, budget, or encumbrance)(Required) | | | | 'A' |
| USER_JENTRY_CATEGORY_NAME | VARCHAR2 (25) | Journal entry category user defined name (Required) | | | | 'CCB EBS' |
| USER_JENTRY_SOURCE_NAME | VARCHAR2 (25) | Journal entry source user defined name (Required) | | | | 'CCB EBS' |

| Column | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-------------------------------|---------------|-------------------------------------|-----------|---------------------|----------------|--|
| CURRENCY_CONVERSION_DATE | DATE | Date of exchange rate | | | | Leave blank |
| ENCUMBRANCE_TYPE_ID | NUMBER | Encumbrance type defining column | | | | |
| BUDGET_VERSION_ID | NUMBER | Budget version defining column | | | | |
| USER_CURRENCY_CONVERSION_TYPE | VARCHAR2 (30) | Type of exchange rate | | | | |
| CURRENCY_CONVERSION_RATE | NUMBER | Foreign currency exchange rate | | | | Leave blank |
| AVERAGE_JOURNAL_FLAG | VARCHAR2 (1) | Average journal flag | | | | |
| ORIGINATING_BAL_SEGMENT_VALUE | VARCHAR2 (25) | Originating balancing segment value | | | | |
| SEGMENT1 | VARCHAR2 (25) | COMPANY | CI_FT_GL | GL_ACCT Position1 | Varchar2 (254) | Use dot (.) as the delimiter to extract this information from the GL_Acct. 2 dots (..) indicate skip or null. |
| SEGMENT2 | VARCHAR2 (25) | DEPARTMENT | CI_FT_GL | GL_ACCT Position 2 | Varchar2 (254) | |
| SEGMENT3 | VARCHAR2 (25) | ACCOUNT | CI_FT_GL | GL_ACCT Position 3 | Varchar2 (254) | |
| SEGMENT4 | VARCHAR2 (25) | SUB-ACCOUNT | CI_FT_GL | GL_ACCT Position 4 | Varchar2 (254) | |
| SEGMENT5 | VARCHAR2 (25) | PRODUCT | CI_FT_GL | GL_ACCT Position 5 | Varchar2 (254) | |
| SEGMENT6 | VARCHAR2 (25) | PROGRAM CODE | CI_FT_GL | GL_ACCT Position 6 | Varchar2 (254) | |
| SEGMENT7 | VARCHAR2 (25) | ALTERNATE ACCOUNT | CI_FT_GL | GL_ACCT Position 7 | Varchar2 (254) | |
| SEGMENT8 | VARCHAR2 (25) | PROJECT | CI_FT_GL | GL_ACCT Position 8 | Varchar2 (254) | |
| SEGMENT9 | VARCHAR2 (25) | AFFILIATE | CI_FT_GL | GL_ACCT Position 9 | Varchar2 (254) | |
| SEGMENT10 | VARCHAR2 (25) | FUND AFFILIATE | CI_FT_GL | GL_ACCT Position 10 | Varchar2 (254) | |

| Column | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-----------|---------------|--------------------------|-----------------|---------------------|----------------|--|
| SEGMENT11 | VARCHAR2 (25) | OPERATING UNIT AFFILIATE | CI_FT_GL | GL_ACCT Position 11 | Varchar2 (254) | |
| SEGMENT12 | VARCHAR2 (25) | BUDGET REFERENCE | CI_FT_GL | GL_ACCT Position 12 | Varchar2 (254) | |
| SEGMENT13 | VARCHAR2 (25) | CHARTFIELD1 | CI_FT_GL | GL_ACCT Position 13 | Varchar2 (254) | |
| SEGMENT14 | VARCHAR2 (25) | CHARTFIELD2 | CI_FT_GL | GL_ACCT Position 14 | Varchar2 (254) | |
| SEGMENT15 | VARCHAR2 (25) | CHARTFIELD3 | CI_FT_GL | GL_ACCT Position 15 | Varchar2 (254) | |
| SEGMENT16 | VARCHAR2 (25) | FUND CODE | CI_DST_CODE_EFF | FUND_CD | Varchar2 (12) | Only used when fund accounting is enabled in Oracle Utilities Customer Care and Billing. |
| SEGMENT17 | VARCHAR2 (25) | Key flexfield segments | | | | Derived from BPEL Leave blank |
| SEGMENT18 | VARCHAR2 (25) | | | | | |
| SEGMENT19 | VARCHAR2 (25) | | | | | |
| SEGMENT20 | VARCHAR2 (25) | | | | | |
| SEGMENT21 | VARCHAR2 (25) | | | | | |
| SEGMENT22 | VARCHAR2 (25) | | | | | |
| SEGMENT23 | VARCHAR2 (25) | | | | | |
| SEGMENT24 | VARCHAR2 (25) | | | | | |
| SEGMENT25 | VARCHAR2 (25) | | | | | |
| SEGMENT26 | VARCHAR2 (25) | | | | | |
| SEGMENT27 | VARCHAR2 (25) | | | | | |
| SEGMENT28 | VARCHAR2 (25) | | | | | |

| Column | Data Type | Descripti on | CCB Table | Column | Data Type | Remarks |
|------------------|-------------------|--|--------------|--------|-------------------|---|
| SEGMENT29 | VARCHAR2 (25) | | | | | |
| SEGMENT30 | VARCHAR2 (25) | | | | | |
| ENTERED_D R | NUMBER | Transaction debit amount, entered currency | CI_FT_GL | AMOUNT | NUMBE R (15,2) | Base Currency Amount Leave blank if the Amount is negative |
| ENTERED_C R | NUMBER | | | | | Leave blank if the amount is positive |
| ACCOUNTED _DR | NUMBER | | | | | Base Currency Amount Leave blank if the Amount is negative |
| ACCOUNTED _CR | NUMBER | | | | | Leave it Bank if the Amount is Positive |
| TRANSACTION_DATE | DATE | Date of transaction | | | | Leave blank |
| PERIOD_NAME | VARCHAR2 (15) | Accounting period | | | | Leave blank |
| REFERENCE1 | VARCHAR2 (100) | Journal Import reference columns. | | | | Leave blank |
| REFERENCE2 | VARCHAR2 (240) | | | | | |
| REFERENCE3 | VARCHAR2 (100) | | | | | |
| REFERENCE4 | VARCHAR2 (100) | | | | | |
| REFERENCE5 | VARCHAR2 (240) | | | | | |
| REFERENCE6 | VARCHAR2 (100) | | | | | |
| REFERENCE7 | VARCHAR2 (100) | | | | | |
| REFERENCE8 | VARCHAR2 (100) | | | | | |
| REFERENCE9 | VARCHAR2 (100) | Journal Import reference columns. | | | | Leave blank |
| REFERENCE10 | VARCHAR2 (240) | | | | | |
| REFERENCE11 | VARCHAR2 (240) | | | | | |

| Column | Data Type | Descripti on | CCB Table | Column | Data Type | Remarks |
|-----------------|-------------------|-----------------|--------------|--------|--------------|---------|
| REFERENCE1 2 | VARCHAR2 (100) | | | | | |
| REFERENCE1 3 | VARCHAR2 (100) | | | | | |
| REFERENCE1 4 | VARCHAR2 (100) | | | | | |
| REFERENCE1 5 | VARCHAR2 (100) | | | | | |
| REFERENCE1 6 | VARCHAR2 (100) | | | | | |
| REFERENCE1 7 | VARCHAR2 (100) | | | | | |
| REFERENCE1 8 | VARCHAR2 (100) | | | | | |
| REFERENCE1 9 | VARCHAR2 (100) | | | | | |
| REFERENCE2 0 | VARCHAR2 (100) | | | | | |
| REFERENCE2 1 | VARCHAR2 (240) | | | | | |
| REFERENCE2 2 | VARCHAR2 (240) | | | | | |
| REFERENCE2 3 | VARCHAR2 (240) | | | | | |
| REFERENCE2 4 | VARCHAR2 (240) | | | | | |
| REFERENCE2 5 | VARCHAR2 (240) | | | | | |
| REFERENCE2 6 | VARCHAR2 (240) | | | | | |
| REFERENCE2 7 | VARCHAR2 (240) | | | | | |
| REFERENCE2 8 | VARCHAR2 (240) | | | | | |
| REFERENCE2 9 | VARCHAR2 (240) | | | | | |
| REFERENCE3 0 | VARCHAR2 (240) | | | | | |
| JE_BATCH_ID | NUMBER | | | | | |

| Column | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|------------------------------|----------------|---|-------------|-----------|-------------|---|
| JE_HEADER_ID | NUMBER | Journal entry header defining column | | | | Leave blank Populated by the Import Process when the Record errors |
| JE_LINE_NUM | NUMBER | Journal entry line number | | | | Leave blank Populated by the Import Process when the Record errors |
| CHART_OF_ACCOUNTS_ID | NUMBER | Key flexfield structure defining column | | | | Leave blank |
| FUNCTIONAL_CURRENCY_CODE | VARCHAR2 (15) | Ledger base currency | | | | Leave blank |
| CODE_COMBINATION_ID | NUMBER | Key flexfield combination defining column | | | | Derived from the Segments Entered Above |
| DATE_CREATED_IN_GL | DATE | Date Journal Import created batch | | | | Leave blank |
| STATUS_DESCRIPTION | VARCHAR2 (240) | Journal import status description | | | | Leave blank Populated by the Import Process when the Record errors |
| STAT_AMOUNT | NUMBER | Statistical amount | | | | Leave blank |
| GROUP_ID | NUMBER | Interface group defining column | CI_FT_PRO C | BATCH_NBR | NUMBER (10) | This is the CCB GLDL Batch Number. |
| REQUEST_ID | NUMBER | Concurrent program request ID | | | | Leave blank Populated by the Import Process when the Record errors |
| SUBLEDGER_DOC_SEQUENCE_ID | NUMBER | Sequential numbering sequence defining column | | | | Leave blank |
| SUBLEDGER_DOC_SEQUENCE_VALUE | NUMBER | Sequential numbering sequence value | | | | |
| ATTRIBUTE1 | VARCHAR2 (150) | Descriptive flexfield segment | | | | |
| ATTRIBUTE2 | VARCHAR2 (150) | Descriptive flexfield segment | | | | |

