Oracle® Retail Price Optimization

Administration Guide

Release 12.0

July 2006

Administration Guide, Release 12.0

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Preface

This guide enables you to perform the following administration tasks:

- Manging user accounts
- Managing business rules

Audience

This guide is intended for Price Optimization administrators and assumes that you are familiar with the following:

- Security (access control, permissions, and authorization)
- Retail domain metrics and terminology
- Any company-specific policies, such as your naming conventions for merchandise and location hierarchies, naming conventions, and business practices

> **Note:** This guide describes the default implementation and default on screen labels. Your company may have customized the labels. In those situations, the screen labels on your user interface may not match the screen labels described in this guide.

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Related Documents

For more information about using Price Optimization, see the following documents:

- *Price Optimization Installation Guide*
- *Price Optimization Configuration Guide*
- *Price Optimization Operations Guide*
- *Price Optimization User Guide*
- *Merchant Desktop User Guide* (optional)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Managing User Accounts

Each person using Price needs a user account with specific permissions, which determine what specific tasks that person can perform. This chapter includes the following sections:

- Overview of User Management on page 1-1
- User Account Roles on page 1-2
- Managing User Accounts on page 1-5
- Working with the User Management User Interface on page 1-9
- Troubleshooting User Management Errors on page 1-11

Important: If you are using Merchant Desktop and MicroStrategy, ensure that MicroStrategy has been installed and the RMIServer service is running before creating user accounts. For information about installing MicroStrategy, see the *Price Optimization Installation Guide*. For information about Merchant Desktop and MicroStrategy user account integration, see Merchant Desktop Roles on page 1-3.

1.1 Overview of User Management

The User Management utility enables you create, modify, and inactivate user accounts. User accounts enable you to provide user-specific access control permissions.

There are two ways to manage user accounts:

- If you need to manage **multiple** user accounts all at once, use the Bulk Loader as described in the *Price Optimization Configuration Guide*. This guide assumes that most of your user accounts have already been created, by means of the Bulk Loader.
- If you need to add or modify **one or two** user accounts, use the User Management user interface as described in this chapter.

User account permissions consists of a combination of specific *roles* (the scope of actions a user can perform) and *hierarchy levels* (the scope of business data a user can access). You can assign as many roles and hierarchy levels to a user account as necessary.

1.1.1 About User Account Roles

A ***role*** specifies the scope of actions a user is allowed to perform. Price Optimization comes with a set of default user account roles. If you need to add user account roles or modify the actions available for user account roles, use the Bulk Loader XML files as described in the *Price Optimization Configuration Guide*.

1.1.2 About Hierarchy Levels

A ***hierarchy level*** defines the scope of business data a user has permissions to access. Hierarchy level consists of the combination of the following:

- Location Hierarchy
- Merchandise Hierarchy

1.1.3 About Assigning Roles and Hierarchies

If you assign the top level of both the merchandise and location hierarchies to a role, the user has access to **all** hierarchy levels for that role.

If you want the user to have access to a specific merchandise-location hierarchy combination, you do so by specifying the roles and their associated hierarchies. For example, to assign permissions to submit for **only** Departments 314 and 327 for **all** locations, you would add two "submit" roles to the user account and assign a specific merchandise hierarchy to each role, as shown below:

```
PRICE_SUBMITTER - Merchandise Department 314 and Location Chain
PRICE_SUBMITTER - Merchandise Department 327 and Location Chain
```

1.2 User Account Roles

Price Optimization ships with the following types of user account roles:

- User Management Roles
- Merchant Desktop Roles
- Business Rule Manager Roles
- Price Optimization Roles

1.2.1 User Management Roles

User Management roles enable you to add, modify, and remove user accounts. Review the list below to determine which User Management roles to assign a user. For example, you may want to assign one user the ability to create user accounts but assign a different user the ability to assign roles to those accounts.

When a user who **has been** assigned User Management roles logs in, the User Management link on the main menu opens to the User Management utility. When a user who **has not been** assigned User Management privileges logs in, the User Management link opens to a password management dialog box.

Price Optimization comes with the following User Management roles:

- UM_USER_ADMIN - This role allows creating new user accounts. It does not allow assigning roles.
- UM_ROLE_ASSIGNER - This role allows assigning roles to existing user accounts. It does not allow creating or deleting user accounts. A person who uses this role must understand the available merchandise and location hierarchies as described in About Hierarchy Levels on page 1-2.

- UM_READ_ONLY_ADMIN - This role has privileges to view the list of users and their access permissions. This role does not allow adding, modifying, or deleting user accounts.

1.2.2 Business Rule Manager Roles

Price Optimization comes with the following Business Rule Manager roles:

- BRM_PRICE_VIEW - This role allows read-only access to all business rules except for the maximum number of markdowns allowed over an item’s lifecycle rule.
- BRM_PRICE_EDIT - This role allows a user to view and modify all business rules except for the maximum number of markdowns allowed over an item’s lifecycle rule.
- BRM_PROFITLOGIC_VIEW - This role allows read-only access for the maximum number of markdowns allowed over an item’s lifecycle rule, but no other business rules.
- BRM_PROFITLOGIC_EDIT - This role allows a user to view and modify the maximum number of markdowns allowed over an item’s lifecycle rule, but no other business rules.

1.2.3 Price Optimization Roles

Price Optimization comes with the following roles:

- PRICE_VIEWER - This role allows read-only access to worksheets.

  A user can view, sort, filter and perform What-If calculations on data, but they cannot change the worksheet or take markdowns for it.
- PRICE_SUBMITTER - This role allows all of the actions listed above; in addition, a user can submit worksheets.

  If you want a user to be able to change item properties (such as exit dates and exit inventory or sell-through percent) at the item or pricing group level, assigned the Business Rule Manager edit role. See Business Rule Manager Roles on page 1-3 for details.
- PRICE_APPROVER - This role allows all of the actions listed above, except for submitting worksheets. However, this role allows a user to approve/decline submitted worksheets.
- PRICE_USER - You must assign this role to all user accounts that access Price. This role allows access to the user interface but not to any other functions.

1.2.4 Merchant Desktop Roles

The hierarchy levels you assign to Merchant Desktop roles determine which hierarchy levels appear in enhanced reports. The Price Optimization roles determine the alerts available to each user.

Having the enhanced reporting access set by a Merchant Desktop role and the alert access set by a Price role allows you to provide a more varied hierarchy coverage. For example, if people in many departments need access to enhanced reporting, you may want to give them more extensive access so that they can view data from other departments as well. However, because most buyers will be allowed to act on only their own alerts, you may want to give them limited access for alerts in only their own departments.

