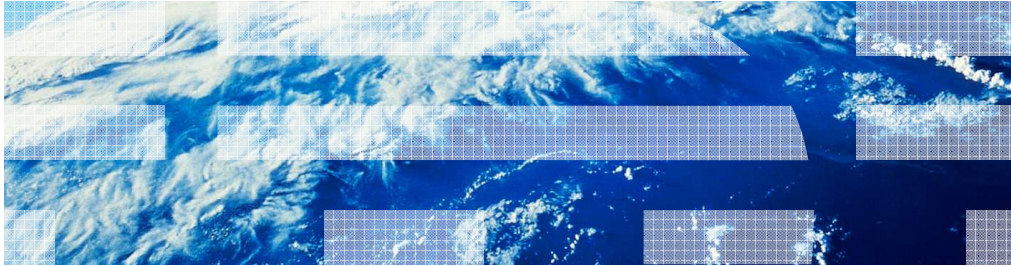


WebSphere Commerce V7 Feature Pack 2

Attribute dictionary tool



This presentation provides an overview of the attribute dictionary solution in WebSphere Commerce V7.0 feature pack 2. You should have a general knowledge of the features in WebSphere Commerce V7.0 before viewing this presentation.

Agenda

- Solution overview
- New features
- Database schema updates
- Attribute management considerations
- Customization
- Troubleshooting

The presentation will start with an overview of the solution, review high-level benefits, and cover the evolution of the attribute dictionary solution. The presentation will then highlight the new features introduced along with some schema updates. It will also introduce some attribute management considerations and end with customization and troubleshooting pointers.

Solution overview

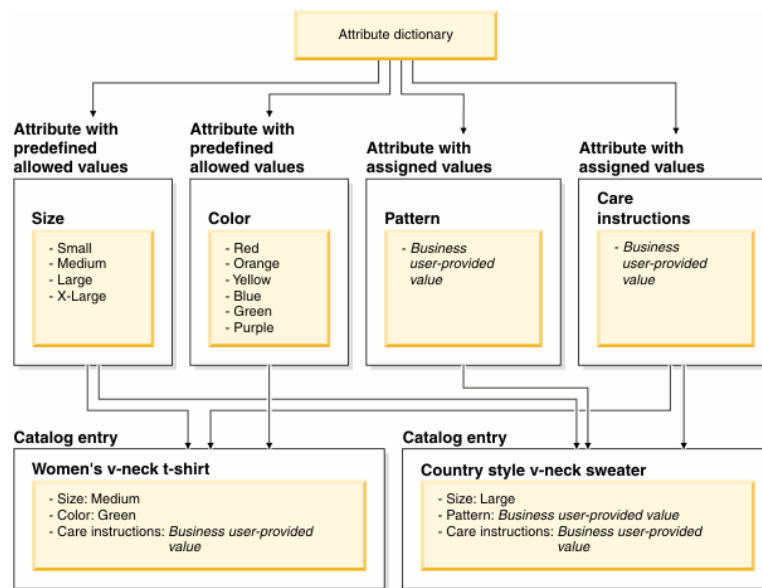
This next section will introduce the overview of the solution.

Solution benefits

- Reduce maintenance costs of managing attributes of a product
- Reduce chances of having incorrect attribute names and values associated to a product
- Reduce overall database footprint by standardizing and sharing data
- Change attributes in one place to affect all instances of the attribute among catalog entries

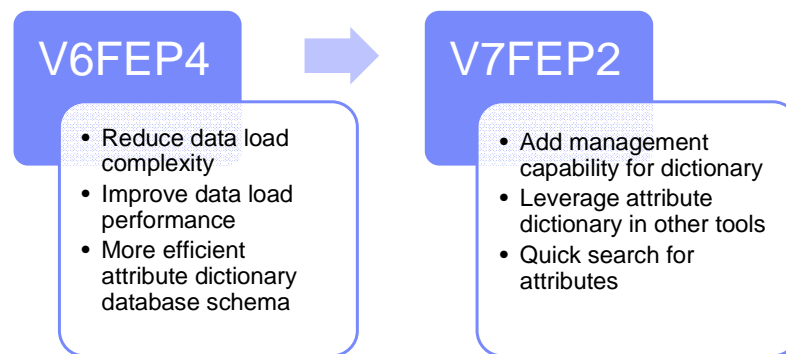
The Attribute Dictionary tool is a new attribute management tool in Management Center to provide business users the ability to update, assign, and manage product attributes. The goal of the attribute dictionary solution is aimed at reducing maintenance costs from assigning and managing product attributes individually. You can standardize attributes and attribute values that are common among multiple products by changing attributes and values in one place and having the change affect all catalog entries. It also reduces database size and data inaccuracies by standardizing and sharing attribute names and values so multiple copies of attribute names and values are not stored.

Attribute dictionary overview



The attribute dictionary in Management Center contains attributes with predefined allowed values and attributes with assigned values. You can assign attributes from the attribute dictionary to catalog entries for use as defining attributes or descriptive attributes. In this diagram, you can see examples of each type of attribute and how they are used to assign to catalog entries.

Solution overview



This slide presents a high level summary of the solution. The attribute dictionary solution was an effort that started back in version 6 feature pack 4. This first stage concentrated on reducing data load complexity and improving data load performance. This was achieved by providing a new, more efficient attribute dictionary database schema. The new schema greatly reduced the amount of data to mass load and improved the runtime performance for resolving SKUs and retrieving attributes.

In version 7 feature pack 2, the solution added new capabilities. This second stage focused on abilities to use and manage the attribute dictionary. User interface functions were added to browse, assign, and remove attributes and attribute values in the attribute dictionary. These new attributes and values can now be used in catalog filters and in validating attribute-based promotions.

New features

This next section shows new features introduced in this release.

New features overview

- **Manage**
 - View, create, assign, or remove allowed values for allowed value attributes
 - Browse or search the attribute dictionary to locate and manage attributes
 - Load attribute dictionary information through catalog upload and data load utility
 - Provide flags you can set to manage your attributes
 - Paging support for attribute and values

- **Leverage**
 - Attribute-based promotions validation
 - Share attributes and attribute values across multiple catalog entries
 - Change, view, assign and remove attributes for catalog entries
 - Automatically generate SKUs based on attribute dictionary attributes
 - Create catalog filters using attribute dictionary attributes as filter conditions

This slide provides a list of all the new capabilities available. They are divided into two categories. Features that allow you to use attributes and features that allow you to manage attributes.

Using attributes refers to accessing them in other Management Center tools. In the Promotions tool, validation has been added for attribute dictionary based attribute filters. In the Catalogs tool, you can now assign and remove attributes for catalog entries and generate SKUs for defining attributes. In the Catalog Filter and Pricing tool, you can create catalog filters that include attribute-based conditions.

Managing attributes means working with attributes and their values in the attribute dictionary tool. In feature pack 2, you can now browse all attributes and their values. Attribute values can be created, updated and deleted through the attribute dictionary tool. You can also set the value of various flags to help you manage how attributes are used. To load attributes into Management Center you can use either the catalog upload UI or the data load command line utility.

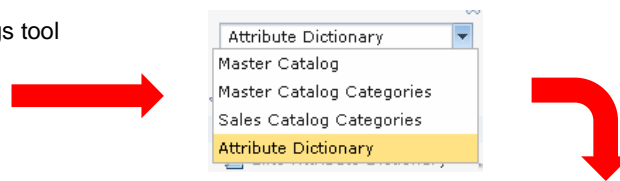
Best practices

- Use the attribute dictionary to manage all attributes when possible
- Use a single CSV file to load both attributes and allowed values
- If loading more than ten allowed values, load the allowed values into the attribute dictionary using a separate CSV file
- Use either data load or catalog upload with a separate CSV file for your attribute values

This slide provides some best practices for using the attribute dictionary to simplify attribute dictionary maintenance and reduce performance impacts. To reduce the number of attributes that you must manage, improve comparisons between products and improve search results, use the attribute dictionary to manage all attributes. Instead of creating similar attributes and attribute values for catalog entries, share attributes and attribute values across multiple catalog entries. To improve attribute management, use a single CSV file to load both attributes and allowed values for attributes into the attribute dictionary. If you are loading more than ten allowed values for attributes, you should load the allowed values into the attribute dictionary using a separate CSV file. If you are loading additional details for individual allowed attribute values, use the data load utility to load the attribute values separately.

Accessing the attribute dictionary

- Open Catalogs tool







The screenshot shows the Management Center Tools interface. The top bar includes 'Management Center Tools', 'Welcome wcsadmin', and 'Log Out'. The main window displays the 'Madisons Attribute Dictionary - Attributes List' tool. The left sidebar shows a navigation tree with 'Attribute Dictionary' selected. The main area contains a table with the following columns: Sequence, * Type, * Code, * Name, * Data type, Displayable, Searchable, and Comparable. The table lists several attributes:

Sequence	* Type	* Code	* Name	* Data type	Displayable	Searchable	Comparable
0.0	13	timePeriod	Subscription period	Whole number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.0	13	paymentFrequency	Payment option	Whole number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.0	13	fulfillmentFrequency	Subscription frequency	Whole number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.0	4	grinder	Grinder	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.0	4	autooff	Auto-off	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.0	4	pausenserver	Pause 'n Serve	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

At the bottom of the screenshot, the page number '10' is on the left, 'Attribute dictionary tool overview' is in the center, and '© 2011 IBM Corporation' is on the right.

