Markdown Optimization Guide

for SAP DM

Demand Management

Release 6.4

Target Audience

- Business users

Document Version 1.00 - October, 2006
# Typographic Conventions

<table>
<thead>
<tr>
<th>Type Style</th>
<th>Represents</th>
</tr>
</thead>
</table>
| *Example text*   | Words or characters quoted from the screen.  
These include field names, screen titles, pushbutton labels, menu names, menu paths, and menu options.  
Cross-references to other documentation |
| *Example text*   | Emphasized words or expressions in body text, graphic titles, and table titles.                                                                                                                                                          |
| **EXAMPLE TEXT** | Technical names of system objects.  
These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| *Example text*   | Output on the screen.  
This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade, and database tools. |
| *Example text*   | Exact user entry.  
These are words or characters that you enter in the system exactly as they appear in the documentation.                                                                                              |
| `<Example text>` | Variable user entry.  
Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system.                                                                 |
| **EXAMPLE TEXT** | Keys on the keyboard, for example, F2 or ENTER. }
# History of Changes

The following table provides an overview of the most important changes made in the latest version.

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<tr>
<td>1.0</td>
<td>B. Wellman</td>
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1 Introduction

Purpose
This Markdown Optimization Guide for SAP DM is a reference guide for using the Markdown Optimization application within SAP DM.

1.1 About this Document

Scope
The Markdown Optimization Guide for SAP DM consists of the following main sections:

- **What is Markdown Optimization?**
  You can optimize discount pricing to achieve the maximum profit possible while reducing inventory at the required rate.

- **Creating Markdown Events**
  There are several ways to generate new markdown events:
  - Manually, by entering product and location combinations and business rules. You may select products one of the following ways:
    - Use the product hierarchy, and then enter location combinations and business rules
    - Perform a product search, and then enter location combinations and business rules
  - Automatically, by importing a text file and using current business rules. You may either:
    - Use product and location search to define and export `markdown_detail.txt` and `markdown_header.txt` files and send as part of the weekly feed
    - Create a customized text file, which shortens the search time for products and locations

- **Browsing Markdown Events**
  You can view product and location combination details for a markdown event including schedule, pricing, and forecast information.

- **Modifying Markdown Events**
  You can change schedule and pricing details for a product and location combination at the location level or at the product level across all locations associated with the product. You may also approve or unapprove a product or location in a markdown event. You may delete a product or a location in a markdown event.

- **Deleting Markdown Events**
  You can remove an entire markdown event from the Price Activity Calendar.

- **Reporting Markdown Events**
  You can run reports on current or previous markdown events.

- **Using the Business Rules Library**
  You can create new business rules or modify existing business rules for markdown events.

- **Re-optimizing Markdown Events**
  You can change an existing markdown event in response to changing inventory and sales information.
1 Introduction

Constraints

- The Markdown Optimization Guide for SAP DM primarily discusses the overall implementation of the Markdown Optimization application rather than its subordinate components. This means that additional software dependencies may exist without being mentioned explicitly in this document. You can find more information on component-specific software dependencies in the corresponding installation guides.

- The business scenarios that are presented herein serve as examples of how you can use SAP software in your company. The business scenarios are only intended as models and may not necessarily function, as they are described here, in your customer-specific system landscape. Review your requirements and systems to determine whether these scenarios can be used productively at your site.

We recommend that you test these scenarios thoroughly in your test systems to ensure they are complete and free of errors before going live.
2 What is Markdown Optimization?

The Markdown Optimization application uses a mathematical modeling process that optimizes discount pricing to reduce inventory while minimizing negative impact to margin for the following:

- Discontinued products
- Seasonal products
- New products
- Location closings

Retailers that do not use the Markdown Optimization application may discount products too quickly and sell out of inventory too fast, resulting in lost margins they could have captured. Alternatively, discounting products too slowly may leave too much inventory on hand that requires last-minute deep discounts at the end of a period, also reducing margins.

The Markdown Optimization application uses historical sales data to generate future markdown-pricing event recommendations. Your company decides which of the following data sources to use for creating the demand model:

- Organizational data
- Product data
- Location data
- Data that is needed to build up the demand model but is excluded from optimization
- Business process for which the data is needed

Based on the actual sales data imported from your company, you create the demand model. You perform the markdown optimization process based on the demand model. This process generates output files `manumkdn_pricefile.txt` and `markdown_pricefile.txt` that show you the:

- Event number
- Event name
- Markdown level
- Start date
- End date
- Price markdown percent
- Product key
- Store key
- Markdown type
- Out date

The markdown optimization process also generates `mddcinvalloc.txt`, which shows what inventory needs to be transferred from Distribution Center (DC) to store.

With the Markdown Optimization application you can create, browse, modify, and delete a markdown-pricing event for a product at the following levels:

- Product level across all locations associated with a product
- Location level
3 Creating Markdown Events

Use
The Price Activity Wizard guides you through the steps required to create a markdown event. You can manually enter product and location combinations and business rules or import a text file and use default business rules, or some combination of manual and automated steps.

Procedure

⚠️ A single product and location combination can exist in only one markdown event for a specific date range.

1. To launch the process for creating a markdown event, choose Price Activity Calendar from the navigation panel on the home page.
   The Activity Calendar page appears with the Calendar tab page and the Details section.

2. To launch the Price Activity Wizard, click Create on the Calendar tab page.
   The Price Activity Wizard appears.

💡 To return to a previous page in the wizard and review or change information, you can click Previous. Likewise, you can click Cancel to exit the wizard at any time.

