

IBM WebSphere Commerce



Fundamentals

Version 5.5

IBM WebSphere Commerce



Fundamentals

Version 5.5

Note!

Before using this information and the product it supports, be sure to read the general information in the Notices section.

First Edition (June 2003).

This edition applies to IBM WebSphere Commerce Business Edition Version 5.5, IBM WebSphere Commerce Professional Edition Version 5.5, and to all subsequent releases and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

IBM welcomes your comments. You can send your comments by using the online IBM WebSphere Commerce documentation feedback form, available at the following URL:

<http://www.ibm.com/software/webservers/commerce/rcf.html>

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About this book

Document description

This guide provides general information about WebSphere Commerce. It is intended to provide a concise overview of WebSphere Commerce to a general audience.

Conventions used in this book

This book uses the following highlighting conventions:

Boldface type

Indicates commands or graphical user interface (GUI) controls such as names of fields, icons, or menu choices.

Monospace type

Indicates examples of text you enter exactly as shown, file names, and directory paths and names.

Italic type

Used to emphasize words. Italics also indicate names for which you must substitute the appropriate values for your system.

 **Business**

Indicates information specific to WebSphere Commerce, Business Edition.

 **Professional**

Indicates information specific to WebSphere Commerce, Professional Edition.

 **B2B**

Indicates information specific to a Business-to-Business business model.

 **B2C**

Indicates information specific to consumer direct business model.

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Part 1. Overview

This part of the book provides an introduction to e-commerce software, and discusses some key business features of WebSphere Commerce Version 5.5. It also provides an overview chapter which describes the product offerings.

Chapter 1. An introduction to e-commerce software

It was only a few years ago that the goal for most businesses was to have a Web site describing the company and the products or services they provided. Times have changed.

In order to remain competitive in a global marketplace, online merchants have to offer much greater levels of customer service and support than ever before. When customers visit an e-commerce Web site, they expect, at a minimum, to be able to browse an online catalog, add products to a shopping cart, make a secure purchase using their credit card, and specify the location for delivery. But that isn't enough. Customers have become more Internet savvy, so their expectations have grown. They want to shop in the language and currency of their choice. They expect personalized services based on their interests because they don't have a lot of time for browsing catalogs. They also want intelligent assistants to take the place of the store sales person and help them by making useful product recommendations. Soon, customers will want to use hand-held devices for their shopping.

Changes to e-commerce software capabilities aren't limited to the customer view. For many merchants, e-commerce has moved from an experimental project to being an integral part of their core business. As a result, many non-technical staff are now part of the e-commerce process. Marketing and merchandising managers are using e-commerce software in more sophisticated ways to create marketing campaigns, target products to specific customer segments, and monitor the success of their campaigns.

Business processes have also changed with the times. E-commerce software is integrated with existing software systems so the merchant maintains a single source for customer and product information. As a result, customers know if a product is in stock before they make a purchase. Also, merchants are increasingly becoming connected to their suppliers, providing quicker response times to customer requests.

WebSphere Commerce, now in its fifth version, has kept pace with the increasing expectations and requirements of customers and merchants. Build an e-commerce site that turns visitors into buyers with WebSphere Commerce.

The WebSphere difference

Your e-commerce site needs a strong platform to build on. Using WebSphere software, you are getting products that meet industry standards, and have high performance, dependability, scalability, and security. When building your e-commerce site, these requirements are a must.

The foundation of the WebSphere platform is provided by the WebSphere Application Server, a robust server for your e-commerce applications. It supports industry software standards such as Java™, Enterprise JavaBeans, and JavaServer Pages files and enables powerful interactions with enterprise databases and transaction systems.

The WebSphere platform includes MQSeries®, a middleware product that allows you to integrate your e-commerce applications with back-end systems. Integrating

your applications helps you maintain a single source of data, allowing you to respond quickly and effectively to customer requests.

The WebSphere software family has a complete set of tools for extending the capabilities of the WebSphere platform. WebSphere Studio provides programmers with a complete Java development environment, including support for Enterprise JavaBeans and it provides Web developers with a complete HTML development environment, including support for JavaServer Pages technology.

WebSphere Commerce makes full use of the WebSphere platform, enabling you to build an e-commerce system that you can count on for performance and dependability. This allows you to put your energies into creating unique, added-value applications that give your enterprise a winning edge.

Marketing for profit

Until recently, working with e-commerce software was the responsibility of programmers, site administrators, and Web gurus. What about the marketing managers? They are the ones who create campaigns such as: "buy one get one free", or "get great prices during our back-to-school sale". Marketing managers need to interact with the e-commerce system to sell products and WebSphere Commerce makes it possible.

The WebSphere Commerce Accelerator provides a comprehensive set of tools for Marketing Managers. First, create customer profiles that define the demographics, purchase history, and other attributes of your customers. Use campaign initiatives to target advertisements at specific customer segments. A "closed loop marketing" process enables you to know and serve your customers better. A robust business intelligence system, accessible from the WebSphere Commerce Accelerator, reports on the comparable success rates of your marketing campaigns, as well as demographic distributions of customers. These reports provide feedback that can be used to evaluate recent campaigns and to initiate change for upcoming campaigns. This completes the marketing campaign lifecycle.

It's a big world

You're not selling products to your local community any more, so you need to make your e-commerce site accessible to a world-wide audience. How do you do that? When a customer visits your site, they can register to tell you who they are. What country or region are they from? What is their preferred language? What currency do they use? WebSphere Commerce makes it all possible with its progressive multicultural support.

When your customer views product information, show it to them in their preferred language and currency. You will have to translate all your textual information, but the results will be worth it when you are selling to an international audience.

Your own staff can work with WebSphere Commerce in the language of their choice.

It's a mobile world

Using WebSphere Commerce interfaces, you can provide access to your online stores from pervasive computing devices, like cellular phones, PDAs (personal digital assistants) and i-mode devices. This opens up your business to a wider audience.

Bringing your site alive

Adding auction capability to your site helps to bring customers back to your site. Choose from a variety of auction types:

- Open Cry: all bids are available for public viewing
- Sealed Bid: all bids are seen only by the auction administrator
- Dutch Auctions: start with a high bid and see if anyone takes it

What better way to move excess merchandise? In fact, products sold on Internet auctions, on average, sell for above list price.

Add a sales assistant to your site to help guide customers with little knowledge of a product category. Those with more knowledge can explore by selecting desired product features from a list. Once customers have narrowed down the selection, they can compare similar products side by side.

Why Java™?

WebSphere Commerce uses an open architecture based on a Java programming model, allowing application developers to modify and add commands to customize the behavior of their store. Why use Java?

- Java code is easier to create and maintain than C++ code, so application developers are more productive and their code more reliable when they customize store operations. It is much easier to find skilled Java programmers than C++ programmers. Java is an object-oriented language, so application developers can write applications quickly from reusable parts. Also, Java extensions, like enterprise beans, make it an ideal language for client-server, distributed, applications.
- JavaServer Pages files are easier to create and maintain than Net.Data® macros, so Web designers with basic Web skills can create or modify store pages. In previous releases, anyone designing store pages needed Net.Data programming skills. Typically, Web designers are skilled in graphic design rather than programming.
- Java applications are more portable than C++ applications, so your development and production systems do not have to be the same.

WebSphere Application Server supports the Java environment. To serve JavaServer Pages files, to run servlets, and to enable enterprise beans, you need an application server providing high performance, dependability, and security. WebSphere Application Server provides a robust environment for Java applications making it a strong foundation for your e-commerce Web site.

Tools for every job

Creating and running a store requires staff with a variety of skills and specialized tools.

For the Web designer, WebSphere Commerce Studio provides a complete Web development environment. Edit your HTML or JavaServer Pages files using Page Designer. Manage your assets using WebSphere Studio. Then, publish your work to the WebSphere Commerce Server and test your results.

For the Site Administrator, WebSphere Commerce provides performance monitoring tools within the WebSphere Commerce Administration Console to help

keep things running smoothly. You can also use the Administration Console to maintain security by providing access control to the various users of the system.

For the Marketing Manager, the WebSphere Commerce Accelerator interfaces allow you to display, price and sell products in your online store, as well as analyze customer behavior.

For the Customer Service Representative, the WebSphere Commerce Accelerator interfaces allow you to manage customer orders, customer information, and payment information.

What does this mean to you?

WebSphere Commerce Version 5.5 provides a complete solution for your e-commerce needs. Running on award-winning software like DB2, and WebSphere Application Server, you are getting a secure, scalable, high-performing base for your e-commerce site. Using an open architecture, WebSphere Commerce is highly customizable to meet all your requirements.








The remainder of this book describes the WebSphere Commerce solution in greater detail.

Chapter 2. Overview of WebSphere Commerce



This chapter describes the IBM WebSphere Commerce family of products, and lists the individual software components included in the offerings.







Product offerings

WebSphere® Commerce 5.5 is available in a Professional Edition and a Business Edition, on the following platforms:

-  AIX®
-  OS/400® for iSeries™
-  Linux
 - Linux for xSeries™
 -  Linux for IBM® @server iSeries
 -  Linux for IBM @server pSeries™
 -  Linux for IBM @server zSeries™ and S/390®
-  Solaris Operating Environment
-  Microsoft® Windows® 2000

WebSphere Commerce includes the following:

- WebSphere Commerce components:
 - WebSphere Commerce Server
 - WebSphere Commerce Accelerator
 - WebSphere Commerce Administration Console
 - Loader package
 - Product Advisor
 - WebSphere Commerce Analyzer Version 5.5
 - WebSphere Commerce Payments 3.1.3, which includes:
 - Payments Cassette for Paymentech
 - Payments Cassette for VisaNet
 - Payments Cassette for BankServACH
 - CustomOffline Cassette
 - OfflineCard Cassette
 - Blaze Rules Server and Blaze Innovator Runtime Version 4.5.5
- IBM DB2 Universal Database™ Version 8.1 FP1
- IBM DB2 Extenders™ 8.1 FP1 ( Not supported for OS/400 for iSeries.)
- Intelligent Miner™ Version 8.1
- IBM HTTP Server 1.3.26 ( Not included for OS/400 for iSeries. Refer to the *WebSphere Commerce Installation Guide for iSeries* for details.)
- WebSphere Application Server Network Deployment, Version 5.0 which includes:
 - WebSphere Application Server base product
 - WebSphere Application Server Edge Server component

- WebSphere Application Server Toolkit
-   IBM Developer Kit, Java Technology Edition 1.3.1 SR3W
-  Java 2 SDK, Enterprise Edition 1.3.1 FP5
-  IBM Developer Kit, Java Technology Edition 1.3.1 SR3W
- IBM Directory Server 4.1.1 ( Not included for OS/400 for iSeries. Refer to the *WebSphere Commerce Installation Guide for iSeries* for details.)
- WebSphere Commerce Recommendation Engine powered by LikeMinds 5.5
- Lotus® SameTime 3.0
-  Lotus QuickPlace™ 3.0

For additional information about hardware and software requirements, refer to the appropriate *WebSphere Commerce Installation Guide* for your platform and edition.

WebSphere Commerce components

This section provides details about the components of WebSphere Commerce.

Required components

WebSphere Application Server

WebSphere Commerce includes the WebSphere Application Server. This Web application server is a high-performance Enterprise JavaBeans (EJB) server that implements EJB components to incorporate business logic. It supports multiple platforms, databases and transaction systems, supports servlets, and provides Java-based gateway, and EJB connectivity. For information about the EJB specification, refer to the www.java.sun.com Web site.

Web container support: A Web container is a component of the Web application server that manages servlets. Servlets are Java programs that run on a Java-enabled server. A servlet extends the Web server's capabilities. For example, a servlet can create dynamic HTML pages in response to a client request. Another servlet can manage multiple client connections, accept client requests, and broadcast the response to all interested clients.








In the past, server-side requests were often handled by CGI (Common Gateway Interface) programs. Servlets provide advantages over CGI programs in that they can run with less overhead, are more portable, and are easier to maintain.

A Web container manages the creation and deletion of servlets, dispatching the appropriate servlet for each URL it receives. A Web container also specifies which servlets should automatically load into memory at start time and which servlets should load upon initial request. Of particular importance to Commerce Studio is the servlet responsible for compiling all JavaServer Pages files that generate responses to the client.





In the WebSphere Commerce environment, JSP files, compiled into servlets, are for the display of category and product pages from your catalog. In addition, you may take advantage of the extensions to the servlet API that WebSphere Application Server has provided. For example, one extension allows you to track the page that has referred visitors to your site.

DB2 Universal Database




DB2 Universal Database is the default database for the WebSphere Commerce product. DB2 stores all data related to the store, the store's products and services, and all customer data.

    WebSphere Commerce includes DB2 Universal Database, Enterprise Edition.    As an alternative, you may use Oracle as your database; however, this software is not included.

Web server

    IBM HTTP Server, powered by Apache, is the default Web server for the WebSphere Commerce product. IBM has enhanced the Apache Web server. Features include the following:

- Support for SSL secure connections
- Remote configuration
- SNMP support
- LDAP support
- Fast response cache accelerator for serving static HTML pages

   IBM HTTP Server is the provided Web server; however, you can use Domino™ Web Server or Netscape iPlanet. Domino Web Server and Netscape iPlanet are not included.

Blaze Advisor Rule Engine and Server

Blaze Advisor Rule Engine enables individualized e-business applications by monitoring, executing, and optimizing the performance of personalization and business rules created with Blaze Advisor Builder. When integrated with the Blaze Advisor Rule Engine, the Blaze Advisor Rule Server offers concurrent multiple customers uniquely tailored e-business services. WebSphere Commerce uses the Blaze Advisor Rule Server to process rules and provide personalized marketing content that consist of advertisements and suggestive selling techniques. The WebSphere Commerce Server incorporates this server. Both of these products are part of the WebSphere Commerce installation package, and are required for the WebSphere Commerce Accelerator.

Blaze Advisor Innovator Runtime

The Blaze Advisor Innovator Runtime lets you easily create and change business rules without programming. You can define or adjust assessment criteria, pricing, and other dynamic business policies, and put them into operation as quickly as the e-business marketplace demands. This product is part of the WebSphere Commerce installation package, and is required for the WebSphere Commerce Accelerator.

IBM WebSphere Commerce Payments

WebSphere Commerce Payments is a protocol-independent payment transaction server for an online merchant. It integrates with merchant software systems and provides cash register-like functionality to manage payment processing.

To provide specific payment functionality, cassettes can be plugged into WebSphere Commerce Payments. A cassette is a software component that can interpret the generic WebSphere Commerce Payments messages into payment-protocol specific messages. The messages are then sent to the appropriate payment gateway for further processing. Each cassette provides support for a specific electronic payment

system, and the framework can handle multiple cassettes simultaneously. The use of cassettes makes the WebSphere Commerce Payments easy to implement, change and upgrade.

WebSphere Commerce provides the following payment cassettes:

WebSphere Commerce Payments cassette for VisaNet

This cassette allows users of WebSphere Commerce Payments to send real time Internet credit card transactions to the VisaNet system for processing. The cassette enables merchants to utilize the e-Commerce credit card segment of VisaNet 6.0 Authorization and Data Capture services. Authorization messages are formatted in accordance with the EIS 1080 Version 6.0 specification. Data Capture messages are formatted in accordance with the EIS 1081 Version 6.0 specification.

If you want to use VisaNet for payment processing, you must install the VisaNet cassette.

BankServACH Cassette

The BankServACH cassette is used with the BankServ payment gateway to interface with the Automated Clearing House (ACH) system operated by the Federal Reserve (of US Government). The BankServACH cassette enables online electronic check transactions to take place at various financial institutions. The BankServACH cassette collects payments on behalf of merchants by communicating with the BankServ payment gateway, which forwards the transaction data to the ACH system for daily automatic settlement.

Paymentech Cassette

The Cassette for Paymentech enables users of WebSphere Commerce Payments to access Paymentech's Salem gateway through a leased-line connection. 2 Cassette for Paymentech Supplement. It provides online authorization and settlement of credit card and non-PIN based debit card payments. The Cassette for Paymentech provides merchants with the ability to send real-time Internet credit card transactions to the Paymentech system for processing. In addition, the Cassette for Paymentech supports prior authorization detection, Address Verification Service (AVS) and Card Verification Codes (CVC) to ensure data integrity and validation.

CustomOffline Cassette

The CustomOffline Cassette is available for manual payment methods such as C.O.D. and Bill Me, and also allows merchants to define their own offline payment processing methods. Under the CustomOffline Cassette, each offline method is represented as a different account.

OfflineCard Cassette


The Payments OfflineCard cassette is used for payments where the customer supplies the payment card information on the checkout page. The OfflineCard Cassette records this information in the WebSphere Commerce Payments database table for the OfflineCard Cassette. The Merchant Administrator can process the payment manually later using the Payments user interface.

In WebSphere Commerce Payments, the SET™ and CyberCash payment methods are no longer supported.

WebSphere Commerce bundled software descriptions

The following information describes software bundled with WebSphere Commerce. Unless otherwise noted, the software is optional.

IBM SecureWay Directory

 IBM SecureWay Directory provides a common directory for you to reduce the high costs associated with application-specific directories. IBM SecureWay Directory is an LDAP cross-platform, highly scalable, robust directory server for security, and e-business solutions.

IBM WebSphere Commerce Analyzer

WebSphere Commerce Analyzer is a comprehensive set of tools for analyzing e-commerce results. In particular, the WebSphere Commerce Analyzer data mart contains extractions from the WebSphere Commerce operational data, resulting in extensive information about the business. Using the delivered reports for analysis, business users can gain insight into trends and customer characteristics, make better decisions, form strategies, and learn how to improve their business.

In the previous release of WebSphere Commerce, analytical reporting was accomplished with WebSphere Commerce Analyzer, Entry Edition. Customers need deeper insight to their data, and better understanding of trends. Since data mining and business intelligence are essential components of WebSphere Commerce, the WebSphere Commerce Analyzer from previous releases was greatly enhanced with both on board data analysis tools and reporting technology.

WebSphere Commerce Recommendation Engine

WebSphere Commerce Recommendation Engine is an optional application included WebSphere Commerce. The WebSphere Commerce Recommendation Engine is powered by LikeMinds, a powerful collaborative filtering engine that provides product recommendations based on customer behavior patterns.

WebSphere Commerce Recommendation Engine collects profile information based on a number of algorithms to develop mentor groups. These groups are the foundation for subsequent product recommendations. Customers that fit the profile of a particular community are presented with recommendations based on the preferences of others in the community. This personalization model is referred to as *adaptive* when compared with other models because the recommendations are based on current customer purchasing trends, and tend to change over time.

IBM WebSphere Commerce Studio

WebSphere Commerce Studio 5.5 is available in a Professional Developer Edition and a Business Developer Edition. It consolidates all store development tools in a single environment. In addition to the development tools, WebSphere Commerce Studio includes a development license for WebSphere Commerce. As a result, WebSphere Commerce Studio provides everything required to create and test a store in a development environment. WebSphere Commerce Studio is available on Windows 2000 platforms only.

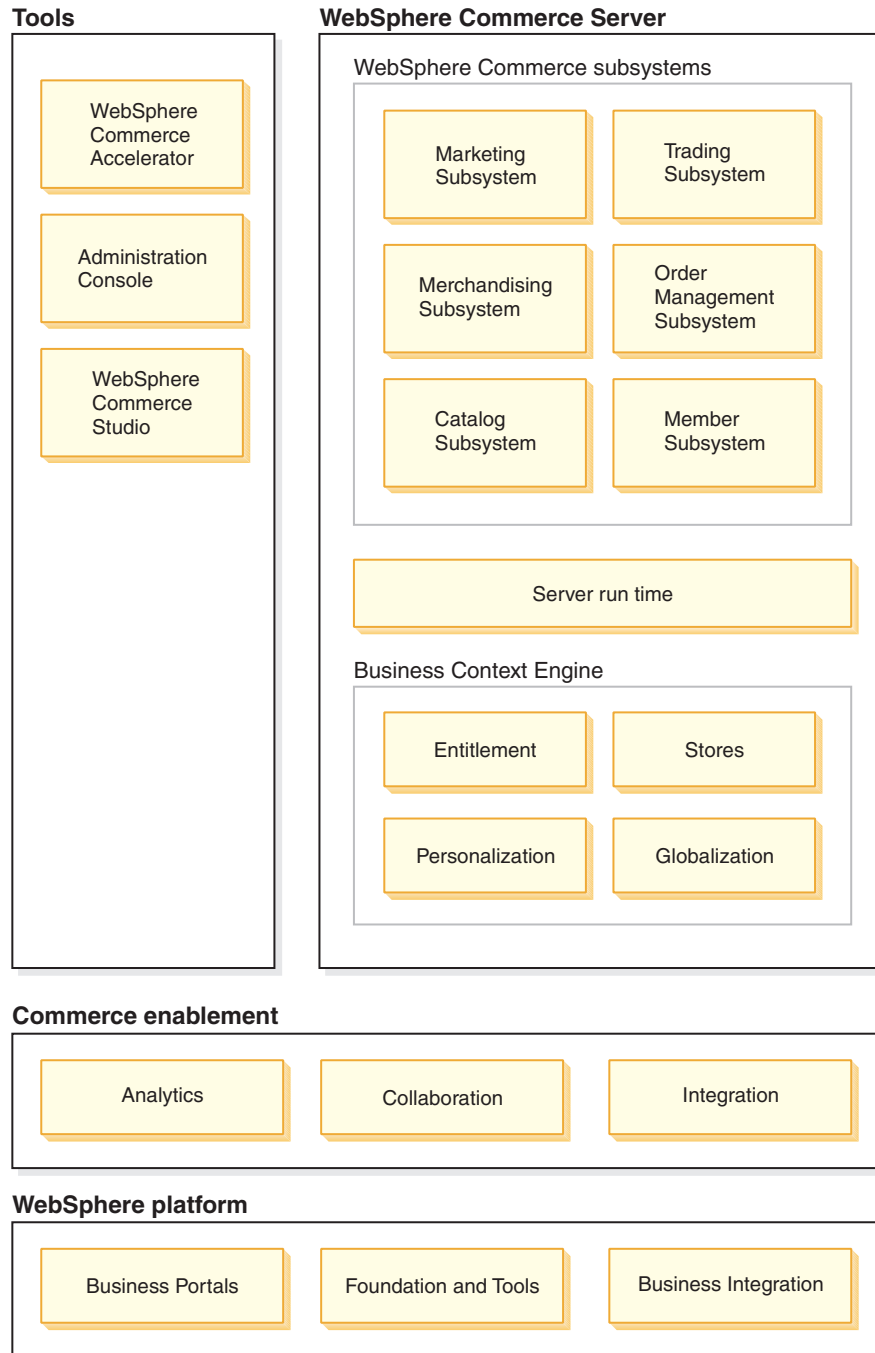
WebSphere Commerce Studio now includes WebSphere Studio Application Developer, a configuration of WebSphere Studio, which provides an open, comprehensive development environment for building dynamic e-business applications. WebSphere Studio Application Developer replaces WebSphere Studio, VisualAge for Java, Page Detailer, Applet Designer, and the IBM Distributed Debugger that shipped with previous releases. Also, WebSphere Commerce Studio includes the Commerce Toolkit for WebSphere Studio.

In this release of WebSphere Commerce, the online help applicable to application developers, such as API and command reference information, is fully integrated with WebSphere Commerce Studio. The help system includes new features, such as the ability to bookmark topics and advanced search capabilities.

For additional information about hardware and software requirements, including prerequisites, refer to the *WebSphere Commerce Studio Installation Guide*.

Chapter 3. WebSphere Commerce Server

WebSphere Commerce includes a Java-based commerce server to control the flow of information in the WebSphere Commerce system. The following diagram illustrates the WebSphere Commerce Server components:



Tools

WebSphere Commerce provides the following tools:

WebSphere Commerce Accelerator

WebSphere Commerce Accelerator provides a central location to manage your store and to facilitate your business strategies. The WebSphere Commerce Accelerator provides an integration point for operating an online store, such as store and product management, fulfillment, marketing, customer orders, and customer service.

Exploit the WebSphere Commerce Accelerator's potential to practice "relationship marketing". Use the WebSphere Commerce Accelerator to measure activity on your Web site and gather key information about your customers and their buying habits. You can then analyze the information and make appropriate adjustments based on your new information. You could add content, customer profiles, or promotions; then develop your campaigns accordingly.

Other tools, such as the Store Profile notebook, allow you to change aspects of your store.

- Define store information with the Store Profile notebook
- Define tax and shipping information
- Publish your store to the WebSphere Commerce Server

The WebSphere Commerce Accelerator can also produce reports to assist you with your business intelligence needs.

Subsystems

Member

The member subsystem is a component of the WebSphere Commerce Server that includes data for participants of the WebSphere Commerce system. A member can be a user, a group of users (also known as a member group), or an organizational entity (which can be an organization, such as "IBM" or an organizational unit within an organization, such as "Electronic Commerce Division"). Business logic in the member subsystem provides member registration and profile management services. Other services which are closely related to the member subsystem include access control, authentication, and session management.

The member subsystem allows its users and organizational entity members to be assigned roles depending on the activities in which they choose to participate. Role assignment is the responsibility of an administrator, such as a Site Administrator. The Site Administrator is also a role. The Site Administrator grants users rights to the system. Once a member is assigned a role, access control component authorizes the member to participate in activities associated with the role. For example, an organization can be a buyer or a seller, or both. A user can also be assigned multiple roles.

The member subsystem also allows you to create member groups, which are groups of users categorized for various business reasons. The groupings can be used for access control purposes, for approval purposes, as well as for marketing purposes, such as calculating discounts, prices, and displaying products.

The following features are associated with the member subsystem:

- Registration information
- Profile management

- Access control or authorization
- Security, authentication, and session management

Catalog

The Catalog subsystem provides online catalog navigation, merchandising features, interest lists, and search capabilities. The Catalog subsystem includes all logic and data relevant to a catalog, including categories, products and their attributes, items, and any associations or relationships among them. It interacts with the Member subsystems and the Order subsystems to obtain information about viewing templates and pricing. The following features are provided:

Groupings

A generic grouping construct is introduced for categorizations of various products. The owner of a catalog group may not necessarily be the owner of all the catalog entries in the group. This allows portal owners to define the categories of products offered while other suppliers can add their products to the catalog group.

Catalog entries

One or more catalog entries can belong to a catalog group. A set of base object types is provided to represent products, stock keeping unit (SKU) items, packages, and bundles in a catalog entry.

Merchandising associations

These make it possible to create an association between any two catalog objects, which become cross-sells, up-sells, and promotions.

Globalization support

The catalog design addresses the requirement to support globalization features such as product display and currency format according to the locale.

Trading

The trading subsystem in WebSphere Commerce provides the logic, function and data relevant for negotiating the price and quantity of a product or set of products between the buyer and seller organization. For the Professional Edition the trading subsystem includes auctions. For the Business Edition the trading subsystem includes auctions, contracts, and Request for Quote (RFQ) components.

Order

The order subsystem is a component of the WebSphere Commerce Server which provides shopping carts, order processing, and order management function support. Related services, such as pricing, taxation, payment, inventory, and fulfillment, are also part of the order subsystem.

Order processing capabilities include quick order or buy, scheduled orders, multiple pending orders, reorders, and splitting or backorders.

Marketing

The marketing subsystem is a component of the WebSphere Commerce Server, and provides numerous marketing concepts to your site. Components of the marketing subsystem provide functionality to create marketing campaigns including product recommendations, advertisements, and electronic coupons; discounts; customer profiles; and collaboration.

Inventory

The Inventory subsystem provides real-time inventory management. Components of the inventory subsystem provide functionality to record inventory received from vendors and that returned by customers; adjust inventory quantity; determine the disposition of returned inventory; and ship and receive inventory.

Common server run time

The common server run time provides a framework in which the commerce applications are deployed and executed. The framework consists of the programming model, the process model, exception handling, transaction control, data access, and the persistence model. The common server run time leverages the run time services provided by WebSphere Application Server to support WebSphere Commerce Server applications. The common server run time takes advantage of many features available in WebSphere Application Server:

- JSP files provide dynamic Web page scripting on the server side. This helps separate the presentation logic from the business logic. WebSphere Commerce provides a set of data beans to display user, catalog and order information. Using the WebSphere Studio page design tool, a Store Developer can drop the beans onto a JSP file. The JSP files are compiled into servlets and rendered to display dynamic data at run time.
- WebSphere Commerce uses an enterprise bean entity framework. Developers can access data in the system, such as data objects, without being bound directly to the underlying database schema. The common server run time provides a set of entity beans for the base schema. Application developers can customize the business logic and modify the entity objects by extending the base schema and re-mapping the entity objects. This process is accomplished by using the WebSphere Studio Application Developer enterprise bean mapping tool.
- All WebSphere Commerce Server and scheduler processes are integrated into WebSphere Application Server processes. Use the WebSphere Application Server Administrator's Console to manage these processes. By default, each WebSphere Commerce Server process is configured as a WebSphere Application Server instance that maps to a single, multi-threaded Java process. The process can run JSP files, servlets and enterprise beans. Multiple WebSphere Commerce Server processes can be cloned with multiple WebSphere Application Server instances for workload balancing and availability.

For more information on the server run time components, refer to the *WebSphere Commerce Programming Guide and Tutorials*.

Contextual Interaction Engine

The subsystems and the server run time operate within an interaction engine that provides all of the components with the necessary business context. The interactions are governed by the following contextual frameworks:

Policies

Policies are sets of rules followed by a store or group of stores that define business processes, industry practices, and the scope and characteristics of a store's or group of stores' offerings.

Entitlement

Entitlement governs customers access to various aspects of a store, such as what products they can purchase from a store, the price they pay for a product, and what payment methods a store will accept from customers.

Stores The store context provides an online space in which business transactions take place. A store uses various Internet technologies, and is comprised of a variety of assets.

Globalization

The globalization context governs how the site behaves according to the locale.

Commerce Enablement

WebSphere Commerce facilitates commerce by incorporating the following components:

Personalization

Personalization improves the customer's experience by tailoring the site according to a number of criteria, including customer profile information, shopping cart contents, and purchase history.

Integration

WebSphere Commerce is tightly integrated with a number of products

Analytics

This version of WebSphere Commerce has improved analytics, as a result of incorporating WebSphere Commerce Analyzerr. These improved analytics will improve your ability to understand your customers usage of your site, and will facilitate adapting your site to better suit their needs as a direct result of the closed loop analytics.

Collaboration

WebSphere Commerce also supports collaboration, both among the site development team, and directly between customer service representatives and your customers in real time.

WebSphere Platform

Underpinning all of WebSphere Commerce is the WebSphere software platform: the industry leading infrastructure software for on demand e-business. The fundamental aspects of the WebSphere platform include the following:

Business Portals

WebSphere Business Portals help extend and personalize the user experience. This helps increase the satisfaction of customers, employees, partners, and suppliers, the value chain of the enterprise. By compartmentalizing your application into portlets, you provide small parts, from which customers and employees alike can selectively request. The end result delivers exactly the desired information on demand. Furthermore, you have the ability to update pieces as necessary.

Foundation and Tools

The WebSphere Application Server is an industry-leading Java-based application environment for building, deploying, and managing Internet and intranet Web applications. WebSphere Application Server also provides the run-time support for JSP files.

Business Integration

WebSphere Business Integration delivers five key capabilities to accelerate the transformation into an on demand business:

- Model and simulate business processes that can be instantly updated
- Integrate people, processes, information, and systems throughout your enterprise

- Connect with your customers and partners for an efficient business-to-business enterprise
- Monitor business processes from start to finish, using real-time performance data
- Manage your business more efficiently with the capability to review, analyze and improve processes and performance

Part 2. Developing your store

WebSphere Commerce Version 5.5 is a comprehensive set of integrated software components that helps application developer build, maintain, host and manage stores to sell products and services on the Web. This part of the book provides chapters that discuss the information you need to develop your store.

It begins with the processes involved in site planning, such as familiarizing yourself with WebSphere Commerce roles, and asking yourself key questions before creating your store.

It continues with store and online catalog creation, providing details about the sample store, the tasks involved in creating your store, and data for your online catalog.

Chapter 4. Planning your site

The following section describes a typical WebSphere Commerce development cycle. This development cycle usually consists of the following phases:

- Assembling the site development team
- Requirements gathering
- Design
- Store development
- Catalog development
- Testing
- Deployment

Assembling the site development team

The use of e-commerce software to implement an online business significantly changes the way a retail business operates. Automation replaces some of the retail roles, such as cashier. In an e-commerce operation, some key roles must be added, such as Site Administrator.

Often, the retail role is not easily translated online, such as a sales associate. In an e-commerce solution, there is no direct equivalent to this role. Some of the sales associate duties need to be driven into the store design, such as making a customer feel welcome, providing product information, and suggesting additional items and contacting the customer after a purchase. Other duties in a well-designed online store involve collecting information from registered customers and tracking their purchase history. This information is then used to better determine a customer's future needs and make better suggestions for future purchases. To create and maintain an advanced e-commerce site, you may need people to fulfill multiple roles.

Whether you are customizing the sample store to create your own store, or developing an entirely new store, it typically takes a team of people to create a store. While the size of this team depends on the size and scope of the store or site being created, the team must include people filling the following roles:

- Web designer
- Application developer
- Database developer
- Site Administrator
- Seller
- Marketing Manager
- Product Manager

WebSphere Commerce uses many of the standard retail roles, merges others, and then adds the required e-commerce roles to create a complete e-commerce solution for your site. If necessary, the Site Administrator in the WebSphere Commerce Administration Console can create new roles. The following section describes the knowledge and experience required for these roles. Depending on the size of your business, the roles may be assumed by only a few people, or a large team may be required.

Seller

The Seller is concerned with the business side of a store's operation. This role requires detailed knowledge about the overall business. The Seller handles staffing, and works with the other roles to determine the store image, customer profile and merchandise characteristics. The Seller supervises the overall store objectives, profitability, and management, in addition to tracking the store sales.

Marketing Manager

The Marketing Manager communicates the market strategy and brand messages to the customers. This role monitors, analyzes, and understands customer behavior. In addition, the Marketing Manager creates or modifies customer profiles for targeted selling, and creates and manages campaigns and promotions. Campaign event planning can be handled by a team comprising the Seller, Marketing Manager, and Product Manager. Either the Marketing Manager or the Product Manager projects the sales for a promotional event and analyzes its effectiveness.

Product Manager

The Product Manager needs to understand the marketing strategy and the way the store's customers shop. The Product Manager determines the best way to display, price, and sell products in the online store. In addition, the Product Manager traces customer purchases and determines discounts, auctions, and suggestive selling techniques.

This role also supervises catalog administration, which includes creating and managing online product catalogs, associated pricing schemes, product categories, and product advising. This person is typically an expert on the product domain with a thorough understanding of the product line and the relationships between various products.

Site Administrator

The Site Administrator installs, configures, and maintains WebSphere Commerce and the associated software and hardware. The Administrator responds to system warnings, alerts, and errors, and diagnoses and resolves system problems. This role typically controls access and authorization (creating and assigning members to the appropriate role), manages the Web site, monitors performance and manages load balancing tasks. The Site Administrator may also be responsible for establishing and maintaining several server configurations for different stages of development: test, staging, and production. This role also handles critical system backups and resolves performance problems.

The Site Administrator has the ability to create and publish a store.

The Site Administrator requires knowledge of hardware, operating systems and training on the architecture and operation of WebSphere Commerce.

application developer

Application developers create JavaServer Pages files and any necessary customized code and can modify any of the standard functionality included with WebSphere Commerce. application developers must have programming skills in Java, the EJB component model, JavaScript, HTML, JSP technology, and be familiar with the WebSphere Commerce programming model.

Database developer

Database developers modify and extend the WebSphere Commerce database schema for the purpose of implementing customized store functions, or integrating with existing database information. This member usually has database administrator skills for DB2 or Oracle.

Note: The database developer role is not defined in the WebSphere Commerce Server.

Web designer

Web designers create the look and feel for the site, and work with Store Developers to create store pages. Web designers should have experience using multimedia tools, HTML and JavaScript skills, and familiarity with JSP technology.

Note: The Web designer role is not defined in the WebSphere Commerce Server.

Requirements gathering

Functional requirements define both the business functions that the e-commerce system is going to provide, and the Web page flow. You determine your requirements by developing a good understanding of your business needs for the site and what you hope to achieve from the site. For example, look at issues such as business goals, purpose of Web site, and usability questions, such as who your users are, and how they expect to interact with your store. When looking at your requirements, keep in mind possible consistency issues, such as reflecting the appearance of your brick and mortar store in your Web site. It is important to gather these requirements early, and to discover any challenges that may lie ahead while they can still be dealt with easily.

Once you have determined the functional requirements, you can clarify the technical or system requirements. Examples of technical requirements include integration issues and machine requirements.

Examples of questions that should be answered during the requirements gathering phase include the following:

Functional requirements

- Will your store cater to a business or consumer audience?
- Which languages will your store support?
- How will you handle multiple currencies (if required)?
- What products and services will you sell? Will the product line differ for various customer groups or countries and regions in which you transact business?
- If you sell in multiple countries and regions, will your store be displayed differently to make it more appropriate for different cultures?
- What do you want your store to look like?
- Can existing graphics be reused? If so, what format is required?
- What are your competitors doing?
- Will you require customers to register before purchasing products?
- Will you take advantage of personalization features to provide unique purchasing experiences for individual customers?
- What kind of customer information do you want to capture (and quantity)?
- Will you promote products based upon customer profiles or behavior?
- How will orders be processed?
- How will you process payments?
- How will you implement taxation?
- How will you implement shipping charges?
- What is your customer service strategy?

- How will the Web pages flow?
- Will you provide links to other sites?

Technical requirements

- How will you move data from an existing system to a new system?
- What type of security will you use?
- What level of performance do you require?
- What is your anticipated level of customer traffic?
- What size of machine do you need to accommodate the number of customers you attract?
- How will you maintain and tune your server machines for optimal performance?

Integration requirements

- Will you integrate with existing technology systems?

There may be many more questions related to the requirements of your store that need to be answered, depending upon your business needs.

By the end of the requirements gathering phase, your team should:

- Create a shopping flow and use cases from the functional requirements. Examples of use cases may include customer registration or order processing.
- Determine the site's topology.

Design

The requirements gathering phase is followed by the design phase, which includes determining the information technology architecture design, the WebSphere Commerce design, and the database design.

Once all information is gathered, create a static HTML prototype of the store to ensure that the development is on track and requirements have not been missed. The prototype can be created by a Web or media designer, using the WebSphere Studio integrated Page Designer. (Alternatively, the prototype can be developed outside of the Commerce Studio environment.) This may be done in conjunction with, or independent of, use cases.

Store development

The store development phase focuses on the creation of store assets. The application developer creates the project plan that describes how (and when) the project will be completed. The application developer is a role that can consist of more than one person, depending on the skills required. The project plan should contain:

- A staffing plan that describes the skills required of the application developer to design and develop the infrastructure, code, and pages.
- A listing of the total number of JavaServer Pages files, tables, EJBs, data beans, and commands that need to be developed (this will drive the size of the project and the required resources).
- A listing of the required graphical and media design elements.
- A schedule listing major checkpoints and deliverables. The schedule must accommodate system testing at the end.
- A description of the performance and stress testing that will be done on the site.

In addition to developing the project plan, the application developer creates the store's home page, the online catalog display pages, and the shopping flow for the store.

The recommended method to create a store is to base your store on a sample store. Creating a store is described in the chapter, Chapter 5, "Creating your store", on page 27.

Data management

The database developers focus on data management tasks, including the following activities, which occur on the development database server:

- Extending the database schema (optional, based on business requirements).
Extending the WebSphere Commerce database schema may be required if the store is integrating with an existing database that uses a different schema, or if WebSphere Commerce is customized.
- Enabling migration of existing data.
Once the database schema has been modified (if required), existing information, such as customer data, can be migrated to the WebSphere Commerce database. To migrate the information, the database developer writes and runs database scripts.
- Building a mechanism to feed data to the database (if required).
For WebSphere Commerce stores that use existing enterprise applications, mechanisms can be developed to automatically feed data from the enterprise application to the WebSphere Commerce system. This will enable synchronization of data between the two systems. The Loader package can be used for this purpose.

Throughout the development process, the source code for the store should be checked into a software configuration management (SCM) system to facilitate file management.

A application developer who has been designated with the responsibility of assembling the assets into a functioning store uses Commerce Studio to publish the store to a test machine.

If working outside of the Commerce Studio environment, the application developer extracts all of the code from the SCM and transfers the store to the test machine. The test machine's platform may be different from the developer's platform.

Once the store has been built, testing should be done to ensure the quality of the build.

Catalog development

The online catalog is developed by various roles. The Product Manager decides which products are sold by the store and at what price. This phase of development can happen in conjunction with the store development phase. The method used to create the catalog depends on the size of the catalog and whether catalog data already exists in an electronic format.

Use the Loader package to create and update online catalogs. Using the Loader package, a catalog developer can maintain the product catalog. Then, a application developer can format the information so it is suitable for the Loader package to populate the database. The Loader package can also be used for migration of data from an existing WebSphere Commerce store.

Once developed, the catalog is published to either a staging server (during the development stages) or a production server (when development is complete). For more information on catalog development, refer to Chapter 6, “Creating your online catalog”, on page 35.

Testing

Typically the Site Administrator will test the store, and should run unit, functional, system, integration, and stress tests. Visual design and user interaction tests can also be run.

Deployment

After testing is complete, the Site Administrator updates the production system. Usually this is done in two stages: the first stage is replicating the database, the second stage is publishing the store assets (HTML, GIFs) to the production server.

Chapter 5. Creating your store

This section provides an overview of the business models and sample stores provided with WebSphere Commerce.

What is an online store?

An online store is a store that uses Internet technologies to sell or exchange products or services. It is comprised of a collection of Web pages that display and sell your products. For example, the home page acts as your store front, bringing customers into the store, and directing them to your products. Catalog group pages group products together, and direct customers to the product pages, where they can find detailed information about the product. The shopping cart page fulfills the same role as a physical shopping cart does: you can add products you want to purchase, then pay for them using credit cards or other payment methods in the checkout pages.

Your customers only see the external portion of your store pages. Each page includes graphics and images which are displayed to the customer, as well as Java commands and scripts which are not displayed to the customer. Commands and scripts are used to call other pages within the store or to complete actions, like logging in and registering. In order to display the correct product information, as well as the correct price, taxes, and shipping, the store accesses information from tables in the WebSphere Commerce database. WebSphere Commerce data beans (a set of Java beans included with Commerce Studio and WebSphere Commerce) may be included in the JavaServer Pages files. WebSphere Commerce data beans allow you to access information from the database such as the price of a product, or the product's attributes.

Business models

WebSphere Commerce supports the following types of commerce interactions:

Business Value chains

New to WebSphere Commerce 5.5 is the ability to support value chains. Value chains support transactions involving multiple enterprises or parties. Products, goods, services, or information are delivered through the parties of the value chain from producers to end users. A value chain also has relationship and administrative aspects, that is, you can manage the relationship of the partners or enterprises in your value chain, as well as offer some administrative services to those parties.

WebSphere Commerce supports the transactions through, and relationship management of the following two types of value chains:

Demand chains

Demand chains support both indirect sales channels and direct sales channels.

Supply chains

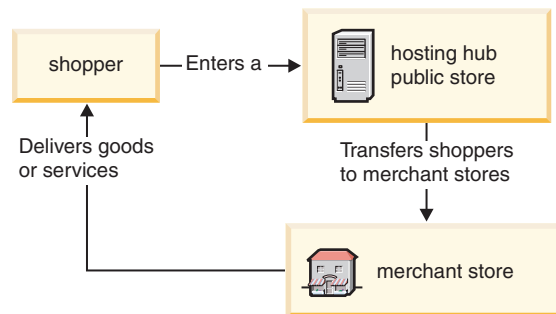
Supply chains support procurement and sourcing of goods. WebSphere Commerce supports sourcing of goods through private marketplaces. A private marketplace provides a forum for vendors to offer their products and services for sale to buyers with whom

they have contractual relationships. WebSphere Commerce also provides the capability for you to host enterprises in your value chain.

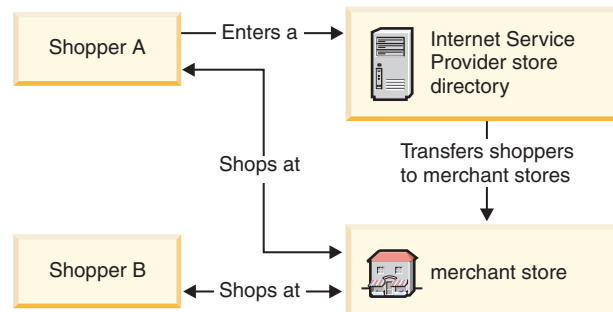
Business Hosting

As well as supporting hosting of business partners in the value chain model, WebSphere Commerce also supports hosting of merchants or other businesses by an Internet Service Provider or other hosting provider.

A hosting hub is a Web site, usually owned by an Internet Service Provider, where merchants can build stores for shoppers. Merchant stores can have catalogs filtered from a reseller hub catalog, or have their own catalog. Hosted stores can track inventory and fulfill orders from customers. A hosted store shares a common page design with other hosted stores, but has its own name and logo appearing on the store.

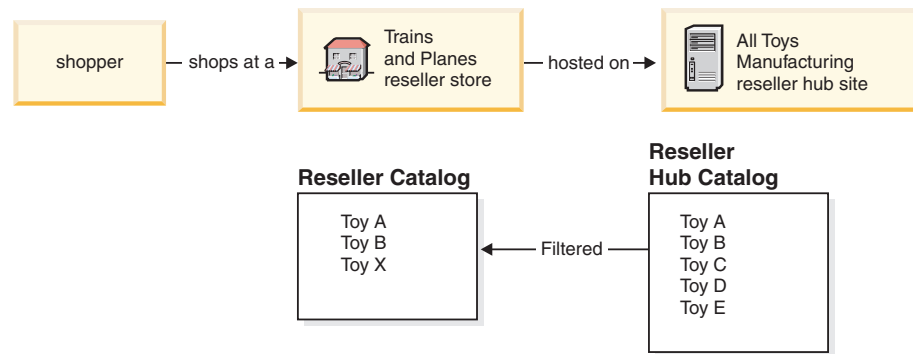


In the example below, an Internet Service Provider hosts merchant stores. Each merchant store has a catalog (the catalog may be owned by the store or shared). Shopper A enters the Internet Service Provider site, is provided with a list of merchants, and goes to a merchant store. Shopper B enters the merchant store directly.



In the example below, a reseller store specializing in Trains and Planes is hosted on the site owned by All Toys Manufacturing. The catalog owned by All Toys Manufacturing is filtered so that only trains and planes appear in the reseller store. The reseller can add products to the store that do not

appear in the manufacturers catalog.



Direct sales

WebSphere Commerce continues to support the direct sales business model. Using WebSphere Commerce you can create sites or stores that supports the exchange of products, services, or information directly between businesses and consumers or between two businesses or parties.

Store types

In order to support the new business models in WebSphere Commerce 5.5, several new store types have been introduced. WebSphere Commerce supports the following store types:

Store An online site where users may obtain information regarding products, and conduct business transactions over these products. Business transactions may include retail purchases, transactions between businesses and transactions between a government organization and citizens or businesses. WebSphere Commerce uses the generic term 'store' to describe the online space where all of these business transactions take place.

Hub store

A customer-facing store that enables partners or clients.

Direct sales store

A store that supports the exchange of products, services, or information directly between businesses and consumers, or between two businesses or parties.

Hosted store

A store that is hosted by the site operator for the owner of the store. The store owner may have the option of administering the store.

Asset store

A store that contains a collection of file or data assets that can be used as resources by other types of stores. For example, a catalog asset store is a collection of data assets that represents the content of a catalog. A storefront asset store is a collection of JSP files, commands, and other assets that create a storefront. Asset stores do not perform or record business transactions. They are simply holders of assets that can be used by other stores.

Proxy store

A store that represents a business partner's operational assets. This store also handles the business logic that allows a WebSphere Commerce site to interact with an external business partner. For example, a proxy store may capture the orders transferred to a remote order capture system, as well as capturing the suppliers' inventory information or the information sent to a

supplier's fulfillment centers. A proxy store does not include a storefront and can not be accessed by users. Administrators working on behalf of the external business may have administrative access to the proxy store through the WebSphere Commerce Accelerator.

Sample stores

WebSphere Commerce provides several sample stores on which you can base your own store. Each store is designed to display the features found in today's top retail sites and is customizable.

WebSphere Commerce provides sample online stores that you can use as the basis for creating your own store.

When planning your site, a key step is to plan your shopping flow to meet your customers' needs and expectations. While a merchant may choose to offer customers a unique shopping experience, most customers want consistency and familiarity with the shopping structure and sequence. Rather than focusing on a unique shopping flow, consider using targeted promotion, personalized recommendation, and a better selection of products and services to improve customer loyalty. WebSphere Commerce provides the tools for targeted promotions and personalized shopping experience with the WebSphere Commerce Accelerator.

A sample store acts as a template for the way that your store works. It sets up the flow of information as visitors look for and purchase products in your store. The sample store is packaged in a store archive format.

A sample store has a sufficient set of assets needed for the store to function. These assets include: JavaServer Pages files, static HTML files, image files, and database entries (catalog, tax, shipping, and fulfillment entries).

If you need to create several similar stores that contain features or functions that are not included in the sample stores provided, you can create your own sample. To create your own sample store, you can use WebSphere Commerce and Commerce Studio to:

- Create your own store archive.
- Select the sample store, copy it, then modify it.

The following sample stores are provided with WebSphere Commerce:

Consumer direct samples

FashionFlow:

The consumer direct sample (FashionFlow) includes an online fashion store, which supports direct selling to consumers. FashionFlow merges the features of all previous sample B2C stores (InFashion, WebFashion, WebAuction, and NewFashion), as well as adding some new enhancements:

- Registered customers can apply coupons towards their purchases.
- Using Product Advisor (Product Exploration and Product Comparison metaphors), customers can narrow down and compare products from a resulting search list.
- Using advanced search techniques, customers can search on size, color, and price range.
- Four rule-based discounts have been included:


- Free shipping.
- Buy X, get the next for Y% off.
- Spend X, get the next Y at Z% off.
- Buy X, get a free gift.
- Using cross-sell prompts customers to mix and match, or add additional products to their original purchase.
- Using up-sell prompts customers to buy a more expensive product than originally planned.
- Using e-mail interest items, customers receive promotional e-mails based on their interests.

MiniFashion:

There is a new basic sample store that provides a minimal set of assets needed to make a store work. This is offered as an alternative to deleting large amounts of information. Instead, you can use the basic store sample as a foundation for a store, and then build on it, to suit your needs.

B2B direct sample

The B2B direct sample (ToolTech) includes an online hardware store, which supports direct selling to other businesses. ToolTech highlights the tasks a buyer can perform at a seller's e-commerce site. Newly included are RFQ request tools, which have been moved from the WebSphere Commerce Accelerator to ToolTech. It now supports the buyer creating an RFQ on a made to order item, and allows the substitution of products. The interest list has been removed and replaced with a requisition list.

 ToolTech is the first B2B online hardware store provided with WebSphere Commerce. ToolTech highlights the tasks a buyer can perform at a seller's e-commerce site. Some of the features included in the ToolTech sample store are:

- Contract-based purchasing
- Requisition lists
- Browsing based on entitlement
- Contract-based pricing
- RFQ creation
- Split orders
- Multiple shipping addresses
- Weight-based shipping
- Product search capability
- Buyer registration
- Customer care
- Collaboration

The ToolTech store provides all the pages and features necessary for a functioning B2B online store. ToolTech is packaged with WebSphere Commerce as a store archive, and as a result, no further installation is necessary. All that is required to view the sample store is to create a new store archive based on ToolTech using the Store Services tools, then publish it to the WebSphere Commerce Server.

Since store creation in WebSphere Commerce is based upon selecting a sample store archive and modifying it, ToolTech is designed to act as the basis for your

store. It is based on a simple yet proven shopping flow, and all the sample store pages can be easily customized. All ToolTech sample store pages use JSP's and XML to load the necessary data.

Demand chain sample

The demand chain business model sample includes the Commerce Plaza site, the catalog asset store, the reseller asset store, and the distributor proxy store. Commerce Plaza allows resellers to purchase products directly from their distributors. In the process of purchasing, this site also allows resellers to request prices and availability from distributors on any products of interest.

Commerce Plaza —WebSphere Commerce Business Edition provides a reseller hub, which is a password-protected Web site, usually owned by a manufacturer or distributor. Reseller hubs help move products from suppliers to resellers, and eventually to consumers. The reseller logs into the reseller hub, browses a product catalog and adds products to a shopping cart. The products may be available from more than one supplier, so the reseller can check product availability, supplier location, and prices for various suppliers. When the reseller completes the order, the shopping cart is sent to the supplier(s) to complete the transaction.

Commerce Plaza site features include:

- Registering with the marketplace.
- Editing account information.
- Searching for products.
- Creating a favorites list by adding products to that list.
- Placing an order
 - requesting a quote
 - adding products to the shopping cart
 - requesting price and availability
 - assigning orders to distributors
 - transferring carts to distributor sites
 - checking out on distributor sites
 - viewing updated order status
- Saving a shopping cart's contents (adding products to the shopping cart, requesting prices and availability).
- Reviewing the status of a fully transferred order.
- Creating a reseller store with the Store Creation wizard.
- Managing the store.

Hosting sample

The hosting business model sample includes the Commerce Hosting Hub site, the store directory, a sample catalog, and the assets required to make a store. Merchants can use this model if they want a store, but want someone else to host it. Once the merchant is approved, the store can be created through the Store Creation wizard, and the merchant can manage it. The store will be added to a store directory, which functions like a mall. Shoppers can search this directory, find the store of interest, and shop there. Commerce Hosting Hub features include:

- Registering with the hosting hub.
- Requesting to host a store.
- Creating a hosted store with Store Creation wizard, then changing the look and feel.
- Choosing the shared master catalog, or using your own.
- Managing a store.

- Allowing shoppers to search for products once the store is added to the store directory.

Supplier sample

The supplier business model sample includes the Commerce Supplier Hub site, an aggregate or master catalog, and the assets required to make a store. The Hub is a place where merchants or suppliers, and customers or buyers, come together. One reason suppliers would use this model is if they want a store, but want someone else to host it; in the larger sense, suppliers can benefit from being part of a hub and the increased buyer traffic. The buyers benefit from being able to look for products and compare prices from different merchants in one location. The buyers can also shop in the hosted store, if desired. Commerce Supplier Hub features include:

- Registering with the supplier hub
- Requesting to host a store
- Creating a supplier store with Store Creation wizard, then changing the look and feel.
- Consolidating your catalog with the master catalog
- Managing a store
- Working with auctions
- Working with RFQs

Globalization features in the sample stores

WebSphere Commerce enables application developers to develop stores with multicultural online product catalogs, allowing customers to view descriptions appropriate to their locale in their preferred language and currency. In other words, if this information has been entered during the store development process, customers can select cultural parameters such as language, tax and shipping rates, date and currency format, and payment methods.

The sample stores provided with WebSphere Commerce are globalized. To create a globalized store, simply select the store sample that best matches your requirements.

WebSphere Commerce allows you to create a store that can be tailored to fit the needs of an international or culturally diverse customer base. For example, you can create a store with some or all of the following characteristics:

Multiple languages

A store may be viewed in more than one language. For example, you may want to allow customers to choose the language in which they would like to view your store, or you may want to automatically select a default language, depending on the location of the store.

Multiple currencies

A store may be capable of displaying and handling more than one currency.

Optional data formats

Data may be displayed in various customizable formats. People from different cultures may have different expectations about how certain information should be displayed. For example, a decimal may be indicated by using either a comma or a period, depending on the language or country, or region of the customer.

Multiple address formats

Addresses may be displayed in various formats to conform to different international conventions.

Taxation

Different taxation rules may be defined for different jurisdictions, including sales tax, and other business or government taxes.

Shipping

Different shipping rules and carriers may be defined for different regions.

Multiple payment methods

Different payment methods may be defined.

Prices

The same product may be sold at different prices in different jurisdictions.

Online catalog data

Descriptions, attributes, and images may be customized for display to customers in different regions. You can also maintain a master online catalog that can be shared by a number of stores.

Page design

WebSphere Commerce allows you to create customized pages for each display format. You can create a generic page template for all cultures so that the design looks the same but culturally sensitive information is dynamic. Otherwise, you can create separate display pages for each culture.

For more information on the sample stores, refer to the *WebSphere Commerce Sample Store Guide*.

Chapter 6. Creating your online catalog

This section provides an overview of your online catalog. This section also discusses different methods of creating your catalog and importing existing catalog data into the database.

Understanding your online catalog

Before creating and maintaining your online catalog, you should understand how a catalog works in WebSphere Commerce.

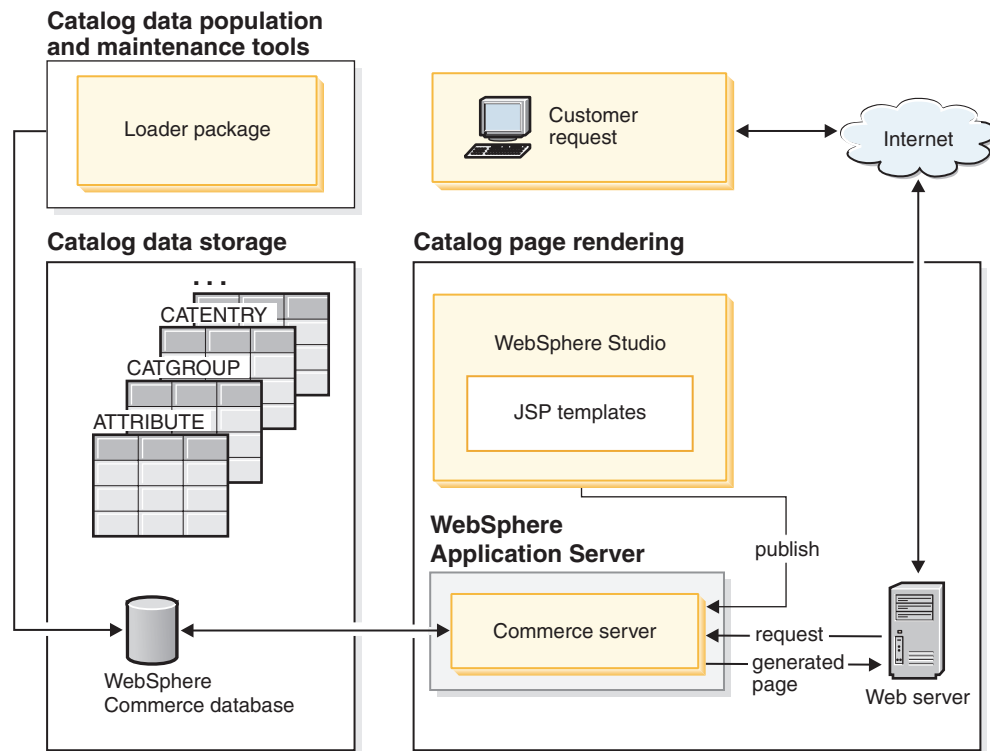
There are two types of catalogs in the WebSphere Commerce system: master and navigational. A master catalog is the central tool for managing your store's merchandise. This is the single catalog containing all products, SKUs, and standard pricing for each entity. Every store in the WebSphere Commerce system must have a master catalog. You can share the master catalog across stores and define as many stores as needed.

If necessary, you can create one or more navigational catalogs to change the catalog display for customers. A navigational catalog contains the same entries as the master catalog, but with a much more flexible structure for customer display purposes. You can have as many navigational catalogs as is necessary to suit your promotional needs. In order to limit the administrative overhead of managing several navigational catalogs, we recommend that you attempt to use a single master catalog, and add navigational catalogs as is necessary.

Catalog information that is displayed to customers requires the following:

- Catalog data, or assets
- Catalog display pages
- Catalog relationships

The following diagram shows the flow of catalog information between the WebSphere Commerce components.



Catalog data

Catalog data is stored in the WebSphere Commerce database. To initially populate a database with the catalog information, you can use the Loader package.

Catalog data consists of descriptions, relationships, prices, and images for each entry in your catalog. For administrative and navigational purposes, catalog data is arranged into *catalog groups*, or *categories*. As the name suggests, a catalog group combines catalog data and other catalog groups to create different sections of an online catalog. With properly structured catalog groups, customers can easily browse through an online store and quickly find the desired product. Catalog groups provide pathways for customers to navigate through the store. The pathways begin at the home page and end at a product page. Within a catalog group, catalog entries are included to represent orderable merchandise in an online catalog. WebSphere Commerce supports default catalog entry types including products, SKUs (also known as items), bundles, and kits (dynamic kits and prebuilt kits, formerly known as packages). WebSphere Commerce also allows you to create new types of catalog entries, if necessary.

A *product* acts as a template to create SKUs, individual pieces of merchandise which are ultimately sold to a customer. *SKUs* are specific instances of a product defined by attributes. For example, cotton pants are a product because they cannot be uniquely identified until values are provided for the size and color attributes. The cotton pants product represents the group of all cotton pants while a SKU (cotton pants, size 32, color black) represents a specific instance of the product. Remember that the terms SKUs and items are considered synonymous. When using the Product Management tools in the WebSphere Commerce Accelerator, this

orderable merchandise or service is called a SKU for simplicity, while within the WebSphere Commerce schema, it is called an item to match the database schema object.

A *bundle* is a collection of catalog entries. For example, a bundle for a computer may be composed of a central processing unit, a monitor, a hard drive, and a CD-ROM drive. Bundles may be a grouping of SKUs, or a combination of products, SKUs, and prebuilt kits. When a bundle is added to an order, it is broken into separate orderable pieces. Bundles allow customers to buy multiple merchandise at once. The price of a bundle is the aggregate of each bundle component price.

Formerly known as a package, a *prebuilt kit* is an indivisible collection of catalog entries. For example, a computer package may contain a specific central processing unit, monitor, and hard drive that may not be available separately. A package has its own price and is a separate orderable SKU that can be added to an order. A package cannot be broken up or modified.

A *dynamic kit* is a group of products ordered as a unit. The components of a dynamic kit are not statically stored in the WebSphere Commerce database, but are instead configured by an external product configurator. Users interact with the product configurator to build a dynamic kit, which is supplied to WebSphere Commerce at order entry time. Individual components of a dynamic kit cannot be modified in an order, but each dynamic kit can be reconfigured. There are several product configurators available that can be used to configure dynamic kits. While WebSphere Commerce does not supply a product configurator, full support integration is provided for an external product configurator.

Catalog display pages

Catalog display pages customize your catalog layout for presentation purposes. They outline how a page is displayed to your customers and how it provides a consistent look and feel between various catalog pages. Display pages created using JSP technology improve the efficiency of the operation of your store since you do not need a separate HTML file for each product. Instead, the product information exists in the database, while the display page exists on the server. When a customer requests a page, displayable pages are generated and returned to the customer's browser.

You can use different catalog display pages to exhibit the different types of catalog data. For example, a product page to display products, or a package page to display packages, and so on. You can customize display pages for individual products and SKUs. That is, you may want a unique page to showcase a featured coat or other merchandise that is on sale. You can also create different display pages for each customer group, such as a special offer to your frequent buyers group.

Another method of customizing the catalog display is by specifying product sets. Product sets provide a mechanism for you to partition your catalog into logical subsets. This partitioning allows you to show different parts of your catalog to different users. You can create a contract and specify that the participants of the contract are only entitled to purchase products that fall into a predefined product set. WebSphere Commerce provides an easy to use catalog filter tool to create product sets from the master catalog and to make use of them in contracts for entitlement filtering.

Catalog relationships

A catalog contains several kinds of *relationships* between its data. As noted above, a catalog contains catalog groups and various catalog entries in the form of products, SKUs, bundles, and kits (dynamic kits and prebuilt kits). A catalog partitions the catalog entries and the catalog groups into meaningful views for customers.

As an example, many retail stores rotate their merchandise according to the time of year. A catalog can create seasonal views of the underlying product universe. Catalogs allow full or partial inclusion of catalog groups, or a combination of the two. Continuing with the retail store example, a catalog group called **Men** and a catalog group called **Women** appears in both the Summer and Winter catalogs. When part of the Summer catalog, the **Men** and **Women** catalog groups contain summer apparel (such as sandals, shorts, and swim wear) and when part of the Winter catalog, the **Men** and **Women** catalog groups contain winter clothing (such as boots and woolen outerwear). Both catalog groups may share certain catalog entries which contain identical and seasonally neutral articles of clothing, such as shirts and pants.

However, during the summer season, only catalog groups and catalog entries appearing in the Summer catalog are accessible. Similarly, during the winter season, only the Winter catalog with its associated catalog groups and catalog entries is displayed to the customer.

Every store in the WebSphere Commerce system is related to at least one catalog. Catalogs can be shared among many stores, and each catalog can be related to one or more catalog groups. A catalog group can contain one or more catalog entries.

Creating a master catalog

Once you have created your store, you need to create your master catalog. WebSphere Commerce provides several methods of creation.

Each WebSphere Commerce sample stores includes a master catalog. You can use one of the sample master catalogs as a base for your own master catalog. Use the Product Management tools to modify the existing data for your catalog. For more information, see “Maintaining your online catalog” on page 39.

If you include a sample catalog when you publish your store archive, your store will already contain sample products. In this case, you should delete the sample products before adding your own products.

You can also create your master catalog from scratch by updating the WebSphere Commerce XML files. To create a new master catalog, see the catalog assets chapter in the *WebSphere Commerce Store Development Guide*. The catalog assets chapter uses the ToolTech master catalog as an example when creating a new master catalog.

The Loader package

The Loader package loads catalog and other data into your WebSphere Commerce database. The Loader package is ideal for importing large amounts of existing product information into the database or making cell-level updates to existing data. An example of cell-level updates includes updating a value in a specific row and column. Superior performance and scalability features make the Loader package appropriate for the mass population and subsequent updates of the WebSphere Commerce Server data.

The Loader package uses data in XML format as input into the WebSphere Commerce database. The package lets you generate a document type definition (DTD), resolve identifiers in the data, and load data. The Loader package also includes utilities for data extraction and XML data transformation. The Loader package now contains TextTransformer, which transforms an ASCII-delimited document into an XML document.

If you create an XML file using the DTD provided with WebSphere Commerce or modify the XML files provided with the sample store archive, you do not need to generate another DTD.

Included with the Loader package is a logging facility that lets you capture and store messages from package components. For example, you can log errors that occur while generating a DTD or loading data for debugging purposes.

Publishing and the Loader package

The Publish function in the Administration Console invokes the Loader package to load information into the database. The Publish function uses the DTD supplied with WebSphere Commerce, then resolves the identifiers and loads the data for you. You can find the DTD in *WC_installdir/schema/wcs.dtd*.

If you want to load your data using the Publish function in the Administration Console, ensure that you use the *wcs.dtd* file to create your XML files and then add the XML files to a store archive.

Maintaining your online catalog

Maintaining your catalog is an ongoing process, as you will need to continually add and remove merchandise, create and associate categories or catalog groups, and update product information, such as descriptions and prices.

Once you have created your master catalog and you have added your catalog data, you can update your catalog's content or create new catalog data using the Product Management tools within the WebSphere Commerce Accelerator. The Product Management tools are a combination of wizards and notebooks designed to help you to manage all your catalog data. Specifically, you can:

- Create, update, and delete products and product details
- Generate, update, and delete SKUs for purchase
- Create, update, and delete categories (or catalog groups)
- Associate products and SKUs with categories
- Create attributes and attribute values for products
- Create, update, delete, and associate catalog pricing with products.

For more information, refer to Chapter 9, "Managing the catalog", on page 55. You can also refer to the Product Management section in the online help for detailed instructions on each task.

Catalog search

The catalog search feature enables you to implement a search tool for your customers. By adding a simple interface to your site, you provide your customers with an additional way to locate your products. This might help close a sale where the customer may otherwise have been unable to navigate to the product they were looking for.

The catalog search functionality is implemented by a databean which generates SQL queries against the database. These queries can perform simple searches based on string combinations, or more powerful searches based on Boolean expressions. The search is capable of searching column as well as rich attributes.

Furthermore, the catalog search feature underlies the Product Advisor's base search space format.

Simple catalog search

Once implemented, the simple version of the catalog search feature adds a text entry field to the page and a button which launches the search. The field accepts text strings which are compared against the database to find matches, and displays them in the results page. If the search string is multiple words separated by spaces, the search engine treats each space as a 'logical and'.

The simple version of the catalog search is designed to require minimal page real estate, so that you can put it on any page without having to redesign major portions of the page. In fact, to provide the most benefit to your customers, you should consider including a simple catalog search databean on most of your store pages.

Advanced catalog search

The advanced version of the catalog search feature provides a robust search facility to your customers. It permits multiple input fields, which means that your customers can create a much more complex search string. It also provides support for Boolean expressions depending on the attribute selected. Additionally, your customers can search based on rich attributes, such as color or size. While both advanced search techniques are supported, Boolean expressions cannot be used to search rich attributes.

Due to the wide variety of search options, and the ability to specify multiple input fields, the advanced search interface is usually presented to customers as a separate page in the store. Often, the link to the advanced search page is located on the simple search results page, which invites customers to refine the results that they received, or to expand their search in cases where no results were returned.

Adding catalog search to your site

To add catalog search to your site, you must add the CatalogSearch databean to each page from which you want to make search available. For implementation guidelines, refer to the search pages which are part of the sample stores. The search pages are described in the WebSphere Commerce online help.

Configurable products

Configurable products allow a customer to group, or build, products while while browsing the online catalog. This grouping of products is constructed based on the customer's requirements together with a set of configuration rules that is defined for the grouping. Within WebSphere Commerce, this product grouping is called a *dynamic kit*, and is based on predefined rules and user interaction with a configurator. Adding a dynamic kit to an order is similar to adding a package. Like a package, the individual components of a dynamic kit cannot be modified and the entire configuration must be fulfilled as a whole. By including configurable products in your catalog, you can provide flexibility to fit your customer's needs.

While WebSphere Commerce does not supply a product configurator, support is provided to integrate with external product configurators.

For a better idea on how a product configurator works within WebSphere Commerce, consider the following shopping scenario:

While browsing through an online electronics catalog, a customer finds a personal computer that he is interested in. Since this computer is a dynamic kit, it needs to be configured through an external configurator before it can be selected. The customer selects the **Configure this product** link and then interacts with the configurator. This interaction may be as simple as answering a series of questions or as complex as manually selecting detailed configuration options for the computer. When the customer has completed the interaction with the configurator, the configurator returns a bill of materials that represents the grouping of SKUs that make up the fully configured computer dynamic kit. The customer can then decide to add this configured computer into his WebSphere Commerce cart. If the customer wants to change the configuration options for this computer, WebSphere Commerce will redirect him to the external configurator where a modified grouping of SKUs can be selected.

Part 3. Administering and maintaining the site and store

This part of the book introduces the main sources of information available to a Site Administrator to administer and maintain a WebSphere Commerce site.

Chapter 7. Site management

In WebSphere Commerce a Site Administrator installs, configures, and maintains WebSphere Commerce and the associated software and hardware. The Administrator responds to system warnings, alerts, and errors, and diagnoses and resolves system problems. This role typically controls access and authorization (creating and assigning members to the appropriate role), manages the Web site, monitors performance, and manages load balancing tasks. The Site Administrator may also be responsible for establishing and maintaining several server configurations for different stages of development such as testing, staging, and production. This role also handles critical system backups and resolves performance problems.

The Site Administrator should have the following prerequisite knowledge:

- Database administration skills
- Web Server administration skills
- WebSphere Application Server administration skills
- Basic XML skills equivalent

The Site Administrator may use the following tools and resources.

System management

The system management component of WebSphere Commerce provides the system with reliability, availability, and serviceability. WebSphere Commerce logs messages to notify administrators of abnormal conditions in the system. The diagnostic information enables the administrator to determine the cause of errors and to rectify the problem.

In addition, IBM HTTP Server, WebSphere Application Server, and DB2 Universal Database all provide system management tools for configuration, monitoring and tuning.

In this release of several enhancements have been to systems management:

- Administration enhancements:
 - Systems management options can be separately installed by way of the WebSphere Commerce Custom installation.
- Problem determination enhancements:
 - The WebSphere Commerce Problem Determination (PD) Tool automatically validates the correctness of WebSphere Commerce installation and instance creation.
 - JRas, the WebSphere Commerce logging infrastructure consolidated with WebSphere Application Server to allow for use of common tooling and to correlate logging data throughout the system.
 - Extended message information, which is a consolidated library of explanations and suggested actions for each of over 1300 commerce messages. This information has been integrated with and can be retrieved from the online help, the WebSphere Application Server Log Analyzer, WebSphere Studio Application Developer and AST help, or WebSphere Application

ServerAdministrator's Console. All extended messages are available in the WebSphere Commerce and WebSphere Commerce Studio online help.

- Performance Monitoring Enhancements:
 - Integrated use of WebSphere Application Server PMI (Performance Monitoring Interface) enables WebSphere Commerce data to be viewed through the Tivoli® Performance Viewer.

For more information on the systems management, refer to the *WebSphere Commerce Administration Guide*.

Messaging service

The Messaging service sends messages from WebSphere Commerce to users and systems. It provides a common messaging Application Programming Interface (API) for different notification types. Supported types include merchant and customer broadcast e-mail, and order notification through an SMTP (Simple Mail Transfer Protocol) server. The Messaging service also provides asynchronous message delivery through WebSphere MQSeries.

The WebSphere Commerce messaging system allows WebSphere Commerce to communicate with its external environment. This communication includes sending messages to and receiving messages from back-end systems or external systems, as well as sending notification to customers and administrators that events have occurred within WebSphere Commerce. Past releases of WebSphere Commerce used the IBM Common Connector Framework (CCF) for the messaging system. WebSphere Commerce 5.5 has migrated to the Java 2 Enterprise Edition Connector Architecture (J2EE/CA) standard though the message system functionality remains the same.

Administration Console

The Administration Console allows a Site Administrator to perform tasks related to site configuration and store configuration. Tasks that the Site Administrator performs using the Administration Console, include the following:




- Specify WebSphere Commerce Payments settings
- Configure logging and tracing
- Enable and disable WebSphere Commerce components
- Schedule jobs to be run for the site
- Update registry components

Configuration Manager

The Configuration Manager establishes and changes the infrastructure required to deploy and run WebSphere Commerce. Establishing the infrastructure involves acquiring information regarding the location of your database, Web server, and WebSphere Commerce Payments, and any necessary information required to configure these applications for use with WebSphere Commerce. It also involves determining your machine's setup information, and any information necessary to initialize the WebSphere Commerce application itself.

The Configuration Manager allows the Site Administrator to perform administration tasks and configuration tasks without having to work with syntax-sensitive configuration files. These are some of the functions the Site Administrator can perform:

- Create or delete a WebSphere Commerce instance
- Change the configuration settings for a WebSphere Commerce instance
- Configure the Web server
- