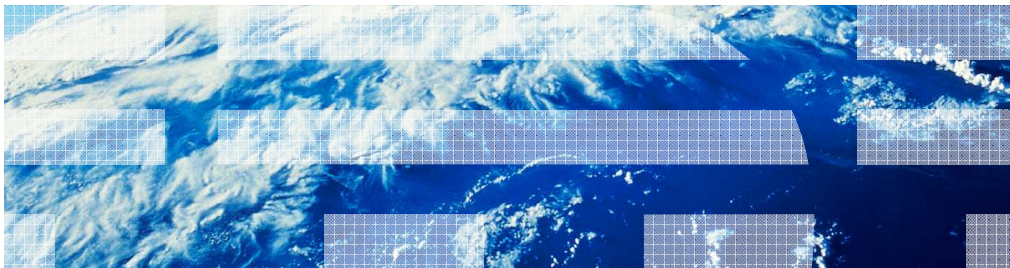


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## WebSphere® Commerce V7 Feature Pack 5

### Page Layout Tool



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Feature Pack 5 includes a new Page Layout Tool, this presentation will cover this new tool.

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## Table of contents

- Widgets and Page Layouts
- Page Layout Tool
- Troubleshooting

This presentation will begin by reviewing widgets and page layouts and then cover the Page Layout Tool. Then it will cover some troubleshooting scenarios. For more details on widgets and page layouts be sure to read the Aurora Store presentation.

## Feature pack 5 overall enhancements

- New Aurora storefront
- Modular page design
  - Identify various UI elements, features, or components which are self contained and independent
- Page layouts that help define the sections in the page along with the styling
- Business user tool support
  - Empower business users to select the layout used for various store pages

Feature Pack 5 includes a new starter store called the Aurora store. The Aurora store demonstrates a new, modular page design where UI components are self contained and can be easily added to, removed from, or repositioned on the page. For example, the product compare zone, mini shopping cart, product listing view, and wish list are all examples of components. The introduction of independent, reusable components allows for the creation of page layout templates that define the sections in the page and provide overall styling. Management Center support is added to allow business users to select which page layout templates to use for various pages within the store.

## ***Widgets and Page Layouts***

This section covers Widgets and Page Layouts.

## Widget

- A widget is an independent UI module providing a specific feature or functionality that can be embedded and moved around in store pages
- Capable of retrieving its own data while providing multiple ways of rendering
- Comprises of four parts including two JSP fragments:
  - Data Provider (JSP page)
  - Java Script Provider
  - User Interface Provider (JSP page)
  - CSS Provider

A widget is an independent UI module providing a specific feature or function that can be embedded and moved around in store pages. Each widget is capable of retrieving the data it requires while providing multiple ways of rendering the data and defining user interactions associated with the data. A few examples of widgets are the header widget, footer widget, e-Marketing Spot widget, and product list widget.

Each widget is composed of four parts. The first part, called the data provider, handles the data retrieval aspects for a widget. This includes fetching the data required to render from the WebSphere Commerce server. Each widget can have at most one data provider which is modeled as an independent JSP page. The second part is the Java Script provider. This defines the set of user actions that are supported by the widget. The provider is modeled as a Java script file. For example, the product list widget might support adding the product to shop cart, viewing quick info about the product, and moving the product to the compare zone. The third part is the User Interface provider. This provides the user interface for rendering the data handled by the widget. A widget supports multiple user interface providers, allowing the widget data to be displayed in different ways. The user interface providers handles the sizing and positioning of the data within the widget. Data in the widget is rendered based on the UI provider chosen. For example: A product list component has multiple UI providers that support rendering the product list in a detailed view, thumbnail view and so on. Another example is the Merchandising widget, it can display the list of product associations in a scrollable widget or as a flat view with pagination support. The fourth part is the CSS provider. The CSS provider assists in the positioning of the basic HTML UI elements within the component's user interfaces. Additional styling information comes from the page template that includes the components in the form of widgets. This way the same widget can be used in different stores and the widgets will nicely blend with the overall theme of the store.

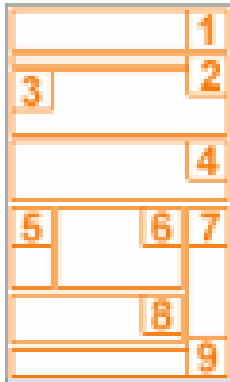
## Page layout

- A page layout is a store page created for a particular layout type
- Has widgets associated with it and values for the properties of those widgets
- Communication between different widgets on the page is handled using Dojo publish/subscribe event handlers
- Associated with an object in WebSphere Commerce rather than a store page
- Uses its own CSS for styling of page and styling for widgets

A page layout is a store page created for a particular layout type such as a category page, product page, or home page. A page layout has widgets associated with it and each widget has a set of configurable properties that can be provided to allow finer configuration of the widget in a layout. These configurable properties are called widget properties. The widget properties are of two types. The first type are properties that control the display of UI elements in the widget. These properties provide an alternate to flex flow in places where flex flow tags were previously used to control the display of UI elements. The second type of properties are properties that provide general configuration in the widget. For example, the size for the mini shop cart component, or the e-Marketing Spot name in the e-spot component. Each widget property can have either a predefined list of property values or is open to allow you to provide the value. In addition, each widget property has a default value that is used when you do not provide any value for the property. When associating a widget to an area in the layout, you can choose to provide values for the widget properties to customize the widget's usage within the layout. The UI provider makes use of these properties to handle the rendering of data within the component.

The store pages in the Aurora store are dynamic and there are a handful of store pages that display different content based on the object identified through its query parameters. Thus, a layout is associated with an object in WebSphere commerce rather than a store page. A layout is also indirectly associated with the page. For example, Layout1 applies to all categories; Layout2 applies to only to the furniture category. Communication between different widgets on the pages are handled using dojo publish/subscribe event handlers. A page layout uses its own CSS for styling the page and some aspects of widgets on the pages such as font size and color.

## Page layout home page example



### Home Page Layout

1. Header
2. Double E-Marketing Spot for Contents
3. E-Marketing Spot for Contents
4. E-Marketing Spot for Catalog entries
5. E-Marketing Spot for Contents
6. E-Marketing Spot for Contents
7. E-Marketing Spot for Contents
8. E-Marketing Spot for Contents
9. Footer



This slide is a visual complete representation of a store page, it contains all the information required to layout widgets in the proper sequence on the page. The layout shown is the Home page layout.

## ***Page Layout tool***

This section goes over the new Page Layout Tool.



## Page Layout tool

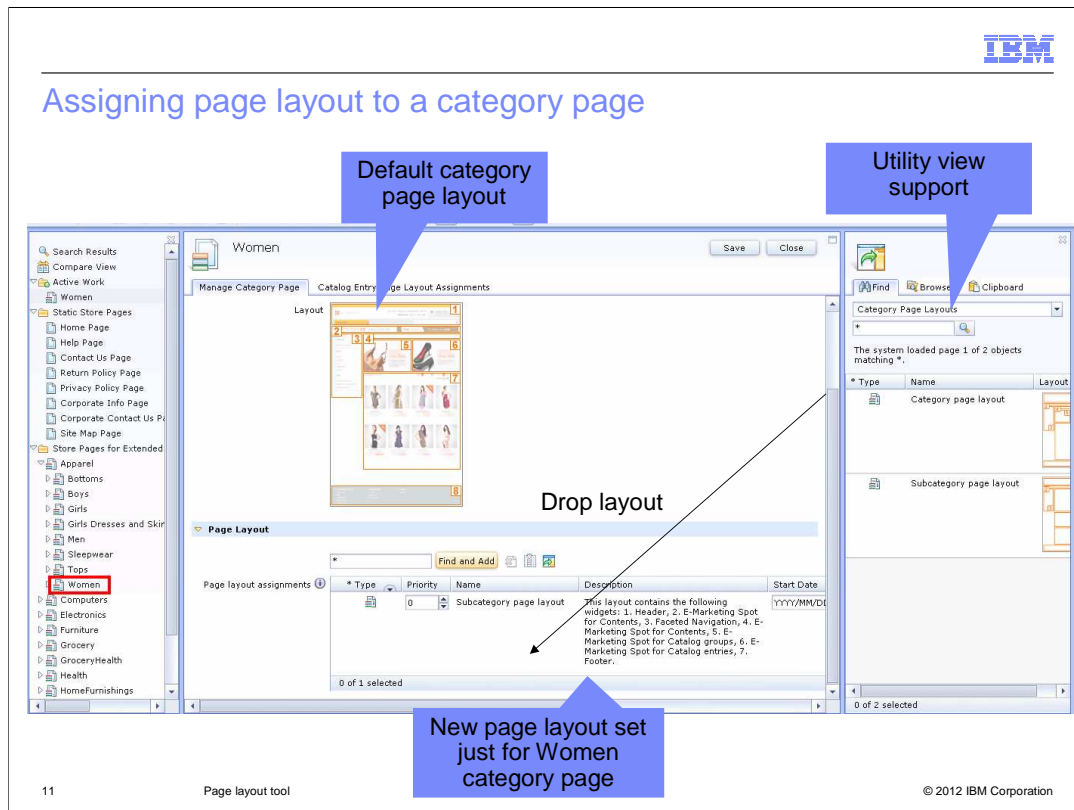
- New **Page Layout Tool** is added to Management Center
  - Can assign page layout associations to certain pages in the store
  - Can assign different layouts to a specific catalog entry or category page in different time periods
  - Page Layout tool is not supported when working on tasks in workspaces
- The Page Layout Tool supports the Storefront Asset stores, Extended Sites stores, business-to-business stores, and business-to-consumer stores

The Page Layout tool is new in Management Center in Feature Pack 5. This tool allows business users to view and select from the various page layouts provided by the store developers. Page layouts can be synchronized with other store marketing activities by scheduling them to be active for a certain date range. The Page Layout tool supports Storefront Asset stores, Extended Sites stores, business-to-business stores such as Elite, and business-to-consumer stores such as Aurora. For Feature Pack 5, the page layout tool is used for the Aurora store. The Page Layout tool is not supported when working on tasks in workspaces.

## Page Layout tool functions

- In this tool, a business user can perform these functions:
  - Viewing page layouts
  - Assigning page layout to
    - Home page or static store page
    - Category page
    - Sales catalog category page
    - All product pages, bundle pages, kit/dynamic kit pages, and SKU pages under a particular category
    - Catalog entry page (product, SKU, bundle, kit and dynamic kit)

The Page Layout tool allows business users to view page layouts and assign layouts to several pages within the store. The locations within the store where page layouts can be assigned are listed on the slide. Catalog entry pages include product, SKU, bundle, kit and dynamic kit pages.



A business user can navigate the store pages in the Page Layout Tool as they do a store catalog in the Catalogs tool. There is a filter for Master or Sales catalog pages similar to the Catalogs tool filter. To assign a page layout to a category page, use the explorer view to navigate to the category store page you want to change. Open the properties view for the page. In the first section, you will see the default layout assigned to the page. The Default Page Layout Information section provides read-only information such as the default page layout name, description, and thumbnail for the category page. In the second section, you can assign and schedule a layout to override the default. If you do not know the name of the layout you want to use, you can use the search or browse options in the utility view to locate it. From the utility view, you can also open a page layout to see a full size image of the layout.

When multiple layouts are assigned, if any time periods overlap, set the priority of the layouts to ensure the proper layout overrides the others. If you do not specify the start date, the page layout takes effect immediately. If you do not specify the end date, the page layout is used in the storefront until another layout assignment is made.

