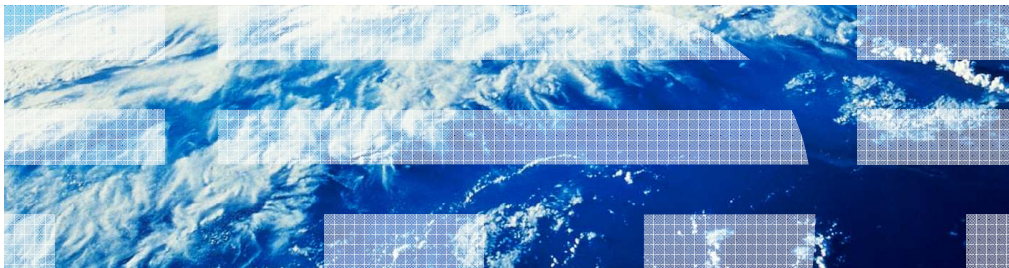

WebSphere Commerce V7 Feature Pack 5

Promotions and Marketing Tool Enhancements



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This presentation provides an overview of the Promotions and Marketing tool enhancements in WebSphere Commerce Version 7 Feature Pack 5. You should have a general knowledge of the features in WebSphere Commerce Version 7 before viewing this presentation.

Agenda

- Promotions Tool Updates
 - New Promotion Types
 - Promotion Code Export
 - Promotion Folders
- Marketing Tool Update
 - E-Marketing Spot JSP Caching

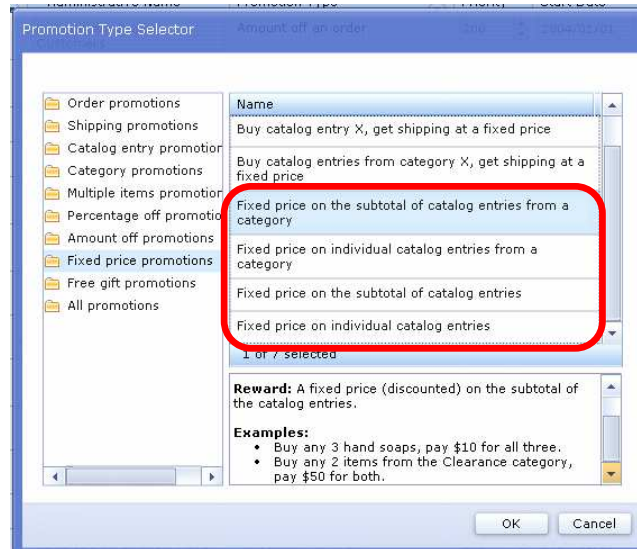
In this presentation you will hear about the enhancements to the Promotions and Marketing tools in Feature Pack 5. The Promotions tool enhancements include six new promotion types, the ability to export promotion codes, and using promotion folders. The Marketing tool enhancements include e-marketing spot JSP caching.

New promotion types

You will first hear about the six new promotion types.

New fixed price promotions

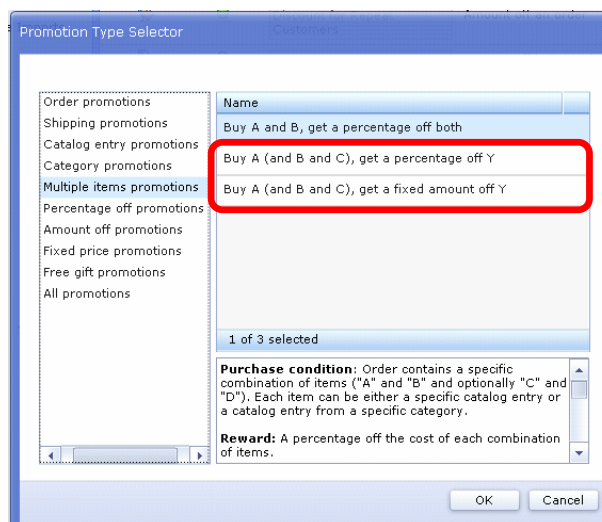
- Fixed price on individual catalog entries from a category
- Fixed price on the subtotal of catalog entries from a category
- Fixed price on individual catalog entries
- Fixed price on the subtotal of catalog entries



In the Promotions tool, six new promotion types have been introduced in Feature Pack 5. The first four are fixed price promotions. These allow business users to define a specific price that one or more catalog entries can be purchased for under the terms of the promotion. Fixed price promotions can apply to individual catalog entries or to a subtotal of catalog entries. There is also an option to restrict the promotion to specific categories in the store.

New multiple items promotions

- Buy A (and B and C), get a percentage off Y
- Buy A (and B and C), get a fixed amount off Y



The final two new promotion types support more complex promotion rules by allowing multiple items to be specified as qualifying criteria. For example, the promotion rule might require that the shopper purchase products from up to three different categories to qualify for a percentage or amount off products from a fourth category.