You can access the attribute dictionary by opening the Catalogs tool in the Management Center and selecting the Attribute Dictionary from the drop down menu. You need to have attributes in the dictionary in order to enable this option.

Attribute types

-  ▪ Allowed value attribute
-  ▪ Assigned value attribute
-  ▪ Inherited allowed value attribute
-  ▪ Inherited assigned value attribute

There are two different types of attributes – allowed value attributes and assigned value attributes. Allowed value attributes enforce a set of common attribute values that can be reused by multiple products consistently. For example, you can assign small, medium, and large as allowed values for a size attribute and reuse the size attribute across multiple products instead of having to define sizes each time. Assigned values are specified individually for each product. An example is a length attribute where all your products have a unique length. You can use an assigned value attribute to specify unique lengths for each product.

Attribute dictionary supports inheritance where you can add and remove attributes to products and SKUs in asset stores and extended site stores. You can create local attributes and values in an extended sites attribute dictionary. Your site can have multiple attribute dictionaries, each associated to a particular store. Each store, however, can only have one attribute dictionary.

Adding attributes to the attribute dictionary

- Determine type of attribute you want to add
 - Assigned value attribute
 - Allowed value attribute
 - Supported datatypes: Text (STRING), Whole number (INTEGER), Decimal Number (FLOAT)
- Download sample attribute CSV file
 - Contains sample attributes with different combinations of data types and attribute types
 - Familiarize yourself with the available attribute columns
 - Identifier
 - LanguageId
 - Type
 - Footnote
 - Attribute Type
 - Unit of Measure
 - Name
 - AllowedValue1, 2, 3 ...
 - Description
 - Delete
 - Secondary description
 - GroupName

AttributeDictionaryAttributeAndAllowedValues													
Identifier	Type	AttributeType	Sequence	Displayab	Searchabl	Comparable	Name	AllowedV	AllowedV	AllowedV	AllowedV	AllowedV	Delete
Diameter	FLOAT	AllowedValues	12	TRUE	TRUE	TRUE	Diameter	0.5	0.75	1	1.25	1.5	1
Waist	INTEGER	AllowedValues	1	TRUE	TRUE	TRUE	Waist	30	32	34	36	38	
MaterialID	STRING	AllowedValues	1	TRUE	TRUE	TRUE	Material	Cotton	Nylon	Lace	Rayon	Polyester	
Color	STRING	AllowedValues	1	TRUE	TRUE	TRUE	Color	Red	White	Blue	Black	Green	

After you decide what type of attributes you need, you can add and delete new attributes to the attribute dictionary through the Catalog Upload feature in the Catalogs tool. Once you have uploaded these attributes, you can create and edit attributes in the attribute dictionary.

You can assign attributes to catalog entries for use as defining attributes or descriptive attributes. There is a sample you can download from the information center with all the fields filled in. The available columns are shown on the slide. The first row represents the template name. It is the identifier to tell the loader what type of data is in this file. The second row is the mapping for the loader where it tells the loader which columns the parameters are in. The third row shows the values for the respective columns. The last column is the “delete” indicator where a value of 1 in that column flags an attribute for deletion.

Adding attributes to the attribute dictionary

- CSV file is uploaded to catalog
- Status column shows Pass, Fail, In Process

Catalog Uploads - Catalog Uploads List

* File Name	Size	Status	Uploaded by	* Target Catalog	Start Time	End Time
\$JohnDemo.csv	1 KB	✓	wcsadmin	Extended Sites Catalog Asset Store	2010/09/17 05:42 PM	2010/09/17 05:42 PM
\$JohnDemo.csv	1 KB	✓	wcsadmin	Extended Sites Catalog Asset Store	2010/09/17 03:28 PM	2010/09/17 03:28 PM
\$JohnDemo.csv	2 KB	✗	wcsadmin	Extended Sites Catalog Asset Store	2010/09/17 03:27 PM	2010/09/17 03:27 PM
\$JohnDemo.csv	1 KB	⌚	wcsadmin	Extended Sites Catalog Asset Store	2010/09/17 05:56 PM	

Once you upload a CSV file, you will see the status of the upload in the catalog uploads list. You can see the three different status values highlighted in the slide - Pass, Fail or In Process. The status log lists the objects that were loaded and any errors. Generally if you try to load something that is already loaded, it will just replace the objects. If you try to delete something that is not in the database, a failure will occur. You will also get an error if you try to delete an attribute that is assigned to products.