3.1 Start
A process flow diagram, depicting the steps that the Price Activity Wizard performs, appears on the left side of the tab page.

💡 As you advance through the Price Activity Wizard, the wizard highlights the current step of the process in yellow. Previously completed steps are shaded blue.

3.2 Price Activity Selection
1. To select a Price Activity Selection, click Markdown
   The process flow diagram changes according to your selection.

2. Click Next.
   The wizard advances and displays the Markdown Definition section.
3.3 Markdown Definition

1. Type a name for the markdown event in the *Price Activity Description* textbox.

   To prevent duplication of event names, the application appends the markdown event name with the date and time the event is created.

2. Select the desired option from the *Price Activity Type* dropdown list.

   The *Price Activity Type* options are customized for markdown events for your application. Therefore, the options may vary from those described in the Retail Price Optimization Guide for SAP DM.

   The following are examples of the *Price Activity Type* options that may appear:
   - Discontinued
   - Seasonal Exit
   - On Demand

3. To select a *Beginning Date* for the markdown event, click the calendar icon adjacent to the *Begin Date Field*.

   The application populates the *Created By* textbox with the user name of the person logged into the application.

   Markdown events are automatically re-optimized on a weekly schedule. If you do not want the wizard to re-optimize markdown events, you may clear the *Automatically Reoptimize* checkbox.

   The application automatically selects the *Automatically Reoptimize* checkbox.

4. Alternatively, enter product and location combination information in the *Price Activity Wizard* by importing a text file that identifies the products, locations, and date ranges for the markdown event.

   If you want to import a text file containing product and location combinations, select the *Import Products and Stores from a text file* checkbox. The process flow diagram for the wizard changes to reflect the import process, and the next step in the flow is now *Markdown Import Text File*. Continue to *Text File Selection* to import a text file.

5. If applicable, select the *Use Salvage Value* checkbox to specify a salvage value for use in optimizing the markdown event.

   Selecting *Use Salvage Value* prohibits the application from setting an optimized markdown price below the product’s previously assigned minimum discard value.

   The *Use Salvage Value* checkbox is clear by default, and the default salvage value is zero. The salvage value is specific to a product and location combination that may change with schedule, location, or inventory position.

   You must enter all of the information from the preceding steps to advance to the next page of the wizard.

6. After entering all required information into the *Markdown Definition* tab page, click *Next*.

   The *Price Activity Wizard* advances to the *Product Selection* section.
3.4 Product Selection

To select products by keyword, product hierarchy, or brand hierarchy, click Product Search in the Product Selection section. The Product Selection Dialog box appears with the Search and Product Hierarchy tab pages. These tab pages provide separate methods for finding and selecting products to include in the markdown event.

You can only see the products that your security settings allow.

3.4.1 Search

1. To perform a text search for product selection, choose the Search tab.

   The Search tab page appears.

2. Select one of the following options from the Search Type dropdown list:
   
   - Product Name
   - Product Key
   - Brand Name
   - Brand Key

3. Select one of the following options from the Search Constraint dropdown list:
   
   - Begins With
   - Contains
   - Ends With
   - Exact Match

4. Type the text to search for in the Search Field textbox.

5. Click Go.

   A list of all the products matching the search conditions appears.

6. To select a product to include in the markdown event, highlight the product name by clicking the corresponding row in the list of products.

   To select more than one product, press CTRL while highlighting the product names. To select all products, highlight the first product, and then press SHIFT until you highlight the last product.

7. After you finish selecting the products, click Select.

   A list of the products you selected appears in the Products to Markdown table.

8. To clear a single product selection, select the product and click Remove.

9. To clear the entire list of products selected, click Remove All.

10. Click Next.

    The wizard advances to the Location Selection section.
3.4.2 Product Hierarchy

1. To use the expandable product hierarchy tree for product selection, choose the Product Hierarchy tab.

   ![](Image)

   The Product Hierarchy tab page appears with the product hierarchy tree.

   Click the plus sign to expand a product group in the product hierarchy tree.

2. To include a product in the markdown event, select the checkbox for the product name in the product hierarchy tree.

   ![](Image)

   Products can be selected at any level of the product hierarchy tree. If a level above the product level is selected (i.e., category), all products in that level are selected.

3. After you finish selecting the products, click Select.

   A detailed list of the products you selected appears in the Products to Markdown table.

   ![](Image)

   Click Remove to clear a single product selection, or click Remove All to clear the entire list of products selected.

4. Click Next.

   The wizard advances to the Location Selection section.

3.5 Location Selection

3.5.1 Location Hierarchy

Use the expandable location hierarchy tree in the Location Selection section to select locations in descending order as follows:

Enterprise

→Chain

→Zone

→Store

![](Image)

Click the plus sign to expand any category displayed in the location hierarchy tree.

1. To include a location in the markdown event, select the checkbox for the location name in the location hierarchy tree.

   ![](Image)

   When you select an upper level in the location hierarchy tree, the application selects all the stores below the upper level. When you deselect an upper level, the application deselects all the stores below the upper level.

2. Click Next.

   The wizard advances to the Business Rules section (see Rules and Objectives for more information).
3.5.2 Text File Selection

The Markdown Import Text File section of the wizard is the current view (see Markdown Definition for more information).

1. To import a product and location combination file, click Browse.
   The Select the text file to upload dialog box appears.

   Only one person at a time may import a text file.

2. Use the Look In box to browse and select a file to upload from your computer system.
3. Click OK.
   The wizard returns to the Markdown Import Text File section and displays the name of the selected file.
4. Click Next.
   The wizard advances to the Business Rules page (see Rules and Objectives for more information).