Price Optimization comes with the following Merchant Desktop roles:

- MD_USER - This role has read-only access to the view and all of the screens and components it contains. It also includes access to MicroStrategy reports.

  Assign this role when you want to ensure that a user cannot make any changes and that they always receive updates from you.

- MD_POWER_USER - This role has rights to personalize views, to create and remove screens and components, and to set individual parameters as allowed by the Merchant Desktop administrator. This role has access to MicroStrategy. Power users can copy and modify reports, but they cannot create reports.

  Assign the power user role when you want to allow a user to make changes. However, be aware that to ensure that their changes are preserved, you cannot automatically update some elements of their view or screens.

- MD_ADMINISTRATOR - This role has all rights to create, modify, and remove views, screens, components, and reports. This role has rights to set permissions for several parameters for power users.

  The administrator role includes full access to MicroStrategy. Only administrators can create reports.

- MD_REPORT_ADMIN - Supplied by Professional Services. This role has the same permissions as the MD_POWERUSER role plus MicroStrategy permissions. This additional level of permissions provides a more intuitive and flexible interface for creation of reports. The Report tab is available to these users.

1.2.4.1 Merchant Desktop and MicroStrategy User Integration

Because of the relationship between Price User Management and the MicroStrategy, be aware of the following:

- As long as the RMIServer service is running while you are creating user accounts, any Price Optimization user account that you create that includes a Merchant Desktop role is *automatically* imported into the MicroStrategy users database.

  As a result, use Price User Management—not MicroStrategy—when managing user accounts.

- Any changes you make to the MicroStrategy users database are not imported back to the Price User Management user database.

  As a result, use Price User Management—not MicroStrategy—when managing user accounts.

- The user names that you create in Price Optimization are case-sensitive, but the MicroStrategy user names are not.

  For example, Price treats "Admin" and "admin" as two unique user accounts. However, MicroStrategy treats them as the same user name and expects the same password for both of these user accounts.

  If you add an account that has the same syntax but different **case**, the MicroStrategy password for that duplicate name is changed to match that of the new user.

  As a result, avoid using upper-case and lower-case to differentiate between user names.

1.3 Managing User Accounts

You manage user accounts by means of an administrative user account. The default account for user account administration is root.

To manage user accounts:

1. Open a browser and enter the Price Optimization URL, similar to the following.

   https://servername:portnumber/p4pgui

   The login screen appears.

2. Enter the root user name and password and click **Login**.

   The main menu appears with the User Management link.

3. Click the **User Management** link.

   The Manage Users screen appears with a list of any user accounts that have already been created.

   For information about creating user accounts, see Creating a User Account on page 1-5.

To quit User Management, click the **Close** link. The main menu appears.

1.3.1 Changing the Password for the root Account

The root account has a default password. For security reasons, you may want to change the password.

To change the password for the root account:

1. From the Manage Users screen, Action list, select **Change Password** and click **Apply.**

   The Set Root Password for user: root dialog box appears.

2. In the **Old Password** text box, enter the existing password, and in the **New Password** and **Confirm New Password** text boxes, enter the new password you want.

   Reminder: Passwords are case-sensitive.

3. When the dialog box is complete, click **Done.**

   You must use the new password the next time you attempt to log on using the root account.

1.3.2 Creating a User Account

There are two ways to create user accounts:

- If you need to create multiple user accounts all at once, use the Bulk Loader as described in the *Price Optimization Configuration Guide*.
- If you need to add or modify one or two user accounts, use the User Management user interface as described in this section.

To create a user account:

1. From the Manage Users screen, Action list, select **Add New User** and click **Apply.**

   The Add New User dialog box appears.

2. Complete the **Add New User** dialog box fields as shown in the following table.

Field	Description
User Name	Required. The user name must be unique for each user. The user name is case-sensitive and can be up to 50 characters (letters, numbers, and symbols) long. For example, Buyer, buyer, and BUYER are all considered to be unique. In general, avoid using upper and lower case to differentiate between accounts. This is especially important if you are using Merchant Desktop and MicroStrategy. For more information, see Merchant Desktop Roles on page 1-3.
Password	Required. The password is associated with the user name, and both are required to log on. The password is case-sensitive and can be up to 50 characters (letters, numbers, and symbols) long. For example, Secret, secret, and SECRET are all considered to be unique.
First Name	Optional, up to 50 characters. Helps you to identify the person assigned to a user name. For example, if your user names are generic labels (such as WomensBuyer001 andMensBuyer300), this information enables you to identify which employee is assigned to a specific user name.
Last Name	Optional, up to 50 characters. Helps you to identify the person assigned to a user name.
MI	Optional, 1 character. Helps you to identify the person assigned to a user name.
Title	Optional, up to 50 characters. Helps you to identify the person assigned to a user name.
Employee ID	Optional, up to 10 numbers. The employee ID is available for your internal use.

3. When the fields are complete, click **Done.**

   The Manage Users screen appears with the user name and related identifiers added.

   Now that you have created the user account, the next step is to assign the appropriate permissions as described in Assigning Roles and Hierarchy Levels to a User Account on page 1-6.

1.3.3 Assigning Roles and Hierarchy Levels to a User Account

Each user account must have one or more role associated with the applicable hierarchies. For information about roles and hierarchies, see Overview of User Management on page 1-1.

Important: If you are using Merchant Desktop, see Merchant Desktop Roles on page 1-3.

> **Note:** You can only add user roles one at a time from the graphical user interface. For instructions on how to add multiple roles all at once, see information about the Bulk Loader as described in the *Price Optimization Configuration Guide*.

To assign roles to a user account:

1. From the Manage User screen, select the user account to which you want to assign roles.
2. From the Action list, select **User Roles** and click **Apply.**

   The Role Assignment for username screen appears.

3. From the Action list, select **Add Role Assignment** and click **Apply.**

   The Add Role Assignment dialog box appears.

4. From the **Role** list box, select the role you want to assign to this user account. For details on the default roles supplied with Price Optimization, see User Account Roles on page 1-2. Note that your implementation may have additional customized roles as well.

5. For any business-related role (any role except for User Management roles) specify the hierarchy levels you want this user to be able to access.

   To navigate down the hierarchy, hover your mouse pointer over the right arrow in the hierarchy. Keep navigating until the target level appears, and then click it.

   - To navigate down a hierarchy, use the right arrow.
   - To navigate up a hierarchy, use the left arrow.