Browsing attributes

- Displayable
 - Specify attribute as displayable
 - No underlying logic currently associated - use field as a custom check box to meet your attribute needs
- Searchable – Unchecked by default
 - Specify attribute as searchable
 - Once set you cannot remove an attribute from being searchable
- Comparable – Unchecked by default
 - Specify attribute as comparable
 - No underlying logic currently associated - use field as a custom check box to meet your attribute needs

The screenshot shows the 'Attribute Dictionary - Attributes List' interface. It features a table with columns for Sequence, Type, Store, Code, Name, Data type, Displayable, Searchable, and Comparable. The table lists several attributes, including 'Material', 'MaterialID', 'Diameter', and 'float_name2'. The 'Displayable' column has checkboxes, and the 'Searchable' and 'Comparable' columns have checkboxes. The 'Material' attribute is highlighted in blue.

Sequence	Type	Store	Code	Name	Data type	Displayable	Searchable	Comparable
3.0	13	MadisonsESite	Material	Material	Text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0	13	MadisonsESite	MaterialID	Material	Text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.0	13	MadisonsESite	Diameter	Diameter	Decimal number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15.0	13	Extended Sites Catalog Asset Store	asset_float_assigned	FVT_ATTRDICT-05-4_float_name	Decimal number	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13.0	13	Extended Sites Catalog Asset Store	float_allowed2	float_name2	Decimal number	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Attribute dictionary tool overview

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You can modify attributes in the dictionary and changes will cascade through all instances of the attribute assigned to catalog entries.

There are several different flags you can set to manage your attributes. The displayable flag can be used by the storefront when deciding whether to display an attribute. This logic is not implemented in the starter stores. The searchable flag is used by WebSphere Commerce search to indicate whether an attribute should be indexed. This allows the attributes to be searchable on the storefront and used in Management Center, for example in Catalog filters. The comparable flag can be used to identify attributes that support comparison of products on the storefront. This logic is not implemented in the starter stores.

Modifying attributes

- Modify general attribute information
- Add, update, delete values for allowed value attributes
- Custom fields available

The screenshot displays the 'Color Attribute' configuration interface. The 'General Attribute Information' tab is active, showing fields for Code (Color Attribute), Name (Color), Type (Text), Description (String color), and Secondary description (Color Attribute description). It also includes checkboxes for 'Displayable', 'Searchable', and 'Comparable', a 'Note' field (Color Attribute description footnote), a 'Unit of Measure' dropdown, and an 'Associated Keyword' field (Attribute Group). The 'Attribute Values Information' section shows a table with 4 rows of values: Red, White, Blue, and Black. A yellow callout box labeled 'Allowed value attributes' points to the 'General Attribute Information' tab, and another yellow callout box labeled 'Create new attribute values' points to the 'Attribute values' table.

Sequence (United States English)	Type	Value (United States English)	Default value
1.0		Red	<input type="checkbox"/>
2.0		White	<input type="checkbox"/>
3.0		Blue	<input type="checkbox"/>
4.0		Black	<input type="checkbox"/>

15 Attribute dictionary tool overview © 2011 IBM Corporation

Clicking on one of the attributes in the dictionary will bring up these screens where you can modify general attribute information such as the name, description, values, set the default value and set the flags. You can also add, update, or delete values for allowed value attributes. You can also make use of the custom fields that are available.

Add defining attributes

- Non-dictionary defining attributes
 - Click New and complete the attribute properties section
 - Add attribute values by clicking on the New icon
- Attribute dictionary defining attributes
 - Utilities view > Browse tab > Attribute dictionary attributes
 - Select defining attribute to assign (allowable values)
 - Drag attribute to table to add the attribute to product
- Notes:
 - Changes to attribute's properties or allowed values will reflect in catalog entries that use this attribute
 - Cannot have both attribute dictionary defining and non-dictionary attributes in one entry
 - When attribute dictionary is enabled, you can only add attribute dictionary defining attributes

The screenshot shows the 'Attribute Dictionary tool overview' for an 'AD-Product with AD def attributes'. The main window displays a table of 'Defining Attributes (Attribute Dictionary)' with columns for Sequence, Type, Code, Name, Data type, Displayable, Searchable, and Comparable. Two attributes are listed: 'Size Attribute' (Size, Text) and 'Colour Attribute' (Colour, Text). A right-hand pane shows a list of available attributes, including 'Colour Attribute', 'FulfillmentFrequency', 'PaymentFrequency', 'Size Integer Attribute', 'TimePeriod', 'Product AD Style', and 'SKU AD Style'. The 'Colour Attribute' is selected, showing its values: Red, White, Blue, and Black.