| Column | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|--------------------|----------------|--|-----------|--------|-----------|-------------|
| GL_SL_LINK_ID | NUMBER | Link to associated subledger data | | | | |
| GL_SL_LINK_TABLE | VARCHAR2 (30) | Table containing associated subledger data | | | | |
| CONTEXT | VARCHAR2 (150) | Descriptive flexfield context column | | | | |
| CONTEXT2 | VARCHAR2 (150) | Descriptive flexfield context column | | | | |
| INVOICE_DATE | DATE | Value added tax descriptive flexfield column | | | | |
| TAX_CODE | VARCHAR2 (15) | Value added tax descriptive flexfield column | | | | |
| INVOICE_IDENTIFIER | VARCHAR2 (20) | Value added tax descriptive flexfield column | | | | |
| ATTRIBUTE3 | VARCHAR2 (150) | Descriptive flexfield segment | | | | Leave blank |
| ATTRIBUTE4 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE5 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE6 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE7 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE8 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE9 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE10 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE11 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE12 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE13 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE14 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE15 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE16 | VARCHAR2 (150) | | | | | |

| Column | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|--------------------------|----------------|--|-----------|--------|-----------|-------------|
| ATTRIBUTE17 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE18 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE19 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE20 | VARCHAR2 (150) | | | | | |
| INVOICE_AMOUNT | NUMBER | Value added tax descriptive flexfield column | | | | Leave blank |
| CONTEXT3 | VARCHAR2 (150) | Descriptive flexfield context column | | | | Leave blank |
| USSGL_TRANSACTION_CODE | VARCHAR2 (30) | Government transaction code | | | | Leave blank |
| DESCR_FLEX_ERROR_MESSAGE | VARCHAR2 (240) | Descriptive flexfield error message | | | | |
| JGZZ_RECON_REF | VARCHAR2 (240) | Global reconciliation reference | | | | |
| REFERENCE_DATE | DATE | Reference Date | | | | |
| SET_OF_BOOKS_ID | NUMBER | Ledger defining column | | | | |
| BALANCING_SEGMENT_VALUE | VARCHAR2 (25) | Balancing segment value | | | | |
| MANAGEMENT_SEGMENT_VALUE | VARCHAR2 (25) | Management segment value | | | | |
| FUNDS_RESERVED_FLAG | VARCHAR2 (1) | Reserved for Oracle internal use | | | | |