Role	Hierarchy
Business Rule Manager	The hierarchy levels determine the items and pricing groups for which a user can view/update business rules.
Price	The hierarchy levels determine which worksheets a user can access.
Merchant Desktop	The hierarchy levels determine which alerts can appear to a user and which data a user can view in reports.

6. After you have selected the role and any applicable hierarchy levels, click **Done.**

   The Role Assignment for username screen updates with the role and hierarchy levels added.

   If an error message appears instead, see Troubleshooting User Management Errors on page 1-11.

7. Repeat steps 3 through 6 to add as many roles as necessary. When you are finished adding roles, click **Done** to return to the Manage Users screen.

   Note: If you assign different roles within the same hierarchy levels, the role with the most privileges takes precedence. For example, if you assign a read-only role **and** a power user role for the same hierarchy, the power user role for that hierarchy is used when the user logs on.

1.3.4 Modifying User-Related Information

Modifying user-related information involves changing the user name, password, first name, and last name. Typically, you would modify a user account in a situation where the required activities remain the same, but the employee has been reassigned to other tasks.

If you want to change the **permissions** associated with a user account, see Modifying Role and Hierarchy Assignments on page 1-8.

> **Note:** You can only modify user accounts one at a time from the graphical user interface. For instructions on how to modify multiple accounts all at once, see information about the Bulk Loader as described in the *Price Optimization Configuration Guide*.

To modify a user account:

1. On the Manage Users screen, select the user account you want to modify.
2. From the Action list, select **Edit Existing User** and click **Apply.**

   The Edit User screen appears.
3. Change the field values as necessary.
4. Click **Done.**

   The Manage Users screen appears with the updated information.

   Changes to the user account are effective the next time the user attempts to log on.

1.3.5 Modifying Role and Hierarchy Assignments

For each user account, you can do the following:

- Add or remove roles
- Change the hierarchy levels associated with a specific role

> **Note:** You can only modify roles and roles assignments one at a time from the graphical user interface. For instructions on how to add multiple roles all at once, see information about the Bulk Loader as described in the *Price Optimization Configuration Guide*.

To modify a role:

1. From the Manage Users screen, select the user account whose roles or hierarchy levels you want to modify.
2. From the Action list, select **User Roles** and click **Apply.**

   The Role Assignment for username screen appears.
3. From the Action list, select **User Roles** and click **Apply.**

   Do any of the following.

To	Do this
Assign a role	From the Action list, select **Add Role Assignment** and click **Apply.** For a list of available roles, see User Account Roles on page 1-2. On the Add Role Assignment dialog box, select a role and its associated hierarchy levels and click **Done.**
Change the hierarchy levels	Select the roles for which you want to change the hierarchy levels. For information about hierarchy levels, see About Hierarchy Levels on page 1-2. From the Action list, select **Edit Role Assignment** and click **Apply.** On the Edit Role Assignment dialog box, select the new hierarchy levels. (Alternatively, you could select a new role and keep the hierarchy levels.)

To	Do this
Remove a role	**Caution:** There is no undo, and there is no confirmation dialog box. Select the roles you want to remove. Then select **Delete Role Assignment** from the Action list and click **Apply.** The role is removed immediately.

4. When the screen reflects your requirements, click **Done.**

   The change take effect the next time the user logs on.

1.3.6 Inactivating User Accounts

Inactivating a user account makes the user name and password invalid for logging on.

When you inactivate a user account, that account **is** preserved in the database for reports and historical data, but the account can **never** be reactivated. Use caution when inactivating a user account.

> **Important:** Inactivating a user account is **permanent.** There is no undo function. If you decide later that you need this account, you must create a new one.
>
> If you simply want to remove access to a product or to an area of the hierarchies for a specific user account, see Modifying Role and Hierarchy Assignments on page 1-8. If you want to reassign a user account to another person, see Modifying User-Related Information on page 1-7.

To inactivate a user account:

1. On the Manage User screen, select the user accounts you want to inactivate.
2. From the Action list, select **Inactivate User** and click **Apply.**

   A confirmation dialog box appears.
3. If you want to inactivate this user account, click **Yes.**

   The Manage Users screen appears, and the number 2 appears in the Active column, indicating that this user account is inactive. If anyone attempts to use this account, the login will fail.

1.4 Working with the User Management User Interface

The User Management user interface enables you work with the user accounts you have created as follows:

- Sorting Columns
- Rearranging Columns
- Hiding Columns
- Printing and Exporting User Account Information

1.4.1 Sorting Columns

You can sort the data displayed on the following User Management screens:

- Manage Users

- Role Assignments for username

To sort the user and user roles data displays:

1. From the Action list, select **Sort Table** and click **Apply.**

   The Customize Table dialog box, Sort Table tab appears.

2. Enter sort criteria as follows:

   a. Select a column from the first list box.

      This column becomes the primary sort column for the data display.

   b. For that column, select a sort order, either ascending order (A - Z or 1 - 10) or descending order (Z - A or 10 - 1).

   c. If you want the to sort the data by additional columns, select a column and sort order for the remaining two list boxes.

      Note: To remove one or more of the sort criteria, click ***Select*** from the list boxes.

3. When the list boxes and sort order reflect the way you want the data to be sorted, click **Done.**

   The Customize Table dialog box closes, and the data display is updated to the sort order you selected. The sort order remains in effect until you next change it.

1.4.2 Rearranging Columns

You can rearrange and hide columns on the following User Management screens:

- Manage Users
- Role Assignments for username

To rearrange columns:

1. From the Action list box, click **Modify Columns** and click **Apply.**

   The Customize Table dialog box, Change Columns tab appears.

2. In the Visible columns list box, select the column whose position you want to change.
3. Click the up or down arrow until the column is in its target location.
4. Repeat steps 2 and 3 as many times as necessary.
5. When the Customize Table dialog box reflects your settings, click **Done.**

   The Customize Table dialog box closes and the screen updates with your modifications.

1.4.3 Hiding Columns

You can hide columns on the following User Management screens:

- Manage Users
- Role Assignments for username

To hide (or unhide) columns:

1. From the Action list box, click **Modify Columns** and click **Apply.**

   The Customize Table dialog box, Change Columns tab appears.

2. Do one of the following:
   - To hide a column:

     In the Visible Columns list box, select the column you want to hide.

     Click the left arrow to move the column to the Hidden Columns list box.
   - To show a column:

     In the Hidden Columns list box, select the column whose position you want to change.

