Oracle® Transaction Controls Governor

User Guide

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Oracle Transaction Controls Governor User Guide

Primary Author: David Christie

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1

Introduction

Oracle Transaction Controls Governor documents and enforces business controls, enabling users to demonstrate regulatory compliance and to promote operational efficiency. Users may create controls (and supporting elements) one at a time, or upload a selection of "seeded" controls and adapt them as needed.

An essential aspect of creating controls is to describe and catalog them, enabling a company not only to manage its controls effectively, but also to demonstrate regulatory compliance. For this documentary purpose, Transaction Controls Governor enables users to do the following:

- Maintain a "control library," which contains not only controls themselves, but also elements that show how each control affects the operations of the company. By default each control is linked directly to a control objective; identified as a component of subprocesses, processes, policies, policy sections, and business cycles; and associated with risks that the control is meant to address. However, most of these elements can be renamed to suit a company's operating structure.
- Record a text description of each control-library element, together with assessments of its effectiveness. For each control, record a rating of its relative importance and a likelihood that the control, if it were to fail, would permit material error to be committed in the financial statements.
- Assign "dimensions" to each control-library element. A dimension is a segment of a business environment — such as a region, department, or line of business — to which elements are applied.
- Assign "attributes" to each control-library element. An attribute is a category of values that describe the qualities or nature of an element.
- Configure control-library elements, likelihoods, ratings, dimensions, attributes, and other components used in controls documentation.
- Create workflows. As control-library elements are created or modified, they are subject to approval. Each workflow defines a sequence in which approval requests are distributed to users or user groups. Each consists of a "workflow routing" and a "workflow definition"; the former selects the users and groups who are to receive and answer approval requests, and the latter maps the workflow routing to elements in need of review.

- Review approval requests at a Task Inbox.
- Manage Transaction Controls Governor users and user groups.

In addition to this documentary capability, Transaction Controls Governor provides enforcement capability as well:

- Users can create "control monitors," which run as "automations" attached to controls. Each uses structured query language (SQL) to define actions subject to control, and each generates "suspects" — instances of potential control violations. Users can create workflows that distribute suspects for review; the Task Inbox displays requests to review suspects.
- It is occasionally necessary to assign users temporary access to duties they do not perform ordinarily. An Access Monitoring feature implements a process for requesting extraordinary access to Oracle EBS responsibilities or to database tables underlying Oracle EBS, and requires requests to be approved. Like control-monitor suspects and control-library elements, Access Monitoring requests are routed to reviewers by workflows, and are presented for review at the Task Inbox. Once approval is granted, Access Monitoring audits all actions taken by users at their temporary duties.
- Users can review reports, which present detailed information about control monitors and their suspects, Access Monitoring requests, and audits of users granted temporary duties through the Access Monitoring feature.

Starting Transaction Controls Governor

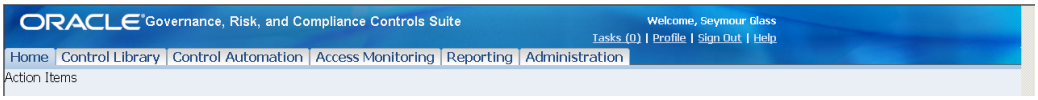
Transaction Controls Governor is a web-based application designed to run in Microsoft Internet Explorer. To start it:

1. Open Internet Explorer.
2. In the Address field, type the URL for your instance of Transaction Controls Governor, and press the Enter key.
3. A Sign In dialog box appears. Type your user name and password, and click on the Sign In button.

Using standard Windows procedures, you can, of course, save the URL as a favorite or create a desktop shortcut to the URL.

Access to Features

Transaction Controls Governor displays tabs in a horizontal row near the top of each of its forms, and four links at the upper right corner of each form; these provide access to features.



The four links provide the following functionality:

- Tasks: Open the Task Inbox to review and respond to approval requests, notifications, and (if your site uses Transaction Controls Governor) suspects.
- Profile: Configure an "out-of-office assistant," which forwards tasks to other users if you are unavailable to review them. Configure filters that determine which elements are selected for display in the control library. Change your password.
- Sign Out: Log off Transaction Controls Governor.
- Help: Review documentation.

The tabs provide the following functionality:

- Home: View two lists of tasks. One presents the five most recently generated approval requests that you can review, and the other the five most recent approval requests you have generated. Each list contains a link to the Task Inbox.
- Control Library: View, create, or edit entries that define and document controls and the other control-library elements.
- Control Automation. View or create control monitors, workflow routings, and workflow definitions.
- Access Monitoring: Configure and send requests for users to receive temporary access to duties they do not ordinarily perform.
- Reporting: View reports that document control monitors and the suspects they generate, provide records of access requests generated through the Access Monitoring feature, and audit the actions of temporary users.
- Administration: View, create, or edit items used in defining controls, such as dimensions, attributes, likelihoods, and ratings. Import or export control-library elements. Manage users and user groups. Configure workflow routings and workflow definitions. Configure data sources (connections to database instances to which controls are to be applied) and manage other system-level properties.

User Roles

Each user is assigned a primary application role when his user account is created. Your access to Transaction Controls Governor is limited by the role you have been assigned. Each primary application role provides write access to some features and view access to other features, and may provide no access to still other features. The rights available to each role are discussed in Chapter 2; for now, be aware that an individual user has full access to only some of the features discussed in this manual.

Conventions

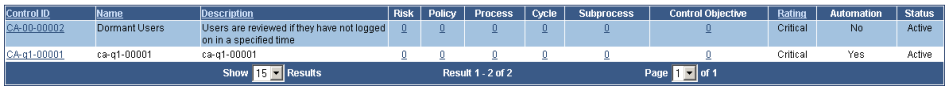
As you work with Transaction Controls Governor, you'll make repeated use of the following features.

Breadcrumbs

Once you have begun to select options within a panel, Transaction Controls Governor leaves a trail of "breadcrumbs" — a string of links to each of the screens you have navigated to reach the screen you are using, culminating in the title of the current screen. (In the figure below, the breadcrumbs trail begins with the word *Home*.) To return to any of the earlier screens, click on its link.

Sorting and Selecting Items in Lists

Several panels in Transaction Controls Governor present lists of items. For example, the following illustration shows a list of controls:



Each of these lists implements the following conventions:

- In the header row, some column headings are underlined. Each of these is a sort column. When you click on one of these headings, the contents of its column are arranged in alphanumeric order; the values in other columns are arranged appropriately so that records remain intact.
- In the footer row, you can select a number in the Show Results list box to determine how many rows the list displays at once. The list entries are divided into pages, each of which consists of the number of rows you've chosen to display. To move to another page than the one currently displayed, click on its number in the Page list box. Or, click on the Next Page or Previous Page link, each of which is present only if there is a next or previous page to go to.

Date Fields

As you create an item in Transaction Controls Governor, you typically use fields labeled *Effective From* and *Effective To* to set a period during which the item remains in effect.

By default, the Effective From field is set to the date on which you create the item, and the Effective To field is blank. If you accept these values, the item takes effect immediately (or immediately upon approval) and remains in effect indefinitely.

You may, however, choose to modify these values. If so, you can type a date directly in either field, in the format *DD-Mmm-YYYY*. Alternatively, you can click on a grid-like icon next to the field, and a pop-up calendar appears. In it, click on the < or > symbol surrounding a month name or year to display an earlier or later month or year; then, in the calendar, click on the date you want. The pop-up window closes, and the date you selected appears, correctly formatted, in the field.

2

User Administration

Every Transaction Controls Governor user is assigned one of seven "primary application roles" — Auditor, Manager, Rule Builder, Executive, User, Auditor or System Administrator. Each role grants access to a distinct set of features. For example, only an Author can create or modify Control Administration items that serve as "building blocks" for other items. Only a System Administrator can create or modify users and user groups. An Auditor has view and assessment rights, but can create or edit nothing. Before controls or related items can be configured, it's necessary to create users with rights to configure them.

(An eighth primary application role — AG Super User — has view, edit, and create privileges to all features. Because this role is unlimited, it should be assigned sparingly.)

Moreover, control-library elements (once created or modified) must be approved before being used; Access Monitoring requests must be approved before access is granted; and control-monitor suspects must be reviewed. Workflows distribute these items for review, so workflow routings and definitions must be configured before control-library elements, access requests, or suspects. Each workflow routing calls users or user groups; these must be created first so that they exist to be assigned to routings.

Transaction Controls Governor comes with one user configured as a System Administrator; the user name and password for this user are both *admin*. By logging on as the admin user, one can create other users with rights to the various configuration and assessment tasks, or users and groups for membership in workflow routings. However, it's imperative for proper security that an authoritative user modify the admin user's password as soon after installation as that task can be completed.

User Permissions for Primary Application Roles

Every user has access to the Task Inbox and can change his own password. Apart from these, each user has the rights available to the primary application role he has been assigned. For all but the Administration tab, these rights include:

Rights to Features on:	Author	Manager	Rule Builder	Executive	User	Auditor	System Admin
Control Library Tab	C	C, A	C, A	C, A	C	V, A	V
Control Automation Tab	C	C	C	V	V	V	V
Access Monitoring Tab	C	C	C	C	C	V	C

Generally, a *C* indicates create rights; *A*, assess rights; and *V*, view rights. But these labels can have different meanings on different tabs, so the following descriptions are more specific.

On the Control Library tab:

- **C:** Create. Open lists of control-library elements (one list of each type). Create, edit, and view configuration details for individual elements in lists.
- **A:** Assess. Configure assessments of control-library elements. (Users without this privilege can view, but not create, assessments.)
- **V:** View. Open control-library element lists. View configuration details for individual elements in lists. Do not create or modify elements.

On the Control Automation tab:

- **C:** Create. Open lists of configured control monitors, workflow routings, and workflow definitions. Create, edit, or view items in these lists.
- **V:** View. Open control monitor, workflow routing, and workflow definition lists, and view configuration details for individual items in lists. Do not create or modify these items.

On the Access Monitoring tab, an Auditor can view requests for temporary access. All other roles can both view and create requests for temporary access, for themselves or others.

Administration-tab features are divided into six categories. Roles confer the following access. In this table, *F* indicates full rights to a feature, *V* indicates view rights, and *N* indicates no rights:

Feature	Author	Manager	Rule Builder	Executive	User	Auditor	System Admin
Control Administration							
Manage Control Element Names	N	N	N	N	N	N	F
Manage ID Value Sets	F	V	V	V	V	V	N
Map Control Elements to ID Value Sets	F	N	N	N	N	N	N
Manage Likelihoods	F	V	V	V	V	V	N
Manage Ratings	F	V	V	V	V	V	N
Manage Dimensions	F	V	V	V	V	V	N
Mass Update Dimension Value Mappings	F	F	N	N	N	N	N
Manage Attributes	F	V	V	V	V	V	N
Mass Update Attribute Value Mappings	F	F	N	N	N	N	N
Import Controls from Excel	F	F	F	N	N	N	F
User Administration							
Manage Users	V	V	V	V	V	V	F
Manage Groups	V	V	V	V	V	V	F

(Table continues on the next page.)

Feature	Author	Manager	Rule Builder	Executive	User	Auditor	System Admin
Workflow Administration							
Workflow Routing	F	F	F	V	V	V	V
Workflow Definition	F	F	F	V	V	V	V
Manage Workflow Priorities	F	F	F	N	N	N	N
Data Administration							
Export	F	F	F	N	N	N	F
Import	F	F	F	N	N	N	F
Control Monitor Import/ Export File Merger	N	N	N	N	N	N	F
System Administration							
Manage Data Sources	F	F	N	N	N	V	F
Manage Licenses	N	N	N	N	N	N	F
Mange Configuration Properties	N	N	N	N	N	N	F

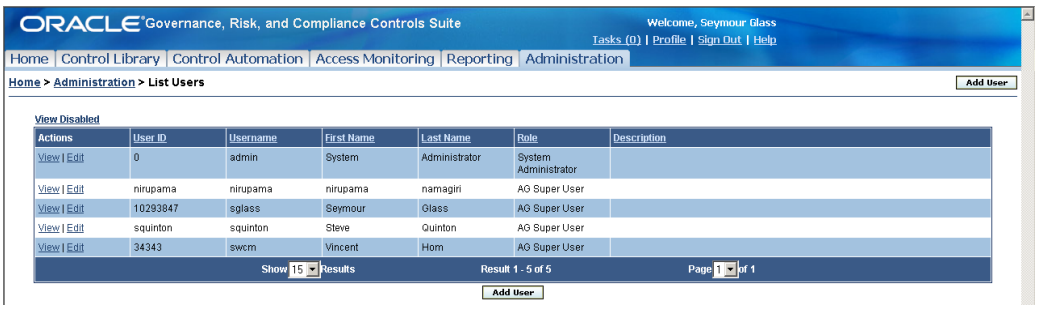
Users and Groups as Approvers

Users may be named in workflow routings, and so approve suspects, control-library elements, or access-monitoring requests. User groups exist solely for that purpose. You may allow only users at certain roles to perform approval tasks. If so, be aware that a user at any role can be added to a routing or a group; you must make sure that only users at the proper roles are. Know also that a user cannot create or modify a control-library element if workflows are configured so that the user, individually or as a group member, would be an approver for the element.

Displaying a List of Users

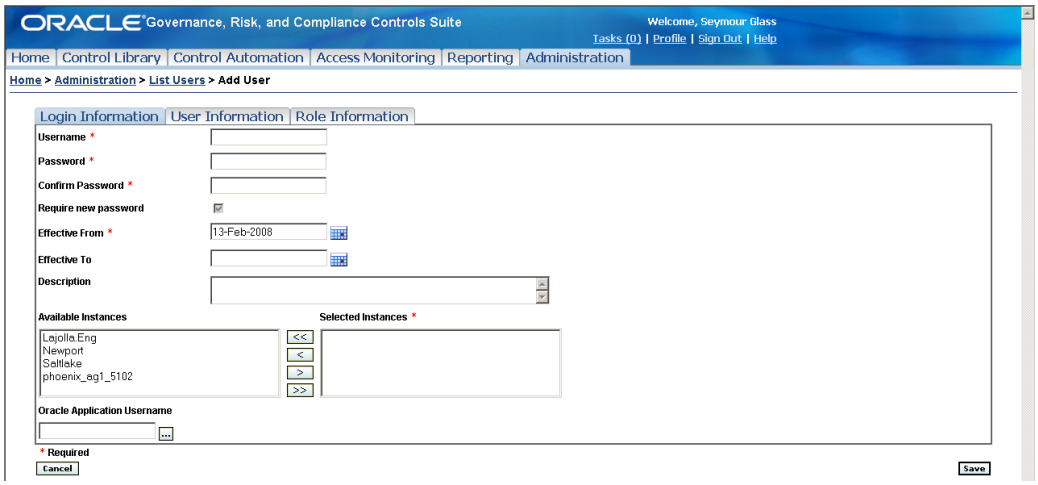
Only a system administrator or an AG super user can add or edit a user or group. Users at other roles can view user configuration without changing it (and so have access to the View panels described below, but not to the Add or Edit panels).

To view, add, or edit a user, click on the Administration tab, then on the List Users link in the User Administration section of the Administration Home. A List panel displays active users and, for each, an ID number and username (either can serve as a unique identifier), the user's given name and surname, the primary application role assigned to her, and a description. Users may be disabled. To see a list of these users, click the View Disabled link; to restore the active-user list, click a View Current link.



Adding a User

To add a user, click on either of two Add User buttons, which appear near the top right and bottom center of the List Users panel. The following Add User panel appears:



Setting Logon Values

Click on the Login Information tab, and then provide information that is used by Transaction Controls Governor:

1. In the Username field, type a name by which the user identifies herself as she logs on. A username consists of alphanumeric characters, may be any length, and is case-insensitive — alphabetic characters are converted automatically to lower case both here and in the logon panel.

2. In the Password field, type a password with which the user validates her username as she logs on. Retype it in the Confirm Password field. A password is case-sensitive and consists of at least eight characters, taken from at least three of four character sets: uppercase letters, lowercase letters, numbers, and special characters, which comprise !@#$%&*. The password cannot match the username.

   A check box labeled Requires New Password is selected by default; the setting cannot be changed for a new user. So every new user must create a new password the first time she logs on. Once she has done so, the check box clears itself and a new password is no longer required for subsequent log-ons. You can change the setting of this check box when you edit the account of an existing user.

3. Select start and end dates for the user in the Effective From and Effective To fields, respectively. By default, the current date appears in the Effective From field and the Effective To field is blank; accept these entries if you want the user to begin working immediately and continue indefinitely. Otherwise, enter new dates (see “Date Fields,” page 1-4).

4. Optionally, type a brief description of the user in the Description field. It appears in the Description column of the user’s entry in the List Users panel.

5. The Available Instances field lists the databases configured (through use of the Manage Data Sources feature on the Administration tab) to connect to the plat-

form. Select database instances in which the user you are configuring will be able to use access monitoring:

- In the Available field, highlight the instances you want to assign to the user. To highlight a single instance, click on it. To highlight a continuous set of instances, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous set, hold down the Ctrl key as you click on instances.
- Click on the > button to send the instances you've highlighted from the Available field to the Selected field. Or, click on the >> button to send all instances to the Selected field, regardless of whether they are highlighted.

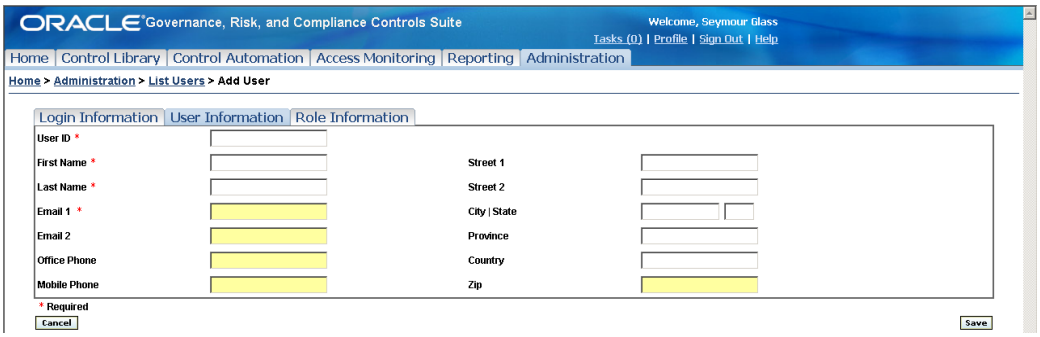
  If you reconsider, highlight instances in the Selected field, then click on the < button to return them to the Available field. Or, click on the << button to return all instances to the Available field.

6. For each database in the Selected Instances field, identify the Oracle logon ID used by the Transaction Controls Governor user you are creating. If you do not, the user cannot use the Access Monitoring tab.

   For each database, complete this process: Click on the database in the Selected Instances field. In the OracleApps User field, click on the ellipsis icon; a pop-up window opens. In its Key Word field, type the first few letters of the username you want; then click the Search button. The window presents a list of usernames that begin with your search string; click on the one you want. The pop-up window closes, and the username you selected appears in the OracleApps User field.

Setting User Values

Next click on the User Information tab and then provide data that identifies the user:

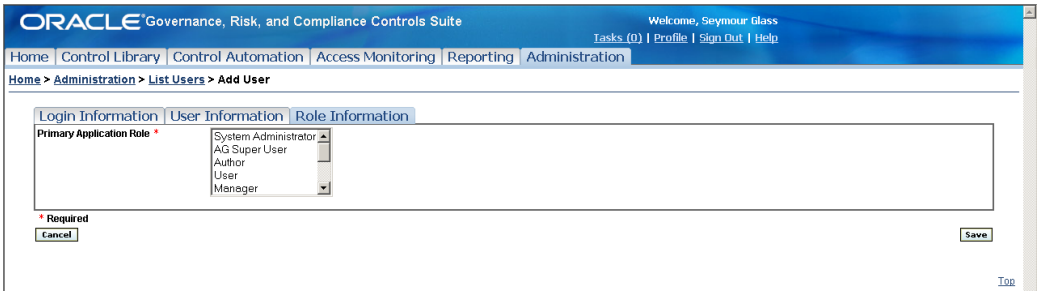


1. In the ID Number field, enter an ID number for the user. The intention is for this number to be unique, and so to distinguish the user from others when there is no other distinction (for example, should users share the same name). Use any format.
2. In the First Name and Last Name fields, enter the user's given name and surname.
3. In the Email1 field, supply an email address for the user. Transaction Controls Governor sends email messages to the user for several reasons, such as being assigned a task in the Task Inbox. Or, if the user creates an access request through use of the Access Monitoring feature, he receives an email notification when the request has been either approved or rejected. These messages are sent to the email address you supply in this field.

4. Optionally, provide tracking information in the remaining fields: a second email address, office and mobile phone numbers, and physical address information. Transaction Controls Governor does not use this information.

Assigning Roles

Finally, click on the Role Information tab, and then assign roles to the user. In the Primary Application Role field, select (click on) the primary application role you want to assign to the user. (You must select one, and cannot select more than one. Primary application roles are defined on pages 2-1 to 2-3.)



Saving the User

When you finish supplying logon, user, and role information, click on the Save button. (Several fields are mandatory, each marked by a red asterisk. If you have not entered a value for any of them, you cannot save the user; when you click on the Save button an error message lists the fields you must complete.) When the user is saved successfully, the List Users panel returns, with an entry for the new user in the list.

Viewing and Editing a User

Although the List Users panel presents a summary of the information configured for each user, you can see detailed information for one user at a time by clicking on the View link in the Actions (leftmost) column of that user's entry on the List Users panel. A View User panel opens:

Editing User Values

To edit any of the current values for a user, either click on the Edit link in the Action column of the user's entry on the List Users panel (see page 2-3), or click on the Edit Details link in his View User panel.

This opens an Edit User panel — in all but name a copy of the Add User panel, with the current values for the user displayed in its fields. Modify any of the values (see "Adding a User" on page 2-4 for descriptions of the information you can provide), and click on the Save button. The List Users panel returns.

Disabling and Re-enabling a User

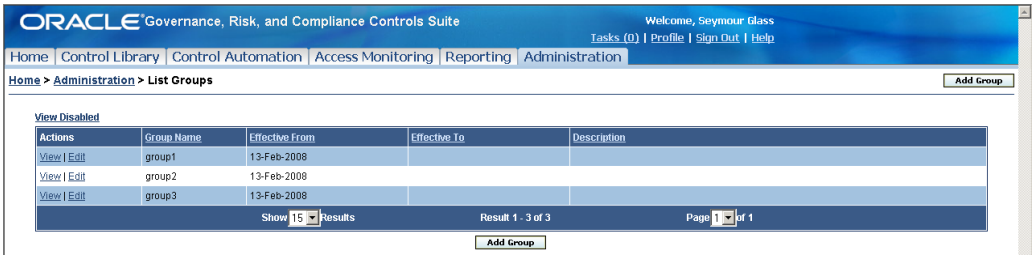
A user may be disabled. If so, the Effective To value for the user is set to the current date, and he loses access to Transaction Controls Governor. For auditing purposes, he remains in the system as a disabled user. To disable a user:

1. Open the View User panel for the user you want to disable.
2. Click on the Disable button.
3. A Confirm Disable Users panel prompts you to corroborate your intention to disable the user. Click on its Disable button; the List Users panel reappears, with the user removed from the list.

You can view entries for disabled users by clicking on the View Disabled link in the List Users panel. To re-enable a disabled user, locate his entry in the list of disabled users. Open his account for editing (click on the Edit link in his entry on the List Users panel, or click on the View link and then on the Edit Details link in the View User panel). Then delete the Effective To date and save the user.

Displaying a List of Groups

To view, add, or edit a user group, begin by clicking on the Administration tab. Then click on the List Groups link in the User Administration section of the Administration Home. A List Groups panel then displays active groups and presents information about each — a name, effective dates, and a description. Like users, groups may be disabled; you can produce a separate list of these groups by clicking on the View Disabled link, and restore the list of active users by clicking on a View Current link.



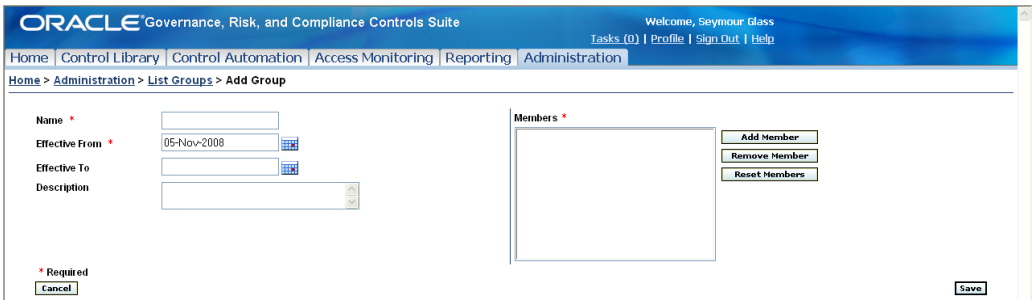
Adding, Viewing, or Editing a Group

To add a new group, open an Add Group panel: Click on an Add Group button in the List Groups panel. (The button appears in two places, near the top right of the panel and at the bottom center.)

To view the settings for an existing group, open a read-only View Group panel: In the Actions (leftmost) column of a group's entry on the List Groups panel, click on the View link. To modify those settings, open a write-enabled Edit Group panel:

Either click on the Edit link in the Actions column of the group's entry on the List Groups panel, or click on the Edit Group button in its View Group panel.

Apart from its label (and write privileges), the panel you open looks as follows:



Defining a Group

To define a new group, supply the following values in the Add Group panel. To modify an existing one, alter any combination of these values in the Edit Group panel.

1. In the Name field, type a name for the group. (If you create a group, include it in a workflow routing, and subsequently change its name, the group remains selected in the workflow routing, with its name updated to reflect the change.)
2. Select starting and ending dates for the group in the Effective From and Effective To fields, respectively. By default, the current date appears in the Effective From field and the Effective To field is blank; accept these entries if you want the group to exist immediately and remain indefinitely. Or, click on the icon to the right of each field and select a date in the pop-up calendar that appears. (See "Date Fields" on page 1-4.)
3. In the Description field, type a brief explanation for the purpose of the group. It appears in the Description column of the group's entry in the List Groups panel.
4. Add members. Either individual users or groups may be members of a group.
   a. Click on the Add Member button (located at the top of the set of three buttons near the right of the panel). A pop-up window displays two lists, one of users and one of groups configured on your system. (Because it would make no sense to add the group you are configuring as a member of itself, the group is excluded from the list.)
   b. For each user or group you want to add, click on the Add link at the left of its entry in the pop-up window. The user or group then appears in the Members field on the Edit Group panel.
   c. When you finish selecting members, close the pop-up window: Click on its Close button or on the × symbol in its upper right corner.
5. Optionally, remove members:
   a. In the Members field, highlight members you intend to remove. Click on a member to highlight it. Or, to highlight a continuous set of members, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous set, hold the Ctrl key as you click on items.
   b. Click on the Remove Member button (second in the set of three buttons near the right of the Edit Group panel).

6. You may restore the list of members to its state the last time it was saved. Click on the Reset Members button (third in the set of three at the right of the Edit Group panel). Then make new additions and removals.
7. Click on the Save button. The List Groups panel returns.

Disabling or Re-enabling a Group

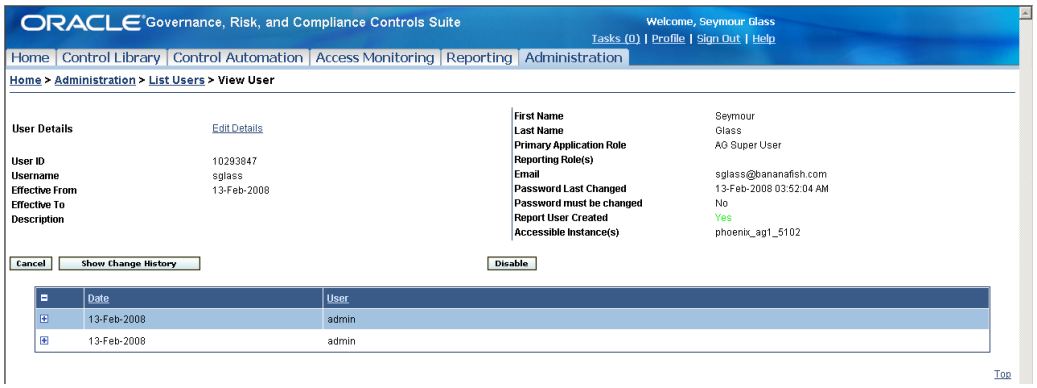
You can disable a group. If so, it is no longer available for use, and any workflow routings in which it had been included would have to be reconfigured. For auditing purposes, however, it remains available in the system as a disabled group.

To disable a group, set its Effective To value to the current date. To re-enable a group, delete its Effective To value (or set it to a future date). You can view entries for disabled groups by clicking on the View Disabled link in the List Groups panel, or restore the listing of active groups by clicking on the View Current link.

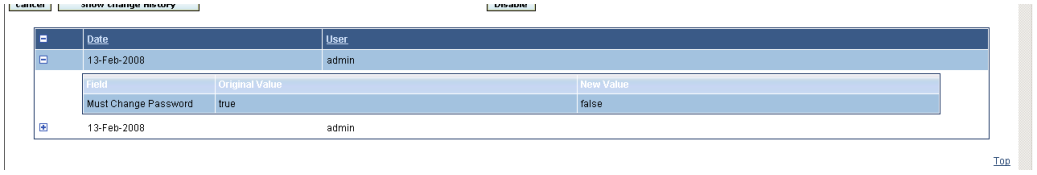
Reviewing Changes to Users and Groups

You can review a history of the changes made to each user or group:

1. In the List Users or List Groups panel, click on the View link for the user or group whose history you want to see.
2. In the View User or View Group panel, click on the Show Change History button. A change-history grid displays a row for each time changes were saved for the user or group. Each row shows the date on which changes were saved, and identifies the user who made the changes:



3. The last row in the grid documents the creation of the user or group; each subsequent row documents a change, which may in fact constitute modifications to several fields, all of which were saved at once. To view details about such modifications, click on the + icon in the leftmost column for one of these rows. An inset grid appears, displaying the old and new values for each modified field associated with the row you selected:

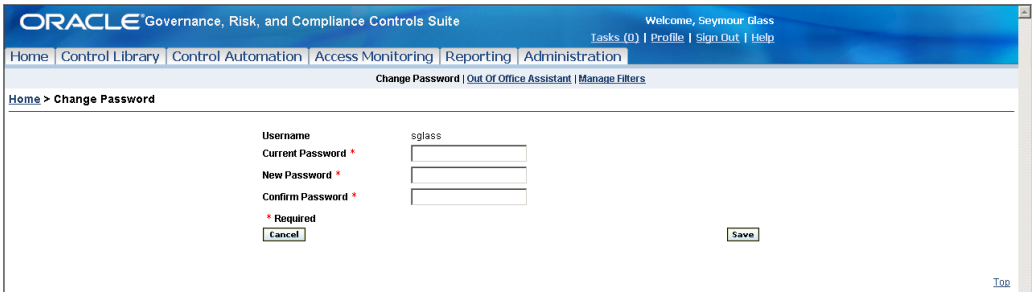


4. Click on the + icon in other rows (or in the header row) to view old and new values for changes saved at other moments. Each of the icons changes to display a minus sign; click on minus icons for individual entries to close their inset, detail grids, or click on the minus icon in the header row to close all the inset grids.

Changing a Password

The user who is currently logged on can change his own password, regardless of the primary application role that has been assigned to him. For a new user, who must do so, a Change Password Panel opens automatically the first time he logs on. For another user to open this panel:

1. Click on the Profile link near the upper right corner of any panel in Transaction Controls Governor.
2. Click on the Change Password link, near the center top. This panel appears:



To use the panel to change your password:

1. Type your existing password in the Current Password field.
2. In both the New Password and Confirm Password fields, type the password to which you want to change. A password must consist of at least eight characters, taken from at least three of four character sets: uppercase letters, lowercase letters, numbers, and special characters, which consist of the following: !@#$%&*. Moreover, your password cannot match your username.
3. Click on the Save button. If there are any problems with the format of the new password, a message explains the problem so that you may correct it as you retype the new password in the New Password and Confirm Password fields, and click on the Save button again. Typically, however, a message informs you that the new password has been accepted, and you can navigate to any other panel in the Platform to which your primary application role gives you access.

3

Control Administration

Before you can create controls, you must create components used by controls (and elsewhere): dimensions, attributes, likelihoods, ratings, and ID value sets. To work with any of these items, click on the Administration tab, and then select an appropriate link in the Control Administration section of the Administration Home.

Who Can Do This?

The Author primary application role can create and edit dimensions, attributes, likelihoods, ratings, and ID value sets. Managers, Rule Builders, Executives, Users, and Auditors have view-only rights to these items; System Administrators have no rights. A System Administrator can rename the types of elements contained by the control library. Other users cannot open the panel in which this procedure is performed.

Creating Dimensions and Attributes

A dimension is a segment of your business environment to which a control-library element applies. For example, it may be a region or a department. An attribute is a category of values that may describe the qualities or nature of a control-library element. For example, it may show where a control fits in the COSO control framework.

To configure a dimension or attribute, first name it — for example, “Region” as a dimension. Next, assign values to it, such as “East” and “West” as regions. (A user who creates a control-library element then selects one or more values for it.)

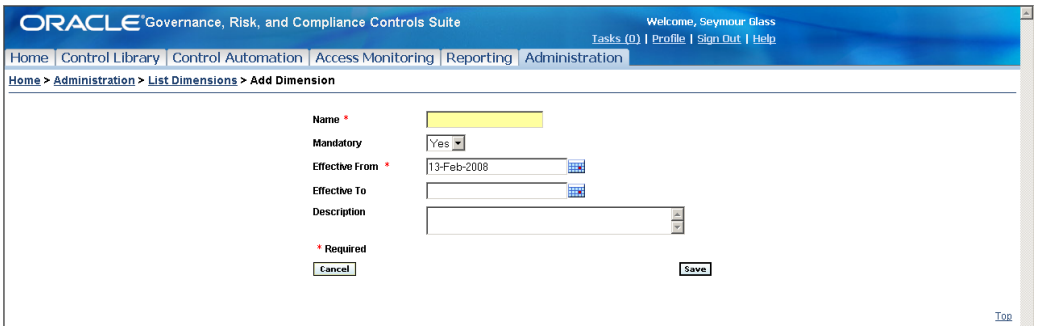
While meaningful in themselves, dimensions and attributes also serve as filters to determine who can approve either the creation or modification of control-library elements, or of suspects generated by control monitors. (See Chapter 4, “Creating Workflows.”) For example, a control designated for use in the Eastern region might be sent for approval to a group charged with overseeing controls for that region.

Moreover, a dimension may be included as a parameter in a SQL query that selects the suspects generated by a control monitor. If so, the dimension serves as one of the selection criteria by which the control monitor generates suspects: the SQL query selects only those records for which the value of a specified database table matches a specified dimension value. This use of a dimension enables end users to

select a value used for filtering suspects as they run a control monitor, rather than rewriting the SQL code that defines the control monitor.

To create a dimension or attribute:

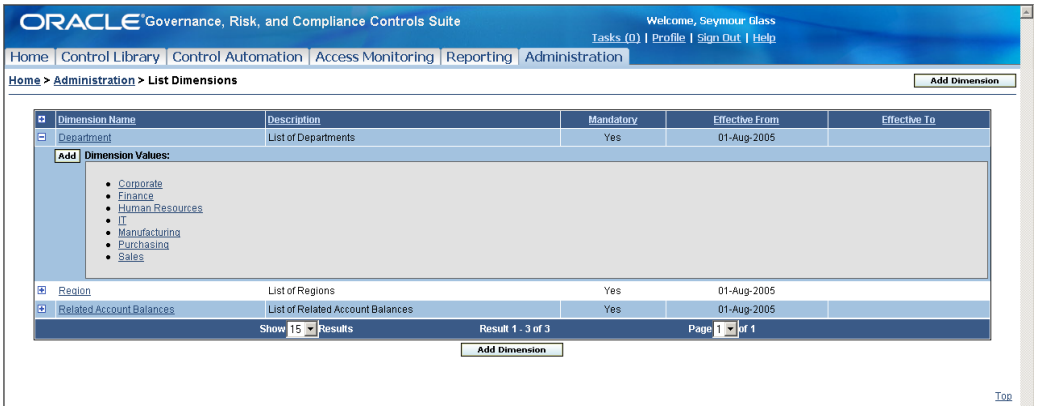
1. From the Administration Home, click on Manage Dimensions or on Manage Attributes. A List panel displays the names of existing dimensions or attributes and, for each, a description, its effective dates, and whether its use is mandatory.
2. To edit an existing dimension or attribute, click on its name in its list. To create a new one, click on the Add Dimension button or the Add Attribute button. A form like the following one appears:



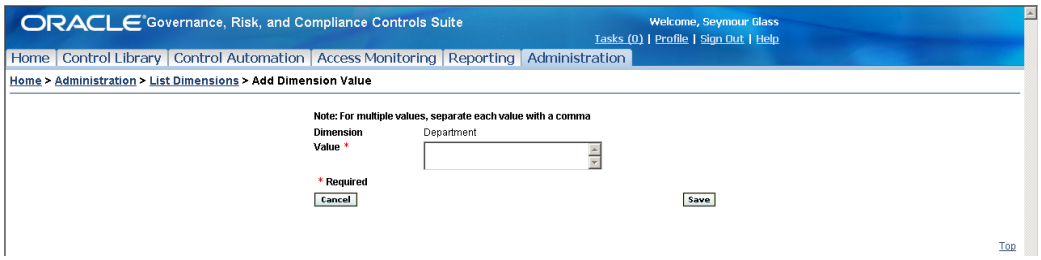
3. In the Name field, type a name for the dimension or attribute.
4. In the Mandatory list box, select Yes to require a user to choose at least one value for the dimension or attribute as he creates a control, or select No to make this item optional. (This setting applies only when dimension or attribute values are selected for controls.)
5. Select starting and ending dates for the dimension or attribute in the Effective From and Effective To fields, respectively. (See “Date Fields,” page 1-4.)
6. In the Description field, type a brief description of the item.
7. Click on the Save button to save the item. The List panel is restored, displaying dimensions or attributes, with the one you’ve just created among them.