3.6 Rules and Objectives

Purpose

The Business Rules section allows you to choose default business rules or define custom business rules.
Business rules incorporate specific strategy, margin, and schedule requirements defined by your company into the markdown optimization process. These rules establish minimum and maximum values for the parameters used to calculate markdown event price recommendations.

3.6.1 Using Default Business Rules

Use

You can use the default business rules from the Business Rules Library.

Procedure

1. Verify the following information appears correctly in the Business Rules section:
   - Price Activity Description
   - Price Activity Type
   - Begin Date
2. If all information is correct, click Finish.

   If the information is not correct, click Previous to return to the previous section in the wizard and correct the information.

3.6.2 Creating Custom Business Rules

Use

You can create custom business rules to use only for a specific markdown event.
Procedure
1. To select an option for Apply Business Rules, click Create Business Rules for this Markdown. The Business Rules page displays default values from the Business Rules Library.
2. Modify any or all of the default values displayed as follows:

Modify Product and Location Combination
   a) For changes to the markdown schedule, select the checkbox for Use the same Markdown schedule for all.

   Each markdown event may have different business rule values, for example, percent off or ending numbers. Selecting the Use the same Markdown schedule for all checkbox enforces the pricing created within individual markdown events.

   b) To set the markdown schedule, select one of the following options from the Use the same Markdown schedule for all dropdown list:
      • Products – same for all products at each location
      • Locations – same for each product across all stores
      • Products and Locations – same for all products across all locations

Modify Strategy
   a) Select one of the following options from the Strategy dropdown list:
      • Inventory – Sacrifices margin to favor exhausting inventory
      • Margin – Sacrifices inventory to favor maximizing margin

Modify Rules
   a) Type an entry into the text boxes for each of the following rules you want to modify:
      • Duration of Markdown – markdown period that is measured in days
      • Maximum Percent Off for First Markdown – highest allowable markdown percentage that can be used for the first markdown in the event.
      • Number of Markdown(s)
        o Minimum – the smallest allowable number of markdowns in an event
        o Maximum – highest allowable number of markdowns in an event
      • Markdown Range
        o Minimum – smallest possible percentage allowable for a markdown after the first markdown; this value must be between 1% and 99% and less than the Maximum Percent Off for first Markdown value
        o Maximum – greatest possible percentage allowable for a markdown after the first markdown; this value must be between 1% and 99% and greater than the Minimum Markdown Range value
3 Creating Markdown Events

- **Jump Allowed Between Markdown(s)**
  - **Minimum** – smallest possible difference between two markdowns; this value must be between 1% and 99% and less than the maximum *Jump Allowed Between Markdowns*.
  - **Maximum** – greatest allowable difference between two markdowns; this value must be between 1% and 99% and greater than the minimum *Jump Allowed Between Markdowns*.

- **Duration Between Markdown(s)**
  - **Minimum** – smallest allowable period that is measured in days that must pass before another markdown begins; this value must be less than the maximum *Duration Between Markdowns* value.
  - **Maximum** – greatest allowable period that is measured in days that must pass before another markdown begins; this value must be greater than the minimum *Duration Between Markdowns* value.

3. **After modifying any or all of the business rules**, click *Finish*.
   
   A message appears informing you that the markdown event is processing for optimization.

### 3.7 Finish

When the markdown event is complete, one of the following messages appears:

- **Confirming the markdown event was created successfully** and showing the number of product locations that were successfully entered into the event
  
  The *Price Activity Calendar* is refreshed and a new markdown event with an *In Process* status now appears that indicates the event is queued for optimization processing.

  |⚠️ If you receive an error message, click *OK*. |

- **Indicating a new markdown event could not be created**
4 Browsing Markdown Events

To browse markdown events, choose *Price Activity Calendar* from the navigation panel on the home page. The *Activity Calendar* page appears with the *Calendar* tab page and the *Details* section. The *Calendar* tab page lists markdown events by *Description*, *Status*, and *Activity Type*.

The *Description*, *Status*, and *Activity Type* dropdown list options are customized for markdown events for your application. Therefore, the *Calendar* tab page view may vary from the view described in the *Retail Price Optimization Guide for SAP DM*.

4.1 Description

The *Description* column contains the *Price Activity Description*, the name of the markdown event. Use the scroll bar on the right hand side of the window to move up and down the list of markdown events.

4.2 Activity Type

Select *Markdown* from the *Activity Type* dropdown list to view markdown event information.

4.3 Status

To view the status of a markdown event, select one of the following options from the *Status* dropdown list:

- **Open**: Indicates markdown event optimization and forecasting is complete
- **Delivered**: Indicates the first markdown price file was created and sent to the location
- **In Process**: Indicates the application is processing the markdown event for optimization

You cannot view event details for *In Process* status.

- **Closed**: Indicates markdown event is complete
- **All**: Displays status of all markdown events

These are the only active *Status* options for markdown events.

4.4 Filter

To search and separate out markdown events, see the *Retail Price Optimization Guide for SAP DM* for detailed instructions about using the *Filter* function.

The *Event Type Filter* is customized for each application in Demand Management. The following section describes the details for using the *Event Type Filter* for a markdown event.

Event Type Filter

Use the *Event Type Filter* to separate out markdown events by *Customer* and *Markdown* type. Each markdown event type is associated with a subtype list.

