# Oracle® Enterprise Transaction Controls Governor

Implementation Guide

Release 8.6.3

**Part No. E24451-01**

June 2011

ORACLE

Oracle Enterprise Transaction Controls Governor Implementation Guide



Primary Authors: Mark Stebelton, Vickie Lee

# Contents

# Preface

This Preface introduces the guides and other information sources available to help you more effectively use Oracle Fusion Applications.

This *Implementation Guide* is meant to provide helpful guidance on the usage of the product. Think of this document as a combination FAQ and helpful "Tips and Tricks."

It is a supplement to the official product documentation (such as the *User Guide* and *Installation Guide*), and is not intended to replace it. If discrepancies exist between this *Implementation Guide* and the official product documentation, the guidance and functional commentary provided by official documents supersede any that may be written here.

## Disclaimer

The information contained in this document is intended to outline our general product direction and is for informational sharing purposes only, and should be considered in your capacity as a customer advisory board member or pursuant to your beta trial agreement only. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described in this document remains at the sole discretion of Oracle. This document in any form, software or printed matter, contains proprietary information that is the exclusive property of Oracle. Your access to and use of this confidential material is subject to the terms and conditions of your Oracle software license and service agreement, which has been executed and with which you agree to comply. This document and information contained herein may not be disclosed, copied, reproduced or distributed to anyone outside Oracle without prior written consent of Oracle. This document is not part of your license agreement nor can it be incorporated into any contractual agreement with Oracle or its subsidiaries or affiliates.

# Other Information Sources

## My Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/support/contact.html or visit http://www.oracle.com/accessibility/support.html if you are hearing impaired.

Use the My Oracle Support Knowledge Browser to find documents for a product area. You can search for release-specific information, such as patches, alerts, white papers, and troubleshooting tips. Other services include health checks, guided lifecycle advice, and direct contact with industry experts through the My Oracle Support Community.

## Oracle Enterprise Repository

Oracle Enterprise Repository provides visibility into service-oriented architecture assets to help you manage the lifecycle of your software from planning through implementation, testing, production, and changes. In Oracle Fusion Applications, you can use the Oracle Enterprise Repository for:

- Technical information about integrating with other applications, including services, operations, composites, events, and integration tables. The classification scheme shows the scenarios in which you use the assets, and includes diagrams, schematics, and links to other technical documentation.
- Publishing other technical information such as reusable components, policies, architecture diagrams, and topology diagrams.

The Oracle Fusion Applications information is provided as a solution pack that you can upload to your own deployment of Oracle Enterprise Repository. You can document and govern integration interface assets provided by Oracle with other assets in your environment in a common repository.

# Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/us/corporate/accessibility/index.html.

# Comments and Suggestions

Your comments are important to us. We encourage you to send us feedback about Oracle Fusion Applications Help and guides. Please send your suggestions to oracle_fusion_applications_help_ww@oracle.com. You can use the Send Feedback to Oracle link in the footer of Oracle Fusion Applications Help.

# 1

# Enterprise Transaction Controls Governor Setup Overview

Oracle Enterprise Transaction Controls Governor (ETCG) is a transaction-authoring and -handling solution that works across heterogeneous platforms to detect issues that exist at the transaction level. It runs in an Enterprise Governance, Risk and Compliance Controls (EGRCC) platform, which it shares with another application called Application Access Controls Governor (AACG).

ETCG enables its users to create models and controls, each of which defines risk that transactions may present. A model specifies semantic business objects (BO), which supply transaction data to the model; business objects correspond to what a business user would expect to see within an ERP environment. ETCG then finds results or incidents — transactions that are suspect because they meet the criteria defined in the model or control, and so present potential risk to the organization. The results returned for a model are considered "temporary" because the suspect transactions are replaced each time the model is run, whereas control results — known as incidents — are "permanent" no matter how often the control is run.

Because ETCG was designed with rapid implementations in mind, a set of delivered templates provided by Oracle may be used to create models and subsequently deploy controls for immediate transaction analysis. The delivered templates provide models that support rapid implementation of transaction analysis around common end-to-end business processes. These include Order-to-Cash, Procure-to-Pay, Financials, and Human Resources.

Consider the guidelines in this chapter as you set up ETCG for your organization.

## Diagnostic Steps

Enterprise Transaction Controls Governor has been designed to be incredibly scalable by means of hardware configuration. This means ETCG performance can often be improved via a hardware change rather than an ETCG software change.

Touch points of ETCG include several areas that span hardware, software, and network variables. Refer to the *Hardware Requirement* tab of the *Oracle Governance, Risk, and Compliance (GRC) Applications Support Matrix* for the recommended and supported hardware configurations.

Any deviation from these recommendations may result in unforeseen issues and would cause additional time and require additional resources during the implementation.

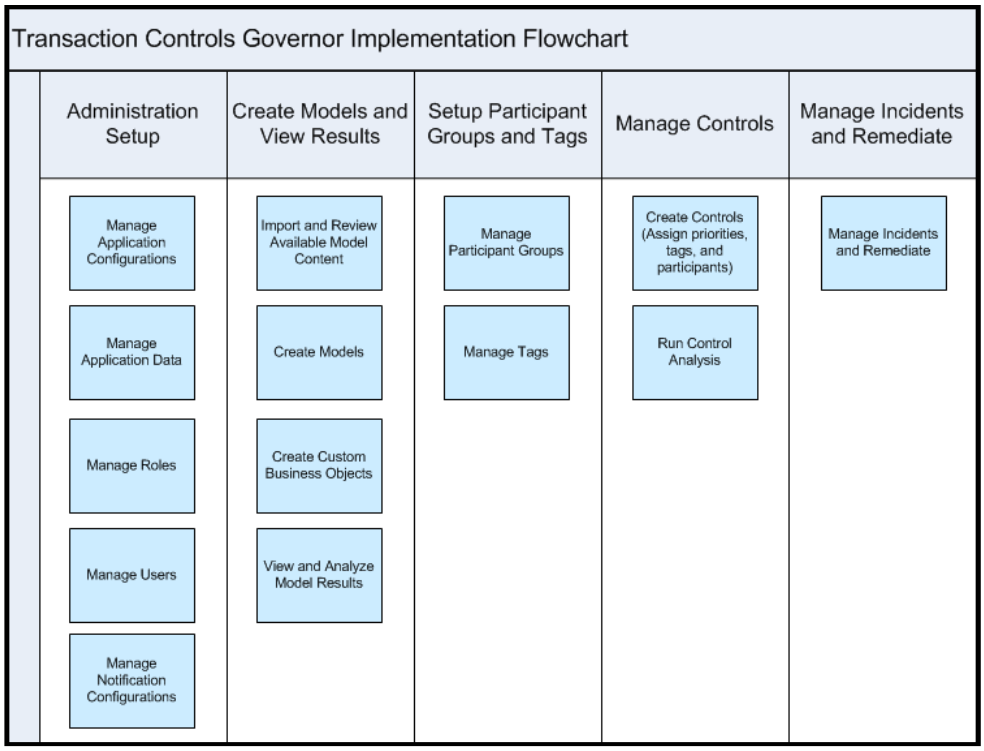
It is highly recommended during implementation planning that sufficient time be allocated for setting up, testing, and troubleshooting environment-specific issues that occur commonly with the many combinations of environments available.

The following is a high-level recommendation for diagnostic steps during environment setup and implementation:

1. Work with Oracle Consulting or an Oracle partner service provider to evaluate your environment and options for an EGRCC installation.
    a. Consider creating Development, Test, and Production instances. It is highly recommended that the environments for these instances be similar to one another, as varying environments could cause unexpected issues.
    b. Search for any patches that may need to be applied.
2. Refer to the *Support Matrix* document for recommended and supported hardware configurations.
3. Look on My Oracle Support for known environment variable issues.
4. Follow the *Oracle Governance, Risk and Compliance Installation Guide* to install EGRCC.
5. Verify that areas of the application are working (see the *Oracle Enterprise Transaction Controls Governor User Guide* or *Oracle Enterprise Governance, Risk and Compliance Controls User Guide* for more information).
    a. Create a datasource (a connection to a database used by a business-management application over which ETCG is to exercise control). As part of working with a datasource, you may synchronize data — capture recent changes in the data stored on the datasource. However, in ETCG (unlike AACG), synchronization will not run until at least one model is created and saved.
    b. Create a simple transaction model to test (for example, Supplier business object where the creation date is greater than *mm/dd/yyyy*).
    c. Synchronize data from your datasource and run View Results.
    d. View the transaction-analysis results.
6. Continue setups as recommended in this *Implementation Guide*.

## Enterprise Transaction Controls Governor Setup Flowchart

Although you can set up Enterprise Transaction Controls Governor in many ways, we recommend that you follow the order suggested in the following flowchart. Some steps are required, and others are optional; you would perform the optional steps only if you are ready to use the features or business functions implemented by those steps.




## Setup Checklist

To set up Enterprise Transaction Controls Governor, complete the steps in the following checklist. You must complete the steps identified as required; complete each of the optional steps only if you want to use the functionality implemented by that step.

Each step is described in further detail later in this document. Moreover, the description for each step includes a reference to a section and chapter of the *ETCG User Guide* or *EGRCC User Guide*, in which you can find full information about the procedures for completing each step.

### Administrative Setup

☐ 1 **Required:** Connect your instance of EGRCC to its database. Typically, connectivity values are set during installation; you would update the values only if your configuration needs to change.

See "Setting Properties" in the Data and System Administration chapter of the *EGRCC User Guide*.

☐ 2 **Required:** Configure connections to datasources for instances of the business-management applications (such as Oracle EBS) that are to be subject to control by ETCG. Optionally, select a datasource to be used as the ETCG default.

See "Configuring a Datasource Connection" in the Data and System Administration chapter of the *EGRCC User Guide*.

☐ **3** **Optional:** Define roles and permissions available to ETCG users. To create a role, you essentially give it a name and then select a set of properties for it. For ETCG, properties do the following:

- Grant update or view rights to the nodes you can select in the Tasks panel, generally following its hierarchy, and so assign privileges to work in the screens that can be opened from the Tasks panel.
- Grant access to business objects and datasources used to create models and analyze transaction data.

EGRCC comes with two roles already defined: Basic provides access only to a Home page, and Admin provides access to all (AACG and ETCG) features, including all business objects. The permissions of the Admin role should not be updated, allowing access to all datasources, business objects, and pages.

Role creation is optional because you may use the existing Admin role to grant access to all the features you will need initially. But the datasources you define in your environment must be granted access in the Admin role, since datasource definitions are specific to your organization.

See "Creating a User Role" and "Creating a Group Role" in the User and Role Administration chapter of the *EGRCC User Guide*.

☐ **4** **Required:** Define ETCG users and grant them roles. EGRCC comes with one configured user, for which both the user name and password are *admin*. This user is assigned the Admin role and so has rights to all EGRCC features. By logging on as the admin user, one can create other roles and users. However, it is imperative for proper security that an authoritative user modify the admin user's password as soon after installation as that task can be completed.

It is recommended that at least one additional role with administrative capabilities be created. This role can be used if the original admin role becomes locked (which would occur if several unsuccessful login attempts are made on it.)

See "Creating User Accounts" in the User and Role Administration chapter of the *EGRCC User Guide*.

☐ **5** **Optional**: Configure notifications. When a control generates incidents, ETCG may notify the participants via your company's email system. For this to happen, establish a connection to the SMTP server your company uses for sending email, and schedule notifications to be sent. This may be done at any time during implementation, but keep in mind that during initial implementation there is usually a higher volume of incidents generated.

See "Configuring Notifications" in the Data and System Administration chapter of the *EGRCC User Guide*.

## Create Models and View Results

☐ 6 **Optional:** Load model content. An ETCG import utility enables users to upload delivered templates (pre-built models/controls) created by Oracle or by other users (and an export utility enables users to make their own models available to others as templates). Models or controls (delivered templates) for E-Business Suite or PeopleSoft may be loaded to support rapid implementation of transaction analysis.

See "Exporting and Importing Models and Templates" in the Creating and Managing Models chapter of the *ETCG User Guide*.

☐ 7 **Required:** Define transaction models (or copy/edit those loaded in step 6). A transaction model may select business objects for review and define the conditions for that review. A single model may mix differing business objects. For example, it may include both Oracle Suppliers and Purchase Orders. It may include business objects from more than one business-management system, for example defining equivalent business objects in two separate Oracle E-Business Suite environments.

See "Using a Model or Template to Create a New Model" and "Creating a Transaction Model" in the Creating and Managing Models chapter of the *ETCG User Guide*.

☐ 8 **Optional:** Create custom business objects. There may be times you have data that is external to your datasource, such as a list of suppliers you are blocked from doing business with, that you wish to leverage within the modeling and analysis tool.

See "Using Custom Objects" in the Creating and Managing Models chapter of the *ETCG User Guide*.

☐ 9 **Required:** View and analyze results your transaction models generate. A View Results program may be run immediately or in the background.

See "Viewing or Exporting Results" in the Creating and Managing Models chapter of the *ETCG User Guide*.

## Set Up Participant Groups and Tags

☐ 10 **Optional:** Create participant groups. Easily manage and assign groups of EGRCC users who are in charge of reviewing and acting on incidents that are generated from controls.

See "Creating Participant Groups" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

☐ 11 **Optional:** Define tags. A tag is a category of values. Its values may be assigned to controls and their incidents to facilitate user analysis and reporting during incident evaluation and remediation.

There are two seeded tags, Business Process and Risk. Evaluate how your organization wants to categorize and assign tags to your controls. You can define new tags and their values.

See "Managing Tags" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

## Manage Controls

☐ **12** **Required:** Create transaction controls. Deploy controls from models to generate permanent incidents that can be tracked as they are accepted, rejected, or remediated. (Depending upon your GRC goals, the process of creating a control from a model is really optional; but creating a control is the only way to generate permanent incidents for tracking and auditing.) As a part of the create transaction control action, the following steps can apply:

- Assigning a control priority is **required**. This is a number value to identify the importance of the control. When setting priorities, you should establish a consistent usage within your organization, taking into account your GRC goals and level of risk to the company for the control. The priority indicator can be used to help focus on higher areas of remediation via the Manage Incidents grid and reporting tools.
- Selecting at least one datasource for a control is **required**.
- Assign optional tags. Tags are used to categorize controls that facilitate analysis by sorting, filtering, and reporting during incident analysis and remediation.
- Assign participants or participant groups. By default, the user creating the control is assigned as a participant. Assign additional participants or participant groups to the control. Each control must have at least one participant (individual or group), that resolves control incidents.
- Add any optional comments to the control, or associate the control to one that is related.

See "Creating Transaction Controls" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

☐ **13** **Required:** Run control analysis. Selecting the Run action causes ETCG to identify and create incidents for your selected control(s). Alternatively, you can set up a schedule for the control to run on a regular basis in the future.

Consider synchronizing the transaction data first to ensure that business-management-system data is current and the incidents generated are up to date.

See "Running Controls" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

## Manage Incidents and Remediate

☐ **14** **Required:** Manage incidents and remediate. Incidents are automatically assigned to the appropriate participants, who analyze, report, and remediate incidents they have been assigned.

See "Managing Incidents" in the Resolving Incidents chapter of the *ETCG User Guide*.

# 2

# Administration Setup

You need to create and set up one or more datasources in the EGRCC Administration Management task, Manage Application Data page. The datasources you set up depend on various factors, such as your company's current mandates, risk tolerances, and compliance goals. Considerations include the need to connect to development instances and test instances, and to analyze data across multiple homogeneous instances and/or heterogeneous platforms. Below are instructions for the administration steps outlined in the "ETCG Setup Flowchart" from above. (There are references to other sections of this guide for more detailed instructions.)

Use the *Enterprise Governance, Risk and Compliance Controls User Guide* for help in completing setups.

## Manage Application Data

Before you begin setting up your datasources, consider your environment and your goals. Do you run transaction analysis against multiple applications? For instance, do you connect to one application for Financials and another for Human Resources? Are these on the same platform? Will you analyze transactions across multiple platforms or even cross-platform? By carefully evaluating your business needs, you can create the necessary datasources so that when models are loaded or created, they will be able to run against the appropriate datasources.

See "Managing Application Data" in the Data and System Administration chapter of the *EGRCC User Guide*.

## Manage Application Configurations

Once you have identified your datasources, evaluate the amount of historical data you will require as part of your transaction analysis and determine how era-dating can be used in your organization, defined under the Manage Application Configurations page.

As part of defining properties (in the Manage Application Configurations page), it is recommended you set an analysis start date by enabling era-based ETL optimization for ETCG. This causes ETCG data synchronization to operate only on data that was last updated after the specified date (meaning that no data updated prior to the anal-

ysis start date is loaded into EGRCC). The date used here can have a direct impact on performance because it affects the amount of data synchronized.

There are some very important points you must consider as a part of your era-based setting:

- The analysis start date is a mechanism used for limiting the record set that is synchronized (such as for space limitations), and applies to all datasources and data business objects.
- There is no way to apply this setting to a specific set of transaction business objects or datasources. Instead, it applies to all or none.
- You should initially set this analysis start date in a test environment, to improve your ETCG testing experience. But eventually you should test the date itself to determine whether there is an analysis start date that works for your organization.
- The reason this analysis start date should be included as part of your test plans is because its setting can directly impact the transactions identified as potential suspects, in some cases ignoring them entirely when they should not be ignored. Below is a use-case example you should reference to evaluate and verify the impact the date will have on your model (and eventually control) results. Use dates and business objects that make sense to you.

  1. Set Analysis Start Date to 1/1/2010.
  2. Create a model using both Supplier and Payables Invoice business objects.

     Most of the Supplier data has not been updated in the source ERP system in a long time because it does not change very frequently. The Invoices are current in the last month because transactions are updated daily.
  3. View results of the model. You find zero data rows are returned, but know there should have been at least a few suspects.

     The limitation is the era-date feature, because it applies to all business objects — whether they are infrequently updated (like setup or operational information like supplier) or not (transaction data).

     The supplier details related to the invoice transactions in this use case was never transferred to GRCC, because the last time suppliers were updated was before the analysis start date. The era date applies to both datasource records — supplier and invoice — and joining them together in a model may not bring back the current invoice records.

     If you find this is the case with your model, evaluate whether you require the additional setup or operational business object (such as Supplier) used together in a model with a transaction object. The transaction objects may already contain enough basic attributes to accommodate your models and controls.

***Note**: Era-based ETL does not apply to AACG.*

As you define application configurations, you may consider other questions, such as the following: Will you require various languages? Will you need to supply data to Governance, Risk and Compliance Intelligence for reporting purposes? What kind of password security does your company require?

By carefully evaluating your business needs, you can configure your application for best performance and reporting.

See “Configuring EGRCC” in the Data and System Administration chapter of the *EGRCC User Guide*.

## Manage Roles

Before you begin setting up your roles, consider who will use ETCG (and EGRCC), and for what purposes. Examples of roles may include:

- Auditors — May be able to review generated incidents and view model results.
- Internal Controls Group — May help review/create models and controls, view results, and run reports.
- Business Area/Application Owners — May conduct a variety of activities such as creating models and viewing results, defining tags and participant groups, deploying controls and monitoring incident remediation, and running reports.
- System Administrator — May set up datasources, application configuration, notification configurations, and perform other administrative tasks.
- Remediation User — May analyze incidents and update status during remediation.

See the User and Role Administration chapter of the *EGRCC User Guide*.

## Manage Users

Before you begin creating users — during the role-creation process — you should have considered who will use ETCG (and EGRCC), and for what purposes. Also evaluate roles for ETCG in conjunction with access to business objects and data-sources. Consider a naming convention for user names and apply one or more roles to each user as appropriate.

See the User and Role Administration chapter of the *EGRCC User Guide*.

## Manage Notification Configurations

Notification schedules determine how often users are notified when incidents are generated. For each control participant for whom notification is set to yes, a consolidated email message is generated, showing all controls violated, but not yet sent. Before creating a notification schedule, consider how often incidents will be generated, and how immediate is the need to review or fix those incidents.

See “Configuring Notifications” in the Data and System Administration chapter of the *EGRCC User Guide*.

## About ETL Synchronization

To maximize performance and handle cross-platform analysis, ETCG employs synchronization — it extracts transaction data from ERP systems and loads that data into its own database. For efficiency purposes, a synchronization operation collects transaction data that apply only to the business objects and datasources used by existing models. Therefore, synchronization can be run only after at least one model has been created and saved.

ETL synchronization may be run on demand, or it may be scheduled to run at regular intervals. Various factors dictate how often either on-demand or scheduled synchronization should occur.

In general, whenever data within ETCG is believed to have aged substantially beyond equivalent data in a datasource, ETL synchronization should occur before transaction analysis is run against that datasource. Transaction data changes daily, so a daily ETL synchronization is recommended if transaction analysis is also performed daily.

If, for another example, your company evaluates transactions on a monthly basis, then you may need to run the synchronization process only once a month.

Keep in mind that you can always run an on-demand ETL synchronization from Manage Models grid if necessary. However, this must be completed before the transaction analysis is performed.

See “Synchronizing Data” in the Data and System Administration chapter of the *EGRCC User Guide*.

# 3

# Create Models (and Templates) and View Results

You may decide to load the delivered templates provided by Oracle for transaction models, or create your own. By doing so, you will have a number of analysis models to be reviewed with appropriate business owners, and compared against the company's goals for governance, risk, and compliance (GRC). It will probably be necessary to use a combination of delivered models and new models you create and edit.

During this phase of implementation, you must consider all available features of the application to assist with your GRC goals, the transaction controls you might require, and the users who will work with Enterprise Transaction Controls Governor. Consider the following:

- If you plan to deploy controls, defining a model or using a template to create a model is a required step.
- Models may be beneficial for your internal and external auditing requirements. Auditors can be granted access to the EGRCC Manage Models page to perform some of their own analysis without disturbing the controls you have in place.
- Evaluate the main differences between models and controls to determine if the model will eventually be deployed as a control:
  - Model results generated during analysis represent a snapshot in time, or temporary results, because they are replaced each time the model is run. Control runs will track permanent results (known as incidents) that cannot be deleted and require a more formal analysis and remediation process.
  - Controls contain additional criteria that models do not, such as status, tags, priority, participants, and comments.
  - Because models are used as part of control setup, or as an analysis tool by auditors and business owners, the models can be deleted by the user who created them, but controls cannot.

At this point, you should have a good idea of the GRC or business-performance goals of the company and know what areas of the business should be focused on. Reviewing each template or model and its content is necessary to ensure that the goals of the company are being met. There are several ways to approach defining models. A common approach is outlined in the following steps:

1. Identify GRC goals of the company.
2. Load the set of delivered templates as models.

3. Hold workshops with subject-matter experts (SMEs) to review models.
4. Create or edit models as needed.
5. Generate and analyze the data results for model.
6. Perform any initial remediation where possible.
7. Validate and refine models.
8. Convert models to templates for shared, global use if needed.

(This chapter contains references to more detailed instruction in other user guides.)

## Import Available Model Content (Templates)

Models are user-specific — each is visible only to the user who created it or imported it. Therefore it's best to import key models as templates, which may be reused by various groups and users within the organization. A template is a permanent record of a model that is viewable by all ETCG users — all users have access to templates.

When new models have been created ad hoc by users, and they have been validated (their results have proven they are effective), they should be converted to templates if they are to be shared with other users. This involves exporting models to a file as templates, and then importing them as templates from the file; these operations are performed in the Manage Models page. When a template is imported, it appears in the Templates tab of Library in the Create Transaction Model or Edit Transaction Model page. (A template is a shell of the model from which it is created. It contains no description or datasource. The user fills that information in, and then saves it with a unique model name.)

When you use this template feature, consider the following:

- User role security for business objects. A user must have access to business object used in the template; if not, the template will not be available to the user. The sensitivity of data may determine the demand to share models as templates within your organization.
- Requirements to share models. As part of your GRC goals and requirements, evaluate how many users build models and perform transaction analysis. Next, consider whether their models overlap very little or extensively. The volume of users may dictate how many templates you use, or how frequently you use this template feature.
- Testing environment versus production environment. When you are in your test environment, you are not as concerned with the number of templates created by all your users. Any user that has update access to the Manage Models page can import models as templates. But you need to carefully evaluate your requirements and processes in your production environment; once templates are imported they **cannot** be deleted. (There is no tool or action available to remove the template from the library in the Create Transaction Model page.)

See "Exporting and Importing Models and Templates" in the Creating and Managing Models chapter of the *ETCG User Guide*.

## Create Models

As mentioned above, you will probably find the need to create new models to have sufficient coverage of your company's GRC goals. You could start with one of the delivered content models (or templates) and edit it as a new model, or create a new model from scratch. Models can be created at any time, and their logic modified or altered to arrive at the desired rules and data attributes necessary to assist you in identifying and evaluating suspect data in your transaction system. This becomes even more important if the model is to be deployed as a control, because once the control is created, the model logic and display results (attributes) cannot be changed.

To create models efficiently, it's important to understand how EGRCC synchronization (ETL) works. When a previously unused business object is added to a model, an ETL process runs automatically as part of the model-creation process, collecting data about the new business object from the defined datasource. If you intend to use one or more new business objects as you create or edit any number of models, you could initiate the ETL process first. Do this in either of two ways:

- Create a "pseudo model" — one that contains the previously unused business objects, and at least one filter in the model logic (for example, for Supplier business object, Supplier ID is not blank). Saving this model initiates the synchronization process for the new business objects. You may choose to do this several days (or at least overnight) prior to building the models you really want to create.
- Build an actual model with all its business logic. Save this model and allow it to run in the background, so that other new models can be created. These models and related business object synchronization are queued in Manage Jobs (a page available under the Jobs and Scheduling task).

There are several key things to consider when defining models:

- Select all the necessary business objects.
- Use the right datasources.
- To perform initial data and control-requirements testing, attempt to "over-filter" at first — define model filters so that results are limited to a manageable number of rows.
- Select only the most important attributes. (An attribute is an individual piece of transaction data owned by a business object — for example Supplier Name in the Supplier business object.) Selecting only necessary attributes directly impacts the amount of suspect data rows that might be returned. For example, if you select the Invoice ID attribute from the Payables Invoice business object, far fewer results are returned for analysis, because the suspect data is aggregated to the header level — such as Invoice ID — instead of the individual line/detail rows that make up the invoice (such as attribute Line: ID).

See the use cases in the appendix of this document to refer to various model-definition examples. Also see "Creating a Transaction Model" in the Creating and Managing Models chapter of the *ETCG User Guide*.

## Business Objects

When defining transaction models, select one or more business objects related to the transaction data in your source system that you wish to analyze. If selected objects are logically unrelated, a warning message will indicate this as you attempt to save the model. In many cases, you may find only one or two business objects are necessary to analyze and research suspect results. As an example:

- When using the Payables Invoice business object, include the Supplier business object to use the Supplier Name attribute.
- When you use the Payment business object in a model, it already contains the Supplier Name attribute and does not require the additional Supplier business object.

Many delivered business objects are common across datasource types (platforms), but some are platform specific. Additionally, within a business object that is common across platforms (for example, PeopleSoft and EBS), there can be both common attributes and platform-specific attributes. As an example, a Business Unit attribute is specific to a PeopleSoft transaction, whereas attributes like ID and Name can be common in the business object.

***Note**: When your organization requires business objects or attributes that are not currently available, refer to the Extensibility Framework Guide to extend the delivered content to meet your needs.*

## Datasources

In general (excluding any customizations) the current release of ETCG supports the following datasources:

- Oracle E-Business Suite releases 12.1 and 11.5.10.2 are delivered integrations that include adapter and metadata.
- PeopleSoft Enterprise Financials 9.1 is a delivered integration that includes adapter and metadata.

  ***Note**: In this initial release for PeopleSoft 9.1, the adapter and metadata are supported only against datasources that use an Oracle database.*
- GRCC, which is used in conjunction with the "User" and "Access Entitlement" business objects. (The datasource basically points to itself to leverage access-oriented object information stored in EGRCC.)
- XLS datasource, which is used in conjunction with spreadsheets you may have leveraged to create your own custom objects.

It is not necessary to define either the GRCC or XLS datasources under the Manage Application Data page, Datasources tab. These are system-delivered datasources that appear as options in your Create Transaction Model or Edit Transaction Model page.

When creating a new model, but after selecting your desired business objects, select the required datasource(s) for the model under the Manage Datasource button on the Create Transaction Model page. It can be imperative to select your datasource before you proceed to defining the Model Logic and Result Display regions because some of the available attributes can be platform specific. Selecting the datasource exposes the common and platform specific attributes available for that datasource type.

## Model Logic

As you create an ETCG model, you define "filters," each of which defines risk and selects transactions that satisfy the definition. At its most basic, a filter consists of an attribute, a "condition" (a mathematical or other operator), and usually a third term. At a high level, there are three filter types: general, function, and pattern.

As part of the general and function filter types, there is an Advanced Options expandable region. Depending upon the condition being used, the options include:

- Include unique data rows, which is used in conjunction with the Similar and Similar to conditions.
- Apply condition across the same data row, which applies when the same business object is used on both sides of the condition.
- Over interval, which applies only to the function filter.
- Exclude, which applies to both general and function filters.

For the general and function filters:

- Available conditions vary depending upon the attribute selected for the filter.
- The complete list of conditions includes: Less than, Less than or equal to, Greater than, Greater than or equal to, Equals, Does not equal, In, Not in, Between, Is blank, Is not blank, Different than, Contains, Does not contain, Is not related to, Similar, and Similar to. Except for the Is blank and Is not blank conditions, additional criteria are required, such as value or an object and its attribute.
- Examples of their usage might include:
  - Use "Greater than" with two attributes like Amount Paid and Invoice Amount (such as Amount Paid Greater than Invoice Amount).
  - Use the "Contains" condition in conjunction with text attributes. As an example, define the filter for a Description attribute that includes value *Miscellaneous*. This value is not case sensitive.
  - Use "Similar" to analyze and group similar data rows across a single attribute, based on a percent similar, which only considers data groups that have more than one similar value when the "Include unique data rows" is *unchecked*. For example, use "Similar" on Supplier or Customer Name (using a high percent similar value) to identify duplicates or names that are similar.

    Use "Similar to" to analyze and group similar data rows across two attributes, in the same or a different business object, based on a percent similar, and with the "Include all unique data rows" *unchecked* to consider groups that have more than one similar value. (In most cases, 80 percent similar or higher should be used to avoid a lot of false positives for the "Similar" and "Similar to" conditions.)
  - Another way to use "Similar to" is to create a link between two objects and attributes that may not currently be related. This is especially true when analyzing custom business objects created from external data. (To review an example, see the Use Case 5 in the Appendix of this document.)

– Use one of the three available functions — Average, Count, and Sum. For example, use "Sum" to add together Invoice Amounts and define a business object/attribute filter to indicate how data is aggregated (such as aggregating invoices by Supplier Name from the Supplier business object).

When more than one filter is added, an AND relationship is the default. For the general and function filters, you can drag a filter alongside another to create an OR relationship.

Pattern filters are statistical algorithms applied to identify baselines and anomalies in data. Two delivered patterns are currently available: Mean and Benford. Only one pattern filter is allowed per model, and can be used in conjunction with other filters. If at first your pattern model does not return any graph data points/suspect transactions, try lowering threshold numbers.

***Note**: In this initial release for EBS 11.5.10.2 and PeopleSoft 9.1 adapter and metadata, pattern models are not supported as part of the delivered business objects.*

The "Group Filters" is used to include filters into one logical element.

### Result Display

In the Result Display region of the Create Transaction Model page, select attributes you want to include as part of your result set. Keep in mind the number of attributes selected can affect the performance of generating the list of suspect transactions, and the number of rows created.

If you are eventually going to deploy this model as a control, it is important to assign a key or important attribute as the first in the list. This value will appear in an Incident Information field of the Manage Issues page to facilitate analysis, sorting, filtering and reporting of generated incidents.

## Create Custom Business Objects

At times, you may want to use data from sources other than those registered within EGRCC. To a limited extent, you can do this by utilizing the custom business object capabilities within the Create Transaction Model page.

In brief, you would create an object in an .xml file format and import it into ETCG. Most likely, this would involve exporting data to some initial format, such as Excel, potentially doing some data manipulation, and then saving that to the .xml file format. This is fully documented in the *ETCG User Guide*. However, it's important to note that due diligence must be taken in making sure the data type is properly defined in the column header and that all formatting must be removed from the document before converting to .xml.

See "Using Custom Objects" in the Creating and Managing Models chapter of the *ETCG User Guide*.

## View and Analyze Model Results

Use the model results as an opportunity to perform any auditing analysis of transaction data, identify potential risk and fraud to make corrections if possible, and use the model to define and test proposed controls.

Use the online view result grid to analyze the model data, or extract it to Excel to save your finding, perform further analysis, and distribute information to other users.

This phase allows you an opportunity to modify your models, their logic, and attribute requirements if you will use them as controls. If you intend to deploy a model as a control in order to track permanent incidents, continue to the next step of setting up participant groups and tags.

See “Viewing or Exporting Results” in the Creating and Managing Models chapter of the *ETCG User Guide*.

# 4

# Set Up Participant Groups and Tags

Before deploying any model as a control, you should evaluate your participant groups and tag requirements. Think about who will be involved in the review process when incidents are generated and how to categorize your controls. (This chapter contains references to more detailed instruction in other user guides.)

## Manage Participant Groups

You can apply participant groups to each control. You may have an Internal Controls group in charge of reviewing overall controls, but you may also want to define groups by business area that will be focused on certain controls. For example, create three unique participant groups for users working with Expense, Payables, and Procurement transactions.

See "Creating Participant Groups" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

## Manage Tags

Tags assigned to your controls will allow users to filter on those controls (and any incidents generated by those controls) by the tag values you define. For instance, if you have controls handled by regions in your company, it may make sense to create a new tag called Region. In that tag you may have values such as North America, South America and Europe. It is possible, for instance, that you have different people in charge of reviewing incidents for the violations that happen in the North American region than you do in the South American region. Since transaction controls can focus on a specific business process area, you might find you want to update the delivered Business Process tag to represent your organization. The other delivered tag includes Risk.

See "Managing Tags" in the Creating and Managing Controls chapter of the *ETCG User Guide*.

# 5

# Manage Controls

A transaction control specifies circumstances under which transactions entail risk and so require review. When the control is run, it generates incidents for the transactions that exceed the defined risk. These incidents are considered permanent. As mentioned earlier, you use a valid model as the foundation to create your transaction control. (This chapter contains references to more detailed instruction in other user guides.)

## Create Controls

Select models that have been tested and refined before creating a control. The process of using a model to create a control behaves like a copy action; once the control is created, updates to the original model have no impact to the control. All the model components are copied into the control (name, description, objects, logic, and attributes) as the first step, but then the control captures additional information such as priority, status, datasource, related controls, tags, participants and/or participant groups, and the ability to add any comments to the control that you define. Once a control is created and updated, and analysis is run, permanent incidents are created.

After the control is run, you can update the control elements as necessary — such as priorities, tags, comments, and participants — one control at a time or en masse.

You can create a control from a defined or pattern model. Note, however, that a pattern model generates graphic results, but when a control is generated from the model, the graph is unavailable. It is advised that you use caution in using a pattern model deployed as a control unless you have done some extensive analysis working with the model. When a pattern model is deployed as a control, one incident is created per unique row for all the rows underlying the data points in your graph. Incidents basically represent a single transaction from your ERP system, and you could potentially end up with a high volume of incidents that might be hard to analyze and manage.

See “Creating Transaction Controls” in the Creating and Managing Controls chapter of the *ETCG User Guide*.

### Assign Priorities

In the required Priority field, you enter a value (number) that expresses the importance of the control and related incidents. As mentioned earlier, you should establish a set of priority values and enforce consistent usage within your organization.

### Select Datasources

It is required that you select one or more valid datasources for the controls you are creating.

### Assign Tags

Tags represent categories of values. Even though they are optional, they can be very beneficial while analyzing and remediating incidents. For example, one can use these values for sorting, filtering, and reporting.

### Assign Participants

Each control must have at least one participant assigned to it. The user who creates the control is automatically assigned as a participant. Do not overlook adding additional participants that may be required.

### Other Control Considerations

A control's status is either Active or Inactive; by default it is set to Active. If a control with incidents tied to it is set to the Inactive status, its incidents are set to a system-defined status of Control Inactive.

Other optional control elements include related controls and comments regarding the control.

## Run Control Analysis

You are now ready to run the analysis for your selected controls, to generate incidents and begin your formal remediation process. New incidents created during this process are assigned the status of Assigned.

Some additional information you should understand about the transaction control and the incidents it generates is as follows:

- Each incident created is assigned a unique identifier.
- Each incident contains only one transaction record.
- You must be assigned as a participant to see the incidents in your Manage Incident grid.

- The Manage Incident grid displays some attributes from the transaction control logic that will assist you during analysis and reporting for remediation. They include:
  - Incident Information. This value is the first selected attribute in the Result Display region when you built the model. Since it is key and can be used for sorting, filtering, and reporting, choose a meaningful attribute as the first in list.
  - Grouping. This identifies a grouping filter and attribute defined as a filter in the Model Logic region when the model was defined. This would include Function filters, and filters that use the conditions of Similar and Similar to. (For example, a control has a filter that locates supplier names that are 80% similar. This field would show the condition and its related business object and attribute.)
  - Grouping Value. For ETCG, if you have grouping information you may also have a grouping value. The value represents the criteria that caused the record to be generated group of incidents to be identified.

See “Running Controls” in the Creating and Managing Controls chapter of the *ETCG User Guide*.

# 6

# Manage Incidents and Remediate

Transaction analysis identifies transactions that meet the criteria of the deployed controls. These transactions are only suspect. They may or may not represent actual violations. Additional review and research of the results may result in any of the following conclusions:

- A transaction involves error or fraud. If so, other upstream controls should be employed to reduce the risk of the occurrence of such transactions in the future.
- A transaction was a known and accepted deviation from general corporate policy, and appropriate approvals and sign-offs were obtained.
- A transaction was acceptable in the context of its occurrence. This may be deemed a false-positive and may warrant the modification of the model logic.

If suspect transactions are deemed to be in violation of the control environment, then remediation steps are required. Involving the appropriate people during remediation is imperative. Remediation within transaction analysis is not the same as it is for other types of violations, such as segregation of duties (SOD). Transactions cannot be removed from the system — they will continue to exist. Remediation comes in the form of identifying appropriate preventive and upstream controls and potentially entering in adjusted transactions and modifying previously submitted reports.

Although there are various ways to approach remediation, outlined below are some approaches to facilitate analysis and remediation based on the transaction task you are currently working with. They may need to be adjusted based on your company's goals for governance, risk, and compliance.

See "Managing Incidents" in the Resolving Incidents chapter of the *ETCG User Guide*.

## Remediation Flowchart

An overview of the transaction lifecycle and remediation steps is provided in the flowchart below. There are four high-level phases or processes identified in the flowchart, representing the various areas of analysis and remediation opportunities as part of your GRC goals.

## Define Models and Logic

Creating and working with models provides you the ability to perform auditing requirements, testing of delivered content or new models, and transaction analysis to identify risk and perform some initial remediation. Models can even be used for some potential housekeeping or maintenance of transaction data or transaction setups.

## Modify Models

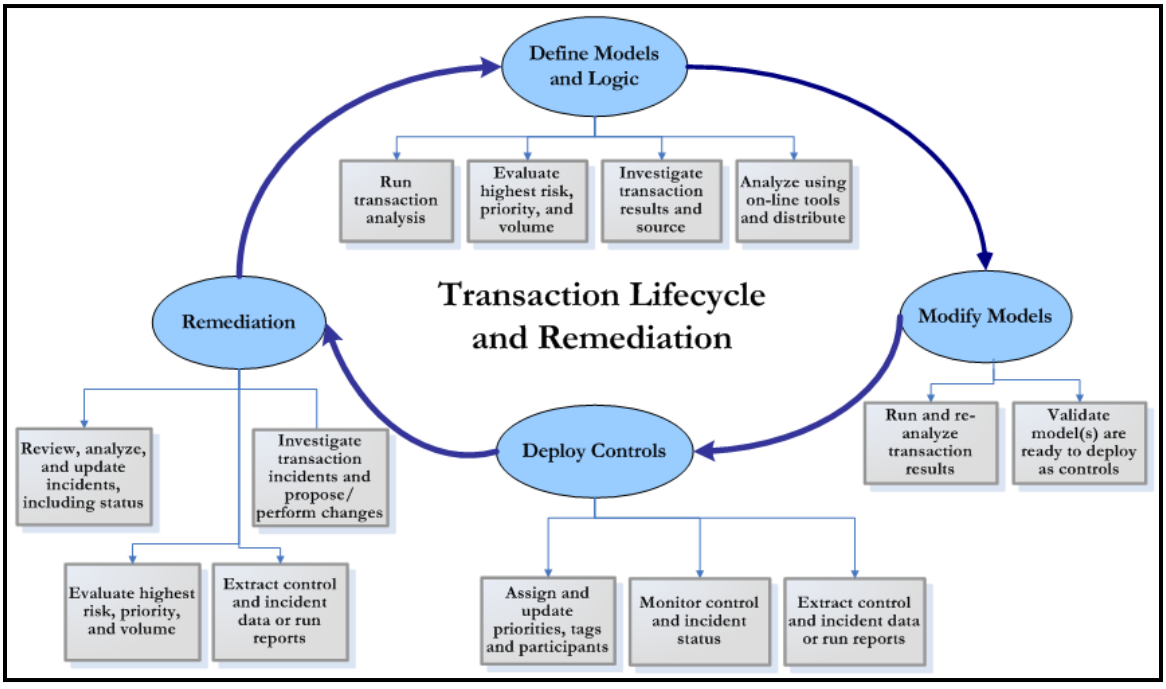
During the model-modification phase, edit your models to prepare for creating controls. You would probably want to re-run a model and analyze the data results to validate, and perform any final logic changes or remediation prior to signing off with users and deploying as a control to track permanent incidents.

## Deploy Controls

When creating and running controls, be sure to assign priorities that might designate higher-risk areas to focus on. Include participants who can review and remediate any incidents generated by transaction control.

## Remediation

The more formal remediation process is performed under Incident Management — Manage Incidents. By sorting and filtering in the online grid, and generating necessary reports to assist in the analysis, users can take action against the incidents created when the transaction control is run.



## Remediation Checklist

The following checklist provides a more detailed list of where remediation steps can be performed across the application processes for ETCG. When you are ready to begin remediation, log on to Oracle Enterprise Transaction Controls Governor and work through these steps. Where you begin your remediation in this checklist depends on whether you are in initial evaluation (identifying models and reviewing initial suspects), or you have controls deployed and are analyzing the incidents they generate. (This chapter contains references to more detailed instruction in other user guides.)

### Define Models and Logic

☐ **1** Run transaction analysis for *all* key models (defined and pattern).

Loading all the seeded models, creating new models in critical business processes and activities, and running transaction analysis will provide a quick view of your company's overall transaction health and provide a basis for beginning analysis and prioritization.

If there are areas of high risk, and yet specific defined models cannot be identified, running some pattern analysis on the related business objects may provide enough information to start.

Make sure models are structured properly. If initial results generate significant volume, the logic of your model may not be fine-grained enough. For example, it's better to focus on higher-dollar-value items first, so perhaps the value of your amount threshold is increased.

See "Creating a Transaction Model" in the Creating and Managing Models chapter of the *ETCG User Guide*.

☐ **2** Evaluate highest risk, priority, and volume.

Focus on areas with the highest risk, priority, and volume. Depending on your company's GRC goals, determine focus areas to begin analyzing. Focusing on key areas allows you to close up your greatest areas of risk and reduce the possibility that additional transaction violations will occur in the future.

☐ **3** Investigate transaction results and source.

Just because a transaction record is generated based on your model logic, doesn't necessarily mean there is a problem in your environment. Remember that these are just suspect transactions and therefore further investigation is required.

☐ **4** Analyze using on-line tools and distribute.

Use on-line tools to analyze results; for example, export model results to Excel or other spreadsheet applications. These tools enable users to perform complex analysis using functions and pivot tables, and share the reports created.

Various users should review and act on the results that are generated. Generally, for example, different business owners are interested when

different models are violated. Since a model relates to specific business objects, assigning the results to these owners should be straightforward.

See “Viewing or Exporting Results” in the Creating and Managing Models chapter of the *ETCG User Guide*.

## Modify Models

☐ **5** Run and re-analyze transaction results.

After a period of time once the necessary upstream controls have been put in place, review the transactions as of that point in time forward. This will provide the necessary data points to determine if additional remediation activities are necessary.

☐ **6** Validate that models are ready to deploy as controls.

Perform many of the same steps identified in the first business process area – Define Models and Logic.

Once you are satisfied with a model to be used as a control, you are ready to deploy the control to use the more formal tracking of transaction risks.

## Deploy Controls

☐ **7** Assign and update priorities, tags and participants.

Assign the appropriate participant or participant groups who are involved in the remediation process. Assigning standard priorities and relevant tag values will help facilitate users’ remediation of incidents when the control is created and run.

See “Creating Transaction Controls” in the Creating and Managing Controls chapter of the *ETCG User Guide*.

☐ **8** Monitor control and incident status.

Use various online tools to monitor the remediation process of your controls:

- Under the Manage Controls task, there is a Controls Dashboard that provides graphs to assist in your control analysis.
- Under the Manage Incidents task, there is an Incidents Dashboard that provides graphs to assist in your incident analysis.
- Use the Manage Controls grid to sort, filter, and report.
- Use the Manage Incidents grid to sort, filter, and report.

See Resolving Incidents chapter of the *ETCG User Guide*.

☐ **9** Extract control and incident data or run reports.

For transaction controls and their incidents, the following is a list of available reports provided in EGRCC:

- Control Detail Extract Report
- Incident by Control Summary Extract Report
- Incident Summary Extract Report
- Transaction Incident Details Extract Report

These reports are also available via Reports Management.

See the Reporting chapter of the *ETCG User Guide*.

## Remediation

☐ **10** Review, analyze, and update incidents, including status.

Use the grid under Manage Incidents task to perform some initial online analysis such as sorting, filtering, and reporting. Update one or many incidents at the same time with any status changes, participants, tag changes, or add comments.

The following are the status options:

- Assigned (Pending State). This is auto assigned for further review when control incident is created.
- Remediate (Pending State). Select this to indicate additional follow-up action is required.
- Accepted (Closed State). Select this to indicate no follow-up action is required.
- Resolved (Closed State). This is used as a follow up state to "Remediate." No further action is necessary.
- Control Inactive (Closed State). This is not available for selection, but is auto assigned if the Control is inactivated or a datasource is removed from a Control.

See Resolving Incidents chapter of the *ETCG User Guide*.

☐ **11** Evaluate highest risk, priority, and volume.

This is the same as Step 2 above, except you may edit and add comments to transaction incidents, and they are tracked and recorded and cannot be deleted. Again, focus on areas with the highest risk, priority, volume, and GRC goals to determine where to begin analyzing. Focusing on key areas allows you to close up your greatest areas of risk and reduce the possibility that additional transaction violations will occur in the future.

To assist you in identifying higher risk and priorities, access the Incident Dashboard tab under Manage Incidents task. The dashboard contains graphs to help you make these decisions.

See “Reviewing Summary Graphs” in the Resolving Incidents chapter of the *ETCG User Guide*.

☐ **12** Extract control and incident data or run reports.

For transaction incidents, you will want to leverage the same incident reports mentioned in Step 9 above, or continue to use the online grid to perform some sorting, filtering, and analysis.

See Reporting chapter of the *ETCG User Guide*.

☐ **13** Investigate transaction incidents and propose/perform changes.

Just because a transaction incident is generated, this does not mean there is a problem in your environment. Any incidents that do not require further investigation should be set to Accepted status. When the Manage Incidents grid is refreshed, only pending incidents (Assigned and Remediate) are displayed, to minimize the amount of data you work with in the grid. You can still access Accepted or Resolved incidents by selecting the desired status in the filter above that column and selecting a View button. Any transaction incidents that are suspect and require further investigation should be set to Remediate.

As mentioned earlier, transactions cannot be removed from your ERP system. Therefore, remediation comes in the form of identifying appropriate preventive and upstream controls and potentially entering in adjusted transactions and modifying previously submitted reports.

# A

# Appendix

This appendix provides additional information on ETCG, such as troubleshooting tips, use cases, and lists of delivered business objects and pattern mappings.

## Troubleshooting Custom Objects (xml)

When on the Create Transaction Model page, you can import your custom object via an .xml file. If your custom object import is failing, consider the following:

- Refer to the *ETCG User Guide* under "Using Custom Objects" and use the formatting conventions as a checklist. For example, check the first row header since it is used to identify each attribute for the object.
- In addition to ensuring that you've satisfied the formatting rules listed in the *User Guide*, consider removing any font-related formatting as well, such as colored cells and bold text.
- In the event your custom object indicates a successful import, but no attributes appear for the object, double check any date format. For example, edit one date cell to ensure that it uses the supported format (*mm/dd/yyyy*), and use the MS Word Format Painter to apply that format to the other date cells.

## Use Case 1: Maintenance of Operational Data

The following two examples are provided to show how you can use ETCG to perform maintenance on operational data using the delivered business objects.

### Similar Supplier Names

Your ERP datasource may have rules to validate and verify that supplier naming conventions do not permit duplications or similarities. In ETCG, you can also create a model to perform this type of maintenance across one or two attributes you select. This use case includes the Supplier business object to demonstrate maintenance across supplier names.

Start by creating a new model and assigning a unique name and description.

This model uses only one business object — Supplier, using the delivered PeopleSoft Financials 9.1 datasource. Criteria to be configured in the Manage Datasource window include:

| Business Object (Type) | Datasource Name | Application Type <display> | Version <display> | Default <display> |
|---|---|---|---|---|
| Supplier | Name of PeopleSoft datasource | PeopleSoft | 9.1 | true/false |

Define a filter that uses the Similar condition to analyze a single attribute, Name. If you use a higher Percent Similar value, you reduce the number of data rows returned, but require a closer or duplicate name match. By default the "Include unique data rows" field is *unchecked*, indicating a match is required to bring in the supplier name. Checking it would return every supplier name, even if it did not have a similar match.

The filter criteria include:

| No. | Field | Common |
|---|---|---|
| Filter 1 | Object | Supplier |
| | Attribute | Name |
| | Condition | Similar |
| | Percent Similar | 95% |
| | Advanced Options: Include unique data rows | <unchecked> |

For the data result set, select enough attributes to assist in evaluation of the data. In this example of the supplier maintenance use case, you may only require attributes like Supplier Name, ID, and Set ID.

## Audit of Recent Supplier Updates

You may want to audit recent updates to your ERP datasource on operational data, such as to supplier data. In ETCG, you can create a model to identify supplier records updated within a recent amount of time. This use case includes the Supplier business object to demonstrate audit of recent updates to operational data.

Start by creating a new model and assigning a unique name and description.

This model uses only one business object — Supplier, using the delivered EBS 12.1 datasource. Criteria to be configured in the Manage Datasource window include:

| Business Object (Type) | Datasource Name | Application Type <display> | Version <display> | Default <display> |
|---|---|---|---|---|
| Supplier | Name of EBS datasource | Oracle | 12.1 | true/false |

Define a filter that uses the Relative Value against the last updated date in order to identify updates made within the last 30 days. The filter criteria might include:

| No. | Field | Common |
|---|---|---|
| Filter 1 | Object | Supplier |
| | Attribute | Last Updated On |
| | Condition | Greater than |
| | Type | Relative Value |
| | Value and Units | 30 Days |

For the data result set, select enough attributes to assist in evaluation of the data. In this example of the recent updates to supplier, you may only require attributes like Supplier Name, Supplier ID, and Last Updated On/By.

***Note**: Currently, only EBS consistently supports the use of the created and last updated information like date and user; PeopleSoft does not. In the event you require attributes that are not supported in the delivered business objects, refer to the Extensibility Framework Guide. Additionally, when using your EBS datasource, and you include the Created By or the Last Updated By attribute from a business object as part of your data result set, you will get an additional column that includes the Created By Name or Last Updated By Name, respectively. These are the only two attributes – Created By and Last Updated By – that provide a user name translation.*

## Use Case 2: Sensitive Access Model

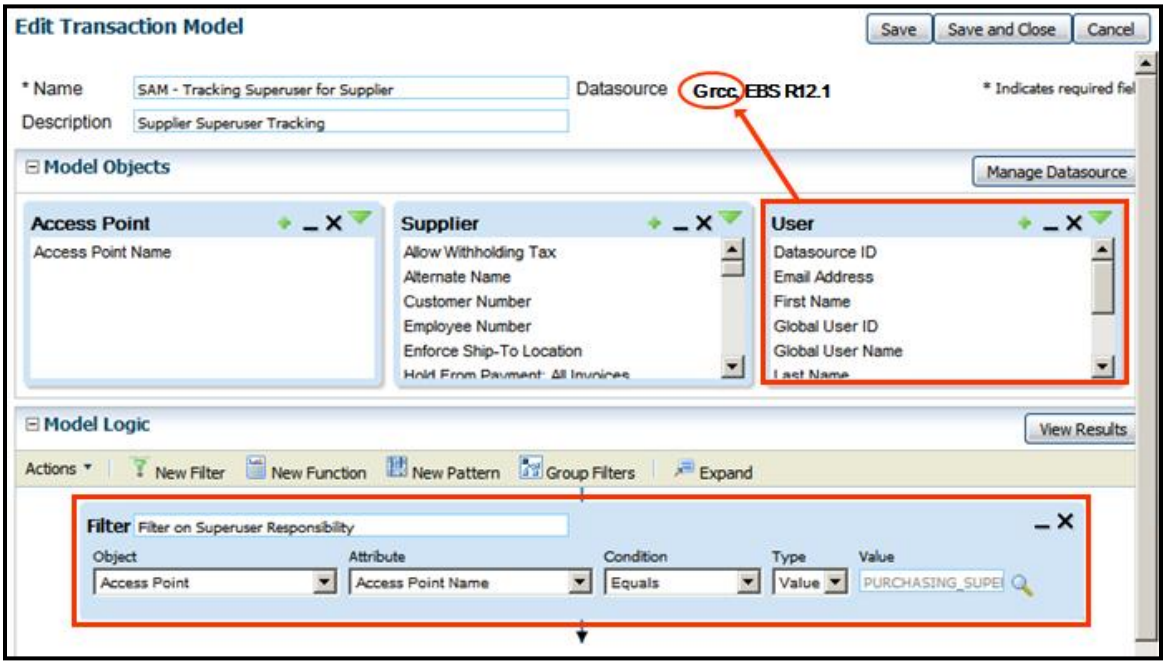
The intent of sensitive access models (SAM) is to provide visibility of the transactions that certain users have based on the access that has been granted them through specific access points. For example, an organization may want to track what supplier or payment transactions have been impacted by users who have been granted a specified super user role.

Sensitive access models are special cases of ETCG models. They automatically relate the access-oriented objects defined in the model with the included transaction objects. Sensitive access models have certain requirements in the construct of the model to achieve the desired results (an example here may be helpful).

*Prerequisite: You must perform access synchronization for your ERP datasource(s). (Do so from the Datasources tab of the Manage Application Data page, available under Administration Management in the Tasks list.) The sensitive access model type leverages and requires the access model hierarchy graph generated through this process, and more specifically, utilizes a single data store to normalize data into one global user data store — namely the 'User' business object.*

***Note:** In this initial release for PeopleSoft 9.1 adapter and metadata, the sensitivity access model is not supported in conjunction with the delivered business objects. Currently, only EBS consistently supports the use of the created and last updated information like date and user; PeopleSoft does not. In the event you require attributes that are not supported in the delivered business objects, refer to the Extensibility Framework Guide.*

1. Add the Access Point business object to the model canvas. This would be to specify the access point assigned directly to users in the application. For example, in EBS 12.1, this could be identified by a specific responsibility.
2. Add the User business object to the model canvas.
3. Add a transaction business object to the model canvas. For example, if you want to see what users have Superuser responsibility and have been creating or editing suppliers, you would add the Supplier business object to the model canvas.
4. Manage the business object datasources.
   a. Assign the access-related business object (User) to the GRCC datasource. *(**Note**: The GRCC datasource is system-defined, and in this case appears as an option only when you assign the datasource for the User business object.)*
   b. Assign the access point and transaction related business objects to the respective target datasource.
5. Create necessary filters. You need to specify a name and type for the Access Point value. For example, base the analysis on the Purchasing Superuser responsibility.




## Use Case 3: Segregation of Duties

This segregation of duties (SOD) use case demonstrates how an ETCG model can identify privilege conflict. In this example, a model locates users who have created a supplier and paid that same supplier.

***Note:*** *In this initial release for PeopleSoft 9.1 adapter and metadata, the segregation of duties model is not supported in conjunction with the delivered business objects. Currently, only EBS consistently supports user with authorization values in a transaction model; PeopleSoft does not. Refer to the Extensibility Framework Guide to extend the delivered capabilities.*

Start by creating a new model and assigning a unique name and description.

Business objects for this model include Supplier and Payment, using the delivered Oracle 12.1 datasource. Criteria to be configured in the Manage Datasource window include:

| Business Object (Type) | Datasource Name | Application Type <display> | Version <display> | Default <display> |
|---|---|---|---|---|
| Payment | Name of EBS datasource | Oracle | 12.1 | true/false |
| Supplier | Name of EBS datasource | Oracle | 12.1 | true/false |

Define two filters not only to identify where a user has both created a supplier and paid that supplier, but also to force the data results to a specific time frame. In this use case, the second filter recommends using a date greater than some recent date defined by the user. The filter criteria include:

| No. | Field | Common |
|---|---|---|
| Filter 1 | Object | Supplier |
| | Attribute | Created by |
| | Condition | Equals |
| | Type | Object |
| | Object | Payment |
| | Attribute | Created by |
| Filter 2 | Object | Supplier |
| | Attribute | Created On |
| | Condition | Greater than |
| | Type | Fixed value* |
| | Value | <recent *mm/dd/yyyy* date> |

* You might consider using a relative value for the date instead of fixed, especially if you plan to use and run the model or control in production on a regular basis, like monthly. Using a relative value for date allows you to define a value in units as it relates to the system date; for example in this case 30 Days would look for suppliers created in the last 30 days.

For the data result set, select enough attributes to assist in evaluation of the data, such as Supplier Name, Created On/By for both business objects, Last Updated On/By for both business objects, Payment Date, Payment Amount and Currency, and a Payment identifier like Check Number.

## Use Case 4: Combine SOD with Sensitive Access

This use case will show how Use Case 3 can be combined with sensitive access information (as documented under Use Case 2 above).

***Note:*** *As indicated in Use Case 2, the PeopleSoft 9.1 adapter and metadata are not supported in conjunction with the delivered business objects.*

Start from Manage Model and duplicate the SOD model. Select the Edit action for this newly created model. Rename the model and update the description.

All existing business objects, filters, and attributes apply from previous use case. You'll also add the following business objects to this new model: User and Access Point. For the User object, the datasource points to GRCC. (The User is an SOD type and stores global users of all source systems; the data for the model comes from the EGRCC application you are working in.) The datasource criteria would include:

| Business Object (Type) | Datasource Name | Application Type <display> | Version <display> | Default <display> |
|---|---|---|---|---|
| User | GRCC datasource | GRCC | 8.*x* | true/false |
| Access Point | Name of EBS datasource | Oracle | 12.1 | true/false |

Define an additional filter to select a specific name and type of access point, such as Purchasing Superuser responsibility, which exists within your organization that might apply. The filter criteria includes:

| No. | Field | Common |
|---|---|---|
| Filter 3 | Object | Access Point |
| | Attribute | Access Point Name |
| | Condition | Equals |
| | Type | Value |
| | Value | <e.g., Purchasing Superuser> |

## Use Case 5: Custom Object with Delivered Business Object

A user can import a spreadsheet (.xml file) to use as a custom business object for analysis purposes. These custom objects can be used by themselves, but they can also be used with a delivered business object, where you can establish a relationship between two attributes using the "Similar to" condition. In this use-case example, the custom object primarily represents a list of suppliers with which the company no longer wishes to do business; this will be compared to a Remit to Supplier Name attribute from the Payment business object to verify none have recently been paid.

Start by importing the new custom object on the Create Transaction Model page. You might want to test this custom business object in a model by itself and run data results, to verify all attributes and data rows were imported successfully.

After testing and verifying the new custom object is valid, create a new model using this object and the delivered Payment business object. In this case, use the Manage Datasource window to associate the delivered Oracle 12.1 datasource with the Payment business object, but associate XLS Datasource to the custom object. The datasource criteria include:

| Business Object (Type) | Datasource Name | Application Type <display> | Version <display> | Default <display> |
|---|---|---|---|---|
| Suppliers—Do Not Contact | XLS datasource | XLS | XLS | false |
| Payment | Name of EBS datasource | Oracle | 12.1 | true/false |

Define a filter using the Similar to condition to establish a relationship between two attributes in the two business objects: the Name attribute in the Suppliers—Do Not Contact custom object, and the Remit to Supplier Name attribute in the Payment object. For Percent Similar, a higher value will reduce the number of data rows returned, but require a closer name match. The "Include unique data rows" field is *unchecked*, indicating a match is required to bring in the name. Checking it would return every name, even if it did not have a "similar to" match. The filter criteria include:

| No. | Field | Common |
|---|---|---|
| Filter 1 | Object | Suppliers—Do Not Contact |
| | Attribute | Name |
| | Condition | Similar to |
| | Object | Payment |
| | Attribute | Remit to Supplier Name |
| | Percent Similar | 90% |
| | Advanced Options: Include unique data rows | <unchecked> |

For the data result set, select enough attributes to assist in evaluation of the data, including the custom objects Name and the Payment Remit to Supplier Name in this case.

## Examples of Delivered Templates

As a part of your implementation, evaluate some of the delivered templates (pre-built models) in your test environment. The .xml file that is used for importing contains model templates that are part of the same/common business area, such as Order to Cash (OTC) and Procure to Pay (PTP).

Even though they are designated as model "templates," you can import them as models. This provides the ability for you to map your datasource and test as a personal user before providing templates globally via the Templates Library option.

The following is only an example of available model templates:

- Payments with Void Check Date
- Invoices without a Purchase Order
- Amount Paid Greater than Invoice Amount
- Receivables Invoices — Amount Remaining

## List of Delivered Business Objects

The following tables provides a list of all business objects that are available in the current release across platforms.

***Note**: Additional business objects may be added or modified as necessary by Oracle. Since business objects can be uploaded in EGRCC they are not dependent on a subsequent release of the product but rather can be "hot-deployed."*

## Oracle E-Business Suite 12.1

The following is a table of delivered business objects for EBS 12.1.

| # | Business Object Names | Type |
|---|---|---|
| 1 | Access Entitlements | Segregation of Duties |
| 2 | Access Point | Segregation of Duties |
| 3 | Accounting Events | Financials |
| 4 | Accounting Flexfield Definition | Financials |
| 5 | Accounting Periods | Financials |
| 6 | Acknowledgment | Financials |
| 7 | Actual Balance | Financials |
| 8 | Application | Human Capital Management |
| 9 | Application Accounting Definition | Financials |
| 10 | Application Data Group | Human Capital Management |
| 11 | Application Request Group | Human Capital Management |
| 12 | Application User | Human Capital Management |
| 13 | Bank | Financials |
| 14 | Bank Account | Financials |
| 15 | Bank Account Transfer | Financials |
| 16 | Bank Branch | Financials |
| 17 | Bank Statement | Financials |
| 18 | Business Group | Financials |
| 19 | Buyer | Procurement |
| 20 | Cash Transaction Subtype | Financials |
| 21 | Customer | Financials |
| 22 | Customer Account (Site) Contact | Financials |
| 23 | Customer Account Site | Customer Relationship Management |
| 24 | Customer Accounts | Customer Relationship Management |
| 25 | Document Sequence | Human Capital Management |
| 26 | EBS Access Condition | Segregation of Duties |
| 27 | EBS Function | Authorization |
| 28 | EBS Menu | Authorization |
| 29 | EBS Responsibility | Authorization |
| 30 | EBS Role | Authorization |
| 31 | Expense Location | Financials |
| 32 | Expense Policy | Financials |
| 33 | Expense Report | Financials |
| 34 | Expense Report Template | Financials |
| 35 | Expense Setup: General | Financials |
| 36 | External Bank Account | Financials |
| 37 | External Payee | Financials |
| 38 | General Ledger Accounts | Financials |
| 39 | General Ledgers | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 40 | Human Resource Location | Human Capital Management |
| 41 | Human Resources Organization | Human Capital Management |
| 42 | Internal Payer | Financials |
| 43 | Item | Supply Chain Management |
| 44 | Item Category | Supply Chain Management |
| 45 | Item Category Set | Supply Chain Management |
| 46 | Item Status | Supply Chain Management |
| 47 | Item Supplier | Supply Chain Management |
| 48 | Item Supplier Site | Supply Chain Management |
| 49 | Journal Entry | Financials |
| 50 | Journal Entry Category Definition | Financials |
| 51 | Journal Entry Source Definition | Financials |
| 52 | Ledger Steps Details | Financials |
| 53 | Legal Entity | Financials |
| 54 | Legal Entity Configurator | Financials |
| 55 | Lockbox Transmission File | Financials |
| 56 | Operating Unit | Financials |
| 57 | Order Line Sets | Customer Relationship Management |
| 58 | Order Management Transaction Type | Customer Relationship Management |
| 59 | Organization Location | Financials |
| 60 | Organization Parameters | Supply Chain Management |
| 61 | Payables Aging Period | Financials |
| 62 | Payables Invoice | Financials |
| 63 | Payables Invoice Hold | Financials |
| 64 | Payables Invoice Tolerance Set | Financials |
| 65 | Payables Payment Term | Financials |
| 66 | Payables Procurement Card | Financials |
| 67 | Payables Procurement Card Code For Exception Use | Financials |
| 68 | Payables Setup: General | Financials |
| 69 | Payables Setup: Invoice | Financials |
| 70 | Payables Setup: Payments | Financials |
| 71 | Payables Setup: Tax | Financials |
| 72 | Payment | Financials |
| 73 | Payment Card | Financials |
| 74 | Payment Code: Bank Instruction Code | Financials |
| 75 | Payment Code: Delivery Channel Code | Financials |
| 76 | Payment Code: Payment Reason Code | Financials |
| 77 | Payment Disbursement | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 78 | Payment Method | Financials |
| 79 | Person | Human Capital Management |
| 80 | Price List | Supply Chain Management |
| 81 | Pricing Agreements | Supply Chain Management |
| 82 | Procurement Card Statement | Financials |
| 83 | Purchase Order | Procurement |
| 84 | Purchase Order Distribution | Procurement |
| 85 | Purchase Order Revision History | Procurement |
| 86 | Purchasing Approved Supplier | Procurement |
| 87 | Purchasing Contract Revision History | Procurement |
| 88 | Purchasing Contracts | Procurement |
| 89 | Purchasing Hazard Class | Procurement |
| 90 | Purchasing Line Type | Procurement |
| 91 | Purchasing Setup: General | Financials |
| 92 | Purchasing UN (United Nations) Number | Procurement |
| 93 | Receipt | Procurement |
| 94 | Receivables Activities | Financials |
| 95 | Receivables Application Rule Set | Financials |
| 96 | Receivables Auto-Cash Rule Set | Financials |
| 97 | Receivables Batch Source | Financials |
| 98 | Receivables Grouping Rules | Financials |
| 99 | Receivables Invoice | Financials |
| 100 | Receivables Lockbox | Financials |
| 101 | Receivables Payment Schedule | Financials |
| 102 | Receivables Payment Term | Financials |
| 103 | Receivables Receipt Batch | Financials |
| 104 | Receivables Receipt Class | Financials |
| 105 | Receivables Receipt Method | Financials |
| 106 | Receivables Receipt Remittance Batch | Financials |
| 107 | Receivables Receipt Source | Financials |
| 108 | Receivables Standard Receipt | Financials |
| 109 | Receivables System Option | Financials |
| 110 | Receivables Transaction Type | Financials |
| 111 | Requisition | Procurement |
| 112 | Sales Credit Type | Customer Relationship Management |
| 113 | Sales Order | Customer Relationship Management |
| 114 | Sales Person | Customer Relationship Management |
| 115 | Server Group | Customer Relationship Management |
| 116 | Subledger Accounting Source | Financials |
| 117 | Subledger Application | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 118 | Subledger Event Entity | Financials |
| 119 | Subledger Event Model | Financials |
| 120 | Subledger Journal Entry | Financials |
| 121 | Supplier | Financials |
| 122 | Supplier Bank Account Change Request | Financials |
| 123 | Supplier Contacts | Financials |
| 124 | Supplier Purchase Order Change Request | Procurement |
| 125 | Supplier Site Location | Financials |
| 126 | Territory | Customer Relationship Management |
| 127 | Transaction Reason | Supply Chain Management |
| 128 | User | Authorization |
| 129 | Value Set | Human Capital Management |
| 130 | Withholding Tax | Financials |
| 131 | Withholding Tax | Financials |

## Oracle E-Business Suite 11.5.10.2

The following is a table of delivered business objects for EBS 11.5.10.2.

| # | Business Object Names | Type |
|---|---|---|
| 1 | Access Entitlements | Segregation of Duties |
| 2 | Access Point | Segregation of Duties |
| 3 | Accounting Events | Financials |
| 4 | Accounting Flexfield Definition | Financials |
| 5 | Actual Balance | Financials |
| 6 | Application | Human Capital Management |
| 7 | Application Data Group | Human Capital Management |
| 8 | Application Request Group | Human Capital Management |
| 9 | Application User | Human Capital Management |
| 10 | Bank Account | Financials |
| 11 | Bank Branch | Financials |
| 12 | Bank Charges | Financials |
| 13 | Bank Statement | Financials |
| 14 | Business Group | Financials |
| 15 | Buyer | Procurement |
| 16 | Customer | Financials |
| 17 | Customer Account (Site) Contact | Financials |
| 18 | Customer Account Site | Customer Relationship Management |
| 19 | Customer Accounts | Customer Relationship Management |
| 20 | Document Sequence | Human Capital Management |
| 21 | EBS Access Condition | Segregation of Duties |

| # | Business Object Names | Type |
|---|---|---|
| 22 | EBS Function | Authorization |
| 23 | EBS Menu | Authorization |
| 24 | EBS Responsibility | Authorization |
| 25 | EBS Role | Authorization |
| 26 | Expense Location | Financials |
| 27 | Expense Policy | Financials |
| 28 | Expense Report | Financials |
| 29 | Expense Report Template | Financials |
| 30 | Expense Setup: General | Financials |
| 31 | General Ledger Accounts | Financials |
| 32 | General Ledgers | Financials |
| 33 | Human Resource Location | Human Capital Management |
| 34 | Human Resources Organization | Human Capital Management |
| 35 | Item | Supply Chain Management |
| 36 | Item Category | Supply Chain Management |
| 37 | Item Category Set | Supply Chain Management |
| 38 | Item Status | Supply Chain Management |
| 39 | Journal Entry | Financials |
| 40 | Journal Entry Category Definition | Financials |
| 41 | Journal Entry Source Definition | Financials |
| 42 | Ledger Steps Details | Financials |
| 43 | Legal Entity | Financials |
| 44 | Lockbox Transmission File | Financials |
| 45 | Operating Unit | Financials |
| 46 | Order Line Sets | Customer Relationship Management |
| 47 | Order Management Transaction Type | Customer Relationship Management |
| 48 | Organization Location | Financials |
| 49 | Organization Parameters | Supply Chain Management |
| 50 | Payables Aging Period | Financials |
| 51 | Payables Invoice | Financials |
| 52 | Payables Invoice Hold | Financials |
| 53 | Payables Invoice Tolerance Set | Financials |
| 54 | Payables Payment Term | Financials |
| 55 | Payables Procurement Card | Financials |
| 56 | Payables Procurement Card Code For Exception Use | Financials |
| 57 | Payables Setup: General | Financials |
| 58 | Payables Setup: Invoice | Financials |
| 59 | Payables Setup: Payments | Financials |
| 60 | Payables Setup: Tax | Financials |
| 61 | Payment | Financials |
| 62 | Person | Human Capital Management |

| # | Business Object Names | Type |
|---|---|---|
| 63 | Price List | Supply Chain Management |
| 64 | Pricing Agreements | Supply Chain Management |
| 65 | Procurement Card Statement | Financials |
| 66 | Procurement Setup: Accounting | Financials |
| 67 | Purchase Order | Procurement |
| 68 | Purchase Order Distribution | Procurement |
| 69 | Purchase Order Revision History | Procurement |
| 70 | Purchasing Approved Supplier | Procurement |
| 71 | Purchasing Contract Revision History | Procurement |
| 72 | Purchasing Contracts | Procurement |
| 73 | Purchasing Hazard Class | Procurement |
| 74 | Purchasing Line Type | Procurement |
| 75 | Purchasing Setup: General | Financials |
| 76 | Purchasing UN (United Nations) Number | Procurement |
| 77 | Receipt | Procurement |
| 78 | Receivables Activities | Financials |
| 79 | Receivables Application Rule Set | Financials |
| 80 | Receivables Auto-Cash Rule Set | Financials |
| 81 | Receivables Batch Source | Financials |
| 82 | Receivables Grouping Rules | Financials |
| 83 | Receivables Invoice | Financials |
| 84 | Receivables Lockbox | Financials |
| 85 | Receivables Payment Schedule | Financials |
| 86 | Receivables Payment Term | Financials |
| 87 | Receivables Receipt Batch | Financials |
| 88 | Receivables Receipt Class | Financials |
| 89 | Receivables Receipt Method | Financials |
| 90 | Receivables Receipt Remittance Batch | Financials |
| 91 | Receivables Receipt Source | Financials |
| 92 | Receivables Standard Receipt | Financials |
| 93 | Receivables System Option | Financials |
| 94 | Receivables Transaction Type | Financials |
| 95 | Requisition | Procurement |
| 96 | Sales Credit Type | Customer Relationship Management |
| 97 | Sales Order | Customer Relationship Management |
| 98 | Sales Person | Customer Relationship Management |
| 99 | Server Group | Customer Relationship Management |
| 100 | Subledger Event Model | Financials |
| 101 | Subledger Journal Entry | Financials |
| 102 | Supplier | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 103 | Supplier Bank Account Change Request | Financials |
| 104 | Supplier Contacts | Financials |
| 105 | Supplier Purchase Order Change Request | Procurement |
| 106 | Supplier Site Location | Financials |
| 107 | Territory | Customer Relationship Management |
| 108 | Transaction Reason | Supply Chain Management |
| 109 | User | Authorization |
| 110 | Value Set | Human Capital Management |
| 111 | Withholding Tax | Financials |

## PeopleSoft Enterprise Financials 9.1

The following is a table of delivered business objects for PeopleSoft 9.1.

***Note**: In this initial release for PeopleSoft 9.1 adapter and metadata, the area of delivered content focuses on the procure-to-pay, expenses, and financial setup objects.*

| # | Business Object Names | Type |
|---|---|---|
| 1 | Access Entitlements | Segregation of Duties |
| 2 | Access Point | Segregation of Duties |
| 3 | Accounting Periods | Financials |
| 4 | Alternate Account | Financials |
| 5 | Bank | Financials |
| 6 | Bank Account | Financials |
| 7 | Bank Account Transfer | Financials |
| 8 | Bank Branch | Financials |
| 9 | Bank Statement | Financials |
| 10 | Bank Transfer Charge Code | Financials |
| 11 | Budget Reference | Financials |
| 12 | Buyer | Procurement |
| 13 | Class | Financials |
| 14 | Department | Financials |
| 15 | Employee Expense Profile | Financials |
| 16 | Expense Location | Financials |
| 17 | Expense Location Amount | Financials |
| 18 | Expense Policy | Financials |
| 19 | Expense Report | Financials |
| 20 | Expense Setup: General | Financials |
| 21 | Expense Types | Financials |
| 22 | External Bank Account | Financials |
| 23 | Fund Code | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 24 | General Ledger Accounts | Financials |
| 25 | Item | Supply Chain Management |
| 26 | Item Category | Supply Chain Management |
| 27 | Journal Entry | Financials |
| 28 | Ledgers For A Unit | Financials |
| 29 | Operating Unit | Financials |
| 30 | Organization Location | Financials |
| 31 | Payables Aging Period | Financials |
| 32 | Payables Invoice | Financials |
| 33 | Payables Payment Term | Financials |
| 34 | Payables Procurement Card | Financials |
| 35 | Payables Setup: General | Financials |
| 36 | Payables Setup: Invoice | Financials |
| 37 | Payables Setup: Payments | Financials |
| 38 | Payables Setup: Tax | Financials |
| 39 | Payment | Financials |
| 40 | Payment Code: Payment Reason Code | Financials |
| 41 | PeopleSoft Access Condition | Segregation of Duties |
| 42 | PeopleSoft Menu | Authorization |
| 43 | PeopleSoft Page | Authorization |
| 44 | PeopleSoft Permission List | Authorization |
| 45 | PeopleSoft Role | Authorization |
| 46 | Procurement Card Statement | Financials |
| 47 | Procurement Setup: Accounting | Financials |
| 48 | Procurement Setup: Tax Accounting | Financials |
| 49 | Product | Financials |
| 50 | Program Code | Financials |
| 51 | Project | Financials |
| 52 | Purchase Order | Procurement |
| 53 | Purchase Order Change History | Procurement |
| 54 | Purchase Order Distribution | Procurement |
| 55 | Purchasing Approved Supplier | Procurement |
| 56 | Purchasing Contract Change History | Procurement |
| 57 | Purchasing Contracts | Procurement |
| 58 | Purchasing Hazard Class | Procurement |
| 59 | Purchasing Setup: General | Financials |
| 60 | Receipt | Procurement |
| 61 | Requisition | Procurement |
| 62 | Requisition Change Order | Procurement |
| 63 | Scenario | Financials |
| 64 | Set ID | Financials |

| # | Business Object Names | Type |
|---|---|---|
| 65 | Statistics Code | Financials |
| 66 | Supplier | Financials |
| 67 | Supplier Contacts | Financials |
| 68 | Supplier Site Location | Financials |
| 69 | User | Authorization |
| 70 | Withholding Tax | Financials |

## Examples of Delivered Pattern Mapping

The following is only a sampling of supported business object and attributes with pattern mappings for EBS 12.1. As noted earlier, this release does not support pattern models for delivered EBS 11.5.10.2 and PeopleSoft 9.1 adapter and metadata. Refer to the Extensibility Framework Guide to extend the content to meet your organization's requirements.

| Pattern | Business Object | Attribute | Variance By (Mean Only) |
|---|---|---|---|
| Mean | Payment | Payment Amount | Created On<br>Created By<br>Last Updated By<br>Last Updated On<br>Date<br>Supplier Name |
| Mean | Payable Invoice | Invoice Amount<br>Line: Amount<br>Line: Unit Price | Created On<br>Created By<br>Last Updated By<br>Last Updated On |
| Mean | Purchase Order | Line: Price<br>Line: Quantity | Created On<br>Created By<br>Last Updated By<br>Last Updated On |
| Mean | Supplier | n/a | Supplier Name<br>Supplier ID<br>Created On<br>Created By<br>Last Updated By<br>Last Updated On |
| Benford | Payment | Payment Amount | n/a |
| Benford | Payable Invoice | Invoice Amount<br>Line: Amount<br>Line: Unit Price | n/a |
| Benford | Purchase Order | Line: Price<br>Line: Quantity | n/a |