Fixed price on individual catalog entries from a category

- Offers individual catalog entries at fixed price when conditions met
- Can be site-wide
- Example
 - Pay \$10 each for any 3 or more catalog entries in the Tableware category OR buy 6 or more and pay \$8

Buy 3 or more tableware for fixed price

Manage Promotion | Descriptions | References

*Priority 0

Purchase Condition and Reward

*Target payment type: Any payment type

Site-wide promotion:

Tableware

* Type	* Name	Exclusion
Tableware		<input type="checkbox"/>

0 of 1 selected

Attributes for catalog entries

* Attribute Name	* Data Type	* Matching Rule	* Value

0 of 0 selected

Excluded catalog entries

* Type	* Code	Name

0 of 0 selected

Currency: US Dollar

*Minimum purchase condition

* Minimum Purchase (Quantity)	* Fixed Price
3	10.00
6	8.00

1 of 2 selected

The first new fixed promotion type offers the individual catalog entries at a fixed price when the promotion conditions are met. For example, you can buy any 3 hand soaps and pay \$10 each. The example in the slide shows that you can buy any 3 or more Tableware and pay \$10 each, or you can buy 6 or more Tableware and pay \$8 each. The promotion can also be made site-wide so that all the catalog entries are applicable for the promotion. Any catalog entries that need to be filtered, from the promotion, can be specified in the “Exclude catalog entries” section. The promotion can also be targeted for catalog entries in a category which have a particular value for their attributes.

Fixed price on the subtotal of catalog entries from a category

- Offers fixed price on subtotal of order for several catalog entries from a category
- Can be site-wide
- Example
 - Purchase 3 catalog entries from Tableware category for a total of \$30

The screenshot shows the configuration for a promotion titled "Buy any 3 tableware for \$30". The interface includes several sections:

- Manage Promotion**: Descriptions, References
- Promotion Properties**
- Purchase Condition and Reward**
 - Target payment type: Any payment type
 - Site-wide promotion:
 - Categories: Tableware (1 selected)
 - Attributes for catalog entries: 0 of 0 selected
 - Excluded catalog entries: 0 of 0 selected
 - Quantity: 3
 - Currency: US Dollar
 - Fixed Price: 30.00

This promotion type offers a fixed price on the subtotal of the order where the order contains a specified number of catalog entries from a category. Consider the promotion in the slide. This promotion will offer a fixed price of \$30 for the order subtotal if the shoppers shopping cart contains 3 catalog entries from the Tableware category. The promotion is applied to a group of 3. For example, if the shopping cart contains 4 catalog entries from the Tableware category, 3 catalog entries are offered for the fixed price of \$30 and the fourth one is offered for its actual price. If the shopping cart contains 6 catalog entries from the Tableware category, the order subtotal is \$60.

The promotion can also be made site-wide so that all the catalog entries are applicable for the promotion. Any catalog entries that need to be filtered, from the promotion, can be specified in the 'Exclude catalog entries' section. The promotion can also be targeted for catalog entries which have a particular value for their attributes.

Fixed price on individual catalog entries

- Offers fixed prices for individual catalog entries

- Example
 - Cristie Halo Wine Glass are
 - \$30 each for 3 – 5 glasses
 - \$20 each for 6 – 8 glasses
 - \$10 each for 9 or more

Buy 3 or more Cristie Halo Wine Glasses for fixed price

Manage Promotion | Descriptions | References

Purchase Condition and Reward

*Target payment type: Any payment type

Site-wide promotion:

Search: cristie halo wine glass | Find and Add

* Type	* Code	Name	Exclusion
	HTA029_2912	Cristie Halo Wine Glass	<input type="checkbox"/>

0 of 1 selected

Attributes for catalog entries

* Attribute Name	* Data Type	* Matching Rule	* Value
0 of 0 selected			

Currency: US Dollar

*Minimum purchase condition

* Minimum Purchase (Quantity)	* Fixed Price
3	30.00
6	20.00
9	10.00

1 of 3 selected

This promotion type offers the individual catalog entries at a fixed price when the promotion conditions are met. The example on the slide shows that the promotion will offer a fixed price of \$30 each for Cristie Halo Wine Glass if the shopping cart contains 3 to 5 glasses. If the shopping cart contains 6 to 8 glasses, then each is offered at a price of \$20. If the shopping cart contains 9 or more such glasses, then each is offered at a price of \$10.

The promotion can also be made site-wide so that all the catalog entries are applicable for the promotion. Any catalog entries that need to be filtered from the promotion can be specified with the exclusion column. The promotion can also be targeted for catalog entries which have a particular value for their attributes. In addition, a targeted payment type can be specified as well to qualify for the promotion.

Fixed price on the subtotal of catalog entries

- Offers fixed price on subtotal of catalog entries

- Example
 - Cristie Halo Wine Glasses are 3 for \$90
 - Applied in groups of 3 (6 for \$180)
 - Regular price applies for each additional product until the next multiple of “quantity”

The screenshot shows the configuration page for a promotion titled "Buy 3 Cristie Halo Wine Glasses for \$90". The interface is divided into several sections:

- Promotion Properties:**
 - Administrative name: Buy 3 Cristie Halo Wine Glasses for \$90
 - Promotion type: Fixed price on the subtotal of catalog entries
 - Redemption method: Qualifying purchase
 - Combination with other promotions: Combine with other promotions
 - Priority: 0
- Purchase Condition and Reward:**
 - Target payment type: Any payment type
 - Site-wide promotion:
 - Targeted items: Halo Wine Glass (Find and Add)
 - Catalog entries table:

Type	Code	Name	Exclusion
	HTA029_2912	Cristie Halo Wine Glass	<input type="checkbox"/>

 (0 of 1 selected)
 - Attributes for catalog entries table:

Attribute Name	Data Type	Matching Rule	Value
0 of 0 selected			
 - Quantity: 3
 - Currency: US Dollar
 - Fixed Price: 90.00

This promotion type offers a fixed price on the subtotal of the targeted catalog entries. This promotion will offer a fixed price of \$90 if the shopping cart contains 3 Cristie Halo Wine glasses. The promotion is applied in groups of 3. For example, if the shopping cart contains 4 glasses, 3 of them is offered for the fixed price of \$90 and the fourth one is offered for its original price. If the shopping cart contains 6 such glasses, then they are offered for \$180.