Sequence	Type	Code	Name (United States E...)	Data type	Displayable	Searchable	Comparable
4.0	Size Attribute	Size	Size	Text	✓	✓	
4.0	Colour Attribute	Colour	Colour	Text	✓	✓	

0 of 2 selected

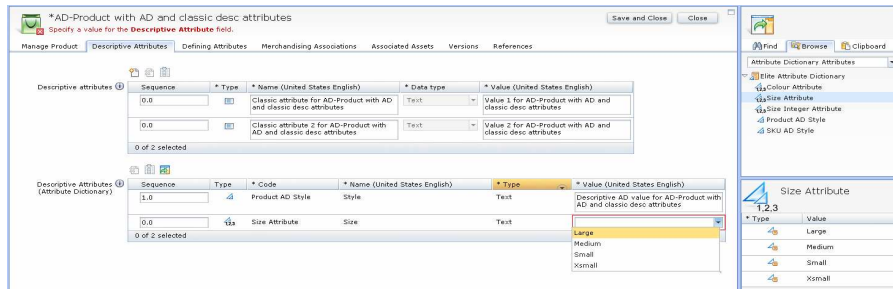
16 Attribute dictionary tool overview © 2011 IBM Corporation

You can now add attribute dictionary attributes as defining attributes. Defining attributes are properties of SKUs in an online store, such as color or size. You can only add attribute dictionary attributes that have allowable values, since the set of values need to be known for SKUs to be generated. Each possible combination of attributes and attribute values defines a new SKU. Here is a comparison of how you add defining attributes for both attribute dictionary and non-dictionary attributes. For non-dictionary defining attributes, you click the new icon to create the attributes. For attribute dictionary, you use the utility pane to browse for the attribute you want to add. You then drag the attribute to the defining attribute table, and it is dynamically added to the product.

You cannot have both attribute dictionary and non-dictionary defining attributes on one catalog entry. This means that if you already have non-dictionary defining attributes, you cannot add attribute dictionary attributes. Once you enable the attribute dictionary, you can only add attribute dictionary defining attributes, you can no longer create non-dictionary attributes as defining attributes.

Adding descriptive attributes

- Non-dictionary descriptive attributes
 - Click New and complete the info in the new row added
- Attribute dictionary descriptive attributes
 - Utilities view > Browse tab > Attribute dictionary attributes
 - Select descriptive attribute to assign
 - Drag attribute to table to dynamically add the attribute to product
 - Expand and add attribute values by clicking on New icon
 - For attributes with allowed values, select from predefined list
- Note:
 - Can have both attribute dictionary and non-dictionary descriptive attributes in one entry



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Attribute dictionary tool overview

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Descriptive attributes provide additional information about a product. An example of a descriptive attribute is care instructions for clothing, such as dry clean only. A descriptive attribute can specify the dry clean only condition, or if electronics equipment uses AA or AAA batteries. Descriptive attributes are not used for SKU resolution. You can have both attribute dictionary and non-dictionary attributes as descriptive attributes in one catalog entry. As with defining attributes, you can use the utility pane to find the dictionary attribute you want to assign and drag to assign dynamically to the product. Descriptive attributes can be either allowable or assigned attribute types.

Viewing and browsing attributes – utility pane

The screenshot displays the Attribute Dictionary tool overview with three panels:

- Left Panel (Utility Pane):** Shows a tree view with categories: Master Catalog Categories, Master Catalog, Sales Catalog Categories, Attribute Dictionary (highlighted with a red box), Attribute Dictionary Attributes, Files, and Attachments.
- Middle Panel (Attribute Dictionary Overview):** Shows a table of attributes for the selected dictionary.

* Type	* Code	* Name
1.2.3	Color Attribute	Color
1.2.3	Size Attribute	Size
1.2.3	Size Integer Attribute	Size Integer
1.2.3	SKU AD Style	Style
1.2.3	Product AD Style	Style
- Right Panel (Attribute Details):** Shows details for the selected 'Color Attribute'.