     Click the right arrow to move the column to the Visible Columns list box.
3. Repeat step 2 as many times as necessary.
4. When the Customize Table dialog box reflects your settings, click **Done.**

   The Customize Table dialog box closes and the screen updates with your modifications.

1.4.4 Printing and Exporting User Account Information

When you print or export information:

- Only **visible** columns are printed or exported.

  For example, if you chose to hide some columns (see Hiding Columns), the data in those columns is not included in the print out or the Excel file. (Likewise, data that is filtered out or hidden in a collapsed row is exported or printed.)
- Information is printed or exported in the current sort order. (To change the sort order, see Sorting Columns on page 1-9).

To print or export user account information:

1. From the Action list on the screen you want to print, or from which you want to export, select **Print or Export** and click **Apply.**

   The Print or Export dialog box appears with a reminder that only the visible data will be printed or exported. The dialog box also indicate the number of rows and the columns, which helps you to estimate how long the print or export process will take.
2. Do one of the following:

To	Do This
Print the user data on the screen (not the screen itself)	Click **Print** and complete the resulting print dialog box as you normally would.
Export the data to a Microsoft Excel spreadsheet	Click **Send to Excel.** On the resulting Save As dialog box, enter a file name and click **Save.** An "Export Complete" message appears along with the path and file name of the Excel file, and the Excel file opens automatically.

1.5 Troubleshooting User Management Errors

This section enables you to troubleshoot the following user account management errors:

- MicroStrategy Users Licenses Exceeded on page 1-12

- MicroStrategy Users Table General Failure on page 1-12
- MicroStrategy Failure Connecting to the Remote Registry on page 1-12
- Unable To Perform Request: System Error on page 1-13
- User Cannot Log In on page 1-13

1.5.1 MicroStrategy Users Licenses Exceeded

When you attempt to add a Merchant Desktop role to a user account, the following message appears:

Unable to update the MicroStrategy Users table: licenses exceeded.

This error can occur when you have not updated the usermanagement.properties file for the number of MicroStrategy licenses you are using.

Solution

Correct this problem as follows:

1. Open the <INSTALL_ BASE>/config/usermanagement/usermanagement.properties file.
2. Change the microstrategy.users.max value to the number of user licenses you have purchased.
3. Save the file and restart your application server.

1.5.2 MicroStrategy Users Table General Failure

When you attempt to add a Merchant Desktop role to a user account, the following message appears:

Unable to update the MicroStrategy Users table: General failure.

This error can occur for several reasons, mainly in the following categories. It occurs when you the string is built and posted to the MicroStrategy server. Check the following:

- ###MerchantDesktop Report Server rmiHost=ReportingServerName rmiPort=44499# In most cases, rmiHost and reportServer should be the same reportServer=ReportingServerName administratorName=administrator administratorPassword= mdProject=Merchant Desktop
- There is a mismatch between the hierarchy level names that User Management is using and those that are defined in Merchant Desktop.
- The MicroStrategy server is down.

1.5.3 MicroStrategy Failure Connecting to the Remote Registry

When you attempt to add a Merchant Desktop role to a user account, the following message appears:

MicroStrategy Integration: General failure connecting to the remote registry.

Solution

This error can occur when the RMIServer service is not running.

- Make sure you have installed the MicroStrategy User Management Integration Server as described in the *Price Optimization Configuration Guide*.

- Once the MicroStrategy User Management Integration Server is installed, verify that the RMIServer service is running. (On the MicroStrategy server, select Start > Settings > Control Panel > Administrative Tools > Services.)

1.5.4 Unable To Perform Request: System Error

The following error message can occur in a variety of circumstances:

Unable to perform request due to system error

Solution

Perform the following:

- Verify that the network is not having problems.
- Verify that the User Management database is available.

1.5.5 User Cannot Log In

A user reports that their username and password combination is no longer working.

Solution

Log in problems are usually due to case-sensitivity issues. To solve this problem, perform the following:

- Make sure that the user has not selected the Caps Lock key.
- If you have recently changed their Price password or username, it is possible that Internet Explorer is storing the former password. This can occur when the only change in the user name or password is case.
- If you added a Merchant Desktop account whose user name differs only in case to an existing user name, the MicroStrategy password for that "duplicate" name is changed to match that of the new user. See Merchant Desktop and MicroStrategy User Integration on page 1-4.

2

Managing Business Rules

Business rules specify the constraints that Price Optimization uses when performing calculations, forecasts, and other automated processing.

This chapter contains the following sections:

- Supported Business Rules **on page 2-4**
- Understanding the Business Rules Manager User Interface on page 2-5
- Locating Your Business Rules **on page 2-7**
- Modifying Business Rule Settings on page 2-10
- Copying Business Rule Settings on page 2-11
- Removing Business Rule Settings on page 2-12
- Viewing the History of All Business Rule Modifications on page 2-13

2.1 About Business Rules

Business rules are applied to items, not to pricing groups. Instead, business rules apply per item regardless of membership in a pricing group. When items in the same pricing group have differing outdates, target sell throughs, salvage values, etc., the final value is derived by rules set during your implementation set up.

Note: Although business rules are applied to items instead of pricing groups, typically business rules are set at higher levels in the merchandise hierarchy than the item level.

2.1.1 How Do Business Rules Relate to Actualized and Mock items?

Within Price Optimization, the relevant business rules are similarly applied to actualized and mock items.

2.1.2 What are exit date constraints?

An exit date signifies the end of the selling period for an item. At the exit date, it is assumed that any remaining inventory will be removed from the selling floor and is to be packed away, shipped to outlets, sold to a jobber, or otherwise disposed of. Items that do not have an exit date are assumed to be basic items that are sold year round.

Price provides permanent markdown recommendations for items with exit dates. Recommendations are aligned with the specified exit date goal. Given an amount of inventory, the sooner the exit date is (and therefore the shorter the selling period is) the more aggressive the markdown recommendations are and vice versa.

For the best forecasting and recommendations, set exit date values far in advance of the exit date. The earlier an exit date is set, the more accurate the recommendations are. If the exit date is changed mid-season, markdown recommendations made prior to that change will not be consistent with the new exit date. All new recommendations made beginning the following week are consistent with the new exit date.

You can make new items eligible for markdown recommendations by providing an exit date for those items.

Note: In order to recommend markdowns for a particular item, Price requires that the item has an exit date. Also, Price does not provide recommendations for any item that is past its exit date.

