

Oracle® Enterprise Transaction Controls Governor
User Guide
Release 8.6.0

September 2010

Oracle Enterprise Transaction Controls Governor User Guide

Copyright © 2010 Oracle Corporation and/or its affiliates. All rights reserved.

Primary Author: David Christie

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

The software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable.

U.S. GOVERNMENT RIGHTS

Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are “commercial computer software” or “commercial technical data” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

The software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

The software and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third party content, products and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third party content, products or services.

Contents

1 Introduction

ETCG Models and Controls.....	1-1
Incident Analysis.....	1-2
Reporting.....	1-3
Starting Governance, Risk and Compliance Controls.....	1-3
Navigating in GRCC	1-4
Creating Views	1-5
Filtering Data.....	1-6
Sorting Data	1-6
Removing and Restoring Columns	1-6
Rearranging Columns	1-7
Resizing Columns	1-7
Saving or Deleting a View	1-7
Displaying a View.....	1-9
Creating a User Profile	1-9

2 Creating and Managing Models

Managing Models	2-1
Creating, Editing, Copying, or Deleting Models.....	2-2
Synchronizing Data.....	2-3
Exporting and Importing Models and Templates.....	2-3
Creating a Transaction Model.....	2-4
Naming the Model.....	2-5
Selecting Business Objects.....	2-5

Using Custom Objects.....	2-6
Selecting Datasources.....	2-7
Arranging Filters, Functions, and Patterns	2-8
Creating a Filter	2-9
Creating a Function	2-12
Creating a Pattern	2-13
Defining Model Results.....	2-15
Saving the Model.....	2-15
Viewing or Exporting Results	2-15
Using a Model or Template to Create a New Model.....	2-17
3 Creating and Managing Controls	
Viewing Controls	3-1
Reviewing Summary Graphs	3-2
Creating Transaction Controls	3-2
Naming and Describing Controls.....	3-4
Setting Priority and Status	3-4
Selecting Datasources.....	3-4
Selecting Related Controls	3-5
Selecting Tags.....	3-5
Selecting Participants.....	3-6
Writing Comments.....	3-6
Mass-Editing Controls	3-6
Opening and Editing Controls Individually.....	3-8
Running Controls	3-9
Managing Tags	3-10
Importing and Exporting Controls.....	3-10
Viewing Change History.....	3-11
Creating Participant Groups.....	3-12
4 Resolving Incidents	
Managing Incidents.....	4-2
Reviewing Summary Graphs	4-3
Mass-Editing Status, Participants, or Comments.....	4-4

Opening Incidents Individually	4-6
Editing Incidents	4-7
Viewing Change History	4-8
5 Reporting	
Choosing Among Reports	5-1
Running Contextual Reports.....	5-2
Using Reports Management.....	5-3
Reviewing Scheduled Reports.....	5-4

Introduction

Oracle Enterprise Transaction Controls Governor (ETCG) evaluates transaction risk in Oracle E-Business Suite, and may be configured to work with other business-management applications as well. ETCG implements “models” and “controls” that specify circumstances under which individual transactions display evidence of error, fraud, or other risk.

ETCG runs in a Governance, Risk and Compliance Controls (GRCC) platform. So does a second application, Application Access Controls Governor (AACG). The GRCC platform offers administrative and other functionality shared by ETCG and AACG. Administrative tools connect GRCC to Oracle, PeopleSoft, and other application datasources, and refresh snapshots of data gathered from those applications; create GRCC users and user roles; and set GRCC parameters, connect with your email server (for the purpose of sending notifications to GRCC users), and integrate GRCC with other applications. Moreover, the GRCC platform can display information in any of twelve languages.

These shared administrative and language capabilities are documented in detail in a distinct *Governance, Risk and Compliance Controls User Guide*. Features specific to AACG are documented in an *Application Access Controls Governor User Guide*. This *Enterprise Transaction Controls Governor User Guide* focuses on the creation of ETCG models and controls, and the resolution of incidents they generate.

ETCG Models and Controls

An ETCG model returns “temporary” results — a snapshot of risk that is replaced each time the model is evaluated. A control returns “permanent” results — records of violations that remain available to be resolved no matter how often the control is run.

A user creates a model, and may then convert the model into a control; users cannot create controls directly. Thus a model and the control into which it is converted are structurally alike (the principal difference between them being the temporary or permanent nature of the results each generates). Although the creation of a model is a preliminary step in the creation of a control, models may be created to run on their own, so that users such as auditors can assess the risk inherent in a system at a given moment.

An ETCG model or control specifies circumstances under which transactions entail risk and so require review. A model, or the control into which the model is converted, consists of one or more elements — “filter,” “function” or “pattern.” Each, in a distinct way, defines an aspect of the risk a transaction may present and captures records of transactions that meet its definition.

Each of these elements cites a “business object” and an “attribute” of that object, which supply transaction data for analysis. They identify tables and columns in the business-management-application database. At the same time, they represent components of the user interface for that application:

- A business object corresponds to one or more database tables, but is given a business-language name that evokes the UI screen those tables support.
- An attribute corresponds to a database column in a business object’s tables, but is given a business-language name that evokes the UI field that column supports.

There are two types of ETCG control or model:

- A “Defined” control or model contains filters or functions. These elements enable the user creating a model to define circumstances under which transactions are considered to pose a risk. A model or control can incorporate any number of filters or functions (and so any number of business objects and attributes from which they are derived).

For example, a model may include two filters, both based on a Payables Standard Invoice business object. One filter would select transactions for which an Invoice Canceled Date attribute is not blank. From the transactions captured by the first filter, the second would select those for which an Amount Paid attribute is not equal to zero. The model would therefore identify invoices on which payments had been made even though the invoices had been canceled.

- A “Pattern” control or model contains a pattern — an Oracle-supplied statistical function that identifies a baseline set of transactions, then uncovers outliers to the baseline, as a way of discovering unknown risk. A control or model can use only one pattern (which can be combined with any number of filters or functions).

Records of control violations are known as “incidents.” So that incidents may be resolved, each control must name one or more “participants” — GRCC users who are associated with controls either as individuals or as members of participant groups. At least one participant (either individual or group) is assigned to address incidents generated by the control; other participants observe the decisions made by those who are entitled to act.

Controls may also employ “tags,” each of which is, in effect, a category of values. One can define tags, then define values for them, and then assign tag values to controls. One can then sort displays of controls and the incidents they generate by tag value. (For instance, one might create a Region tag, and then create values for it, such as North, South, East, and West. Individual controls that apply to a particular region would then be given its tag value.)

Incident Analysis

Once controls are defined, GRCC users may run all or a selection of them, generating incidents. Each ETCG incident provides a record of a transaction that exceeds

the risk defined by a control. Each record is made up of values for attributes that were selected when the control was created.

Each incident identified by an ETCG control defaults to an Assigned status. This means that the control participant is assigned to address the incidents generated by a control. The participant might:

- Look at the incidents generated by a control, decide that nothing need be done to resolve them, and change status to Accepted.
- Look at the incidents generated by a control, decide that something must be done in the business-management application to resolve them, and change status to Remediate. For an ETCG incident, remedial action typically involves determining whether a suspect transaction is in fact erroneous, fraudulent, or otherwise damaging, and if so, correcting the situation.
- In this second case, ensure that appropriate action has been taken in the business-management application, and update status from Remediate to Resolved.

Status in the Manage Incidents page does not indicate what a participant has done in the business-management application to resolve incidents, but shows instead that he has or has not done something.

In addition to the Assigned, Accepted, Remediate, and Resolved statuses, GRCC may automatically assign a Control Inactive status, which means that an incident is no longer of concern because the control that generated it has been inactivated.

Reporting

GRCC users can run reports concerning ETCG processing, AACG processing, and administration. Those that apply to ETCG include summary and detail reports about transaction controls and about the incidents they identify.

All these reports can be run (or be scheduled to run) from GRCC Reports Management pages. The control and incident reports can also be run “contextually,” from the GRCC pages in which controls are managed and incidents are resolved. Some of these reports may produce either output formatted to be printed or read on-screen, or text files suitable for export to another program, such as a spreadsheet, for further analysis. Others, known as “extract” reports, produce only the latter.

Oracle also provides “report templates,” which enable users not only to generate reports about activity in GRCC, but also to modify the layouts of those reports. Although the templates display information about the use of GRCC, they run separately, using functionality provided by an instance of Oracle Business Intelligence Publisher (BIP).

Starting Governance, Risk and Compliance Controls

To start the Governance, Risk and Compliance Controls platform:

1. Open a web browser.
2. In the Address field, type the URL for your instance of Governance, Risk and Compliance Controls, and press the Enter key.

3. A Login dialog box appears. Type your user name and password in the appropriate fields, optionally, select a language in which to work in the Language Preference list box, and click on the Login button.

You can leave the Language Preference field blank. If so, GRCC selects (in order of preference) the language specified in your user profile (page 1-9), the language of your web browser, or US English.



Navigating in GRCC

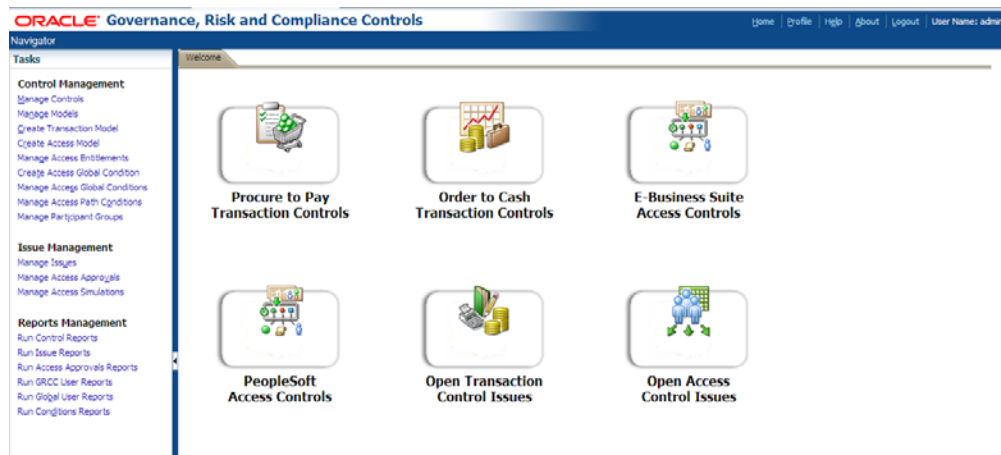
A Tasks panel, located along the left of the GRCC GUI, presents up to five lists of tasks you can complete in GRCC. Click on a task from one of these lists, and a workspace to the right of the Tasks panel displays pages in which you can complete the task you've selected. Task lists include the following:

- Control Management tasks open pages in which users can define and manage models, controls, and the objects they use — tags, entitlements, conditions, and participant groups. Here, users can also view the temporary results generated by models.
- Incident Management tasks open pages in which users named as participants to controls can review incidents generated by their controls (as well as undertake types of analysis that apply only to AACG).
- Reports Management tasks enable users to generate, schedule, or review GRCC reports.
- Jobs and Scheduling tasks display records of individual requests to synchronize data, evaluate models or controls, export results, generate reports, or complete other background jobs. It also displays schedules on which those jobs are configured to run. A user with proper permissions can modify job schedules.
- Administration Management tasks open pages in which users can define roles, create users and assign roles to them, configure connectivity to business-management-application instances, use data synchronization to transfer data from those instances to GRCC, upload business objects and patterns, purge incidents from the system, configure notifications, set GRCC properties, and integrate GRCC with other applications.

The tasks available to you are limited by the permissions defined for the GRCC roles granted to you. If, for example, your role denies you access to administrative features, the entire Administration Management list of tasks would not appear in your tasks panel. Or, if your role focuses on the analysis of transaction risk, your Control Management list might include tasks relating to the creation of transaction models, but exclude those relating to access models.

Moreover, all the tasks available to you do not appear at once. Initially, the workspace displays a Home page; when it is active, the Tasks panel presents lists of Control Management, Incident Management, and Reports Management tasks (assuming you have rights to these tasks). When any other page is active, the Tasks panel displays only the list of tasks from which that page is opened.

In the illustration below, the workspace displays the GRCC home page:



To display missing lists of tasks, click on the Navigator (a link above the Tasks panel, in the dark blue band that runs along the top of the application). A pop-up window opens; in it, click on the name for the list of tasks you want the Tasks panel to display. (To restore the Home page, click on the Home link at the upper right of the application.)

You can close the Tasks panel, and so expand the workspace: Click on the button with a left-pointing triangle located at the middle of the border between the Tasks panel and the workspace. The button then changes so that the triangle points to the right; click on it to reopen the Tasks panel.