* Type	Value
1.2.3	Red
1.2.3	White
1.2.3	Blue
1.2.3	Black

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 Attribute dictionary tool overview
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Here are ways to browse the attribute dictionary from the utility pane. Selecting to browse by attribute dictionary allows you to view and select attributes in the dictionary in the lower panel. Selecting to browse by attribute dictionary attributes allows you to view the values for an attribute in the lower panel.

Search for attribute dictionary attributes

- Simple search criteria
 - Code, name
 - No advanced search option
 - Not case sensitive
 - Comma separated
- For example, to search for the attributes "Color", "Size", and "Length"
 - Type Color, S*, *gth into the search field

You can search for attributes from the dictionary using the quick search in the Management Center. The search feature has simple search criteria where you can specify the attribute identifier or name. It is not case sensitive. You can use wild cards and commas in your search. For example if you want to search for attributes “Color”, “Size” and “Length”, you can type Color, S*, *gth into the search field.

SKU generation from attribute dictionary attributes

- Generate SKUs from the product's defining attribute dictionary attributes

The screenshot shows the IBM WebSphere Commerce Attribute Dictionary tool. The top toolbar has a red box around the 'Generate SKUs' icon. A yellow callout box points to it with the text 'Generate SKUs'. Below, the 'AD-Product with AD def attributes - SKUs List' window shows a table of generated SKUs.

Sequence	Type	Code	Name	Thumbnail	Display to Customers	Buyable	Colour	Size
0.0		AD-Product with AD def attributes_SKU_1	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Red	Large
0.0		AD-Product with AD def attributes_SKU_2	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Blue	Large
0.0		AD-Product with AD def attributes_SKU_3	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	White	Large
0.0		AD-Product with AD def attributes_SKU_4	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Black	Large
0.0		AD-Product with AD def attributes_SKU_5	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Red	Xsmall
0.0		AD-Product with AD def attributes_SKU_6	Product with AD def attributes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Blue	Xsmall

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The SKU generation feature introduced in WebSphere Commerce V7 feature pack 1 can now handle attribute dictionary attributes. You can assign attribute dictionary attributes as defining attributes to a catalog entry, then use the generate SKUs function to generate the SKUs. So if you add two attributes with three values each, then that will generate a total of six SKUs.

Promotion validation for attribute based promotions

- Validation of promotion names and values during activation
 - Attribute names and values must be in either attribute dictionary or are valid non-dictionary attributes
 - Disable validation by turning off validation property in promotions component
 - wc-admin-component.xml

Attributes for catalog entries

* Attribute Name	* Data Type	* Matching Rule	* Value
Nancy attribute	Text	Attribute value car ...	hello

0 of 1 selected

Message Console

Show All

Message	Object	Date and time
The attribute "Nancy attribute" could not be found for catalog entry "TU0001". Check spelling of attribute name and ensure the attribute exists for the specified catalog entry.	Test	2010/07/22 09:56:05 PM
Save action completed for Promotion Test.	System	2010/07/22 09:55:24 PM
Save action completed for Attribute Nancy attribute.	System	2010/07/22 09:55:15 PM
Save action completed for Promotion Test.	System	2010/07/22 09:55:15 PM

0 of 4 selected

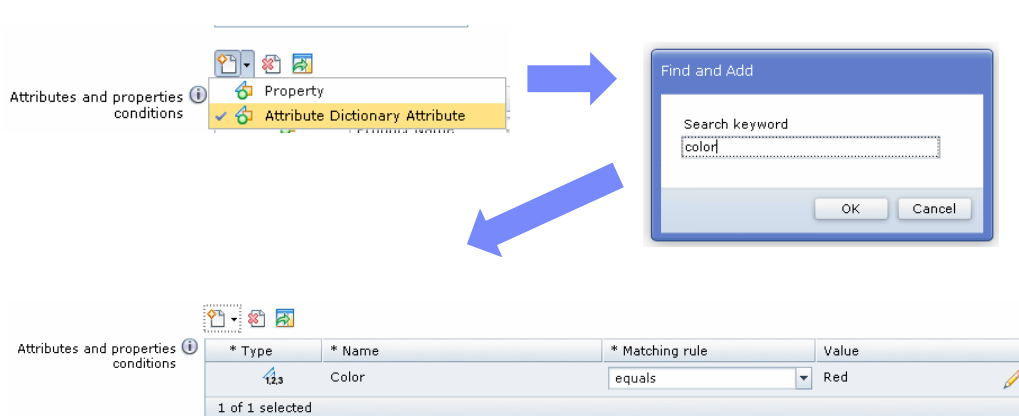
Copy Clear Close

When you activate a promotion that includes a catalog attribute condition, a validation is performed to ensure the promotion is targeting valid products. The validation prevents promotion activation if a specified attribute name does not exist for all catalog entries targeted in the promotion. It also ensures that at least one of the values specified in each promotion attribute rule exists for the attribute in each catalog entry.

You can disable this validation by turning off the validation property in the promotions component configuration file.

Catalog Filter attribute dictionary attribute conditions

- Create filters with attribute dictionary descriptive attributes as conditions



You can create catalog filtering conditions based on attribute dictionary attributes. Both descriptive and defining attributes can be used as filters as long as the attribute is marked as searchable and is contained in the search index. Attributes with assigned values are not supported since translation to different languages can be ambiguous. Non-dictionary attributes are not supported because they are not shared by multiple catalog entries and the results can be ambiguous.

Database schema updates

The next section of the presentation will highlight some database schema updates.

Schema updates

- Database schema Updates
 - Add ATTRUSAGE to ATTR table
 - ATTRUSAGE=1: allowed value
 - ATTRUSAGE is null or 0: assigned value
- Logical schema Updates
 - Values element added to CatalogEntryType element of CatalogEntry noun to support multiple value attributes
 - New nouns exposed to support management of the attribute dictionary:
 - AttributeDictionary, AttributeDictionaryAttribute

Here are the database schema updates for the attribute dictionary solution. A new column called ATTRUSAGE is added to the ATTR table. Each row of the table can have the value null, 0, or 1 for this column. Null or 0 means that this attribute does not have allowed values, a value of 1 means that the attribute has allowed values. A new element called Values is added to support multiple value attributes in the CatalogEntry noun. Several other nouns are exposed to support management of the attribute dictionary.

Options for managing attributes

- **Option 1:** Use the attribute dictionary in Management Center to manage attributes for catalog entries
- **Option 2:** Continue to manage attributes individually for catalog entries
- **Option 3:** Use the attribute dictionary in Management Center and manage attributes individually for catalog entries

The attribute dictionary in Management Center provides a flexible, alternative method for managing attributes within a store catalog. Before you begin using the attribute dictionary in Management Center, review the options for managing attributes that are available after you install and enable WebSphere Commerce Version 7 Feature Pack 2. You can choose to use the attribute dictionary exclusively for all your attributes and catalog entries. If your store does not contain attributes that are shared across multiple catalog entries, you can continue creating and managing attributes in Management Center that are specific to individual catalog entries. If you want to use a mix of the two methods, and do not want to convert your entire catalog to use attribute dictionary attributes, then you can choose to do that as well. There are advantages and disadvantages to each option. You can read about each option in the WebSphere Commerce Information Center.

Customization and troubleshooting

The next section documents some customization and troubleshooting scenarios.

Adding an attribute dictionary attribute usage type

- Goal: Add another attribute usage type in addition to predefined allowed value and assigned value attributes
- Information Center Reference:
http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center_customization.doc/tasks/tfaddatdicusagetype.htm
- Procedure:
 - Create `wc-business-object-mediator.xml`
 - Add XML code to the file to map the usage column
 - Add properties to customize Catalog properties file
 - Add usage field in Management Center object
 - Add property definition in file:
`LOBTools/WebContent/config/commerce/catalog/objectDefinitions/AttributeDictionaryCommonObjectDefinition.def`
 - Add GridComboBox definition in file:
`LOBTools/WebContent/config/commerce/catalog/listViewDefinitions/CatalogEntryAttributeDictionaryDescriptiveAttributeGrid.def`
 - Rebuild OpenLazlo project and restart server

Attribute dictionary attributes have two predefined usage types: allowed value attributes and assigned value attributes. If the predefined attribute usage types are insufficient to meet your business requirements, you can create custom attribute usage types. To create custom usage types, you need to create a custom business object mediator and customize the catalog properties file. You can then add the usage field in the Management Center object. When assigning an attribute to a catalog entry, you need to select the custom usage type from the drop down list.

Hide non-dictionary attributes in Management Center

- Goal
 - Use only attribute dictionary attributes
- Information Center Reference:
<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpnhideclassattrib.htm>
- Procedure
 - Enable attribute dictionary
 - Open Commerce Developer Toolkit
 - Expand LOBTools > WebContent > config > commerce > catalog > propertiesViews; then open the CatalogPropertyPane.def file.
 - Modify these definitions:
 - catCatalogEntryDescriptiveAttributes
 - catSKUAttributes
 - catCatalogEntryDefiningAttributes
 - catCatalogEntryDefiningDictionaryAttributesPropertyGroup

If you plan on using only the attribute dictionary in Management Center to manage attributes, you can hide all attributes that are not contained within the attribute dictionary in the Management Center Catalogs tool.