2.1.3 How do exit date constraints relate to target inventory?

A target inventory level (units or sell-through percent) at the exit date must be set for each item. Price provides permanent markdown recommendations, which drive the merchandise to meet the exit date and inventory goals. Given an amount of inventory, the lower the target exit date inventory, the more aggressive the markdown recommendations are and vice versa.

You must specify remaining inventory level targets in advance of the exit date. The earlier that target level is set, the more accurate the recommendations are. If the target level is changed mid-season, markdown recommendations made prior to that change would not be consistent with the new target. Beginning the following week, all new recommendations made are consistent with the new inventory target.

If no inventory level is provided, Price sets the target inventory level at the exit date to be zero.

2.1.3.1 Residual Value of Inventory

Residual values can be set in the beginning of the season for each item and represent the most accurate valuation of inventory at the end of season. If an item is not assigned a residual value, Price assumes that it is zero; that is, by default Price assumes the inventory is worthless after the exit date.

Price considers this value of inventory when driving to end of season gross margin and inventory goals. A higher residual value results in a less aggressive markdown recommendation in season and a lower residual value results in a more aggressive markdown recommendation in season.

2.1.4 How does Price deal with markdown accounting?

Price assumes all markdowns are permanent, and its recommendations are based upon the assumption that prices cannot go back up.

Nonetheless, for accounting purposes, you can indicate that you want a markdown to be taken as a temporary markdown. Typically you would do this because the markdown is expensive, and you want to evaluate the financial impact of spreading the cost over the remainder of the item's selling life. Except for this difference in accounting, taking a markdown recommendation as a temporary markdown is the same as a permanent markdown.

2.1.5 Return to Vendor Items

Sometimes you can send items back to a vendor at a negotiated price. In effect, this return price (minus any identified handling costs) can serve as the residual price for these items. In this case, Price uses the same logic as for residual values - a higher residual value results in a less aggressive markdown recommendation in season and a lower residual value results in a more aggressive markdown recommendation in season.

2.1.6 Inventory Transfers

Price assumes clearance inventory will not be transferred between stores. When transfers do occur, Price will become aware of them via the changes in a store's inventory position that is not attributable to sales/returns or additional deliveries.

Consolidation of inventory between stores is common practice today and can be included in the business model implemented by Price. For instance, if transfers occur, Price can receive the revised inventory amounts in the weekly data update and use that updated inventory information in all future markdown recommendations.

There is a risk that if a significant amount of inventory transfers from one store to a sister-store, the optimum price strategy to date has been compromised for both stores.

2.1.7 Minimum and Maximum Markdown Levels

Recommended permanent markdowns can follow a tiered minimum and maximum markdown strategy. Typically your company defines the increments (in price or in percent off) that can be taken off the current ticket price.

For example, you might define a rule that items with an original ticket price greater than $20.00 must be marked down at least 10% less than the original ticket price. No markdown recommendations would be given below the thresholds of the current price set by the price tier (also called price ladder).

2.1.8 Pricing Groups

Pricing groups are groups of merchandise that can be priced at the same level at the same time. Typically, items in pricing groups are from the same style or class, and they share common attributes such as color or vendor.

2.1.9 Markdown Effective Date

The markdown effective date is the day that a Price markdown decision will actually be in effect in the stores. This is tied to a particular run cycle; the same effective date is used for all the items in the system. For example, you may make markdown decisions for some items on Tuesday of this week, and some more on Wednesday. The effective date may be such that those markdowns will first appear on the floor a week from the coming Saturday.

Each week, Price shows the recommendations (based on the most current data) for the next eligible markdown time period. There can also be a "week-ahead" report, which suggests markdowns to be taken on a different date.

2.1.10 Blackout Periods

A blackout period is period of time when you prohibit markdowns for some reason (holiday, other store activities, etc.). Price can incorporate blackout periods (if any) as constraints in the optimization scenarios it evaluates.

2.1.11 Scan-Down Credits

Scan-down credits are cost breaks on merchandise that a vendor gives to a retailer. If a price change is made to pass the scan-down savings to the consumer, Price can recognize the change in the weekly data feed and adjust future pricing strategy.

2.1.12 What are the rules about business operations?

Business rules include the specifics about your weekly process, timing, and availability. For instance, here are some typical rules:

- You can review your pricing strategies on a weekly basis to determine which items need markdowns.
- Price will execute markdowns once a week with an effective date in the stores of Friday.
- Business data needed for updates can be current at close of business on Monday.
- Data will be loaded Tuesday afternoon and the optimization model will be run Tuesday evening and Wednesday.

2.2 Supported Business Rules

Price Optimization comes with the following business rules.

Table 2–1 Price Business Rules

Rule	Description
Between	Applies to *markdown timing.* After the first markdown has been taken for the item, the minimum number of weeks that can pass between each subsequent markdown
Max #	Applies to *markdown timing.* The maximum number of markdowns the item can receive during its lifecyle
Max initial	Applies to *markdown depth.* The maximum amount of the first markdown, which is the highest percentage drop allowed from the current ticket price at the time of the initial markdown
Max Other	Applies to *markdown depth.* After the first markdown, the maximum amount of any subsequent markdown, which is the highest percentage drop allowed from the current ticket price at the time of the markdown
Min Initial	Applies to *markdown depth.* The minimum amount of the first markdown, which is the lowest percentage drop allowed from the current ticket price at the time of the initial markdown
Min Other	Applies to *markdown depth.* After the first markdown, the minimum amount of any subsequent markdown, which is the lowest percentage drop allowed from the current ticket price at the time of the markdown
No Touch 1st	Applies to *markdown timing.* The minimum number of weeks that must pass after the first optimization run date before the item is eligible for a markdown
Out Date	Applies to *Exit Target.* **Note:** You can still change exit dates for individual items via worksheets, and those changes will automatically be reflected in the Business Rules Manager. However, to set exit dates at or above the worksheet level you must use the Business Rules Manager. The date by which you plan to be out of inventory or by which you want to reach a specified sell-through target
Salv Above	Applies to *Exit Target.* The salvage value of the items if the inventory is above the target inventory level

Table 2–1 Price Business Rules

Rule	Description
Salv Within	Applies to *Exit Target*. The salvage value of the items if the inventory equals or is below the target inventory level
Sell Thru	Applies to *Exit Target*. The percentage sell-through planned for the item by the exit date, which is also known as the inventory target
Start Date	Applies to *planning*. The date on which your stores plan to start selling the item

2.3 Understanding the Business Rules Manager User Interface

This section provides an overview of the Business Rules Manager user interface.