Buy A (and B and C), get a percentage off Y

- Offers a percentage off catalog entries from a category when promotion conditions are met
- Catalog entries can be filtered, from the promotion, in the 'Exclude catalog entries' section
- A, B, C and Y must be mutually exclusive to avoid overlap
- Example
 - Buy \$100 worth of Silverware and \$50 worth of Wine Glasses get 10% off of 2 items from Plates category

Definition for "A" A specific catalog entry Catalog entries from a specific category

*Categories for "A" Find and Add

* Type	* Name	Exclusion
	Silverware	<input type="checkbox"/>

0 of 1 selected

Exclude catalog entries from category "A"

* Type	* Code	Name

0 of 0 selected

Attributes of catalog entries for "A"

* Attribute Name	* Data Type	* Matching Rule	* Value

0 of 0 selected

*Minimum amount for "A"

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This promotion type offers a percentage off catalog entries from a category or a specific catalog entry when the promotion conditions are met. The promotion type does not support nor prevent overlap between catalog entries from the purchase condition or the reward. To avoid unexpected results at the storefront, A, B, C and Y must be mutually exclusive. For example, A cannot include B, and B cannot include A. For example, if A is any item from the Hat category and B is a fishing hat (a SKU within the Hat category), then this promotion is not valid because A includes B. This rule also applies if you have additional items in the purchase condition (A, B and C).

An example using this promotion type is when you buy \$100 worth of Silverware and \$50 worth of Wine Glasses, you will get 10% off any 2 plates. You can define part A to be a specific catalog entry or catalog entries from a specific category.

The snapshot shows condition A set to 100 dollars of Silverware.

Buy A (and B and C), get a percentage off Y (continued..)

B

Y

Specify additional item "B"

Definition for "B" A specific catalog entry
 Catalog entries from a specific category

Categories for "B"

* Type	* Name	Exclusion
<input type="checkbox"/>	Wine Glasses	<input type="checkbox"/>

0 of 1 selected

Exclude catalog entries from category "B"

* Type	* Code	Name
<input type="checkbox"/>		

0 of 0 selected

Attributes of catalog entries for "B"

* Attribute Name	* Data Type	* Matching Rule	* Value
<input type="checkbox"/>			

0 of 0 selected

*Minimum amount for "B"

*Categories for "Y"

* Type	* Name	Exclusion
<input type="checkbox"/>	Plates	<input type="checkbox"/>

0 of 1 selected

Exclude catalog entries from category "Y"

* Type	* Code	Name
<input type="checkbox"/>		

0 of 0 selected

Attributes of catalog entries for "Y"

* Attribute Name	* Data Type	* Matching Rule	* Value
<input type="checkbox"/>			

0 of 0 selected

*Quantity of "Y" needed to qualify for the promotion

*Percentage discount for "Y"

Maximum discount amount for "Y"

*Price adjustment base

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This slide shows part B and Y. Part B is where you specify the category and a minimum amount for B. Continuing the example B states \$50 worth of Wine Glasses. Since there is no C condition continue with part Y and define 10% off 2 items from the Plates category.

Buy A (and B and C), get fixed amount off Y

- Offers an amount off catalog entries from a category when promotion conditions are met

- Example
 - Buy any 2 desk lamps, get \$50 off any desk

Purchase Condition and Reward

*Target payment type: Any payment type

Currency: US Dollar

Purchase type:
 Quantity purchased
 Minimum Amount spent

Definition for "A":
 A specific catalog entry
 Catalog entries from a specific category

desk lamps

*Categories for "A"

* Type	* Name	Exclusion
	Desk Lamps	<input type="checkbox"/>
0 of 1 selected		

Exclude catalog entries from category "A"

* Type	* Code	Name
0 of 0 selected		

Attributes of catalog entries for "A"

* Attribute Name	* Data Type	* Matching Rule	* Value
0 of 0 selected			

Quantity of "A"

This promotion type offers an amount off catalog entries or catalog entries from a category when the promotion conditions are met. The same mutual exclusive rule applies to this promotion as it did the pervious promotion. In this example, you can buy any 2 desk lamps and get \$50 off any desk. This snapshot shows Part A where the condition is 2 desk lamps.

Buy A (and B and C), get fixed amount off Y (continued ...)

desk

***Categories for "Y"** ⓘ

* Type	* Name	Exclusion
0 of 0 selected		

Exclude catalog entries from category "Y"

* Type	* Code	Name
0 of 0 selected		

Attributes of catalog entries for "Y" ⓘ

* Attribute Name	* Data Type	* Matching Rule	* Value
0 of 0 selected			

***Quantity of "Y" needed to qualify for the promotion**

***Amount Off**

***Price adjustment base** ⓘ

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Continuing on to part Y, you do not define parts B and C. This snapshot shows that if the shopper buys one desk they qualify for this promotion, and the amount off is \$50. Any catalog entries that need to be filtered, from the promotion, can be specified in the "Exclude catalog entries" section.

Implementation details

- TotalCostFilter introduced
- Support class filters based on total cost of items in LineltemSet
- Returns all Lineltems if combined price is greater than or equal to price specified in filter

- Example

```
<Filter
  impl="com.ibm.commerce.marketing.promotion.condition.TotalCostFilter">
  <TotalCost>200</TotalCost>
  <Currency>CAD</Currency>
</Filter>
```

A TotalCostFilter is introduced to support class filters based on total cost of items in LineltemSet. It returns all Lineltems if their combined price is greater than or equal to the price specified in the filter. This example configuration here returns all Lineltems if their combined price is equal to or greater than \$200 CAD.

XSLT templates

	UI promotion types	XSLT templates
1	Buy A (and B and C), get a percentage off Y	MultipleItemsGetYPercentOffPurchaseConditionTemplate.xsl
2	Buy A (and B and C), get a fixed amount off Y	MultipleItemsGetYFixedAmountOffPurchaseConditionTemplate.xsl
3	Fixed price on the subtotal of catalog entries from a category	CategoryAllItemFixedCostPurchaseConditionTemplate.xsl
4	Fixed price on individual catalog entries from a category	CategoryPerItemFixedCostPurchaseConditionTemplate.xsl
5	Fixed price on the subtotal of catalog entries	ProductAllItemFixedCostPurchaseConditionTemplate.xsl
6	Fixed price on the individual catalog entries	ProductPerItemFixedCostPurchaseConditionTemplate.xsl

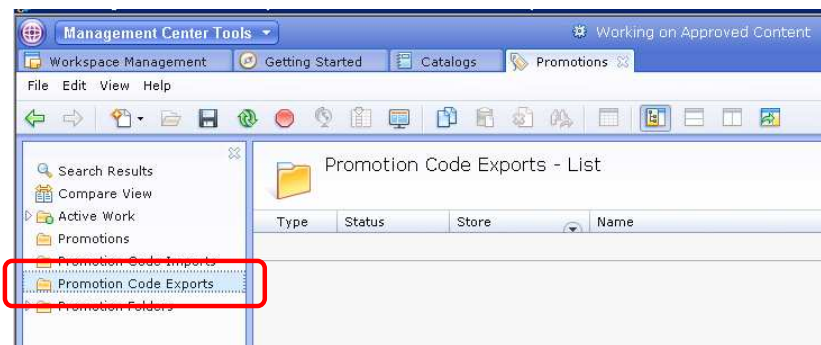
The user friendly promotion data from the user interface is constructed as an XML format in the memory. It is called intermediate XML, and XSLT is the technical way to transform the data from intermediate XML into runtime XML. This table highlights the mapping between the promotion types in UI to the XSLT templates that are responsible for the transformation.

***Promotion tool:
Promotion code export***

Next, you will hear about the promotion code export feature.

What's new in this release?

- Enhance the promotion tool in the Commerce Management Center to:
 - Allow business users to export system generated promotion codes in a CSV file
 - Types of promotion codes to export
 - Simple system-generated unique promotion codes
 - Advanced system-generated unique promotion codes
 - Imported promotion codes
 - Download file to local machine



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Promotions and marketing tool enhancements

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This feature is a continuation of efforts back in V7 feature pack 1, where support was added to allow you to import externally generated unique promotion codes or generate your own. These unique promotion codes are intended to be sent to the shoppers to use. There is a need to export these generated promotion codes to a file and send this file to the external system.

In this release, you can export promotion codes in a CSV file and download to a local machine. There are three types of promotion codes to export, simple and advanced system-generated unique promotion codes and imported promotion codes. Your exports are stored in the Promotion Code Exports folder in the Promotions tool.

Promotion code export services

- Reuse same noun FileUploadJob as promotion code import business object
 - Difference: UploadType is PromotionCodeExport
- New Commands
 - CreatePromotionCodeExportCmd
 - ScheduledPromotionCodeExportCmd
 - PromotionCodeExtractCmd
 - DownloadPromotionCodeCmd

For the promotion code export business object, the same noun FileUploadJob is used similar to the promotion code import business object. The only difference is the property UploadType. For promotion code export, the UploadType is "PromotionCodeExport". For promotion code import, the UploadType is "PromotionCodeImport".

There are four new commands. The CreatePromotionCodeExportCmd is the create service for the promotion code export. It is a commerce controller command. The PromotionCodeExtractCmd will extract the promotion codes for promotions and save them in the FILECONTENT column in the UPLOADFILE table. This command will compress the exported file and split the large file into multiple rows if necessary. The ScheduledPromotionCodeExportCmd is an asynchronous scheduler command. It will call a runnable class PromotionCodeExportProcess. The DownloadPromotionCodeCmd is a commerce controller command which implements the ObjectExportCmd and will read the BLOB column UPLOADFILE.FILECONTENT and writes it to the http response output stream. The browser will ask you to open or save the file.