Detailed snippets and code changes can be found in the WebSphere Commerce Information Center.

Migrating to the attribute dictionary

- Goal
 - Attributes can be stored and managed in attribute dictionary and shared across catalog entries
 - Color is a common attribute assigned to products, but values are not shared across multiple categories
 - EX: Colors “red, green, blue” are commonly used for clothing products such as apparel but not for electronic products
 - Combining and sharing all color values for all products results in irrational associations
 - Sort similar existing attributes into like groupings
 - EX: ShirtColor, ShirtSize and TVColor, TVSize
- Information Center reference:
<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpnattdicmigrate.htm>
- Procedure
 - Determine what current attributes and requirements are and group like attributes
 - Reformat data to attribute dictionary Data Load format
 - Associate required attribute dictionary attribute value to migrated attributes
 - Upload and associate the attribute values by using
 - Management Center catalog upload
 - Create and associate values manually within Management Center

When the Management Center attribute dictionary is enabled, existing attributes are not migrated to the attribute dictionary by default. To replace existing attributes with attribute dictionary attributes, you need to manually perform a data cleansing operation on your attribute data. This data cleansing operation identifies common attributes and organizes these attributes into groups so that they can be assigned to catalog entries. There are several considerations when grouping attributes.

The migration procedure or solution of this can be, to use a business user name (Code) and storefront name (Name) for attributes in the attribute dictionary. To sort attributes into groups, add prefixes to the business user names of attributes to create attributes for categories, such as ShirtColor, ShirtSize, and TVColor, TVSize. Leveraging this difference between the business user name and the storefront name allows you to see the attributes together, but displays clear and simple information for the shopper on the storefront.

Disable validation in attribute based promotions

- Goal: Disable validation in attribute based promotions
- Procedure: Turn off the validation property
 - Promotions component configuration file (wc-admin-component.xml)
 - Found in:
 - WC_eardir\xml\config\com.ibm.commerce.promotion-fep\template\wc-admin-component.xml
 - Property:
 - `<_config:property name="PromotionCatalogEntryAttributeRuleValidation" value="true"/>`
 - Set to **false**: Allows users to assign any attribute
 - Set to **true**: Enables validation

You can disable validation in attribute based promotions by turning off the validation property in the promotions component configuration file. Setting the value to false allows users to assign any attribute filter in a promotion and activate the promotion. Setting the value to true prevents activation of a promotion if the selected attribute names and values are not valid for the specified catalog entries in the promotion.

Problem determination considerations

- Related trace strings
 - com.ibm.commerce.tools.*
 - com.ibm.commerce.catalog.*
 - com.ibm.commerce.foundation.*
- Search index rebuilds
 - Require full index rebuild
 - Adding new allowed values to attributes in attribute dictionary
 - Changing fields or properties to attributes in attribute dictionary
 - Delta index update
 - Assigning defining attributes to products
 - Assigning descriptive attributes to products
- Searchable attribute synchronization issue
 - Uploaded searchable attributes are not synchronized
 - Requires update in Management Center or assign to products

Here are the various trace strings associated with the attribute dictionary solution. There are some considerations when working with attributes in the dictionary. The search index needs to be rebuilt when you add new allowed values to an attribute in the dictionary, or when you change any fields or properties of an attribute in the dictionary. If you do not perform the rebuild, you cannot see the updated changes on the storefront. Assigning defining or descriptive attributes to products will trigger automatic delta index updates.

Another issue occurs when you upload searchable attributes in CSV files. Attributes need to be marked as searchable from the Management Center in order for WebSphere Commerce search to synchronize the changes.

Summary

- Solution overview
- New features
- Database schema updates
- Attribute management considerations
- Customization
- Troubleshooting

The presentation started with an overview of the solution, reviewed high-level benefits, and covered the evolution of the attribute dictionary solution. The presentation then highlighted the new features introduced along with some schema updates. It introduced some attribute management considerations and ended with customization and troubleshooting pointers.

References

- Options for managing attributes
 - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/concepts/cpnattributeoptions.htm>
- Attribute dictionary overview
 - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/concepts/cpnattribdic.htm>
- Loading the attribute dictionary
 - http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpn_attribdic_roadmap.htm
- Using the attribute dictionary
 - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpnuseattribdic.htm>
- Attributes
 - <http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/concepts/cpnattributes.htm>

Here are some additional WebSphere Commerce Information Center reference links.

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