To access the Business Rules Manager:

You can start the Business Rules Manager in the following ways:

- From the Price main menu by click **Business Rule Property Manager.**

  This opens the Business Rules screen at the top level of both the merchandise and location hierarchy, including all attributes.

- From any worksheet's Action list by selecting Edit Worksheet Rules and then clicking **Apply.**

  This opens the Business Rules screen at the same merchandise and location hierarchy level as the worksheet.

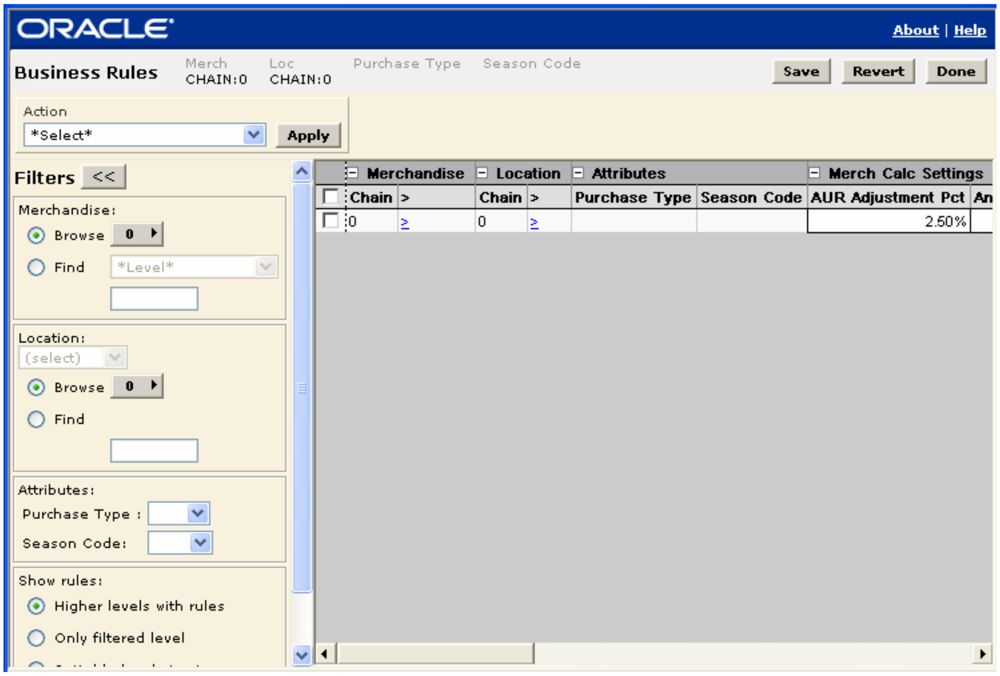
- From the Item Info dialog box by selecting the Edit Business Rules button.

  This opens the Business Rules screen at the item level in the merchandise and location hierarchy.

From the main menu, click **Business Rule Property Manager.**

The Business Rules screen displays.

Figure 2–1 Business Rules Screen



The Business Rules Manager screen has the following panels:

- Filters Panel - Enables you to quickly navigate to any hierarchy level
- Grid Panel - Displays the business rule

2.3.1 Business Rules Filters Panel

The Filter panel enables you to quickly navigate to any hierarchy. The Filters panel is collapsible; once you find the hierarchy you want, you can close the Filters panel to make more room for the display of your business rules.

To close the Filters panel, click the double left-arrow (<<) button. To later display the Filters panel, click the double right-arrow (>>) button.

Table 2–2 Business Rules Filters Panel Fields

Field	Description
Merchandise and Location	Select one of the following from within the hierarchy you want to filter on and click **Filter.** ■ **Browse:** Navigate hierarchy levels until the level you want appears. On that level select the node you want and then click **Filter.** ■ **Find:** Specify the level you want and then click **Filter.**
Attributes	Select the attribute by which you want to filter within the current hierarchy levels. ■ To filter with no attributes, select the blank line. ■ To filter by all attributes, select **Any.**

Table 2–2 Business Rules Filters Panel Fields

Field	Description
Show Rules	Select as filtering rules as follows: ▪ **Higher levels with rules:** To display inherited business rules (i.e., those set at higher levels in the hierarchy that items created at lower levels inherit) and click **Filter.** ▪ **Only filtered level:** To display only the specific level (doesn't display the rows that precede it) and click Filter. This opens the Business Rules screen at the item level in the merchandise and location hierarchy. ▪ **Set table levels in view option:** From within the current view, to display only the level(s) at which rule values can be edited and click Filter.

2.3.2 Business Rules Grid Panel

The Business Rules Manager opens the grid at the top level of both the merchandise and location hierarchy, including all attributes.

Feature	Description	Indicates
Border	Black border	You can edit the value
	Grey border	You cannot edit the value
Cell Color	Green cell	the value has been edited
	Normal cell	the value has not been edited
Text Color	Black text	value was set at this level
	Gray text	the value was inherited

2.4 Locating Your Business Rules

Business rules may be set on one or more levels in the hierarchies. There are several ways to locate your business rules:

- Browsing the Hierarchies
- Expanding the Hierarchies within the Grid
- Finding a Hierarchy Entity

2.4.1 Browsing the Hierarchies

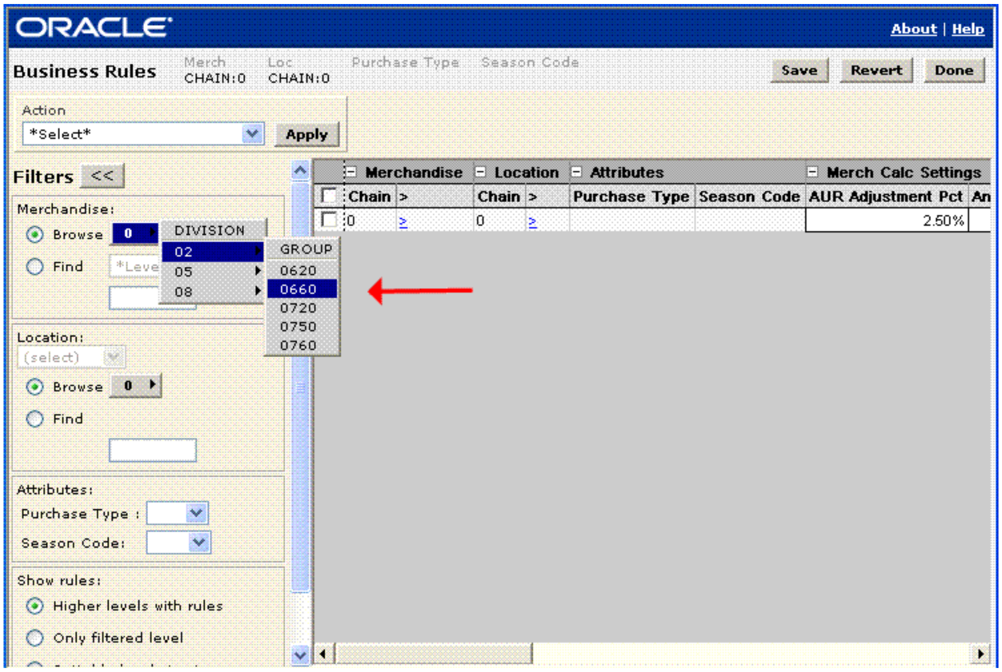
To navigate through the hierarchies:

1. In the Filters panel, click **Browse.**
2. Move the mouse pointer to the right arrow next to Browse.

   The pointer becomes a hand and the next level of the hierarchy appears.
3. Move the mouse pointer to each successive right arrow until you reach the target hierarchy level.

   Following is an example of an expanded merchandise hierarchy using this method.

Figure 2–2 Browsing the Hierarchies



4. When you reach the target level and node, click it.
5. Click the **Filter** button:

   The business rule property manager grid (right pane) updates to reflect your hierarchy selection.
6. To traverse back up the hierarchy, hover the mouse pointer over the left arrow of the selected hierarchy level and select a hierarchy level, as in this example.

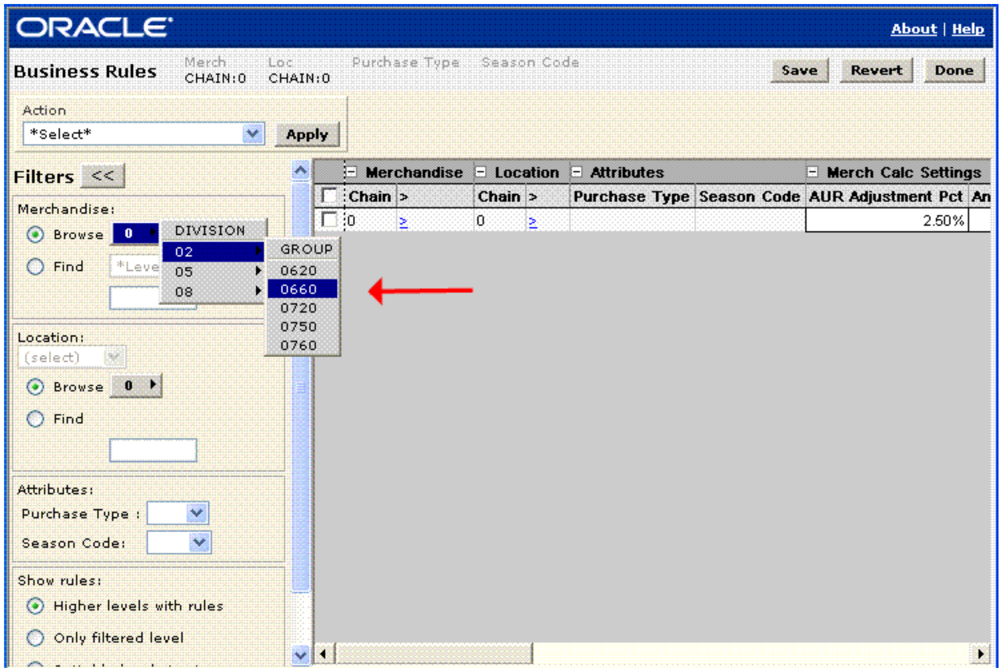
2.4.2 Expanding the Hierarchies within the Grid

To expand the hierarchies within the grid:

1. In the hierarchy grid, click the blue angle bracket.

   The grid expands by adding a column to show the next level (e.g., Department) and all of its nodes (e.g., Dept. 001, Dept. 002, Dept. 003, etc.).
2. Repeat step 1 until both the hierarchies are expanded to the levels you want.
3. Following is an example of an expanded merchandise hierarchy using this method.

Figure 2–3 Expanding the Hierarchies



2.4.3 Finding a Hierarchy Entity

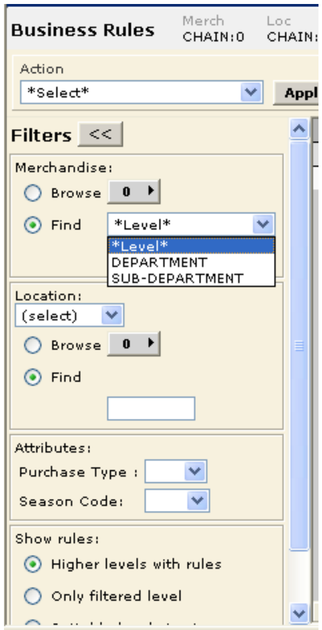
If you know the node identifier (an entity on a hierarchy) that you want to find, you can use the Find feature. Examples of node identifiers are style, product, or store code, and so forth.

For example, on the department level of the merchandise hierarchy, some nodes might be Men's Dept., Women's Dept., Children's Dept., Housewares Dept., Sporting Goods Dept., and so forth.

To find a hierarchy entity:

1. In the Filters panel, click **Find.**
2. If applicable, from the list box, select what you want to find. For example, the Find list box for merchandise might include Style and Product. The Find list box for stores might include Region and Store.

Figure 2–4 Finding a Hierarchy Entity



3. In the text box, enter the identifier for the node you selected to find in step 2 (e.g., style, product, region, store, etc.).
4. Use the scroll bar to locate the Filter button below the Filters section. Click the **Filter** button.
5. If the node exists, it displays in the grid pane. Otherwise, a message appears indicating that the node could not be found.