Exporting subsets of promotion codes

- All promotion codes for a promotion are exported by default
- Configure to export subsets of promotion codes by running SQL insert statement
 - Specifies number of codes to include in subset
- All subsequent promotion code exports will use subset configuration until deleted
- Example of query
 - ```
INSERT INTO STORECONF (STOREENT_ID, NAME, VALUE) values (10152, 'wc.promotion.NumberOfUnusedPromotionCodesToExport', '10');
```
  - STOREENT\_ID is your store ID
  - VALUE is the number of promotion codes to include in the subset of promotion codes

You can configure the exporting of unique promotion codes to export subsets of unused promotion codes. By default, all of the promotion codes for a promotion are exported. You can configure a store to limit the maximum number of unused promotion codes to export. To configure this limit, you must insert a record in the STORECONF table for your store to set the maximum number of codes to include in a promotion code export for your store. This subset size is associated with a single store and only exports promotion codes that are not already used for the promotion.

When you specify a subset for a store all subsequent promotion code exports use that subset to determine the number of unused codes to export. To export all promotion codes after configuring a subset, you must delete the subset configuration from your database, or change the subset value to -1. To change the number of promotion codes included in your subset, you must run a SQL update statement that changes the VALUE field of your subset.

## Compress promotion code export file

- Modify the promotions component configuration file (wc-admin-component.xml)
- Set CompressPromotionCodeExportFile property to true
  - `<_config:property name="CompressPromotionCodeExportFile" value="true"/>`
- False
  - Default. Promotion codes are exported into a non-compressed CSV file
- True
  - Promotion codes are exported into a compressed file format

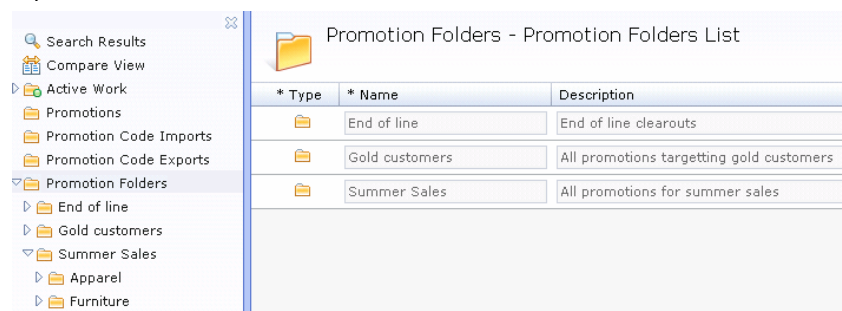
Two formats, compressed and uncompressed, are supported by promotion code export. By default the exported promotion code file is not compressed. To compress the promotion code export file, you need to set CompressPromotionCodeExportFile property to true in wc-admin-component.xml.

***Promotion tool:  
Promotion folders***

Next, you will hear about promotion folders.

## What's new in this release?

- Promotion Folder
  - File folder within the Management Center Promotions tool
- Build hierarchies by creating promotion folders within existing promotion folders
- IT Task – folder management
  - Create/change/remove folders
- Business user task
  - Add/delete promotions to and from folders



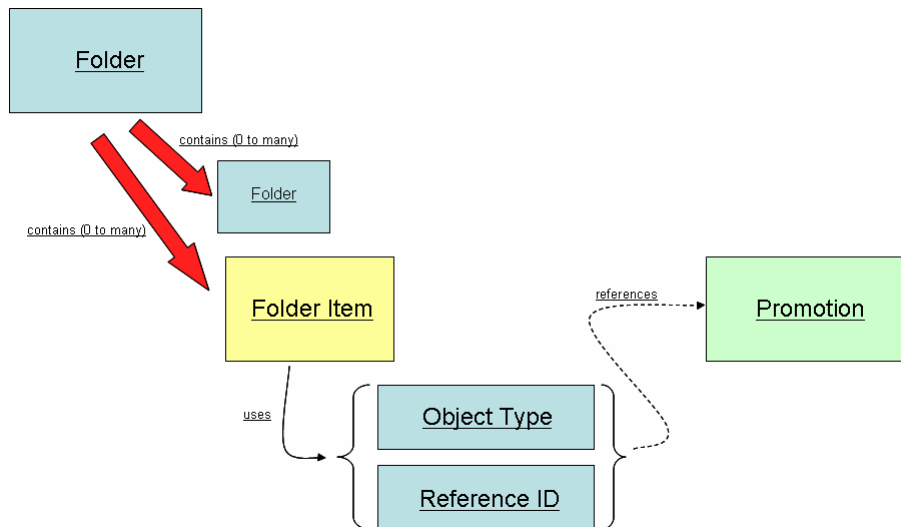
The screenshot shows the 'Promotion Folders - Promotion Folders List' interface. On the left is a navigation pane with a tree view of folders: Search Results, Compare View, Active Work, Promotions, Promotion Code Imports, Promotion Code Exports, Promotion Folders (expanded), End of line, Gold customers, Summer Sales (expanded), Apparel, and Furniture. The main area displays a table with the following data:

| * Type      | * Name         | Description                              |
|-------------|----------------|------------------------------------------|
| Folder icon | End of line    | End of line clearouts                    |
| Folder icon | Gold customers | All promotions targetting gold customers |
| Folder icon | Summer Sales   | All promotions for summer sales          |

Promotion folders help you organize promotions efficiently in Management Center. A promotion folder is a file folder within the Management Center Promotions tool that you can use to organize your store promotions. By using promotion folders, you can manage your store promotions more efficiently with the Management Center Promotions tool.