The *Subtype* dropdown list is customized for markdown events for your application according to the needs of your company. Therefore, the *Calendar* tab page view may vary from the view described in the *Retail Price Optimization Guide for SAP DM*. 

October, 2006
5 Modifying Markdown Events

You can perform what-if analysis on specific product-location combinations by modifying markdown events using the functions on the Markdown Activity Summary tab page to perform the following:

- Modify the ending price for a product-location combination
- Modify the ending date for a product-location combination
- Modify the starting date for a markdown if it has not begun yet
- Approve or unapprove a product or location in a markdown event

5.1 Markdown Activity Summary

Use

You may view the product-level information for a markdown event through the Markdown Activity Summary tab page.

Procedure

1. Choose Price Activity Calendar from the navigation panel on the home page.
   
   The activity calendar page appears with the Calendar tab page and the Details section.
2. Select Open, Delivered, or Closed from the Status dropdown list.
3. Select Markdown from the Activity Type dropdown list.
4. To select an event to view, highlight the desired markdown event name by clicking the corresponding cell in the Description column.
5. Click Detail.
   
   The Markdown Activity Summary tab page appears.
6. Alternatively, select an event to view by double clicking the corresponding cell in the Description column for the desired event name.
   
   The Markdown Activity Summary tab page appears.

   Initially, no product group information appears for the selected event. The following steps generate the display of the product group information.

7. Expand the product hierarchy tree in the Product Hierarchy section until you reach the level for which you want to view the product group information, and then click the desired level.

   Each time you click the plus sign, the product group expands. Only the product groups for your system access level appear.

Markdown event details appear in the Markdown Activity Summary tab page and the Totals and Charts section.
5.1.1 Summary

Detailed product information for the markdown event, averaged across all locations, is listed in the Summary page columns of the Markdown Activity Summary tab page as follows:

- **Approve** – clear the checkbox next to the product to remove from the markdown event
- **Delete** – remove the product from within product group selected for the markdown event
- **Product Information** – product description
- **Begin Price** – average beginning price across all stores with a markdown recommendation
- **Ending Price** – average ending price across all stores with a markdown recommendation
- **Starting Inv** – sum of beginning forecasted inventories on the date that each location is set to begin its first markdown
- **Ending Inv** – sum of ending forecasted inventories on the date that each location is set to end its final markdown
- **Start Date** – earliest start date of all locations
- **End Date** – latest end date of all locations
- **# of Mkdns** – the average number of markdown periods within the markdown event
- **Margin** – average margin, the weighted margin based on unit sales

![The markdown event name in the current view displays in the title bar above the Summary title bar.]

### Refresh

⚠️ If more than one person edits same data at the same time, the data that appears on the Markdown Activity Summary tab page when you click Refresh may be different from the data displayed on the Markdown Activity Summary tab page before you started.

To renew all of the data displayed on the Markdown Activity Summary tab page, click Refresh. The old data values stored in your cache cleared, allowing you to see the latest changes.

### Update Approval

#### Use

You can use Update Approval to add or remove a product from a markdown event.

#### Procedure

1. Deselect the checkbox in the Approve column corresponding to the desired product on the Markdown Activity Summary tab page.
   
   The text displayed for the product-location combination changes to red italic text.

2. Click Update Approval.

   A message appears asking if you want to approve or unapprove the product and store in this event.
3. Click Yes.

A message appears confirming the product and store are successful for the event and the product is added or removed from the markdown event.

Unapproving a product or location only removes that product or location until the next re-optimization. At that point, it can be brought back into the markdown as an approved product.

If the product is deleted, it is available for use in a new markdown event.

**Detail**

To view detailed markdown schedule information for a highlighted product at a specific location on the Markdown Product Detail tab page, click Detail. (Markdown Product Detail provides information on modifying product and location information.) Choose the Markdown Activity Summary tab to return to the Product Information listing.

### 5.1.2 Totals and Charts

The Totals and Charts section is located in the lower right corner of the Markdown Activity Summary tab page.

You must highlight a product from the list on the Markdown Activity Summary tab page to view details on the Totals and Charts page.

**Total**

The Total tab page displays forecast information for a product in a markdown event for the following sales performance factors:

- Sales
- Profit
- Units
- Margin

For each factor, the following financial information appears:

- Total Forecast – forecast inventory movement for the entire markdown event period
- To Date Forecast – forecast inventory movement to date
- To Date Actual – actual inventory movement to date
- Change – difference between forecast and actual inventory movement to date (numerical format)
- Percent – difference between forecast and actual inventory movement to date (percentage format)

**Markdown Forecast Chart**

The Markdown Forecast Chart tab page displays the Markdown Forecasted Inventory Chart. This chart displays the forecast inventory movement for the selected product across all possible locations, including locations where a markdown is recommended by the application, all the way through the life of the markdown event.
Event Forecast Chart

The Event Forecast Chart tab page displays the Event Forecasted Inventory Chart. This chart displays the forecast inventory movement for the selected product only across the locations where a markdown is recommended by the application, all the way through the life of the markdown event.

5.2 Markdown Product Detail

Use

You can use the Markdown Product Detail tab page to display location-specific information for the selected product.

Procedure

1. Highlight a product on the Markdown Activity Summary tab page.
2. Click Detail.

   The Markdown Product Detail tab page appears.