2.5 Modifying Business Rule Settings

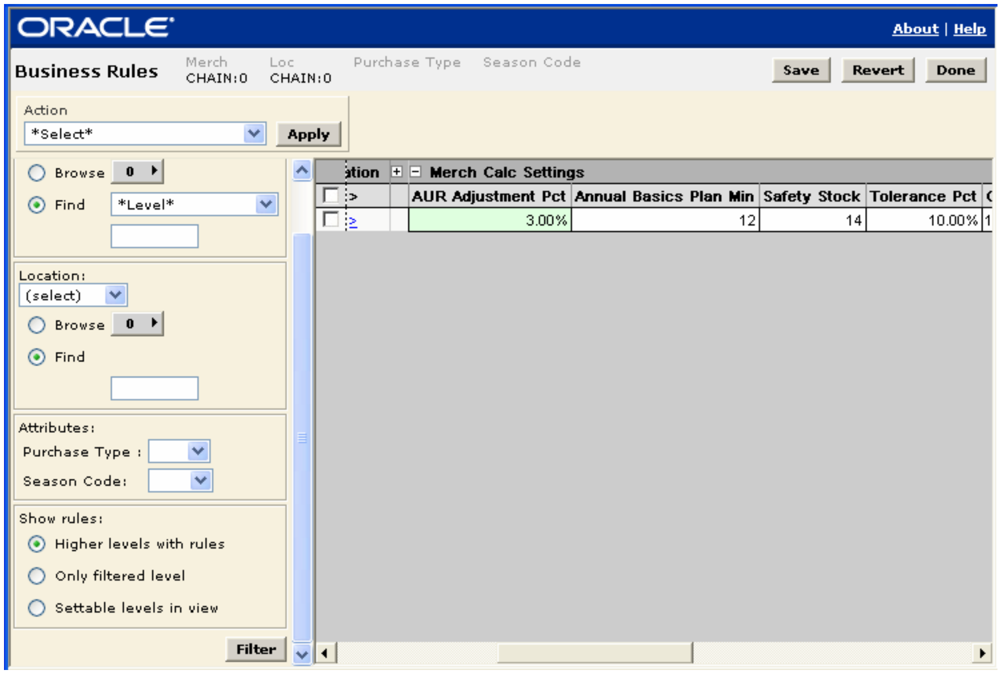
When you modify business rule settings, any changes you make are inherited by the lower levels in the hierarchies. For more information, see Rule Settings and Inheritance" on page 173.

Note: Rule values may be null only if that was set as the default value during implementation. To specify a null value, enter NONE.

To modify business rules:

1. Access Business Rule Property Manager. (If you are unsure of how to do this, see"Understanding the Business Rules Manager User Interface" on page 2-5.)
2. On the Business Rules screen, scroll horizontally to find the business rule whose value you want to change.

Figure 2–5 Changing a value in a category



3. If applicable, modify the business rule value:

4. When you have changed the business rule values as necessary, click **Save.**

   Reminder: Lower levels of the hierarchies inherit values from the higher levels.

2.6 Copying Business Rule Settings

You can copy business rules settings from one (or more) hierarchy level/ attribute combination to another.

Note: Any changes you make are inherited by lower levels in the merchandise and location hierarchies. Also note that there may be some restrictions on the rules you can copy or paste.

To copy business rule settings:

1. Access the Business Rules Manager. (If you are unsure of how to do this, see "Understanding the Business Rules Manager User Interface" on page 2-5.)

2. Locate the source rule set you want to copy values from. (If you are unsure how to do this, see "Locating Your Business Rules" on page 2-7.)

3. Select one or more rule sets that you want to copy.

4. From the Action list, select **Copy rule values** and click **Apply.**

   The Copy Business Rules dialog box appears.

5. On the Copy Business Rules dialog box, clear the check box for the rules whose current values you do not want to copy and then click **Copy.**

6. Locate the target rule set you want to update with the copied values.

Reminder: When you update values at higher levels, the lower levels inherit those values.

7. Select the rule set and from the Action list, select **Paste rule values** and click **Apply.**

   Provided the rules are allowed to be updated, the rule set is updated with the copied values.

   The new business rule settings take effect immediately.

2.7 Removing Business Rule Settings

Deleting a business rule setting enables you to let children levels inherit settings from their parent levels.

Deleting a business rule setting does **not** delete the rule itself from the Business Rules Manager, deleting a business rule setting only removes the values specified for the particular levels.

If you want a level (and any children levels) to inherit settings from the parent, deleting the business rule setting when you want to remove the setting for that level (merchandise/location hierarchy and attribute combination) and let that level inherit the setting from the next higher level.

Note that all child levels below this level will also inherit the new setting unless they already have a value that is set explicitly.

Note: When you delete top-level rule values, those values are replaced with the default values set during implementation. Rule values can be null only if that was set as the default value during implementation. To specify a null value, enter NONE.

Note: Values are removed only if the rule is allowed to be edited at that level. (A black cell border indicates an edit box; a gray cell border indicates a rule value that cannot be edited.)

To delete a business rule setting:

1. Access the Business Rules Manager.
2. Navigate to the rules you want to delete (for information on how to find them, see see "Locating Your Business Rules" on page 2-7.) and do either of the following:
   - To delete one rule: select the rule whose value you want to delete, and click Delete.
   - To delete multiple rules: Select the rules whose values you want to delete. From the Action list, select **Delete selected rules** and click **Apply.**

     The Delete Business Rules dialog box appears.

     On the Delete Business Rules dialog box, clear the check box for the rules whose current values you want to retain, and then click **Delete.**

   Cells whose rule values were removed are updated in a pale green shade.
3. Click **Save.**

2.8 Viewing the History of All Business Rule Modifications

At any time, you can review the history of all modifications made to a business rule. Note that the number of prior weeks history available is determined by your company implementation.

To view business rule history:

1. Access the Business Rules Manager.
2. Locate the levels you want to review. (If you are unsure how to do this, see "Locating Your Business Rules" on page 2-7.)
3. From the Action list, select View rule history and click Apply.

   The Business Rule History dialog box appears.
4. From the Rules list box, select the rule whose history you want to view, and in the Changes between text boxes, enter the dates for which you want to view the history.

   To view a business rule value that was in effect for a particular date, enter the target date in both date text boxes (i.e., enter the target date as both the start date and the end date). The result is all the rule values that would apply via inheritance The value on the target date is the one with the highest precedence.

   The number of weeks available to you is dependent on how Price Optimization is configured for your company.
5. Click View.

   The Business Rule History screen appears with the history for the specified rule at the hierarchy levels you selected in step 2.

   This screen is organized by merchandise and location hierarchy levels and then by date, with the newest date at the top of each merchandise/location grouping and the oldest date at the bottom of each merchandise/location grouping. Thus, by viewing from bottom to top, you can see how a value was modified over time.

   - The Start Dt and End Dt columns show you the range of time for which the business rule and its value were effective. This can help you to determine if one or more weekly optimizations were affected by a particular business rule.
   - The User column displays the user name of the person who made the change.
6. If you want to print or export the rule history, select Print or Export from the Action list, and then click Apply.
7. When you are finished, click **Done** to return to the Business Rules screen.