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# WebSphere Commerce V7 Feature pack 1

## Order updates



This presentation provides a summary of the updates to the order component in WebSphere® Commerce V7.0 feature pack 1.

## Goals

- To understand the changes made to assist in order flow customization
- To understand new order capabilities

At the end of this presentation, you should understand the changes made to the order component to assist in store development and customization activities. You should also understand the new order capabilities that are available and how to configure them.

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- Solution overview
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- Value added tax support

This presentation begins with an overview of the changes made to the order component in feature pack 1 and how they fit into the overall effort to reduce the total cost of ownership and implementation. The next section introduces several documentation enhancements and covers the command refactoring introduced to simplify customization. The remainder of the presentation focuses on new capabilities added in feature pack 1. These include non-ATP inventory sharing for extended sites, tax sharing for extended sites and value added tax support.

## Overview

- Documentation enhancements
  - Flow diagrams
  - Controller and task command descriptions
- Command refactoring
  - Easier customization
  - New task commands
- New capabilities
  - Inventory sharing in e-sites
  - Tax sharing in e-sites
  - Value added tax rules

The order flow is one of the most frequently customized parts of WebSphere Commerce business logic. Customizing the order flow requires an understanding of the existing flow and the various commands that provide specific parts of the business logic. Making the order flow easier to customize begins with enhanced documentation. The Reference section of the V7 Information Center has been updated with detailed flow diagrams that document the existing order commands and state transitions of an order during processing. You can use these diagrams to understand the overall flow and pinpoint the area you need to customize. Another addition to the Information Center is detailed task command descriptions. Task commands are often the piece of logic you need to replace with custom code and the new documentation describes the behavior of each of the primary order task commands. Existing documentation on controller commands had been enhanced to add much richer behavior detail. To make it easier to replace a specific piece of logic, some of the task commands have been refactored and others have been created.

Feature pack 1 also provides new business logic to support some frequent order flow customizations. The extended sites model now supports non-ATP inventory and tax rule definition at the asset store level. This means fulfillment centers and tax rules can be defined once and shared among multiple extended sites. Another new feature is the support for Value Added Tax in addition to the traditional tax models.



## Order-related TCOI improvements

<b>Plan</b>	Starter store use cases HTML assets package	Starter store site flow
<b>Design</b>	Starter store use cases Starter store site flow HTML assets package	Overall shopping flow diagram Order status transition flow diagram Order task command documentation
<b>Develop</b>	Starter stores Order task command documentation Refactored Order commands	WebSphere Commerce High Level Test Plan Starter store FVT Test Case Document Storefront Test Automation Engine and scripts
<b>Operations</b>	Data load utility WebSphere Commerce Build and Deployment tool	<b>Test</b>
<b>Post-production</b>	Generate HTML assets package	V7 V7 FEP 1

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Order updates

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This slide shows how the order-related TCOI improvements fit into the larger TCOI picture.

***New documentation and command  
refactoring***

This section covers the new documentation available and the command refactoring work.

## New reference information

- V7

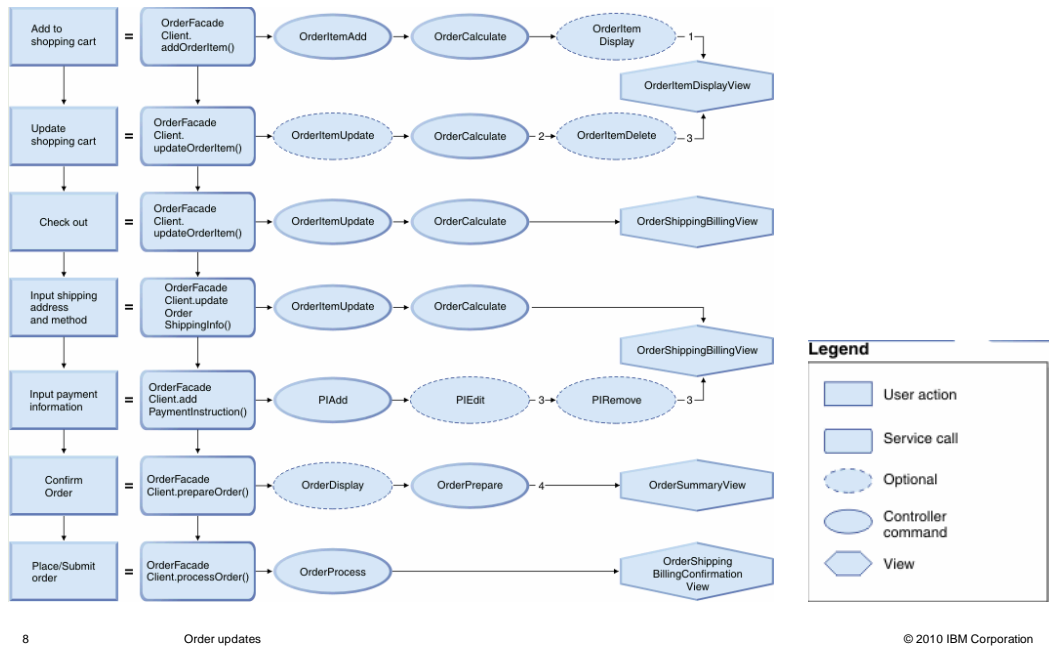
- Order Management subsystem URLs
  - Error codes for error views
  - Orders URLs
  - Order item URLs
  - Order fulfillment URLs
  - Order quotation URLs
  - Order payment
  - Returns and refunds
  - Scheduled orders URLs
  - Currency
  - Requisition lists