5.2.1 Summary

Detailed information for the markdown event, averaged across all locations, is listed in the columns under the Summary heading row of the Markdown Product Detail tab page as follows:

- **Approve** – clear the checkbox next to the location to temporarily remove from the markdown event
- **Delete** – remove the product location permanently from the markdown event
- **Location Information** – location description
- **Begin Price** – actual beginning price at that location
- **Ending Price** – actual ending price at that location
- **Starting Inv** – forecasted starting inventory on the start date of the markdown
- **Ending Inv** – forecasted ending inventory on the end date of the markdown
- **Start Date** – start date
- **End Date** – end date
- **# of Mkdns** – the number of markdown periods within the markdown event
- **Margin** – margin
- **Reason Code** – description of pricing recommendation override

The markdown event name in the current view appears in the title bar above the Summary heading row.

The following sections describe functions available on the Markdown Product Detail tab page that you can use to modify product and location information.
5 Modifying Markdown Events

**Refresh**

> Warning: If more than one person uses what-if analysis on the same data at the same time, then the data that appears when you refresh the tab page may be different from the data displayed on the tab page before you began the what-if analysis.

To renew all of the data displayed on the Markdown Product Detail tab page, click **Refresh**. The old data values stored in your cache are cleared, allowing you to see the latest changes.

> The **Action** dropdown list allows you to undo or reset your changes.

**Reset/Reset All**

**Use**

You can restore any or all of the changes made to a product-location combination during what-if analysis.

**Procedure**

1. Highlight the desired product-location combination by clicking the corresponding cell in the **Location Information** column on the Markdown Product Detail tab page.
2. To restore the initial values for:
   - The highlighted product-location combination, select **Reset** from the **Action** dropdown list
   - All product-location combinations, select **Reset All** from the **Action** drop down list

> Warning: If you used the **Calculate** or **Mass Edit** functions, you cannot restore the initial values for a product-location combination.

3. Click **Apply**.
   A message appears asking you to confirm you want to reset the values.
4. Click **Yes**.
   The initial values for the product-location combination(s) appear on the Markdown Product Detail tab page.

**Update Approval**

**Use**

Use **Update Approval** to temporarily add or remove a location from a markdown event.
Procedure
1. Deselect the checkbox in the Approve column corresponding to the desired location on the Markdown Product Detail tab page.
   The text displayed for the product location changes to *red italic* text.
2. Click Update Approval.
   A message appears asking if you want to approve or unapprove the product and store in this event.
3. Click Yes.
   A message appears confirming the following:
   • The product and store combination approval is successful for the event
   • The product is added or removed from the markdown event

If the location is deleted, it is available for use in a new markdown event.
If the location is unapproved, it does not appear as part of the markdown until the next re-optimization. At that time, it becomes available again.

Details
The *Details* section of the *Markdown Product* Details tab page is located in the bottom half of the page.

Forecast Details
The *Forecast Details* tab page displays the markdown schedule information for a product at specific location as follows:

- Markdown – sequence number of the scheduled markdown within the markdown event period
- Original Price – starting price
- End Price – final price
- Start Inv – forecasted beginning inventory
- End Inv – forecasted ending inventory
- Start Date – actual beginning date for markdown
- End Date – actual final date for markdown
- Mkdn % – percentage of markdown

Totals
The *Totals* tab page displays forecast information for a product at a specific location in a markdown event for the following sales performance factors:

- Sales
- Profit
- Units
- Margin

For each factor, the following financial information appears:

- Total Forecast – forecast inventory movement for the entire markdown event period
5.2.2 Markdown What-If

Use
You can modify the ending date or ending price for a single product-location combination using what-if analysis. If the location has not begun its first markdown, you can also modify the starting date.

Procedure
1. Highlight the desired product-location combination by clicking the corresponding cell in the Location Information column on the Markdown Product Detail tab page.
2. Click the Ending Price cell of the highlighted product-location combination.
   You can now edit the Ending Price.
3. Modify the Ending Price by typing a new value in the cell and then pressing ENTER.
   The text displayed for the product-location combination changes to red italic text
4. Click the End Date cell of the highlighted product-location combination.
   You can now change the End Date.
5. Select a new End Date by clicking the adjacent calendar icon.
6. Click Calculate.
   The application recalculates the ending inventory.

   The row corresponding to the location you are changing for the Ending Price/End Date is shaded grey while forecasting takes place. Clicking Refresh clears the data from the cache and repopulates with the most recent data.

5.2.3 Mass Edit Wizard

Use
You can modify the entire markdown schedule across all locations using the Mass Edit Wizard.

Procedure
1. Choose the Markdown Activity Summary tab.
   The Markdown Activity Summary tab page appears.
2. To select a product for mass edit, highlight a product name in the Product Information column on the Markdown Activity Summary tab page.
3. Right-click the selected product name.  
The *Edit Product* label appears.

4. Click the *Edit Product* label.  
The *Mass Edit Wizard* advances to the *Markdown Range* page.

### 5.2.3.1 Start
A process flow diagram depicting the steps the *Mass Edit Wizard* performs appears on the left side of the tab page.

> As you advance through the *Mass Edit Wizard*, the current step of the process is shaded yellow. Previously completed steps are shaded blue.

### 5.2.3.2 Markdown Range
1. Type a number in the *Number of Markdowns* text box.
2. Select a new start date in the *Start Date* box by clicking the adjacent calendar icon.
3. Select a new out date (the latest end date of an entire event) in the *Out Date* box by clicking the adjacent calendar icon.
4. Select the override reason from the *Reason Code* dropdown list.
5. Click *Next*.  
The wizard advances to the *Add Details* page.

### 5.2.3.3 Add Details
1. For each markdown event with a blank *Start Date* cell, click the cell and then select a new *Start Date* by clicking the adjacent calendar.