## Assigning a page layout to all the product pages under a particular category

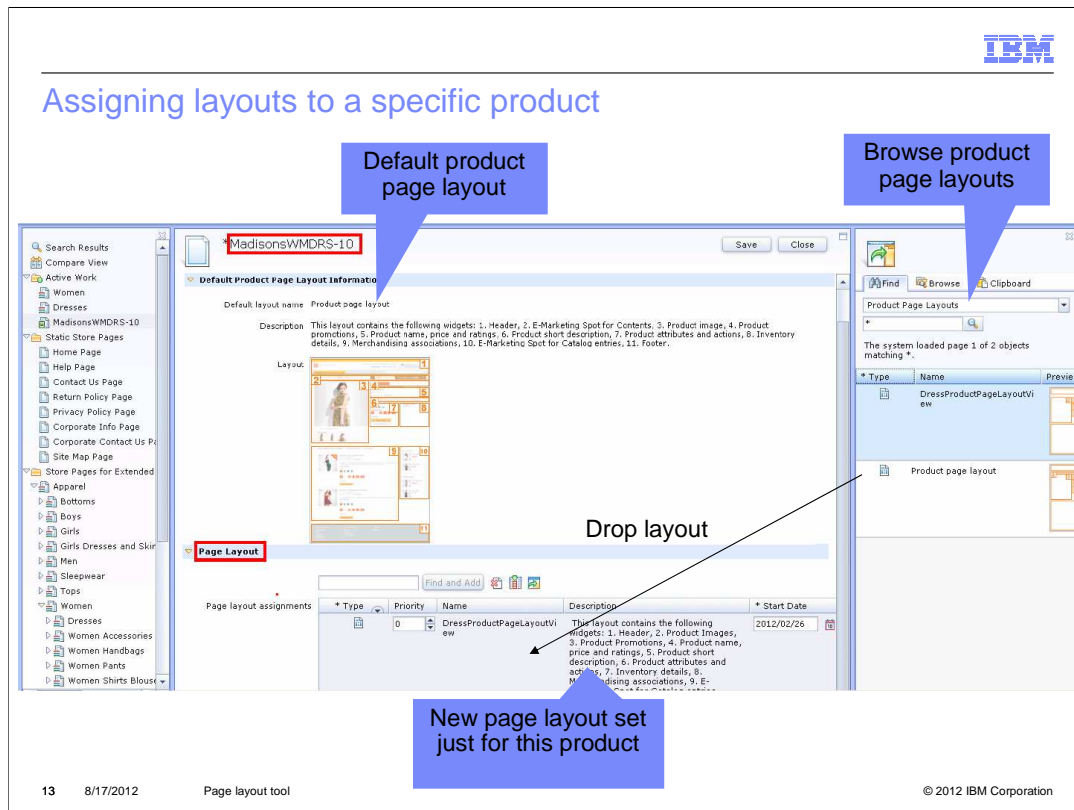
The screenshot displays the 'Dresses' category page layout assignments. The 'Catalog Entry Page Layout Assignments' tab is active. The 'Product Page Layout' section is expanded, showing a table of assignments:

* Type	Priority	Name	Description	* Start Date
	0	DressProductPageLayoutView	Dress Product Page Layout	2012/02/12

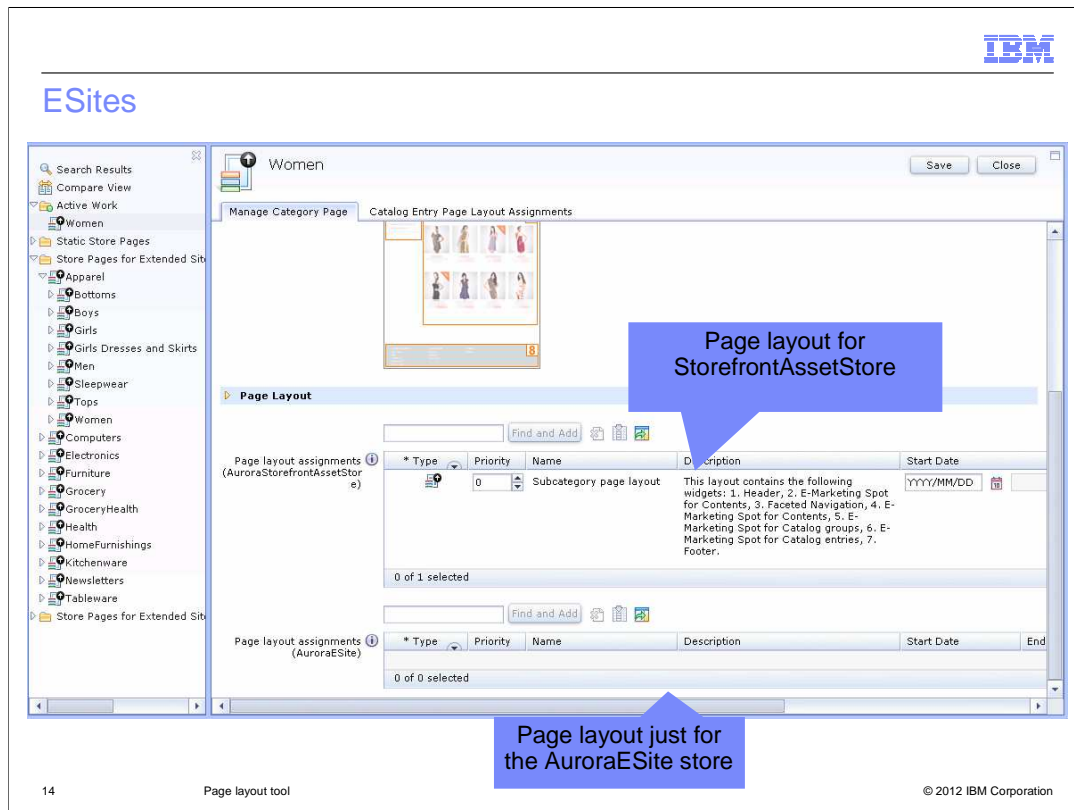
Below the table, there are sections for 'SKU Page Layout', 'Bundle Page Layout', 'Kit Page Layout', and 'Dynamic Kit Page Layout'. A blue callout box points to the 'Product Page Layout' section with the text: 'New page layout set just for the product pages in Dresses'.