AP Request

AP_INVOICES_INTERFACE

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|------------------------------|-------------------|---|------------|---------|---------------|--|
| INVOICE_ID | Number | Invoice identifier | | | | AP_INVOICE S_interface_S .nextval |
| INVOICE_NUM | VARCHAR2 (50) | Invoice number | CI_A DJ | ADJ_ID | CHAR (12) | |
| INVOICE_TYPE_LOO KUP_CODE | VARCHAR2 (25) | Type of Invoice (can be STANDARD or CREDIT) | | | | 'STANDARD' |
| INVOICE_DATE | DATE | Invoice date | CI_A DJ | CRE_DT | DATE | |
| PO_NUMBER | VARCHAR2 (20) | Purchase order number | | | | Leave blank |
| VENDOR_ID | NUMBER (15) | Supplier identifier. Validated against PO_VENDORS.VENDOR_ID | | | | Example Value =40182 Set to the ID of the vendor created by this integration point. |
| VENDOR_NUM | VARCHAR2 (30) | Supplier number | | | | Leave blank |
| VENDOR_NAME | VARCHAR2 (240) | Supplier name | | | | Leave blank |
| VENDOR_SITE_ID | NUMBER (15,0) | Supplier site identifier. Validated against PO_VENDOR_SITES_ALL.VENDOR_SITE_ID | | | | Example Value =7004 Set to the ID of the vendor site created by this integration point. |
| VENDOR_SITE_CODE | VARCHAR2 (15) | Supplier site code | | | | Leave blank |
| INVOICE_AMOUNT | NUMBER | Invoice amount | CI_A DJ | ADJ_AMT | Number (15,2) | |
| INVOICE_CURRENCY_CODE | VARCHAR2 (15) | Currency of invoice. Validated against FND_CURRENCIES.CURRENCY_CODE | | | | Leave blank |
| EXCHANGE_RATE | NUMBER | Exchange rate for foreign currency invoices | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|--------------------|----------------|--|--------------------------|---|----------------|---|
| EXCHANGE_RATE_TYPE | VARCHAR2 (30) | Exchange rate type for foreign currency invoices. Validated against GL_DAILY_CONVERSION_TYPES.CONVERSION_TYPE | | | | Leave blank |
| EXCHANGE_DATE | DATE | Date exchange rate is effective, usually accounting date of a transaction | | | | Leave blank |
| TERMS_ID | NUMBER (15,0) | Payment terms identifier. Validated against AP_TERMS_TL.TERM_ID | | | | Derived from BPELValue = 10194Configuration parameter |
| TERMS_NAME | VARCHAR2 (50) | Payment terms name | | | | Leave blank |
| DESCRIPTION | VARCHAR2 (240) | Invoice description | CI_A DJ_A PRE Q | ENTITY_NAME CITY COUNTRY ADDRESS1 COUNTY STATE POSTAL | VARCHAR2 (240) | |
| AWT_GROUP_ID | NUMBER (15,0) | Withholding tax group identifier. Validated against AP_AWT_GROUPS.AWT_GROUP_ID | | | | Leave blank |
| AWT_GROUP_NAME | VARCHAR2 (25) | Withholding tax group name | | | | Leave blank |
| LAST_UPDATE_DATE | DATE | Standard Who column - date when a user last updated this row. | | | | Sysdate |
| LAST_UPDATED_BY | NUMBER (15,0) | Standard who column - user who last updated this row (foreign key to FND_USER.USER_ID). | | | | Leave blank |
| LAST_UPDATE_LOGIN | NUMBER (15,0) | Standard who column - operating system login of user who last updated this row (foreign key to FND_LOGINS.LOGIN_ID). | | | | Leave blank |
| CREATION_DATE | DATE | Standard who column - date when this row was created | | | | Sysdate |
| CREATED_BY | NUMBER (15,0) | Standard who column - user who created this row (foreign key to FND_USER.USER_ID). | | | | Leave blank |
| ATTRIBUTE_CATEGORY | VARCHAR2 (150) | Descriptive flexfield structure definition column. | | | | Leave blank |
| ATTRIBUTE1 | VARCHAR2 (150) | Descriptive flexfield segment | | | | Leave blank |
| ATTRIBUTE2 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE3 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE4 | VARCHAR2 (150) | | | | | |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|----------------------------------|----------------|---|-----------|--------|-----------|--------------------------------|
| ATTRIBUTE5 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE6 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE7 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE8 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE9 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE10 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE11 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE12 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE13 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE14 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE15 (Release 11.5.10) | VARCHAR2 (150) | | | | | CI_ADJ_APR EQ. AP_REQ_ID |
| GLOBAL_ATTRIBUTE_CATEGORY | VARCHAR2 (150) | Reserved for country-specific functionality | | | | Leave blank |
| GLOBAL_ATTRIBUTE_1 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_2 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_3 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_4 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_5 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_6 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_7 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_8 | VARCHAR2 (150) | | | | | |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-------------------------|----------------|--|-----------|--------|-----------|--|
| GLOBAL_ATTRIBUTE_9 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_10 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_11 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_12 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_13 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_14 | VARCHAR2 (150) | Reserved for country-specific functionality | | | | Leave blank |
| GLOBAL_ATTRIBUTE_15 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_16 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_17 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_18 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_19 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_20 | VARCHAR2 (150) | | | | | |
| STATUS | VARCHAR2 (25) | Status of the data in or after the Payables Open Interface Import | | | | Import Process inserts Value = PROCESSED /REJECTED |
| SOURCE | VARCHAR2 (80) | | | | | |
| | | Prepayment Reference | | | | Derived from BPEL Value = 'CCB' |
| GROUP_ID | VARCHAR2 (80) | Group identifier | | | | Leave blank |
| REQUEST_ID | NUMBER | Concurrent Program who column - concurrent request ID of the program that last updated this row (foreign key to FND_CONCURRENT_REQUESTS.REQUEST_ID). | | | | Leave blank |
| PAYMENT_CROSS_RATE_TYPE | VARCHAR2 (30) | Cross currency payment rate type (must be EMU Fixed in Release 11) | | | | Leave blank |
| PAYMENT_CROSS_RATE_DATE | DATE | Cross currency payment rate date | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-------------------------------|---------------|---|----------------------|----------|-----------|---|
| PAYMENT_CROSS_RATE | NUMBER | Exchange rate between invoice and payment; in Release 11 the value is always 1 unless they are associated fixed-rate currencies | | | | Leave blank |
| PAYMENT_CURRENCY_CODE | VARCHAR2 (15) | Cross currency payment currency. Validated against FND_CURRENCIES.CURRENCY_CODE | | | | Leave blank |
| WORKFLOW_FLAG | VARCHAR2 (1) | Flag that indicates if the Payables Open Interface Workflow must process the record (Y or N) | | | | Leave blank |
| DOC_CATEGORY_CODE | VARCHAR2 (30) | Sequential numbering (voucher number) document category. Validated against FND_DOC_SEQUENCE_CATEGORIES.CODE | | | | Leave blank |
| VOUCHER_NUM | VARCHAR2 (50) | Voucher number; validated (Sequential Numbering enabled), or non-validated (Sequential Numbering not enabled) | | | | Leave blank |
| PAYMENT_METHOD_LOOKUP_CODE | VARCHAR2 (25) | Name of payment method | | | | Leave blank |
| PAY_GROUP_LOOKUP_CODE | VARCHAR2 (25) | Name of pay group | | | | Leave blank |
| GOODS_RECEIVED_DATE | DATE | Date invoice items received | | | | Leave blank |
| INVOICE_RECEIVED_DATE | DATE | Date invoice received | | | | Leave blank |
| GL_DATE | DATE | Accounting date to default to invoice distributions | | | | Derived from BPEL Leave blank |
| ACCTS_PAY_CODE_COMBINATION_ID | NUMBER (15,0) | Accounting Flexfield identifier for AP liability account. Validated against GL_CODE_COMBINATIONS.CODE_COMBINATION_ID | | | | Leave blank |
| USSGL_TRANSACTION_CODE | VARCHAR2 (30) | Default transaction code for creating US Standard GL journal entries (Oracle Public Sector Payables). Validated against GL_USSGL_TRANSACTION_CODES.USSGL_TRANSACTION_CODE | | | | Leave blank |
| EXCLUSIVE_PAYMENT_FLAG | VARCHAR2 (1) | Flag that indicates whether to pay invoice on a separate payment document | | | | Leave blank |
| ORG_ID | NUMBER (15,0) | Organization identifier | CI_CIS_DIV_CHARACTER | CHAR_VAL | CHAR (16) | The Value Picked from the Mapping existing in the CCB system. |
| AMOUNT_APPLICABLE_TO_DISCOUNT | NUMBER | Amount of invoice applicable to a discount | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|------------------------------|-----------------|---|-----------|--------|-----------|-------------|
| PREPAY_NUM | VARCHAR2 (50) | The invoice number of an existing, fully paid prepayment to be applied to the imported invoice | | | | Leave blank |
| PREPAY_DIST_NUM | NUMBER (15,0) | No longer used | | | | Leave blank |
| PREPAY_APPLY_AMOUNT | NUMBER | The amount of prepayment that the user wants to apply to the invoice. This amount has to be positive. | | | | Leave blank |
| PREPAY_GL_DATE | DATE | The accounting date to be used for the prepayment application. If left null, the invoices GL_DATE is used | | | | Leave blank |
| INVOICE_INCLUDES_PREPAY_FLAG | VARCHAR2 (1) | Prorate Discount | | | | Leave blank |
| NO_XRATE_BASE_AMOUNT | NUMBER | Invoice amount in the functional currency. Used only when the Calculate User Exchange Rate option is enabled, and used only for foreign currency invoices when the exchange rate type is User. The system uses this value and the invoice amount to calculate the exchange rate. | | | | Leave blank |
| VENDOR_EMAIL_ADDRESS | VARCHAR2 (2000) | Supplier e-mail address for XML invoice rejections | | | | Leave blank |
| TERMS_DATE | DATE | Date used with payment terms to calculate scheduled payment of an invoice | | | | Leave blank |
| REQUESTER_ID | NUMBER (10,0) | Requester of invoice is used by the Invoice Approval Workflow process to generate the list of approvers | | | | Leave blank |
| SHIP_TO_LOCATION | VARCHAR2 (40) | Ship to location for purchase order matching. Used for XML invoices | | | | Leave blank |
| EXTERNAL_DOC_REF | VARCHAR2 (240) | Internal document reference number from Accounts Receivables system. Used for XML invoices | | | | Leave blank |
| PREPAY_LINE_NUM | NUMBER | The invoice line of an existing Prepayment to be applied to the imported invoice | | | | Leave blank |
| REQUESTER_FIRST_NAME | VARCHAR2 (150) | The first name of the employee who requested goods or services on the invoice line. This value is used to derive the requester ID. If you use Invoice Approval Workflow then you can define rules that use the requester ID to generate a hierarchical list of approvers for the line | | | | Leave blank |
| REQUESTER_LAST_NAME | VARCHAR2 (150) | The last name of the employee who requested goods or services on the invoice line. This value is used to derive the requester ID. If you use Invoice Approval Workflow then you can define rules that use the requester ID to generate a hierarchical list of approvers for the line | | | | Leave blank |
| APPLICATION_ID | NUMBER (15,0) | Application Identifier | | | | Leave blank |
| PRODUCT_TABLE | VARCHAR2 (30) | Product source table name | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-----------------------------|----------------|---|-----------|--------|-----------|-------------|
| REFERENCE_KEY1 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| REFERENCE_KEY2 | VARCHAR2 (150) | | | | | Leave blank |
| REFERENCE_KEY3 | VARCHAR2 (150) | | | | | Leave blank |
| REFERENCE_KEY4 | VARCHAR2 (150) | | | | | Leave blank |
| REFERENCE_KEY5 | VARCHAR2 (150) | | | | | Leave blank |
| APPLY_ADVANCES_FLAG | VARCHAR2 (1) | A value of Y indicates that applicable advances are applied against expense reports and other invoices | | | | Leave blank |
| CALC_TAX_DURING_IMPORT_FLAG | VARCHAR2 (1) | Indicates whether tax must be calculated for the imported invoice | | | | Leave blank |
| CONTROL_AMOUNT | NUMBER | Allows user to enter total tax amount to be prorated by E-Business Tax | | | | Leave blank |
| ADD_TAX_TO_INV_AMT_FLAG | VARCHAR2 (1) | Indicates whether the invoice amount must be grossed up by the calculated tax | | | | Leave blank |
| TAX_RELATED_INVOICE_ID | NUMBER (15,0) | Tax Driver: Invoice ID of related document for tax purposes. | | | | Leave blank |
| TAXATION_COUNTRY | VARCHAR2 (30) | Replaces a GDFF: This country sets the context for other tax drivers. The value defaults to the LE country but can be overridden by the user | | | | Leave blank |
| DOCUMENT_SUBTYPE | VARCHAR2 (150) | Replaces a GDFF: In certain countries, a tax or governmental authority defines and classifies document types for reporting purposes | | | | Leave blank |
| SUPPLIER_TAX_INVOICE_NUMBER | VARCHAR2 (150) | Replaces a GDFF: In some countries such as Thailand, there is a requirement to report on a supplier issued "tax" invoice that is distinct from the regular invoice. The tax invoice is either attached to the standard Supplier Invoice (when the value = Goods); or, the supplier may issue it when he receives the payment. | | | | Leave blank |
| SUPPLIER_TAX_INVOICE_DATE | DATE | Replaces a GDFF: To satisfy reporting requirements in certain countries, the Tax Invoice Date on the supplier-issued tax invoice needs to be recorded. | | | | Leave blank |
| SUPPLIER_TAX_EXCHANGE_RATE | NUMBER | Replaces a GDFF: The supplier exchange rate is entered in online invoices to calculate the supplier tax amount for foreign currency invoices. The gain/loss in the tax amount for foreign currency invoices is the difference between the in-house tax amount using the in-house exchange rate and the supplier tax amount using the supplier exchange rate that you enter here. A manual journal entry is posted to the GL to incorporate the gain/loss. | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|------------------------------|----------------|---|-----------|--------|-----------|-------------|
| TAX_INVOICE_RECORDING_DATE | DATE | Replaces a GDFF: To satisfy reporting requirements in certain countries, the company-specific Tax Invoice Date and Number needs to be captured. This field is used to record the date the company receives/ records the supplier-issued tax invoice and is required to comply with reporting requirements. | | | | Leave blank |
| TAX_INVOICE_INTERNAL_SEQ | VARCHAR2 (150) | Replaces a GDFF: To satisfy reporting requirements in certain countries, the company-issued Tax Invoice Date and Number. This field is used to record the company-specific tax invoice number, in sequence, issued by the company for a supplier-issued tax invoice. This is required to comply with reporting requirements | | | | Leave blank |
| LEGAL_ENTITY_ID | NUMBER (15,0) | Legal Entity Identifier | | | | Leave blank |
| LEGAL_ENTITY_NAME | VARCHAR2 (50) | Legal Entity Name | | | | Leave blank |
| REFERENCE_1 | VARCHAR2 (30) | A reference to a record in another application | | | | Leave blank |
| REFERENCE_2 | VARCHAR2 (30) | A reference to a record in another application | | | | Leave blank |
| OPERATING_UNIT | VARCHAR2 (240) | Organization name | | | | Leave blank |
| BANK_CHARGE_BEARER | VARCHAR2 (30) | Bearer of bank charge cost. Bank charge bearers are defined as the lookup IBY_BANK_CHARGE_BEARER | | | | Leave blank |
| REMITTANCE_MESSAGE1 | VARCHAR2 (150) | Remittance message for use in payment processing | | | | Leave blank |
| REMITTANCE_MESSAGE2 | VARCHAR2 (150) | Remittance message for use in payment processing | | | | Leave blank |
| REMITTANCE_MESSAGE3 | VARCHAR2 (150) | Remittance message for use in payment processing | | | | Leave blank |
| UNIQUE_REMITTANCE_IDENTIFIER | VARCHAR2 (30) | Unique remittance identifier provided by the payee | | | | Leave blank |
| URI_CHECK_DIGIT | VARCHAR2 (2) | Unique remittance identifier check digit | | | | Leave blank |
| SETTLEMENT_PRIORITY | VARCHAR2 (30) | The priority with which the financial institution or payment system must settle payment for this document. The available values for this column come from the FND lookup IBY_SETTLEMENT_PRIORITY | | | | Leave blank |
| PAYMENT_REASON_CODE | VARCHAR2 (30) | Payment reason code | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|---|----------------|---|--------------------------|-----------|-----------|---------------|
| PAYMENT_REASON_COMMENTS (Release R12) | VARCHAR2 (240) | Free text field available for entering a reason for the payment | CI_A DJ_A PRE Q | AP_REQ_ID | CHAR (12) | |
| PAYMENT_METHOD_CODE (not available for Release 11.5.10) | VARCHAR2 (30) | Payment method identifier | | | | Value = CHECK |
| DELIVERY_CHANNEL_CODE | VARCHAR2 (30) | Delivery channel code | | | | Leave blank |
| PAID_ON_BEHALF_EMPLOYEE_ID | NUMBER (15,0) | When an expense report gets split in Both Pay scenario, the new expense report's paid_on_behalf_employee_id gets populated with the original expense report's employee_id | | | | Leave blank |
| NET_OF_RETAINAGE_FLAG | VARCHAR2 (1) | Flag to indicate invoice amount is net of retainage | | | | Leave blank |
| REQUESTER_EMPLOYEE_NUM | VARCHAR2 (30) | The employee number of the employee who requested goods or services on the invoice line | | | | Leave blank |
| CUST_REGISTRATION_CODE | VARCHAR2 (30) | Customer legal registration code | | | | Leave blank |
| CUST_REGISTRATION_NUMBER | VARCHAR2 (30) | Customer legal registration number | | | | Leave blank |
| PARTY_ID | NUMBER (15,0) | Party identifier | | | | Leave blank |
| PARTY_SITE_ID | NUMBER (15,0) | Party Site identifier | | | | Leave blank |
| PAY_PROC_TRANSACTION_TYPE_CODE | VARCHAR2 (30) | Type of payment processing transaction or document | | | | Leave blank |
| PAYMENT_FUNCTION | VARCHAR2 (30) | The function or purpose of the payment | | | | Leave blank |
| PAYMENT_PRIORITY | NUMBER (2,0) | Number representing payment priority of a scheduled payment (1 to 99) | | | | Leave blank |
| PORT_OF_ENTRY_CODE | VARCHAR2 (30) | Customs location code | | | | Leave blank |
| EXTERNAL_BANK_ACCOUNT_ID | NUMBER (15,0) | External bank account identifier | | | | Leave blank |