- V7 FEP 1

- Order Management subsystem URLs
  - Order abbreviations
  - Error codes for error views
    - Overall shopping flow diagram
    - Order status transition flow diagrams
    - Order task commands
  - Orders URLs
  - Order item URLs
  - Order fulfillment URLs
  - Order quotation URLs
  - Order payment
  - Returns and refunds
  - Scheduled orders URLs
  - Currency
  - Requisition lists

The Reference section of the Information Center contains several new sections in feature pack 1. The existing documentation has also been enhanced, particularly the Behavior sections of the URL documentation.

## Overall shopping flow diagram



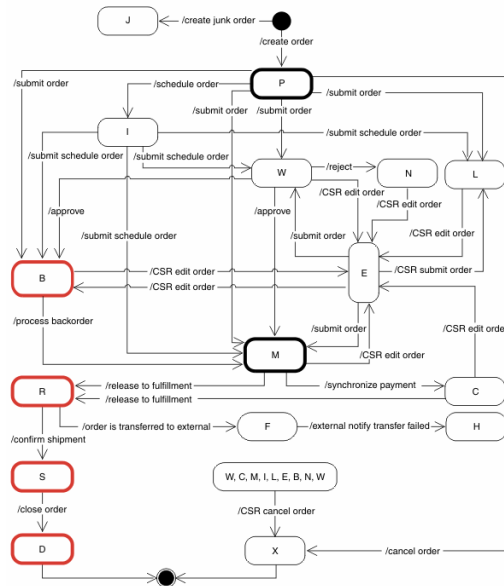
This overall shopping flow diagram is now provided in the Information Center. It summarizes the various shopping scenarios including the service calls, optional commands, controller commands and views. On this page you can also find a list of typical parameters passed from the store front to the service for each step of the flow.

### Numbered points in the diagram

1. OrderItemDisplay (optional) is redirected.
2. OrderCalculate can be called by OrderItemAdd or OrderItemUpdate internally by specifying a parameter "calculateOrder=1", and it can also be redirected after OrderItemAdd or OrderItemUpdate through a URL parameter.
3. OrderItemDelete, PIEDit, and PIRemove (optional) are invoked by another user action, not a redirect from previous commands.
4. OrderPrepare is automatically called by OrderDisplay and might also be directly called by store.



## Order status transition flow diagram



This is an example of one of four order status transition flow diagrams provided in the Information Center. The three other diagrams provide simplified views for ATP shopping flow, non-ATP shipping flow and the order approval process. In addition to these diagrams, you can find a summary chart of the state transitions and which controller command can trigger the change.

## Task command documentation

### PrepareOrderCmd task command

The PrepareOrderCmd task command prepares an order by determining prices, discounts, shipping charges, and taxes for an order.

#### Task command

[PrepareOrderCmd](#)

#### Implementation class

[PrepareOrderCmdImpl](#)

#### Commands called

DoInventoryActionCmd

#### Possible callers

OrderCopyCmdImpl

OrderPrepareCmdImpl

PreProcessCmdImpl

#### Behavior

Call DoInventoryActionCmd to get default ATP parameters

Call OrderProcessingHelper to do the following operations:

- Remove generated order item
- Ensure all order items are buyable. Throw an exception if one or more items are not buyable
- Call UpdateShippingAddressCmd to find the appropriate shipping address for all the order items and update them for each order item. If the order item is a dynamic kit, call ValidateDynamicKitConfigurationCmd to do validation
- Call ResolveOrderItemPriceCmd to calculate the best price and update order total
- Call DoInventoryActionCmd to check and allocate inventory if necessary

A large volume of new material has been added to the Information Center for order task commands. This screen capture is an example of one. When you need to replace or extend a task command, this new section allows you to easily access the information you need to find out what impact the change will have. A few new task commands have been added in feature pack 1 but most of this information is relevant to the base V7 code.

## New task commands

- `ResolveOrderItemPriceCmd`
  - Centralizes duplicate logic from `OrderItemAddCmd`, `OrderItemUpdateCmd`, `OrderItemDisplayCmd`, `OrderItemDeleteCmd`, `OrderPrepareCmd`, `OrderCalculateCmd`
- `CalculateOrderCmd`
  - Centralizes duplicate logic from `PrepareOrderCmdImpl` and `OrderCalculateCmdImpl`
    - Customized versions of `OrderProcessingHelper` is bypassed
  - `PromotionEngineOrderCalculateCmdImpl` does not use `CalculateOrderCmd` in feature pack 1

Feature pack 1 introduces some new task commands. These commands provide a single point of customization for logic that was previously duplicated in two or more commands.

`ResolveOrderItemPriceCmd` handles the integration logic between the order and price components. This task command centralizes logic from many different controller commands down to one single integration point between the two components. This makes customization of this integration point much faster.

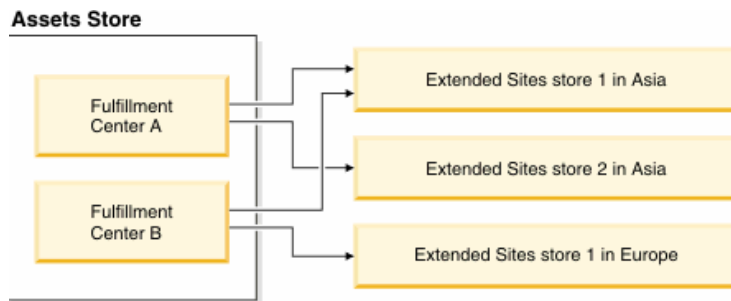
`CalculateOrderCmd` handles the core calculation logic and free gift handling if needed. Of the three controller commands that require calculation logic, only two are able to use the new task command in feature pack 1. `PromotionEngineOrderCalculateCmdImpl` does not use the shared task command.

If you have created a custom version of `OrderProcessingHelper` and pass it to `PrepareOrder` your custom code is not invoked in feature pack 1. If the custom code is still needed, you should extend `CalculateOrderCmd` instead.

## ***Non-ATP inventory sharing***

This section introduces the non-ATP inventory sharing feature.

## Inventory sharing example

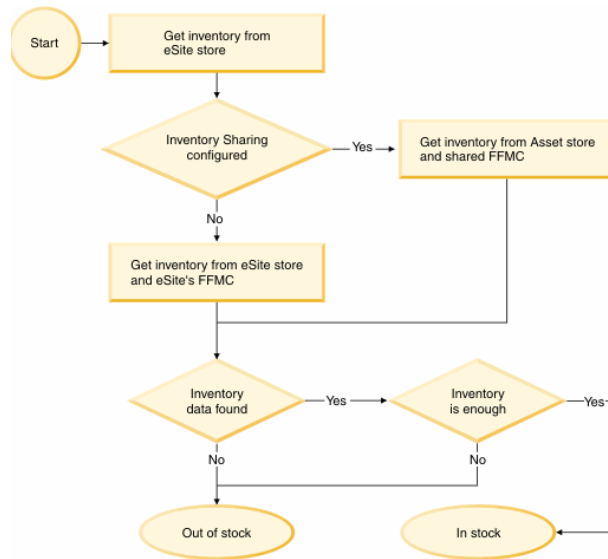


- E-site can specify fulfillment center sequence in SHPARRANGE

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.data.doc/refs/rdainvsharextsitenonatp.htm>

The sharing of non-ATP inventory reduces the complexity of managing inventory assets for all the stores in the site. When non-ATP inventory is shared, it is a pool of inventory that can be drawn upon by more than one store. The inventory data is used to satisfy orders or otherwise provide the data necessary to evaluate business rules that are dependent upon inventory quantities during the buying process. Individual extended site stores can access inventory from one or more shared fulfillment centers. The SHPARRANGE table specifies the sequence in which to check fulfillment centers for inventory.

## Inventory evaluation flow



<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.data.doc/refs/rdainvsharextsitenonatp.htm>

This flow shows an example of the inventory evaluation flow. If inventory sharing is configured, the asset store fulfillment center is checked. If inventory sharing has not been enabled, the extended site store must have its own fulfillment center defined. If an inventory record exists but the quantity is not enough to fulfill the order the result is 'out of stock'. Additional fulfillment centers are not checked and inventory from multiple fulfillment centers cannot be combined.

## Updated business logic

- These have been store path enabled
  - InventoryBaseCmdImpl
  - ComposeNonATPInventoryAvailabilityCmdImpl

Both the InventoryBaseCmd controller command and ComposeNonATPInventoryAvailabilityCmd service have been updated to be store path enabled.

## Configuration

- Add store relationship (STOREREL)
  - Relationship type is -13 for inventory
- Add shipping arrangement (SHPARRANGE)
  - Extended sites store maps to global fulfillment center
  - Specify sequence for multiple fulfillment centers

Configuring shared inventory is fairly straight forward. As with any other shared asset, a row needs to be added to the STOREREL table to identify the asset store where inventory can be found. The relationship type for inventory is -13. Once you have defined your global fulfillment centers in the asset store, you use the SHPARRANGE table to specify which fulfillment centers an extended site can use. If more than one fulfillment center is available the PRECEDENCE column is used to specify the order in which they are accessed.



## Managing shared inventory

- Accelerator customization required to enable asset store to manage inventory
- Need to update asset store menu options
  - **Fulfillment Centers**
  - **Find Inventory**
- Shared inventory can be viewed from extended sites
  - Adjustments must be made from the asset store

If you manage fulfillment centers and inventory with Accelerator, some customization is required to make these features available in an asset store. The steps for adding these menu options to the asset store are documented in the Information Center. You can view shared inventory when logged into an extended site but adjustments are not allowed. To adjust inventory, you must log in to the asset store directly.

## View product details

- Trace: com.ibm.commerce.inventory.\*
- GetInventoryAvailabilityExpressionBuilder  
findInventoryAvailabilityByCatalogEntryIdsAndOnlineStoreIdsAndPhysicalStoreIds(Map)  
ENTRY
- ...
- FetchInventoryAvailabilityCmdImpl fetchNonATPAvailableQuantities(Integer) There's no inventory for catentry\_id: 11102 in store: 11001 with fulfillment center: 11451.
- FetchInventoryAvailabilityCmdImpl fetchNonATPAvailableQuantities(Integer) Inventory found for catentry\_id: 11102 in **shared store**: 10752 with fulfillment center: 11451. The quantity is 100.0 with quantity measure C62.

This slide shows the trace information for FetchInventoryAvailabilityCmd. This trace was captured after loading the product display page for a product with inventory in a shared fulfillment center. Notice that the fact the inventory is found in a shared store is specified in the trace.

## Add to cart

- Trace: com.ibm.websphere.commerce.WC\_ORDER  
InventoryBaseCmdImpl.findInventory() There are no inventory for : catalogEntryId=11102, fulfillmentCenterId=11451, storeId=11001  
InventoryBaseCmdImpl.findInventory() **Find shared related store ID :10752**  
InventoryBaseCmdImpl.findByCatalogEntryAndFulfillmentCenterAndStore() Entry  
find by catalog entry 11102 in fulfillment center 11451 and store 10752  
InventoryBaseCmdImpl.findByCatalogEntryAndFulfillmentCenterAndStore Try to check inventory for catalogEntryId=11102, fulfillmentCenterId=11451, storeId=10752  
InventoryBaseCmdImpl.findByCatalogEntryAndFulfillmentCenterAndStore() Exit

This slide shows the trace information for InventoryBaseCmd. This trace was captured after a product with shared inventory was added to the shopping cart. Notice that the findInventory method logs when it looks up the shared store ID.

Section

## ***Tax sharing***

This section introduces the tax sharing feature.

## Shared tax assets

- Tax calculation codes
- Tax categories
- Tax jurisdictions

Feature pack 1 also supports sharing tax assets. Once sharing is enabled, both sales tax and shipping tax are calculated using the asset store codes, categories and jurisdictions.