To assign values to a dimension or attribute:

1. In the List panel, locate the row for the dimension or attribute whose values you want to set; click on the plus sign at the left of its row. A Dimension Values or Attribute Values field appears, displaying an Add button and any already-configured values. (If you click on the plus sign at the left of the header row, fields display values for all dimensions or attributes.)



2. To edit an existing value, click on its name. To create a new value, click on the Add button. A form like the following one appears:

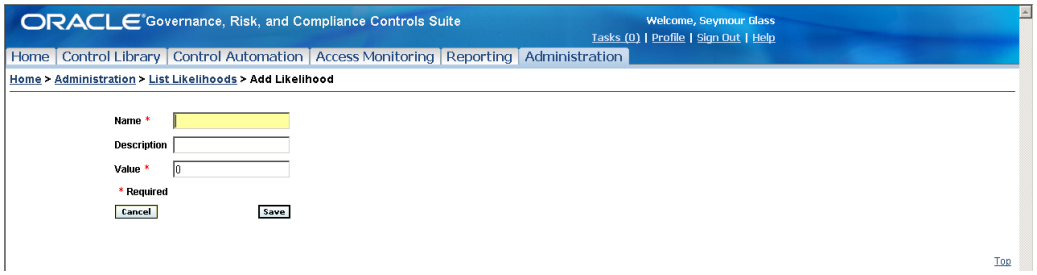


3. If you are editing an existing value, alter its name in the Value field. If you are adding new values, you can add more than one at a time; type names for any number of values in the Value field, using a comma to separate distinct entries.
4. Click on the Save button. The List panel returns.
5. When you clicked on a plus-sign icon to display dimension or attribute values, the icon changed to a minus sign. Click on a minus-sign icon to restore a row, or the minus-sign icon in the header row to restore the List panel, to its original form, with no values displayed.

Creating Likelihoods and Ratings

A likelihood expresses the potential for a control, if it were to fail, to permit material error to be committed in the financial statements. A rating is an assessment of the relative importance of a control. The values one can select for either are user-configured, and the configuration process for the two measures is very similar:

1. From the Administration Home, click on the List Likelihoods link to create or edit likelihoods, or on the List Ratings link to create or edit ratings. A list panel displays the names of existing likelihoods or ratings, together with a description and a numeric value associated with each.
2. To edit an existing likelihood or rating, click on its name in its list. To create a new one, click on the Add Likelihood button or the Add Rating button. A form like the following one appears:



3. In the Name field, type a name for the item — for example, “high” or “moderate” for a likelihood, or “critical” or “minor” for a rating. (As a user creates a control, she selects from the Name values configured for likelihoods or ratings.)
4. In the Description field, type a brief description of the item.

5. In the Value field, type a number that sets a precedence this item has with respect to other ratings or likelihoods. (You're free to decide whether a lower numeric value is equivalent to a greater or lesser precedence.)
6. Click the Save button to save the item.

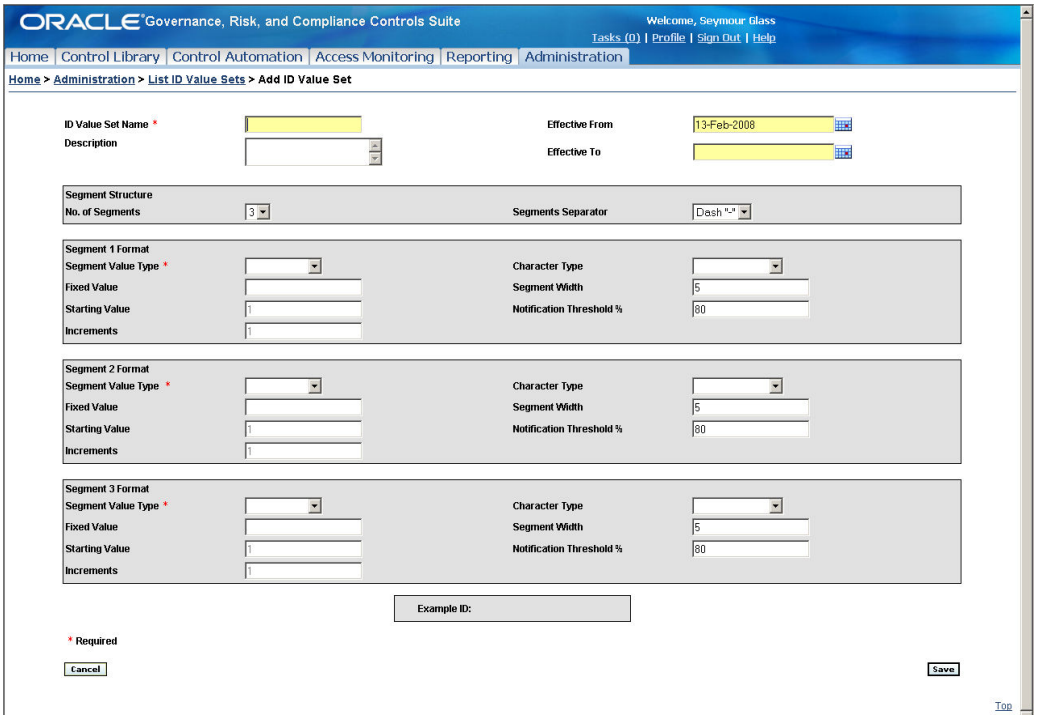
Creating and Mapping ID Value Sets

An ID must be assigned to each control-library element: controls, control objectives, subprocesses, cycles, processes, policies, and risks (to use their default names). For each element, configure an "ID value set," which determines the format and range of ID values. An ID may consist of up to three segments, and you can make formatting selections for each segment.

Create or Edit Value Sets

To define value sets, click on the Administration tab, and then on the List ID Value Sets link. A List ID Value Sets panel appears, displaying a name, description, and formatting example for each value set that has already been defined, if any.

To edit an existing value set, click on its name in the list. To create a new value set, click on the Add ID Value Set button. An Add ID Value Set form appears:



Insert entries in fields to create a new value set, or alter any of the current entries to edit an existing value set:

1. Type a name for the value set in the ID Value Set Name field, and type a brief explanation of its use in the Description field.
2. Select starting and ending dates for the value set in the Effective From and Effective To fields, respectively. (See "Date Fields," page 1-4.)

3. In the No of Segments field of the Segment Structure box, select the number of segments into which each ID is to be divided — up to three. If you select more than one, also use the Segments Separator list box to choose a mark of punctuation that delimits the segments — a dash, a dot, or a pipe (|).

4. A Segment Format Validation box remains in place for each of the segments you specified in step 3. In each box, select values that define its segment format.

   First, in the Segment Value Type list box, choose how the segment value is generated. Select Fixed Value to set a single value that is repeated in every ID, Manual to require the user to enter a value while creating a control library element, or Automation to have values supplied. Then:

   - If you choose Fixed Value in the Segment Value Type field, define the value by entering it in the Fixed Value field. Type up to six characters in any alphanumeric combination. In this case, no other field accepts input.
   - If you choose Manual in the Segment Value Type field, complete the following fields. (Other fields do not accept input).

     Character Type: Choose whether the segment should consist of alphabetic characters, numeric characters, or both.

     Segment Width: Enter a number (1–6) that sets the number of characters in the segment.
   - If you choose Automation in the Segment Value Type field, the segment necessarily consists of numeric characters. Complete the following fields. (Other fields do not accept input.)

     Starting Value: Type a number that is the initial value for the segment.

     Increments: Type a number that sets the amount by which each segment value increases over the previous one.

     Segment Width: Enter a number (1–6) that sets the number of characters in the segment.

     Notification Threshold %: Enter a number that sets the percentage of possible defined values that are to be used before a notification message alerts an administrator that the full range of defined values is soon to be exhausted.

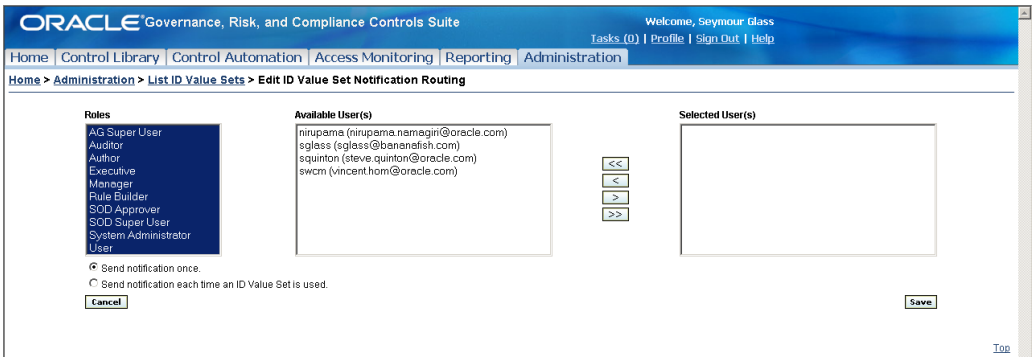
5. When you have finished defining all segment formats, click on the Save button. (Or, to discard the values you've configured, click on the Cancel button.)

As you create the value set, an Example ID field presents a sample in the format you are configuring. (If you choose the Automation value type for a segment, this sample displays ones for the segment regardless of what you select as a starting value.)

Designate Recipients of Notifications

If any segment in any ID value set is automated, then a notification threshold has been selected for it (see step 4 above). You must therefore select users who are to be notified when the number of possible defined values has exceeded the threshold.

1. In the List ID Value Sets panel, click on the Manage Notification Routing button. A Notification Routing panel opens, as shown at the top of the next page.



2. In the Roles field, select the primary application roles whose members may receive notifications. To highlight a single role, click on it. To highlight a continuous set of roles, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous set, hold the Ctrl key as you click on roles.

3. The Available Users field now displays only users assigned primary application roles you selected in step 2. Select those who will receive notifications. Once again, to highlight a single user, click on his name. To highlight a continuous set of users, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous set, hold down the Ctrl key as you click on users.

4. Click on the > button to sent the users you've highlighted from the Available Users field to the Selected Users field. Or, click on the >> button to send all users displayed in the Available Users field to the Selected Users field, regardless of whether they are highlighted.

   If you reconsider, highlight users in the Selected Users field, then click on the < button to return them to the Available Users field. Or, click on the << button to return all users to the Available Users field, regardless of whether they are highlighted.

5. Click on the radio button labeled "Send notification once" to have the users receive a single notification the first time that an ID value set exceeds its threshold. Or click on the radio button labeled "Send notification each time an ID Value Set is used" to have the users receive notification every time a value is assigned from the set after it has exceeded its threshold.

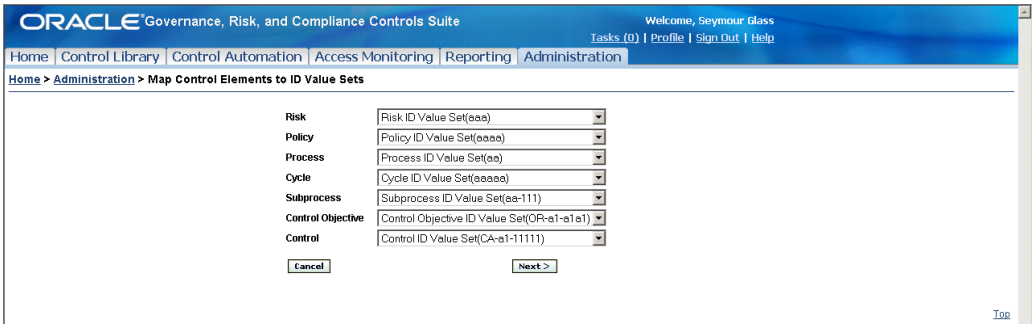
   (The notification takes the form of an email message sent to the address entered in the Email1 field on the Add User panel for each of the designated users; see page 2-5).

6. Click on the Save button.

Map Value Sets to Control Library Elements

Once value sets have been created, you need to assign them to control-library elements. To do so:

1. Click on the Administration tab, and then on the Map Control Elements to ID Value Sets link. A mapping form appears, as shown at the top of the next page.



2. In the list box for each control-library element, select the name of the ID value set you want to assign to it.

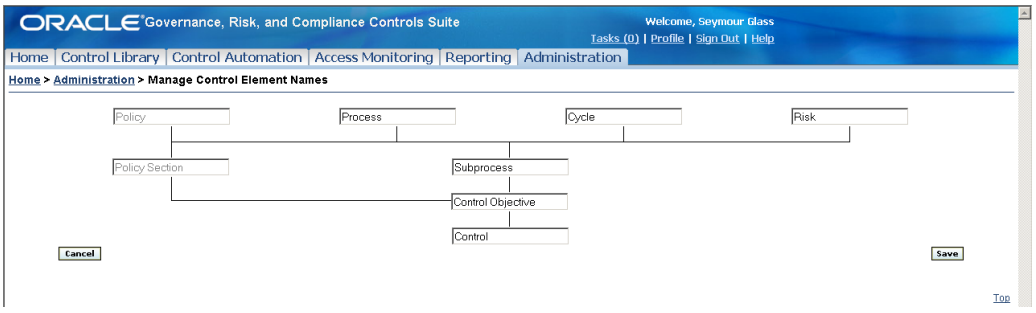
3. Click on the Next button. A second panel summarizes the selections you've made. If you are dissatisfied with any of them, click on the Back button until you reach the earlier panel in which that selection was made, change it, and then click on the Next button to return to the summary panel. When you are satisfied with your selections, click on the Finish button to complete the mapping of the ID value set.

Renaming Control Library Elements

Each element in the control library is one of eight types, and each type is related hierarchically to the others. (For more on this, see Chapter 5, "Creating Elements in the Control Library.") By default, element categories are named control, control objective, subprocess, process, policy, policy section, cycle, and risk. The hierarchical structure of the control library cannot be changed, and neither can the names *policy* nor *policy section*, but a System Administrator can rename the other categories to suit the structure of your organization.

To do so:

1. Click on the Administration tab, and then on the Control Administration link labeled Manage Control Element Names. A Manage Control Element Names panel opens, displaying not only the current names for element categories, but also the hierarchical structure of the control library:



2. For each name you want to change, click in the field displaying the name and edit or replace it.

3. Click on the Save button. The Administration home panel reopens.

In the panels accessible from the Control Library tab, all fields, buttons, and labels display the names you've chosen.

4

Control Monitors and Workflows

Transaction Controls Governor provides tools to create control monitors, as well as workflows that designate reviewers and distribute notifications to them. Notifications may solicit the review of control-monitor suspects, control-library elements as they are created or modified, or Access Monitoring requests.

Who Can Do This?

If your primary application role is Author, Manager, or Rule Builder, you can create, edit, or view control monitors and workflows. An Executive, User, Auditor, or System Administrator has view rights only. This chapter is written in the assumption that you have full rights.

Monitors and Workflows in Principle

A control monitor is one of several elements that may enforce a control defined in Transaction Controls Governor. When used, a control monitor is attached directly to the control it enforces.

A workflow routing selects a set of users, user groups, or both, and establishes a sequence in which they review suspect tasks or approval requests. A workflow routing may be linked directly to one or more control monitors, and if so its members would review suspects generated by those monitors.

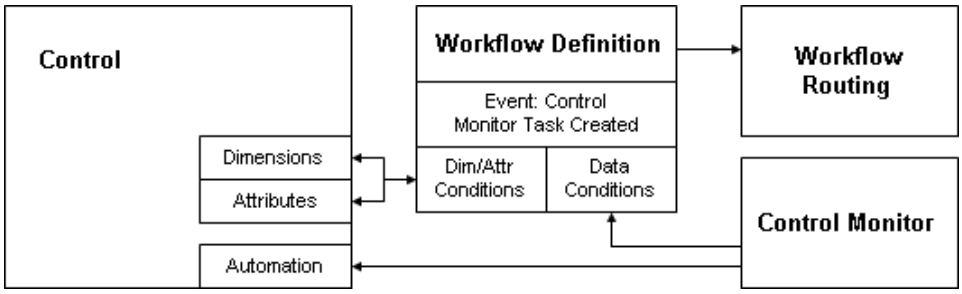
Alternatively, a workflow routing may be associated indirectly with control-library elements (and so with suspects generated by monitors attached to controls), or with Access Monitoring requests. In such a case, a workflow definition serves as the intermediary, by specifying events, conditions, and a priority:

- An event is the circumstance that triggers the distribution of messages to users or groups named in a workflow routing. An event called “Control Monitor Task Created” triggers the review of suspects generated by control monitors. Two others — “DB User ID Requested” and “E-Business User ID Requested” — apply to Access Monitoring requests. All others apply to the approval of controls or other control-library elements as they are created or modified.

- A dimension/attribute condition enumerates a set of dimension and attribute values. Each control is configured to have dimensions (segments of a business environment in which a control is used) and attributes (values that may describe the qualities or nature of a control). So dimension/attribute conditions select controls to which the workflow routing applies — those configured with a corresponding set of dimension and attribute values.
- A data condition filters the suspects returned by a control monitor. It specifies a value that may be held in a column of a suspect record, so that only suspects with the specified values are selected.
- A data source condition identifies one or more database instances in which Access Monitoring requests are to be implemented.
- The priority determines which workflow routing is used when more than one might otherwise apply to a suspect or an approval request. (See "Combining Priorities and Conditions in Workflow Definitions," below.)

A Simple Workflow Example

The following figure illustrates how a control, control monitor, workflow routing, and workflow definition may work together to distribute suspect tasks for review:



In this example:

- The control monitor generates suspect tasks. It's attached to the control as an "automation."
- The control specifies a set of dimensions and attributes.
- The workflow definition specifies a matching set of dimension/attribute conditions. It also has the Control Monitor Task Created event. So it can forward suspect tasks generated by the control monitor to the workflow routing.
- The workflow definition also specifies data conditions. Thus, of all suspect tasks generated by the control monitor, only those with data values matching the data conditions are forwarded to the workflow routing.

Combining Priorities and Conditions in Workflow Definitions

Only one workflow routes a control-library element for review as it is created or updated, or routes a suspect for review as it is returned by a control monitor attached to a control. However, any number of workflows may contend to be that one. That's because any workflow definition may apply if it specifies the appropriate event and if an element or a suspect satisfies every one of its conditions.

For example, a control may be assigned values for two dimensions and one attribute — d1, d2, and a1. The control may also have a control monitor attached to it. A workflow definition with the appropriate events (in this case, Control Created, Control Updated, and Control Monitor Task Created) might apply to the control itself, or to the suspects it generates, if it has d1, d2, and a1 as dimension/attribute conditions. (For the moment, assume there are no data conditions.) But so might definitions with the same events that set any combination of the three conditions — such as d1 and d2, or d1 and a1, or d2 alone — or that set no conditions at all.

To resolve contention among workflow definitions, you assign each a priority. The value *1* indicates highest priority, and precedence declines as number values increase. When several workflow definitions might apply to a control-library element or to a suspect, the highest-priority definition among them is the one to be used.

Assume a control has been created, or a control monitor attached to it has generated a set of suspect tasks. Moreover, several workflow definitions are configured to have the Control Created event and the Control Monitor Task Created event. The workflow engine determines which workflow definition to use in the following manner:

- For the control itself, the workflow engine compares the control configuration with that of the highest-ranking among the workflows. Does the control have all the dimension and attribute values specified as dimension/attribute conditions in the workflow definition?

  If so, the workflow routing mapped to the definition is applied to that control. If not, the engine compares the control with the second-highest-priority workflow definition. Again, if the control satisfies all dimension/attribute conditions set by the definition, the mapped workflow routing is used; if not, the engine moves to the next-highest-priority workflow until it finds a match.

- For a suspect generated by a control monitor, the workflow engine selects one suspect and determines whether it meets all conditions specified for the highest-ranking of the workflow definitions. Does the suspect-task record contain all values specified by data conditions? The control monitor is attached to a control; does the control have all the dimensions and attributes specified as dimension/attribute conditions for the workflow definition?

  If the answer to both questions is yes, the workflow definition applies, and the suspect task is sent for review to users or groups named in a workflow routing mapped to the definition. If the answer to either question is no, the engine compares the suspect record with the second-highest-priority definition. If the record satisfies all conditions set by the definition, the mapped workflow is used; if not, the engine moves to the next-highest-priority workflow definition. It continues until it finds a match.

  Then the engine moves to the next suspect-task record and repeats the process, continuing until all suspect-task records have been matched to workflow routings.

There is a danger of configuring a workflow definition with a specific set of conditions, and having it never be used because a more general definition has a higher priority. A control that qualifies for the d1-d2-a1 definition would, for example, be captured first by a higher-priority definition that sets d1 (or any of the other values) as its only condition. As a result, it is generally advisable that as the conditions configured for a workflow definition become more specific, the definition should

receive a higher priority. (This is not always the case, however. See "Reviewing Suspects — Examples" below.)

A definition with no conditions and the lowest priority serves as a "catch-all," implementing a workflow routing for any object whose dimension and attribute assignments do not match up with the conditions of any higher-priority workflow definitions. A "Default Workflow" exists to serve this purpose. It routes requests to a user selected during installation, and its definition has priority number 1000, has no conditions, and calls all possible events.

Reviewing Control Library Elements — An Example

Suppose that your firm recognizes two regions, East and West. Some controls apply to both regions; they would be configured so that a dimension called Region has two values, East and West. Other controls apply to one region or the other; they would be configured so that the Region dimension has only a single value, East or West.

It may be appropriate that reviewers within a region approve controls for that region. If so, you could create three workflows. The first, for the review of controls that apply to both regions, would set two conditions, Region equals East and Region equals West. Each of the remaining two workflows would set only one condition — Region equals East for one and West for the other. Of the three, the Both Regions workflow would be the highest ranking because it is most specific. East and West are equally specific, so either might be second, and the other would be third. Say East is second.

Thus, the workflow engine would route controls for approval as follows:

- A control with the Region dimension set to both East and West would be considered first for the Both Regions workflow. The engine would reach a true result, and the workflow would be used. The other two workflows would not be considered.
- A control with the Region dimension set only to East would be considered first for the Both Regions workflow. The control does not have both of the dimension values specified as conditions in that workflow, so the engine would reach a false result. It would then consider the next-priority workflow, East. This time the evaluation would produce a true result, and the East workflow would be used. The West workflow would not be considered.
- A control with the Region dimension set only to West would be considered first for the Both Regions workflow and then for the East workflow; the engine would reach a false result for each and would then consider the next-priority workflow, West. This time the evaluation would produce a true result, and the West workflow would be used.

Reviewing Suspects — Examples

Priority is the first factor in determining which among competing workflow definitions (and so routings) is used; precision of the match between workflow-definition conditions and the dimension, attribute, and data values contained in a suspect record comes second. In the example of the control with dimensions d1 and d2 and attribute a1, a definition that sets these values as conditions might be considered to be more closely matched than one that sets only a data condition. Even so, if that

second definition has the higher priority, it would be used whenever the data condition evaluates to true.

You can use this to your advantage. You might want suspects that meet the d1-d2-a1 definition generally to be reviewed by the members of an "everyday" workflow routing. You might also identify some emergency circumstance that requires review by another set of approvers, and so create a higher-priority workflow definition that includes only a data condition to define the emergency. The emergency workflow would be used for appropriate suspects, but other suspects would fall through to the everyday workflow.

If priority is the first factor in resolving contention among workflow definitions, however, precision still matters. You may, for example, design a control that requires review of invoices valued higher than a certain amount. The control may have, let's say, a Region dimension with two values — East and West. Suspects for each region are to be reviewed by approvers from that region, so you intend to map two workflow routings to the control. But a single table contains invoice records for both regions; fortunately, it contains a column (called, let's say, REGN) that stores the region for each record, and this column is included among the values returned with each suspect.

To direct suspects to appropriate reviewers, each workflow definition would set a dimension/attribute condition (Region equals either East or West) as well as a data condition (REGN equals either East or West). As the workflow engine evaluates an individual suspect record (let's say one for the eastern region), it would necessarily consider the higher-priority definition first. If that were the Eastern definition, it would (appropriately) evaluate to true without the other definition being considered. Or, if the Western definition had the higher priority, the engine would evaluate it first, get a false result, and move on to the Eastern definition and a true result. So priority, while implemented, would become irrelevant.

In a case like this one, it is theoretically possible not to use data conditions, but instead to add a WHERE condition to the SQL statement run by the control monitor that produces suspects, so that it would return values only for the East or only for the West. This, however, is not recommended. First, it's less efficient — rather than one control for both regions, it would require two controls, one for each region.

Perhaps more important, the SQL queries included in control monitors are commonly very complex, and the attempt to edit one (particularly by a person who did not write it originally) risks distorting its logic. So that data conditions can be written, SQL queries should include all return columns they might use.

Combining Events and Conditions in Workflow Definitions

You may combine any number of events within a single, multipurpose workflow definition. However, each event can be paired only with conditions that do not filter out all of the items the event is intended to select. For example:

- Access Monitoring requests are not associated with dimensions or attributes and do not return data values, so an access-request event would never generate results if it were paired with a dimension/attribute condition or a data condition.
- Control-library elements are associated with dimensions and attributes, but do not return data values. So a "Created" or "Updated" event for a control-library ele-

ment may be paired with dimension/attribute conditions, but would never generate results if associated with a data condition.

Therefore, as you create a workflow definition, you select events before conditions, and you cannot set conditions that do not agree with the events you've chosen. Specifically:

- You can create data conditions only if a workflow definition specifies the Control Monitor Task Created event and no other events.
- You can create dimension/attribute conditions if a workflow definition specifies the Control Monitor Task Created event, one or more "Created" or "Updated" events for control-library elements, or both. These conditions become unavailable if the definition specifies a "Requested" event for Access Monitoring requests.
- You can create data source conditions only if a workflow definition specifies an Access Monitoring event (DB User ID Requested, E-Business User ID Requested, or both), but no others.

Moreover, when you edit a workflow definition, you are prevented from adding or removing events if the definition includes any condition.

SQL Queries in Control Monitors

You are assumed to know how to write a SQL query. (If not, please consult a SQL reference.) However, writing a query for use in a control monitor involves a few special considerations.

When a control monitor runs a SQL query, the return values are incorporated into messages displayed at the Task Inbox of Transaction Controls Governor. Therefore each SQL query must return values for columns with the following aliases:

- suspectName: Although not displayed at the Task Inbox, this value is required in the SQL query. It can be any label that applies to values returned by the query.
- suspectDesc: This column provides an encapsulation of the issue involved in each record retuned by the SQL query, for display in a Task Description field. It may incorporate text and return values, for a maximum length of 255 characters.
- suspectInfo: This column provides a more thorough account of the issue involved in each record returned by the SQL query, for display in a Suspect Details panel. It may incorporate text and return values, for a length of up to 4,000 characters.
- uniqueSuspectIdentifier: This alias identifies a column (or combination of columns) that contains a unique value for each record. This value is used to eliminate duplicate suspects generated in multiple runs of a control monitor. (Note, however, that a control monitor may be attached to more than one control; if so, duplicate suspects can be generated, one for each control.)

As noted earlier, a query should also include any columns that might return data useful for a data condition in a workflow definition.

Moreover, a SQL query may include parameters, which serve as placeholders either for information displayed in the suspectDesc or suspectInfo messages, or for values in the WHERE clause that filter the results returned by the SQL query. At run time, a user may either supply a value in place of the parameter, or accept a default value.

To use a parameter, you would first create it in Transaction Controls Governor; you would then site the ID configured for it, preceded by an ampersand (&), in the SQL query. There are three types of parameter:

- A character parameter represents a string of text. When the query is evaluated, the parameter is replaced by actual text (either a default or a value provided by the user who runs the control monitor), and that text must be placed in single quotation marks. To make this happen, you can either type these marks around the parameter ID (and its ampersand) as you create the query, or instruct Transaction Controls Governor to supply them automatically when you create the parameter.
- A numeric parameter represents a number.
- A dimension parameter represents a dimension value, as configured in Transaction Controls Governor. Within a query, you must place the ID for a dimension parameter (and its ampersand) in single quotation marks.

  For example, assume that a dimension called *CorpDivision* has been configured, and one of its values is *Manufacturing*. You might create a parameter based on this dimension, and you might set the Manufacturing value as the parameter default; assume that the configured ID for this parameter is *CD*. If a SQL statement includes the clause *WHERE InventoryOrg = '&CD'*, the statement would return those records for which a table column called InventoryOrg contained a particular value — *Manufacturing* if the default value were accepted at run time, or another value configured for the CorpDivision dimension if that value were selected at run time.

Finally, a control-monitor SQL statement may contain a constant, called last_run_date, which stores the last date upon which the query has been evaluated; if so, it may check a date stored within records, and return those with a defined relationship to the last_run_date. For instance, if a query were based on a table in which a record_date column contained the date on which each record was generated, then the clause *WHERE record_date > last_run_date* would return values generated since the last time the parameter was run.

The following sample query is directed at a table (ap_invoices_all) that stores invoice data; it returns a record for each invoice with a value greater than a threshold amount. That threshold is represented by a numeric parameter (ThresholdParm), so that a user can set an appropriate amount as he runs the control monitor. Moreover, the query returns values from two table columns, invoice_num and invoice_amount:

```
select 'Invoice amount too great' suspectName,
 'Invoice '||invoice_num||' may exceed acceptable value' suspectDesc,
 'The invoice '||invoice_num||' is valued at '||invoice_amount||
  ', but the value threshold has been set at '||&ThresholdParm||
  '. Please review.' suspectInfo,
 invoice_num uniqueSuspectIdentifier
from ap_invoices_all
where invoice_amount > &ThresholdParm
```

Imagine that a user sets the threshold at $5000; one invoice in the ap_invoices_all table has a greater invoice_amount value ($5001); and the identifying number for that invoice (its invoice_num value) is 98765:

- The suspectName return value is “Invoice amount too great” (as it would be for any other record returned by this query, as it’s configured to be static text).

- The suspectDesc return value is “Invoice 98765 may exceed acceptable value,” because the text configured for suspectDesc incorporates the value of invoice_num.
- The suspectInfo return value is “The invoice 98765 is valued at 5001, but the value threshold has been set at 5000. Please review,” because the text configured for suspectInfo incorporates the values of invoice_num, invoice_amount, and the ThresholdParm parameter.
- The uniqueSuspectIdentifier value is the invoice number, 98765. This ensures that a suspect returned for the same invoice in a second running of the control monitor would be deleted because it’s redundant; the suspect record from the first running of the control monitor already exists.

Statuses and Versions

Either a control monitor or a workflow routing may have any number of versions. Each version exists at one of four statuses: Editing, Active, Pending Inactivation, and Inactive.

- A control monitor or workflow routing at the Editing status is in development. Editing is the default status for a newly created version of a monitor or workflow, and only a version at the Editing status can be modified.
- An Active control monitor or workflow routing is actually used; it identifies suspects or distributes review requests. Only one version of a control monitor or workflow routing can be Active at a time.
- When a control monitor or workflow routing is promoted from Editing to Active, the version that had been Active should be made inactive. At that moment, however, any number of review requests or suspect tasks may have been initiated but not completed under the terms of the earlier Active version. If so, status for that earlier version is set automatically to Pending Inactivation; it remains at that status until all of its outstanding issues are resolved.
- An Inactive control monitor or workflow routing is no longer used. A version may reach this status either from Active (when a subsequent version is promoted from Editing and replaces it as Active) or from Pending Inactivation (upon resolution of issues that were outstanding when it was replaced as the Active version). You can assign Inactive status to a version manually. Or, when you promote a version to Active status, the version (if any) that had previously been active is inactivated.

Creating Monitors and Workflows

To work with a control monitor or a workflow routing, you first create the item (in effect, give it a name and describe it). Then you edit it, either to configure its first version (set the values that initially define it) or to configure later versions (modify existing values). You follow virtually identical processes for creating each of these items and for selecting versions of them for editing, although of course the values you supply as you edit each (and the procedures for supplying them) are very different.

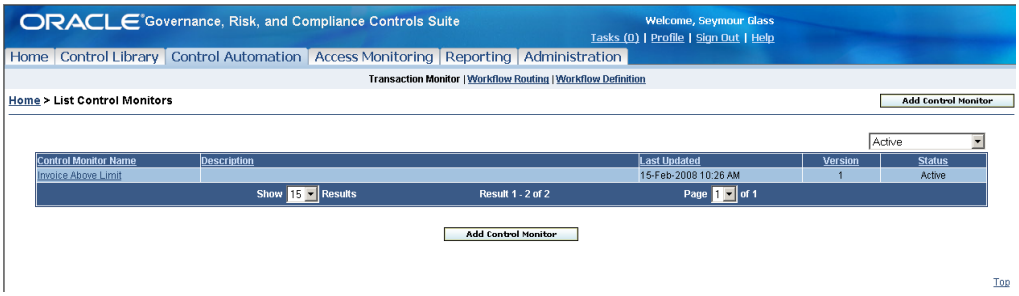
Each version of each workflow routing is associated with a workflow definition, which is edited (and actually used) while its routing version is at the Active status; it

may be viewed, but not changed, when its routing version is at either inactive status. Rather than create workflow definitions, you select them for editing or viewing from automatically generated lists of the workflow routings to which they apply.

This manual, by convention, directs you to select the Control Automation tab in Transaction Controls Governor to configure control monitors, workflow routings, or workflow definitions. For control monitors, this is required; for workflow routings or definitions, you can instead select the Administration tab, from which identical workflow features are available.

Displaying a List of Control Monitors or Workflow Routings

To view, create, or modify a control monitor or workflow routing, ensure that the Control Automation tab is selected. Then select either the Transaction Monitor link (the default) or the Workflow Routing link in the Library Navigator. A List panel shows active control monitors or workflow routings (according to your selection in the Library Navigator), and presents information about them — name, description, date last modified, version number, and status:

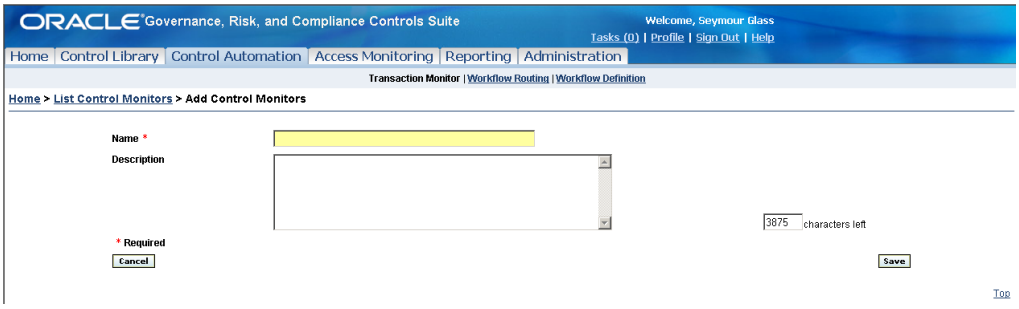


To view entries for monitors or workflow routings at a specific status, use the Status list box (it's unlabeled, but is located above the list of control monitors or workflow routings, along the right side). You can select All or any of the individual statuses — Active, Editing, Pending Inactivation, or Inactive.

Adding a Control Monitor or Workflow Routing

To create a new control monitor or workflow routing:

1. The List panel displays two buttons — one at the top right, and another at the bottom center — labeled either Add Control Monitor or Add Workflow Routing (depending on your selection in the Library Navigator). Click on a button to open a panel called Add Control Monitors or Add Workflow Routings.



2. In the Name field, type a name for the control monitor or workflow routing.

3. In the Description field, explain how the monitor or routing is to be used. (Note that a second field keeps a tally of the number of characters you may use.)
4. Click on the Save button.

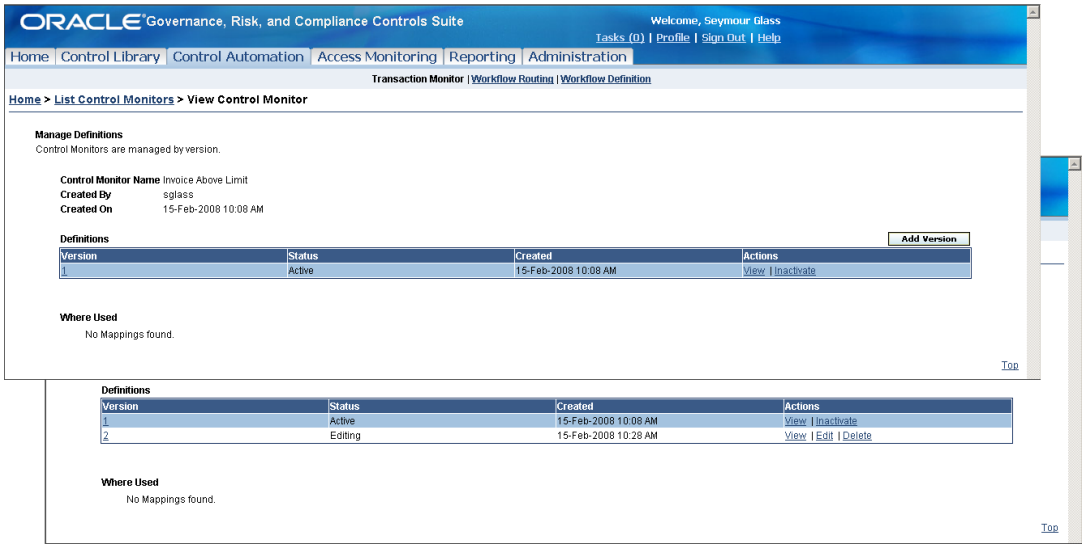
The act of saving the monitor or routing automatically opens a panel that lists its existing versions — in this case, a single version at the Editing status. From this panel (which is shown below), you can open the monitor or routing for editing.

Viewing or Editing a Control Monitor or Workflow Routing

As you edit a control monitor or workflow routing, you either select values for a newly added one or modify values for an existing one. In either case, a version of the item must exist at the Editing status.

You begin to edit an item by selecting (or creating) its Editing version in a panel that lists all its versions. Or, in the same panel, you can select a version at any status to view its configuration details. The panel opens automatically for a newly created monitor or routing. For an existing monitor or routing, complete these steps to open the panel:

1. Open the List panel for control monitors or workflow routings.
2. If you are interested in monitors or workflows at a particular status, set the Status filter accordingly. Or, select All if you want to see items at more than one status.
3. The List panel presents a filtered list of control monitors or workflow routings. Click on the name of the one you want to view or change. This produces the panel that lists all existing versions of the item you've selected — View Control Monitor or View Workflow Routing.
    - If no Editing version yet exists, the panel displays an Add Version button (as shown in the top instance of the panel in the following illustration).
    - If an Editing version already exists, the panel displays a row for it (row 2 in the bottom instance of the panel in the following illustration).



From this panel, you can:

- Create an Editing version by clicking on the Add Version button. The new version is a copy of the most recent (typically Active) version.
- Open the Editing version for modification by clicking on its version number or on its Edit link. An Edit Definition panel opens.
- Open any version for viewing by clicking on its View link or, for a version at a status other than Editing, its version number. A View Definition panel opens. You cannot change any information displayed in a View Definition panel.
- Delete the Editing version by clicking on its Delete link.
- Retire the Active version by clicking on its Inactivate link.
- Rename the monitor or routing, or revise its description, by clicking on an Edit link that appears next to its name. (The link, and the renaming capability, exist only when the Editing version of the monitor or routing is selected.) This opens an Edit panel that works in the same way as the Add panel in which the monitor or routing was originally named and described.

If you have linked a version of a control monitor to one or more controls, and you select that version in the Definitions list on this panel, a Where Used grid shows the ID and name of each linked control.

Configuring a Control Monitor

A control monitor implements a series of steps. At least two steps — one each of two types — are required. A third type of step is optional.

- An Execute Query step defines a SQL query and designates a parameter that stores results returned by the query. This is one of the required steps.
- A Create Task step converts each of the stored records returned by a SQL query into a "suspect task." This is the second of the required steps.
- An Update Parameter step alters the value of a parameter to the value of another parameter, to a fixed value, or to a calculated value. This is the optional step.

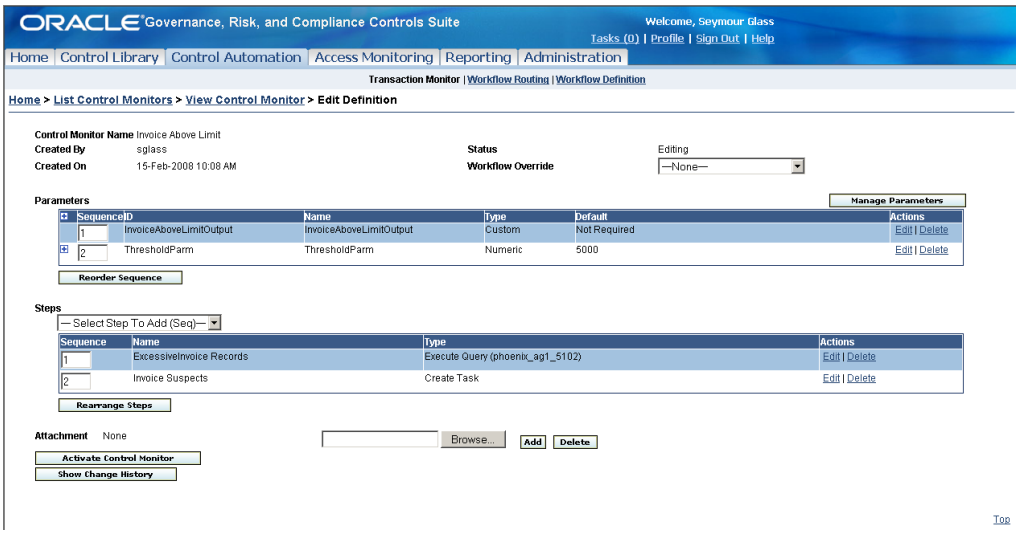
Thus, as you configure a control monitor you do the following:

- Create parameters — at least one per SQL query, to store the values returned by the query, and potentially others for use within queries.
- Write the SQL queries themselves.
- Incorporate queries and parameters in steps.

Optionally, you can designate a workflow routing whose members always review suspects generated by the control monitor; this removes the control monitor from review cycles implemented by workflow definitions. You can also attach a document to the control monitor (page 4-20) or review its change history (page 4-26).

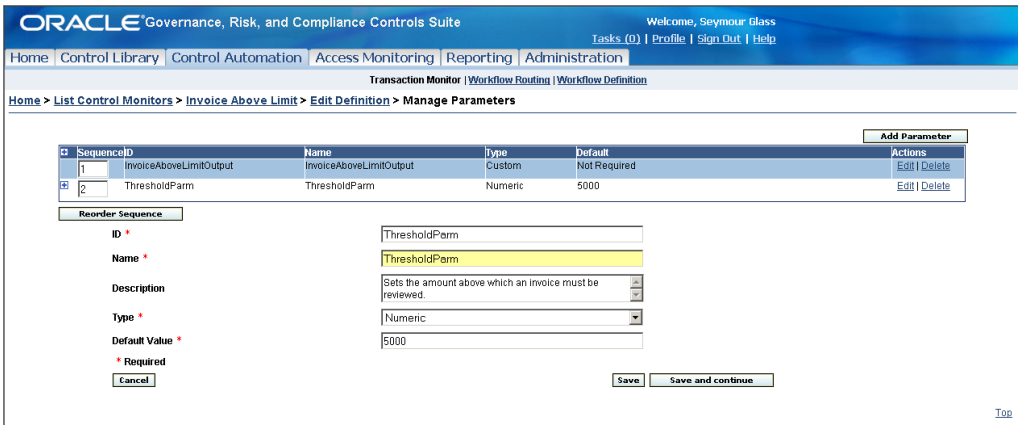
To begin, open the control monitor for editing (see "Viewing or Editing a Control Monitor or Workflow Routing" on page 4-10). An Edit Definition form appears, displaying prompts to create new parameters and steps. If parameters and steps have been created, the panel also lists them, with prompts to edit them. (The View Defi-

nition panel, if you were to open it instead, would be similar to Edit Definition, but would not allow changes.)



Configuring Parameters

To create a new parameter, click on the Manage Parameters button in the Edit Definition panel. To modify an existing parameter, click on the Manage Parameters button or on the Edit link in the entry for the parameter you want to modify. A new panel, labeled Manage Parameters, appears:



If parameters exist, they are listed in a grid that appears above a set of data-entry fields. (It's a duplicate of the Parameters grid on the Edit Definition panel.) You can:

- Click on the Edit link corresponding to one of the parameters displayed in the grid. This fills the data-entry fields with the values configured for the parameter you've selected, so that you can modify them.
- Click on the Delete link corresponding to one of the parameters displayed in the grid, to remove it. (A confirmation dialog would appear, and you would also need to click on its OK button to delete the parameter.)
- Rearrange the order in which parameters are listed (see page 4-16).

- If you've selected an existing parameter for editing, an Add Parameter button appears. Click on it to clear the data-entry fields, so that you can enter values for a new parameter.

Regardless of whether you are editing an existing parameter or creating a new one, complete the following steps to supply values for it:

1. In the ID field, type an identifier for the parameter. This is the label by which you must call a parameter when you use it in a SQL query.
2. In the Name field, type a name for the parameter. This is the label you use in an Execute Query step or a Create Task step to select a parameter that holds values returned by a SQL query.
3. In the Description field, type explanatory information about the parameter. (The use of this field is optional.)
4. In the Type field, select a type for the parameter. (You may wish to review "SQL Queries in Control Monitors" on page 4-6.)
    - Select *Custom* for a parameter that is to hold values returned by a SQL query. One Custom parameter is required for each Execute Query step you create.
    - Select *Numeric* for a parameter that is to represent a number within a SQL query.
    - Select *Character* for a parameter that is to represent text within a SQL query. A check box appears, labeled "Surround Character Type values with single quote characters." Select or clear it as follows:

      When a SQL query is evaluated, its parameters are replaced by actual values — either defaults or values provided by the user who runs a control monitor. The actual value for each Character parameter must be placed in single quotation marks. Make this happen in either of two ways: Insert the marks around the parameter ID as you write the SQL query. If so, clear the "Surround Character" check box. Or, omit the marks as you write the query, but have Transaction Controls Governor insert them automatically around the actual value as the query is evaluated. To do so, select the "Surround Character" check box.
    - Select Dimension for a parameter that is to represent a dimension value within a query.
5. Set a default value for the parameter you are configuring:
    - For a Custom parameter, which has no default value, select Not Required in the Default Value field.
    - For a Numeric or Character parameter, set a number or text value to be used in place of the parameter if a user does not set a value while running the control monitor. Once again, use the Default Value field.
    - For a Dimension parameter, a Default Dimension field replaces the Default Value field. It lists all dimension values configured for your instance of Transaction Controls Governor, each paired with the dimension for which it is a value. Select the value to be used if a user does not choose one while running the control monitor.

6. Save the parameter. Do either of the following:

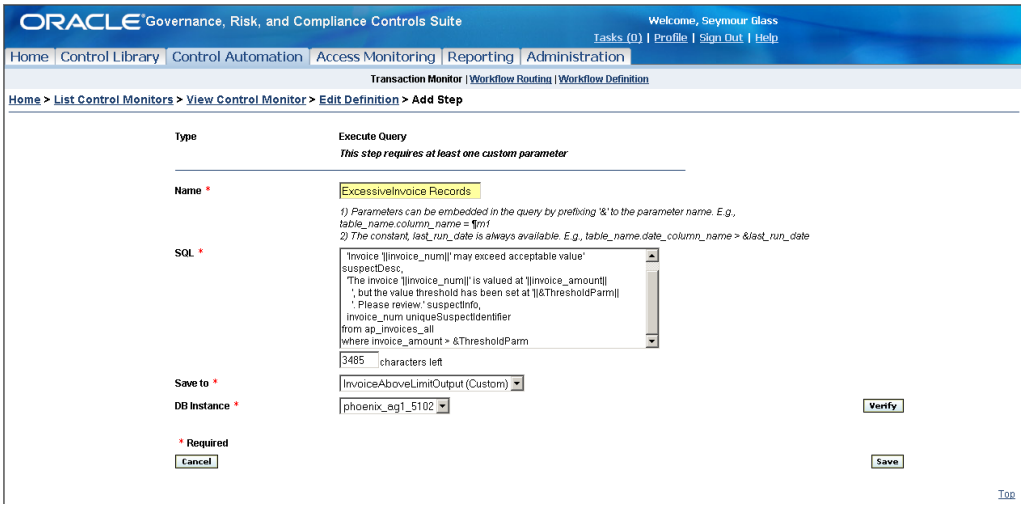
   - Click on the Save and Continue button to save the parameter and keep the Manage Parameters panel open. You can then create or edit additional parameters.
   - Click on the Save button to save the parameter and close the Manage Parameters panel.

   In either case, new parameter is added to the grid that displays parameter values, or modifications to an existing parameter are displayed in the grid.

Configuring Steps

To create or modify the steps the control monitor is to follow, click on the Select Step to Add list box in the Edit Definition panel. Then click on one of the three step types: Execute Query, Create Task, or Update Parameter. Or, click on the Edit button in the listing for an existing step.

If you choose an Execute Query step (at least one is required), an Add Step form opens:

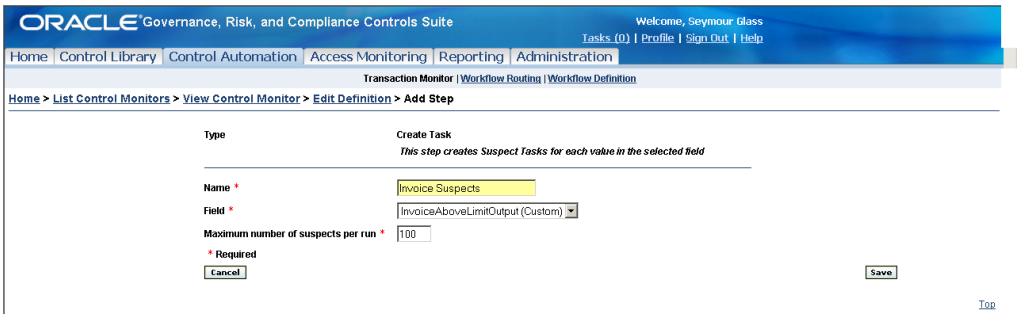


1. In the Name field, type a name for the step.
2. In the SQL box, type the SQL query. (A related field counts the characters you may use.) You may wish to review “SQL Queries in Control Monitors” (page 4-6).

   If you include Numeric, Character, or Dimension parameters in the query, use their ID values (not their names) to identify them, and precede each ID with an ampersand (&). You must enclose the ampersand and ID value for a Dimension parameter in single quotation marks. You may or may not do so for a Character parameter, depending on whether you selected or cleared the “Surround Character Type values with single quote characters” check box as you created the parameter. Do not enclose a Numeric parameter in single quotation marks.
3. The Save To list box presents the names (not IDs) of Custom parameters you’ve defined for the control monitor you are creating. Select one of them.
4. The DB Instance list box presents the names of database instances to which Transaction Controls Governor is configured to connect. Select the one at which you want to direct your query.

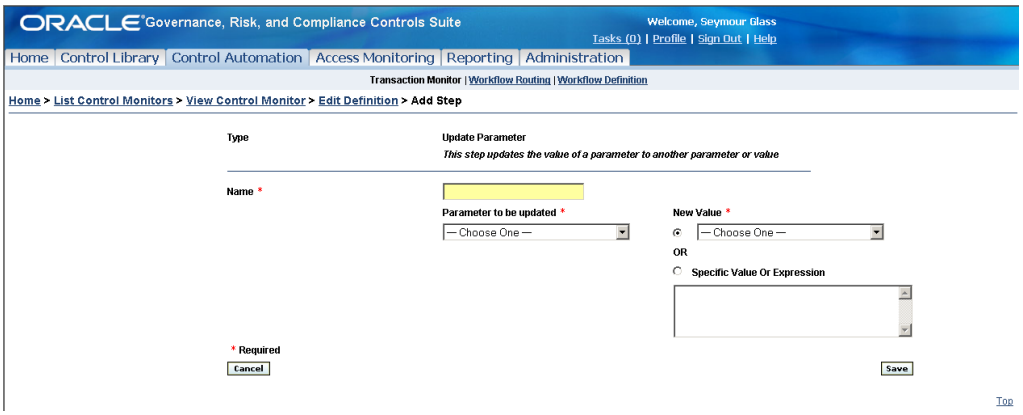
5. Click on the Verify button. A message appears near the top middle of this panel to inform you that the SQL either is or is not correctly parsed.
6. If the SQL contains errors, a link labeled Show Generated Sql appears next to the Verify button. Click it to see a text box that displays the generated SQL (with, for example, parameter IDs replaced by default values for the parameters).
7. Click on the Save button. The focus returns to the Edit Definition panel, which now displays a row for the step.

If you choose a Create Task step (at least one is required), the following form opens:



1. In the Name field, type a name for the step.
2. The Field list box presents the names of Custom parameters defined for this control monitor. Select one that is also named in an Execute Query step and so holds values returned by a SQL query.
3. In the Maximum Number of Suspects Per Run field, enter a number that determines how many suspects the control monitor can generate at one time. The minimum value is 1 and the maximum is 999; 100 is recommended. Without this feature, a control monitor has the potential to generate a number of suspects large enough to degrade system performance, so this feature is intended to preserve performance. If a monitor could generate more suspects than the value you set here, a message to this effect appears in a View Automation Run panel, in which the results of control-monitor runs appear. (This panel is accessible from the Control Library tab; see page 5-23.) In response to the message, you can run the monitor again.
4. Click on the Save button. The focus returns to the Edit Definition panel, which now displays a row for the step.

If you choose an Update Parameter step (which is optional), the following form opens:



1. In the Name field, type a name for the step.
2. The Parameter to Be Updated list box presents a list of parameters defined on your system. Select one whose value you want to reset.
3. Choose the value to which that parameter is to be reset. Do one of the following:
   - Click on the New Value radio button. In its list box, choose the name of a parameter that is to supply the new value. This parameter must be the same type as the parameter selected in the Parameter to Be Updated list box.
   - Click on the Specific Value or Expression radio button. Then, in the associated text box, enter either a fixed value or an expression, which may include a parameter or a SQL statement.
4. Click on the Save button. The focus returns to the Edit Definition panel, which now displays a row for the step.

Selecting a Workflow Override

Optionally, you can designate a workflow routing whose members have the exclusive ability to review suspect tasks generated by the control monitor you are configuring. If you do, this control monitor bypasses the ordinary workflow system, by which workflow definitions select workflow routings to be applied to suspects (as described in "Combining Priorities and Conditions in Workflow Definitions," page 4-2).

To do this, simply select the workflow routing you want from a Workflow Override list box located in the Edit Definition panel. If you select *None* (the default setting), you allow the control monitor to remain subject to the ordinary workflow system.

Rearranging Steps and Parameters

You can rearrange the order in which steps or parameters are listed in their grids on the Edit Definition panel or, in the case of parameters, on the Manage Parameters panel.

Rearranging steps actually adjusts the order in which the steps are to be completed. Rearranging parameters has no effect on how the control monitor uses them, but does determine the order in which the parameters are listed when a user adds the control monitor to a control as an automation. So it allows you to present them in an order that makes sense to that user as she supplies values for them. For example, you may group related parameters together.

To rearrange the order in which steps or parameters are to be listed:

1. In the Sequence column of the grid that lists the objects you want to rearrange, renumber the objects to reflect the sequence you want.
2. Click on the appropriate button — Reorder Sequence for parameters or Rearrange Steps for steps.

Completing the Configuration

When you finish creating a parameter, step, or workflow override, the control monitor is saved in its Editing status (because you have saved its individual

components as you created or edited them). At this point, you can use the Edit Definition panel (shown on page 4-12) perform these additional actions:

- Delete an individual parameter or step by clicking on the Delete link in its entry on the Edit Definition panel.
- In the Parameters grid, click on +/- icons to display or hide the descriptions configured for parameters. (These icons appear in the left column of the Parameters grid, but only for those parameters for which descriptions have been created.)
- Promote the control monitor from Editing to Active status by clicking on the Activate Control Monitor button. The version of the control monitor that had been Active (if any) moves to the Inactive status. The Active version of a control monitor can be run only if it is attached to a control as an "automation." If a version of a control monitor is attached to a control, and you activate a new version, the newly active version of the monitor is attached automatically to the control.

Setting a Timeout Property

A suspect.query.timeout property sets the amount of time a control monitor may run before it times out. If, after control monitors are configured and attached to controls, you discover that any fail to return suspects, set a larger value for suspect.query.timeout — its unit of measurement is seconds, and its default value is 3600.

Properties can be set only by users assigned the System Administrator primary application role, through an option on the Administration tab. See the *Transaction Controls Governor Installation Guide.*

Configuring a Workflow Routing

A workflow routing also implements a series of steps. Each selects users or groups charged with rendering approval decisions, and may designate other users or groups who receive notification when a decision is made. All receive approval requests or notifications at the Task Inbox.

Those who review a suspect may "pass" it (determine that the situation under review is benign) or mark it as an "exception" (find that the situation warrants correction). Those who review the creation or modification of a control-library element, or an Access Monitoring request, may approve or reject it. A suspect must be passed, or a request be approved, at one step before it proceeds to the next. If a suspect is marked as an exception or a request is rejected, the workflow ends; reviewers identified in subsequent steps are not sent messages.

At each step, you can select one of three types of decision-makers:

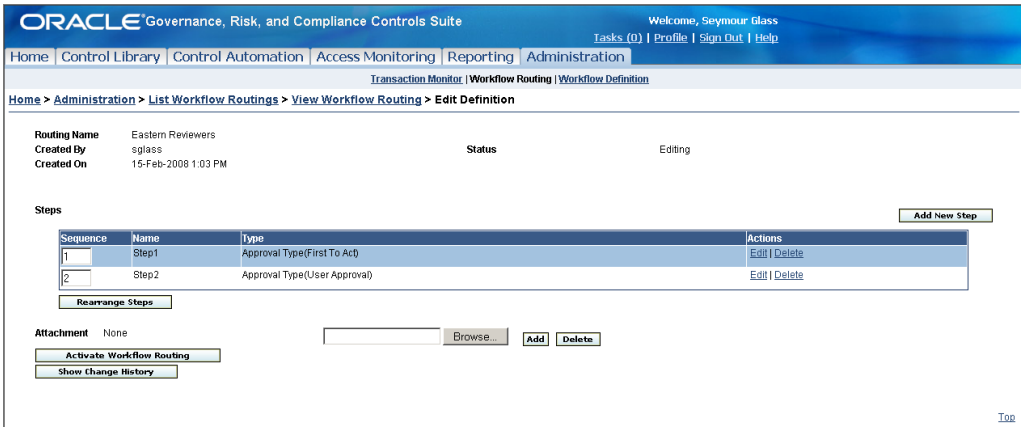
- Groups/First to Act: All members of one or more groups receive messages that a suspect or an approval request is to be reviewed, but the first member to respond acts for everyone. After the first response, other members of the groups can no longer respond.
- Groups/Requires All: All members of one or more groups receive messages that a suspect or an approval request is to be reviewed. For the item to move to the next step, all members must pass or approve it. A single exception or rejection decision

causes a suspect to be marked as an exception, or an access request to be rejected, and the workflow to end.

- User: One or more users receive messages that a suspect task is to be reviewed. If two or more users are designated, all must pass a suspect or approve an access request for the workflow to proceed to its next step. A single exception or rejection decision causes a suspect to be marked as an exception, or an access request to be rejected, and the workflow to end.

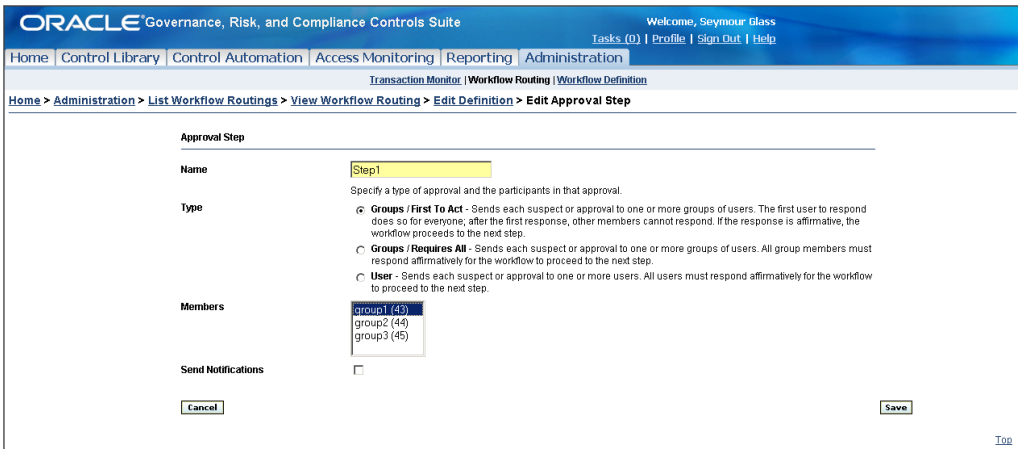
Before you can create a workflow routing, the groups or users it is to call must already have been created. (See Chapter 2, "User Administration.")

Once this is done, create a workflow routing (page 4-9) and open its Editing version (page 4-10), or open the Editing version of an existing routing. An Edit Definition panel appears, displaying a prompt to create new steps; if steps have already been created, the panel also lists them, with prompts to edit them. (The Edit Definition panel is shown below. You can open a View Definition panel for a version of the routing at any status; this panel lists its steps with prompts to view, but not change, their details.) The Edit Definition panel also enables you to attach a document to the Editing version (page 4-20) or review change history for any version (page 4-26).

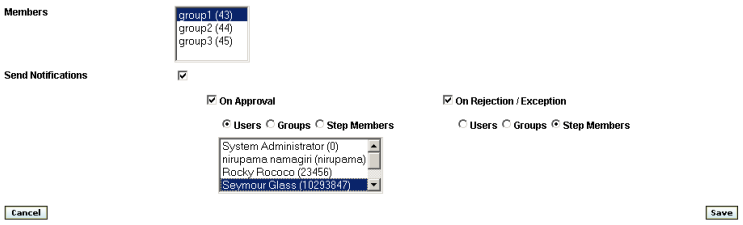


To create or modify steps that designate reviewers:

1. Click on the Add New Step button to create a new step, or click on the Edit button in the listing for an existing step to modify it. In either case, the following form opens:



2. In the Name field, type a name for the step.
3. Click on one of the Type radio buttons to determine the reviewer type.
4. A list of values appears next to the Members label, displaying either groups or users (depending on the type selection you made). Highlight those you want:
   - To highlight a single user or group, click on it.
   - To highlight a continuous selection of users or groups, click on the first one, hold down the Shift key, and click on the last one.
   - To highlight a discontinuous selection of users or groups, hold down the Ctrl key as you click on items.
5. You may or may not designate users or groups who are notified when actions are taken. If you choose not to, ensure that the Send Notifications check box is cleared and skip ahead to step 8. If, however, you want to designate recipients of notification messages, click on the Send Notifications check box and continue at step 6.
6. When you click on the Send Notifications check box, two more check boxes appear, one labeled On Approval and the other On Rejection/Exception. Click on either or both to designate those who will receive notifications of passed suspects, of exceptions, or of both.



Top

7. Beneath each selected check box, a set of three radio buttons appears: Users, Groups, and Step Members. Click on one.
   - If you select Step Members, you need make no further selections; notifications will be sent to the users or groups already chosen in the Members field.
   - If you click on Users or Groups, a field appears, displaying names of users or groups; highlight those you want. Again, to highlight a single item, click on it. To highlight a continuous selection of items, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous selection, hold down the Ctrl key as you click on items.
8. Click on the Save button. The focus returns to the Edit Definition panel, which now displays a row for the step.

When you finish creating steps, the workflow routing is saved in its Editing status (because you have saved its individual steps as you created or edited them). At this point, you can use the Edit Definition panel to perform these additional actions:

- Delete a step by clicking on the Delete link in its entry.
- Rearrange the order in which steps are to be completed: In the Sequence column of the Steps listing, renumber the steps to reflect the sequence you want, and then click on the Rearrange Steps button.

- Promote the workflow routing from Editing to Active status by clicking on the Activate Workflow Routing button. If a prior version was already Active, it moves to the Inactive status. A newly Active version of a routing inherits the workflow definition configured for the previously Active version.

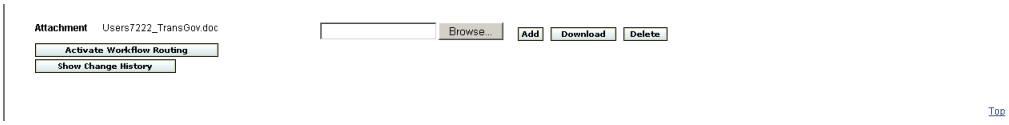
Attaching a Document

Optionally, you can attach a file to each version of a control monitor or a workflow routing, and then display the contents of the file. Typically, such a file documents what the control monitor or workflow routing does. Use a text editor, word processor, spreadsheet, or similar application to prepare the file.

You can attach only one file at a time to a given version of a monitor or routing, and only when that version exists at the Editing status. However, you can detach an existing file to make room for a new one (once again, for a version at the Editing status). You can view a file even after the version to which it is attached has been promoted to any other status.

To attach a file:

1. Navigate to the Edit Definition panel for the Editing version of a control monitor or workflow routing (see page 4-10).
2. Click on the Browse button in the Attachment area, near the lower center of the panel.
3. A Choose File dialog opens. Using standard Windows procedures, navigate to the file you want, click on its name, and then click on the Open button.
4. The path to the file appears in the text box next to the Browse button on the Edit Definition panel. Click on the Add button. The name of the attached file appears next to the Attachment label.



To detach a file, click on the Delete button. A confirmation message appears in a pop-up window; click on its Yes button.

To open and review an attached file:

1. Click on the Download button. (This button appears once a document is attached, and is the only one to remain available when the control monitor or workflow routing is at a status other than Editing.)
2. A File Download dialog appears. Click on its Open button, and the file appears in a distinct window. Alternatively, click on its Save button and, in a Save As dialog, navigate to a directory in which you want to save the file, and click on the Save button.

Copying a Control Monitor or Workflow Routing

You can copy a control monitor or workflow routing under a new name, to use as a template for a new control monitor or workflow routing. As the source for such a

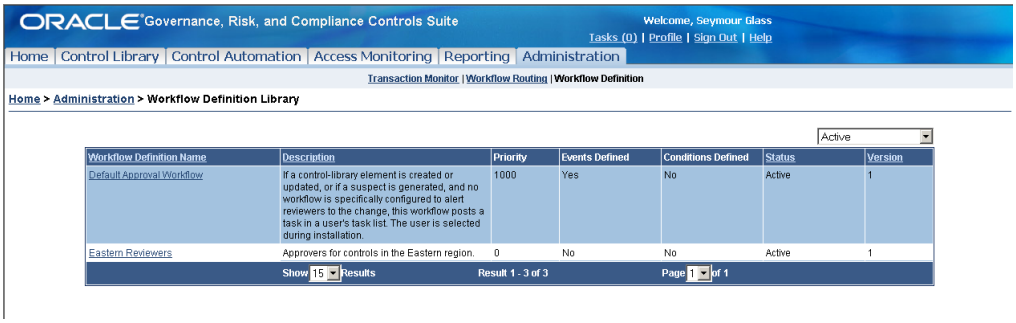
copy operation, you can select only an object at the Active status, and its copy is created at the Editing status.

1. Navigate to the View Definition panel for the Active version of a control monitor or workflow routing (see page 4-10).
2. Click on the Create Copy button, located near the lower left of the panel.
3. The Add Control Monitor or Add Workflow Routing panel opens. (It's identical to the panel discussed in "Adding a Control Monitor or Workflow Routing" on page 4-9.) In the Name field, type a name for the copy you are creating; in the Description field, optionally type explanatory information; and click on the Save button.
4. The copied object now exists at the Editing status, identical to the source in every way except for name and status. Using standard procedures, open it and edit it as you wish.

Configuring a Workflow Definition

To create the workflow definition that applies a workflow routing to items in need of review, click on the Control Automation tab and then on the Workflow Definitions link in the Library Navigator.

A Workflow Definition Library panel displays an entry for each Active workflow routing, with its description, the priority number of its workflow definition (if one has been assigned), whether events and conditions have been assigned, its status, and its version. Click on the name of the workflow routing for which you want to configure a definition.

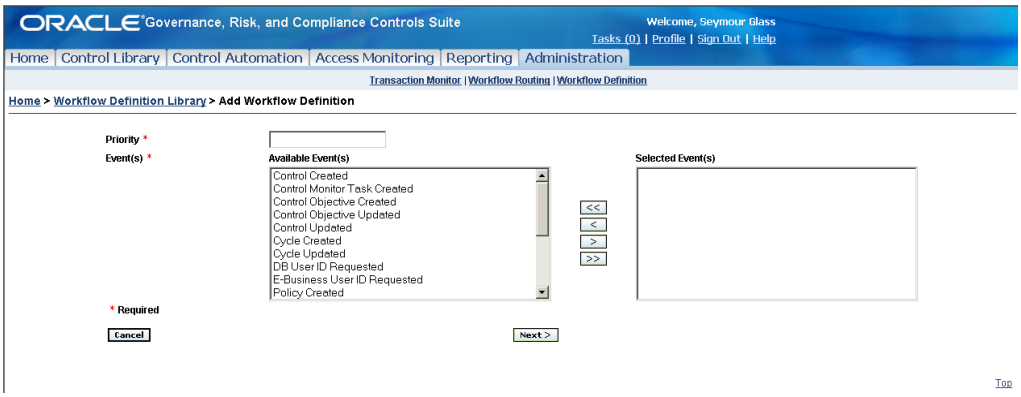


You can edit or view definitions that correspond to workflow-routing versions at the Active status. You can view, but not edit, the definitions for those workflow-routing versions as they move to the Pending Inactivation or Inactive status. To view definitions that correspond to routings at a particular status, use the Status list box (it's unlabeled, but is located above the list of workflow definitions, along the right side). You can select All or an individual status — Active, Pending Inactivation, or Inactive.

When you promote an Editing version of a workflow routing to Active, it assumes the definition configured for the version that had been Active before it. A definition for a workflow routing version at the Editing status would therefore never be used, so you cannot configure a definition for the Editing version of a workflow routing.

Selecting Priority and Events in a New Definition

If you have selected a workflow routing for which no definition yet exists, an Add Workflow Definition panel opens:



In this panel, you can select both priority and events. Do not select 0 as a priority; apart from that, you can select any number not already in use (you'll receive an error message if you do select a duplicate). You may wish to review "Combining Priorities and Conditions in Workflow Definitions" (page 4-2).

Each type of control-library element has a "Created" event and an "Updated" event; each type of access request has a "Requested" event; and a "Control Monitor Task Created" event applies to the review of control monitor suspects. You can select any combination of events in a workflow definition, but the way you combine them determines the types of conditions you can configure for the definition. Choose events that will enable you to create the conditions your workflow definition will need. You may wish to review "Combining Events and Conditions in Workflow Definitions" (page 4-5).

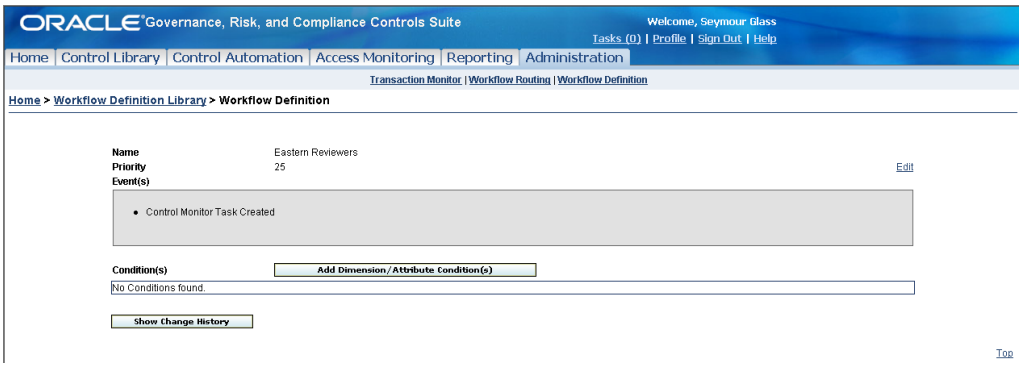
To use the Add Workflow Definition panel to select a priority and events:

1. In the Priority field, type the priority number you want.
2. In the Available Events field, highlight the events you want to select. To highlight a single event, click on it. To highlight a continuous set of events, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous set, hold down the Ctrl key as you click on events.
3. Click on the > button to send the events you've highlighted from the Available Events field to the Selected Events field. Or, click on the >> button to send all events to the Selected Events field, regardless of whether they are highlighted.

   If you reconsider, highlight events in the Selected Events field, then click on the < button to return them to the Available Events field. Or, the << button returns all events to the Available Events field, regardless of whether they are highlighted.
4. Click on the Next button. The Add Workflow Definition panel now summarizes your selections. If you are dissatisfied with any of them, click on the Back button to return to the previous panel; edit the values it displays and click on the Next button to return to this summary panel. When you are satisfied, click on the Finish button to complete the configuration of the priority and events.

Selecting Conditions for a New Definition

When you finish configuring priority and events, a Workflow Definition panel displays the values selected for the definition:



The panel presents buttons you can click to configure distinct types of conditions. As noted earlier, the types you can configure depend on the events selected for the definition; the assortment of buttons on this panel also depends on the event selection:

- If you have selected "Created" or "Updated" events for control-library elements — with or without the Control Monitor Task Created event — the panel presents the dimension/attribute condition button, and you can create that type of condition.
- If you have selected only the Control Monitor Task Created event, the panel offers two buttons, one for dimension/attribute conditions and the other for data conditions, and you can create both types of conditions.
- If you have selected only the DB User ID Requested or E-Business User ID Requested event for access requests (or both), the panel presents the data source condition button, and you can create that type of condition.
- If you combine either of the access-request events with any other event type, the panel presents no condition buttons, and you cannot create conditions.

Two or more conditions are joined by AND connectors; all must evaluate to true (and the workflow must have a higher priority than other eligible workflows) for the workflow routing associated with this definition to be used.

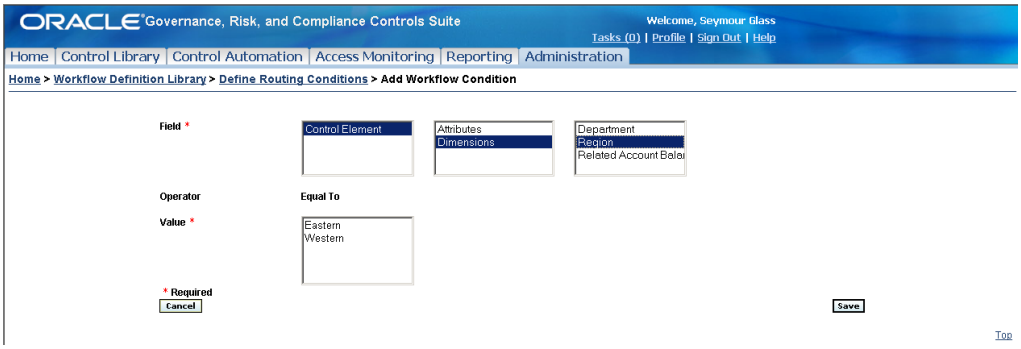
A single condition can have more than one right operand — for example, in a workflow devoted to access requests, DATASOURCE EQUAL TO DB1; DB2. In this case there is an OR relationship; there are implicitly as many conditional statements as there are right operands, and the condition evaluates to true if any one is true. In the example, if a request were made for access to DB1 or DB2 (and, once again, the workflow had a higher priority than other eligible workflows) the routing associated with this definition would be used. For a workflow that contains access-request events, use a single condition with any number of right operands; do not create two or more conditions.

Dimension/Attribute Conditions

A dimension/attribute condition states that a dimension or attribute equals a particular value. The workflow definition that uses this condition may map to a control

assigned a dimension or attribute with the same value. To select dimension/attribute conditions:

1. Click on the Add Dimension/Attribute Conditions button. An Add Workflow Condition panel appears:

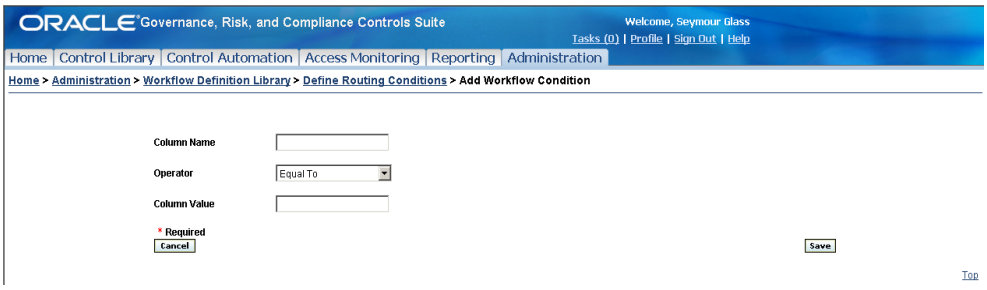


2. As a Field, select a dimension or attribute:
   - The leftmost box always reads Control Element; click on either Dimensions or Attributes in the middle box.
   - According to your selection, the rightmost box displays either the dimensions or attributes configured on your system; click on one of them.
3. Accept the default, Equal To, as the Operator value. (You cannot change it.)
4. The Value box displays the values for the dimension or attribute you selected as a Field; click on one of them.
5. Click on the Save button.

Data Conditions

To filter the suspects returned by a control monitor, you can add data conditions. Each specifies a value that can be held in a column returned by a SQL query in the control monitor; the workflow routing may map to suspects containing that value in that column. To add a data condition:

1. Click on the Add Data Conditions button, or click on the Edit link for an existing data condition. Another Add Workflow Condition panel appears:



2. In the Column Name field, type the name of a column that returns values in the SQL query for a control monitor. (Ensure that the control monitor is attached as an "automation" to controls to which this workflow definition applies.)
3. In the Operator field, choose among five values: Equal To, Less Than, Greater Than, Less Than or Equal To, or Greater Than or Equal To. Each value applies

either to numeric or text values. (A text value is “less than” another if it comes earlier in alphabetic order, and “greater than” if it comes later.)

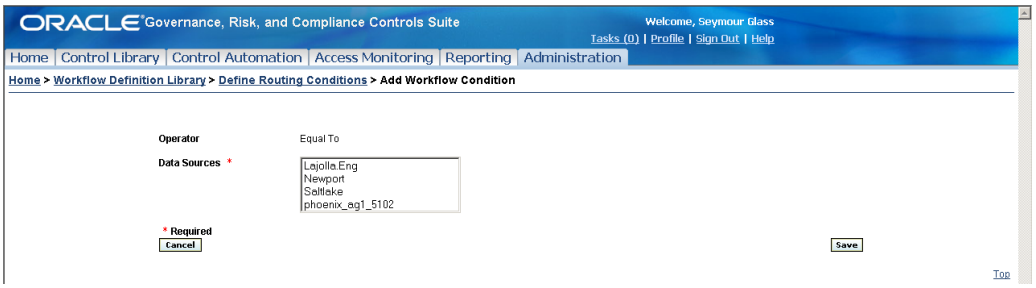
4. In the Column Value field, type the filtering value. It must, of course, be the same type (numeric or text) as values in the column specified by the Column Name field.

5. Click on the Save button.

Data Source Conditions

A data source condition identifies one or more database instances in which user-access requests are to be implemented. To select data source conditions:

1. Click on the Add Data Source Conditions button (if you have selected access-request events for a workflow definition, and the button is therefore present in the Workflow Definition panel). A different instance of the Add Workflow Condition panel appears:



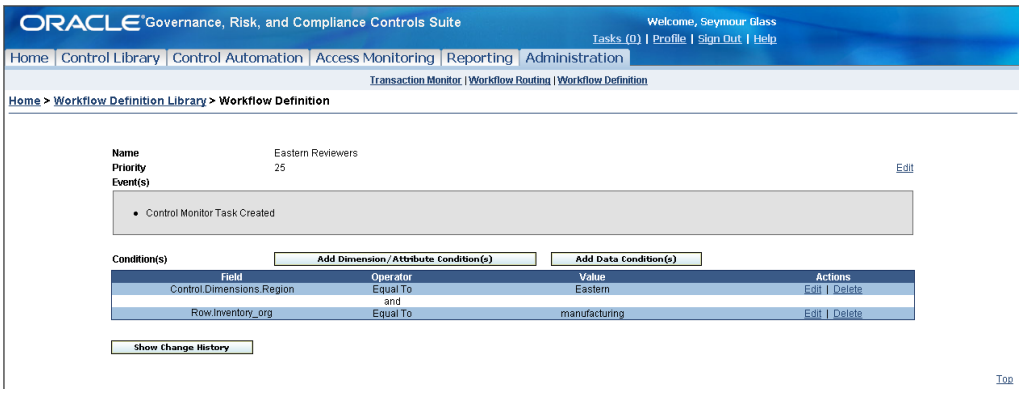
2. Accept the default, Equal To, and the Operator value (You cannot change it.)

3. In the Data Source Name field, select any number of databases. (To select more than one, hold down the Ctrl key as you click on data source names.)

4. Click on the Save button.

Viewing Conditions

When you save a condition, the Add Workflow Condition panel closes; the focus returns to the Workflow Definition panel, with the new condition added to the list. Here, for example, is a workflow definition with two dimension/attribute conditions defined:



Because you have saved individual elements of the workflow definition as you created them, the definition itself requires no further saving. It is ready for use.

Editing an Existing Definition

To edit a workflow definition, select it in the Workflow Definition Library panel (page 4-21). This opens the Workflow Definition panel that displays configured values for the definition you've selected (shown on page 4-25). The values are editable if the definition corresponds to an Active workflow routing, or are read-only if the definition corresponds to a Pending Inactivation or Inactive workflow routing.

For Active definitions, you can always modify the priority assigned to a workflow (providing that the new priority value is not already taken by another workflow). However, you cannot add or remove events for a workflow definition with conditions. To edit the selection of events for a definition, first delete its conditions. To do this, click on the Delete link in the row for each condition.

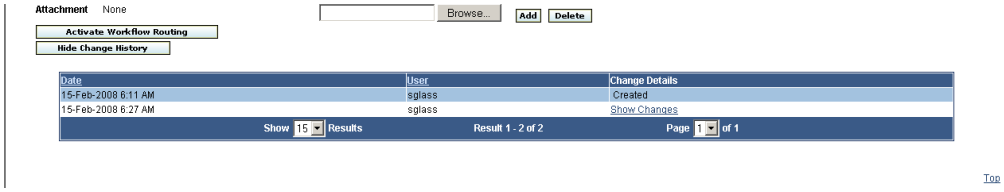
To edit priority or events, click on the Edit link in the Workflow Definition panel. (This link is toward the upper right of the panel, aligned horizontally with the Priority field). This opens an Edit Workflow Definition panel; apart from its label, it's the same as the Add Workflow Definition panel, except that it shows the values already selected for the definition, and the event fields are read-only if you have not deleted the conditions associated with the definition. Use the Edit Workflow Definition panel as you would the Add Workflow Definition panel (see page 4-22).

To edit a condition, click on the Edit link in its row on the Workflow Definition panel. This opens one of two Edit Workflow Condition panels — one for data conditions and the other for dimension/attribute conditions. Each of these, label aside, is the same as the corresponding Add Workflow Condition panel except, once again, that it displays the values already configured for the condition. Use these panels as you would the Add Workflow Condition panels (see page 4-23). You can also delete conditions (as discussed above) or use the Add buttons to add new conditions.

Reviewing Change History

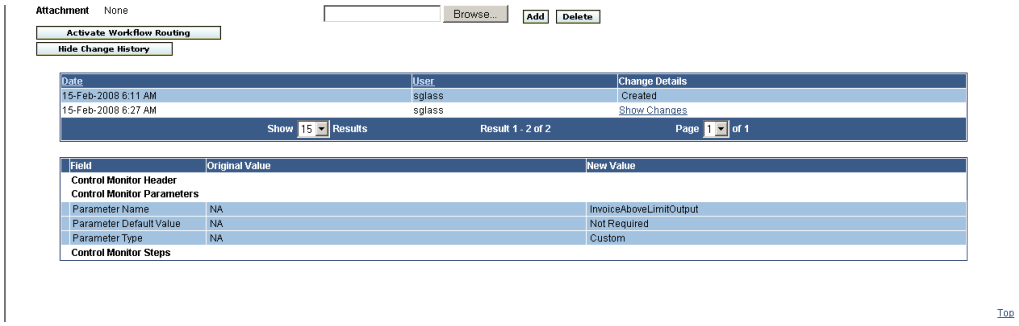
For each version of a control monitor, workflow routing, or workflow definition, you can view a history of the changes made to the item:

1. Open the panel from which change history can be viewed:
   - For a control monitor or a workflow routing, this is the Edit Definition panel (for a version at the Editing status) or the View Definition panel (for a version at any other status). See "Viewing or Editing a Control Monitor or Workflow Routing" (page 4-10) for information on opening these panels.
   - For a workflow definition, this is the Workflow Definition panel (page 4-25), opened from the Workflow Definition Library panel (page 4-21.)
2. Click on the Show Change History button. A grid appears at the bottom of the panel, displaying a row for each time changes were saved for a control monitor, workflow routing, or workflow definition. Each row shows the date and time on which changes were saved, and identifies the user who made the changes.



3. The first row in the grid documents the creation of the item; it's read-only, and it displays a static value, "Created," in a Change Details Column. Each subsequent row documents a change, which may in fact involve modifications to several related fields. To view details about such modifications, click on the Show Details link in the Change Details column for one of these rows.

   A second grid appears, displaying the old and new values for each modified field associated with the row you selected.



   This grid categorizes the changes according to whether they have been made to the "header" (the name and status of an item), the parameters, the steps, or other miscellaneous items (such as attachments).

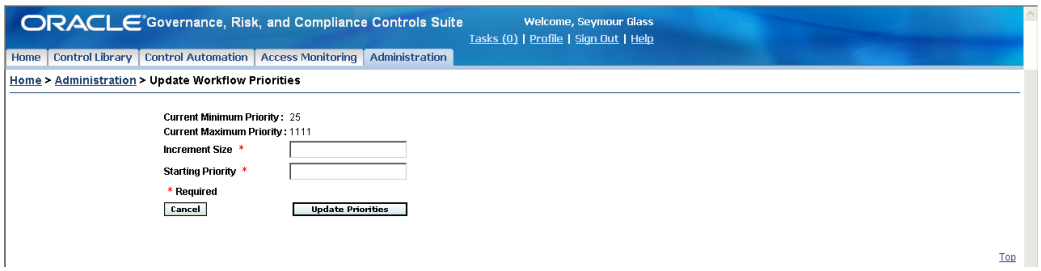
4. Click on Show Details in other rows to view values for changes saved at other moments. Or, to close both grids, click on the Hide Change History button.

Updating Priority Values

You may create a large number of workflows, each, of course, incorporating a definition that includes a unique priority number. You may then identify a need to create a new workflow whose priority must be set at some point amid the values that have already been taken. This may require that the priorities assigned to many workflows be reset (if, for example, one thousand existing workflows have consecutive priority numbers, and you need to create a new workflow with a priority of, say, 15).

You can reset the priorities of any number of workflows at once, rather than edit individual workflow definitions. To do so:

1. Click on the Administration tab. This opens an Administration Home panel; in it, locate the Workflow Administration section and click on the Manage Workflow Priorities link. An Update Workflow Priorities panel appears:



2. Review information about your current priority configuration:
   - The Current Minimum Priority field shows the smallest priority value (and therefore actually the highest priority) assigned to an existing workflow definition.
   - The Current Maximum Priority field shows the largest priority value (and therefore the lowest priority) assigned to an existing workflow definition.
3. In the Starting Priority field, type the existing number of the first priority you want to reset to a new value. In the example above, you want to create a new workflow at priority 15. So the first priority you need to reset is for the workflow currently at 15. It and subsequent priorities will increase by an amount to be determined in the next step.
4. In the Increment Size field, type the number of openings you want to create at the starting point.

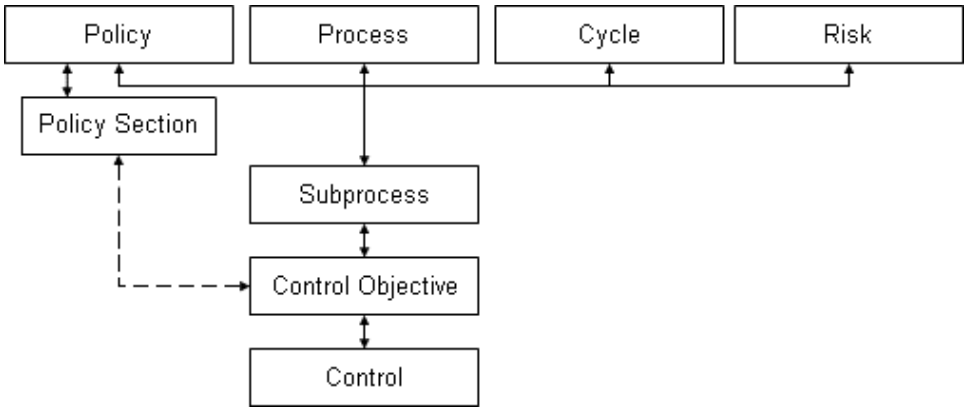
   In the example above, you're creating one new workflow, so you need one opening for it, and would enter the value 1 in the Increment Size field. The workflow whose priority was originally at 15 would move to 16, and subsequent priorities would also be increased by one.

   But if, instead, you had two new workflows to create and wanted to assign them priorities 15 and 16, you would enter 2 here; the existing number 15 would then become 17, and subsequent priorities would be renumbered accordingly.
5. Click on the Update Priorities button.

5

Creating Elements in the Control Library

The control library constitutes a set of objects which, taken together, define a business environment — broad statements of activity such as policies, the increasingly focused elements from which they are built, and the controls that enforce them. By default, Transaction Controls Governor adopts the following naming conventions for these elements: A control connects directly to a control objective, inherits its associations with subprocesses, and at a higher level inherits associations that subprocesses have with processes, policies and policy sections, cycles, and risks. Although a company may rename these element categories, and although it would configure instances of these elements to reflect its own needs, elements must nevertheless fit the following hierarchical scheme:



So that this hierarchy is enforced, most of these elements, as they are created, can be linked only to those directly above or below:

- A policy, process, cycle, or risk connects directly to a subprocess, and inherits the control objectives and controls associated with the subprocess.
- A subprocess links upward directly to a policy, process, cycle, or risk, and downward to a control objective. It inherits controls associated with the control objective.
- A control objective links upward directly to a subprocess and downward to a control. It inherits policies, processes, cycles, and risks associated with the subprocess.
- A control links directly to a control objective an inherits all the higher-level objects associated with the control objective.

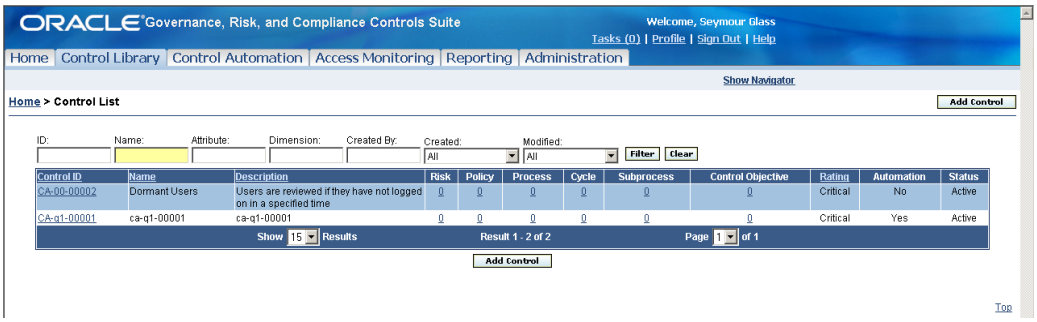
The one exception to this scheme is the policy section. While subordinate to a policy, it links to one or more control objectives, conceptually bypassing the subprocess.

Who Can Do This?

A Manager, Rule Builder, or Executive can create, edit, or assess control-library elements. An Author or User can create or edit them, but not assess them. An Auditor can view and assess them, and a System Administrator can only view them; neither has create nor edit rights. This chapter is written in the assumption you have full rights.

Displaying Lists of Control-Library Elements

To view, add, or edit any control-library element, begin by clicking on the Control Library tab. A Control List panel then appears. You can use a Library Navigator feature (see page 5-5) to display a similar List panel for any of the other elements (as well as to redisplay the Control List panel).



Initially, of course, these panels are empty; in that case, skip ahead to "Adding a Control-Library Element" (page 5-5). Ordinarily, though, each panel displays a list of its type of control-library elements; each entry includes an ID, name, and description for an element; the number of other elements with which it is associated, by type; and its status (see page 5-10 for status definitions). The Control List panel also shows the rating configured for each control, and whether an "automation" (a control monitor, or a form, flow, or change-control rule) has been attached to the control.

Locating Control-Library Elements

To manage long lists of control-library elements, you can limit the contents of any List panel to entries that satisfy filtering criteria. Alternatively, you can use an the Library Navigator feature to locate, and open View panels for, individual elements.

Filtering Lists of Elements

To view a filtered set of entries in a List panel:

1. Specify filtering criteria by entering complementary values in any combination of the fields that run horizontally above the list of elements:
   - Filter: Select a filter you've configured for use in listing elements. If you haven't created any filters, this field does not appear.
   - ID and Name: In each field, type the full ID for an element or its full name to display the single element bearing that ID or name. Or, type a fragment

of an ID or name to display all elements whose IDs or names contain the fragment. For example, the text string *ment* in the Name field would return elements with the words *Management* and *Disbursements* in their names.

- Attribute and Dimension: In each field, type a value configured for an attribute or dimension (not the name of an attribute or dimension) to display elements that have been assigned the attribute or dimension value. For example, if a Region dimension has the values *East* and *West*, the word *East* in the Dimension field would return elements configured to belong to the East region; the word *Region* in the Dimension field would produce no results.
- Created By: Type a Transaction Controls Governor username to display elements created by that user, or a text fragment to display elements created by all those whose usernames contain the fragment.
- Created and Modified: Select one of five time ranges (such as Yesterday or Since Last Week) to display elements created within that period, or select All (the default) to list all elements, without time constraint.

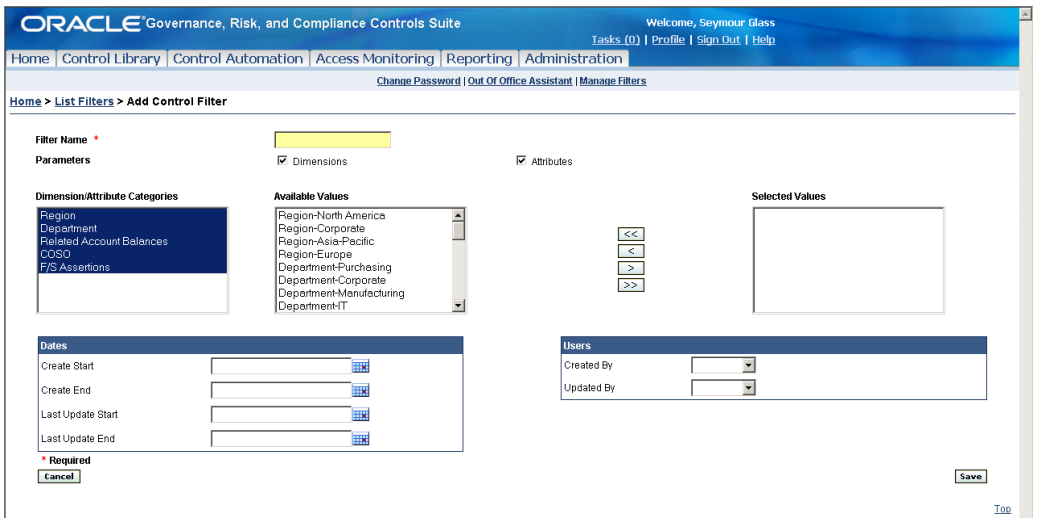
2. When you finish specifying filtering criteria, click on the Filter button.

To discard filtering criteria and redisplay all configured elements of the type displayed in the List panel, click on the Clear button.

Configuring Filters

You can configure filters for use in displaying control-library elements in their list panels. These filters can select elements with specified dimension or attribute values, with creation or update dates in specified ranges, or with a specified creator or updater. Once they are configured, you can select filters in the Filter field on the List panel for each element type. To configure filters:

1. Click on the Profile link. Then, in the page that it opens, select the Manage Filters link. A List Filters panel displays an entry for each filter that has already been created (if any).
2. Click on the Add Filter button. An Add Control Filter panel appears:



3. In the Filter Name field, type a name for the filter.

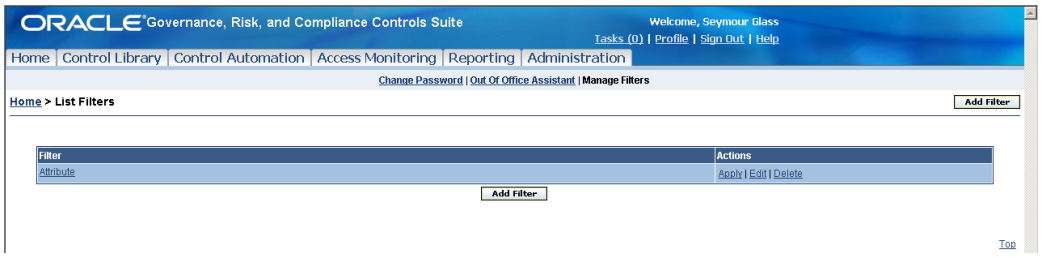
4. To add dimension or attribute values to a filter, select the Dimensions or Attributes check box (or both). This populates the Dimension/Attribute Categories field with the names of dimensions or attributes configured for your system; click on those for which you want to select values. Their configured values then appear in the Available Values field; click on those you want and transfer them to the Selected Values field (See page 5-6 for instructions on transferring values from an Available field to a Selected field).

5. To filter on date ranges, enter values in fields in the Dates section.

   - Use the two Create fields to identify the dates between which elements may have been created if they are to qualify for the filter; use the two Last Update fields to identify dates between which elements may have been most recently modified.
   - Select a start date, but no end date, to select elements created or updated from the start date to the present moment; select an end date as well to define a static period.
   - For any of the four fields, click on the icon to display a month-by-month calendar; click on the < or > symbol surrounding a month name or year to display an earlier or later month or year; then, in the calendar, click on the date you want.

6. To filter for elements either created or most recently updated by a particular user, select his username in the Created By or Updated By list box in the Users section.

7. Click on the Save button. The List Filters panel reappears, with an entry for the filter you've configured:



8. In this panel, you can:

   - Click on the Apply link to put the filter to use. When you open any of the List panels available from the Control Library tab, only filtered entries appear. (You can apply other filters, or clear all filters, by making new selections on a List panel.)
   - Click on the Edit link to open an Edit Control Filter panel — in all but name a copy of the Add Control Filter panel — and modify the values you've configured for the filter.
   - Click on the Delete link to delete the filter. A Delete Control Filter panel opens and prompts you to confirm the deletion. Click on its delete button to do so, or on its Cancel button if you choose to keep the filter.

Using the Library Navigator

A Library Navigator enables you to trace the hierarchical relationships among elements in the control library, and to open a View panel to examine detailed information about any of the elements in the hierarchical chain you've constructed.

1. From the list panel for any type of control-library element, click on the Show Navigator link. A hidden Navigator form is exposed. Initially, it contains a single block that displays an entry for each type of control-library element.

2. Double-click on any of the element-type names to open the list panel for that type of element. Or, single-click on any of the element-type names to display a second block. This one lists all configured elements of the type you selected in the first block. Although the following figure begins with policies, you can start at any level in the hierarchy.

3. In this second block, single-click on any of the elements to display a third block; it lists elements configured to descend in the hierarchy from the one you chose in the second block. In each new block, click on an element name to produce another block displaying linked elements in the next-lower level of the hierarchy:

4. To open a View panel for any of the elements you've displayed, double-click on its name.

5. Click on the Hide Navigator link to close the Library Navigator and restore the Control Library panel to its original appearance.

Adding a Control-Library Element

When you add an element to the control library, you provide information that identifies and describes it, but you also associate it with other objects that establish its context: dimensions, attributes, and other control-library elements. When you complete the process, the element you've created is subject to approval (according to the

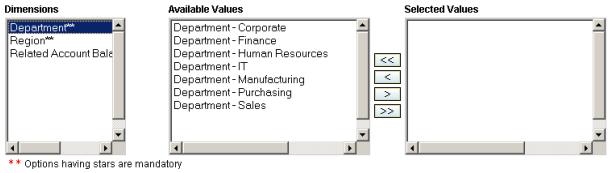
terms of workflows configured for your system). Thus, the element appears in its List panel only if and after approval has been granted. Moreover, you cannot create an element if workflows are configured so that you would be an approver for it.

The information you provide for a control is somewhat different from the information you provide for other control-library elements. Specifically, a control is given a rating and a likelihood, and may be associated with related controls. As a result, the configuration process for controls starts out a bit differently from the process for other elements, but the processes become uniform after the initial steps are complete. So the following sections describe the beginning of the control-configuration process, the beginning of the process for configuring other elements, and then the completion of the process for controls and other elements alike.

But first, when you create or edit any element, you make repeated use of a particular feature, which is explained in the following section.

Selecting Sets of Values — a Software Convention

As you create control-library elements (or filters), you have opportunities to select sets of values — for example, dimension values that might apply to a control. Values appear for selection in an Available box; you transfer those you want to a Selected box (or those you no longer want back to the Available box). In some cases, a third box contains categories of items — for example, dimensions if you are assigning dimension values to a control. You select one or more categories, and the Available box shows values appropriate to those categories:



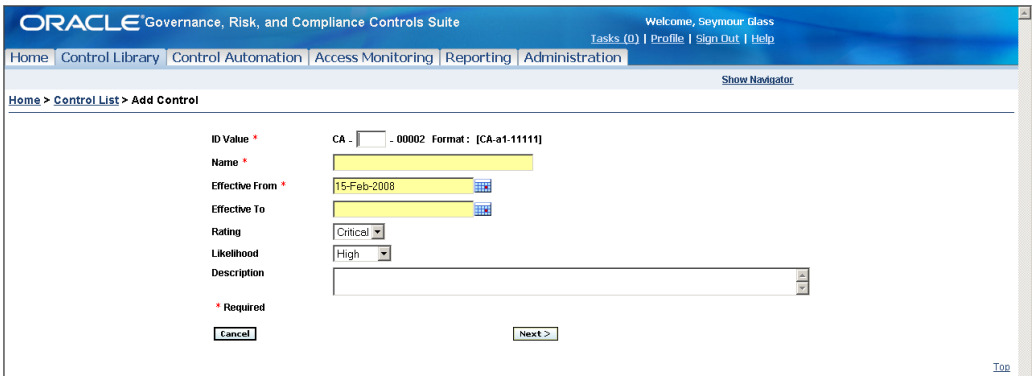
As you transfer items between the Available and Selected boxes, you can:

- Highlight items you intend to select. In any box, click on an item to highlight it. Or, to highlight a continuous group of items, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous group, hold the Ctrl key as you click on items.
- Click on the > button to move highlighted items from an Available box to its corresponding Selected box. Or, click on the >> button to send all values displayed in the Available box (regardless of whether you've highlighted them first) to the Selected box.
- Click on the < button to return highlighted values from a Selected box to its corresponding Available box. Or, click on the << button to return all values displayed in a Selected box to its Available box.

Beginning to Configure a Control

To add a control to the control library:

1. Open the Control List panel and click on its Add Control button. (The button appears in two places, near the top right of the panel and at the bottom center.) A form (shown at the top of the next page) appears.

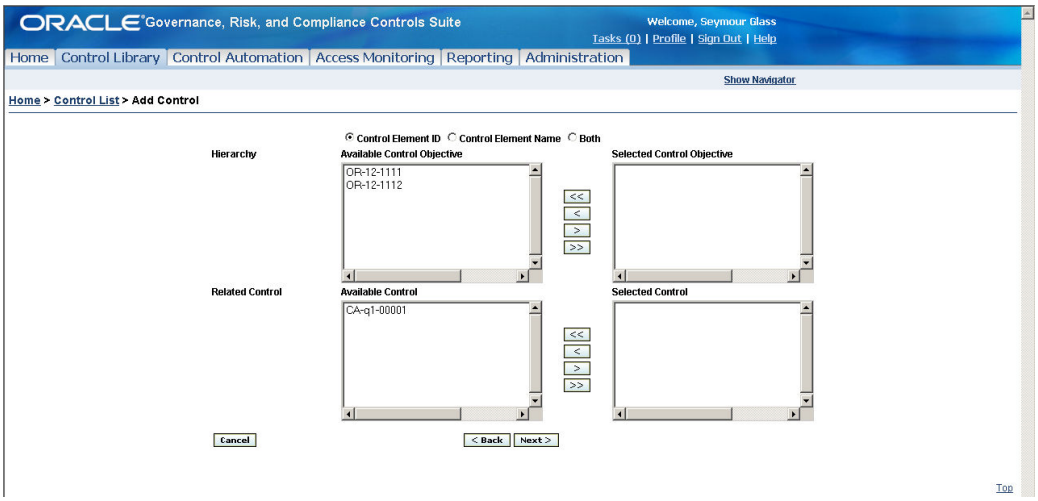


2. In this form, provide the basic descriptive information for the control:

   - In the ID Value field, complete an ID value for the control if ID values are configured in a way that makes this necessary. The illustration, for example, shows a three-segment ID for which the first segment is a fixed value and the last is an automatically generated value; the user cannot edit them. But the middle segment is configured for manual entry, and the user must enter a value in the text box.
   - In the name field, type a name for the control.
   - Select starting and ending dates for the control in the Effective From and Effective To fields, respectively. (See "Date Fields," page 1-4).
   - In the Rating and Likelihood list boxes, select values which, respectively, weigh the relative importance of the control and express the chance that if the control were to fail, it would permit material error in financial statements.
   - In the Description box, type an explanation of the control's purpose. The description can be up to 3,000 characters in length.

3. Click on the Next button. In a new form, click on control objectives (top) and "related controls" (bottom) that you want to associate with the control you are creating; move the items to the Selected boxes. (Controls may be related to one another for any reason your company determines to be meaningful.)

   You may have this form display ID values, names, or both for the controls and control objectives you're selecting. Simply click on the appropriate radio button.

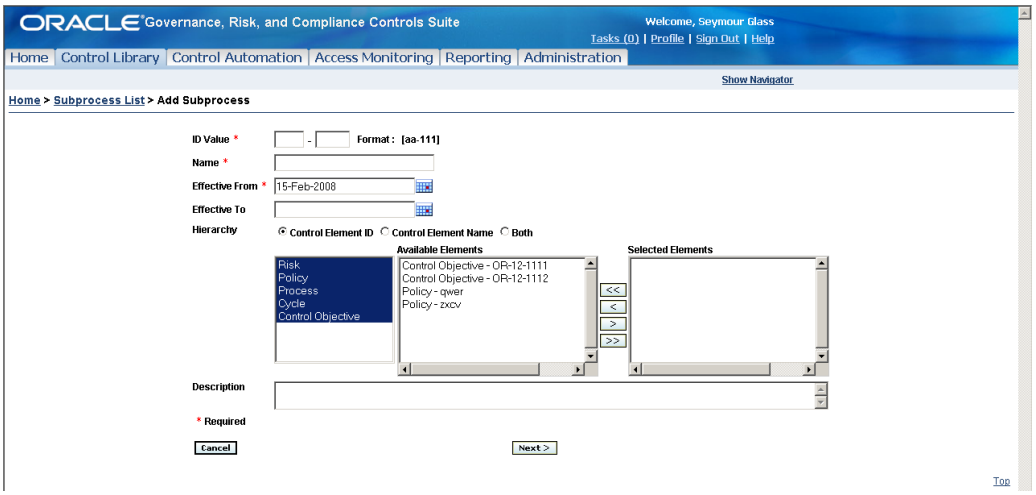


4. Click on the Next button to display a form in which you can select dimension or attribute values for the control. For instructions on using this and subsequent forms to finish configuring the control, skip ahead to "Completing the Control Element Configuration" (page 5-9).

Beginning to Configure Other Control Element Types

To add an element other than a control to the control library:

1. Open the List panel for the type of element you want to create, and click on its Add button. (Once again, the button appears in two places, near the top right of the panel and at the bottom center.) The form like the following one appears:



2. In the ID Value field, complete an ID for the element if ID values are configured to include manual-entry segments. (If not, accept the default ID value.)
3. In the Name field, type a name for the control-library element.
4. Select starting and ending dates for the element in the Effective From and Effective To fields, respectively. (See "Date Fields," page 1-4.)
5. In the Hierarchy area, choose other control-library elements that you want to associate with the one you are creating; move the items to the Selected box. You can select only items with a "parent-child" relationship, so the form varies according to the type of element you are configuring. For items at the top of the hierarchy, it displays two boxes for available and selected subprocesses; for midlevel items, it adds a third box in which you can select a type of element to add.

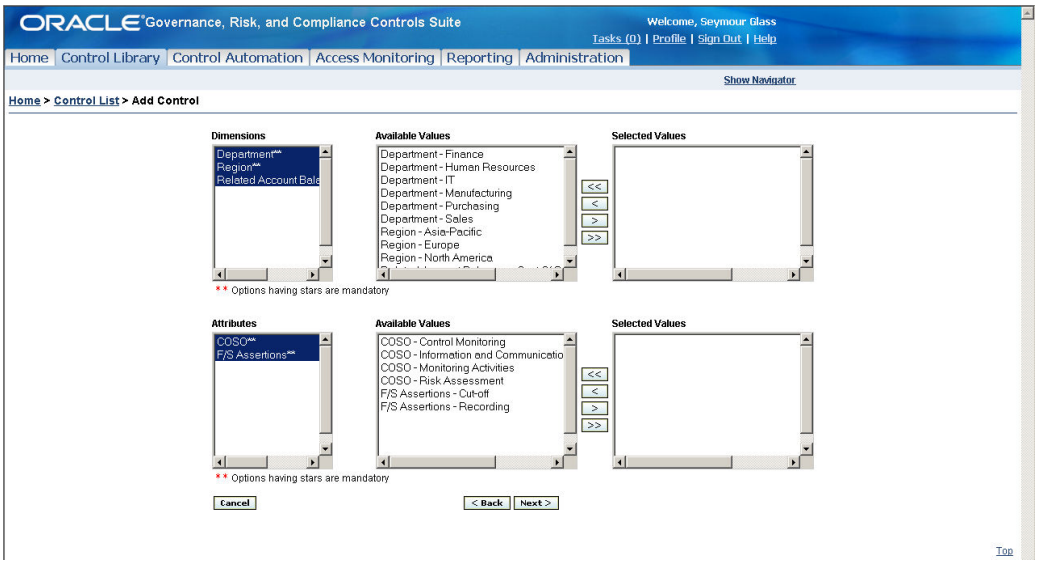
   Depending on your preference, you may have this form display ID values, names, or both for the elements you're selecting. Click on the radio button that reflects your choice.
6. In the Description box, type an explanation for the purpose of the element. The description can be up to 3,000 characters in length, and it appears in the entry for the element on its List panel.
7. Click on the Next button to display a form in which you can select dimension or attribute values for the control-library element. For instructions on using this and subsequent forms to finish the configuration, see the next section, "Completing the Control Element Configuration."

Completing the Control Element Configuration

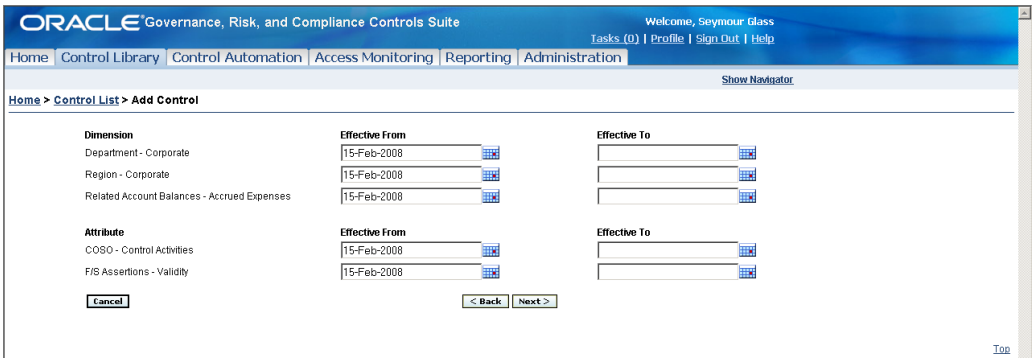
To finish configuring a control-library element, select dimension and attribute values for it, specify a time period for each, and review the configuration. An element not only acquires dimension and attribute values you assign directly, but also inherits values from lower-ranking elements to which it is linked. Once an element is saved you cannot remove a value from it, but you can set an end date to inactivate a value.

1. Having completed the early steps of creating a control-library element, you've arrived at the following panel. In it, use the Dimensions and Attributes fields to select dimensions and attributes. Values configured for your selections appear in the Available Values fields; move those you want to the Selected Values fields.

   If a dimension or attribute is marked by two asterisks, you must assign a value for it to each control you create. You need not assign such mandatory dimensions or attributes to other control-library elements, because they'll inherit values for these from the controls with which they are linked.



2. Click on the Next button. A new panel lists the dimension and attribute values you've selected so that you can set effective dates for them:

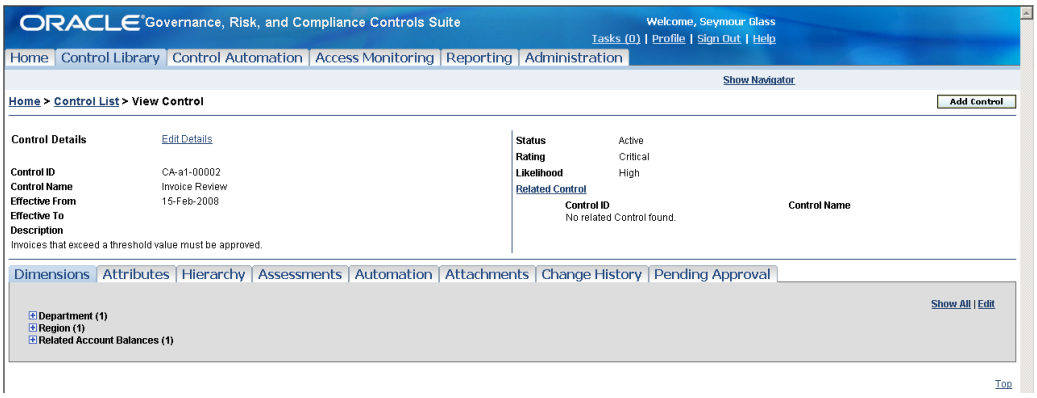


   By default, all the dimension and attribute values are set to take effect immediately and remain in effect indefinitely. To make a change, set a new value in an Effective From or Effective To field (see "Date Fields," page 1-4.)

3. Click on the Next button. A final panel summarizes the selections you've made. If you are dissatisfied with any, click on the Back button until you reach the panel in which that selection is made, change it, and click on the Next button until you return to this summary form. When you are satisfied with your selections, click on the Finish button to complete the creation of the control-library element.

Viewing Control-Library Elements

Once an element is created and approved, you can view the values established for it: Locate its entry on its List panel (see page 5-2), and click on the ID value displayed in that entry. Or use the Library Navigator (see page 5-5). A View form appears:



The white portion of this form presents the basic, descriptive information for an element. Items to the left of a vertical blue line — ID value, name, effective dates, and description — are displayed no matter what type of element has been selected. So is Status (the first item to the right of the vertical blue line), which may be any of the following:

- Submitted: No reviewer has looked at the control-library element.
- Pending: Review has begun, but is incomplete.
- Active: The element is approved and in use.
- Inactive: The element is rejected, or its Effective To date has passed.
- Editing: The element has been modified, and further changes are prohibited until the modified version is reviewed.

Other items (all of which appear to the right of the vertical blue line) apply only to controls, and so appear only if a control has been selected. These include not only rating and likelihood, but also related controls — those that have qualities in common with the control currently on display. When you click on a link for a related control, the View form immediately displays full information for that control.

The gray portion of this form presents tabs you can click to view hierarchy elements, dimensions, or attributes with which the element is associated; assessments of it; automations that can be run from it; a change history; and file attachments. If changes to an element are pending, you can view a list of approvers who have yet to act.

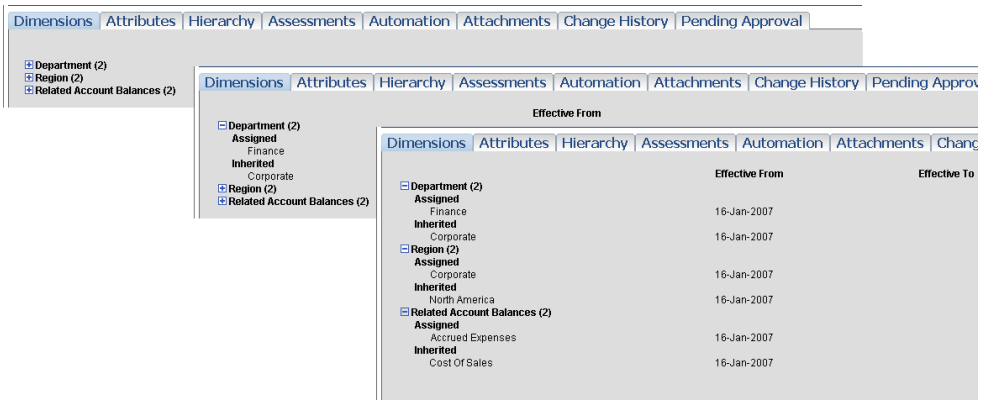
Hierarchy elements, dimensions, or attributes may be directly or indirectly associated with this element:

- The panels display items with which an element has a direct parent-child connection. If you are working with a control objective, for example, its Hierarchy panel shows the controls and subprocesses to which it is directly linked.
- The panels also display "inherited" items — those with which the current element is associated indirectly, through its connection to some other element. The Hierarchy panel for a control objective, for example, shows not only the subprocesses to which it is directly linked, but also processes, policies, cycles, and risks to which the subprocesses are linked. For another example, the Dimensions panel for a control objective displays the dimension values it has been directly assigned, as well as those it inherits from controls with which it is linked.

The Dimensions, Attributes, and Hierarchy panels display the names of dimensions, attributes, or types of hierarchy elements for which values have been selected, together with the number of values selected for each. In each panel, click on a Show All prompt to see the values selected for all the items on the panel. The prompt then changes to read "Hide All"; click on it to restore the original display. Along with each dimension or attribute value, the panel displays its effective dates; it also identifies which values are directly assigned and which are inherited.

You can view values for an individual dimension, attribute, or control-library element. To do so, click on the + icon next to the item. When the values are displayed, the icon changes to a minus sign; click on it to hide the values. Within the Hierarchy panel, if you click on the name of the element type you move to the List panel for that element, and if you click on an individual element you move to its View panel.

For example, a control objective may have values assigned for three dimensions. The Dimensions panel for this control objective initially displays the dimension names (far left in the illustration). Click on the icon next to one of them (such as "Department" in the middle illustration) to display its assigned and inherited values. Or click the Show All button to display values for all the dimensions (far right).



Editing Control-Library Elements

A control-library element can be edited only if it is at the Active or Inactive status. (At other statuses, prior changes are being reviewed, so the element cannot be changed.) When you make changes, the element you've modified is subject to approval, and

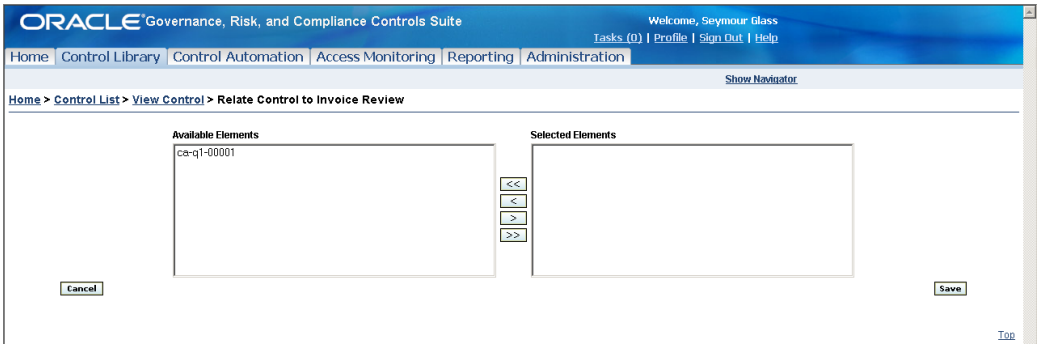
the changes appear only after approval has been granted. You cannot modify an element if workflows are configured so that you would be an approver for it.

To update the descriptive information for any element, open its View form and click on its Edit Details link. This opens a form that presents the ID value for the element in read-only form, and write-enabled fields that display its configured name, effective dates and description, as well as likelihood and rating if the element is a control. Change the write-enabled values as you wish and click on the Save button.

Adding or Removing Related Controls

Related controls apply only at the control level; one control may be related to another in any way your company determines to be meaningful. To add or remove related controls for a given control:

1. Click on the Related Controls link in the View form. A Relate Controls panel appears:

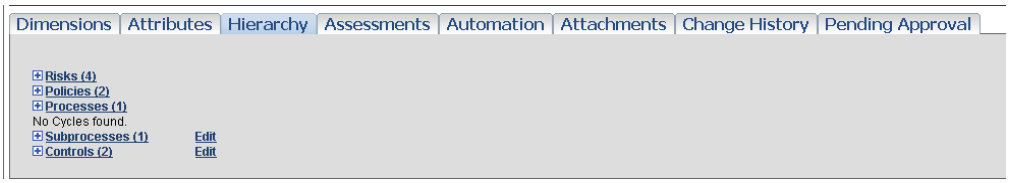


2. Move controls from the Available box to the Selected box to add them, or from Selected to Available to remove them
3. Click on the Save button. The View form reopens.

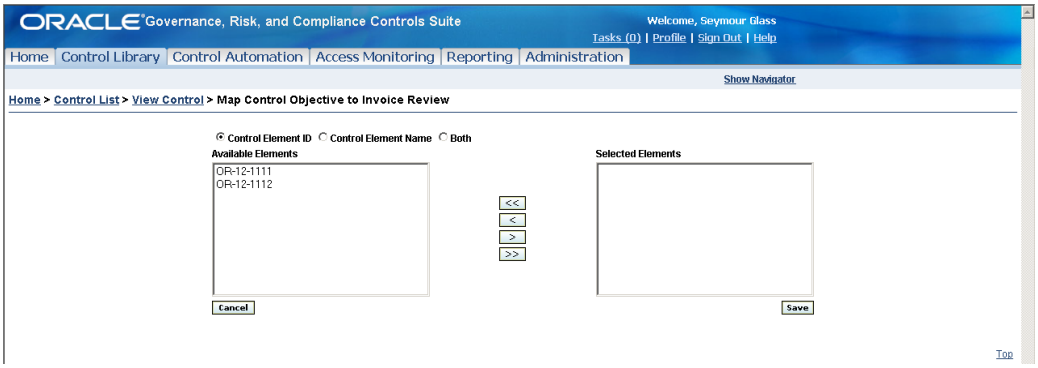
Connecting Elements in the Hierarchy

To modify hierarchy assignments for any element:

1. Open the View form for the element whose configuration you want to change.
2. Click on the Hierarchy tab, and then on an Edit link in the panel activated by the tab. One link is located next to a listing for each element you can select — for example, controls and subprocesses if you are working in the View Control Objective panel.



3. A "Map" form appears (as shown at the top of the next page). In it, move values from an Available box to a Selected box to add them, or from Selected to Available to remove them. You may have this form display ID values, names, or both for the elements you're selecting. Click on the radio button that reflects your choice.

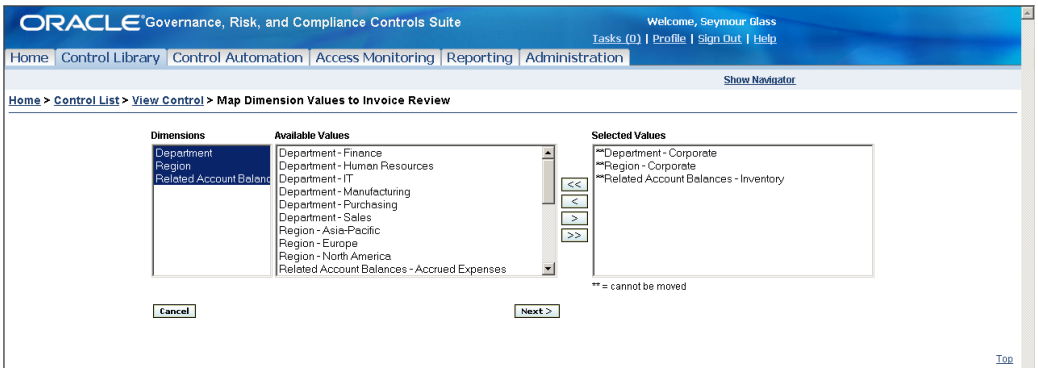


4. Click on the Save button.

Editing Dimension or Attribute Assignments

You can add dimension or attribute values to a control-library element, or inactivate (although not remove) those already assigned. To do so:

1. Open the View form for the element whose configuration you want to change.
2. Click on the Dimensions or Attributes tab, and then click on the Edit link at the right of the panel activated by the tab.
3. A "Map" form appears:



In the Dimensions or Attributes box, select the dimensions or attributes for which you want to add values. Those configured for your selections then appear in the Available Values box. Highlight and send those you want to the Selected Values box.

In this case:

- The > button sends the values you've highlighted, and the >> button sends all displayed values, from the Available Values box to the Selected Values box.
- The < button, which returns selected values from the Selected box to the Available box, works only on those values that have not yet been saved as selected.
- The << button, which should move all values from the Selected box to the Available box, works only if no dimension or attribute values have yet been saved.

4. Click on the Next button. A new form lists all the dimension or attribute values selected for the control so that you can set effective dates for them.

Dates already selected for existing dimension or attribute values remain in force; you can change those set in the future, but not those that have passed. To inactivate a dimension or attribute value, set an expiration date in its Effective To field.

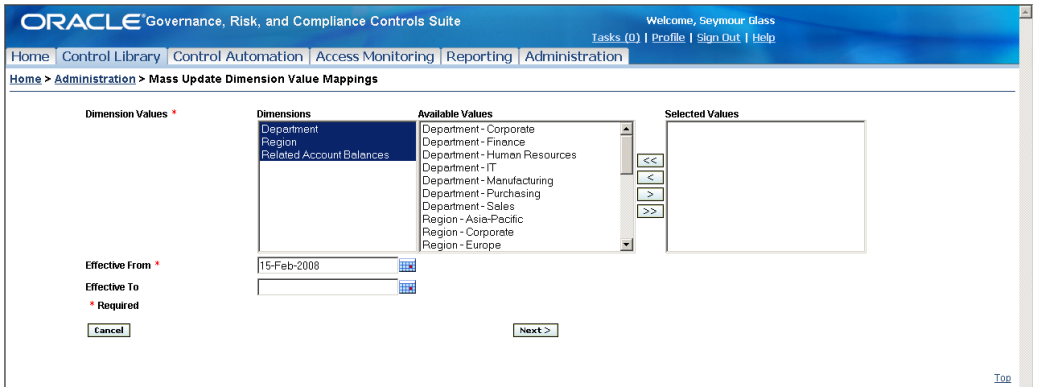
Newly added dimension or attribute values are set to go into effect immediately and continue indefinitely. Accept default values or set new dates. (See "Date Fields," page 1-4.)

5. Click on the Finish button.

Mass Updating Dimension or Attribute Assignments

As you create new dimensions or attributes, or assign new values to existing dimensions or attributes, you may want to use the new values in any number of existing controls. Mass-update features enable you to incorporate new dimension or attribute values in many elements at once, rather than one at a time.

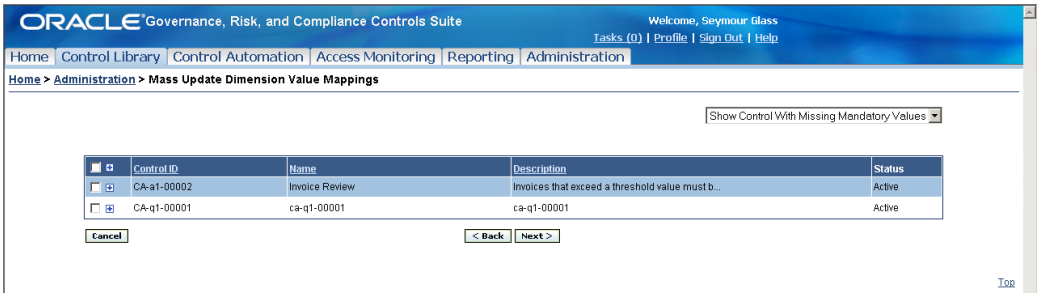
1. When new dimension or attribute values are ready, click on the Administration tab, and then on one of two links in the Control Administration section: Mass Update Dimension Value Mappings or Mass Update Attribute Value Mappings. A mass-update panel like the following one appears:



2. In the leftmost large field — labeled *Dimensions* or *Attributes* depending on your selection in step 1 — choose dimensions or attributes for which you want to add values to controls. Their values then appear in the Available Values field; move the values you want to the Selected Values field.

3. Select starting and ending dates for the dimensions or attributes in the Effective From and Effective To fields, respectively. (See "Date Fields," page 1-4.)

4. Click on the Next button. A second mass-update panel appears:



5. In the list box near the top right corner, select one of two options:

   - Show All Controls causes the panel to list all controls configured for your instance of Transaction Controls Governor.
   - Show Controls with Missing Mandatory Values applies only if, in the first mass-update panel, you selected at least one value that belongs to a dimension or attribute that is configured to be mandatory. If so, the panel lists only controls that have not been assigned a value for that dimension or attribute.

   Each control occupies a row that displays ID, name, a truncated description, and status. To review other details for a control, click on the + icon in its row; or, to see details for all controls in the list, click on the + icon in the header row. This presents the full description, and current dimension and attribute assignments. (Click again on the icon, which now looks like a minus sign, to restore the original display.)

6. Select controls to which you want to assign values. As is always the case, you can update controls only at the Active and Inactive statuses; controls at other statuses, although listed in this panel, cannot be selected.

   To select individual controls, click on the check box in the left column of each of their rows. To select all displayed controls, click on the check box in the left column of the header row. A control is selected when a check mark appears; to take back a selection, click on a check box so that the check mark disappears.

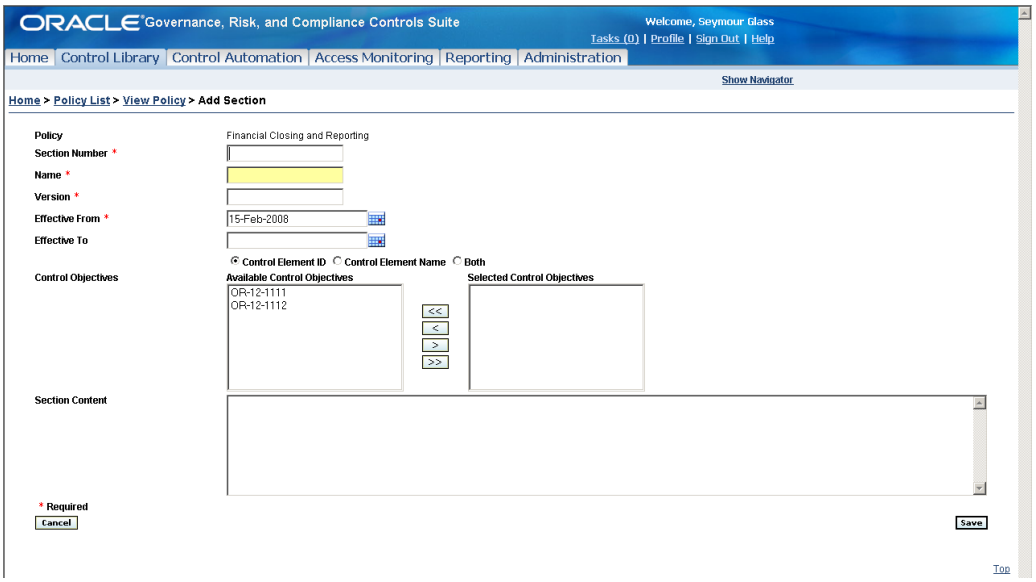
7. When you are satisfied with your selection of controls, click on the Next button. A third mass-update panel displays your selections — the values you want to add and the controls to which you want to add them.

   If you are dissatisfied with any of your selections, click on the Back button until you reach the earlier panel in which that selection was made, change it, and then click on the Next button to return to the summary panel. When you are satisfied with your selections, click on the Finish button to complete the assignment of dimension or attribute values to controls.

Defining Policy Sections

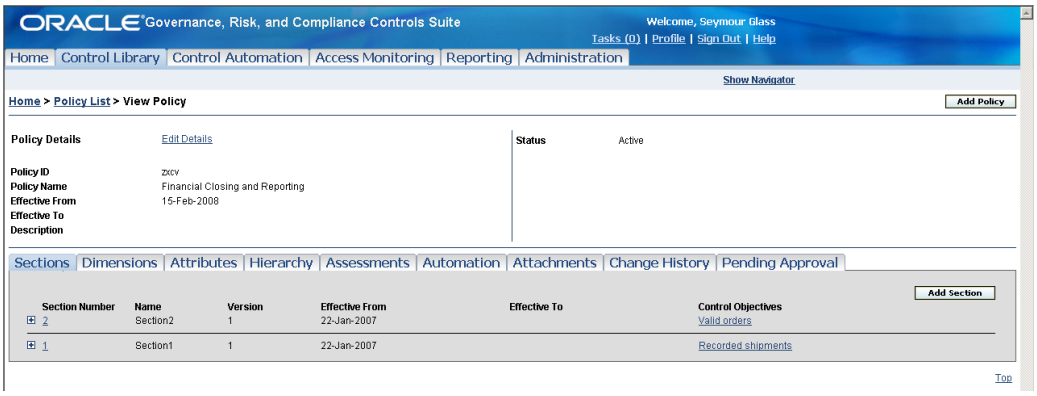
Having created a policy, you can configure sections for it. Each describes a facet of the policy and is addressed by at least one control objective. If you have moved away from the Control Library tab, click on it again, and then complete the following steps:

1. Open the View form for the policy to which you want to add sections.
2. Click on the Sections tab, and then click on the Add Section button at the right of the panel activated by the tab. An Add Section form appears:



3. Complete fields that identify the section: Section Number, Name, and Version. (You are free to create your own conventions for these values.)
4. Select starting and ending dates for the policy section in the Effective From and Effective To fields, respectively. (See “Date Fields,” page 1-4.)
5. Identify one or more control objectives that address issues raised in this section: move objectives from the Available box to the Selected box to add them, or from Selected to Available to remove them.
6. Write a definition of the policy section in the Section Content box.
7. Click on the Save button.

Entries for the sections you define appear in the Sections panel for the policy to which they belong:



With each entry, you can:

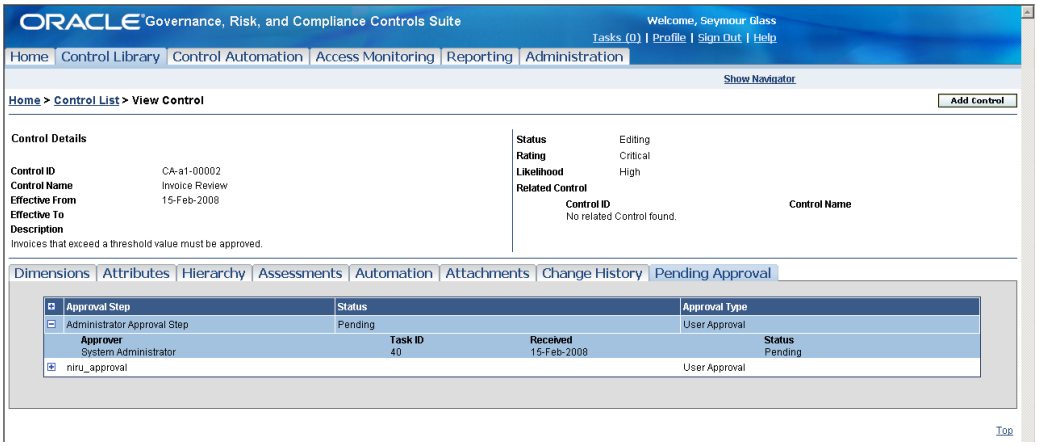
- Click on the plus-sign icon to display the section content with the default information. (The plus sign changes to minus; click on it to hide the section content.)
- Click on the section number to create a new version of (edit) the section. An Edit Section form appears, essentially identical to the Add Section form with its fields displaying current values for the section. Update the version number, make other changes as needed, and click on the Edit Section button. The Section panel includes an entry only for the latest version of each section.
- Click on the name of a control objective associated with a section to move immediately to the View form for that control objective.

Keeping Track of Pending Approvals

When a control-library element is modified, its status changes to Editing and no further modifications can be made to it until the original changes are approved (or rejected). Approvers are determined by the workflows configured for your system.

When a control-library element is at the Editing status, you can view a list of reviewers who have rendered their approval decisions, and those who have yet to do so:

1. Open the View form for the element whose reviewers you wish to identify.
2. Click on the Pending Approval tab:



Each row in the Pending Approval list displays information about one step in the workflow that has distributed the element for review. For a given step, a row always displays the names and email addresses of the reviewers named in the step. For each reviewer, the email address is a link; you may click on it to send an email message to the reviewer. Other fields in each row — Task ID, Received, and Status — are populated only when earlier steps have been completed. The task ID is a number assigned to the approval step by the workflow engine. Received is the date on which reviewers at a given step receive their approval notifications. Status is Pending if the reviewer has not yet taken action, or Approved or Reassigned if he has.

Once all steps have been completed, either because all reviewers have approved or any has rejected, the list of steps is replaced by the message, “No approval details available. This element has already been approved. (Since a rejection decision immediately removes the list of workflow steps, the status field at any of the steps would never read “Rejected.”)

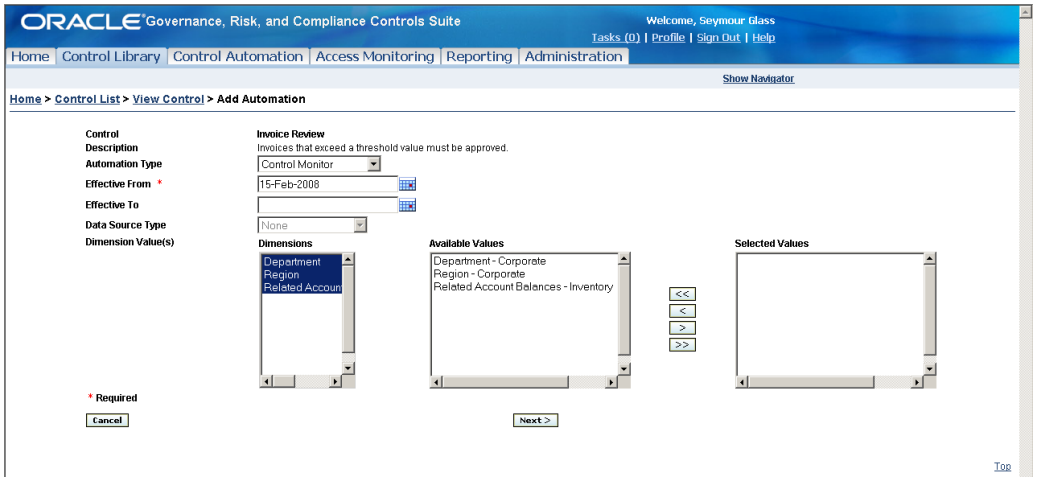
Adding Automations to Controls

A "control" is essentially documentary; an "automation" is a software object that implements the control. Automations include control monitors created in Transaction Controls Governor, or change-control, form, or flow rules created in Preventive Controls Governor.

To run a control monitor, you must add it to a control. The other automations, however, run once they are created in their applications; you would add them to controls only for documentary purposes.

You can add any number of automations to a control. To add one:

1. Open the View form for the control to which you want to add an automation, and click on its Automation tab.
2. Click on the Add Automation button. This opens the first in a series of Add Automation panels, each of which presents a read-only display of configuration choices you have already made, as well as write-enabled fields that permit you to select additional options.



3. In the Automation Type list box, select the type of automation you want to attach to the control.
   - Control Monitor is a monitor created in Transaction Controls Governor.
   - Change Control is a rule written in Preventive Controls Governor.
   - Oracle Flow Rule and Oracle Form Rule are rules that regulate the use of Oracle EBS, written through the use of tools embedded in Oracle EBS.
4. In the Effective From and Effective To fields, select dates on which the association of the automation with the control begins and ends. (See "Date Fields," page 1-4.)
5. If you chose Control Monitor in the Automation Type field, the Data Source Type list box is set to None and cannot be changed. If you chose any other automation type, use the Data Source Type list box to choose a database instance that stores automations from which you want to select.
6. In the Dimension Values area, the Dimensions and Available Values fields display only those dimensions and values that have been selected for the control to which you are attaching an automation. From these, choose dimension values to

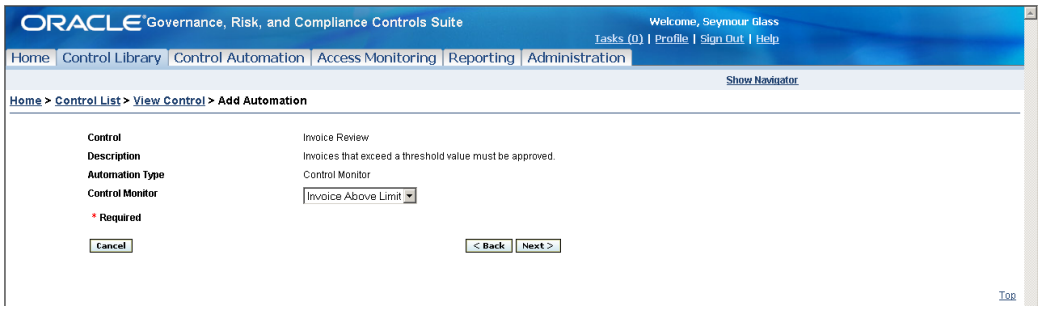
determine the segments of your business environment in which the automation is to be used. (If you make no dimension selections, the automation inherits all the dimension values configured for the control.)

At this point, follow distinct procedures for adding distinct automation types.

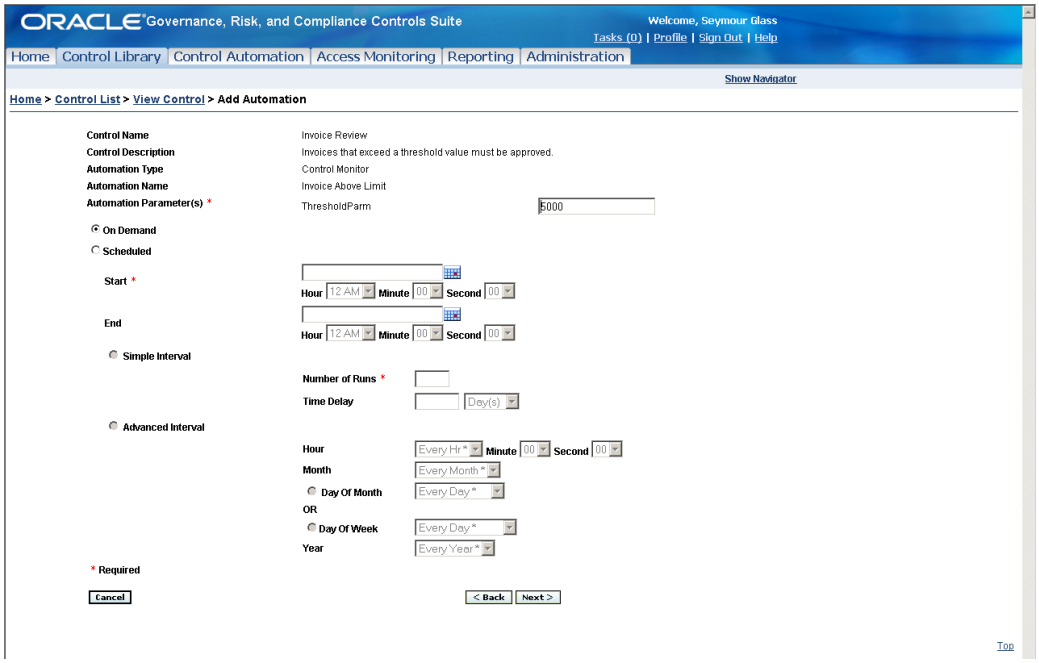
Control Monitor Automations

To add a control monitor as an automation for a control:

1. By default, Control Monitor should be selected in the Automation Type list box on the first Add Automation panel, and the None box should be selected in the Data Type list box. After confirming this is the case and making the selections you want in the date and dimension fields, click on the Next button.
2. In a second Add Automation panel, select the control monitor you want from a Control Monitor list box. In the following illustration, for example, the selected control monitor is called Invoice Above Limit.



3. Click on the Next button. A third Add Automation panel appears:



4. For each Numeric or Character parameter configured for the control monitor you selected in step 2, this Add Automation panel presents a field labeled with the parameter name and set to its default value. Accept the default or enter a new value. (In the illustrated example, the Invoice Above Limit control monitor takes one parameter, which sets a threshold value above which invoices are reviewed.)

5. Configure or turn off scheduling options.

   Select the On Demand radio button to turn off scheduling; in this case the control monitor can only be run manually from the Automations panel. Or select the Scheduled radio button to set a schedule on which the control monitor runs automatically; in this case, it can also be run manually from the Automations panel.

   If you select the Scheduled button, use the Start and End sets of fields to establish the period during which the control monitor should run:

   a. In the Start and End fields, enter dates on which the monitor should begin and finish running. (See "Date Fields," page 1-4.)

   b. For each date, select values in the Hour, Minute, and Second list boxes to set the precise time when the monitor should become active or cease being active.

   Next, define the interval at which the monitor runs within the start and end dates you've set. To do so, use simple or advanced options; to activate one or the other, click on the Simple Interval or Advanced Interval radio button.

   Note that the schedule you set is not validated. As you define either a simple or an advanced interval, you can configure a recurrence cycle entirely outside of the active period defined by the Start and End fields. Be sure that your schedule makes sense.

   If you select Simple Interval, configure the cycle on which the control monitor is to run:

   a. In the Number of Runs box, type the number of times the control monitor should run.

   b. In the two Time Delay boxes, set the period between each running of the monitor — the first box accepts a number and the second enables you to select a unit of time (days or hours).

      You could, for example, use the Start and End sets of fields to define a 24-hour time span, and then cause the monitor to run once every other hour by typing 12 in the Number of Runs field and selecting 2 hours in the Time Delay field.

   If, instead, you select Advanced Interval, determine when and how often the control monitor runs. Each field in this section sets a unit of time; by default, most read "Every," but Minute and Second are set to zero, so that the monitor would run every hour on the hour. As you modify the defaults, work from small units of time to large, in effect defining a time and a date at which the monitor recommences running.

If you were to set Second to 30, for example, the monitor would run once per hour at 30 seconds after the hour. If you were then to set Minute to 15, the monitor would run every hour at 15 minutes and 30 seconds after the hour. If you were then to set Hour to, say, 3 PM, the monitor would run once per day at 15 minutes and 30 seconds after 3 PM.

You might then select a value for Month. By default, the monitor would run every day during the month you select (at the time set in the Hours, Minutes, and Seconds fields). However, you have two options for specifying days within the month. You can select either of the following:

- The Day Of Month radio button, and then a specific date (or the last day or last weekday of the month). The monitor would then run on the date of the month you selected (at the time set in the Hours, Minutes, and Seconds fields).
- The Day Of Week radio button, and then a specific day or a "Last" day (such as Last Monday). The monitor would then run each selected day during the month, or the last selected day during the month (once again, at the time set in the Hours, Minutes, and Seconds fields).

Finally, if you select a year value, the monitor runs at the configured days and time only during the selected year.

6. Click on the Next button. A final panel summarizes your selections. You can click on the Back button until you reach the panel in which a selection is made, change it, and then click on the Next button until you return to this summary panel. When you are satisfied with your selections, click on the Finish button.

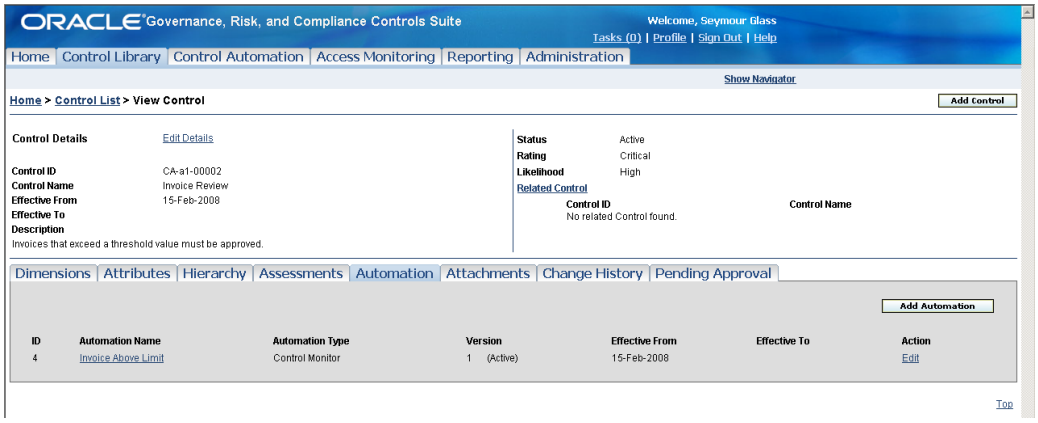
Other Automations

If you are adding a form, flow, or change-control rule as an automation:

1. Make the selections you want in the initial Add Automation panel (as documented on page 5-18). These include Oracle Flow Rule, Oracle Form Rule, or Change Control in the Automation Type field and a database instance in the Data Source Type field. Then click on the Next button.
2. If you selected Change Control, this step does not apply; skip to step 3. If you selected Oracle Flow Rule or Oracle Form rule, a second Add Automation panel presents a Library list box, which displays the names of libraries available on the database instance you selected in the initial Add Automation panel. Libraries are "containers" for rules and are configured in Form Rules or Flow Rules. Select the name of the library containing the rule you want as an automation, or select All Libraries. Then click on the Next button.
3. In another Add Automation panel, a list box displays the names of rules from which you can select. These are or change-control rules on the database instance you've chosen, or form or flow rules in the library you've chosen. Click on one of them, and then click on the Next button.
4. A summary panel displays the selections you have made. Click on the Back button if you wish to alter your selections, or click on the Finish button to complete the addition of the automation.

Viewing, Editing, and Running Automations

When you add an automation to a control, an entry for it appears on the Automations panel of the View form for that control. (Higher-level elements in the control library inherit automations from the controls with which they are linked. So entries for the automation appear also in the Automations panels of any linked higher-level elements.)



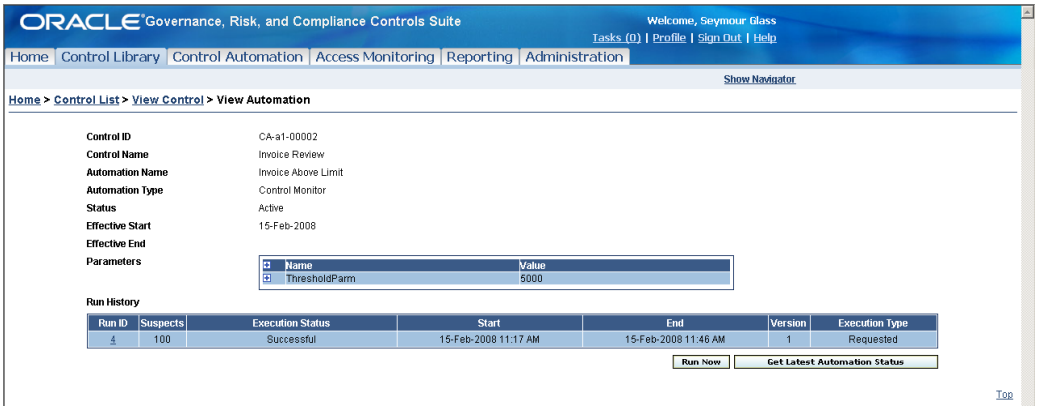
In addition to automation name, type, and effective dates, each entry (for any type of automation) displays an Edit link in an Action column. It enables you to edit some of the details by which the automation is attached to the control:

- Click on the link to open a series of Edit Automation panels. These are effectively copies of the Add Automation panels, except that they display the values already set for the automation.
- Work your way through the panels as you did the Add Automation panels, clicking on the Next button in each until you reach a final panel in which you click on a Finish button.
- As you do, however, you can change only some of the configured values. For a control monitor, these include the effective dates, parameter values, and scheduling details; for any other automation, you can change only the effective dates.

If the automation is a control monitor, its entry on the Automation panel provides features not available to the other automation types. First, a Version field in its listing displays the version number of the control monitor, as well as the status of that version. If a version of a control monitor is attached to a control, and you inactivate it by activating a new version, the newly active version of the monitor is attached automatically to the control.

Second, the automation name is a link to a View Automation panel (shown at the top of the next page). Click on the name to view more detailed information about the control monitor, including the current settings of its parameters and a history of its use. From the View Automation panel, you can also run the control monitor manually.

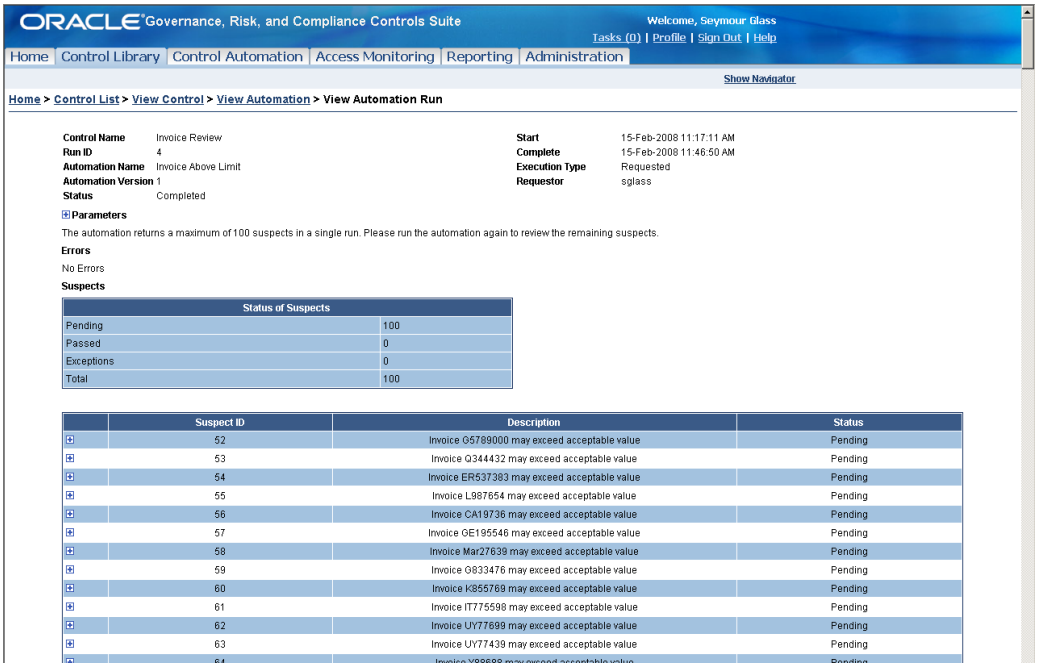
To view the description configured for a control-monitor parameter, click on the + icon at the left of its entry in the parameters grid. Or, to view descriptions for all the parameters for which descriptions have been written, click on the + icon in the header row. Each icon, when clicked turns to a minus sign; click on these to hide descriptions once again.



To run a control monitor, click on the Run Now button. Each time you do, and each time the control monitor runs on a schedule, a new set of suspects is generated. When you click on the Get Latest Automation Status button, a Run History grid is updated. In it, each row displays information about a run of the control monitor, including:

- A number that uniquely identifies the run.
- The number of suspects that the run has generated.
- The execution status, which indicates whether the control monitor is running or has finished, and if the latter, whether the run was successful or generated errors.
- The dates and times on which the control monitor run starts and ends. (The End field is populated only when the Execution Status field indicates completion.)
- The version number of the control monitor.
- An "execution type" — either "Requested" (a user clicked the Run Now button) or "Scheduled" (the control monitor ran according to a schedule set up while the monitor was added to the control as an automation).

If you click on a run ID, a View Automation Run panel displays detailed information about the execution of the control monitor:



This information includes:

- The name of the automation and the control from which it has been run.
- The run ID, start date and time, completion date and time, and status.
- The execution type and ID of the user to ran the automation.

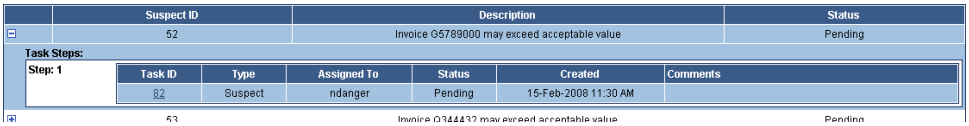
To view dimensions selected for the control monitor (which determine the segments of your business environment in which the control monitor is used), click on the + icon next to the Dimension label. To view parameter values used in the run, click on the + icon next to the Parameters label. The panel also displays any errors generated during the automation run.

The panel provides a list of suspect tasks generated by the control monitor and forwarded to reviewers at the Task Inbox, as well as a grid showing status of these tasks. As reviewers pass judgment on the tasks, the status totals are automatically updated in the Suspects grid in this panel:

- Passed means that a suspect condition is allowed to stand.
- Exception means that a suspect condition must be remedied.
- Pending means that no decision has been reached.

Moreover, you can click on a + icon in the entry for an individual suspect to display the state of its review. Each pop-up display lists steps in the workflow routing under which the suspect is being reviewed. For each step, it lists reviewers, the actions they have taken, and any comments they have made.

In the following illustration, for example, the workflow routing consists of a single step that sends suspects to a reviewer named “ndanger.” In this case the user has not yet reviewed the suspect task.

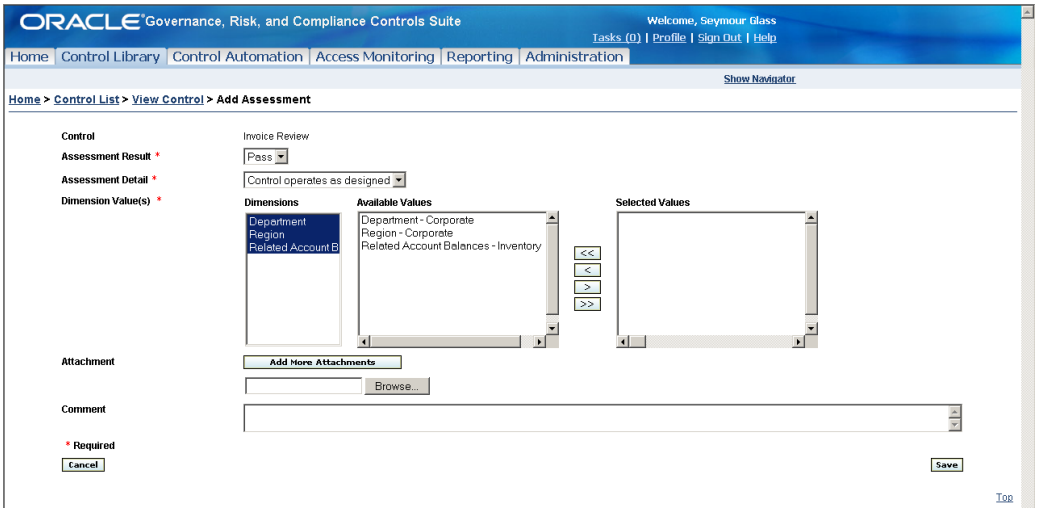


From here, you can click on a task ID to view details of the actions taken by a given user. A replica appears of the Suspect Details panel in the Task Inbox, but the buttons one needs to make an actual status assignment are removed. (Click on its Back button to return to the View Automation Run form.) Note also that when you click the + icon, it changes to display a minus sign; click on that icon to restore the original display of the View Automation Run form.

Assessing Control-Library Elements

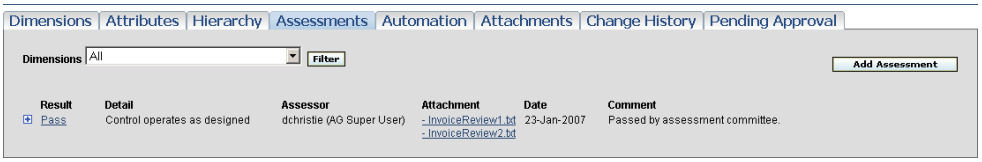
To assess the effectiveness of control-library elements:

1. Open the View panel for the element you want to assess.
2. In the View panel, click on the Assessments tab, then on the Add Assessment button. In an Add Assessment form (shown at the top of the next page), a field displays the name of the element you are assessing; it’s filled automatically, and you cannot change its value.



3. In the Assessment Result list box, select the value *Pass* or *Fail*.
4. In the Assessment Detail list box, select one of several statements that rate the extent to which an element satisfies its purpose. (These statements in effect form a range of evaluations from most to least satisfactory.)
5. The Dimension Values area lists all of the dimension values with which an element is associated, either directly or indirectly. Select at least one of them to specify the segment of your business to which the assessment applies.
6. Optionally, attach one or more documents that explain the reasoning behind the assessment you've made. In the field next to the Browse button, type the path and file name of a document file. Or, click on the Browse button and, in a Choose File dialog box, use standard Windows techniques to navigate to the file. To attach an additional file, click on the Add More Attachments button, which inserts another Browse field, and use that field to repeat the process.
7. In the comment box, type a comment about the assessment.
8. Click on the Save button.

When you complete the assessment, the Assessments tab displays details about it (and would display a similar row of data for each prior assessment).



As you review assessments, you can do the following:

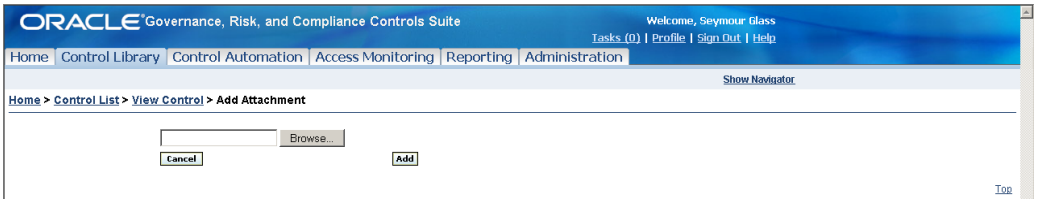
- Filter the list of assessments. In the Dimension list box, select a dimension. The Assessments panel then lists only assessments that set a value for the dimension (see step 5, above). Or select All to view entries for all assessments.
- Click on the plus-sign icon to display the dimension values selected for the assessment. When you do, the icon changes to a minus sign; click on it to restore the original display.

- Click on the name of an attached file to open the file.
- Click on the Result entry (*Pass* or *Fail*) to open an Edit Assessment panel — a copy of the Add Assessment panel in which the fields display the values selected for the assessment. You can alter the settings, download (either open or save) an attached file or delete it, and resave the assessment.

Attaching Documents to Control-Library Elements

To each control-library element, you can attach files that document the element more fully than the description you write as you create it. First, use a text editor, word processor, or similar application to prepare the files. Then:

1. Open the View panel for the element to which you want to attach documents.
2. Click on the Attachments tab, and then on Add Attachment button located at the right of the panel activated by the tab. The following Add Attachment panel appears:



3. Click on the Browse button.
4. A Choose File dialog opens. Using standard Windows procedures, navigate to the file you want, click on its name, and then click on the Open button.
5. The path to the file you've selected appears in the text box next to the Browse button, and a second text box and browse button appear beneath the first. If you wish, select a another file to add. Each time you select a file, another text box and browse button appear; continue adding as many files as you like.
6. When you have selected all the files you want, click on the Add button.

The View screen for element reappears, and its Attachments panel displays a row for each document you've added:

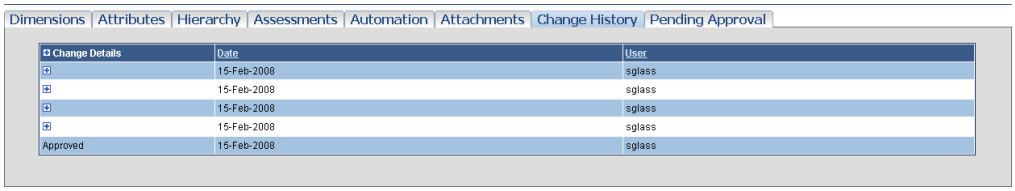
As you review the attachments, you can:

- Open and read them. Click on the Download link in the row for an attachment. A File Download dialog appears; click on its Open button.
- Delete them. Click on an Delete link in the row for an attachment. Deletion of the attachment requires no confirmation. (The attached document continues to exist; it's the attachment to the control-library element that is deleted.)

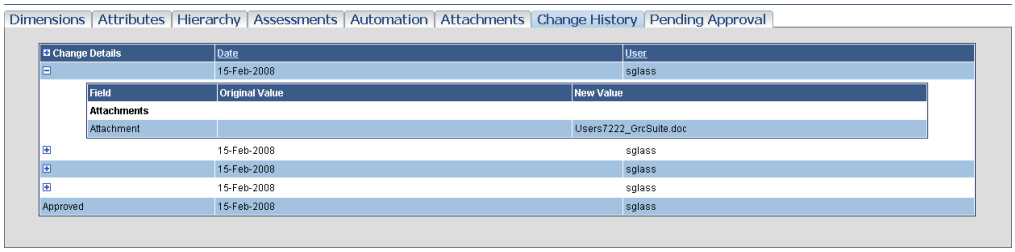
Reviewing Changes to Control-Library Elements

You can view a history of the changes made to each control-library element:

1. Open the View panel for the element for which you want to view history.
2. Click on the Change History tab. A Change History panel displays a row for each time changes were saved for the element. Each row shows the date on which changes were saved, and identifies the user who made the changes:



3. The last row in the grid documents the creation of the element; it's read-only, and it displays a static value, "Approved," in a Change Details Column. (Despite the label, this row displays the name of the user who created the element, not of the user who approved it.)
4. Each subsequent row documents a change, which may in fact involve modifications to several related fields, all of which were saved at once. To view details about such modifications, click on the + icon in the Change Details column for one of these rows. An inset grid appears, displaying the old and new values for each modified field associated with the row you selected:



5. Click on the + icon in other rows (or on the + icon in the header row) to view old and new values for changes saved at other moments. Each of the icons changes to display a minus sign; click on minus icons for individual entries to close their inset, detail grids, or click on the minus icon in the header row to close all the inset grids.

6

Access Monitoring

Access Monitoring enables Transaction Controls Governor users to request temporary access to database tables or to Oracle responsibilities. A user may request access for himself or for others, and the person for whom rights are requested need not have an existing user account either in Oracle E-Business Suite or in Transaction Controls Governor. Each request specifies not only a person and the objects that may be assigned to him, but also dates on which the assignment is to begin and end, a temporary logon ID that is to provide access specifically to the requested objects, and a reason why access is sought.

Requests must be approved. Transaction Controls Goernor provides workflows that route requests to approvers, as well as a Task Inbox at which approvers receive the requests and respond to them. A user is prevented from creating a request if workflows are configured so that he is an approver for the request.

Upon approval of a request, the user who receives temporary access also receives an email message informing him of the rights he has been newly assigned, the dates on which the assignment begins and ends, and his temporary logon ID. If access has been granted to an Oracle responsibility, the message includes a logon password (which is generated by Transaction Controls Governor). If access has been granted to database tables, the message directs the user to consult his database administrator for a logon password. The requester also receives a confirming email message. Once granted, access is continually audited, and an Access Monitoring User Activity Report presents the audit results.

Before any requests can be made, however, some setup steps must be completed:

- Database tables must be audit-enabled, regardless of whether they are to be accessed directly or through a responsibility. A set of tables is typically audit-enabled during system installation. Moreover within Oracle EBS a user can open an Access Monitoring Content form to view tables (and columns) that are already audit-enabled, and add to them.
- Database user IDs must be created. Access Monitoring maintains a set of 30 IDs for responsibility-access requests; as each user's access expires, his ID can be reused. However, a distinct set of IDs applies to database-table access, and a database administrator must create these database user IDs.
- Workflows must be configured to route access requests to approvers. For instructions on configuring them, see Chapter 4, "Control Monitors and Work-

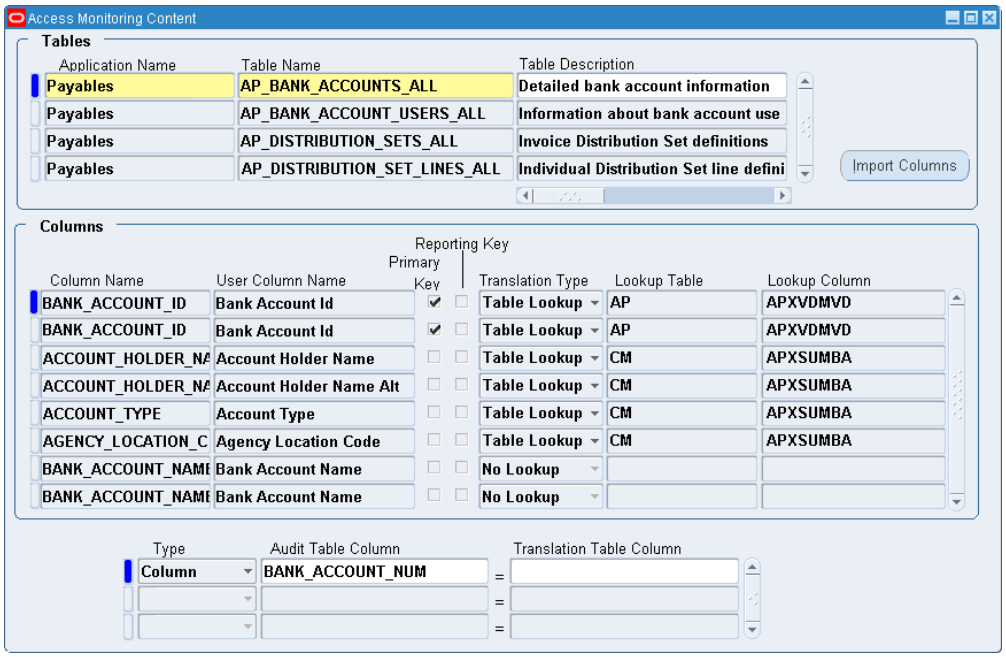
flows." As you review this information, note that the E-Business User ID Requested event pertains to the review of responsibility access requests, the DB User ID Requested event applies to the review of database access requests, and the Request SQL Created event is not used.

Preparing Tables for Auditing

When a user requests access, he is able to select only among tables that are enabled for auditing, or responsibilities supported by audit-enabled tables. Even within audit-enabled tables, access can be granted only to specified columns (although for each, translation values — corresponding columns in a lookup table — may be specified).

Selecting Audit Tables and Columns

To add to the selection of tables, columns, and translations available for access requests, open your instance of Oracle E-Business Suite and select the GRC Controls responsibility. From the available applications, select Access Monitoring option (under the Transaction Control Governor heading). An Access Monitoring Content form appears:



In it, select a table.

If you know a table is already audit-enabled (and you want to edit or add to the audit columns selected for it), use the Oracle query feature to load its record in the Tables block. Doing so also loads entries in the Columns block for columns in the table that have been selected for auditing. Or, you can query on an application to load records for audit-enabled tables associated with it, and click in a row to select a particular table.

If a table is not yet audit-enabled:

1. In a blank row of the Tables block, select an application in the Application Name list of values (LOV).
2. The Table Name LOV can now display only tables that support the application you've chosen. Select one of them. Not only does the Table Name field display your selection, but the Table Description field also displays the description configured for it.
3. Optionally, use the scroll bar located beneath the Table Description field to scroll to the right and enter values in additional fields:
   - Form Name: Enter the internal name for the form supported by the table you selected. (For example, APXVDMVD is the internal name for the Enter Vendors form.)
   - User Form Name: This field automatically displays the external name for the form whose internal name you selected. You cannot enter a value directly in this field.
   - Block Name: Enter the internal name for the block that both exists on the form you selected and is supported by the table you selected.

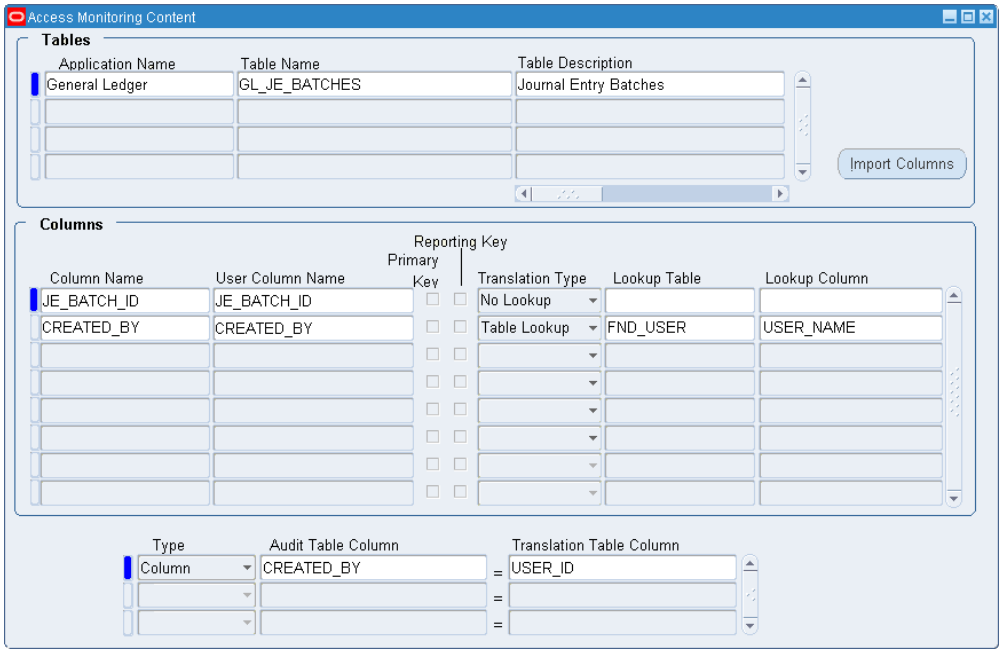
Next, choose the columns you want to audit.

1. Click on the Import Columns button, and a Columns for Audit form appears.
2. Select the columns individually or collectively:
   - In the Available Columns box, click on the name of a column you want to audit. Then click on the right-pointing single-arrow button to move it to the Selected Columns box. Repeat for each column you want.
   - Alternatively, click on the right-pointing double-arrow button to move all columns to the Selected Columns box.
   - Alternatively, click on the right-pointing double-arrow button to move all columns to the Selected Columns box.
3. When you are satisfied with your selection, click on the Done button. For each column you selected, a row appears in the Columns block of the Access Monitoring Content form. The Column Name field shows the internal name, and the User Column Name field shows the external name, for the column. If the column is a primary key, the Primary Key check box is selected.

Setting Up Translations

You can link audited columns to translations — meaningful values that correspond to the values held in audited tables. For example, a person's actual name might be the translation value when an audited table column holds a numeric ID for the person.

If you want the Access Monitoring User Activity Report to display actual values from an audited column, select No Lookup in its Translation Type LOV in the Access Monitoring Content form. (In the example illustrated at the top of the next page, this setting has been configured for a JE_BATCH_ID column.)



If, however, you want the report to display a translation value for an audited column, join it to a corresponding column in a lookup table. Typically, you would specify a linkage among three columns:

- The first is the column that contains an audited value. In the example illustrated above, this is CREATED_BY in the GL_JE_BATCHES table.
- The second is a lookup-table column that contains an identifying value — the same value as in the audited table. In the example illustrated above, this is USER_ID in the FND_USR table.
- The last is a column in the lookup table that contains the translation value. In the example illustrated above, this is USER_NAME in the FND_USR table.

To set up this linkage:

1. In the Translation Type LOV, select Table Lookup.
2. In the Lookup Table field, select the name of the lookup table you want.
3. In the Lookup Column field, select the name of the lookup-table column that contains translation values for the audited column.
4. Move to the lower grid and, in the Type LOV, select the value Column.
5. In the Audit Table Column field, select once again the column from the audited table that contains the audited value.
6. In the Translation Table Column field, select the lookup-table column that contains the identifying value.

In the lower grid, you can complete as many rows as you like to create a translation value as complex as you like. The rows have an AND relationship — all must be true for a value to be returned.

Saving Your Work

Once you've finished selecting columns and defining translation values, save the new configuration: click on File in the menu bar, then on Save in the File menu. Or, click on the Save icon, located first on the left in the toolbar.

Creating Database IDs

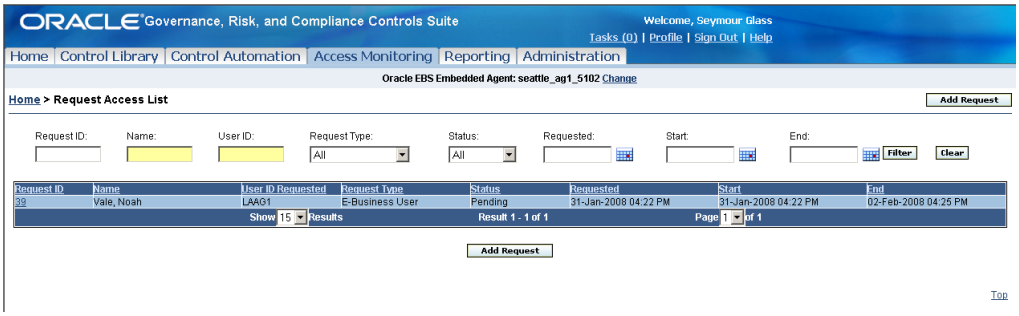
Before direct access to database tables can be requested, database administrators must create database IDs to be assigned to users who receive access. Each of these user IDs must begin with the letters *LAAG*. Although they may otherwise follow any format, the recommended format is *LAAGDBx*, where *x* is a unique number.

After the IDs are created, a concurrent request, called Access Monitor — DB Users Synchronization Process, must be run in the GRC Controls responsibility of Oracle E-Business Suite; this enables Access Monitoring to recognize the IDs and display them so that they are available for selection. The request takes no parameters.

Note that three other concurrent requests apply to Access Monitoring. One, called Access Monitor — Content Load, is intended for use by Professional Services. The other two, called Access Monitor — Cleanup Process and Access Monitor — Create User, are used in the background by Access Monitoring. None of these three concurrent requests should be run by end-users.

Displaying a List of Access Requests

To start Access Monitoring within the Transaction Controls Governor platform, click on the Access Monitoring tab. A Request Access List panel displays summary descriptions of all requests that have ever been made. Each entry includes an ID number assigned to the request, the name and temporary ID of the user for whom access was requested, and the type of access — "E-Business User" is a request for access to an Oracle responsibility, and "DB User" is a request for access to database tables. The panel further presents the date on which the request was made, as well as the dates on which the user's access is proposed to start and end. Finally, it displays the status of the request — Pending, Approved, or Rejected.



From this panel, you can create a new request or view the details of an existing request.

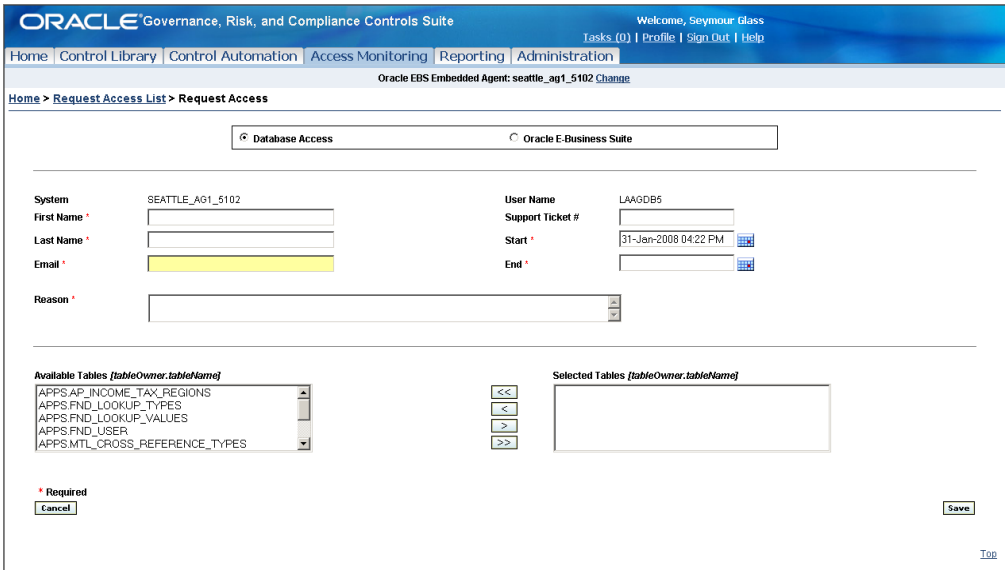
Creating a New Request

To create a new access request, click on either of two Add Request buttons in the List panel. A Request Access panel appears.

Starting the Request

Begin to create the request by identifying the user, dates, and database instance for which access rights are requested, and the type of request you want to make:

1. If you want to request access to database tables, click on the Database Access radio button. To request access to Oracle responsibilities, click on the Oracle E-Business Suite radio button.