12 Page layout tool © 2012 IBM Corporation

The business user has the option to assign a page layout for use by all the product pages under a particular category. This assignment can be done from the category page properties view by selecting the Catalog Entry Page Layout Assignments tab and then expanding the Product Page Layout Assignment section. The screen capture on the slide shows the product page layout assignment section. Similarly, the same steps can be taken to assign a page layout to all the SKU pages, bundle pages, kit and dynamic kit pages under a particular category.

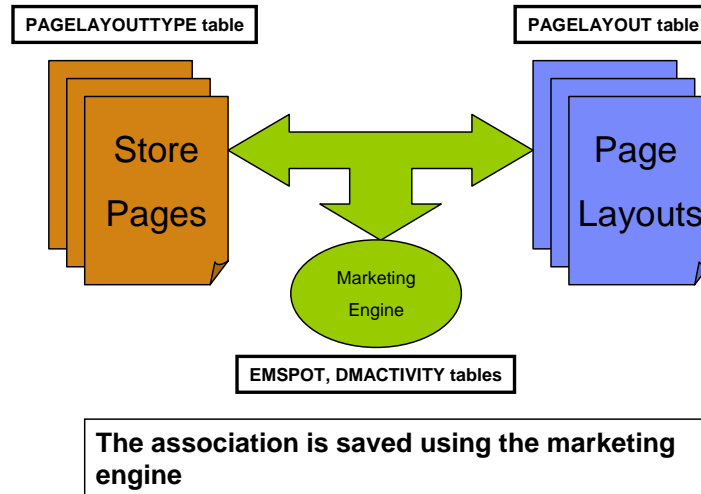


This slide shows how to assign a page layout to a particular catalog entry page such as a specific product. You, as a business user, navigate through the store pages node in the explorer view to get to the product you want to work with. When you double-click the product, the properties view of the product is displayed. You can then assign a page layout. Assigning a layout to a product page only applies to that product page and not the product SKU pages. To assign the same layout to the product SKU pages, you have to find the SKU page, and then assign a layout to it. You follow the same steps shown here for assigning a page layout to any catalog entry page including SKU, bundle, kit, and dynamic kit.



In the extended sites model, the default page layouts of the home page, category pages, catalog entry pages and other pages are set within the storefront asset store. All the e-Site stores under the asset store will use the default layouts. When viewing the Page layout Tool in the case of an e-Site, you will see two Assigned Product Page Layout fields – one for the storefront asset store, and the other for the e-Site store. If you don't want to use the storefront asset store default layout, you can specify a new layout assignment for the e-site. The screen capture on this slide shows the category page layout assignments when viewed from an e-Site store.

## Layout assignment - Architecture



The marketing runtime is used to facilitate scheduling of page layouts at specific time periods for store pages. The store page noun acts as an interface that hides the underlying usage of the marketing runtime from the page layout tool and the storefront. A new kind of e-Marketing Spot called a layout marketing spot is created in the marketing runtime. Using a predefined convention for the names of the e-Marketing Spots, multiple layout e-Marketing Spots are created for the pages in the store. The e-Marketing Spots are then associated with web activities, which use a new marketing action to provide the ID of the layout to be used, thereby creating an association between the store page and the page layout. The PAGELAYOUTTYPE table contains the different store page layout types such as ProductPage, CategoryPage, HomePage, and so on. The PAGELAYOUT table contains the different page layouts that are available for the storefront. When a page layout is defined in the PAGELAYOUT table its page layout type is set.