## Configuration

- Update store relationship types for sales tax and shipping tax calculation usages (CALUSAGE)
  - com.ibm.commerce.tax
- Add store relationship (STOREREL)
  - Relationship type is -2 for tax assets
- Create tax assets in the extended site asset store
- Assign tax codes to asset store catalog entries and groups (CATENCALCD, CATGPCALCD)

The process for configuring shared tax is documented in the Information Center. First you need to update the CALUSAGE table to specify the store relationship type com.ibm.commerce.tax. Once the calculation usage is configured, you update the STOREREL table to identify the asset store where the tax assets can be found. Finally, you define the tax assets for the asset store. This final step requires some updates to Accelerator which are described on the next slide.

## Managing shared tax assets

- Accelerator customization required to enable asset store to manage tax assets
- Need to update asset store menu options
  - **Change Tax**
- Address information for asset store must exist in STOREENTDS
- No view of asset store tax assets from e-site store in Accelerator

Similar to fulfillment centers and inventory, asset stores in Accelerator are not configured to create tax assets by default. When you enable tax sharing, you also need to customize Accelerator to add the 'Change Tax' menu option. In order to create and edit tax assets, the store must have complete address information in STOREENTDS.

## Checkout with shared tax code

- Trace: com.ibm.websphere.commerce.WC\_CALCULATION  
CalculationHelper.applyCalculationUsages taxCategoryIds(storeId=11001,usagelD=-3)={10201}  
CalculationHelper.applyCalculationUsages checkAppliedItems(storeId=11001,usagelD=-3)=false  
ApplyCalculationUsageCmdImpl.performExecute Entry  
TaxCalculationCodeCombineCmdImpl.performExecute Entry  
TaxCalculationCodeCombineCmdImpl.getIndirectlyAttachedCodes  
indirectlyAttachedCodeIds(catalogEntryId=11145,contractId=10502,storeId11001,usagelD=-3,timestamp=2010-04-27 15:24:23.718)={11251}  
TaxCalculationCodeCombineCmdImpl.getCodes codeIds(itemId=30001,storeId=11001,usagelD=-3,timestamp=2010-04-27 15:24:23.718)={11251}

This slide shows a shared tax category and tax code being retrieved for an extended sites store.



## ***Value added tax***

This section introduces the value added tax feature.

## Overview

- New support for handling tax-included pricing
- Can be configured for site or store level
- Cannot be combined with default tax calculations

Value added tax support has been added in feature pack 1 to provide tax-included pricing. It can be configured at either the site or store level but cannot be combined with default tax calculations.

## Summary of changes

- Product prices must include VAT
- Promotions and shipping calculations include VAT
- Meanings of some database columns change
- Several new commands are used for calculations

The implementation of VAT in feature pack 1 requires the tax amount be included in a product's offer price. The tax-included price is not calculated by WebSphere Commerce. With the tax included directly in the offer price, all adjustments to the order such as promotions and shipping calculations include the VAT amount. As a result of these changes, the meanings of some database columns change when VAT is enabled. The changes are reviewed on later slides. There are also VAT-specific versions of several existing order commands.

## New meaning of product price

- Without VAT enabled
  - Offer price = \$200
  - Tax rate = 5%
  - Tax = \$10
  - Total = \$210
  
  - Change tax rate to 10%
  - Tax = \$20
  - Total = \$220
- Tax rate affects total cost
  
- With VAT enabled
  - Offer price = \$200
  - Tax rate = 5%
  - Tax = \$9.52
  - Total = \$200
  
  - Change tax rate to 10%
  - Tax = \$18.18
  - Total = \$200
- Tax rate used for reverse tax calculation only

This slide compares a traditional order calculation with a VAT enabled order calculation. In both cases the offer price is \$200 and the tax rate is 5%. The tax amount in a traditional calculation is 5% of \$200 which is \$10. When VAT is enabled, the tax amount is already included in the \$200 offer price so a reverse calculation is used to determine what part of the \$200 is the tax. In this example it is \$9.52.

If the tax rate changes from 5% to 10% in the traditional calculation, the total after tax changes from \$210 to \$220. With VAT enabled, the total remains \$200 and the tax portion of the \$200 changes to \$18.18. When VAT is enabled, it is important to remember that any tax rate information is only used in the reverse tax calculation.