Creating Views

In lists — such as the list of controls in the Manage Controls page or a list of incidents in the Manage Incidents page — you can limit the display of entries to those that satisfy filtering criteria, and you can sort the entries. You can also remove columns from display, or restore them; rearrange the order in which columns appear; and resize them. You can then save your selections as a “view,” and then either select your view for display or cause it to be displayed by default.

Filtering Data

To filter the values displayed in a list:

1. Determine where to enter filtering criteria. In some lists, you do so in text boxes that appear directly above column headings. Some lists omit these text boxes; in these, you enter filtering criteria in the first row of the list.
2. In any combination of columns in the view row or text boxes, enter (or select) values appropriate to the columns.
3. Click on the View button in the tool bar above the list. The list then contains only entries that match the values you've entered.

For columns that accept values, the percent sign (%) serves as a wild-card character. If it is placed after a string of text or numbers, the view returns all values that begin with the string. Placed before a string, it causes the view to return all values that end with the string. Placed both before and after a string, it causes the view to return all values in which the string appears at any position. If you omit the wild-card character, the view returns only a value that matches the string exactly.

Sorting Data

To set a sort order for items in a list, click in the heading for one of its columns. Entries in that column are then arranged in alphanumeric order (and entries in other columns are, of course, rearranged so that rows remain intact). Click in the column heading a second time to arrange entries in reverse alphanumeric order.

This sorting method is available in all lists. In some lists, however, a Manage Saved Views feature provides an alternative (and more flexible) sorting method. See “Saving or Deleting a View” (page 1-7).

Removing and Restoring Columns

To remove columns from display, or to restore them:

1. Right click in the header row of the list from which you wish to remove columns, or to which you wish to restore them.
2. In some cases, a menu appears. If so, position the mouse cursor over its Columns option, and a list of available columns appears. In other cases, the parent menu does not appear, and the list of available columns opens directly.
3. To remove a column from view, click on its check box so that its check mark disappears. To restore a column to view, click on its check box so that its check mark reappears.
4. Left click anywhere outside of the menu and list of columns to close them.

This method of exposing or hiding columns is available in all lists. In some lists, however, a Manage Saved Views feature provides an alternative method. See “Saving or Deleting a View” (page 1-7).

Rearranging Columns

To rearrange the order in which columns appear:

1. Position the mouse cursor over a column you want to move, and hold down the left mouse button.
2. A “shadow” instance of the column heading appears. Continue to hold down the left mouse button, and drag that instance to the right or left.
3. Blue arrows appear — one above and one below the header row — to show where the column will be inserted. When they appear at the position you want, release the left mouse button.

This column-ordering method is available in all lists. In some lists, however, a Manage Saved Views feature provides an alternative sorting method. See “Saving or Deleting a View” (below).

Resizing Columns

To alter the width of columns in lists:

1. In the row that displays column titles, position the mouse cursor over the faint bar that separates one column from another.
2. The cursor changes to look like a pair of parallel vertical lines, each with an arrow extending horizontally from it. When that happens, hold down the left mouse button and drag the column border to the left or right.

Saving or Deleting a View

In some cases, a list displays a Manage View button. If so, then to save a view:

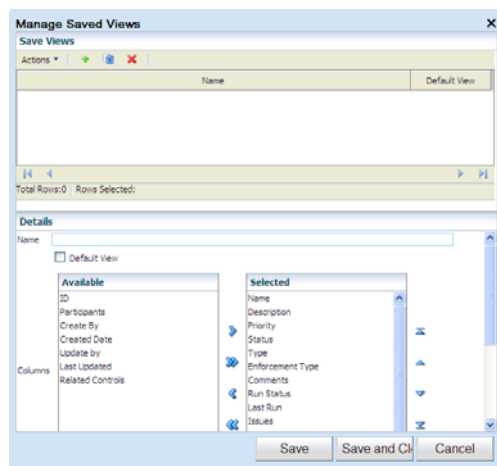
1. Define the view: In a list, set filtering criteria and sort order for data entries, and select, arrange, and resize columns as you wish.
2. Click on the Manage View button. A Manage View dialog opens.
3. Enter values and click on the Save button
 - Create a new name in the “Type new view name” field. The new view criteria are then saved under the new name.
 - Use the “Select view name to override” list box to select an existing view. Its name is retained, but the new criteria replace earlier values. If you choose a value in the “Select view name to override” list box, the “Type a new view name” field becomes inactive, and you cannot enter a value in it.
 - If you want this view to appear each time you open the page in which you are working, select the Set as Default check box. There can be only one default view, so when you select this check box for a view, it overrides any prior selections involving other views.

You can also delete a saved view. To do so, open the Manage View dialog, select the view in the “Select view name to override” field, and click on the Delete button.

In other cases, a list displays a Manage Saved Views button. If so, you can use alternative methods to select or order columns for display or to sort rows, and you can save a view:

1. In the list itself, set filtering criteria and sort order for data entries, and select, arrange, and resize columns as you wish.
2. Click on the Manage Saved Views button. A Manage Saved Views dialog opens.

The upper pane — “Save Views” — lists views that have already been configured. The lower pane — “Details” — shows some of the selections you’ve already made for your view. For example, if you’ve excluded columns from a list, those columns appear in an Available box; those you have not excluded appear in a Selected box.



3. Optionally, make additional view selections:
 - Expose or hide columns: Click on column titles in the Selected box or Available box, and click on buttons to move them from one box to the other. Those in the Selected box are displayed, and those in the Available box are hidden. The > and >> buttons move column titles to the Selected box, one at a time or all at once; the < and << buttons move column titles to the Available box, one at a time or all at once
 - Change the order in which columns appear: In the Selected box, click on a column title, and then on an upward pointing triangle to move it up in the Selected box, or a downward pointing triangle to move it down in the Selected box. (A triangle pointing to a horizontal line moves a column title to the very top or bottom of the list.) The uppermost column appears all the way to the left in its list; the second appears second to the left; and so on, until the bottommost appears all the way to the right in its list.
 - Select sort options: In the Sort Options fields, select up to three columns, and select ascending or descending order for each. Entries in the first column are rearranged in the order you specify, with entries in other columns rearranged so that rows remain intact. Where the first column contains duplicate entries, the sort order for the second column takes effect; where the second column contains duplicate entries, the sort order for the third column takes effect.

4. In the Name field of the Details area, type a name for the view.
5. If you want this view to appear each time you open the page in which you are working, select the Default View check box. There can be only one default view, so when you select this check box for a view, it overrides any prior selections involving other views.
6. Click on the Save button (or Save and Close button) to save the view. When you do, a row for the view appears in the Save Views list. In that list, the Default View column contains one check mark in the row for the one view selected as default; all other cells in the column are blank.

To delete a view, click on its row in the Save Views list, and then click on Actions > Delete, or on the red × button. The view disappears from the list. You can copy a view: select its row, and then click on Actions > Duplicate, or on the Duplicate button (which looks like one page overlapping another).

Displaying a View

To cause a list to display entries selected by a saved view:

1. Click on the downward-pointing triangle at the right of the View button.
2. A list of saved views appears. Click on the one you want to use.

Finally, to override a selected view (whether saved or defined ad hoc), click on the Clear View button. This causes all entries to disappear from the list; to restore content, either select (or define) another view, or click on the View button to display all possible entries.

Creating a User Profile

From any page in GRCC, the user who is currently logged on can open a User Profile, review information pertaining to his own user account, and change some of it.

To open the User Profile, click on the Profile link near the upper-right corner of GRCC (in the dark blue band that runs along the top of the application). A User Profile dialog appears.

User Profile
* Indicates required field

Profile

* User Name * Status
 * Last Name Position
 * First Name Organization
 Middle Name * Language
 * Email Address 1 Date Format Template
 Email Address 2 Password
 Office Phone Confirm Password
 Mobile Phone Internal User? Yes
 Address

Roles

User Roles admin
Group Roles

In read-only fields, the User Profile displays the username, status, and roles assigned to the user. It also shows whether the user is an “internal user” (created directly in GRCC or in an external source). These values cannot be changed.

The User Profile dialog includes write-enabled fields for the following information: first, last, and middle names; physical address; email and second email addresses; office and mobile phones; position and organization; and password. The password field is blank for security purposes, but all the others display current values.

To make changes to these fields, type new entries in them. (If you are changing your password, type the new one not only in the Password field, but also in the Confirm Password field.)

The two remaining fields enable you to set a language in which you wish to work:

- In the Language field, select the language. You can choose among languages configured for use in the Manage Application Configurations page.

GRCC displays information in the language you choose here if you make no selection in a Language Preference field as you log on. If you select a language as you log on, that selection overrides the one you make here.

- In the Date Format Template field, select a date format appropriate for the language in which you wish to work. If you make no selection, GRCC displays dates in its default format: *mm/dd/yyyy*.

When you finish setting user-profile options, save them: Click on the Save button or the Save and Close button. The former leaves profile values on display for further editing, and the latter closes the User Profile window. Alternatively, click on Cancel to close the window without saving new profile values.

Creating and Managing Models

A transaction model defines conditions under which transactions in business-management applications might involve error or fraud, or otherwise entail risk. It may employ filters, functions, or patterns.

- A filter, in its basic form, comprises an attribute, a condition, and (usually) a third term. The attribute corresponds to a database column that belongs to a business object selected for the filter (the business object itself corresponding to one or more database tables that hold information pertinent to transactions); the attribute is given a business-language name that evokes the UI field that the column supports. The condition is a mathematical or other operator. The terms combine to define risk — for example, purchase order amount (attribute) is greater than (condition) a threshold amount (third term).

A filter may also arrange records of transactions into groups, based on commonality in the values of an attribute. It may, for example, find invoices with similar vendor names, to identify duplicate invoices in which the vendor's name is rendered slightly differently.

- A function, like a filter, creates a formula consisting of an attribute, condition, and (usually) third term, but it also incorporates a function that operates on the attribute term, for example taking the average of values in the column. It also uses the grouping capability to establish sets of records on which the function operates. For example, a function might group records by supplier so that it can calculate an average purchase-order amount for each supplier.
- A pattern employs a statistical function, provided by Oracle, that identifies baselines and outliers to those baselines.

Managing Models

A Manage Models page provides information about models created or imported by the user who is currently logged on to GRCC — for your purposes, you. Although it does not provide immediate access to models created by other users, you can share models — you can export your models so that other users can import them, or you can import models exported by others.

In the Manage Models page, a “My Models” pane displays a list that may include both transaction and access models, together with summary information about them

— for each model, its name and description, type and status, and the date when it was last evaluated. This information is supplied by GRCC, from data recorded when a model is created, edited, or run; you cannot update these records directly.

Name	Description	Type	Status	Last Run	View Results
HLS Access		DEFINED			
Bank		DEFINED			
Duplicate Supplier		DEFINED			
Access	Access	Access		06/22/2023 04:06:30 PM	

The type of a transaction model may be Transaction—Defined (the model contains user-defined filters or functions) or Transaction—Pattern (the model contains a pattern, but may also contain filters or functions). A third type, Access, applies to models created in Application Access Controls Governor.

Model status indicates whether the model has been evaluated and has produced results — records of transactions or access it has found to be risky. Values include Not Started, Started, Completed, and Canceled. In addition, an Error status links to the GRCC Jobs page, which can provide information about processing errors.

From the Manage Models page, you can also open pages from which models are created or edited, copy or delete models, synchronize the data they evaluate with that in the business applications to which they point, run models, and review their results. To open the Manage Models page, select Manage Models under Control Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.)

Creating, Editing, Copying, or Deleting Models

To create a transaction model, click on Actions > Create Transaction Model in the Manage Model page. Alternatively, select Create Transaction Model under Control Management in the Tasks panel. Either action opens a Create Transaction Model page (see “Creating a Transaction Model” on page 2-4).

To edit a transaction model, click in the My Models pane on the row for the transaction model you want to edit. Then click on Actions > Edit. This opens an Edit Transaction Model page — a replica of a model-creation page, except that it is populated by values for the model you want to edit.

Rather than create a model from scratch, you can copy an existing model, then modify the copy. To do so, select (click on) the model you want to copy. Then select Actions > Duplicate. A new row appears in the My Models pane, identical to the listing for the copied model except that the model name ends in a number in parentheses. (The value of the number depends on how often you copy the original.) Once the copy exists, you can select Actions > Edit to modify the model as you please.

To delete a model, click in the My Models pane on the row for the model you want to delete. Then click on Actions > Delete, and respond to a pop-up message that asks you to confirm the deletion.

Synchronizing Data

Models evaluate transactions completed or access granted in datasources (instances of business-management applications). For models to recognize changes made in their datasources, you must synchronize data — run a process that captures changes made since the last time a model was evaluated. Each data synchronization job updates data used by a selected model. To synchronize data:

1. In the My Models pane, select (click on) the row for a model whose data you want to update.
2. Select Actions > Synchronize.
3. A dialog box displays the status of the run — “Successful” if the process ran with no errors. To close the window, click on its OK button.