> The application populates the *End Date* based on the *Start Date* you enter.

2. For each markdown event, type a new value, and then press *ENTER*:
   - **Percent Off**
     - Type percentages only as numbers; a percent sign is not required.
     - The application populates *Markdown Price* values corresponding to the percentage entries.

   Or,
   - **Markdown Price**

     - Type prices only as numbers in 0.00 format; a currency sign is not required.
     - The application populates *Percent Off* values corresponding to the price entries.

The row corresponding to the product location(s) affected by the changes you made to *Ending Price/End Date* is shaded grey when the new calculation is complete.
5.2.3.4 Finish

1. For each markdown event, ensure the Start Date, Percent Off, and Markdown Price cells have values, and then click Finish.

   ! If there are any blank Start Date, Percent Off, and Markdown Price cells for any of the markdown events and you click Finish, a message appears instructing you to enter all required values.

   After the Mass Edit Wizard completes the new calculation, a message appears confirming that the mass edit is successful.

2. Click OK.

   The row corresponding to the location you are changing for Mass Edit is shaded grey while forecasting takes place.
6 Deleting Markdown Events

Procedure

1. To launch the process for deleting a markdown event, choose the *Price Activity Calendar* from the navigation panel on the home page.
   
   The *Activity Calendar* page appears with the *Calendar* tab page and the *Details* section.

2. Highlight the desired markdown event name by clicking the corresponding cell in the *Description* column of the *Calendar* tab page.

3. Click *Delete*.
   
   A message appears asking you to confirm the deletion of the markdown event.

4. Click *Yes*.
   
   A message appears confirming the markdown event has been deleted.

5. Click *OK*.
   
   The deleted markdown event no longer appears on the *Calendar* tab page.
7 Using the Business Rules Library

Purpose
Business rules let you apply inventory or margin strategies as well as price and schedule constraints to the markdown optimization process. You can review and update the business rules that govern the optimization process for a specific markdown event.

7.1 Market Hierarchy

Use
You can set business rules for any level of the Market Hierarchy section. The Market Hierarchy section displays the market hierarchy tree that defines relationships between products and micro-markets. Use the expandable market hierarchy tree in the Market Hierarchy section to select market groups in descending order as follows:

Enterprise
→Department
→Category
→Micro-market

Click the plus sign to expand any category displayed in the market hierarchy tree.

Your organization may name micro-markets differently from the example above.

Procedure
1. From the navigation panel on the home page, choose Business Rules Library→Markdown.

The Markdown page appears with the Market Hierarchy section on the left side and the following three tab pages on the right side:

- Business Rules
- Percentages
- Ending Numbers

2. Expand the market hierarchy tree in the Market Hierarchy section until you reach the level for which you want to view micro-market information.

3. To set business rules for a market hierarchy level, highlight the desired market level name by clicking the corresponding level in the market hierarchy tree.

The market level name appears at the top of the Business Rules tab page.

7.2 Business Rules

Use
You can change the default values for a market hierarchy category or custom group using the following rule functions:
7.2.1 Strategy

**Function**
You can select one of the following strategies:

- **Inventory** – Sacrifices margin to favor exhausting inventory, putting more emphasis on inventory reduction
- **Margin** – Sacrifices inventory to favor maximizing margin, putting more emphasis on maintaining margins while still trying to reduce inventory

7.2.2 Constraints

**Function**
You can change the default values for the following:

- **Duration of Markdown** – markdown period which is measured in days
- **Maximum percent Off for first Markdown** – highest allowable markdown percentage that you can use for the first markdown in the event

7.2.3 Business Rules

**Function**
You can change the default values of the following business rules:

- **Number of Mark downs**
  - **Minimum** – the smallest allowable number of markdowns in an event
  - **Maximum** – highest allowable number of markdowns in an event

- **Markdown Range**
  - **Minimum** – smallest possible percentage allowable for a markdown after the first markdown; this value must be between 1% and 99% and less than the **Maximum Percent Off** value
  - **Maximum** – greatest possible percentage allowable for a markdown after the first markdown; this value must be between 1% and 99% and greater than the **Minimum Percent Off** value

- **Jump Allowed Between Markdowns**
  - **Minimum** – smallest possible difference between two markdowns; this value must be between 1% and 99% and less than the maximum **Jump Allowed Between Markdowns**
  - **Maximum** – greatest allowable difference between two markdowns; this value must be between 1% and 99% and greater than the minimum **Jump Allowed Between Markdowns**

- **Duration Between Markdowns**
  - **Minimum** – smallest allowable period, measured in days, that must pass before another markdown begins; this value must be less than the maximum **Duration Between Markdowns** value
• **Maximum** – greatest allowable period, measured in days, that must pass before another markdown begins; this value must be greater than the minimum **Duration Between Markdowns** value

• **Adhere To**

⚠️ You must choose an option.

• **Percentages** – allowable percentage values for a markdown event

• **Ending Number** – allowable ending number values for a markdown event

⚠️ The secondary tab on the **Business Rules** tab page is highlighted according to option that you choose.

### Procedure

1. From the navigation panel on the home page, choose **Business Rules Library**→**Markdown**.
   
The **Markdown** page appears with the **Business Rules** tab page activated.

   ⚡ The title bar for the **Business Rules** tab page changes according to the **Market Hierarchy or Custom Group** option you choose.

   🧴 **Inherited From** is appended with the market hierarchy category or custom group name.

2. Select the desired **Strategy** form the following options in the **Strategy** dropdown list:
   
   • **Margin**
   
   • **Inventory**

3. To modify the default values for **Constraints**, click in the textboxes for the following and type new values:
   
   • **Duration of Markdown**
   
   • **Maximum Percent Off for first Markdown**

4. To modify the **Business Rules** that have numeric default values, click in either the **Minimum** or **Maximum** textboxes for the following and type new values:
   
   • **Number of Markdown(s)**
   
   • **Markdown Range**
   
   • **Jump Allowed between Markdowns**
   
   • **Duration Between Markdowns**

5. Select the desired **Adhere to** value from the following options in the **Adhere to** dropdown list:
   
   • **Percentages**
   
   • **Ending Numbers**

6. Click **Update**.

   The **Business Rules** tab page displays the new business rules.
7.3 Percentages

Use
The Percentages tab page displays the allowable percentages available to the markdown event. The percentages can be set for any category of the market hierarchy.

Procedure
1. To make the Percentages tab available, select Percentages from the Adhere to dropdown list.
2. Choose the Percentages tab.
   The Percentages tab page appears with the Percentages Allowed table.
3. To modify the percentage list, click Modify List.
   The Percentages Allowed dialog box appears with a list of allowable percentages available to the markdown event.
4. To add new percentage values to the list, type new values in the dialog box and separate them with a comma.
5. To delete existing percentage values, backspace over the desired value and corresponding comma.
   Alternatively, you can highlight a number and the corresponding comma and press DELETE.
6. After you modify the percentage values, click Update Table.
   A message appears informing you that your changes are successful.
7. Click OK.
   The Percentages tab page displays the changed percentage values in the Percentages Allowed table.
   The Business Rules tab page appears.
9. To save the changes you made to the allowable percentages, click Update.

7.4 Ending Numbers

Use
The Ending Numbers tab page displays the allowable ending numbers available to the markdown event. Ending numbers may be set at any category of the market hierarchy.

Procedure
1. To make the Ending Number tab available, select Ending Numbers from the Adhere to dropdown list.
2. Choose the Ending Number tab.
   The Ending Number tab page appears with a table of ending numbers.
3. To modify the ending numbers, select a checkbox corresponding to a number from zero to nine for the desired ending number.
4. After selecting the checkboxes for the desired ending numbers, click *Update*.
   The message appears to inform you that your changes are successful.

5. Click *OK*.

6. Choose the *Business Rules* tab.
   The *Business Rules* tab page appears.

7. To save the changes you made to the ending numbers, click *Update*. 
8 Creating Markdown Event Reports

Purpose
You can create reports for markdown forecasts, inventory, errors, and overrides. These reports can provide detailed information using product and store combinations or present a summary of markdowns at the product category.

8.1 Markdown Report Descriptions
The following are descriptions of the markdown reports you can create.

8.1.1 Detail Report
The Markdown Detail Report provides information for each product and store combination. Report results contain the following information:

- **Product ID** – product identifier
- **Product Name** – product name
- **Activity Name** – markdown event name
- **Location** – location specified in the report filter
- **Original Price** – price of the product in the store before markdown
- **Markdown Price** – price of the product in the store after markdown
- **Original Margin** – product margin in the store before markdown
- **Markdown Margin** – forecast margin of the product in the store after markdown
- **Basis Points** – difference between the original and markdown margins
- **Start Date** – date the markdown is scheduled to begin
- **End Date** – date the markdown is scheduled to end

8.1.2 Summary Report
The Summary Report provides product category information. All locations that are included are aggregated up to the product category. Report results contain the following information:

- **Product ID** – product identifier
- **Product Name** – product name
- **Activity Name** – markdown event name
- **Original Price** – average of all of the original prices for a product across all locations before markdown
- **Average % Markdown** – average markdown percentage for the product across all stores during the specified period
- **Number of Markdowns** – median number of markdowns for the product during the specified time period
8 Creating Markdown Event Reports

- **Total Fcst Start Inv.** – total summation of forecasted starting inventories on the start date of each location’s first markdown
- **Total Fcst End Inv.** – total summation of forecasted ending inventories on the end date of each location’s final markdown

### 8.1.3 Inventory Report

The **Inventory Report** provides the actual inventory at the beginning of the markdown and the forecasted unit movement during the life of the markdown. Report results contain the following information:

- **Product ID** – product identifier
- **Product Name** – product name
- **Activity Name** – markdown event name
- **Location** – location specified in the report filter
- **Start Date** – date the product is placed in inventory
- **End Date** – forecast ending inventory date
- **Starting Inventory** – actual inventory at the beginning of the markdown
- **Ending Inventory** – forecast inventory at the end of the markdown
- **Unit Movement** – forecast unit movement for the product in the store

### 8.1.4 Forecast Report

The **Forecast Report** compares forecasted inventory and sales with actual inventory and sales. Report results contain the following information:

- **Product ID** – product identifier
- **Product Name** – product name
- **Location** – location specified in the report filter
- **Activity Name** – markdown event name
- **Event Start Date** – date the markdown event began
- **Week Ending Date** – week ending date for the markdown event
- **Original Price** – price of the product before markdown
- **Markdown Price** – price of the product in the store after markdown
- **Forecast Unit Movement** – forecast unit movement for the product in the store
- **Actual Unit Movement** – actual unit movement for the product in the store
- **Forecast Sales** – forecasted sales during the markdown
- **Actual Sales** – actual sales during the markdown
- **Forecast End Inventory** – forecasted inventory after the markdown event
- **Actual End Inventory** – actual inventory after the markdown event
8.1.5 Pricing Compliance Report

The Pricing Compliance Report provides information about how each store is executing the recommended markdowns. Report results contain the following information:

- **Product ID** – product identifier
- **Product Name** – product name
- **Location** – location specified in the report filter
- **Activity Name** – markdown event name
- **Week Date** – week ending date for the markdown event
- **Start Date** – date the markdown is scheduled to start
- **End Date** – date the markdown is scheduled to end
- **Status** – current status of the markdown event
- **Actual %** – actual percent off based on the recommendation
- **Forecast %** – forecasted percent off based on the recommendation
- **Actual Price** – price of the product before markdown
- **Recommended** – price of the product in the store after markdown
- **Actual Margin %** – actual margin percentage of the product in the store before markdown
- **Forecast Margin %** – forecast margin percentage of the product in the store after markdown
- **B.P. Variance** – difference between the original and markdown margins

8.1.6 User Override Report

The User Override Report provides a listing of all changes made to the markdown optimization recommendation. Report results contain the following:

- **Event Name** – name of the markdown event
- **Product ID** – product identifier
- **Product Name** – product name
- **Location** – location specified in the report filter
- **User Name** – person who created the override
- **Override Reason** – reason for the override
- **Override Type** – type of override performed
- **Prev. Number** – number of markdown intervals before the override was made
- **Override # Markdowns** – number of markdown interval overrides
- **Previous Start Date** – start date before the override
- **Override Start Date** – new start date
- **Previous End Date** – end date before the override
- **Override End Date** – new end date
- **Previous Start Price** – start price before the override
- **Override Start Price** – new start price
8 Creating Markdown Event Reports

- Previous End Price – end price before the override
- Override End Price – new end price
- Previous End Percent – ending percentage before the override
- Override End Percent – new ending percentage
- Override Date/Time – date and time of the override
- Markdown Status – current status of the markdown event

8.1.7 Creation Error Report
The Creation Error Report provides information about the errors that associated with creating an imported markdown event. Report results contain the following:
- Product Key – product identifier
- Product Name – product name
- Activity Name – markdown event name
- Location – location specified by the report filter
- Reason Code – definition of what product/location combinations erred out of markdown creation and why

8.2 Markdown Report Filters
You can create customized reports for markdown events using a set of filters to define the report results. The filters appear on the upper half of the Reporting tab page. The report results appear on the bottom half of the Reporting tab page. The title of the report you are creating appears above the report tabs.

You can customize your markdown reports using the following filters accessible at the top of the current report page:
- Markdown Activity Name – the name of the markdown event
- Start Date – the markdown event start date
- End Date – the markdown event end date
- Product – all products or a specific product
- Location – all locations or a specific location

8.3 Creating Markdown Reports

Procedure
1. From the navigation panel on the home page, choose Markdown and then one of the following options from the list that appears:
   - Detail Report
   - Summary Report
   - Inventory Report
   - Forecast Report
   - Pricing Compliance Report
• User Override Report
• Creation Error Report

The selected markdown report tab page appears.

2. Select one of the following options from the Markdown Activity Name dropdown list:
   • ALL
   • Specific markdown event

3. Select a markdown event Start Date by clicking the adjacent calendar icon.
4. Select a markdown event End Date by clicking the adjacent calendar icon.
5. To select products by keyword, product hierarchy, or brand hierarchy, click Product.

The Product Hierarchy dialog box appears with the Search and Product Hierarchy tab pages. These tab pages provide separate methods for finding and selecting products to include in the markdown event report.

**Search**

To perform a text search for product selection, click Search tab.

a) Select one of the following options from the Search Type dropdown list:
   • Product Name
   • Product Key
   • Brand Name
   • Brand Key

b) Select one of the following options from the Search Constraint dropdown list:
   • Begins With
   • Contains
   • Ends With
   • Exact Match

c) Type the text to search for in the Search Field textbox.

d) Click Go.

A list of all products matching the search conditions appears.

e) To select a product to include in the markdown event report, highlight the product name by clicking the corresponding row in the list of products.

f) After selecting the product, click OK.

The product you selected appears in the Product text box in the top half of the report page.
Product Hierarchy

The Product Hierarchy tab page displays the expandable product hierarchy tree that defines product relationships. You can report on all product groups (Enterprise), a department, a category, a subcategory, or an individual product. Use the product hierarchy tree to select products in descending order as follows:

Enterprise
→Department
→Category
→Subcategory
→Product

Your organization may name micro-markets differently from the example above.

a) Choose the Product Hierarchy tab.

The Product Hierarchy tab page appears with the product hierarchy tree.

b) To select a product to include in the report, highlight the product name by clicking the corresponding row in the product hierarchy tree.

c) After you finish selecting the product, click OK.

The product you selected appears in the Product field.

6. Click Location.

The Location Hierarchy dialog box appears with the location hierarchy tree.

You can report on all locations (Enterprise), on a chain, on a zone, or by store. Use the expandable location hierarchy tree in the Location Hierarchy dialog box to select locations in descending order as follows:

Enterprise
→Chain
→Zone
→Store

Click the plus sign to expand any category displayed in the location hierarchy tree.

7. To select a location to include in the report, highlight the location name by clicking the corresponding row in Location Hierarchy dialog box.
8. After you finish selecting the location, click OK.
   The location you selected appears in the Location field.

9. To create the reports, click Execute.
   A message appears informing you that the report is processing the request.
   • If your request is successful, the results appear in the bottom half of the page.
   • If your request is not successful, a message appears stating that the requested results were not found and that you may want to alter your search criteria. Click OK.