## Promotion calculations

- Without VAT enabled
  - Before tax price = \$200
  - Tax rate = 5%
  - Offer price = \$200
  - Discount = \$25
  - Tax =  $(\$200 - \$25) * 5\% = \$8.75$
  - Total = \$183.75
- With VAT enabled
  - Before tax price = \$200
  - Tax rate = 5%
  - Offer price = \$210
  - Discount = \$25
  - Total = \$185

This slide compares a promotion calculation. This time the two products have the same before tax price of \$200. With a tax rate of 5%, the offer price when VAT is enabled becomes \$210. When a \$25 discount is applied in the traditional order calculation, it reduces the pre-tax price and therefore reduces the amount of tax paid. With VAT enabled, the tax-included offer price is reduced by the discount amount and so the resulting total is slightly higher.

## Reverse tax calculation

- Calculation framework used to calculate VAT from product price

$$\frac{\text{Total product + Promotion adjustment}}{1 + \text{VAT rate}} \quad \times \quad \text{VAT rate}$$

$$\frac{\$200 - \$40}{1 + 0.05} \quad \times \quad 0.05 = \$7.62$$

Tax  
amount

The slide shows the formula used by the calculation framework to do the reverse tax calculation. In this example the tax-included price is \$200, the tax rate is 5% and a \$40 discount is applied to the order.

## Store front display

Product	Expedite Shipping	Availability	Qty	Each	Total
 All season passenger tire SKU: A0000511 <a href="#">Change Attributes</a> Contract: Elite Contract number 1234 <a href="#">Remove</a>	<input type="checkbox"/>	In-Stock	1	\$200.00	\$200.00

Without VAT enabled

Promotional code:

Order Subtotal: \$200.00  
Discount: (\$40.00)  
Tax: \$8.00  
Shipping: \$10.00  
Shipping Tax: \$0.00  
**Order Total: \$178.00**

Product	Expedite Shipping	Availability	Qty	Each	Total
 All season passenger tire SKU: A0000511 <a href="#">Change Attributes</a> Contract: Elite Contract number 1234 <a href="#">Remove</a>	<input type="checkbox"/>	In-Stock	1	\$200.00	\$200.00

With VAT enabled

Promotional code:

Order Subtotal: \$200.00  
Discount: (\$40.00)  
Tax: \$7.62  
Shipping: \$10.00  
Shipping Tax: \$0.00  
**Order Total: \$170.00**

Here you see a screen capture of the store checkout flow before and after VAT is enabled. Notice the different tax amounts. When VAT is enabled, the tax amount shown in the store is for display purposes only.

## OFFERPRICE column usage

Column	Default	With VAT enabled
PRICE	offer price without tax	offer price + tax amount

The next two slides show the changes in the meaning of some database columns when VAT is enabled. As mentioned in the examples, the PRICE column in the OFFERPRICE table represents the combined offer price and tax amount when VAT is enabled.



## ORDERITEMS column usage

Column	Default	With VAT enabled
PRICE	offerprice.price, without tax	offerprice.price, with tax included
TOTALPRODUCT	price * quantity, without tax	price * quantity, with tax included
TOTALADJUSTMENT	tax excluded	tax included
SHIPCHARGE	Shipping charge	Shipping charge with shipping tax included

Corresponding ORDERS columns have the same usage changes

The ORDERITEMS and ORDERS tables also have several changes. The PRICE column of ORDERITEMS matches the PRICE column in OFFERPRICE and represents the tax-included price. Similarly, the TOTALPRODUCT column also includes tax. When VAT is enabled, order adjustments are applied to the tax included price so the adjustment itself, stored in the TOTALADJUSTMENT column is considered to have tax included. Similarly, any shipping changes, stored in the SHIPCHARGE column have shipping tax included.

The corresponding columns in the ORDERS table that represent a total of all order items have the same usage changes.

## Final order calculation

- Without VAT enabled

- orderitems.totalproduct +
- orderitems.totaladjustment +
- orderitems.shipcharge +
- orderitems.taxamount +
- orderitems.shiptaxamount

- With VAT enabled

- orderitems.totalproduct +
- orderitems.totaladjustment +
- orderitems.shipcharge

Here you see a recap of the final order calculation with and without VAT enabled. When VAT is enabled, the TAXAMOUNT and SHIPTAXAMOUNT values are not included in the order calculation.

## Impact on Accelerator and Sales Center

- Unit price for each order item has VAT included
- Total VAT amount is displayed before completing an order and on the Order Summary page
- Tax rates can still be set up but only impact reverse tax calculations

The impact to Accelerator and Sales Center is fairly minor. When VAT is enabled all displayed unit prices include the tax amount. The tax amount is still displayed during check out but for display purposes only.

If you manage tax rates in Accelerator, you can continue to do so for reverse tax calculation purposes. When the tax rate changes, new offer prices need to be loaded for the change to be reflected in the actual order total.

## VAT display in Accelerator

Order Summary

**Order information**

Order number: 11502  
 Last updated: 2/17/10 6:32 PM  
 Order status: Pending payment approval  
 Originator logon ID: buyer1  
 Organization name: BuyerOrg1  
 Purchase order number:

Product Name	SKU	Quantity	Contract Name	Expedite	Requested Ship Date	Price	Discount	Total
All season passenger tire	A0000511	1	Elite Contract number 1234	Normal		200.00	-0.00	200.00
Order level discount								40.00
Minus adjustment								0.00
Surcharge adjustment								0.00
Original shipping								10.00
Shipping adjustment								0.00
Total shipping charge								10.00
Coupons								
Tax								7.62
Order total [USD]								170.00

Price including VAT

Tax portion calculated for display purposes

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This screen capture shows an example of how VAT information is displayed in Accelerator.

## Commands with VAT implementations

- com.ibm.commerce.taxation.commands
  - GetDisplayTaxesCmd
- com.ibm.commerce.order.commands
  - OrderCalculateCmd
    - Two implementations
  - GetOrderTotalAmountCmd
  - GetOrderItemsTotalAmountCmd
  - GetHistoryOrderTotalAmountCmd
  - GetOrderReleaseTotalAmountCmd

Enabling VAT support requires new implementations of several existing command interfaces.

## ***VAT configuration***

This section introduces the configuration steps for the value added tax feature.

## Define calculation methods

- CALMETHOD
- Sales tax (-3)
  - com.ibm.commerce.order.calculation.VATCalculationRuleCombineCmd
- Shipping tax (-4)
  - com.ibm.commerce.order.calculation.VATCalculationRuleCombineCmd

CALMETHOD_ID	STOREENT_ID	CALUSAGE_ID	TASKNAME	DESCRIPTION
1	10951	-3	com.ibm.commerce.order.calculation.VATCalculationRuleCombineCmd	'default method to identify (referenced by STENCALUSG.ACTF when Value-Added-Tax
2	10951	-4	com.ibm.commerce.order.calculation.VATCalculationRuleCombineCmd	'default method to identify (referenced by STENCALUSG.ACTF when Value-Added-Tax

The first step in enabling VAT support is registering the VAT calculation method for performing reverse tax calculations. This method is used for both sales tax and shipping tax.

## Map calculation method to store

- STENCALUSG.ACTRC\_CALMETHOD\_ID
- Set CalculationRuleCombine method for sales tax and shipping tax to values defined in CALMETHOD

STOREENT_ID	CALUSAGE_ID	ACTCC_CALMETHOD_ID	ACTRC_CALMETHOD_ID	CALCODE_ID	CALMETHOD_ID_APPCALM	CALM
-1	-4	-61	-65	NULL	-232	-233
10951	-4	-61	2	NULL	-232	-233
-1	-3	-41	-45	NULL	-222	-223
10951	-3	-41	1	NULL	-222	-223

The next step is to configure the sales tax and shipping tax calculation usage for your store. The STENCALUSG table defines the various calculation methods used for each type of calculation in the store. Here you set the CalculationRuleCombine method to the new calculation method you registered in the previous step.



## Register new commands

- GetDisplayTaxesCmd
  - GetDisplayVATTaxesCmdImpl
- OrderCalculateCmd
  - VATPromotionEngineOrderCalculateCmdImpl
  - VATOrderCalculateCmdImpl
- GetOrderTotalAmountCmd
  - VATGetOrderTotalAmountCmdImpl
- GetOrderItemsTotalAmountCmd
  - VATGetOrderItemsTotalAmountCmdImpl
- GetHistoryOrderTotalAmountCmd
  - VATGetHistoryOrderTotalAmountCmdImpl
- GetOrderReleaseTotalAmountCmd
  - VATGetOrderReleaseTotalAmountCmdImpl

The final step is to register the VAT specific implementations of several order commands. You can find information on each of these new command implementations in the Information Center.




## Optional store front customization

- Product page
  - Customize JSP to display VAT amount (ProductDataBean)
- Checkout flow
  - Customize OrderCalculateCmd to store tax names and rates in ORDERITEMS.FIELD2
  - Extend Order SOI service to include the tax names and rates in the userData field
  - Customize JSP files to display VAT amount, tax name and tax rate

The Information Center includes some sample code for customizing your store to display VAT information on the product page and during checkout. Updating the product page requires a simple JSP change. The tax information is available in the ProductDataBean so you can display the VAT amount and the pre-tax price if needed.

The checkout flow customization example shows a more complex scenario where the tax name and tax rate are also shown. To make this information available at the order line item level, you need to customize the OrderCalculateCmd to store the sales tax and shipping tax names and rates in FIELD2 of the ORDERITEMS table. Once this data is available at the ORDERITEM level, you extend the order service to read the data and add it as name-value-pairs to the UserData section of the service response. Finally, update the checkout flow JSP files to show the extra information. An example of this customization is shown on the next slide.

## Sample checkout flow customization

PRODUCT	AVAILABILITY	QTY	EACH	TOTAL
 White Fabric Roll Arm Chaise SKU: FULO-0101 ✖ Remove + Move to Wish List	In-Stock	1	\$449.99	\$449.99
Save 20% on Furniture!				(\$90.00) product vat1 : 10.00% VAT amount : \$32.73000
 Red Leather Roll Arm Chaise SKU: FULO-0201 ✖ Remove + Move to Wish List	In-Stock	1	\$649.99	\$649.99
Save 20% on Furniture!				(\$129.99) product vat1 : 10.00% VAT amount : \$47.27000
 White Wing Chair SKU: FULO-0301 ✖ Remove + Move to Wish List	In-Stock	1	\$499.99	\$499.99
Save 20% on Furniture!				(\$100.00) product vat2 : 20.00% VAT amount : \$66.87000

This screen capture shows an example of the tax name and rate and amount displayed for each order item.

## Limitations

- VAT tax model cannot be combined with the existing tax model
- VAT rate used for each order item is not recorded

Once a store, or site, is configured to use VAT tax calculation it cannot also use the existing tax model. You can change back to using the existing tax model by reversing the configuration steps just discussed.

The VAT rate is not recorded at the order item level. The rate can be obtained using commands and some customization examples for displaying the rate in the store front are provided in the Information Center.



## Check out with VAT configured

- Trace: com.ibm.websphere.commerce.WC\_ORDER=all:  
com.ibm.websphere.commerce.WC\_CALCULATION=all

VATPromotionEngineOrderCalculateCmdImpl.performExecute Entry

...

VATCalculationRuleCombineCmdImpl.calculateTaxBasedOnAmountAndRate Entry

VATCalculationRuleCombineCmdImpl.calculateTaxBasedOnAmountAndRate the gross amount is = 160.00  
the rate is : {5.00000}

VATCalculationRuleCombineCmdImpl.calculateTaxBasedOnAmountAndRate the tax amounts =  
{7.619047619047619047600000}

VATCalculationRuleCombineCmdImpl.calculateTaxBasedOnAmountAndRate Exit

This trace sample shows some of the VAT-specific commands called during checkout. With the WC\_CALCULATION trace turned on, you can find the reverse tax calculation amount in the trace output.

## Summary

- Solution overview
- New documentation and command refactoring
- Inventory sharing for extended site stores
- Tax sharing for extended site stores
- Value Added Tax support

This presentation began with an overview of the changes made to the order component in feature pack 1 and how they fit into the overall effort to reduce the total cost of ownership and implementation. The second section introduced several documentation enhancements and covered the command refactoring introduced to simplify customization. The remainder of the presentation focused on new capabilities added in feature pack 1. These include non-ATP inventory sharing for extended sites, tax sharing for extended sites and value added tax support.

## References

- Overall shopping flow diagram

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.doc/refs/rosshopflowdiag.htm>

- Order status transition flow diagram

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.doc/refs/rosordflowdiagcont.htm>

- Order task commands

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.doc/refs/rosordtaskcmdscont.htm>

- Overview of inventory sharing for Extended Sites stores (non-ATP)

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.data.doc/refs/rdainvsharextsitenonatp.htm>

- Tax sharing in an Extended Site model

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.data.doc/tasks/tdataxsharextsitemodelcont.htm>

- Value added tax

<http://publib.boulder.ibm.com/infocenter/wchelp/v7r0m0/index.jsp?topic=/com.ibm.commerce.developer.doc/concepts/ctxvatcont.htm>

This slide contains some useful references for further reading.



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