Exporting and Importing Models and Templates

You can export models from a source instance to a file, either as models or as templates. A template is a broadly defined model that can serve as the basis for models you create. (Templates may also be provided, in import files, by Oracle.)

1. In the My Models pane, select models to export. To select one, click on it. To select a continuous set, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold the Ctrl key as you click on models.
2. Click on Actions > Export to export models as models. Click on Actions > Export as Template to export models as templates.
3. An Export Statistics pop-up window appears. Click on its Download button.
4. A pop-up window offers you options to open or save the export file. Typically, click on its Save button and, in a Save As dialog, navigate to a folder in which you want to save the file. The file is saved in .xml format; depending on your choice in step 2, its name begins with the word *Models* or *Templates*, followed by a number.

You can import models or templates from a source file to a destination instance. If you import models, they are available only to you. If you import templates, they are available to all users.

1. In the My Models pane, click on Actions > Import to import models, or on Actions > Import as Template to import templates.
2. An Import File pop-up window opens. Click on its Browse button.
3. A Choose File dialog opens. In it, navigate to, and select, the file you want to import. If you chose the Import option in step 1, select an .xml file whose name begins with the word *Models*. If you chose the Import as Template option in step 1, select an .xml file whose name begins with the word *Templates*. The path and name of the file then populate the field next to the Browse button in the Import File window.
4. Click on the OK button in the Import File window.

5. A Select Items to Import window lists the models or templates contained in the import file. Select those you wish to import, bearing in mind that you can import only those models or templates that use business objects to which your GRCC roles grant you access. To select one item, click on it. To select a continuous set, click on the first item, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on items.
6. If you are importing models, click on the Next button. An Import Datasource Mapping window opens, displaying one row for each datasource specified in the models you've chosen to import. For each, in a Mapped Datasources list box, select a datasource appropriate for the environment into which you are importing the models. (The list box displays datasources configured in the GRCC Manage Application Data page, to which your GRCC roles provide you access.)

If you are importing templates, this step does not apply.
7. Click on the Import button. A pop-up message reports the number of models or templates imported and the status of the import operation. Click on its OK button to close it.

Creating a Transaction Model

To create a transaction model:

1. Open the Create Transaction Model page: Click on Actions > Create Transaction Model in the Manage Model page (see page 2-2). Or, select Create Transaction Model under Control Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.)

2. Name and describe the model (page 2-5).
3. Select business objects (page 2-5) and datasources (page 2-6), which supply the transaction data the model will evaluate.
4. Create filters, functions, or a pattern. As you create them, arrange their vertical and horizontal alignment to one another, to set the order in which they are to be evaluated (pages 2-8 through 2-14).
5. Define model results (page 2-15), and save model (page 2-15).

Naming the Model

Near the top of the Create Transaction Model page, locate the Name field. Click in it, and type a name for your model. Then click in the Description field immediately below the Name field, and enter a brief explanation of the purpose for the model.

Alongside the Name field, a Datasource field displays the datasources that are subject to the model you create. Initially, the field may display a default datasource (if one is specified in the Manage Application Data page). You can add datasources to the model, or delete datasources (including the default datasource), but you do so elsewhere. GRCC updates the Datasource field, and you cannot do so directly.

Selecting Business Objects

Select one or more business objects. Each corresponds to one or more database tables (existing in one or more datasources) that hold information pertinent to transactions, but each is given a business-language name that evokes the UI screen its tables support (and in which transactions may be completed).

To add business objects to a model:

1. In a grid at the left of the Create Transaction Model page, select (click on) the Business Objects tab, and then on an object in the grid. (Although unlabeled, this grid is known as “the Library.”)
2. Do either of the following:
 - In the Library, click on the Add to Model button. The selected business object appears in the pane labeled “Model Objects.”
 - Use your mouse to drag the business object to the area labeled “Add Object Here” in the Model Objects pane.
3. Repeat this process if you wish to add more objects to the model.

Within the Model Objects pane, each object appears as a window that lists the attributes belonging to the object. In this window, you can view, but not actually select, the attributes. You can, however, do the following:

- Remove a business object from the model: click on its × button.
- Move a business object to the left or right of other objects: Click on the downward-pointing, green triangle. Two options appear; click on either Move Left or Move Right.
- Create custom attributes.
 1. Click on the green + icon. An Add Custom Attribute dialog opens.
 2. In an Attribute Name field, create a name for the new attribute.
 3. In a Base Attribute field, select one of the existing attributes.
 4. In a Modifier field, select a mathematical operator: + (addition), – (subtraction), * (multiplication), or / (division).
 5. In a Value field, enter a value the Modifier will apply to the Base Attribute.
 6. Click on the OK button.

You can use the custom attribute in filters. Custom attributes appear at the top of the list of attributes displayed by the business object, and each has an edit icon (which looks like a pencil). You can click on a custom attribute to open another dialog box in which you may either edit or delete the custom attribute.

Using Custom Objects

For transaction models, you can import any set of data as a “custom object,” and use it as if it were a business object. For this purpose, you can import only xml files, which must observe the following formatting conventions:

- The first row of the file must be column headers. Each header name serves as an attribute of the object. Each header entry must comprise a name and, in parentheses, a data type — for example NAME(String), IDNUMBER(Integer), DATE(Date) or AMOUNT(Double).
- The second row and beyond are considered its values.
- The file should contain only one sheet and cannot support multiple sheets.
- Before the xml file is uploaded, the following format-related conversions must be made in the datasource xls file:
 - Convert computed values to absolute values.
 - Remove “total” amount rows not directly tied to specific data attributes.
 - Numeric formatting, such as \$ signs, is not supported. The format should be changed to Number format.
 - To format negative amounts, use a negative sign, –, not open and close parentheses.
 - Date format is *mm/dd/yyyy*.
 - Excel 2003 and later are supported. (You can take an xls file as the datasource, properly format it to support upload to GRCC, and perform a Save As operation to convert it to an xml file.)

If you choose to refresh an existing custom object, the new file must use the exact format of the original. Columns (attributes) can neither be added nor deleted. Only additional rows of values can be added. Moreover, only the user who added the custom object has access to it, or can refresh it.

To upload a custom object:

1. Click on Custom Objects > Import in the Library. An Import File dialog opens.
2. Create a name for the object in the Name field. This is the object name the Library will display.
3. Click the Browse button. A Choose File dialog opens. In it, use standard techniques to navigate to, and select, the file you want to import. The path and name of the file populate the field next to the Browse button in the Import File window.
4. With the file selected, click on the OK button. The custom object is now available for use as if it were a standard business object.

To delete a custom object, select it in the Library. Then select Custom Objects > Delete, and respond to a prompt to confirm your deletion.

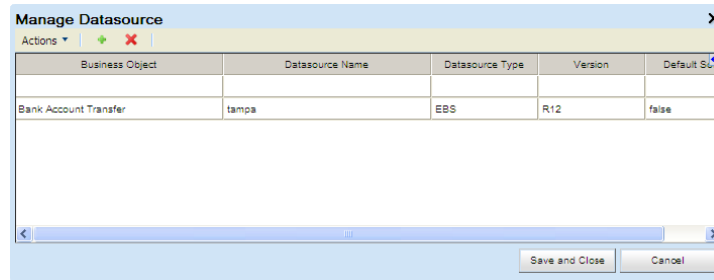
Selecting Datasources

Before a business object can supply transaction data to a model, it must be associated with at least one datasource — as the model is evaluated, a filter citing that object will evaluate data from the associated datasource.

A datasource may be designated as default in the Manage Application Data page. If so, you can activate that datasource for the business objects selected for the model. To do so, save the model — create at least one filter, function, or pattern (see below), then click on the Save button near the upper right of the Create Transaction Model page. The name of the default datasource then appears in the Datasource field near the top of the page.

As you create a model, however, you can change, or add to, its default datasource selection. If no default datasource has been designated, you can add datasources to each business object selected for use in the model.

1. When you add at least one business object to the Model Objects pane, a Manage Datasource button becomes active there. Click on it. A Manage Datasource window opens.



2. To add a datasource, create a new row: click on Actions > Create New, or on the green + sign. (You can have multiple rows for each business object.) To change an existing selection for an object, work in its existing row.
3. If you're adding a datasource, click in the Business Object field of a new row and select the Business Object for which you want to add a source. If you're modifying an existing datasource, locate the row in which the Business Object field displays the name of the object whose source you want to change.
4. Click in the Datasource Name field, which lists datasources configured in the Manage Application Data page. Click on the datasource you want to associate with the business object. Other fields are populated automatically.

If you selected the User business object in step 3, associate it with a GRCC datasource (which exists automatically). For any other business object, select a datasource for an instance of a business-management application in which a model is to be run. (These are configured in the GRCC Manage Application Data page.)

5. Click on the Save and Close button. If you've added datasources, their names appear in the Datasource field (alongside the Name field near the top of the Create Transaction Model page.)

You can also delete the association of a datasource with a business object. While the Manage Datasources window is open, select (click on) the row for the association you want to delete. Click on Actions > Delete or on the red × icon.

Arranging Filters, Functions, and Patterns

Each model element (filter, function, or pattern) you create appears as a dialog box in a Model Logic pane. To define the element, make selections in the fields displayed by its dialog box. As you add elements, you position each vertically or horizontally with respect to others:

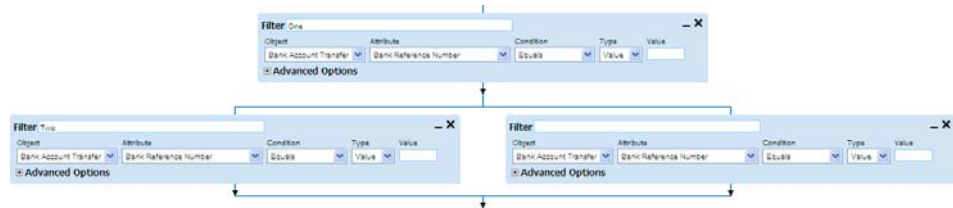
- A vertical arrangement indicates an AND relationship: Elements at one level are evaluated before those at the level below it, the topmost first and the bottommost last. Presuming that processing at any vertical level returns records, processing continues on those records at the next level. For the model to return any results, every vertical level must evaluate to true (filters at every level must identify transactions). A pattern can form only an AND relationship with other objects.
- Filters and functions, however, may be positioned horizontally to one another. Horizontal placement indicates an OR relationship — if any one filter or function within a horizontal set returns results, processing moves to the next vertical level.

To add the first element to a model, click on a button (or a corresponding option in the Actions menu) that selects the type you want — New Filter, New Function, or New Pattern. To add subsequent elements, click again on any of those buttons (or menu options). As you do, keep these concepts in mind:

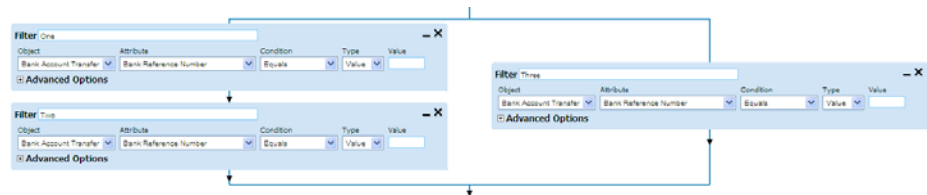
- Each element you add appears by default immediately beneath the lowest element in your model hierarchy. If, for example, a model contains four vertical levels and you click on the New Filter button, a filter appears at the fifth vertical level.
- Once two or more elements exist in your model, you can select them: hold down the Ctrl key and click in the title field (labeled *Filter*, *Function*, or *Pattern*) of each element you want to select. When you select an element, the interior of its dialog box turns a dark shade. (An unselected dialog box is light blue.) You can select one or multiple elements, but in the latter case, those you select must be adjacent to one another.
- Having selected elements, you can add a new element specifically in relation to those you've selected. If, for example, your model includes two filters in an AND relationship (stacked vertically), you select the higher one, and you click on the New Filter button, the new filter appears immediately beneath that higher one; the filter that had been second in the model hierarchy moves to the third level.
- You can drag and drop existing elements to new positions within the model.
 - To create an OR (horizontal) relationship, click on one element and drag it to the left or right edge of another.
 - To create or rearrange an AND (vertical) relationship, click on one element and drag it to the upper edge of another, to place it above. Or drag it to the lower edge of another, to place it below.
 - Alternatively, to move an element into an AND relationship with other elements, click on it and drag it to an arrowhead at any point in the model hierarchy.

Using these techniques, create structures as complex as you like. For example, an OR statement may contain any number of elements.

Or, a filter may have an AND or OR relationship with blocks of other filters. For example, suppose filters One, Two, and Three are in an AND relationship — stacked vertically. You could drag Two to the left of Three, creating a horizontal pairing between them; One would remain centered above them. At this point, the model would return results if One returned results and then either of Two or Three returned results.



You could then drag One on top of Two, thus creating an AND relationship (vertical pairing) between the two of them, with Three in an OR (horizontal) relationship to both. At this point the model would return results either if One and Two returned results, or if Three returned results on its own.



- You can incorporate elements into groups: select those you want to include and click on the Group Filters button (or on Actions > Group Filters). Once you have placed filters in a group, you cannot remove them from the group.
- A transaction model can contain only one pattern, so you can select the New Pattern button (or menu option) only once.

Creating a Filter

To create a filter:

1. Click on the New Filter button, or on Actions > New Filter. A dialog box appears in the Model Logic pane.

2. Enter a name for the filter in the Filter field.
3. An Object field lists all of the business objects you've added to the model in the Model Objects pane. Select (click on) the one from which you want to select an attribute for use in this filter.
4. An Attribute field presents a list of attributes belonging to the object you selected in step 3. Select (click on) the one you want to use in this filter.
5. A Condition field presents a list of operators that may be applied to the attribute you selected, usually to force a comparison between each attribute value and a

third (yet-to-be specified) term in the filter. Select one. Conditions include the following, although you will see only those appropriate for the attribute you've selected.

- **Mathematical operators:** The filter returns results if the value of the attribute equals, does not equal, is less than, is less than or equal to, is greater than, or is greater than or equal to a specified value.
 - **Between:** The filter returns results if the value of the attribute falls between two other specified values.
 - **Contains and Does not contain:** The filter returns results if the value of the attribute is a text string that includes, or excludes, a specified text string.
 - **In and Not in:** The filter returns results if the value of the attribute is a text string that matches, or does not match, a value in a semicolon-delimited set of text-string values. The match must be exact.
 - **Is blank and Is not blank:** The filter returns records for which the attribute column either contains no value, or contains any value.
 - **Is not related to:** The filter returns records of items that should, but do not, have links to other items. For example, invoices should have references (links) to purchase orders, and a filter using this condition would return records of those that don't.
 - **Similar and Similar to:** The filter collects records into groups when one or two specified attributes have values that are similar to one another. In most cases, similarity is measured in percentage; for example, two text strings would be considered 50 percent similar if half the characters in each were duplicate. Dates, however, are similar if they fall within a specified number of days of one another. The Similar condition checks for similarity in the values of the attribute you selected in step 4. The Similar to condition checks for similarity in that attribute and a second one; each of their values are compared not only with themselves, but also with the values of the other.
 - **Different than:** The filter returns records for which two specified attributes have *dissimilar* values. Again, similarity is measured in percentage or, for dates, number of days. This condition checks for dissimilarity in the values of the attribute you selected in step 4 and a second one; the values of each attribute are compared not only with themselves, but also with the values of the other. In effect, Different than would return the records that Similar to would *not* return.
6. Define the third term of the filter, the format of which varies according to the condition you selected.
- If you selected any of the mathematical operators, select either "Value" or "Object" in the Type field. If you select "Value," a Value field appears. In it, enter a value to be compared with attribute values. If the attribute selected for the filter is a date, then the less- and greater-than conditions enable you to select either a fixed value (an actual date) or a relative value (a number of days, weeks, or months from the attribute date). If you select "Object," new Object and Attribute fields appear. In them, select a business object and an attribute within it, whose values are compared with those of the attribute in the first term of this filter.

- If you selected the Between condition, a Type field reads “Value,” and two Value fields appear. In them, enter two values that set the range between which attribute values must fall for the filter to return results.
 - If you selected the Contains or Does not contain condition, select either “Value” or “Object” in the Type field. If you select “Value,” a single Value field appears. In it, enter a text string that may appear at any position within a larger text string. (For example, “customer_name Contains smi” would return records of customers named Smith, Smithers, Nesmith, Jasmine, and Ossmi.) If you select “Object,” new Object and Attribute fields appear. In them, select a business object and an attribute within it, whose values may be contained within those of the attribute in the first term of this filter.
 - If you selected the In or Not in condition, a Type field reads “Value,” and a Value field appears. In it, enter a text string, or a set of text strings delimited by semicolons, any of which may match values for the attribute you selected in step 4.
 - If you selected the Is blank or Is not blank condition, there is no third term (because the first two terms are sufficient to define the filter).
 - If you selected Is not related to, new Object and Attribute fields appear. Select an attribute (and its object) to which the filter’s initial attribute should be related. For example, if the initial attribute is Invoice ID, this attribute might be Purchase Order ID, to return records of invoices without linked purchase orders.
 - If you selected Similar, the filter will check for similarity in the values of the attribute you’ve already selected in step 4. If you selected Similar to or Different than, a pair of fields appear; in it, select an attribute (and its object) whose values will also be checked for similarity or dissimilarity. In a Percent Similar field, enter a number from 1 to 100 that defines the precision with which attribute values must match to be considered similar. Or, for date attributes, a Within Days field replaces the Percent Similar field; in it, enter a number of days that defines a range in which dates are considered similar.
7. Optionally, select advanced options. The following options are available to filters; click on the \pm toggle icon next to the Advanced Options label to reveal them, although you will see only those appropriate for the filter you defined.
- Exclude: Removes records defined by the filter from analysis. In effect, the filter returns all records that do not meet its specifications.
 - Include all distinct rows for the similar condition: This option is available only if the filter uses the Similar or Similar to condition. Clear it (the default) to create groups of records for which attribute values meet the specified similarity, but are nevertheless distinct from one another. Select it to create the same groups, but also create groups of records with attribute values that are not distinct from one another or that are not similar (for example, groups for records with exactly matching attribute values, or one-member groups for records with attribute values that have no similar values).
 - Apply condition across the same data row: This option is available only when a filter specifies two attributes (one as the first term in the filter, and

the other as the third term), and both attributes belong to a single business object. When the option is cleared, the filter compares values in all rows of the business object, but when the option is selected, the filter considers each row individually. Suppose, for example, that a filter sets an Active Date attribute equal to a Created Date attribute. In each of two data records, the Active Date value differs from the Created Date value, but in the second record, the Created Date value equals the Active Date value from the first record. If this option were cleared, the filter would return both records as results; if the option were selected, the filter would return neither of them. In a third data record, the Active Date value is the same as the Created Date value. In this case, the filter would return the record as a result regardless of whether the option were cleared or selected.

Creating a Function

A function applies a mathematical calculation to groups of attribute values, then determines whether each calculated value poses a risk. For example, it may calculate the average transfer amount for bank account transfers, and then find average transfers that are less than a threshold amount. To do so, it must establish groups of records to which it applies the mathematical calculation. In the example, it must group records by bank account, so that it can take the average transfer amount for each account.

The function can perform this grouping on its own, in which case groups contain records for which the values of an attribute exactly match. In the example, it might group records by Bank Account ID. Or, the function can be used in conjunction with a filter that uses the Similar or Similar to condition to create groups of records. In the example, the filter might create sets of records for which an Account Name attribute contains values that are 95 percent similar.

If you intend to use such a filter to group records, create it first. Then create the function, placing it in an AND relationship with (below) the filter.

To create a function:

1. Click on the New Function button, or on Actions > New Function. A dialog box appears in the Model Logic pane.

Function	Object	Attribute	Condition	Type	Value
When: Average	Bank Account Transfer	Transfer Amount	Less than	Value	

2. Enter a name for the function in the Function field.
3. In a line labeled *Filter*, use Object and Attribute fields to gather records into groups:
 - If the function is to perform the grouping on its own, select a business object in the Object field and one of its attributes in the Attribute field. The function will then create groups of records in which values for that attribute exactly match. (In the example above, the business object would be Bank Account and the attribute would be Bank Account ID.)

- If you have created a filter to perform the grouping, make a selection only in the Object field (the Attribute field is disabled). The appropriate selection is the value *Similar*: followed by the name of the business object specified in a Similar filter, or the two business objects specified in a Similar to filter. (In the example above, the filter would use the Account Name attribute of the Bank Account object, so the appropriate selection would be Similar: BankAccount.)
4. In a line labeled *When*, use a Function field to select the mathematical calculation that is to be performed on grouped attribute values. These functions include the following:
 - Average: Calculates the average of the attribute values.
 - Count: Determines how many attribute values exist.
 - Sum: Adds the attribute values together.
 5. Next to the Function field, use Object and Attribute fields to select the attribute (and the object to which it belongs) upon which the function will perform calculations. (The Attribute field displays only attributes appropriate for the function you selected in step 4.) In the example, this would be the Transfer Amount attribute of the Bank Account Transfer object.
 6. In the remaining fields of the When line, complete the logical formula that defines what makes a transaction risky. (It might be, for example, that average Transfer Amount is less than a threshold amount.) To do so, specify a condition and (if needed) a third term, as described in steps 5 and 6 of “Creating a Filter” (page 2-9).
 7. Optionally, select advanced options. The following options are available to functions; click on the Advanced Options \pm toggle icon label to reveal them, although you will see only those appropriate for the function you have defined.
 - Exclude: Removes records defined by the filter from analysis. In effect, the filter returns all records that do not meet its specifications.
 - Over interval: This option is available only to a function in which the attribute selected in step 3 is a date. If the option is cleared, the function groups records so that each group contains records that share a date. If the option is selected, the function groups records so that each group contains records whose dates fall within a specified time period. To specify the period, select *Overlap* or *Successive* in an Interval Type field. *Overlap* means that the time periods overlap with one another (for example, if the time period is every two days, periods may include Monday and Tuesday, Tuesday and Wednesday, and Wednesday and Thursday); *Successive* means that the time periods are distinct (in the every-two-day example, Monday and Tuesday, then Wednesday and Thursday). Next, define the period: In an Interval field, enter a number, and in a Units field, select days, weeks, or months. Finally, select start and end dates.

Creating a Pattern

You can add one pattern to a given model (and the addition of that pattern classifies the model as the pattern type, even if it also contains defined filters). There are

initially two patterns (although Oracle continues to develop patterns and make them available independently of GRCC releases). Each pattern calculates a baseline value and then identifies transactions that vary excessively from the baseline; each takes parameters, which enable you to define the variance that is considered excessive.

- **Benford:** Monitors variations from lists of numbers from many sources of data, where the leading digit is distributed in a specific, nonuniform way. Its parameters include the percentage above and below the baseline at which outliers are specified.
- **Mean:** Calculates a mean for a set of attribute values, and identifies individual values that are too far above or below the mean. Parameters include the amounts above and below the mean at which outliers are identified.

To create a pattern:

1. In the Model Logic pane, click on Actions > New Pattern, or on the New Pattern button. A dialog box appears.

Note, however, that you must first have selected at least one business object for the model with at least one attribute that provides data upon which patterns can operate (in the case of Benford and Mean patterns, numeric values). Otherwise, an error message informs you that no patterns are associated with the selected business objects.

2. Enter a name for the pattern in the Pattern field.
3. In the Pattern list box, select the pattern you want to use. (If you have not selected a business object appropriate for your patterns, however, this list box is empty.)
4. Click on the green + icon; a row appears beneath the Object and Attribute headings. In the Object field of this row, select a business object; in the Attribute field, select an attribute belonging to the object. These fields display only objects and attributes upon which your pattern can operate. You may create additional rows to select additional attributes for the pattern to evaluate. You may also select a row and click on the red × icon to delete the row.
5. Under the headings Parameter, Value, and Unit, one row appears for each parameter appropriate for the pattern you've selected. For each parameter row, enter a value in the Value field and select a unit of measurement to apply to that value — for example, 20 percent.

Defining Model Results

Once the model is developed, select attributes for which the model, when it is run, will return values for each risky transaction it finds.

Be careful to choose attributes that reflect the level of detail you want to see in your results. A model might identify many records that exceed the risk it specifies, but if you define results so broadly that there would be no way to distinguish these records, the results window will present only one record and eliminate the apparent duplicates. Suppose, for example, a model searches for purchase-order amounts above a threshold value, and you choose both supplier and purchase-order amount as your results attributes. For each supplier in violation of the model, you may see multiple records — one for every PO amount above the threshold value. If, however, you choose only supplier as a results attribute, you would see only one record for each supplier in violation of the model.

To define results:

1. Scroll down to the Result Display pane in the Create Transaction Model page. (Or, collapse other panes by clicking on their \pm toggle icons.)
2. An Available Columns box lists the business objects included in the model. For each, click on the \pm toggle to reveal a list of the attributes that belong to the business object.
3. Select an attribute for which you want to see results (click on it), then click on the $>$ button. The attribute moves to a Selected Columns box. Repeat this process for all other attributes for which you want to see results. Alternatively, click on the $>>$ button to move all attributes to the Selected Columns box.

If you reconsider your choices, select attributes individually in the Selected Columns box and click on the $<$ button to return them to the Available Columns box. Or, click on the $<<$ button to return all attributes to the Available Columns box.

Saving the Model

To save the model, click on the Save button or the Save and Close button. Both buttons are located near the upper right corner of the Create Transaction Model page. The Save option saves the model, but leaves its values on display for potential further editing, or for the generation of results. The Save and Close option saves the model but empties the Create Transaction Model page so that it is ready for the creation of a new model. Alternatively, you can click the Cancel button and respond to a confirmation prompt to restore the blank Create Transaction Model page without saving the model.

Viewing or Exporting Results

Once a model has been saved, you can view its results from the Manage Models page, the Create Transaction Model page, or the Edit Transaction Model page:

- If you've created a Defined model, a Results pop-up window displays a grid with a row for each transaction the model identifies as risky. Columns in the grid provide values for the results attributes you've selected. The results grid

contains an ID column, which contains an identifying number assigned by GRCC to each record (row).

- If you've created a pattern model, results are displayed graphically. The image represents a baseline identified by the pattern, and outliers to it. If multiple attributes are used by the pattern analysis, the results page generates multiple results tabs. Each opens an individual graph, with data related to the attribute on which the graph is based.

If you hold the mouse cursor over a data point in the graph, a box displays the values that define that point. If you click on a data point, a grid appears below the graph, displaying a row for each outlier data point. Columns in the grid once again provide values for the results attributes you've selected.

Results for model Duplicate Suppliers					
<div> <div>Actions</div> <div>View</div> <div>Clear View</div> </div>					
Supplier.Name	Supplier.Supplier ID	Supplier.Last Update	Supplier.Last Update	Similar: Supplier.Gro	Business Application
Automotive Supplier	949	1068	10/09/2003	automotivesupplier	tampa
Automotive Supplier	950	1068	10/09/2003	automotivesupplier	tampa
Automotive Supplier	1781	1068	10/07/2003	automotivesupplier	tampa
Automotive Supplier	1782	1068	10/07/2003	automotivesupplier	tampa
Beckman, Lisa	3127	1318	07/10/2006	beckman	tampa
Beckmann, Lisa	2085	1318	05/06/2004	beckman	tampa
Direccion General de	1496	1005127	06/14/2004	alderentasbuenosair	tampa
Direccion Provincial c	1498	1005127	06/14/2004	alderentasbuenosair	tampa
KANGS	34164	0	09/05/2007	kangs	tampa
KANGS2	34165	0	09/07/2007	kangs	tampa
RENTAS_CHAC	1901	1005127	10/27/2003	rentasch	tampa
RENTAS_CHUB	1902	1005127	10/27/2003	rentasch	tampa

1 of 1 Pages.

Total Rows: 12 | Rows Selected: 0

From either the Create or Edit Transaction Model page, click on either of two View Results buttons, located in the title bars of the Model Logic and Result Display panes. From the Manage Models page, do either of the following:

- The My Models pane of the Manage Models page includes a column labeled “View Results.” In it, the entry for each model contains a prompt (which also reads “View Results”) if the model has been run. (If not, the View Results cell is blank. Click on the prompt (if one appears) for the model whose results you want to view.
- In the My Models pane, click on the row for the model whose results you want to view. Then, in the menu bar, selection Actions > View Results.

Then, in any of the pages, respond to prompts:

- If the model has not been evaluated previously, a dialog box prompts you to choose between Run and Run in Background options. If you select Run, the page remains open, and displays run status at its foot. If you select Run in Background, the model runs, but you may navigate to another GRCC page and work there. (A Cancel option also exists.)

- If the model has been evaluated previously, a dialog box prompts you to decide whether to overwrite existing results. Select No to display the existing results. Select Yes to generate and display a new set of results. In this case, the dialog box prompting you to run the model directly or in the background appears; make a selection there. When you generate a new run, the earlier set of results is lost.

You can export model results to an Excel spreadsheet. To do so:

1. In the results window, click on Actions > Export to Excel.
2. A pop-up window offers you options to open or save the export file. Typically, click on its Save button and, in a Save As dialog, use standard Windows techniques to navigate to a folder in which you want to save the file.

Using a Model or Template to Create a New Model

Rather than create a model from scratch, you may use a duplicated model or a template as a starting point, editing it to create a new model. A duplicated model is one copied from an existing model through use of the Duplicate feature on the Manage Model page (page 2-2). A template is a “starter” model uploaded to GRCC through the import feature of the Manage Model page (page 2-3). Although a model is available only to the user who created or imported it, a template is generally available. For you to use a template, however, your GRCC role must give you access to all the business objects selected for it.

1. In the Library pane at the left of the Create Transaction Model (or Edit Transaction Model) page, click on the Models tab or the Templates tab, depending on the type of object you want to use in creating a model.
2. The Library displays instances of the object you’ve selected. (As you create or import models, they populate a grid available in the Models tab. The Templates grid is populated when you import templates.) Click on the model or template you want to use.

If you are working from the Models tab, then to create a new model you must select a duplicated model from its list. If you select any other model, you can edit it, but cannot turn it into a new model.

3. Click on the Open button. Model or template values populate the Model Objects, Model Logic, and Result Display panes. Using procedures described above, create a name and description for the new model, and then edit, add to, or delete from other source model or template values. Save the new model.

Creating and Managing Controls

A transaction control defines risk and generates incidents — records of transactions that exceed the defined risk. To create the control, a user selects a transaction model; the control adapts its risk definition (filtering logic). The user adds information needed for the control to be run and its incidents to be resolved: a datasource to which the control is applied, participants who resolve its incidents, a priority, and more.

A Manage Controls home page presents a list of controls (access and transaction), and enables you to edit them or to convert models into new controls. You can also import and export controls, run reports about them, and view their change history.

Name	Description	Priority	Status	Type	Enforcement Type	Comments	Run Status	Last Run	Pending Incident Count	Dataset
Create Suppliers & Approve Invoices - R12	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Approve Purchase Orders	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Create Invoices - R12	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Create Payments - R12	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Create Purchase Orders	Segregation of Duties	1	Active	Access	Approval Required		COMPLETED	07/05/2010	25530	EBS
Create Suppliers & Create Purchase Orders	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Print Checks - R12	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Set Up Auto Create Purchase Orders	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS
Create Suppliers & Void Payments - R12	Procure to Pay	1	Inactive	Access	Approval Required		NOT STARTED	0	0	EBS

From the Manage Controls home page, you can navigate to other pages, in which you can view a “controls dashboard,” or view and edit detailed records of individual controls. Manage Controls pages also offer tools for maintaining “tags,” each of which is a set of values. Users may assign any tag value to a control to characterize it and its incidents. GRCC comes with two default tags — Business Process and Risk — and users may create others.

Viewing Controls

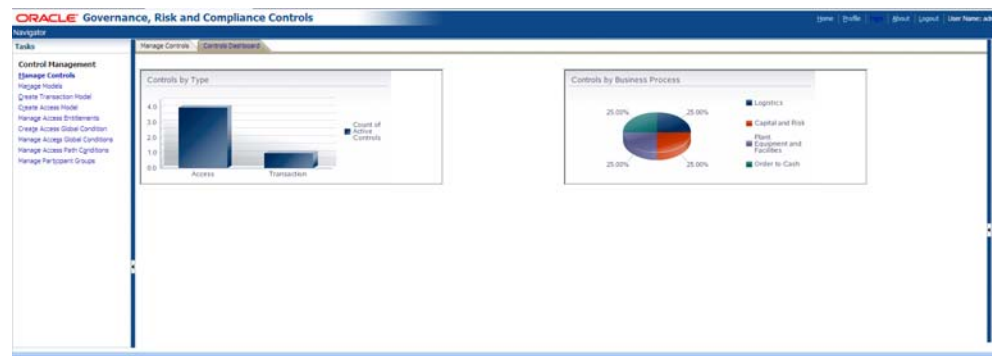
The Manage Controls home page presents a list of controls you are entitled to view — those that specify datasources and business objects to which your GRCC role gives you access. To open it, select Manage Controls under Control Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.)

For each control, the page displays these values by default: name and description, priority, status (Active or Inactive), type (Access or Transaction), the datasource on which the control runs and its type (Oracle EBS or PeopleSoft), the date and status of the most recent run, the number of incidents it has generated, its tag values, and whether comments have been appended to it.

Other values are hidden by default, but you can display them, or hide any of those already on display. (See “Removing and Restoring Columns,” page 1-6.) For each control, hidden values include the participants assigned to it, the users who created and most recently updated it, the dates on which they did so, and controls that are considered to be related to it.

Reviewing Summary Graphs

Two graphs display summary information about active controls. To view them, click on the Controls Dashboard tab.



A bar graph sorts active controls by type: one bar represents access controls, and the other transaction controls. The height of each is proportional to its number of active controls. Hold the cursor over a bar, and a pop-up message displays its control type and number of controls.

A pie graph depicts counts of active controls assigned each of the values for the Business Process tag. Each “pie slice” represents one of the values, its area proportional to the number of controls assigned that value. Hold the cursor over a pie slice, and a pop-up message displays the name of its Business Process tag value and the number of controls assigned that value.

To return to the Manage Controls home page, click on the Manage Controls tab.

Creating Transaction Controls

Because every control is based on a model, ensure that at least one transaction model exists before you attempt to create a transaction control. You may convert any number of transaction models into controls at once. If you create more than one, their processing logic, names, and descriptions remain distinct, but other values are the same for all the controls you create at once.

1. In the Manage Controls home page, click on Actions > Create Transaction Control.

2. A Create Control: Choose Model window opens. In an Available Models grid, select models you want to convert into controls: To select one, click on it. To select a continuous set, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on models. A Model logic pane displays the filters that define each model you select; the last model you select is the one whose filters remain on view.

The screenshot shows the 'Create Control: Choose Model' window. It has a title bar with 'Next' and 'Cancel' buttons. The main area is divided into two sections: 'Available Models' and 'Model Logic'.

Available Models: A table with columns: Name, Description, Type, Create By, Last Updated.

Name	Description	Type	Create By	Last Updated
Available Suppliers	Locate possible duplicates	Transaction - Debit		07/11/2010
Invoice Address	Invoice Invoice	Transaction - Debit		07/11/2010
SOD: Supplier Invoice Validate SOD between Payment and Supp	Transaction - Debit			07/10/2010

Below the table, it says 'Total Rows: 3 Rows Selected: 0' and '1 of 1 Pages'.

Model Logic: A pane showing a filter: 'Filter: User 80% Similar'. It has fields for 'Object' (Supplier), 'Attribute' (Name), 'Condition' (Similar), and 'Percent Similar' (80%). There is an 'Advanced Options' link.

3. Click on the Next button. A Deploy Control: Define Control Details window replaces the Choose Model window.

The screenshot shows the 'Deploy Control: Define Control Details' window. It has a title bar with 'Back', 'Cancel', and 'Submit' buttons. The main area is divided into several sections: 'Details', 'Related Controls', 'Tags', 'Participants', and 'Comments'.

Details: A table with columns: Name, Description.

Name	Description
Duplicate Suppliers	Locate possible duplicates

Below the table, it says '1 of 1 Pages'.

Related Controls: A section with a 'Manage Datasource' button.

Tags: A section with 'Available Tags' and 'Selected Tags' lists. Available tags include Risk, Business Process, and Region. There are arrows for moving tags between the lists.

Participants: A table with columns: Name, Type, Effective Date, Assign Issues, Notify, Status.

Name	Type	Effective Date	Assign Issues	Notify	Status
Admin	User	06/29/2010	Yes	Yes	Active

Comments: A section with an 'Add Comments' button.

4. Set the following values, as described below: name, description, priority, status, datasource, related controls, tags, participants, and comments.

You may click on a Back button, to return to the Choose Model window and revise your model selection. If so, when you return to the Define Control Details window, any values you have selected remain in force.

5. When you are satisfied with all the selections you have made, click on the Submit button in the Define Control Details window.

Naming and Describing Controls

In the Define Control Details window, a Details grid displays a row for each model you selected. Each row contains the name and description of its model. You can accept these as the names and descriptions of the controls you are creating, or click in each Name and Description field to create new values.

Setting Priority and Status

In the Priority field, enter a value that expresses the importance of the controls you are creating in relation to others. The value must be a number. (Your company should establish a set of priority values and enforce consistent usage.)

In the Status list box, select Active (the default) to use the controls you create, or Inactive to hold them in reserve.

Selecting Datasources

The models upon which you are basing the controls you create are already associated with datasources. You may retain those associations, or select new datasources for the controls you are creating.

Suppose, for example, you have distinct test and production systems, each of which consists of an Oracle EBS instance. You've set up both EBS instances as datasources to GRCC, called EbsTest and EbsProd.

Suppose further that you created a model to run in the test system; it sites business objects associated with the EbsTest datasource. You want to convert the model into a control that runs in the production system. To do so, you would replace the EbsTest datasource with EbsProd.

To select datasources for a control:

1. Click on the Manage Datasource button. A Map Datasources window opens, displaying one row for each datasource specified in the models upon which you are basing your controls.

Datasources Used	Type	Version	Mapped Datasources	Type	Version
tampa	EBS	R12			

2. In each row, a Mapped Datasources list box displays datasources configured in the GRCC Manage Application Data page. In each, select a datasource appropriate for the environment in which the controls are to be applied. (The datasource

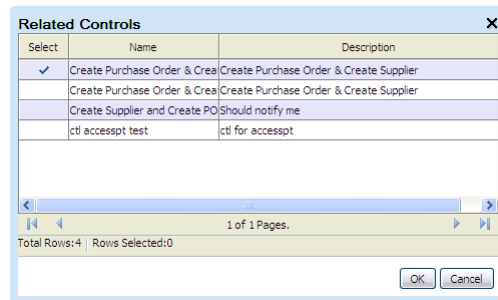
associated with each source model is identified in a Datasources Used field of its row in the Map Datasources window. You may select this or another data-source in the Mapped Datasources field to apply to controls you are creating.)

3. Click on the OK button. The Map Datasources window closes, and your selections appear in the Datasource field of the Define Control Details window.

Selecting Related Controls

Controls may be related to one another for any reason your company determines to be meaningful. To select controls related to those you are creating:

1. Click on a magnifying-glass icon next to the Related Controls field.
2. A Related Controls window opens, listing the controls that already exist on your GRCC instance. Select any number of them: To select each, click in the Select field in its row. A check mark appears in each row you've selected.



3. Click the OK button. The Related Controls window closes, and your selections appear in the Related Controls field of the Define Control Details window.

Selecting Tags

Select tag values, which will apply not only to the controls you are creating, but also to incidents they generate:

1. Available Tags and Selected Tags boxes list tags configured for your instance of GRCC. In either box, click on the ± toggle next to any tag to reveal its values.
2. Add tag values to, or remove them from, the controls:

To add tag values, click on a value in the Available Tags box, and then click on the > button. The value moves to a Selected Tags box. Repeat this process for all tag values you want to assign to the incident. Alternatively, click on the >> button to move all tags and tag values to the Selected Tags box.

To remove tag values, select them individually in the Selected Tags box and click on the < button to return them to the Available Tags box. Or, click on the << button to return all tags and tag values to the Available Tags box.

Optionally, use the Manage Tags button to edit tags themselves and their values. (See “Managing Tags,” page 3-10.) If you do, the changes you make are available to all incidents and controls.

Selecting Participants

To add participants to the controls:

1. In the Participants grid, click on Actions > Add (or click on the green plus sign). A new row appears in the grid.
2. Click in the Name field of the row. A list of GRCC users and participant groups appears; select one. The next field, Type, indicates whether the participant you've added is a group or a user; you cannot edit this value.
3. An Effective Date field displays a date on which the participant is added to the controls you are creating. The default is the date on which you are creating the controls; to accept it, do nothing in this field. Otherwise, click in the field and a calendar pop-up window appears. Click right- or left-pointing triangles to move forward or back through months; in a given month, click on the date you want.
4. Click in the Assign Incidents field and select Yes to make the participant responsible for resolving incidents generated by the controls, or No to make the participant an observer with no default responsibility for resolving incidents.
5. Click in the Notify field and select Yes to have GRCC send email notifications to the participant when the controls generate incidents, or No to forgo notifications. (A connection to your email server must be set up in the GRCC Manage Notification Configurations page.) Notifications are consolidated; each participant receives a single message for all incidents generated by a run of a control.
6. Typically, ensure that Active is selected in the Status field (or, choose Inactive to create participants without actually using them).
7. Repeat these steps for each participant you want to add.

To delete a participant, click on its row and select Actions > Delete (or click on the red × symbol).

Writing Comments

To add a comment to the controls:

1. Click on the Add Comments button. A Comments dialog opens.
2. In the Comments dialog, type the comment you want to add to the controls.
3. Click on the Save button. The comment appears in the Comments pane of the Define Control Details window, together with the date, time, and your name.

Mass-Editing Controls

You can modify the priority, status, tag values, or participants, or add comments, to any number of existing controls at once.

1. Select the controls you want to modify from the list of controls on the Manage Controls home page: To select one control, click on it. To select a continuous set of controls, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on controls.

2. Click on Actions > Mass Edit. An Edit Controls dialog opens.

3. Set new values in any combination of the Priority or Status (page 3-4) or Tags (page 3-5) areas of this dialog. (The controls retain their original values for any of these areas you leave unedited.)
4. Click on the Save and Close button.

To modify the assignment of participants to the selected controls:

1. In the Manage Controls home page, click on Actions > Assign, or on the Assign button. An Assign dialog opens.
2. In the Available Participants box of the Assign dialog, click the \pm toggle next to a Users entry or a Groups entry to reveal users or participant groups that are not yet assigned to the selected incidents.
3. Select a user or group you want to assign (click on it), then click on the > button. The user or group moves to a Selected Participants box. Repeat this process for all other users or groups you want to assign to the selected incidents. Alternatively, click on the >> button to move all users and groups to the Selected Participants box.

If you reconsider your choices, select users or groups individually in the Selected Participants box and click on the < button to return them to the Available Participants box. Or, click on the << button to return all users and groups to the Available Participants box.

4. Click on the Save and Close button.

To add a comment to the selected controls:

1. In the Manage Controls home page, click on Actions > Add Comments, or click on the Add Comments button. A Comments dialog opens.
2. In the Comments dialog, type the comment you want to add to the selected controls.
3. Click on the Save button.

When a comment has been written, an icon appears in the comments field for each of its controls. To read a comment, click on the icon. A pop-up window displays comments written for the control.

Opening and Editing Controls Individually

To open pages that display detailed accounts of individual controls:

1. Select any number of controls in the list on the Manage Controls home page. To select one, click on its row. To select a continuous set of controls, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on controls.
2. Select Actions > Open.

One page opens for each control you've selected. A tab appears at the top of each page, labeled with the appropriate control name. To view a control detail page, click on its tab. To return to the Manage Controls home page, click on its tab.

The screenshot displays the Oracle Governance, Risk and Compliance Controls interface. The main window is titled 'Duplicate Suppliers' and is divided into several sections:

- General Information:** This section contains fields for Control ID (23), Name (Duplicate Suppliers), Description (Locate possible duplicates), Status (Active), Priority (3), Date Last Run (07/11/2010), Date Last Updated (07/11/2010), Date Created (07/11/2010), and Datasources (tampa). It also lists Related Controls.
- Tags:** A table showing the Business Process (Procure to Pay).
- Participants:** A table listing users involved in the control.

Name	Type	Effective Date	Assign Incidents	Notify	Status
vlee	User	07/11/2010	Yes	Yes	Active
admin	User	07/11/2010	Yes	Yes	Active
- Control Logic:** A section for defining the control logic, including a filter for 'User 80% Similar' and a table for defining conditions.

Object	Attribute	Condition	Percent Similar
Supplier	Name	Similar	80%
- Comments:** A section for adding comments to the control.

Initially, each page presents a read-only display of control details:

- A General Information pane displays the name and description of the control; its ID and type (Access or Transaction); its status and priority; dates on which it

was created, last run, and last updated; the datasources to which it applies; its related controls; and tag values assigned to it.

- A Participants pane lists the GRCC users or participant groups selected as participants to the control.
- A Control Logic pane displays the filters that define the processing logic of the control, arranged in the AND/OR order in which they are analyzed.
- A Comments pane displays all comments written about the control. Each comment appears with the date and time on which it was written, and the name of the user who wrote it.

To edit controls, open their detail pages, and then click on the Edit button in each page. Or, select controls in the list on the Manage Controls home page, and select Actions > Edit. In either case, a write-enabled version of the detail page opens for each control. In each page, you can update the name, description, status, or priority for a control by entering new values in the appropriate fields. You can modify related controls (page 3-5), tag values (page 3-5), or participants (page 3-6), or write comments (page 3-6), as you would if you were creating a new control. When you finish modifying a control, click on the Save button in its edit page.

To close either the detail page or the edit page for a control, click on its Done button.

Running Controls

You can cause GRCC to analyze, and return incidents for, any selection of controls. To begin, choose the controls you want to analyze from the list on the Manage Controls home page: To select one, click on its row. To select a continuous set of controls, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on controls.

Then, do either of the following:

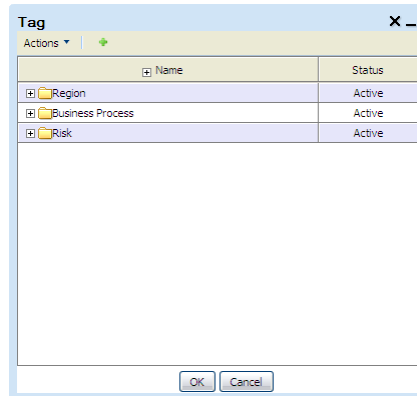
- Evaluate the selected controls once, immediately. Before doing so, you may consider synchronizing data from the datasources against which the controls will run; this would ensure that transaction data is up to date. (You can synchronize data from the Manage Application Data page, which is opened from the Administration Management tasks.) To evaluate the controls, select Actions > Run, or click on the Run button. GRCC displays status of the run at the base of the Manage Controls home page.
- Create a schedule on which the selected controls run regularly. To do so, select Actions > Schedule, or click on the Schedule button. A Schedule Parameter dialog opens; in it, enter values that set a name for the schedule, the date and time at which it starts, the regularity with which the controls are evaluated, the date and time (if any) on which the schedule expires, and whether data should be synchronized immediately before each control evaluation. Then click on the Schedule button.

While a control is being evaluated, you can stop the evaluation. To do so, select Actions > Cancel Analysis, or click on the Cancel Analysis button.

Managing Tags

To create and edit tags and tag values used for classifying controls and the incidents they generate:

1. In the Manage Controls home page, select Actions > Manage Tags. Alternatively, click on the Manage Tags button that is available as you create or edit a control (or an incident). In either case, a Tag dialog opens, listing all currently configured tags.



2. To create a new tag, click on Actions > Add Tag (or on a green plus sign); an Add Tag window opens. To edit an existing tag, select its row and click on Actions > Edit Tag; an Edit Tag window opens.
3. If you are creating a new tag, type a name for it in the unlabeled field beneath the title bar of the Add Tag window. If you are editing an existing tag, you may edit its name in the equivalent field of the Edit Tag window. In either case, typically ensure that Active is selected in the list box next to this field (or, choose Inactive if you want to hold the tag in reserve).
4. Create or modify any number of tag values:
 - To create a tag value, select Actions > Add Tag Value (or on a green plus sign). A new row appears. In its Name field, type a name for the value; in its Status field, typically ensure that Active is selected (or, choose Inactive if you prefer).
 - To modify a tag value, click in an existing row, and then edit the values it contains.
5. When you are finished, save the tag and its values: Click on the OK button in the Add Tag or Edit Tag window, and then on the OK button in the Tag window.

Importing and Exporting Controls

You can export controls from a source instance to a file:

1. From the list on the Manage Controls home page, select controls to export. To select one, click on it. To select a continuous set, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold the Ctrl key as you click on controls.

2. Click on Actions > Export Controls.
3. An Export Statistics pop-up window appears. Click on its Download button.
4. A pop-up window offers you options to open or save the export file. Typically, click on its Save button and, in a Save As dialog, use standard techniques to navigate to a folder in which you want to save the file. The file is saved in .xml format; its name begins with the word *Controls*.

You can import controls from a source file to a destination instance:

1. In the Manage Controls home page, click on Actions > Import Controls.
2. An Import File pop-up window opens. Click on its Browse button.
3. A Choose File dialog opens. In it, use standard techniques to navigate to, and select, the file you want to import. Select an .xml file whose name begins with the word *Controls*.
4. Click on the OK button in the Import File window.
5. A Select Items to Import window lists the controls contained in the import file. Select those you wish to import: To select one control, click on it. To select a continuous set, click on the first control, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on controls.
6. Click on the Next button. An Import Datasource Mapping window opens, displaying one row for each datasource specified in the controls you've chosen to import. For each, in a Mapped Datasources list box, select a datasource appropriate for the environment into which you are importing the controls (The list box displays datasources configured in the GRCC Manage Application Data page.)
7. Click on the Import button. A pop-up message reports the number of imported controls and the status of the import operation. Click on its × button to close it.

Viewing Change History

To view a history of changes made to controls:

- Click on a control in the list on the Manage Controls home page. Or, open the detail page for a control (see page 3-8).
- Click on a left-pointing triangle located at the midway down the right border of the Manage Controls home page, or a control detail page. A change-control pane opens at the right of the screen.

A Change History grid displays one row for each version of the control you've selected up to, but not including, the current one. The information includes a revision number and the date on which that revision was created.

When you open the change-control pane, the triangle on which you clicked changes to point to the right. To close the pane, click on the right-pointing triangle.

Creating Participant Groups

At least one participant is associated with each transaction control, to review its incidents. A participant may be an individual GRCC user, or a group. Any member of a group may review a given incident or role assignment, but the first user to do so acts for all; there is no need for a second member to act after the first has made a judgment. To create a participant group:

1. Open the Manage Participant Groups page: select Manage Participant Groups under Control Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.)

The screenshot shows the Oracle GRCC interface. On the left is a 'Tasks' panel with a list of tasks including 'Manage Participant Groups'. The main area is titled 'Manage Participant Groups' and has two tabs: 'Groups' and 'Participants'. The 'Groups' tab is active, showing a table with columns 'Group', 'Active', and a plus icon. The 'Participants' tab is also visible, showing a table with columns 'Participant', a plus icon, and a minus icon. Both tables have an 'Add' button and a 'Delete' button. The page also includes a 'Navigator' panel at the top with links like Home, Profile, Help, About, Logout, and User Name: admin.

2. In the upper half of the Manage Participant Groups page, click on the Add button. A new row appears.
3. Click on the Group field in the new row, and type a name for the group.
4. Ensure that the Active check box is selected to make the group available for use (or clear the check box to withhold the group from use).
5. In the lower half of the Manage Participant Groups page, click on the Add button. A new row appears.
6. Click on that row. A list appears; from it, select a GRCC user. Ensure that the user's role assignments grant necessary permissions: Rights to business objects and datasources sited in the controls to which the group will be assigned, as well as update rights to the Manage Incidents page.
7. Repeat steps 5 and 6 for each additional user you want to include in the group.
8. When you finish adding members, click on the Save button in the upper half of the Manage Participant Groups page. A Records Saved pop-up window appears; click on its OK button to clear it.

To modify an existing group, click on its row in the upper half of the Manage Participant Groups page. Add members (follow the procedure described above) or delete members — select a member's row in the lower half of the page, then click the Delete button. When you finish editing, save the group.

Resolving Incidents

The evaluation of transaction controls generates “incidents,” each the record of a transaction that exceeds the risk defined by a control. Each consists of values for attributes that were selected for a model from which the control was developed.

A Manage Incidents home page presents incidents (both access and transaction) belonging to the person who is currently logged on to GRCC — for your purposes, you. Incidents may belong to you because you are a participant to the controls that generated them, or because other participants have assigned them to you. From the Manage Incidents home page, you can navigate to other pages, which show an “incidents dashboard” or detailed records of individual incidents.

The actual resolution of incidents occurs outside of GRCC. For example, you may determine that a purchase order should be canceled if a transaction control shows that it is suspect; that action would be completed in the business-management application to which it applies. The GRCC Manage Incidents pages enable you to review incident details, and to set the status of incidents to reflect whether anything should be, or has been, done about them.

Initially, incidents appear in the Manage Incidents home page at an Assigned status, which means that you (potentially along with others) have been designated to address them. You can update an Assigned incident to any of the following statuses:

- Accepted, which means you have determined that nothing need be done to resolve the incident.
- Remediate, which means you have decided that some action must be taken in the business-management application to resolve the incident.
- Resolved, which means you have confirmed that the remedial action has been carried out in the business-management application.

GRCC may set other statuses:

- Control Inactive means that an incident is no longer of concern because the control that generated it has been inactivated.
- Authorized and Closed apply exclusively to incidents generated by AACG controls (See the *Application Access Controls Governor User Guide*.)

Managing Incidents

To review, edit, or assign status to incidents, open the Manage Incidents home page: select Manage Incidents under Incident Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.)

Oracle Governance, Risk and Compliance Controls

Incident Management

Manage Incidents

Manage Access Approvals

Manage Access Simulations

Incidents

View By: Incident

Actions: View, Clear View, Assign, Accept, Remediate, Add Comments, Manage Saved Views, Visualize, Help

Incident ID	Incident Type	Incident Information	Grouping	Grouping Value	Control Name	Priority	Status	Assigned To	Control Last Run	Created Date
23-1	Transaction	Supplier Name: Auto			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-2	Transaction	Supplier Name: Auto			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-3	Transaction	Supplier Name: Auto			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-4	Transaction	Supplier Name: Auto			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-5	Transaction	Supplier Name: Beol			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-6	Transaction	Supplier Name: Beol			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-7	Transaction	Supplier Name: Dired			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-8	Transaction	Supplier Name: KAWI			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-9	Transaction	Supplier Name: KAWI			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-10	Transaction	Supplier Name: KAWI			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-11	Transaction	Supplier Name: RBNV			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010
23-12	Transaction	Supplier Name: RBNV			Duplicate Suppliers	3	Assigned	admin: vlee	07/11/2010	07/11/2010

Total Rows: 12 Rows Selected: 0

You can set the Manage Incidents page to display either a list of controls that have generated incidents, or a list of incidents generated by those controls. In the control list, each control links to a list of the incidents only it has generated. From any list of incidents, you can open pages that provide details of individual incidents.

- For a list of controls, select Control Summary in the View By list box.

For each active control, the Manage Incidents page displays the name, type (access or transaction), priority, the dates on which the control was most recently updated and evaluated, tag values (user-defined classifications), control participants (users or groups of users selected when the control was created to resolve the incidents it generates), the datasource to which the control applies, and comments appended to it by participants. The listing for each control also shows the number of pending incidents it has generated. (An incident is considered to be pending if it is at the Assigned or Remediate status.)

- For a general list of incidents, select Incident in the View By list box. For a list of incidents generated by a specific control, double-click on its pending-incidents value in the Control Summary list.

In either case, the Manage Incidents page displays the following values for each pending incident: An ID value generated by GRCC; the name of the control that generated it; its status; its type (access or transaction); its priority; the datasource in which it exists; dates on which it was created, most recently updated, and closed, and on which its control was last run; the participants to whom it is assigned and who most recently updated its status; and comments configured for it.

Each record contains Grouping and Grouping Value fields. For transaction incidents, the contents of these fields vary:

- If a transaction control uses a filter to find transactions with similar values for a specified attribute, the Grouping field displays the word *Similar* and the specified attribute, and the Grouping Value field displays the value of that attribute for a given incident.

- If a transaction control uses a function to calculate a value for a specified attribute across a group of transactions, the Grouping field identifies the calculation (count, sum, or average) and the specified attribute, and the Grouping Value field displays the calculated value for a given incident.
- If a transaction control uses a pattern to create a baseline value, the Grouping field displays the pattern type and the attribute upon which the pattern is based, and the Grouping Value field displays the baseline value.

Finally, each record provides an Incident Information value. For a transaction incident, this is the value of the first attribute among those selected (for the control that generated the incident) to characterize the suspect transaction.

By default, the Manage Incidents page shows only pending incidents. You can, however, create views to display lists of incidents at any status: In the list box above the Status column, select the status for which you want to generate a list of incidents. Then click on the View button. To restore the list of pending incidents, click on the Clear View button, and then on the View button.

A list of controls or incidents may have more entries than can be displayed at once. If so, the list is divided into pages. (Click on a right-pointing triangle to advance from one page to the next, or a left-pointing triangle to move back one page at a time. Click on an icon that looks like a triangle pointing rightward at a vertical line to move to the last page, or a triangle pointing leftward at a vertical line to move to the first page.) To open incidents, set status, assign participants to incidents, or add comments, you'll need to select one or more controls or incidents. However, you can select from only one page at a time. If you wish to select multiple controls or incidents, you can define a view (see page 1-5) so that those you want to select appear in one page.

Reviewing Summary Graphs

Two graphs display summary information about pending incidents. To view them, click on the Incident Dashboard tab in the Manage Incidents page.



A bar graph depicts counts of pending incidents sorted by the type of control that generated them. One bar represents access incidents, and the other transaction incidents. The height of each is proportional to the number of incidents generated by

controls of the type it represents. Hold the cursor over a bar, and a pop-up message displays its control type and number of incidents.

A pie graph depicts counts of pending incidents sorted by severity. Each “pie slice” represents a priority assigned to controls that have generated incidents. The area of each slice is proportional to the number of incidents generated at its priority. Hold the cursor over a pie slice, and a pop-up message displays the priority value and the number of incidents at that priority.

To return to the Manage Incidents home page, click on the Manage Incidents tab.

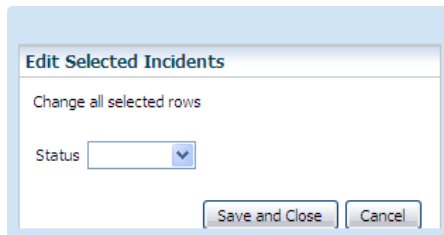
Mass-Editing Status, Participants, or Comments

You can set status for any number of incidents, assign participants to them, or write comments for them, all at once. To do so, first choose the incidents with which you want to work:

1. Generate a list of controls (to set values for all the incidents generated by the controls you select) or a list of incidents. (See “Managing Incidents” on page 4-1.)
2. In that list, select any number of controls or incidents. To select one item, click on it. To select a continuous set of items, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on items.

To set status for the selected incidents, do either of the following:

- Click on Actions > Edit Status. An Edit Selected Incidents dialog box opens. In its Status list box, select the status you want to set. Then click on the Save and Close button.

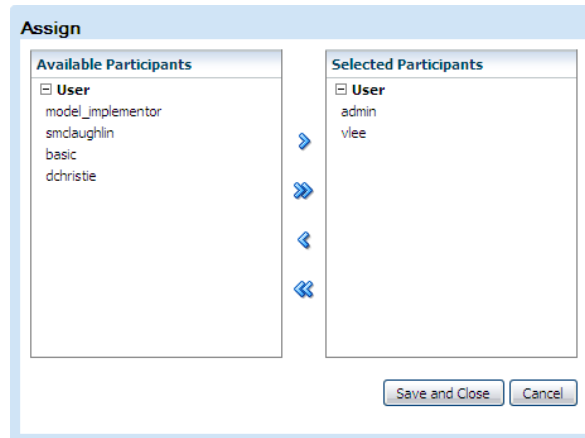


- If you are in a list of incidents, click on the Accept button or the Remediate button to set either of those statuses. (These buttons are unavailable in the Control Summary list.)

Because the Manage Incidents page displays pending incidents by default, an incident disappears from its list if you select a status other than Assigned or Remediate. The row for a control remains in the Control Summary list, but its pending-incidents entry is updated to count only those of its incidents that remain pending (and may therefore read 0). In an incidents list, you may create a view to see incidents that are no longer pending.

To assign participants to the selected incidents:

1. Click on Actions > Assign, or click on the Assign button. An Assign dialog opens.



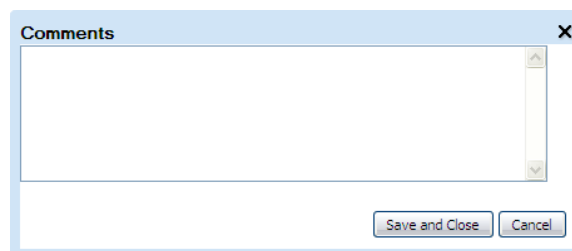
2. In the Available Participants box of the Assign dialog, click the \pm toggle next to a Users entry or a Groups entry to reveal users or participant groups that are not yet assigned to the selected incidents.
3. Select a user or group you want to assign (click on it), then click on the > button. The user or group moves to a Selected Participants box. Repeat this process for all other users or groups you want to assign to the selected incidents. Alternatively, click on the >> button to move all users and groups to the Selected Participants box.

If you reconsider your choices, select users or groups individually in the Selected Participants box and click on the < button to return them to the Available Participants box. Or, click on the << button to return all users and groups to the Available Users and groups to the Available Participants box.

4. Click on the Save and Close button.

To add a comment to the selected incidents:

1. Click on Actions > Add Comments, or click on the Add Comments button. A Comments dialog opens.



2. In the Comments dialog, type the comment you want to add to the selected incidents.
3. Click on the Save button.

When a comment has been written, an icon appears in the comments field for each of its controls. To read a comment, click on the icon. A pop-up window displays comments written for the control.

Opening Incidents Individually

To open pages that display detailed accounts of individual incidents:

1. Generate a list of incidents. (See “Managing Incidents” on page 4-1.)
2. In that list, select any number of incidents. To select one, click on its row. To select a continuous set of incidents, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on incidents.
3. Select Actions > Open.

One page opens for each incident you’ve selected. A tab appears at the top of each page, labeled with the appropriate incident ID number. To view an incident page, click on its tab. To return to the Manage Incidents page, click on its tab.

Oracle Governance, Risk and Compliance Controls

Incident 189-2

General Information

Incident ID: 189-2

Control Name: Duplicate Suppliers

Status: Assigned

Priority: 3

Control Last Run: 02/07/2010

User Updated Date: 02/07/2010

Created Date: 02/07/2010

Datasources: tempus.eg1812

Tags

Category	Value
Financial Fraud	

Incident

Supplier Name	Supplier Number	Supplier ID	Supplier Created By	Supplier
Automotive Supplier #1	10179	360	2008	02/06/2010

Participants

Name	Type
User	User
User	User

Comments

Initially, each page presents a read-only display of incident details:

- A General Information pane displays the incident ID, the name and priority of the control that generated the incident, the current incident status, dates on which the control was last run and on which the incident was created and last updated, and datasources on which the incident exists. The General Information pane also includes:
 - A tags grid, which lists tag values, if any, that apply to the incident. These may have been selected for the control that generated the incident, or assigned directly to the incident.
 - An Incident grid, which defines the incident in question. For a transaction incident, the grid displays values for all attributes selected to characterize the suspect transaction. (Attributes are selected during configuration of a model, from which the control that generated the incident was developed.)
- A Participants pane lists the GRCC users or participant groups who are participants to the incident. They may have been named as participants to the control

that generated the incident, or they may subsequently have been assigned to the incident itself.

- A Comments pane displays all comments written about the incident. Each comment appears with the date and time on which it was written, and the name of the user who wrote it.

Editing Incidents

To edit an incident, open its detail page, and then click on the Edit button. This opens a write-enabled version of the incident detail page. In it, you can:

- Set status: The status field becomes an active list box. From this list, select the status you want to assign (see page 4-1).
- Modify the selection of tag values assigned to the incident:
 1. Available Tags and Selected Tags boxes list tags configured for your instance of GRCC. In either box, click on the \pm toggle next to any tag to reveal its values.
 2. Add tag values to, or remove them from, the incident:

To add tag values, click on a value in the Available Tags box, and then click on the > button. The value moves to a Selected Tags box. Repeat this process for all tag values you want to assign to the incident. Alternatively, click on the >> button to move all tags and tag values to the Selected Tags box.

To remove tag values, select them individually in the Selected Tags box and click on the < button to return them to the Available Tags box. Or, click on the << button to return all tags and tag values to the Available Tags box.

You can also manage tags themselves and their values (see “Managing Tags“ on page 3-10).

- Add or delete participants:
 1. In the Participants grid, click on Actions > Add (or click on the green plus sign). A new row appears in the grid.
 2. Click in the Name field of the row. A list of existing participants and groups appears; select one. A Type field is populated by GRCC.

To delete a participant, click on its row and select Actions > Delete (or click on the red \times symbol).

- Add a comment:
 1. Click on the Add Comments button. A Comments dialog opens.
 2. In Comments dialog, type the comment you want to add to the selected incidents.
 3. Click on the Save and Close button.
- Save the edits: When you finish editing the incident, click on the Save button near the top of the incident page. To close the page, click on the Done button (in either the read-only or edit version of the page). If you’ve made changes, but select Done before selecting Save, you lose all changes you’ve made.

Viewing Change History

In the Manage Incidents pages, you can view a history of changes made to incidents or to the controls that generated them. To do so:

- Generate a list of controls or a list of incidents (See “Managing Incidents” on page 4-1); in the list, click on the row for a control or an incident. Or, open the details page for an incident (see “Opening Incidents Individually” on page 4-6).
- Click on a left-pointing triangle located at the midway down the right border of the Manage Incidents home page, or an incident-detail page. A change-control pane opens at the right of the screen.

Control Information

Name: Duplicate Suppliers
Description: Locate possible duplicates
Type: Monitor
Status: Active
Priority: 3

Change History

Latest Version 1 2010-07-07

Version	Status	Assigned To	Last Updated Date	Comments	Update by
1	Assigned	smclaughlin	2010-07-07		smclaughlin

1 of 1 Pages.

A Control Information segment of the change-control pane displays information either about a control you’ve selected, or about the control that generated an incident you’ve selected. The information includes name, description, status, and priority. Beneath this, a Change History grid displays one row for each version of the control or incident you’ve selected up to, but not including, the current one. The information includes a version number (sequentially assigned by GRCC), status, the date on which that version was updated and the person who updated it, and the comment (if any) written for that version. For an incident, the grid also shows the person to whom the incident was assigned at that version.

When you open the change-control pane, the triangle on which you clicked changes to point to the right. To close the pane, click on the right-pointing triangle.

Reporting

Governance, Risk and Compliance Controls produces summary and detail reports about access and transaction controls and about the incidents they identify, about the approval or rejection of role assignments that are subject to AACG preventive analysis, about conditions configured for access models and controls, about GRCC users and roles, and about global users.

All these reports may be run, or be scheduled to run at regular intervals, from pages available under Reports Management in the Tasks panel. (See “Navigating in GRCC,” page 1-4.) The control and incident reports may also be run “contextually” — from the GRCC pages in which controls are managed and incidents are resolved.

This chapter discusses reports that apply specifically to ETCG or commonly to ETCG and AACG. For discussion of other AACG reports, see the *Application Access Controls Governor User Guide*. For discussion of a report about users and roles, see the *Governance, Risk, and Compliance Controls User Guide*.

Choosing Among Reports

Within GRCC, the following reports apply to Enterprise Transaction Controls Governor:

- A Control Detail Extract Report provides information about controls configured in GRCC. For each control, the data includes name, description and comments, type (Access or Transaction), priority, the users who created and most recently updated the control, the dates on which they did so, and status (Active or Inactive), as well as the number of pending incidents it has generated. The report also lists tag values assigned to the control, its participants, and related controls. Finally, it displays the processing logic of the control and, for an access control, any conditions defined for it and entitlements that belong to it.
- The Incident Summary Extract Report lists incidents generated by access and transaction controls. For each incident, the report provides the name of the control that generated it; its status; its type (access or transaction); its priority; the datasource in which it exists; values of tags associated with it; dates on which it was created and most recently updated, and on which its control was last run; the users to whom it is assigned and who most recently updated its status; and comments configured for it. The report also provides an “Incident

Information” value: for a transaction incident, this is the value of the first attribute among those selected (during configuration of the control that generated the incident) to characterize the suspect transaction.

- The Incident by Control Summary Extract Report lists access and transaction controls that have generated pending incidents — those at the Assigned or Remediate status. For each control, the report shows the control name, type (access or transaction), and priority; the datasource to which it applies; values of tags associated with it; dates on which it was most recently run and most recently updated; participants assigned to it; comments configured for it; and the number of pending incidents it has generated.
- The Transaction Incident Details Extract Report lists incidents generated by transaction controls. For each incident, it provides not only the information that would be included in the Incident Summary Extract Report, but also the values for all attributes selected to characterize suspect transactions. Because these attributes are chosen during configuration of the control, they vary from one control to another, so each run of the report must focus on a single control. You select this control as you run the report.

Running Contextual Reports

You can generate transaction reports from the pages in which controls or incidents are created:

1. Open the page that provides access to the report you want to run:
 - To run the Control Detail Extract Report, select Manage Controls under Control Management in the Tasks panel.
 - To run the Incident by Control Summary Extract Report, select Manage Incidents under Incident Management in the Tasks panel, and then select Control Summary in its View By list box.
 - To run the Incident Summary Extract Report or the Transaction Incident Details Extract Report, select Manage Incidents under Incident Management in the Tasks panel, and then generate a list of incidents (see “Managing Incidents” on page 4-1).
2. Select any number of controls or incidents upon which you want to focus the report. (If you make no selection, the report will include information about all controls or incidents in the list you generated in step 1.) To select one item, click on it. To select a continuous set of items, click on the first, hold down the Shift key, and click on the last. To select a discontinuous set, hold down the Ctrl key as you click on items.

Some incident reports are specific to access or transaction incidents (or controls), and others are general. GRCC automatically filters by transaction type as needed: An access-specific report includes information only about access controls or incidents, a transaction-specific report includes information only about transaction controls or incidents, and a general report includes information about both.

3. In the Report list box, click on the report you want to run.

4. In the list box immediately to the right of the Report list box, click on the format in which you want to produce the report. For some reports, you can select only the value *csv*; this produces a file designed for export to another application, such as a spreadsheet, for further manipulation. For other reports, you may choose *csv* or *pdf*; the latter produces a formatted report that can be viewed in Adobe Acrobat.
5. Click on the Print button.
6. A File Download dialog appears. In it, choose whether to save or open the report. If you choose to save the report, another dialog opens; in it, navigate to a directory in which you want to save the report.

Using Reports Management

From Reports Management pages, you can run ad hoc reports or schedule them to be run at intervals over a period that you define. Reports Management saves the scheduled reports it generates, enabling you to view them at any time. As you run reports from Reports Management, you can select parameter values, thus focusing the results on records that match those values.

1. In the Reports Management list of the Tasks panel, select an option for the report you want to run: Run Control Reports for the Control Detail Extract Report or Run Incident Reports for any of the incident reports.
2. A Reports Management page opens; its upper portion lists reports you can run. Click on the row for the report you want.

Report Name	Last Run Date	Last Run By
Access Incident Details Extract Report	2010-07-07 09:47:33.0	amdaughn
Access Incident Details	Not Run	Not Run
Access Violations By User Report	2010-07-07 09:45:20.0	amdaughn
Access Violations within a Single Role (On a Role)	Not Run	Not Run
Incident By Control Summary Extract Report	Not Run	Not Run
Incident Summary Extract Report	Not Run	Not Run
Extra Role Violations by Control Report	Not Run	Not Run
Users with Access Violations by Control Report	2010-07-07 09:02:55.0	amdaughn

Report Name	Run Date	Run By
Access Incident Details Extract Report_2010_07_06_082430	2010-07-06 08:24:30.0	amdaughn

3. Click on Actions > Run Now or Actions > Schedule.
4. A pop-up window appears; in it, select parameter values. In general, parameters correspond to the selections you make as you create or otherwise work with the object on which you are reporting. As you set parameters, you would select among the same values.

For example, if you created a view (see page 1-5) in the Manage Controls page, you can select that view to have the Control Detail Extract Report display information about controls that belong to the view. Or you can select a control

name to have the report apply only to that control. Each of the control- and incident-parameter windows also lists tags you have created; you can select one or more values for each tag to report on only the controls or incidents assigned those values. You can also select the format in which the report should be generated — *pdf* (Adobe Acrobat file) or *csv* (a text file for export to another application, such as a spreadsheet).

Because the Incident by Control Summary Extract report is status-specific (see its description in “Choosing Among Reports”), it does not offer a status parameter. For other incident reports, a status parameter enables you to generate results about incidents at any status.

If you are scheduling a report to be run, you must select a view as a parameter (and may select other parameters as well).

5. If you selected Run Now in step 3, the parameter window displays a Generate Report button; click on it to generate the report.

If you selected Schedule in step 3, this button is replaced by a Schedule Information button. Click on this button to produce a Schedule Parameter pop-up window, and to schedule the report to run. Enter values that set a name for the schedule, the date and time at which it should start, the regularity with which the report should run, and the date and time (if any) on which the schedule should expire. Then click on the Schedule button.

Reviewing Scheduled Reports

If you have scheduled a report to run, the bottom portion of the Reports Management page displays a row for each generation of the report. (Note that the Last Run Date and Last Run By columns in the top portion of the screen are populated by GRCC, but only for scheduled runs of reports, not for ad hoc runs.)

To view a report generated on a schedule:

1. In the top portion of the Reports Management page, click on the title of the report you want to see.
2. Click on Display > Report History.
3. In the bottom portion of the Reports Management page, double-click on the instance of the report you want to see.

To view the schedule on which the report was generated:

1. In the top portion of the Reports Management page, click on the title of the report you want to see.
2. Click on Display > Scheduled Reports.
3. In the bottom panel of the Reports Management page, review summary information about the schedule, including its most recent and next scheduled run times.
4. Double-click on the row containing the summary information to reopen the Schedule Parameter pop-up window. Here, you can re-enter schedule values and select a Reschedule button, or turn off the scheduling by selecting an Unschedule button.