## Layout assignment – default page layout

- For example: Default category page layout
  - An e-Marketing Spot is created with the page layout type name
    - For example: “CategoryPage”
  - The default content for this e-Marketing Spot in the DMEMSPOTDEF table states the page layout id
  
- NOTE: these new e-Marketing Spots have usage type of “LAYOUTMARKETINGSPOT”

E-marketing spots are created for all the default page layouts in the Aurora store. If you want to use the page layout tool for another store, you will need to create the default page layout e-spots. Here is an example of a default category page layout and the e-Marketing Spot that is created for it. For the Aurora store, an e-Marketing Spot is created with the page layout type name of “CategoryPage”. This e-Marketing Spot is the default page layout for all category pages. The default content for this e-Marketing Spot in the DMEMSPOTDEF table states the page layout ID for the default layout that is used for all the category pages. The page layout ID identifies which Struts action to use to load the page. The new e-Marketing Spots have usage type of “LAYOUTMARKETINGSPOT” and they do not show up in the Marketing Tool.



## Layout assignment – specific page layout

- Assign a category page layout to a specific category
  - E-Marketing Spot created with the page layout type name + categoryId
    - “CategoryPage\_10001”
  - A web activity is created for this e-Marketing Spot stating which page layout ID to use
- NOTE: these new e-Marketing Spots and web activities do not show up in the Marketing Tool

If you go and assign a new category page layout within the Page Layout tool, a new e-Marketing Spot and web activity are created. For example, an e-Marketing Spot is created with the page layout type name and categoryId such as “CategoryPage\_10001”. This e-Marketing Spot contains the page layout for category 10001. A web activity is created for this e-Marketing Spot stating which page layout ID to use. The start date, end date, and priority for the web activity are set based on what you supplied in the Page Layout tool for this category. Again these new e-Marketing Spots and web activities do not show up in the Marketing Tool.

## Multiple layouts

- If multiple layout associations exist, the marketing runtime uses the priority to sort the activities
- If activities have the same priority, the marketing runtime uses the order in which the activities are retrieved
  - First data returned

If you create multiple layout associations that are active at a given time, the marketing runtime sorts the activities in a decreasing order of priority (highest comes first) and evaluates them. This way, the first marketing spot data returned has the highest priority and is used to decide which page layout to display on the store front. In the case where all the activities have the same priority, the marketing runtime uses the order in which the activities are retrieved from the database. Here the order is dependent on the database and is non-deterministic. Since the marketing runtime is relied on to order the activities and evaluate them, setting a priority is recommended.

## Changing default layout

- To changing the default layout for a page layout type
  - update DMEMSPOTDEF set content='<pagelayout\_id>' where emspot\_id =<emspot\_id> and storeent\_id=<storeid>
  - To find <emspot\_id>
    - select emspot\_id from emspot where name = '<pagelayouttype>' and storeent\_id=<storeid>;
    - Where <pagelayouttype> is ProductPage, CategoryPage, HomePage, and so on
  - <pagelayout\_id> is the PAGELAYOUT\_ID of the layout you want to set as default

The Page Layout Tool does not provide a way to change the default layout that is set for the different page layout types. If you want to change a default layout type, you need to update the DMEMSPOTDEF table. First, find the e-Marketing Spot id for the default layout you want to change. You can do this with the SQL statement shown on the slide providing the page layout type and store id. Once you know the e-Marketing Spot ID, you can then update the DMEMSPOTDEF table for that e-Marketing Spot ID with the page layout ID you now want to be the default page layout.

## How to create a new page layout for the Aurora store

- Create a new page layout JSP
- Define a new Struts action for the new page layout JSP
  - Edit: Stores > WebContent > WEB-INF > struts-config-ext.xml
- Optionally add the thumbnail images for the new page layout (shown in Page Layout Tool)
- Register the new page layout in the `PAGELAYOUT` table
- Can now see and assign the new page layout in the Page Layout Tool

The Aurora store is set up to use the Page Layout Tool. The store has widgets and page layouts defined and the default page layouts e-Marketing Spots set up. This slide covers the scenario if you want to create a new page layout for the Aurora store or any store that already has page layouts enabled. The first step as a Store Developer is to create a new page layout JSP. The next few steps are typically done by an IT person. Define a new Struts action for the new page layout JSP. In WebSphere Commerce Developer, you can edit the `struts-config-ext.xml` file found at the location shown on the slide. Next, optionally add the thumbnail images for the new page layout so that when you view the Page Layout Tool you can see the images associated with the page layout. Finally, register the new page layout in the `PAGELAYOUT` table. Once you complete these steps a Business User can see and assign the new page layout in the Page Layout Tool. For further details you can walk through the PageLayoutTool lab.