Once the IT team creates the folders in the database, following the documentation, business users can add promotions to or remove promotions from the folders. Adding a promotion to a folder does not impact the existing promotion in the main promotions list.

## Relationship between folders and promotions



This diagram shows the relationship between folders and promotions. Each folder can contain 0 to many folder items where each folder item uses an object type specification and a reference ID to determine what actual object it is referencing. For example, an object type of “PromotionType” and a reference ID of 10101 will mean that a folder item references a promotion with ID 10101.

## IT Task: Creating promotion folders

- Run SQL insert statements to insert folder information to WebSphere Commerce database
  - Determine unique primary key for promotion folder
  - Determine unique ID of your store to associate with promotion folder
  - Determine these for your folder:
    - PARENTFOLDER\_ID
    - IDENTIFIER and DESCRIPTION
    - TYPE
  - Run insert statement

```
INSERT INTO FOLDER (FOLDER_ID, STOREENT_ID, MEMBER_ID, PARENTFOLDER_ID, IDENTIFIER,
DESCRIPTION, TYPE) VALUES (YourFolderID, 10152, NULL, NULL, 'Spring Promotions', 'A
folder containing Spring promotions', 'IBM_PromotionFolder');
```

- Once folder is created, business users can add/remove promotions into folders

You can create your own promotion folders to improve the organization and management of your store promotions. If you are a business user, an Operations Manager or Site Administrator is required to aid in creating the promotion folders.

To create a promotion folder you must run SQL insert statements to insert folder information into your WebSphere Commerce database. When the promotion folder is created, business users can add and remove promotions into the promotion folder with Management Center.



## IT task: Changing promotion folders

- Determine unique ID of your store that contains your promotion folder
- Retrieve details of the promotion folder you want to change
- Determine the new PARENTFOLDER\_ID for your promotion folder
- Run SQL update statement to create hierarchy for promotion folder

```
UPDATE FOLDER SET PARENTFOLDER_ID=NULL WHERE FOLDER_ID=YourFolderID AND
STOREENT_ID=YourStoreID AND TYPE='IBM_PromotionFolder';
```

An operations manager or site manager can change the promotion folders to improve the structure of the hierarchy to better suit promotion management needs. You can run SQL update statements against the database. Changing the hierarchical relationship of your promotion folders does not change the promotions associated with the folder. When you change the hierarchy of a folder, all of the folders contents are moved with the folder.

## New tables and schema changes

- FOLDER
  - Holds information about folders
- FOLDERITEM
  - Holds information about the pointers to objects that are in folders
- FOLDERTOITEM
  - Holds information about the relationship between a folder and a folder item
- New noun
  - FolderType – holds all information about a folder including references

Here are the new tables created for promotion folders. The FOLDER table holds information about folders. FOLDERITEM table holds information about the pointers to objects that are in folders. The FOLDERTOITEM table holds information about the relationship between a folder and a folder item. There is a new noun FolderType that holds all the information about a folder including references to FolderItemTypes, one for each folder item in this folder. It also includes FolderUsages, one for each of the types of objects this folder is allowed to contain.

## Extended Sites support

- Folders can be created in both the asset store and e-site stores
- You can view asset store folders in the e-site store
- You can add asset store objects to asset store folders from the e-site store
- You can add e-site store objects to asset store folders from the e-site store
- You can NOT view e-site folders from the asset store

| In Esite                                    | In Asset Store                                    |
|---------------------------------------------|---------------------------------------------------|
| Create folder                               | Don't see folder                                  |
| Add inherited promotion to local folder     | Don't see folder so don't see inherited promotion |
| Add local promotion to local folder         | Don't see folder so don't see local promotion     |
| Add inherited promotion to inherited folder | Don't see inherited promotion added from e-site   |
| Cannot delete inherited folder              | Delete folder with e-site contents: service error |
| Can delete local folder                     | Delete folder with no e-site contents: success    |

| In Asset Store          | In Esite                |
|-------------------------|-------------------------|
| Create folder           | See folder              |
| Add promotion to folder | See promotion in folder |

If you are using an extended sites store model, you can use promotion folders to organize your asset and extended site store promotions. By grouping asset and extended site store promotions into the same folders you can group all promotions related to a Marketing campaign or activity for an extended site store together. Organizing asset and extended site store promotions together does not influence the behavior of the Promotion tool for extended site stores. If your extended site store inherits an asset store promotion and includes the promotion into an extended site store promotion, your asset store continues to own the promotion. You can create folders for both your asset store and extended site stores. At the asset store level, you can manage only the folders created specifically for your asset store; you cannot view folders created for extended site stores. At the extended site level, you can view folders created for both your extended site store and your asset store. At both the asset store and extended site store level, you cannot include extended site promotions into an asset store folder. If you have a folder created for your extended site store, however, you can include both extended site store and asset store promotions into the folder.

## Limitations

- Folders are not workspace enabled
- No versioning support
- No multi-language support

If you are planning to use promotion folders there are specific limitations. Multiple language support is not available for folders. You cannot create a version of a promotion folder. Promotion folders are not supported for workspaces. If you include a promotion into a folder in a workspace, that promotion displays in the folder in other workspaces, and within the base schema. If you add a promotion to a promotion folder in workspaces, you cannot remove the folder relationship with the Workspace Management tool history pane undo. If you attempt to remove the promotion from the folder with the Workspace Management tool history pane undo, the relationship continues to exist in the database. You must manually delete the relationship from the database.