AP_INVOICE_LINES_INTERFACE

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|--------------------------|----------------|--|-----------|---------|---------------|---|
| INVOICE_ID | NUMBER (15,0) | Invoice identifier. Validated against AP_INVOICES_INTERFACE.INVOICE_ID | | | | AP_INVOICES_interface_S.currval |
| INVOICE_LINE_ID | NUMBER (15,0) | Invoice line identifier | | | | AP_INVOICE_lines_interface_S.nextval |
| LINE_NUMBER | NUMBER (15,0) | Invoice line number | | | | Value =1 |
| LINE_TYPE_LOOKUP_CODE | VARCHAR2 (25) | Type of invoice line (Item, Freight, Tax, Miscellaneous) | | | | 'MISCELLANEOUS' |
| LINE_GROUP_NUMBER | NUMBER | Value to identify each item line to which you want to prorate | | | | Leave blank |
| AMOUNT | NUMBER | Line amount | CI_ADJ | ADJ_AMT | Number (15,2) | |
| ACCOUNTING_DATE | DATE | Accounting date | | | | SYSDATE |
| DESCRIPTION | VARCHAR2 (240) | Description | | | | Value ='Refund Request from Oracle Utilities Customer Care and Billing' |
| AMOUNT_INCLUDES_TAX_FLAG | VARCHAR2 (1) | No Longer Used | | | | Leave blank |
| PRORATE_ACROSS_FLAG | VARCHAR2 (1) | Prorate indicator for this line to be prorated across all lines with the same LINE_GROUP_NUMBER | | | | Leave blank |
| TAX_CODE | VARCHAR2 (15) | Tax code. Validated against AP_TAX_CODES_ALL.NAME | | | | Leave blank |
| FINAL_MATCH_FLAG | VARCHAR2 (1) | Final match indicator for distribution line matched to purchase order | | | | 'N', Since we are not matching to PO |
| PO_HEADER_ID | NUMBER | Purchase order header identifier used for PO matching. Validated against PO_HEADERS_ALL.PO_HEADER_ID | | | | Leave blank |
| PO_NUMBER | VARCHAR2 (20) | Purchase order number used for PO matching. Validated against PO_HEADERS_ALL.SEGMENT1 | | | | Leave blank |
| PO_LINE_ID | NUMBER | Purchase order line identifier used for PO matching. Validated against PO_LINES_ALL.PO_LINE_ID | | | | Leave blank |
| PO_LINE_NUMBER | NUMBER | Purchase order line number used for PO matching. Validated against PO_LINES_ALL.PO_LINE_NUM | | | | Leave blank |
| PO_LINE_LOCATION_ID | NUMBER | Purchase order line location identifier used for PO matching. Validated against PO_LINE_LOCATIONS_ALL.LINE_LOCATION_ID | | | | Leave blank |
| PO_SHIPMENT_NUMBER | NUMBER | Purchase order shipment number used for PO matching. Validated against PO_LINE_LOCATIONS_ALL.SHIPMENT_NUM | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|--------------------------|----------------|---|-----------------|---------|---------------|--|
| PO_DISTRIBUTION_ID | NUMBER | Purchase order distribution line identifier used for PO matching. Validated against PO_DISTRIBUTIONS_ALL.PO_DISTRIBUTION_ID | | | | Leave blank |
| PO_DISTRIBUTION_NUM | NUMBER | Purchase order distribution line number used for PO matching. Validated against PO_DISTRIBUTIONS_ALL.PO_DISTRIBUTION_NUM | | | | Leave blank |
| PO_UNIT_OF_MEASURE | VARCHAR2 (25) | No longer used | | | | Leave blank |
| INVENTORY_ITEM_ID | NUMBER | Inventory item identifier. Validated against MTL_SYSTEM_ITEMS.INVENTORY_ITEM_ID | | | | Leave blank |
| ITEM_DESCRIPTION | VARCHAR2 (240) | Inventory item description | | | | Leave blank |
| QUANTITY_INVOICED | NUMBER | Quantity invoiced against purchase order shipment | | | | Leave blank |
| SHIP_TO_LOCATION_CODE | VARCHAR2 (60) | Ship to location code | | | | Leave blank |
| UNIT_PRICE | NUMBER | Unit price for purchase order matched invoice items | | | | Leave blank |
| DISTRIBUTION_SET_ID | NUMBER (15,0) | Distribution set identifier. Validated against AP_DISTRIBUTION_SETS_ALL.DISTRIBUTION_SET_ID | | | | Leave blank |
| DISTRIBUTION_SET_NAME | VARCHAR2 (50) | Distribution set name. Validated against AP_INVOICE_DISTRIBUTION_SETS_ALL.DISTRIBUTION_SET_NAME | | | | Leave blank |
| DIST_CODE_CONCATENATED | VARCHAR2 (250) | Accounting flexfield for account associated with a distribution line | CI_DST_CODE_EFF | GL_ACCT | VARCHAR2 (48) | Extract all the segments that comes from the CCB side and separate them by ',' |
| DIST_CODE_COMBINATION_ID | NUMBER (15,0) | Accounting flexfield identifier for account associated with a distribution line. Validated against GL_CODE_COMBINATIONS.CODE_COMBINATION_ID | | | | |
| AWT_GROUP_ID | NUMBER (15,0) | Withholding tax group identifier. Validated against AP_AWT_GROUPS.GROUP_ID | | | | Leave blank |
| AWT_GROUP_NAME | VARCHAR2 (25) | Withholding tax group name | | | | Leave blank |
| LAST_UPDATED_BY | NUMBER (15,0) | Standard who column - user who last updated this row (foreign key to FND_USER.USER_ID). | | | | Leave blank |
| LAST_UPDATE_DATE | DATE | Standard Who column - date when a user last updated this row. | | | | SYSDATE |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|---------------------------|----------------|--|-----------|--------|-----------|---|
| LAST_UPDATE_LOGIN | NUMBER (15,0) | Standard who column - operating system login of user who last updated this row (foreign key to FND_LOGINS.LOGIN_ID). | | | | Leave blank |
| CREATED_BY | NUMBER (15,0) | Standard who column - user who created this row (foreign key to FND_USER.USER_ID). | | | | Leave blank |
| CREATION_DATE | DATE | Standard who column - date when this row was created | | | | SYSDATE |
| ATTRIBUTE_CATEGORY | VARCHAR2 (150) | Descriptive flexfield structure definition column. | | | | Leave blank |
| ATTRIBUTE1 | VARCHAR2 (150) | Descriptive flexfield segment | | | | Leave blank |
| ATTRIBUTE2 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE3 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE4 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE5 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE6 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE7 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE8 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE9 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE10 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE11 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE12 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE13 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE14 | VARCHAR2 (150) | | | | | |
| ATTRIBUTE15 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUTE_CATEGORY | VARCHAR2 (150) | Reserved for country-specific localizations | | | | Reserved for country-specific localizations |
| GLOBAL_ATTRIBUTE1 | VARCHAR2 (150) | | | | | |

| Columns | Data Type | Descripti on | CCB Table | Column | Data Type | Remarks |
|------------------------|-------------------|-----------------|--------------|--------|--------------|---|
| GLOBAL_ATTRIBUT E2 | VARCHAR2 (150) | | | | | Leave blank |
| GLOBAL_ATTRIBUT E3 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E4 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E5 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E6 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E7 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E8 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E9 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E10 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E11 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E12 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E13 | VARCHAR2 (150) | | | | | Reserved for country- specific localizations |
| GLOBAL_ATTRIBUT E14 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E15 | VARCHAR2 (150) | | | | | Leave blank |
| GLOBAL_ATTRIBUT E16 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E17 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E18 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E19 | VARCHAR2 (150) | | | | | |
| GLOBAL_ATTRIBUT E20 | VARCHAR2 (150) | | | | | |
| PO_RELEASE_ID | NUMBER | | | | | Blanket purchase order release identifier used for PO matching. Validated against PO_RELEASES_ALL.PO_RELEASE_ID |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-----------------------------|---------------|---|-----------|--------|-----------|-------------|
| RELEASE_NUM | NUMBER | Blanket purchase order release number used for PO matching. Validated against PO_RELEASES_ALL.RELEASE_NUM | | | | Leave blank |
| ACCOUNT_SEGMENT | VARCHAR2 (25) | Value for account segment of accounting flexfield. Payables overlays this value on the accounting flexfield during import | | | | Leave blank |
| BALANCING_SEGMENT | VARCHAR2 (25) | Value for balancing segment of accounting flexfield. Payables overlays this value on the accounting flexfield during import | | | | Leave blank |
| COST_CENTER_SEGMENT | VARCHAR2 (25) | Value for cost center segment of accounting flexfield. Payables overlay this value on the accounting flexfield during import | | | | Leave blank |
| PROJECT_ID | NUMBER (15,0) | Identifier for project used to build default accounting flexfield. Validated against PA_PROJECTS_ALL.PROJECT_ID | | | | Leave blank |
| TASK_ID | NUMBER (15,0) | Identifier for project task used to build default accounting flexfield. Validated against PA_TASKS.TASK_ID | | | | Leave blank |
| EXPENDITURE_TYPE | VARCHAR2 (30) | Project expenditure type used to build default accounting flexfield. Validated against PA_EXPENDITURE_TYPES.EXPENDITURE_TYPE | | | | Leave blank |
| EXPENDITURE_ITEM_DATE | DATE | Project expenditure item date used to build default accounting flexfield | | | | Leave blank |
| EXPENDITURE_ORGANIZATION_ID | NUMBER (15,0) | Identifier for project organization used to build default accounting flexfield. Validated against PA_EXP_ORGS_IT.ORGANIZATION_ID | | | | Leave blank |
| PROJECT_ACCOUNTING_CONTEXT | VARCHAR2 (30) | No longer used | | | | Leave blank |
| PA_ADDITION_FLAG | VARCHAR2 (1) | Flag that indicates if project related invoice distributions have been transferred into Oracle Projects (Y or N) | | | | Leave blank |
| PA_QUANTITY | NUMBER (22,5) | Project item quantity used to build accounting flexfield for project-related distribution line | | | | Leave blank |
| USSGL_TRANSACTION_CODE | VARCHAR2 (30) | USSGL transaction code for creating US Standard GL journal entries (Oracle Public Sector Payables). Validated against GL_USSGL_TRANSACTION_CODES.USSGL_TRANSACTION_CODE | | | | Leave blank |
| STAT_AMOUNT | NUMBER | Amount associated with a distribution line for measuring statistical quantities | | | | Leave blank |
| TYPE_1099 | VARCHAR2 (10) | 1099 type | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|----------------------------|---------------|---|---------------|-----------|-----------|-------------|
| INCOME_TAX_REGION | VARCHAR2 (10) | Reporting region for distribution line for 1099 supplier. Validated against AP_INCOME_TAX_REGIONS.REGION_SHORT_NAME | | | | Leave blank |
| ASSETS_TRACKING_FLAG | VARCHAR2 (1) | Flag that indicates if distribution line is tracked in Oracle Assets (Y or N) | | | | Leave blank |
| PRICE_CORRECTION_FLAG | VARCHAR2 (1) | Flag that indicates if line produces price correction | | | | Leave blank |
| ORG_ID | NUMBER (15,0) | Organization identifier | | | | |
| RECEIPT_NUMBER | VARCHAR2 (30) | The receipt number to which an invoice is matched. Validated against RCV_SHIPMENT_HEADERS.RECEIPT_NUMBER | | | | Leave blank |
| RECEIPT_LINE_NUMBER | VARCHAR2 (25) | The receipt line number to which an invoice is matched. Validated against RCV_SHIPMENT_LINES.LINE_NUMBER | | | | Leave blank |
| MATCH_OPTION | VARCHAR2 (25) | The value of the Invoice Match option on the PO shipment | | | | Leave blank |
| PACKING_SLIP | VARCHAR2 (25) | Packing slip identifier | | | | Leave blank |
| RCV_TRANSACTION_ID | NUMBER | Receipt identifier used for Receipt matching. Validated against RCV_TRANSACTIONS.TRANSACTION_ID | | | | Leave blank |
| PA_CC_AR_INVOICE_ID | NUMBER (15,0) | Identifier of the corresponding receivable intercompany invoice in Oracle Receivables | | | | Leave blank |
| PA_CC_AR_INVOICE_LINE_NUM | NUMBER (15,0) | Line number of the corresponding receivable intercompany invoice in Oracle Receivables | | | | Leave blank |
| REFERENCE_1 | VARCHAR2 (30) | A reference to a record in another application | CI_ADJ_AP_REQ | AP_REQ_ID | CHAR (12) | Leave blank |
| REFERENCE_2 | VARCHAR2 (30) | A reference to a record in another application | | | | Leave blank |
| PA_CC_PROCESSING_CODE | VARCHAR2 (1) | Indicates the processing status of this invoice line by Oracle Projects in the Receiver Operating Unit | | | | Leave blank |
| TAX_RECOVERY_RATE | NUMBER | No Longer Used | | | | Leave blank |
| TAX_RECOVERY_OVERRIDE_FLAG | VARCHAR2 (1) | No Longer Used | | | | Leave blank |
| TAX_RECOVERABLE_FLAG | VARCHAR2 (1) | No Longer Used | | | | Leave blank |
| TAX_CODE_OVERRIDE_FLAG | VARCHAR2 (1) | No Longer Used | | | | Leave blank |
| TAX_CODE_ID | NUMBER (15,0) | Tax code identifier for the tax code to be used. Validated against AP_TAX_CODES_ALL.TAX_ID | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-----------------------------|----------------|---|-----------|--------|-----------|-------------|
| CREDIT_CARD_TRX_ID | NUMBER (15,0) | Credit card transaction ID if the line is a credit card charge | | | | Leave blank |
| AWARD_ID | NUMBER (15,0) | Grants requirement to store award | | | | Leave blank |
| VENDOR_ITEM_NUMBER | VARCHAR2 (25) | Optional. Validated against PO_LINES_ALL.VENDOR_PRODUCT_NUM | | | | Leave blank |
| TAXABLE_FLAG | VARCHAR2 (1) | A value of Y indicates that the line is taxable | | | | Leave blank |
| PRICE_CORRECT_INV_NUM | VARCHAR2 (50) | Number of the invoice that this price correction invoice is correcting. Validated against AP_INVOICES_ALL.INVOICE_NUM | | | | Leave blank |
| EXTERNAL_DOCUMENT_REFERENCE | VARCHAR2 (240) | Internal document reference number from Accounts Receivables system. Used for XML invoices | | | | Leave blank |
| SERIAL_NUMBER | VARCHAR2 (35) | Serial number for item | | | | Leave blank |
| MANUFACTURER | VARCHAR2 (30) | Name of the manufacturer | | | | Leave blank |
| MODEL_NUMBER | VARCHAR2 (40) | Model information | | | | Leave blank |
| WARRANTY_NUMBER | VARCHAR2 (15) | Warranty number | | | | Leave blank |
| DEFERRED_ACCTG_FLAG | VARCHAR2 (1) | Flag that indicates whether to generate deferred accounting for this line | | | | Leave blank |
| DEF_ACCTG_START_DATE | DATE | The start date of the deferred expense period | | | | Leave blank |
| DEF_ACCTG_END_DATE | DATE | The end date of the deferred expense period | | | | Leave blank |
| DEF_ACCTG_NUMBER_OF_PERIODS | NUMBER | Number of periods to generate deferred expenses. Used in combination with PERIOD_TYPE. Alternative to END_DATE | | | | Leave blank |
| DEF_ACCTG_PERIOD_TYPE | VARCHAR2 (15) | Period type used in combination with NUMBER_OF_PERIODS to generate deferred expenses. Validated against XLA_LOOKUPS with lookup type XLA_DEFERRED_PERIOD_TYPE | | | | Leave blank |
| UNIT_OF_MEASURE_LOOKUP_CODE | VARCHAR2 (25) | Unit of Measure for quantity invoiced. Validated against MTL_UNITS_OF_MEASURE.UNIT_OF_MEASURE | | | | Leave blank |
| PRICE_CORRECT_INV_LINE_NUM | NUMBER | Invoice line subject to the price correction | | | | Leave blank |
| ASSET_BOOK_TYPE_CODE | VARCHAR2 (15) | Asset Book Defaults to the distributions candidate for transfer to Oracle Assets | | | | Leave blank |
| ASSET_CATEGORY_ID | NUMBER (15,0) | Asset Category Defaults to the distributions candidate for transfer to Oracle Assets | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|------------------------|--------------------|--|-----------|--------|-----------|-------------|
| REQUESTER_ID | NUMBER (15,0) | Requester identifier. Valid values from active HR employees. Validated against PER_ALL_PEOPLE_F.PERSON_ID | | | | Leave blank |
| REQUESTER_FIRST_NAME | VARCHAR2 (150) | The first name of the employee who requested goods or services on the invoice line. This value is used to derive the requester ID. If you use Invoice Approval Workflow then you can define rules that use the requester ID to generate a hierarchical list of approvers for the line | | | | Leave blank |
| REQUESTER_LAST_NAME | VARCHAR2 (150) | The last name of the employee who requested goods or services on the invoice line. This value is used to derive the requester ID. If you use Invoice Approval Workflow then you can define rules that use the requester ID to generate a hierarchical list of approvers for the line | | | | Leave blank |
| REQUESTER_EMPLOYEE_NUM | VARCHAR2 (30) | The employee number of the employee who requested goods or services on the invoice line. This value is used to derive the requester ID. If you use Invoice Approval Workflow then you can define rules that use the requester ID to generate a hierarchical list of approvers for the line | | | | Leave blank |
| APPLICATION_ID | NUMBER (15,0) | Application Identifier | | | | Leave blank |
| PRODUCT_TABLE | VARCHAR2 (30) | Product source table name | | | | Leave blank |
| REFERENCE_KEY1 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| REFERENCE_KEY2 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| REFERENCE_KEY3 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| REFERENCE_KEY4 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| REFERENCE_KEY5 | VARCHAR2 (150) | Primary key information that uniquely identifies a record in other products view | | | | Leave blank |
| PURCHASING_CATEGORY | VARCHAR2 (2000) | Item category concatenated segments | | | | Leave blank |
| PURCHASING_CATEGORY_ID | NUMBER (15,0) | Item category unique identifier | | | | Leave blank |
| COST_FACTOR_ID | NUMBER (15,0) | Identifier of the cost component class. Cost Component Classes are used to identify the individual buckets or component costs that make up the total cost of an item, for example, direct material costs, freight costs, labor costs, production or conversion costs and so on | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|-------------------------------|----------------|--|-----------|--------|-----------|-------------|
| COST_FACTOR_NAME | VARCHAR2 (80) | Cost component class name. Cost Component Classes are used to identify the individual buckets or component costs that make up the total cost of an item, for example, direct material costs, freight costs, labor costs, production or conversion costs and so on. | | | | Leave blank |
| CONTROL_AMOUNT | NUMBER | Optional, user-enterable value to ensure that the calculated tax is the same as on the physical document | | | | Leave blank |
| ASSESSABLE_VALUE | NUMBER | User-enterable amount to be used as taxable basis | | | | Leave blank |
| DEFAULT_DIST_CODE | NUMBER (15,0) | Already addressed by lines project Tax Driver: Code combination identifier of the GL account associated with the transaction line. Note that this is necessary to support the Account Method VAT feature | | | | Leave blank |
| PRIMARY_INTENDED_USE | VARCHAR2 (30) | Tax Driver: The purpose for which a product may be used. The actual use is stored at the distribution level. | | | | Leave blank |
| SHIP_TO_LOCATION_ID | NUMBER (15,0) | Tax Driver: Ship to location ID. Value entered by user only if line is not PO matched. | | | | Leave blank |
| PRODUCT_TYPE | VARCHAR2 (240) | Tax Driver: Type of product. Possible values are: Goods, Service. This value will default from Inventory Item attributes. Otherwise, value is entered by user. | | | | Leave blank |
| PRODUCT_CATEGORY | VARCHAR2 (240) | Tax Driver: Product category | | | | Leave blank |
| PRODUCT_FISCAL_CLASSIFICATION | VARCHAR2 (240) | Tax Driver: Product fiscal classification | | | | Leave blank |
| USER_DEFINED_FISCAL_CLASS | VARCHAR2 (240) | Tax Driver: Fiscal Classification. | | | | Leave blank |
| TRX_BUSINESS_CATEGORY | VARCHAR2 (240) | Tax Driver: Transactions category assigned by user. | | | | Leave blank |
| TAX_REGIME_CODE | VARCHAR2 (30) | Tax Regime Code: The set of tax rules that determines the treatment of one or more taxes administered by a tax authority. e.g., VAT Regime in Argentina | | | | Leave blank |
| TAX | VARCHAR2 (30) | A classification of a charge imposed by a government through a fiscal or tax authority. | | | | Leave blank |
| TAX_JURISDICTION_CODE | VARCHAR2 (30) | Internal ID of the Tax Jurisdiction | | | | Leave blank |
| TAX_STATUS_CODE | VARCHAR2 (30) | Tax status code. e.g., taxable standard rate, zero rated, exempt, non-taxable | | | | Leave blank |
| TAX_RATE_ID | NUMBER (15,0) | Internal identifier for tax rate effective on the invoice date. | | | | Leave blank |
| TAX_RATE_CODE | VARCHAR2 (150) | Tax rate name associated with tax rate identifier. Tax_rate_id is unique while a tax_rate_code may have different tax rates based on date ranges | | | | Leave blank |

| Columns | Data Type | Description | CCB Table | Column | Data Type | Remarks |
|---------------------------|---------------|---|-----------|--------|-----------|-------------|
| TAX_RATE | NUMBER | The rate specified for a tax status in effect for a period of time. | | | | Leave blank |
| INCL_IN_TAXABLE_LINE_FLAG | VARCHAR2 (1) | Flag to indicate if the amount in the tax line is included or not in the taxable line | | | | Leave blank |
| SOURCE_APPLICATION_ID | NUMBER | Source document application identifier | | | | Leave blank |
| SOURCE_ENTITY_CODE | VARCHAR2 (30) | Source document entity code | | | | Leave blank |
| SOURCE_EVENT_CLASS_CODE | VARCHAR2 (30) | Source document event class code | | | | Leave blank |
| SOURCE_TRX_ID | NUMBER | Source document transaction identifier | | | | Leave blank |
| SOURCE_LINE_ID | NUMBER | Identifier of the lowest level for which Tax is calculated | | | | Leave blank |
| SOURCE_TRX_LEVEL_TYPE | VARCHAR2 (30) | Source document transaction level type | | | | Leave blank |
| TAX_CLASSIFICATION_CODE | VARCHAR2 (30) | Tax Classification Code | | | | Leave blank |

AP Data

Oracle E-Business Suite Financials for General Ledger and Accounts Payable AP Data table mapping to Oracle Utilities Customer Care and Billing

| CCB Table | Columns | Data Type | Description | EBS Table | Columns | Data Type | Remarks |
|--------------|---------------------|---------------|---------------------------|--|--------------|-------------|---------|
| CI_ADJ_APREQ | PAY_DOC_ID | VARCHAR2 (20) | Advice ID | AP_CHECKS_ALL | CHECK_ID | NUMBER (15) | |
| CI_ADJ_APREQ | PAY_DOC_DT | DATE | Advice Date | AP_CHECKS_ALL | CHECK_DATE | DATE | |
| CI_ADJ_APREQ | PYMNT_ID | CHAR (10) | Payment Number | AP_CHECKS_ALL | CHECK_NUMBER | NUMBER (15) | |
| CI_ADJ_APREQ | PAID_AMT | NUMBER (15,2) | Paid Amount | AP_CHECKS_ALL | AMOUNT | NUMBER | |
| CI_ADJ_APREQ | PYMNT_SELECTION_FLG | CHAR (1) | Payment Selections Status | Derived from BPEL. Value = 'P' (For valid Payment) Value = 'C' (For Void hold or Initiate stop) And Value = 'X' (For Void Cancel) | | | |

| CCB Table | Columns | Data Type | Description | EBS Table | Columns | Data Type | Remarks |
|--------------|---------------------|-----------|---------------------------|---|-------------------------|----------------|--|
| CI_ADJ_APREQ | AP_REQ_ID | CHAR (12) | AP Request ID | AP_INVOICES_ALL | PAYMENT_REASON_COMMENTS | VARCHAR2 (240) | |
| CI_ADJ_APREQ | ADJ_ID | CHAR (12) | Adjustment ID | AP_INVOICES_ALL | INVOICE_NUM | VARCHAR2 (50) | If liability is closed the 'Adjustment Maintenance' service is invoked for this Adjustment ID. |
| CI_ADJ_APREQ | PYMNT_SELECTION_FLG | CHAR (1) | Payment Selections Status | Derived from BPEL. When AP_CHECKS_ALL.STOPPED_DATE IS NOT NULL or AP_CHECKS_ALL.VOID_DATE IS NOT NULL then Value='C' When AP_INVOICES_ALL.CANCELLED_DATE IS NOT NULL then Value='X' | | | |
| | | | | | | | |
| CI_ADJ | CAN_REASON_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 E-Business Suite 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 layout nor the GLDL flat file detail record layout is used in this integration.

Oracle E-Business Suite Financials for General Ledger and Accounts Payable

GL_INTERFACE 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 E-Business Suite 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.

AP_INVOICES_INTERFACE

AP_INVOICE_LINES_INTERFACE

Error messages are stored in AP_INTERFACE_REJECTIONS table

Oracle Application API's to create/update Vendor and Vendor Site

Release 11.5.10:

- AP_PO_VENDORS_APIS_PKG.INSERT_NEW_VENDOR
- AP_PO_VENDORS_APIS_PKG.INSERT_NEW_VENDOR_SITE
- AP_VENDOR_SITES_PKG.UPDATE_ROW

Release R12:

- AP_VENDOR_PUB_PKG.CREATE_VENDOR

- AP_VENDOR_PUB_PKG.CREATE_VENDOR_SITE
- AP_VENDOR_SITES_PKG.UPDATE_ROW

AP Data Integration Point

Oracle E-Business Suite Financials for General Ledger and Accounts Payable Tables

No Oracle E-Business Suite 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:

AP_INVOICES_ALL

AP_CHECKS_ALL

AP_INVOICE_PAYMENTS_ALL

Oracle Utilities Customer Care and Billing

The CI_ADJ_APREQ application table is updated with the Payment Information received from Oracle E-Business Suite 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_CNTRL WHERE BATCH_CD is GLDL
```

Extract Financial Transactions from Oracle Utilities Customer Care and Billing

```
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 Oracle Utilities Customer Care and Billing to derive the GL account information. A sample data example is R – ELERES for electric residential revenue financial transactions. |
| GL_ACCT | The actual GL account with '.' separating the substructure numbers like department. For example 101.73653.8873..87 |
| CIS_DIVISION | The CIS Division |
| GL_DIVISION | The GL Division |
| CURRENCY_CD | The currency type, such as USD. |
| STATISTICS_CD | The identifier of the type of statistical amount being sent to GL such as KWH for electricity or CCF for gas. |
| ACCOUNTING_DT | The effective accounting date for the GL transactions |
| AMOUNT | The dollar amount of the GL debit or credit |
| STATISTIC_AMOUNT | The quantity associated with the Statics Code. |

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

Update the LAST UPDATE TIME FOR GLDL in CI_BATCH_CNTRL

```
Set the last update date and time by setting
CI_BATCH_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
```

BPEL Polls to Verify whether AP Requests are ready for Extraction

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
Process the AP Requests that have not been integrated before and mark them all
with the next APDL Batch Number
```

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)
```

Decrement the BATCH NUMBER in CI_BATCH_CNTRL and CI_ADJ_APREQ tables in case of an error

In case of an error:

Decrement by 1 the NEXT_BATCH_NBR in CI_BATCH_CNTRL where the BATCH_CD is APDL

Update the Batch Number in CI_ADJ_APREQ table to previous value so that the same set of records can be processed again

AP Data Integration Point

Extract the Payment Information from Oracle E-Business Suite Financials for General Ledger and Accounts Payable

```
Select APA.invoice_id
, APA.invoice_num ADJ_ID
, APA.invoice_date
,APA.PAYMENT_STATUS_FLAG
,APA.POSTING_STATUS
,APA.CANCELLED_BY
,APA.CANCELLED_DATE
,APA.CANCELLED_AMOUNT
,AIPA.BANK_ACCOUNT_NUM
,AIPA.REVERSAL_FLAG
,AIPA.REVERSAL_INV_PMT_ID
,ACA.CHECK_DATE payment_date
,ACA.CHECK_NUMBER payment_number
,ACA.STATUS_LOOKUP_CODE
,ACA.VOID_DATE
,ACA.STOPPED_BY
, ACA.STOPPED_DATE
, APA.PAYMENT_REASON_COMMENTS AP_REQ_ID (for Release 11.5.10 ATTRIBUTE15 is used)
, ACA.CHECK_ID
,ACA.amount
, ACA.released_date
FROM ap_invoices_all APA
, AP_INVOICE_PAYMENTS_all AIPA
, ap_checks_all ACA
WHERE APA.invoice_id = AIPA.invoice_id
AND AIPA.check_id = ACA.check_id
```

```
AND APA.source = 'CCB'
AND (APA.CANCELLED_DATE >= TO_DATE ('2008-01-31','YYYY-MM-DD') -- last date the interface
was run
OR APA.CREATION_DATE >= TO_DATE ('2008-01-31','YYYY-MM-DD')-- last date the interface
was run
OR ACA.stopped_date >= TO_DATE ('2008-01-31','YYYY-MM-DD')-- last date the interface was
run
OR ACA.released_date >= TO_DATE ('2008-01-31','YYYY-MM-DD')-- last date the interface was
run
OR ACA.void_date >= TO_DATE ('2008-01-31','YYYY-MM-DD') -- last date the interface
was run
UNION
Select APA.invoice_id
      ,APA.invoice_num ADJ_ID
      ,null released_date
      ,APA.invoice_date
      ,APA.PAYMENT_STATUS_FLAG
      ,APA.POSTING_STATUS
      ,APA.CANCELLED_BY
      ,APA.CANCELLED_DATE
      ,APA.CANCELLED_AMOUNT
      ,null BANK_ACCOUNT_NUM
      ,null REVERSAL_FLAG
      ,null REVERSAL_INV_PMT_ID
      ,null payment_date
      ,null payment_number
      ,null STATUS_LOOKUP_CODE
      ,null VOID_DATE
      ,null STOPPED_BY
      ,null STOPPED_DATE
      ,APA.PAYMENT_REASON_COMMENTS      AP_REQ_ID
      ,null CHECK_ID
      ,null AMOUNT
FROM ap_invoices_all APA
WHERE APA.CANCELLED_DATE >= #LastRunDate6
AND APA.SOURCE = #invoice_source1
and apa.invoice_id not in (SELECT invoice_id FROM ap_invoice_payments_all aipa1
)
```

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

If AP_INVOICES_ALL.CANCELLED_DATE <> NULL and AP_INVOICES_ALL.
PAYMENT_STATUS_FLAG<>'Y' **(Payment is void /cancelled)**

If the Payment has been canceled in Oracle E-Business Suite Financials for General Ledger and Accounts Payable , 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 of processes that comprise the GL Integration between Oracle Utilities Customer Care and Billing and Oracle E-Business Suite Financials for General Ledger and Accounts Payable:

| | |
|--------------|--|
| Process Name | CCBToEBSGLRequestScheduler |
| Description | Polls the INTEGRATION_PROCESS_ACTIVATION table in the Integration Schema |

| | |
|-------------------|--|
| | at predefined intervals and invokes the CCBToEBSGLBPELProcess. |
| Calls to | CCBToEBSGLBPELProcess |
| Calls from | None |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - None |

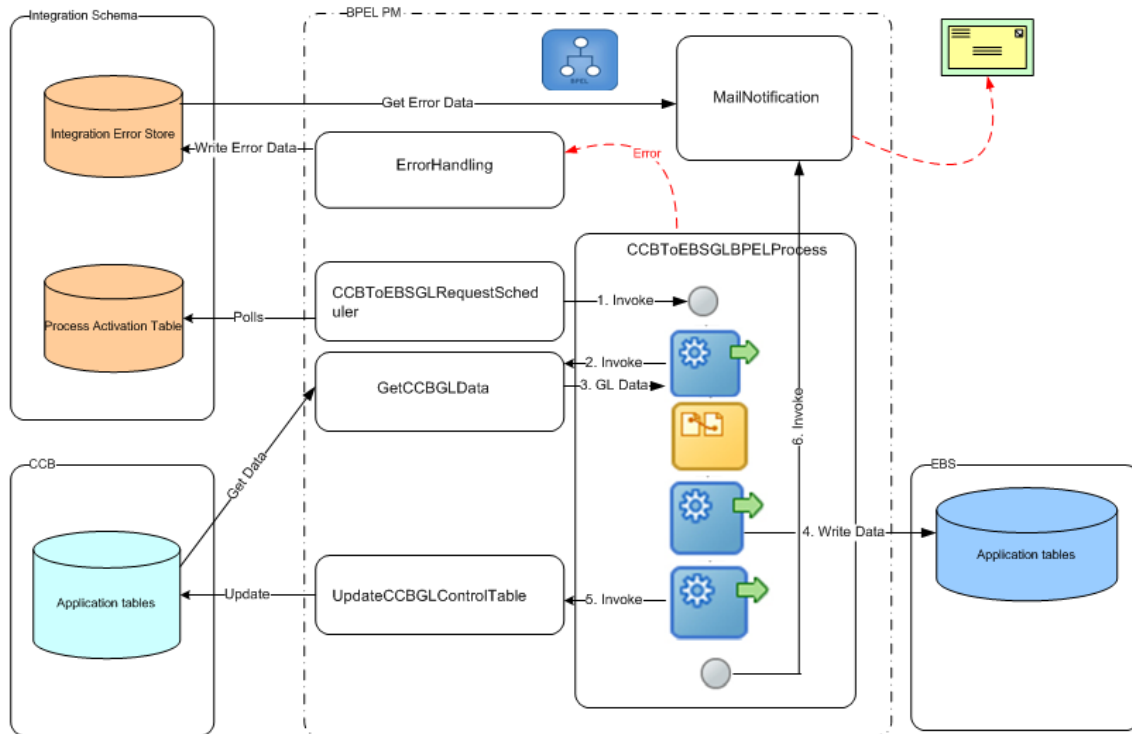
| | |
|---------------------|--|
| Process Name | CCBToEBSGLBPELProcess |
| Description | Main process of the GL Integration. Gets the GL data from Oracle Utilities Customer Care and Billing, transforms it and inserts it into Oracle E-Business Suite Financials for General Ledger and Accounts Payable GL_INTERFACE Table. Additionally updates Oracle Utilities Customer Care and Billing Batch Control table with the next batch number. Invokes services for error handling and email notification. |
| Calls to | GetCCBGLData UpdateCCBGLControlTable ErrorhandlingProcess (if an error occurs) MailNotification |
| Calls from | CCBToEBSGLRequestScheduler |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Remote Fault, BPEL Binding Fault. |

| | |
|---------------------|--|
| Process Name | GetCCBGLData |
| Description | Check 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 program. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | CCBToEBSGLBPELProcess |
| Inputs | Input String object contains the Integration Point name invoking this BPEL process. Example: 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 | Update the next batch number in the GL Batch Control table available in Oracle Utilities Customer Care and Billing database. |
| Calls to | ErrorhandlingProcess (if an error occurs). |
| Calls from | CCBToEBSGLBPELProcess |
| 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 E-Business Suite Financials for General Ledger and Accounts Payable:

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

| | |
|-------------------|--|
| Process Name | CCBToEBSAPBPELProcess |
| 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 E-Business Suite Financials for General Ledger and Accounts Payable AP Invoice Interface tables (AP_INVOICES_INTERFACE, AP_INVOICE_LINES_INTERFACE). Additionally, updates status in two of the Oracle Utilities Customer Care and Billing tables. Invokes services for error handling and email notification. |
| Calls to | GetCCBAPData UpdateCCBAPControlTable UpdateCCBAPAdjReqTable ErrorhandlingProcess (if an error occurs) MailNotification |
| Calls from | CCBToEBSAPRequestScheduler |
| 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 | CCBToEBSAPBPELProcess. |
| Inputs | Input String object containing the Integration Point name invoking this BPEL process. For example: PS, EBS, JDE, etc |
| Outputs | SelectCCBRecordsWithTemplate xml object |
| Synch/Asynch | Synchronous |

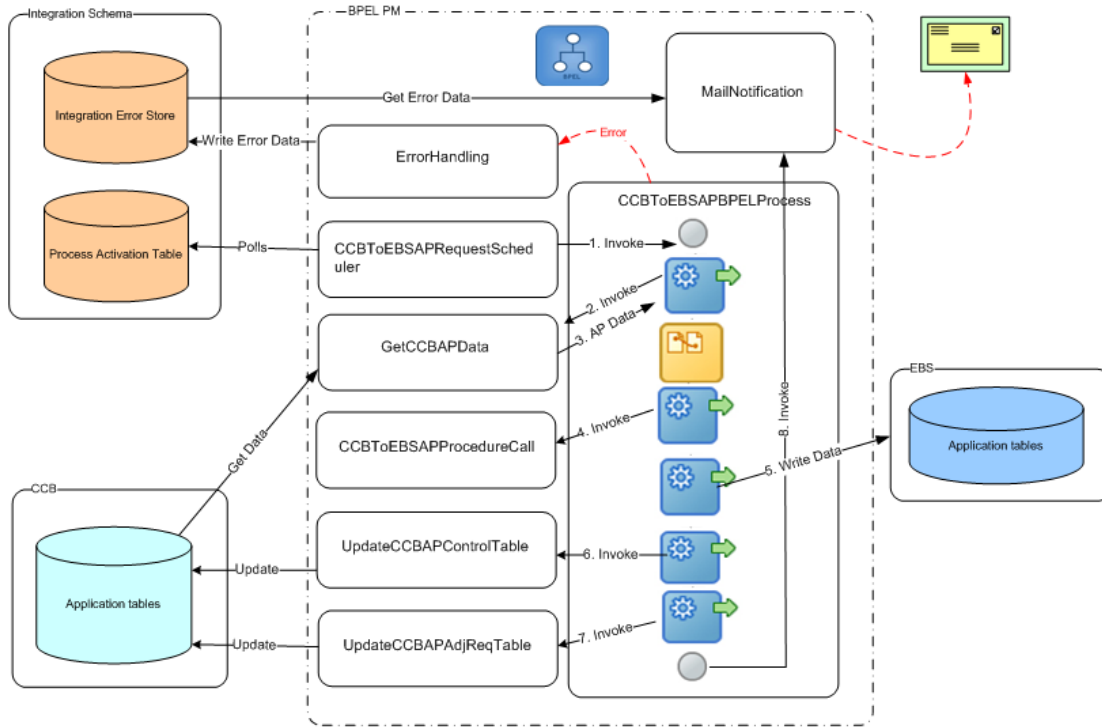
| | |
|-------------------|---|
| Exceptions/Errors | Possible Exceptions - BPEL Remote Fault, BPEL Binding Fault |
|-------------------|---|

| | |
|---------------------|---|
| 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 | CCBToEBSAPBPELProcess. |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions - |

| | |
|---------------------|--|
| Process Name | UpdateCCBAPAdjReqTable |
| Description | Updates PYMNT_SEL_STAT_FLG to R in the Oracle Utilities Customer Care and Billing AP Adjustment Request table CI_ADJ_APREQ for the provided AP Request ID. |
| Calls to | None |
| Calls from | CCBToEBSAPBPELProcess. |
| Inputs | CiAdjApreqCollection xml object |
| Outputs | None |
| Synch/Asynch | Synchronous |
| Exceptions/Errors | Possible Exceptions – None |

| | |
|---------------------|--|
| Process Name | CCBToEBSAPProcedureCall |
| Description | Process to create/update Supplier and site in Oracle E-Business Suite. Invokes Integration package CCB_EBS_SUPPLIERS_IMPORT_PKG. Invokes services for error handling and email notification. |
| Calls to | ErrorhandlingProcess (if an error occurs) |
| Calls from | CCBToEBSAPBPELProcess |
| Inputs | CCBToEBSAPProcedureCallProcessRequest xml object |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| 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 E-Business Suite Financials for General Ledger and Accounts Payable.

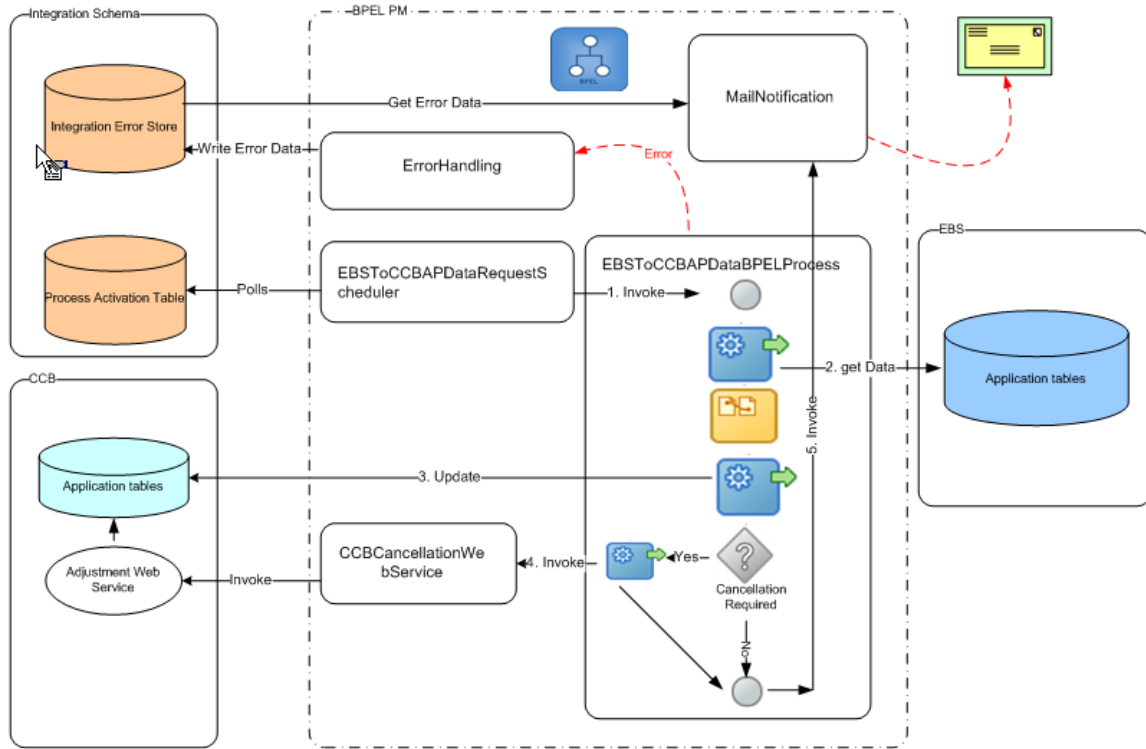
| | |
|-------------------|---|
| Process Name | EBSToCCBAPDataRequestScheduler. |
| Description | Polls the INTEGRATION_PROCESS_ACTIVATION table in the Integration Schema at predefined intervals and invokes the EBSToCCBAPDataBPELProcess. |
| Calls to | EBSToCCBAPDataBPELProcess ErrorhandlingProcess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

| | |
|-------------------|---|
| Process Name | EBSToCCBAPDataBPELProcess |
| Description | Main process of the AP Data Integration. Collects all the Oracle E-Business Suite Financials for General Ledger and Accounts Payable payment information from Oracle E-Business Suite Financials for General Ledger and Accounts Payable application tables (AP_INVOICES_ALL, AP_CHECKS_ALL, and AP_INVOICE_PAYMENTS_ALL), transforms the data, and updates the information in the Oracle Utilities Customer Care and Billing table application table CI_ADJ_APREQ. |
| Calls to | CCBCancellationWebService ErrorhandlingProcess (if an error occurs) MailNotification |
| Calls from | EBSToCCBAPDataRequestScheduler. |
| Inputs | None |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - BPEL Binding fault, BPEL Remote Fault. |

| | |
|--------------|---|
| 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 | EBSToCCBAPDataBPELProcess. |
| Inputs | String object - AdjustmentID |
| Outputs | String result – containing APRequest ID for 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 | ErrorhandlingProcess. |
| Description | Invoked only when errors occur. Inserts data into error table INTEGRATION_ERROR_STORE in the Integration Schema. |
| Calls to | None |
| Calls from | GetCCBGLData UpdateCCBGLControlTable CCBToEBSGLBPELProcess GetCCBAPData UpdateCCBAPControlTable CCBToEBSAPBPELProcess CCBCancellationWebService |

| | |
|-------------------|--|
| | EBSToCCBAPDataBPELProcess |
| 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 email to configured email address. |
| Calls to | None |
| Calls from | CCBToEBSGLBPELProcess CCBToEBSAPBPELProcess EBSToCCBAPDataBPELProcess |
| Inputs | MailNotificationInputParameters xml object |
| Outputs | None |
| Synch/Asynch | Asynchronous |
| Exceptions/Errors | Possible Exceptions - None |