## How to enable Page Layout tool for older stores

- Install Feature Pack 5 and run feature enablement of store-enhancements
- Turn page layout feature on for your store
  - Set store function flag "UsePageLayouts" to true in EMSPOT / DMEMSPOTDEF  
[http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center\\_customization.doc/tutorial/tif\\_tutorialcontactooltip01.htm](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center_customization.doc/tutorial/tif_tutorialcontactooltip01.htm)
- Register page layouts in Struts configuration file
  - Create new page layouts or use existing pages stored in DISPCGPREL and DISPENTREL
- Optionally add the thumbnail images for the page layouts
- Associate your store with the basic layout types you will use in STOREPLTYPES
- Register the page layouts in the PAGELAYOUT table
- Create a new e-Marketing Spot for each page layout type and define the default layouts in the DMEMSPOTDEF table
- See and assign page layouts in the Page Layout Tool

Several steps are required to configure the page layout tool for use with an existing store. First, the page layout feature must be enabled by setting up a store function flag in the e-Marketing Spot table. Next register each of the page layout JSP pages in your Struts configuration file. You can create new pages or reuse existing layouts that were previously specified in the category and product display relationship tables. Remember that page layouts are JSP files and do not need to use widgets. You can also optionally add the thumbnail images for your page layouts so that when you view the page layout tool you have a visual representation for the page layout. Next, review the available static page layout types in the PAGELAYOUTTYPE table and decide which are needed for your store. Associate the selected layout types with your store ID in the STOREPLTYPES table. Register your page layouts in the PAGELAYOUT table. Finally, for each page layout type your store is using, create a page layout record in the e-Marketing Spot table. Set the name of the e-Marketing Spot to the page layout identifier. and define a default layout in DMEMSPOTDEF for each of the layout e-Marketing Spots you defined. You can now go into the Page Layout Tool and see and assign page layouts.

# ***Troubleshooting***

This section goes over some troubleshooting scenarios.

## Troubleshooting (page 1 of 3)

- Problem: See command not found error in the logs for a layout
  - Solution: You did not register the struts entry in struts-config-ext.xml
- Problem: You do not see the new layout in the Page Layout tool
  - Solution: Be sure that you registered in the layout in the database and double check the SQLs ran successfully
- Problem: Storefront is not using the layout
  - Solution: Check your time and priority set for the layout
- Problem: The category and product page JSP files chosen are still driven by the DISPCGPREL and DISPENTREL tables
  - Solution: Define and turn on the store function flag "UsePageLayouts" to true
    - Create the feature "UsePageLayouts" and set to true

[http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=com.ibm.commerce.management-center\\_customization.doc/tutorial/tif\\_tutorialcontactooltip01.htm](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=com.ibm.commerce.management-center_customization.doc/tutorial/tif_tutorialcontactooltip01.htm)

Here are some troubleshooting problems and solutions. A lot of these issues occur because of not following the correct steps for creating a new layout or not enabling the Page Layout tool for older stores correctly. Be sure to check over your steps making sure you registered the struts entry, all your SQL statements ran successfully, and you turned on your store flag function. You also should check what you entered for the time and priority for the layout in the Page Layout Tool.

## Troubleshooting (page 2 of 3)

- Problem: The new layout assignments are not reflected on the store front when caching is turned on
  - Solution
    - Check if the pageName parameter is being passed in the request
    - Check if the meta data generator is associated in the cache
    - Check the cache monitor to see if the cache content has the emsId and emsName dependencies against them
    - Clear the JSP cache
    - Turn on com.ibm.commerce.infrastructure.layout.\*=all trace to see what is going on
- Problem: The page is always going to the default page layout (with or without cache)
  - Solution:
    - Check if the view for each of the layouts is valid (struts-config)
    - The state of the page layouts is set to ACTIVE (state = 1)

The next troubleshooting scenario deals with caching, there is some more information on caching in the Reference section of the presentation.



## Troubleshooting (page 3 of 3)

- Problem: A category or catentry is not picking the layout assignment made at its parent category
  - Solution: Check if the catentry or category has multiple parents under a specific catalog
    - If yes, pass the correct parent category Id in the request
- Problem: A static page is not picking the layout assignment (with or without cache)
  - Solution:
    - Check if the struts-config entry for the view name of the static page is pointing to StaticPageDisplayCmd
    - Check if the pageName parameter is being passed to the page

Here are some final troubleshooting problems and solutions dealing with the layout assignment not being picked up. For the first scenario be on the lookout if there are multiple parent categories.