2. Your request applies to the database instance to which you are logged on, and the System field displays the name of the instance. You cannot change this field value directly. If you want to request access to another database instance, use the Change link (at the upper middle of the panel) to log on to that instance.
3. In the First Name and Last Name fields, enter the given name and surname of the user for whom you are requesting access.
4. In the Email field, enter the email address of the user for whom you are requesting access. This is the address at which the user is notified of his new access rights, logon ID, and password. (Your own confirming email message goes to the address configured for you in the Add User panel of the Governance Risk and Compliance Controls Suite.)
5. The Support Ticket # field is for use if you are requesting access in response to a notification from an issue-tracking system. If so, enter the number assigned to the issue in the tracking system. (Any format is acceptable.) If not, leave the field blank.
6. The Start field displays the date and time at which you create the request, and the End field is blank. If you want the user to receive access immediately upon approval of the request, retain the default Start value; otherwise specify a later date and time. The access you are requesting is necessarily temporary, so you

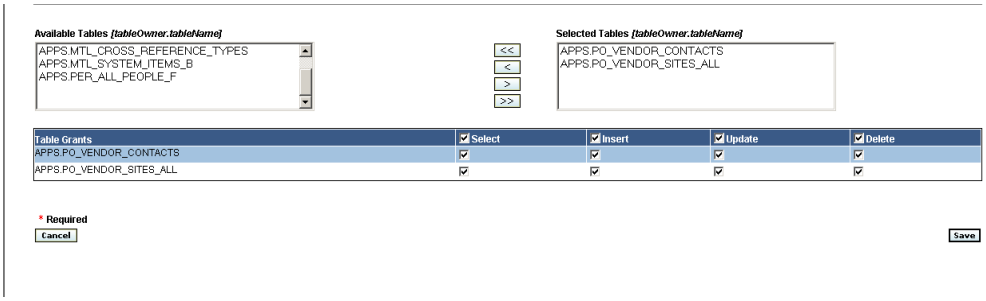
must supply an End date and time. The default Start value is read from the Oracle E-Business Suite server to which you are requesting access, and values you enter should be appropriate to that server.

You can insert a date and time manually in either field (use the format *DD-Mon-YYYY HH:MM AM/PM*). Alternatively, you can click on the icon next to either field, and a pop-up calendar appears. In it, click on the < or > symbol surrounding a month name or year to display an earlier or later month or year; then, in the calendar, click on the date you want. The pop-up window closes, and the date you selected appears in the field, together with the time of day at the moment you select the date. You can edit the time.

7. In the Reason field, type an explanation for the user's being given the access you've requested.

Completing a Request for Database-Table Access

If you selected the Database Access radio button as you started the request, the User Name field displays an unused logon ID, selected from those your DBA has created for database access; you cannot change it. In the bottom portion of the panel, the Available Tables and Selected Tables fields are active, with the Available Tables field listing those tables that have been audit-enabled.



Complete the following steps:

1. Select tables by moving them from the Available Tables field to the Selected Tables field:

   - Highlight tables you intend to select. Click on a table to highlight it. Or, to highlight a continuous group of tables, click on the first one, hold down the Shift key, and click on the last one. To highlight a discontinuous group, hold the Ctrl key as you click on tables.
   - Click on the > button to move highlighted tables from the Available field to the Selected field. Or, click on the >> button to send all values in the Available field (regardless of whether you've highlighted them first) to the Selected field.
   - If you reconsider, click on the < button to return highlighted values from the Selected field to the Available field. Or, click on the << button to return all values in the Selected field to the Available field.

2. When you select a table, a Table Grants grid appears; it generates a row for each table you select. For each table, select the check boxes corresponding to the privileges you want to assign — Select, Insert, Update, and Delete. Or choose

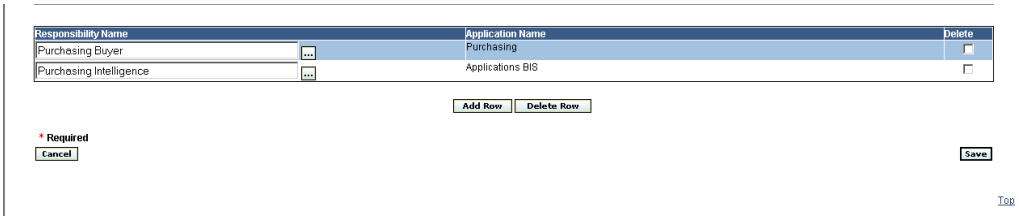
any of these privileges for all tables by selecting its check box in the header row of the grid.

3. Click on the Save button. A pop-up window prompts to submit the request. Click on the OK button. The request is submitted, and the Request Access List panel is restored, with a new entry for the request you've made.

Completing a Request for Responsibility Access

If you selected the Oracle E-Business Suite radio button as you started the request, the User Name field displays an unused logon ID, selected from those provided by Oracle for responsibility access; you cannot change it.

A Responsibility grid appears at the bottom of the panel, initially displaying only a header row (and the fields pertaining to database tables disappear).



In this grid, you can request access to any number of responsibilities. Complete the following steps:

1. For each responsibility you want to select, click on the Add Row button.
2. In each row that you add, the Responsibility Name field is a list of values. In each, select a responsibility. In each row, Access Monitoring automatically populates the Application Name field with the application to which the selected responsibility belongs; you cannot change this value.
3. If you have selected responsibilities you do not want to request for the user, or you have created more rows that you need, select the Delete check box in the rows you no longer want, and then click on the Delete Row button.
4. Click on the Save button when you are satisfied with your selection. A pop-up window prompts you to submit the request; click on its OK button. The request is submitted, and the Request Access List panel is restored, with a new entry for your request.

Viewing Requests

From the Request Access List panel, you can select an existing request to view the values selected for it as it was configured and its current status. However, you cannot delete requests from the List panel. To manage long lists of requests, you can limit the contents of the List panel to entries that satisfy filtering criteria:

1. Specify filtering criteria by entering complementary values in any combination of the fields that run horizontally above the list of requests:
   - Request ID: Enter a number to see the request for which that number is the request ID assigned by Access Monitoring.

- Name: Enter the first or last name of a user for whom access has been requested to see entries pertaining to that user, or enter a text fragment to see entries that apply to all users whose names contain the fragment.
- User ID: Enter one of the temporary responsibility or database-table logon IDs to see requests assigning that ID to a user. (Responsibility-access user IDs use the format *LAAGx*, where *x* is a number; database-table-access user IDs start with *LAAG*, but otherwise follow a format specified at your site.)
- Request Type: Select the value E-Business User to see requests for responsibility access, DB User to see requests for database-table access, or All to see all requests. (Do not select the value Execute SQL.)
- Status: Select a status to see requests at that status, or All to see requests at all statuses. Options include Approved (requests that have been approved), Rejected (requests that have been rejected), Pending (requests for which no approval decision has yet been made), and Failed (requests that have been approved, but for which some processing error has occurred).
- Requested: Enter a date to see all requests created on that date.
- Start: Enter a date to see all requests for which this is the proposed start date.
- End: Enter a date to see all requests for which this is the proposed end date.

The three date filter fields display time of day as well as date, but the time is not significant. When you execute the filter, the panel displays all requests created on the selected date, or for which the date is the start or end date. As before, you can enter a date manually or select it from a pop-up window.

2. When you finish specifying filtering criteria, click on the Filter button.

To discard filtering criteria and redisplay all access requests, click on the Clear button.

Having filtered the list, select a request by clicking on the name of the user for whom access is requested. The following View Request Access panel opens. This panel is read-only; you cannot change any of the values for a request after it's been submitted. After reviewing details, click on the Request Access List link in the bread-crumbs trail, or on the Cancel button, to return to the Request Access List panel.

7

Reviewing Items in the Task Inbox

In the Task Inbox, users receive requests to review three types of item:

- Suspects generated by control monitors.
- Control Library elements, as they are created or modified. When a new element is created, it does not appear in its List panel until it is approved. When an existing element is modified, further modifications are not possible until the original modifications are reviewed.
- Requests, made through the Access Monitoring feature of Transaction Controls Governor, to give users access to duties they do not ordinarily perform. A user cannot assume the new duties until his request is approved.

The Task Inbox uses eight panels to list items for review. Most provide access to additional panels in which the actual review takes place. Each displays a selection of items tailored to the user currently logged on:

- Task List panels present items that have been created, modified, or reviewed by users other than the current one. As a result, the current user can pass judgment upon these items.

  There are four Task List panels, one that lists all of a user's tasks regardless of type, and one each for suspects, approvals (the review of control-library elements or access requests), and notifications (the review of other users' dispositions of approval tasks or suspect tasks). Each user receives task messages that apply only to items she is authorized to review; that authorization is determined by the configuration of workflow routings and definitions.
- Task History List panels present records of decisions the current user has made in the Task List panels. There is one panel each for suspect-task history, approval-task history, and notification-task history.
- A List User Requests panel presents records of control-library elements, access requests, or suspects created or modified by the current user. Because a user approving her own work would constitute a conflict, these items are read-only.

Moreover, each user can configure an Out of Office Assistant. If the user is unavailable, this feature directs review requests to another specified user.

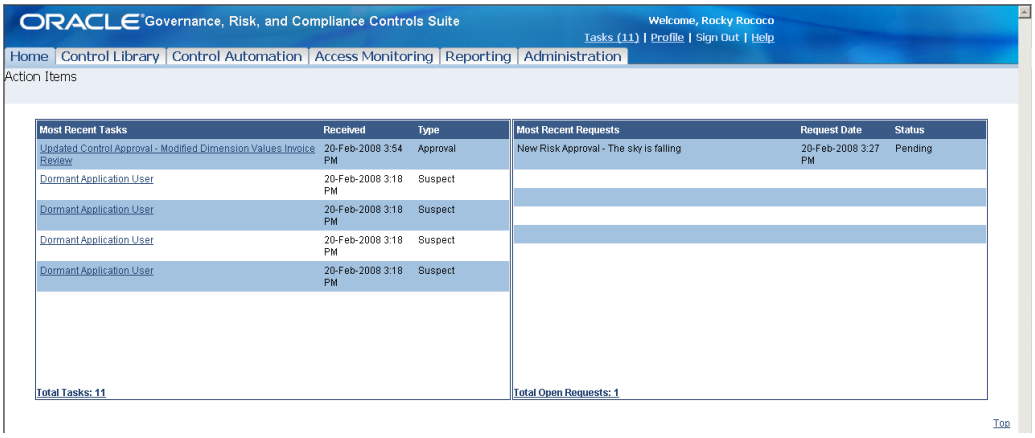
Who Can Do This?

Every user of Transaction Controls Governor can open the Task Inbox and respond to messages he receives in it. However, as noted above, a user is eligible to receive task messages only if he is named in at least one workflow routing (and generates task-history messages only if he can receive task messages). He can receive user-request messages only if he is able to originate tasks — if his primary application role gives him rights to create or modify items that are subject to review, or if he is eligible to receive task messages and so can reassign them to other users. This chapter is written in the assumption that these conditions apply to you.

Opening the Task Inbox

Every panel displays four links at its upper right corner. The first is labeled *Tasks*, and it also displays the number of tasks assigned to the user who is currently logged on.

For every primary application role except Auditor, the Home panel presents two lists — the five tasks most recently assigned to the current user, and the five most recent user requests. A link in each list displays the total number of tasks or requests for the current user. Moreover each item in the Most Recent Tasks list is itself a link:



To open the Task Inbox, click on one of these links. Either of the Tasks links — in the upper-right corner or at the bottom of the Most Recent Tasks list — opens a panel called Task List. This is the one that displays all tasks, regardless of type:

The link at the bottom of the Most Recent Requests list opens a panel called List User Requests, which displays entries for items the current user has generated. And the link for an individual entry in the Most Recent Tasks list opens a panel in which the user may respond only to that item. Once either of these panels is open, the user can click on links for other task, history, or request List panels.

Although each List panel displays information relevant to the items it lists, all display some combination of the following items:

- A Task Description column encapsulates issues to be reviewed.
  - For a control-library task, a label identifies the type of element to be reviewed, whether it is new or updated, and its name.
  - For a suspect task, the column displays a description written into the control monitor that generated the suspect.
  - For an access request, the description is "E-Business User ID Requested" for access to an Oracle responsibility, or "DB User ID Requested" for direct access to a database table.
- Several columns present self-explanatory information:
  - For each entry on a panel, a Received column displays the date and time at which the entry appeared in the Task Inbox.
  - A From column names the user who originated a task or request.
  - Data Source identifies the database instance in which a suspect or access request exists.
- A Run ID column (in the Suspect Task List panel) or a Task ID column (in each of the other panels) presents numeric identifiers for control-monitor runs or for tasks (or requests). In all but the User Requests panel, each ID is a link to another panel in which you may act upon the item in question. A blue ID indicates a task for which the action panel has never been opened, and a red ID indicates a task for which the action panel has been opened, but no action has been taken. In the User Requests panel, ID values are black, indicating they do not link to anything.
- A Control (or Control ID) column is populated only for suspect tasks, and each entry displays the ID configured for the control with which a suspect is associated. The association, of course, follows this path: A suspect is generated by a control monitor, and the control monitor is attached as an "automation" to a control.
- For each suspect task, a column displays the name of the associated control (the one whose ID appears in the Control column); this column is labeled Control Name in the Suspect Task list, but Task Source in the Suspect Task History List panel. For each control-library element approval, the Task Source column displays the ID configured for the element. For each access request, the Task Source column displays the request ID generated by the Access Monitoring feature.
- A Task Type column displays the value *Approval* if an entry is either an access request or a new or updated control-library element, or the value *Suspect* if an entry is a suspect generated by a control monitor.

- The List User Requests panel includes a Status column. For each control-library element, access request, or suspect that you generate, the panel may contain multiple rows, each recording an action taken by a reviewer; the Status column displays the decision reached by the reviewer.

Reviewing Suspect Tasks

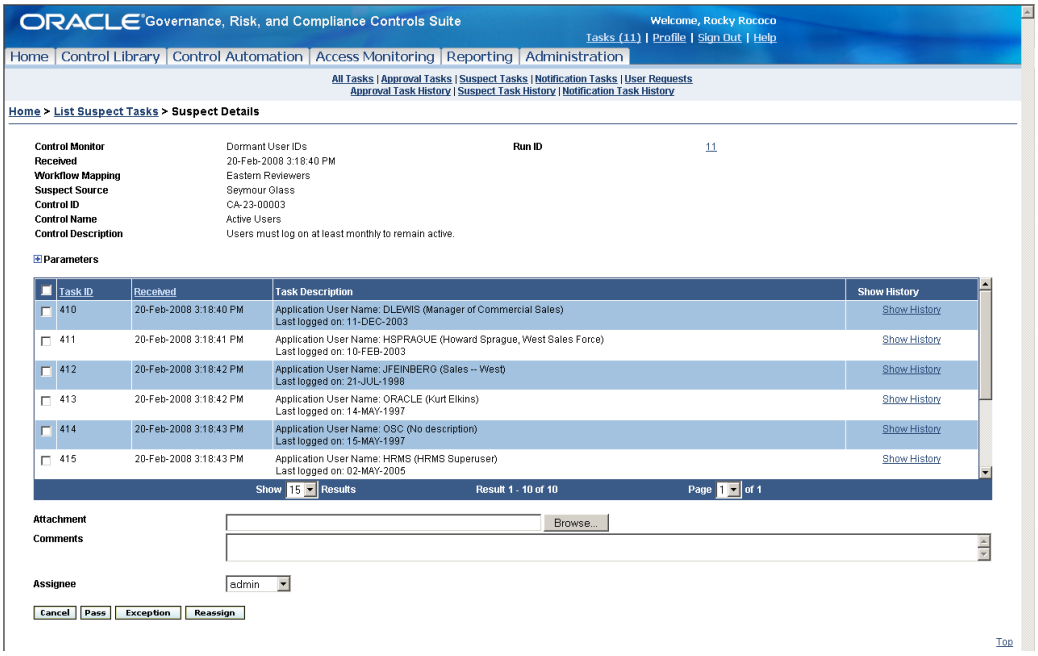
If control monitors have generated suspects, and workflows are configured so that you are their reviewer, you receive email messages announcing that they await your review. One option is to review individual suspect tasks one at a time, and another is to review any number of suspects generated by a control-monitor run at once.

From the Home panel, you may open a single suspect directly from its listing in the Most Recent Tasks list (providing that it is one of the five most recently generated tasks and so appears in the list). Click on its link, and the following Suspect Details panel opens:

Alternatively, click on the Tasks link at the upper right corner of any panel, or click on the Total Tasks link at the base of the Most Recent Tasks list on the Home panel. This opens the All Task List panel (shown on page 7-2). From there, you may click on the task ID for an individual suspect. Or, you may click on the Suspect Tasks link; the latter opens a Suspect Task List panel, which displays an entry for each control-monitor run with suspects that remain outstanding:

From this panel, click on a run ID to view details of outstanding suspects generated in the run you select. If, instead, you selected a task ID in the All Task List panel,

you would see details about outstanding suspects generated in the run that includes the selected suspect. In either case, the following Suspect Details panel displays the results:



Judging Suspects

In either Suspect Details panel, you can decide whether to "pass" suspects, mark them as "exceptions," or reassign them to another user:

1. At the top of either panel, review information that traces how a suspect or a run of suspects came to your attention. Both Suspect Details panels identify the control monitor that generated suspects, the received date, the workflow that distributed tasks for review, and a suspect description.

   The Details panel that shows a full run of suspects also identifies the user who ran the control monitor, the control to which it was attached, the parameters selected for it (if you click on the + icon next to the Parameters label), the run ID for the control-monitor run, and the task ID for each suspect. Most of this information is read-only; you can, however, click on the run ID to open the View Automation Run panel. (If you do, you leave the Task Inbox.)

2. If you are working in the single-suspect Details panel, skip to step 3. If you are working in the multisuspect Details panel, click in the check box to the left of each suspect upon which you want to act. Or click in the check box next to the Task ID heading to select all the suspects currently available in the grid. (The Show Results field in the footer row of the grid determines how many suspects are available; see "Sorting and Selecting Items in Lists" on page 1-4. For example, to display all suspects generated by a control-monitor run, set this field to All.) A suspect is selected when a check mark appears; you can rescind a selection by clicking on a check box a second time, so that the check mark disappears.

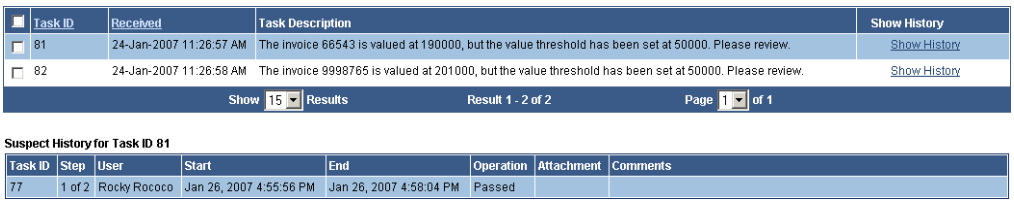
3. Optionally, attach a document: Click on the Browse button, and a Choose File dialog opens. Using standard Windows procedures, navigate to the file you want, click on its name, and click on the Open button. The path to this file appears in the Attachment text box (and the attachment itself will be available in the Suspect Task History panel). If you are working in the multisuspect Details panel, the attachment applies to all the suspects you selected in step 2.
4. Optionally, click in the Comments text box and write a comment of up to 255 characters. The comment can be viewed in the Suspect Task History panel, and once again, if you are working in the multisuspect Details panel, it applies to all the suspects you selected in step 2.
5. If you want to reassign the suspects to another user, select that person's name in the Assignee list box. (If you don't what to reassign suspects, skip this step.)
6. Click on the button corresponding to the action you want to take:
   - *Pass* means that suspect circumstances are allowed to stand.
   - *Exception* means that suspect circumstances must be remedied.
   - *Reassign* means that the suspect will be forwarded for judgment to the user identified in the Assignee list box.

When you click on one of these buttons, the Details panel closes (if you are using the single-suspect panel), or the selected suspects disappear from the grid (if you are using the multisuspect panel). In the latter case, you can select another set of suspects from those that remain and once again assign status or reassign them to another user.

Displaying a Running History

If you receive suspect tasks because you are a reviewer named in the first step of a workflow routing, then the tasks do not yet have any history. If, however, you are a reviewer named in the second or later step of a workflow routing, or if tasks have been reassigned to you by another user, then you can review the actions taken so far by others before coming to your own decision about the suspect.

If you are working in the single-suspect Details panel, the history information appears automatically in a Suspect History grid. If you are working in the multisuspect Details panel, click on the Show History link at the right of the row for an individual suspect; a second grid, which appears below the one that lists suspects, displays the history of the selected suspect:



Task ID	Received	Task Description	Show History
81	24-Jan-2007 11:26:57 AM	The invoice 66543 is valued at 190000, but the value threshold has been set at 50000. Please review.	Show History
82	24-Jan-2007 11:26:58 AM	The invoice 9998765 is valued at 201000, but the value threshold has been set at 50000. Please review.	Show History

Show 15 Results Result 1 - 2 of 2 Page 1 of 1

Suspect History for Task ID 81

Task ID	Step	User	Start	End	Operation	Attachment	Comments
77	1 of 2	Rocky Rococo	Jan 26, 2007 4:55:56 PM	Jan 26, 2007 4:58:04 PM	Passed		

No matter whether you are working in the single- or multisuspect Details panel, each row in the Suspect History grid describes a prior action taken by another user about the selected suspect, identifying its task ID, its step in the workflow that routed it for review, the user who acted and the action he took, and the dates and

times at which the user received the task and finished with it. If that user added an attachment or comment, these are also displayed.

The workflow engine assigns a new task ID each time a user acts upon a suspect. In the illustrated example, a suspect was task 77 when it was reviewed in the first step of a workflow, but is now task 81 as it is being reviewed in the second step.

If you're working in the multisuspect Details panel, each time you click on the Show History link for a suspect, its history replaces that of the previously selected suspect.

Reviewing Approval or Notification Tasks

Workflows may be configured so that you review approval tasks — the creation or updating of control-library elements or of requests for extraordinary access to responsibilities or database tables. Or workflows may nominate you to receive notifications of reviewers' decisions about approval tasks or suspect tasks. In either case, you receive an email message whenever an item requires your attention.

Opening Tasks for Review

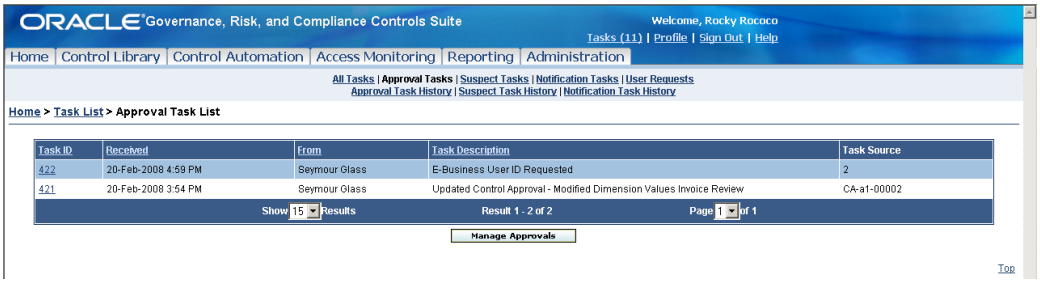
Once again, you have the option of reviewing individual tasks one at a time, or any number of tasks all at once. For a "bulk" review, you see less detail about individual tasks than you would if you were to review them one at a time. You may:

1. Select an individual approval or notification by clicking on its listing in the Most Recent Tasks list of the Home panel (providing that it is one of your five most recently generated tasks and so appears in the list). Depending on the type of task you select, this opens an Approval Details or Notification Details panel.

   Otherwise, click on the Tasks link at the upper right corner of any panel, or click on the Total Tasks link at the base of the Most Recent task list on the Home panel. This opens the All Task List panel (shown on page 7-2).

2. To select an individual approval or notification, click on its task ID in its entry on the All Task List panel to open the Approval Details or Notification Details panel.

   Otherwise, click on the Approval Tasks link or the Notification Tasks link. This opens a task-list panel filtered to display only the type of item you've selected. It looks like the following:



   Because the Notification Task List may display entries for suspects or approvals, it provides slightly different information about each item than the Approval Task List does (see the descriptions of field values on beginning on page 7-3).

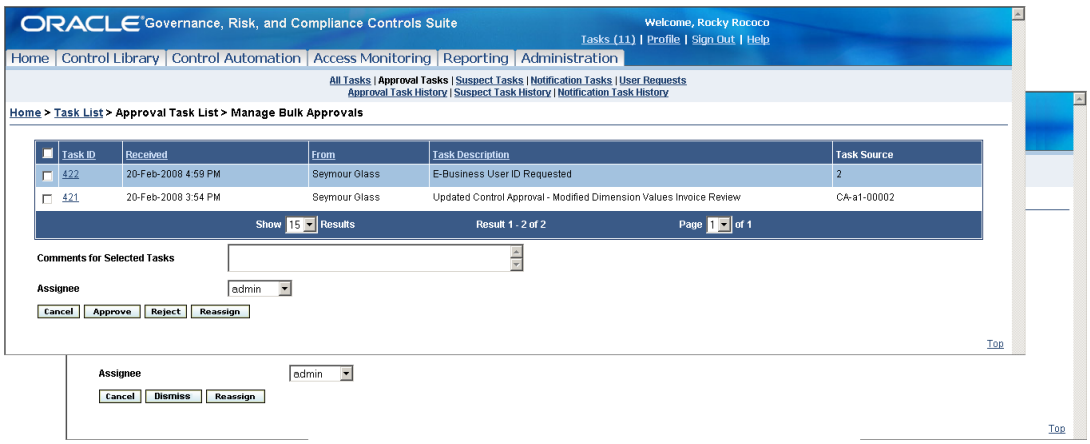
3. To select an individual approval or notification, click on its task ID in its entry on the Approval Task List or Notification Task List. This opens the Approval Details or Notification Details panel.

   To open a list of approvals or notifications to be reviewed "in bulk," click on the Manage Approvals or Manage Notifications button located at the bottom center of the task-list panel. This opens the Manage Bulk Approvals or Manage Bulk Notifications panel.

Beginning a Bulk Review

To select a set of items for review (or for reassignment to another user):

1. Open the Manage Bulk Approvals or Manage Bulk Notifications panel. Instances are shown below — Approvals on top and Notifications on the bottom.



   The Bulk Approvals and Bulk Notifications panels are essentially the same, except for the buttons along the bottom of each panel. Each entry in the list provides a summary description of an approval or notification — the same information, in fact, as the List panel provides.

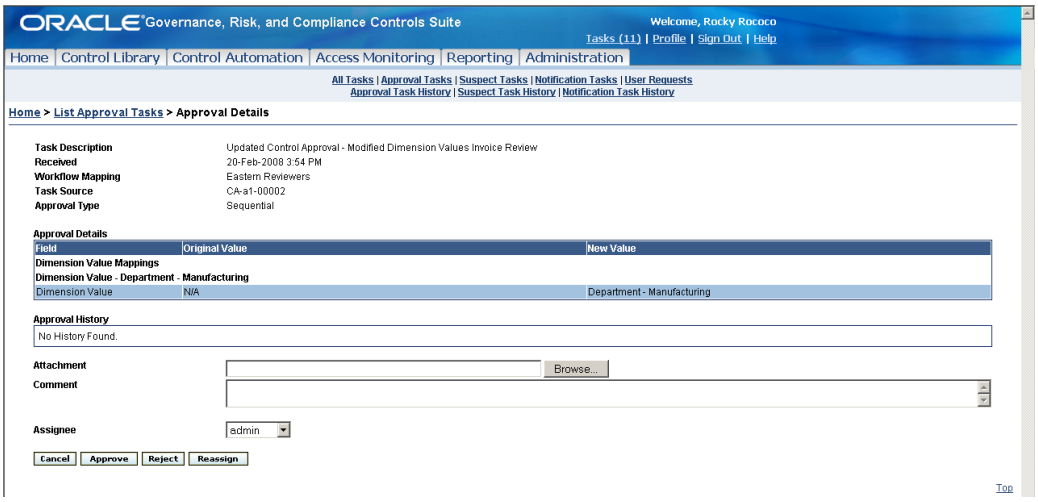
2. Click in the check box to the left of each item upon which you want to act. Or click in the check box next to the Task ID heading to select all the items currently available in the grid. (The Show Results field in the footer row of the grid determines how many items are available; see "Sorting and Selecting Items in Lists" on page 1-4). For example, to display all items, set this field to All.) An item is selected when a check mark appears; you can rescind a selection by clicking on a check box a second time, so that the check mark disappears.

3. For instructions on finishing the review process, skip ahead to "Completing the Review" (page 7-9).

Beginning an Individual Review

To view greater detail, and render a decision, about a single item:

1. Use any method described in "Opening a Task for Review" to open an individual approval or notification task. A Details panel, like the one at the top of the next page, appears.



2. At the top of this panel, review information that traces how the item came to your attention. This includes its task description and task source (which are the same values as those on the List panel; see page 7-3), the workflow that routed it to you, and the date on which you received it.

3. In a Details grid, examine the changes you are to affirm or deny. For a control-library element, a review may encompass changes to any number of fields, and the grid contains one row for each field that has changed. (You must affirm all or none.) For an access request, a single row presents all of the information included in the request: the name of the user for whom access is requested and the temporary ID to be assigned to him, the type of request and the responsibility or database table for which access is requested, the start and end dates for the proposed access, the database instance, and the reason access is requested.

4. In a History grid, review a running tally of actions taken by others before you.

   If you are reviewing an approval task, there is no history if you are a reviewer named in the first step of a workflow routing. If, however, you are a reviewer named in the second or later step of a workflow routing, or if tasks have been reassigned to you by another user, the History grid contains one row for each action taken so far by another user.

   If you are reviewing a notification task, the History grid necessarily contains at least one row, since at least one user must have acceded to or denied a change for the task to reach you. If any other users have also acted, the grid contains a row for each of them.

5. For instructions on finishing the review process, see the next section, “Completing the Review.”

Completing the Review

Once you have selected either an individual item or a set of items to review:

1. Optionally, attach a document: Click on the Browse button, and a Choose File dialog opens. Using standard Windows procedures, navigate to the file you want, click on its name, and then click on the Open button. The path to the file you’ve selected appears in the Attachment text box, and the attachment itself will be available in the Approval Task History or Notification Task History

panel. (If you're working in a Bulk panel, the file is attached to all the items you selected.)

2. Optionally, click in the Comments text box and write a comment of up to 255 characters. The comment can be viewed in the Approval Task History or Notification Task History panel. (If you're working in a Bulk panel, the comment applies to all the items you selected).
3. If you want to reassign the items to another user, select that person's username in the Assignee list box. (If you don't what to reassign suspects, skip this step.)
4. Click on the button corresponding to the action you want to take. If you are working with approvals:

   - *Approve* means you assent to a change or request (or to each change or request you selected in the Manage Bulk Approvals panel). Once all approvers designated by a workflow have approved, a control-library element appears in its List panel if it has been newly created or adopts changes if it has been modified, or a user receives access requested through the Access Monitoring feature.
   - *Reject* means you decline each change or request. A single rejection prevents a new control-library element from appearing in its List panel or restores an element to its state before a change was attempted, or prevents a user from receiving access requested through the Access Monitoring feature.

   If you are working with notifications:

   - *Dismiss* means that you agree with the decisions other users have made about an item (or each the item you selected in the Manage Bulk Notifications panel).
   - There is no way to signify disagreement. If you do not concur in another user's approval decision, click on the Cancel button to allow its notification to remain active, resolve the issue outside of Transaction Controls Governor, and then dismiss it.

   For approvals or notifications, *Reassign* means that the items will be forwarded to the user identified in the Assignee list box.

When you resolve issues, the disappear from their panels (and entries are created for them in the Approval Task History or Notification Task History panel). If any items remain, you can select one or more of them (in the List or Bulk panels) and once again assign status or reassign them to another user.

Reviewing History

Whenever a user acts upon an approval, notification, or suspect, a record of the action is displayed in the appropriate one of three List History panels. Each presents records of individual control-library elements, access requests, or suspects, meaning that the Task History panels for approvals and notifications behave like their new-item counterparts, but the Suspect Task History panel does not, as it lists individual suspect tasks rather than control-monitor runs.

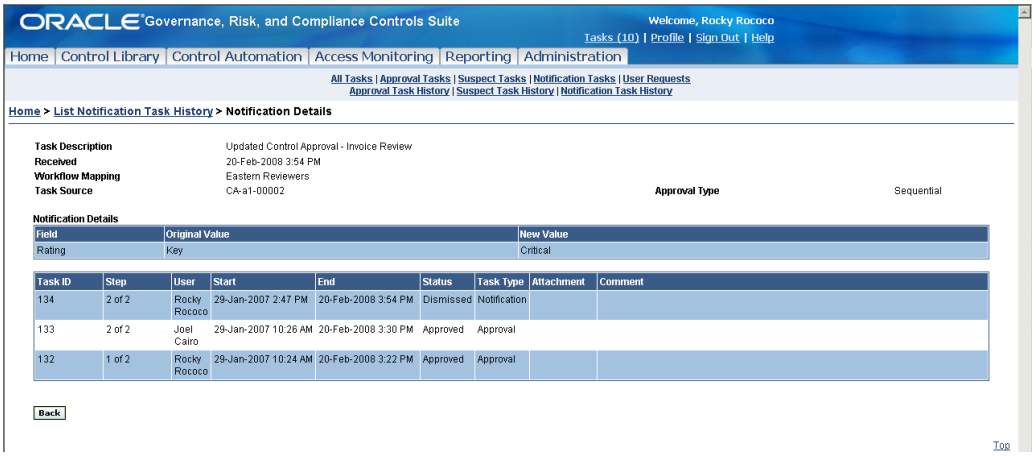
From each of the List History panels, you can select an item and open a Details panel. It presents information about the item, which mirrors the information avail-

able when the item was reviewed. This includes the task description and task source (as defined on page 7-3), the workflow that distributed it for review, and the received date. For a suspect or suspect notification, it also includes the run ID of the control monitor that generated the suspect.

In addition, a History grid devotes one row to each task that has been completed by any user with respect to the item, culminating with the task you completed that caused this history record to be created. Each row identifies the task ID, the step in the workflow that routed the task for review, the user who completed the task and the action he took, and the dates and times at which the user received the task and finished with it. If that user added an attachment or comment, these are also displayed.

To review the history of an approval, suspect, or notification:

1. Open the Task Inbox, and click on its link for the List History panel you want to open: Approval Task History, Suspect Task History, or Notification Task History.
2. In the grid on the List History panel, identify the row corresponding to the approval, suspect, or notification whose history you want to review, and click on its task ID. A Details panel opens. (The following illustration shows the details of a notification concerning the updating of a control, but it is representative of the Details panel for any of the History selections.)



3. Review the information. The illustration, for example, shows that the rating for a control called Invoice Review was changed from Key to Critical. A user named Rocky Rococo approved the change in the first step of a workflow (task 132); an approver named Joel Cairo also approved in the second step of the workflow (task 133); the second step directed a notification of Cairo's action back to Rococo, who dismissed it (task 134).

   Typically, History Details panels are read-only; you cannot change a decision after it's been made. There is one exception: in the History Details panel for a suspect task, you can click on the run ID to open the View Automation Run panel for the control monitor that generated the suspect. (If you do, you leave the Task Inbox.)

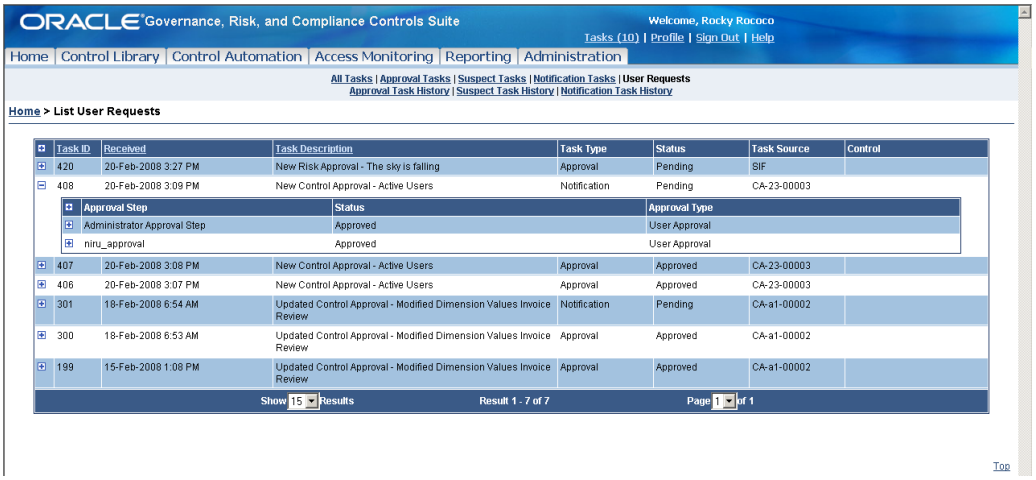
4. When you finish reviewing the information, click on the Back button. This returns you to the List History panel from which you opened the Details panel.

Viewing User Requests

In the User Requests panel, you can view entries that pertain to control-library elements you have created or modified, requests you have made for users to have access to responsibilities or database tables, or suspects generated by control monitors that you have run. For each such item, the panel may contain several nested entries. One documents your having created the item, and another is added each time a user acts upon the item — affirms or denies it, or dismisses a notification about it. Each entry presents the status of the item at the moment a user has made a decision about it, so the User Requests panel charts the progress of items you generate.

To view User Requests:

1. Open the Task Inbox. Click on the Tasks link at the upper right of any panel, and then on the User Requests link. Or, click on the Total Open Requests link at the base of the Most Recent Requests list on the Home panel. In either case, the List User Requests panel opens (and has no links to other panels).



   Each row represents an action taken by a user — a judgment made on a control-library item, suspect, or access request, or a dismissal of a notification that such an action has been taken. (As a result, an individual control-library item, suspect, or access request may have more than one record in the list.)

2. Select a row for which you want to view more information and click on its + icon. One or more nested rows represent the steps in the workflow routing that distributed the item for review.

3. In each step, click on the + icon to view information the reviewer who took action at that step, what he did, and when.

Rather than click + icons one at a time, you can click the + icon in a header row to display results for all rows. The icon in the header of the main grid displays records of the steps in all tasks, and the icon in the header for the steps grid in any task displays details about all steps. You can also click on – icons to hide the results.

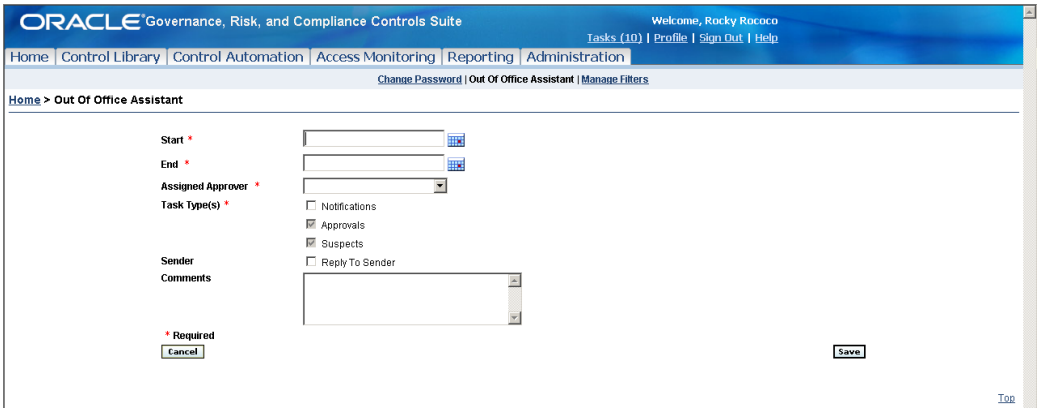
Using the Out of Office Assistant

An Out of Office Assistant directs your tasks to a user whom you specify, for a period of time that you set. You may also create a message informing others that

tasks intended for you are being redirected. Use this feature to ensure that your tasks are addressed when you are away from your office.

To set the Out of Office Assistant:

1. From any panel in Transaction Controls Governor, click on the Profile link near the upper right corner of the panel. An Out of Office Assistant panel opens:



2. In the Start and End fields, select dates on which your tasks should start and stop being redirected to another user. (See “Date Fields, page 1-4).
3. In the Assigned Approver list box, select the Transaction Controls Governor user to whom your tasks will be redirected.
4. In the Task Types area, the Approvals and Suspects check boxes are selected by default, and you cannot clear them. As a result, approvals and suspects are always directed to the user you selected in step 3. You may also select the Notifications check box; if you do, these are also sent to the user in step 3, and if not they accumulate in your Task Inbox during your absence. (You cannot create multiple Out of Office Assistants in order to direct various types of tasks to various users.)
5. If you want to alert the originators of tasks that their tasks are being redirected to a user other than yourself, select the Reply to Sender check box.
6. If you select the Reply to Sender check box, type the message you want to send to task originators in the Comments text box. The message can be up to 255 characters in length, and it is sent to the task originators’ email addresses.
7. Click on the Save button.

8

Reports

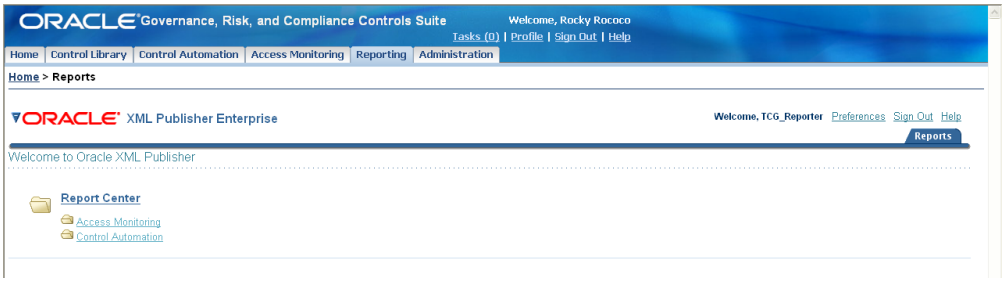
A Report Center provides access to four reports. Two, available in a Control Automation folder, display information about control monitors and the suspects they generate. The remaining two, available in an Access Monitoring folder, document requests for temporary access granted through the Access Monitoring feature, and actions taken by those temporary users.

Who Can Do This?

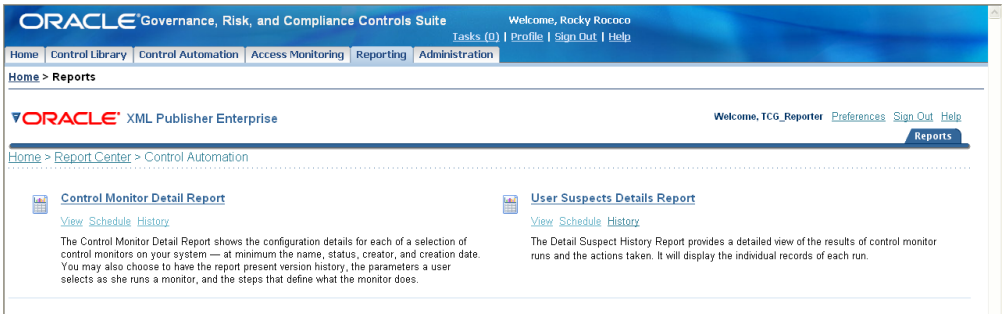
Any user at any primary application role can both generate and view reports in the Report Center.

Using the Report Center

To open the Report Center, click on the Reporting tab:



Next, click on the link for the folder containing a report you want to run. (The figure below shows the Control Automation folder.)

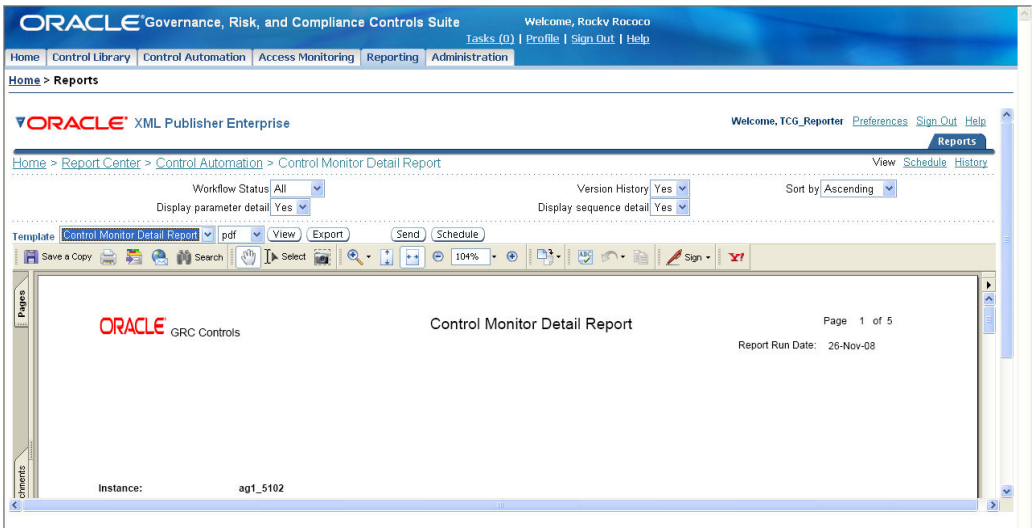


From here, you have several options:

- Click on a report name, or on its View link. This generates a copy of the report, with all parameters set to their default values — those that would cause the report to contain the most possible information. (See "Viewing a Report," below.)
- Select the Schedule link for a report. A scheduling page opens, in which you can set parameters for the report, define a schedule on which it is to run, and set other options. (See "Scheduling a Report" on page 8-3.)
- Select the History link for a report to view information about schedules configured for it, and to open individual copies of the report generated on its schedule.

Viewing a Report

When you click on a report name, or on its View link, a panel like the following one appears:



In this panel, you can:

- Review the current generation of the report. You may do so directly in this panel. Or, click the Export button; a File Download popup window gives you the option of opening the report in its own window or saving it as a file. (For ease of viewing, it's recommended that you export the report.)
- Select parameter values in the fields that appear above the report, select a report format in the list box to the left of the View button, or both. Then click on the View button to regenerate the report.

  Parameters vary by report, and so descriptions of them are included in the report descriptions that begin on page 8-4. Report formats also vary, but may include Acrobat (pdf), Excel spreadsheet, and xml.
- Click the Schedule button to define a schedule for the report (see "Scheduling a Report" on page 8-3.)

- Click on the Send button to send a copy of the report to an email address, printer, fax, or FTP site. A popup window enables you to select among these options, and offers fields appropriate to the option you select (for example, fields to enter an email address, subject line, body text, and other items for an email message, or a fax server and fax number for a fax transmission). You can click an Add Destination button to configure multiple recipients of the report.

Scheduling a Report

When you select the Schedule option for a report (either from the initial generation of the report, shown in "Viewing a Report" on page 8-2, or from its parent panel, shown on page 8-1), a Schedule Report page opens. In it, you can do the following:

- In a Report Parameters area, select parameter values and a report format. As noted above, parameters and formats vary by report.
- In a Job Properties area, enter a name for the scheduling job (or accept the default, the report name). Select a Save Data XML check box to save the report in xml format, or select Save Output to save it in the format specified in Format field of the Report Parameters area. Leave the Locale field set to the value *English (United States)*, which is the only supported language.
- In a Notification section, optionally enter the email addresses (comma-delimited) of people to be notified when reports run. Also select check boxes that set the conditions under which notifications are sent: when a report is completed, when it is completed with warnings, or when it fails.
- In a Time section, select a radio button to determine whether the report runs immediately, once in the future, daily/weekly, or monthly. Depending on the option you select, additional fields may appear that enable you to set scheduling parameters appropriate to your selection. These include:
  - Run once: Fields in which to enter the date and time on which the report runs.
  - Run Daily/Weekly: Fields in which to enter start and end dates that define a period during which the report runs, as well as a time that it runs each day, and check boxes in which you select days of the week on which the report runs.
  - Run Monthly: Fields in which to enter start and end dates that define a period during which the report runs, the day of the month on which it runs, and time at which it runs on that day, as well as check boxes in which you select months on which the report runs.
- In a Destination section, optionally select a radio button to send copies of the report to an email address, printer, fax, or FTP site. As before, fields appropriate to your selection appear, enabling you to specify the destination — for example, fields to enter an email address, subject line, body text, and other items for an email message, or a fax server and fax number for a fax transmission. You can click an Add Destination button to configure multiple recipients of the report.

When you finish setting scheduling parameters, click on the Submit button.

Control Automation Reports

The Control Automation folder contains the following reports.

Control Monitor Detail Report

The Control Monitor Detail Report shows, for a selection of the control monitors on your system, the configuration details for each monitor. These include name, status, creator, and creation date. Depending on your report-parameter selections, it may also show version history (the version number and status of each configured version), the control-monitor parameters, and the steps configured for the monitor. For each step, it would provide the step name, number, type, and (if any) detail (for example, the SQL written for an execute-query step).

As you run the report, you may select values for the following parameters:

- Workflow Status: Select the appropriate value to focus the report on monitors at the active, retired (inactive), or editing status, or select All.
- Version History: Select *Yes* or *No* to determine whether the report shows version history for the monitors it documents.
- Sort by: The report alphabetizes control monitors by name. Select Ascending or Descending to determine whether it uses forward or reverse alphabetical order.
- Display Parameter Detail: Select *Yes* or *No* to determine whether the report lists parameters for the monitors it documents.
- Display Sequence Detail: Select *Yes* or *No* to determine whether the report lists steps for the monitors it documents.

User Suspects Details Report

The User Suspects Details Report presents the results of control-monitor runs. For each suspect, it identifies the control-library element for which a control monitor has been run, as well as the monitor, its version, the control to which it is attached, and the date on which it was run. It displays "record details" (a "suspectInfo" value — the more detailed of two descriptions, written into the control monitor, of the conditions it is intended to detect). It further provides suspect status, the date on which status was assigned and the ID of the user who assigned it, and comments by that user.

Unlike the other reports, the User Suspects Details Report is intended to produce a file for export to a spreadsheet (or other application) for further analysis. Thus, use the Export option when you run this report (see "Viewing a Report" on page 8-2), choose to save the exported report as a file, and then open the report in an application appropriate for the export format you've chosen.

As you run the report, you may select values for the following parameters:

- Control Element Level: Select a type of control-library element for which you want to view control-monitor runs. Or select All.
- Control Element Value: Select an individual control-library element for which you want to view control-monitor runs, or select All. The parameter displays elements of the type you selected in the Control Element Level parameter.

- Control Monitor: Select the name of a control monitor whose runs you want to review. The report will document occasions when this monitor was run as an automation for the control element you selected in the Control Element Value parameter. Or, select All.
- Control Monitor Version: Select a version number for the control monitor, or select All. The report returns results for runs of the version you've selected.
- Suspect Action: Choose any combination of *All*, *Pass*, *Pending*, and *Exception* to have the report display results for suspects at the statuses you select.
- Date From and Date To: Define the time period in which control monitors must have been run for their results to appear in the report. Type dates in the From and To fields.

Access Monitoring Reports

The Access Monitoring folder contains the following reports.

Access Monitoring Request Report

The Access Monitoring Request Report lists requests for database or responsibility access generated through use of the Access Monitoring feature. For each user for whom access is requested, it may present two sections, one for each type of request (responsibility or database). Each section then lists an entry for each item that is requested — for example, a single request for two database tables would generate two entries, one for each table. Each entry displays the name of the requested responsibility or database table; the Access Monitoring ID assigned to the user; the request ID; the status, approver, and support ticket of the request; and dates when the request is made, when access would start, and when access would end.

As you run the report, you may select values for the following parameters:

- System: Select an Oracle E-Business Suite instance to have the report list requests made on those instances, or select All.
- Access Type: Select E-Biz User to have the report list requests for access to responsibilities, Database User to have the report list requests for access to database tables, or select All.
- Access Requested: Select a responsibility or database table to have the report list requests for access to the item you select, or select All. This parameter lists only items for which access requests have been made. Ensure that your selection here agrees with your selection in the Access Type parameter — a responsibility if you chose E-Biz User or a table if you chose Database User.
- User: Select a user to have the report list requests to grant that user access, or select All. This parameter lists Access Monitoring user IDs.
- Status: Select a status — Approved, Pending, or Rejected — to see requests at that status, or select All to see requests at all statuses.
- From Request Date and To Request Date: Type dates to define a period the report should cover.

Access Monitoring User Activity Report

The Access Monitoring User Activity Report lists transactions completed by users as they implement rights granted to them through the Access Monitoring feature. In this context, a "transaction" is a change to a value in a database table, made via direct access to that table or to a responsibility supported by the table. For each user, the report presents the user's name, her temporary Access Monitoring logon ID, the start and end dates of her temporary access, the responsibility or database tables to which she has been granted access, and her transactions. For each transaction, the report presents its date and time, the action taken (select, insert, delete, or update), the name of the table and its primary key column, the column in which the change has been made, and the old and new values.

As you run the report, you may select values for the following parameters:

- User Type: Select the value Database User to view results for users granted direct access to database tables, Ebiz User to view results for users granted access to Oracle responsibilities, or both.
- Action: Select a transaction type to review — INSERT, UPDATE, or DELETE — or select All.
- User Name: Select a user whose transactions you want to review, or select All.

9

Import and Export

Transaction Controls Governor offers three features for importing or exporting control-library elements and control monitors. These are available from the panel activated by the Administration tab in the Platform:

- One enables users to import control-library elements from a Microsoft Excel spreadsheet. Oracle offers a spreadsheet containing more than one thousand control-library elements that form a well-integrated controls framework. You can use it, or you can create a spreadsheet.
- A second feature enables users to export control-library elements or control monitors from an instance of Transaction Controls Governor to a file, then import the contents of the file to another instance of Transaction Controls Governor.
- The third enables users to merge export files containing control monitors into a single file.

Who Can Do This?

A user whose primary application role is Author, Manager, Rule Builder, or System Administrator can import control-library elements from a spreadsheet, or export elements and monitors from an instance to files and import them to another instance. Only a System Administrator can merge control-monitor export files into a single file.

Importing Controls from a Spreadsheet

Each row of a control-framework spreadsheet contains values for a control and for a control-library element at each of the higher levels; it defines a hierarchical linkage among the elements. Each row contains a unique combination of elements. Each row also contains an ID value and description for each of the elements, a likelihood and rating to be assigned to the control, and dimension and attribute values to be assigned to the control (and so inherited by the higher-level elements).

Before importing the contents of any spreadsheet, you must ensure that the formats of the ID values it contains conform to the ID value sets configured for your system, and that the values of ratings, likelihoods, dimensions, and attributes assigned to elements in the spreadsheet exactly match values configured for your system:

- ID values: You may either configure ID value sets to use the formats already contained in an import spreadsheet, or edit the ID values in the spreadsheet to match the formats configured for your system.
- Likelihoods and ratings. The control-framework spreadsheet devotes one column each to likelihood and rating values, with one cell in each column containing the value appropriate to a given control. In the spreadsheet, these columns are blank. You must configure the likelihood and rating values you want to use, then edit the spreadsheet to add these values to the controls you want to import.
- Dimensions and attributes. The control-framework spreadsheet defines a single dimension and a single attribute, each in its own column; each cell contains the dimension or attribute value that is to be assigned to a control (and inherited by higher-level elements). If either the dimension or attribute is not appropriate for your configuration, you should delete its column; if any values are not appropriate for your configuration, you should edit the values. You may add columns to define new dimensions or attributes (and the values that apply to them). If you do, all the dimension columns must run in a continuous block, to be followed by all the attribute columns, which must run in their own continuous block.

If you use the Oracle control-library spreadsheet, you may add rows to it to define new controls, higher-level elements, or associations among them.

If you create your own spreadsheet (or add rows to the Oracle spreadsheet), you must use the format of the Oracle spreadsheet, which is as follows. If you've used the Manage Control Element Names feature (see page 3-7) to create new terms for *Process*, *Cycle*, *Risk*, *Subprocess*, *Control Objective*, or *Control*, you should nevertheless use the default terms in the spreadsheet. Transaction Controls Governor then maps these values to your new values.

- Spreadsheet column A
  Column heading: Type. Each cell in the column contains the type of primary element that is to be linked to other elements in a given spreadsheet row. Valid values are Process, Policy, Cycle, and Risk.
- Spreadsheet column B
  Column heading: Number (ID Value). Each cell in the column contains the ID assigned to a primary element whose type is specified in column A.
- Spreadsheet column C
  Column heading: Name. Each cell in the column contains the name for the primary element whose ID is specified in column B.
- Spreadsheet column D
  Description: Each cell in the column contains the description for the primary element whose ID is specified in column B.
- Spreadsheet column E
  Column heading: Sub-Process Number (ID Value). Each cell in the column

contains the ID assigned to a subprocess that is to be linked to other elements in a given spreadsheet row.

- Spreadsheet column F
  Column heading: Sub-Process Name. Each cell in the column contains the name of the subprocess whose ID is given in column E.
- Spreadsheet column G
  Column heading: Sub-Process Description. Each cell in the column contains the name of the subprocess whose ID is given in column E.
- Spreadsheet column H
  Column heading: Control Objective Number (ID Value). Each cell in the column contains the ID assigned to a control objective that is to be linked to other elements in a given spreadsheet row.
- Spreadsheet column I
  Column heading: Control Objective Name. Each cell in the column contains the name of the control objective whose ID is given in column H.
- Spreadsheet column J
  Column heading: Control Objective Description. Each cell in the column contains the description of the control objective whose ID is given in column H.
- Spreadsheet column K
  Column heading: Control (ID Value). Each cell in the column contains the ID assigned to a control that is to be linked to other elements in a given spreadsheet row.
- Spreadsheet column L
  Column heading: Control Name. Each cell in the column contains the name of the control whose ID is given in column K.
- Spreadsheet column M
  Column heading: Control Activity Description. Each cell in the column contains the description of the control whose ID is given in column K.
- Spreadsheet column N
  Column heading: Control Rating. Each cell in the column contains the rating value to be assigned to the control whose ID is given in column K.
- Spreadsheet column O
  Column heading: Control Likelihood. Each cell in the column contains the likelihood value to be assigned to the control whose ID is given in column K.
- Spreadsheet column P and following
  Column heading: Dimension: *Dimension Name*. Each column defines a dimension, and in the heading for each, the phrase *Dimension Name* is replaced by the actual name of the dimension. Each cell in a column contains a value configured for the dimension, which is to be assigned to the control whose ID is given in column K.

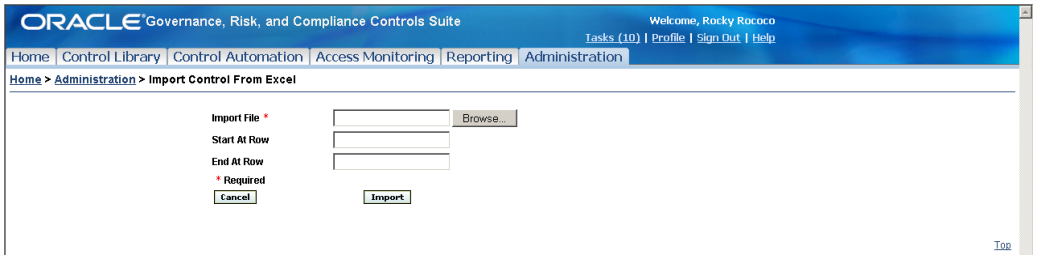
  There must be one column for every dimension configured for your system. If a dimension is optional and none of its values applies to a control, leave the appropriate cell (the intersection of dimension column and control-element row) blank.

- Spreadsheet column *x* and following
  Column heading: Attribute: *Attribute Name*. Each column defines an attribute, and in the heading for each, the phrase *Attribute Name* is replaced by the actual name of the attribute. The first attribute column must immediately follow the last dimension column (the value *x* at the beginning of this entry is a placeholder to be replaced by the actual column letter at which attributes begin). Each cell in a column contains a value configured for its attribute, which is to be assigned to the control whose ID is given in column K.

  There must be one column for every attribute configured for your system. If an attribute is optional and none of its values applies to a control, leave the appropriate cell (the intersection of attribute column and control-element row) blank.

Once you have configured Control Administration values to match spreadsheet values, edited a spreadsheet to match your Control Administration configuration, or both, complete the following steps to import the spreadsheet:

1. Click on the Administration tab, and then on the Import Control From Excel link in the Control Administration section. The following panel appears:



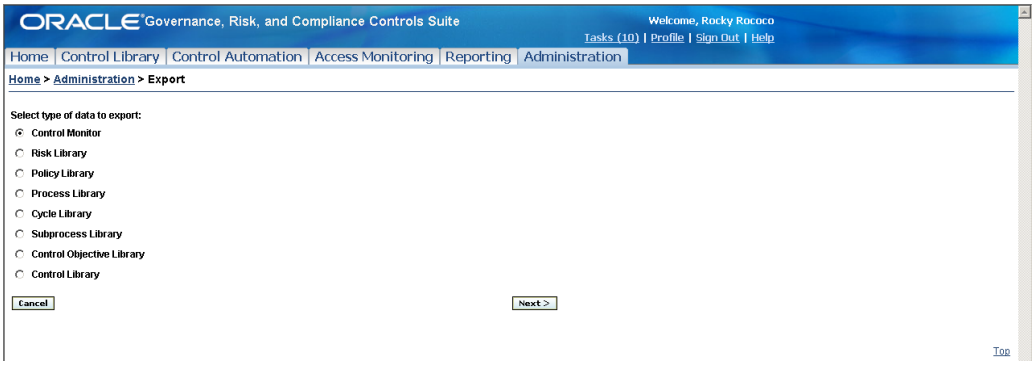
2. Click on the Browse button next to the Import File field.
3. A Choose File dialog opens. Using standard Windows procedures, navigate to your import spreadsheet, click on its name, and then click on the Open button.
4. Optionally, type a row number in one or both of the Start at Row and End at Row fields. The import operation then begins or finishes (or both) at the rows you specify. The first data row in the spreadsheet is 2, and so this is the lowest value you would ever insert in the Start at Row field. If you leave these fields blank, all rows are imported from the spreadsheet.
5. Click on the Import button.
6. A status panel appears. In it, review the status of your import operation

Exporting and Importing Components

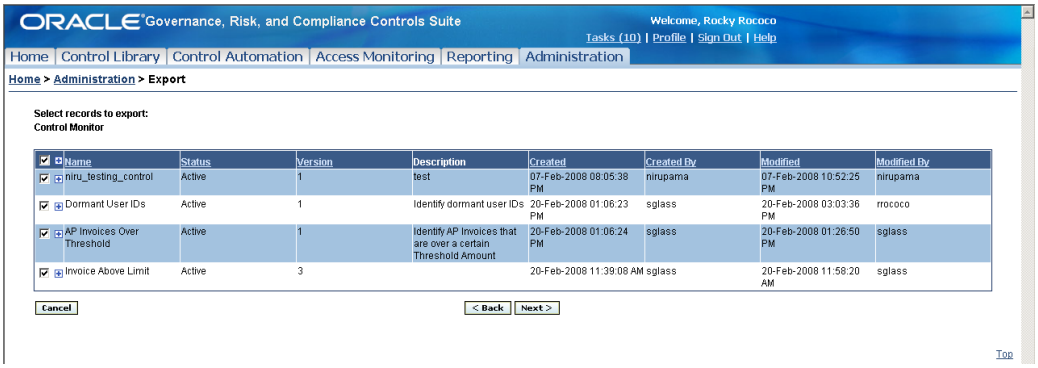
You can export items from a Transaction Controls Governor instance to a zip file, and then import the contents of the file to another Transaction Controls Suite instance. The items may be a selection of control monitors or of elements from any of the individual control-element libraries (Risk, Policy, Process, Cycle, Subprocess, Control Objective, or Control).

To prepare an export file:

1. Click on the Administration tab, and then on the Export link in the Data Administration section. An Export panel appears:



2. Click on the radio button for the type of item you want to export (you can select only one at a time), and click on the Next button. A second Export panel appears:



3. Review a grid in which each row provides information about one of the items you can select for export. The fields displayed by the grid vary according to the type of item you intend to export. The status of every item is Active; you cannot export items at any other status.

   In each row, you can click on a +/- icon (located in the leftmost column of the row) to reveal or hide configuration details for the item displayed in the row. Or you can click on a +/- icon in the leftmost column of the header row to reveal or hide details for all the items in the grid.

4. Choose the items you want to export. By default, all are selected — a check box next to each displays a check mark. To remove an item from the export operation, click on its check box so that the mark disappears. (Or, to select it again, click on the check box so that the mark reappears.) To select or deselect all items in the grid, click on the check box that appears in the leftmost column of the header row.

5. Click on the Next button. A third Export panel displays a grid in which each row displays information about a successfully exported item.

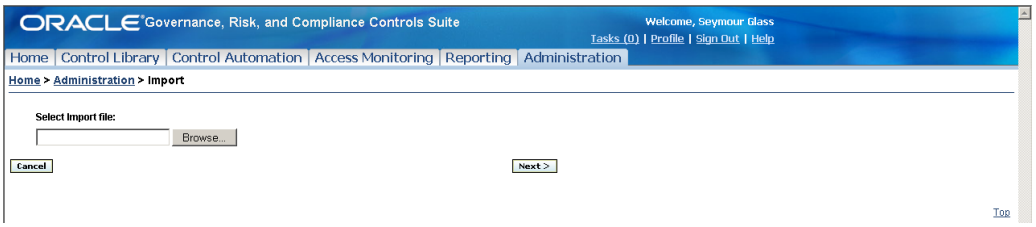
6. Click on the Download button. A File Download dialog box displays the name of the export file and presents options to open it or save it. Click on the Save

button and, in a Save As dialog, use standard Windows procedures to navigate to a directory in which you want to save the file, and click on the Save button.

From any of these panels other than the last, you can click on a Back button to return to earlier panels and alter selections you've made in them.

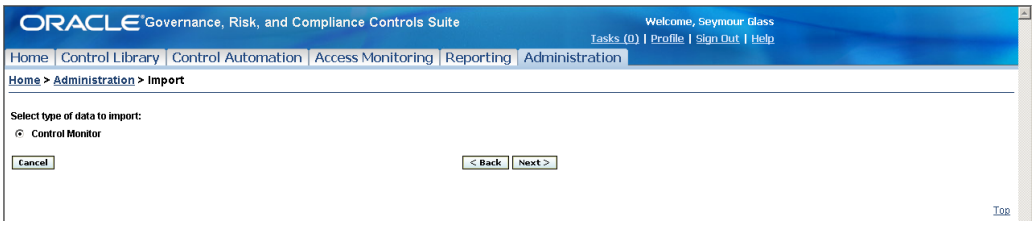
To import a file you've created, copy it to a computer that hosts a Transaction Controls Governor instance, and then complete the following steps:

1. Click on the Administration tab. In the Administration Home panel, click on the Import link in the Data Administration section. An Import panel appears:



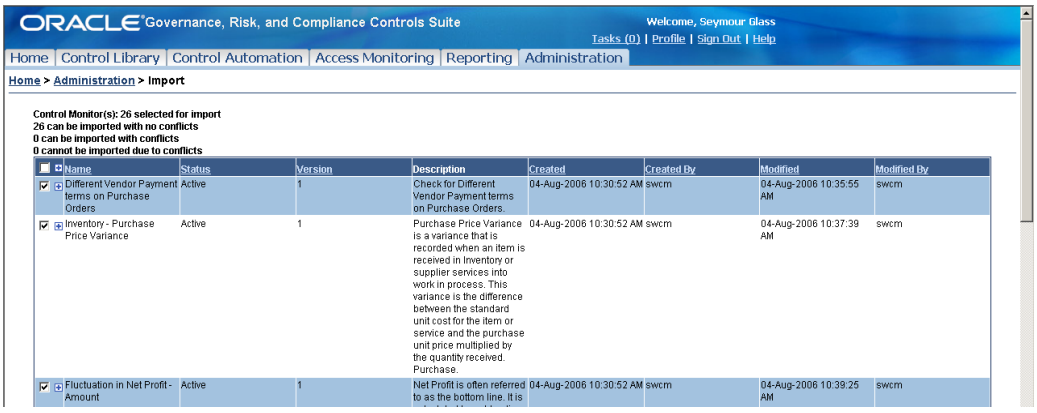
2. Click on the Browse button. A Choose File dialog box opens; in it, use standard Windows procedures to navigate to the import (zip) file you've copied to your system, and click on the Open button. The dialog box closes, and the path and name of the import file appear in the Select Import File field of the Import panel.

3. Click on the Next button. A second Import panel appears:



4. This panel displays a single radio button whose label indicates the type of item contained in the import file. Ensure that the radio button is selected

5. Click on the Next button. A third Import panel appears:



6. Review a grid in which each row provides information about one of the items contained in the Import file. (Although the status of every item is Active, each item will be imported to your system in the Editing status.)

Choose the items you want to import. To select an individual item, click the check box that appears in the leftmost column of its row. To select all items in the file, click the check box that appears in the leftmost column of the header row. (An item is selected for import when a check mark appears in its check box.)

If the name of an import item matches the name of an item already installed on your system, this panel reports that the two instances of the item are in conflict. If so, the final column in its row provides an explanation of the conflict. Items are always imported to the Editing status, so if the conflicting item on your system is at any other status, Transaction Controls Governor permits the import even though it registers the conflict. If the conflicting item on your system is at the Editing status, you cannot import the item from the file.

In each row, you can click on a +/- icon (also in the leftmost column) to display or hide the details configured for the item.

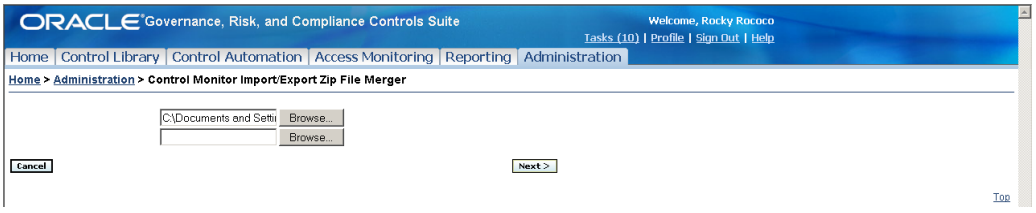
7. Click on the Next button. If you've selected items that conflict with those already existing on your system, a dialog box prompts you to confirm that you want to do so. Click on its OK button, and a final Import panel appears. It too provides a grid in which each row displays information about a successfully imported item (status is now Editing rather than Active). Click on the Finish button to return to the Administration Home panel.

From any of these panels other than the last, you can click on a Back button to return to earlier panels and alter selections you've made in them.

Merging Control-Monitor Export Files

You may create several export files, each of which contains a selection of control monitors. If so, you can merge them into a single file and then use that file to import monitors into an instance of Transaction Controls Governor. This feature works only with control monitors, not with export files containing control-library elements. To merge control-monitor export files:

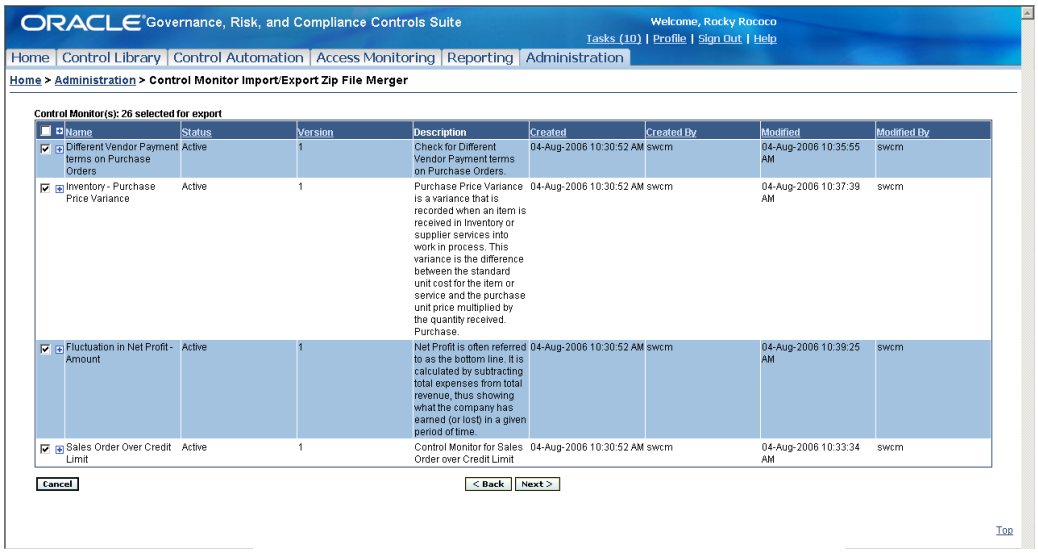
1. Click on the Administration tab, and then on the Control Monitor Import/Export Zip File Merger link in the Data Administration section. The following panel appears:



2. Initially, the panel contains a single field. Click on its Browse button. A Choose File dialog opens. Using standard Windows procedures, navigate to one of the files you want to merge, click on its name, and then click on the Open button.

3. Each time you select a file, the panel not only fills the field in which you've been working with the path and name of the file you selected, but also displays a new, blank field. Click on its Browse button and repeat the process described in step 2 to select the next file you want to merge.

4. When you've selected all the files you want, click on the Next button. Another Merge panel lists the control monitors contained in the files you selected:



5. Select the monitors you want to include in the merged file. By default, all are selected (a check mark appears in a check box at the left of each row). However, a given monitor may have existed in more than one of your source files, and if so it appears more than once in this panel. (For example, the Split Purchase Orders monitor appears twice in the illustration.) If so, you can include only one instance of the monitor in the merged file, and must deselect any others (click on their check boxes so that their check marks disappear). Apart from this, you may choose to exclude some monitors from the merged file, and so would deselect them as well.

6. Click on the Next button. A third Merge panel displays a grid in which each row displays information about a successfully merged item.

7. Click on the Download button. A File Download dialog box displays the name of the export file and presents options to open it or save it. Click on the Save button and, in a Save As dialog, use standard Windows procedures to navigate to a directory in which you want to save the file, and click on the Save button.