## ***E-Marketing spot JSP caching***

Next, you will hear about the E-Marketing Spot JSP caching technique based on activity behavior.

## Terminology review

- Static e-Marketing Spot
  - e-Marketing Spot that only has activities scheduled that display the same results to all shoppers
  
- Dynamic e-Marketing Spot
  - e-Marketing Spot that has one or more activities scheduled whose behavior can depend on the current shopper or the current context

A static e-Marketing Spot at any time has only those activities scheduled that display the same results to everyone. The activities do not contain targets, branches, or experiments. The activities can have specific start and end dates.

A dynamic e-Marketing Spot at any time has one or more activities scheduled whose behavior can depend on the current shopper or the current context. These activities use targets, branches, and experiments.

An e-Marketing Spot can also be dynamic if the content displayed in the e-Marketing Spot is dynamic. Most content is static and the same content is displayed for all shoppers. In some situations, the content can have substitution variables or promotion proximity tags that change the content. For example, to display the shopper name or the amount a shopper further requires to receive a promotion. If the displayed content can change, then the e-Marketing Spot behavior is dynamic. The Marketing Manager is required to identify any content that has dynamic behavior.

## Overview

- Original design of Management Center Marketing caching
  - Activity rule evaluated every time e-Marketing Spot store page is displayed
  
- New in Feature Pack 5 – Improve caching for better storefront performance
  - Caching technique based on activity behavior
  - Allows for optimal caching of e-Marketing Spots with no manual involvement
  - Auto detect if e-Marketing Spot is static or dynamic
  - JSP caching can be used for static e-marketing spots while dynamic ones use the marketing engine to determine content
  
- Changes are in Aurora store

In feature pack 5, a new caching technique based on activity behavior is provided to help in the caching of e-Marketing Spots and to improve storefront performance. In the past, the marketing caching technique involved having the marketing engine perform an evaluation of what to display in an e-Marketing Spot. It, also, used dynacache command cache and distributed map cache entries to cache the results that are displayed in the e-Marketing Spot. This allowed the marketing engine to handle the dynamic aspects of marketing activities, for example, experiments and targets, while using cached entries wherever possible. Essentially, the activity rule must be evaluated every time a page containing e-spots is loaded. However, in practice, many e-Marketing Spots are static and displays the same results to all customers. For a static e-Marketing Spot, JSP cache is the best caching technique. The e-Marketing Spot JSP fragment can be cached, and if the e-Marketing Spot is on a full cached page, then the e-Marketing Spot can be consumed by the parent page. In the past this required continuous manual settings of which e-Marketing Spots can use a JSP cache.

The new marketing caching technique in feature pack 5 is implemented in the Aurora store, it is based on activity behavior and allows for optimal caching of e-Marketing Spots automatically. The marketing engine automatically detects if the e-Marketing Spot is static or dynamic. If the e-Marketing Spot is static, then JSP caching can be used for the e-Marketing Spot results. If the e-Marketing Spot is dynamic, then the marketing engine performs the evaluation, and uses dynacache command cache and distributed map cache entries to display the results. Configuration is set in the e-Marketing Spot JSP snippets and the store cachespec, and then static e-Marketing Spots are automatically JSP cached.

## Marketing Tool – New Content behavior field

\*New Content Save Close

Specify a value for the Name field.

\*Name

Content type: Asset

\*Associated asset

| Type            | Code | Path |
|-----------------|------|------|
| 0 of 0 selected |      |      |

Text (United States English)

Click action for link: No click action

Content behavior: **Static**, Dynamic

- Static - Select if content displays same results to everyone
- Dynamic - Select if content changes depending on customer
  - Example
    - Hi [FirstName], welcome back!
    - You are only [CartValueThreshold:200 USD,MinimumCartValue:50] away from free shipping

In the marketing tool, there is an option when creating new content called "Content Behavior." This option helps to determine how to cache an e-Marketing Spot at the storefront. If the content behavior is dynamic, then the e-Marketing Spot cannot be cached at the storefront. You can select static if the content displays the same results to everyone. Select dynamic if the content changes depending on the shopper as specified in the two examples here. Example 1, the content displays the shoppers name in the text using substitution variables defined in the e-Marketing Spot. Such as: Hi [FirstName], welcome back! Example 2, The content displays the additional amount of money a customer must spend to qualify for a promotion using the promotion proximity tag in the text. Such as: You are only [CartValueThreshold:200 USD,MinimumCartValue:50] away from free shipping.



## Invalidation

- Invalidation of individual cached entries automatically occurs:
  - at scheduled activity transition times (next start date or end date)
  - changes to e-Marketing Spots and web activities
  - changes to results displayed in the e-Marketing Spot
    - when the products, categories, content, or assets that are displayed in the e-Marketing Spot change
- Quick Publish and stage propagation automatically set the invalidation rules
- No longer a requirement to clear the entire marketing registry

When a static e-Marketing Spot is JSP cached, it is necessary to invalidate the cached entry at the appropriate times. Invalidations are automatically set for these situations. The page will timeout at the next scheduled activity transition time. This is the next earliest start date or end date of all activities scheduled for the e-Marketing Spot. A dependency is set for the e-Marketing Spot (or all static e-Marketing Spots on a full page cache). This will invalidate the page when an e-Marketing Spot changes, such as when activities are added or removed to the e-Marketing Spot, and when the activities scheduled to the e-Marketing Spot change. Dependencies are set for the results displayed in the e-Marketing Spot. This can invalidate the cached page when the products, categories, or content that are displayed in the e-Marketing Spot change. Invalidation is set to occur after Quick Publish and stage propagation. The applicable cached entries are invalidated without clearing the entire Marketing registry.

## Change details

- New wcf:eMarketingSpotCache tag on the e-Marketing Spot snippet
  - Dynamically set page dependency IDs to know which e-Marketing Spots have been cached on page
  - Dynamically set page time limit
    - allows page to be invalidated at next scheduled time where a new set of active activities for the e-Spot are in effect
- Specify <metadatagenerator> in the cachespec.xml
  - Dynamically determines if e-Marketing Spot can be JSP cached

There is a new tag “<eMarketingSpotCache>” on the e-Marketing Spot snippet. This tag will do two things. First, it will dynamically set page dependency IDs. For a servlet cached page, the page can have many e-Marketing Spots. If any of the activities change for that e-Marketing Spot (new, becomes active based on start date passing, becomes inactive because of end date passing), then the servlet cached page needs to be refreshed. The dynamically added dependency IDs allows the page to dynamically know which e-Marketing Spots have been cached on this page, and that updates to those e-Marketing Spots should invalidate the page. Dependency IDs can also be set for the results that are being displayed in the e-Marketing Spot (catalog entry, category, content). Second, it will dynamically set the page time limit. The time limit is set to be the number of seconds to the earliest start date or end date for the activities scheduled to the e-Marketing Spot. This allows the page to be invalidated at the next scheduled time that an activity should be added or removed from the spot. At that time the page is invalidated, and when it is reloaded, the new set of active activities for the e-Marketing Spot is in effect.

## Setting up JSP snippet caching based on activity behavior

- Do-not-consume property is true by default
- Do-not-cache property is true by default
- metadatagenerator works along with eMarketingSpotCache tag to set proper do-not-cache setting

```
<cache-entry>
 <class>servlet</class>
 <name>/Madisons/Snippets/Marketing/Spot/ContentAreaESpot.jsp</name>
 <property name="do-not-consume">true</property>
 <property name="do-not-cache">true</property>
 <property name="save-attributes">false</property>
 <cache-ID>
 <component ID="emsName" type="parameter">
 <required>false</required>
 </component>
 <component ID="DC_storeID" type="attribute">
 <required>false</required>
 </component>
 <component ID="DC_lang" type="attribute">
 <required>false</required>
 </component>
 <metadatagenerator>com.ibm.commerce.marketing.cache.EMarketingSpotMetaDataGenerator</metadatagenerator>
 </cache-ID>
</cache-entry>
```

To set up this type of caching, dependency IDs are dynamically set to invalidate the cached JSP. This happens when the e-Marketing Spot definition changes (web activity changes, default content changes, content changes, product changes, and category changes). The page time limit is also set to invalidate the page at the next scheduled time that an activity should be added or removed from the e-Marketing Spot. When the page is reloaded, the new set of active activities for the e-Marketing Spot is in effect.

In the cachespec, the e-Marketing Spot JSP fragment has a cache entry. This cache-entry specifies do-not-cache and do-not-consume to be true. However, these settings are only the default values; the actual values are set dynamically by the EMarketingSpotMetaDataGenerator when the page is loaded. When the page that contains the e-Marketing Spot JSP is first loaded, the EMarketingSpotMetaDataGenerator checks the behavior of the activities active on the e-Marketing Spot.

If any of the activities are dynamic, then the e-Marketing Spot JSP is not consumed by the parent page, and is not cached. The marketing engine is called to evaluate the activities and return the personalized results. If all of the activities are static, then the e-Marketing Spot JSP is cached. The EMarketingSpotMetaDataGenerator checks if the page that contains the e-Marketing Spot JSP is being cached.

## Summary

- Promotions Tool Updates
  - New Promotion Types
  - Promotion Code Export
  - Promotion Folders
- Marketing Tool Update
  - E-Marketing Spot JSP Caching

This presentation introduced all the promotions and marketing tool enhancements in Feature Pack 5. You first heard about the new promotion types, promotion code exporting and using promotion folders. Finally, you heard about the new e-marketing spot JSP caching method.

## References

- **New Promotion types (top level)**
  - [http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.management-center.doc/refs/rpr\\_pmatrix.htm](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.management-center.doc/refs/rpr_pmatrix.htm)
- **Promotion Folders**
  - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.management-center.doc/concepts/cprpromofold.htm>
- **Promotion Code Export**
  - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.management-center.doc/tasks/tpexportpromo.htm>
- **E-Marketing Spot Caching Overview**
  - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.admin.doc/concepts/cdcjspcacheactivbehav.htm>
- **Setting up JSP snippet caching based on activity behavior**
  - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/topic/com.ibm.commerce.admin.doc/tasks/tdcjspsnipcachactivbehav.htm>

Here are the references for the topics listed in the presentation.

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