## Trace strings

- Trace strings:
  - *com.ibm.commerce.infrastructure.\*=all*
- To be more specific you can use:
  - *com.ibm.commerce.infrastructure.facade.server.commands.\*=all*
  - *com.ibm.commerce.infrastructure.facade.server.services.dataaccess.bom.mediator.\*=all*

Here are the trace strings to use if you run into any issues with the Page Layout Tool.

## Summary

- Widgets and Page Layouts
- Page Layout Tool
- Troubleshooting

This presentation began by reviewing widgets and page layouts. It then covered the Page Layout Tool and some troubleshooting scenarios.

Section

## ***Reference slides***

This section contains some useful references.

---

## References

- Aurora starter store page architecture

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.aurora-starterstore.doc/concepts/csmaurorastorepagearch.htm>

- Page Layout tool

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/concepts/cptpagelayouttool.htm>

- Working with page layouts

[http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpt\\_wwpagelayout.htm](http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.management-center.doc/tasks/tpt_wwpagelayout.htm)

Here are some useful reference links.

## Register a new page layout

- Example of registering a new product page layout in the PAGELAYOUT table
  - insert into PAGELAYOUT (PAGELAYOUT\_ID, NAME, MEMBER\_ID, STOREENT\_ID, PAGELAYOUTTYPE\_ID, MASTERCSS, DEVICETYPE, STATE, ISTEMPLATE, DESCRIPTION, THUMBNAIL, FULLIMAGE, VIEWNAME) values(10004, 'Layout used for dress products', 7000000000000000002, 10001, 'ProductPage', null, 'Web', 1, 0, 'This layout contains the following widgets: 1. Header, 2. Product image', '/images/layouts/dressProduct\_thumb\_small.png', '/images/layouts/dressProduct\_thumb\_large.png', 'DressProductPageLayoutView');
  - Make sure to adjust your STOREENT\_ID and MEMBER\_ID as needed

This reference slide gives an example of registering a new product page layout into the PAGELAYOUT table.

## Define a default layout

- Create a new e-Marketing Spot
  - `insert into emspot(emspot_id, storent_id, name, usagetype)`  
`values (10902, 10001, 'ProductPage', 'LAYOUTMARKETINGSPOT');`
- Example of defining a default layout for a Product Page in the DMEMSPOTDEF table
  - Example:
    - `insert into DMEMSPOTDEF (dmemspotdef_id, emspot_id,`  
`storeent_id, contenttype, content) values(10257, 10902, 10001,`  
`'DefaultPageLayout', 10004);`
      - content is the PAGELAYOUT\_ID of the layout you want to set as default

This slide covers how to define a default layout if one does not exist. It shows how to define a product page default layout. First create a new e-Marketing Spot being sure that name is a page layout type such as ProductPage. Then define a default layout in the DMEMSPOTDEF.

## Adding a new static page

- PAGELAYOUTTYPE
  - Add an entry with name of the store page and ISSTATIC = 1
- STOREPLTYPES
  - STOREENT\_ID
    - 0 (Site level page)
    - Asset Store ID (Applicable to all e-sites under the asset store)
    - Store ID (of the store to which the page is visible)
  - VIEWNAME
    - The name of the default view for the page when the default page layout is also not loaded
- Refresh the StorePageRegistry in WebSphere Commerce Administration Console
- The static page URL must have a pageName parameter which contains the name of the store page.

This slide covers how to add a new static page.



## Caching layout pages using DynaCache JSP caching

- The meta-data generator is used to append the required dataIds for cache invalidation

```
<metadatagenerator>  
com.ibm.commerce.infrastructure.layout.cache.LayoutAssociationMetaDataGenerator  
</metadatagenerator>
```
- The meta-data generator depends on the pageName parameter
  - If pageName parameter is not present in the HTTP request, it is looked up from `com.ibm.stores.resources.<StoreName>.LayoutPageNames.properties`
- The properties file contains the external Dynamic view name as the key and the Page Name as the value
- No meta-data is set for the JSP page in the cache if the pageName cannot be resolved
- The dataIds generated are
  - `emslid:<uniqueID of the layout e-marketing spot>`
  - `emsName:<Name of the layout e-marketing spot>`
- `do-not-cache` is set to `false` if the layout web activities are static (by default), else it is set to `true`

This reference slide covers caching layout pages using Dynacache JSP caching.

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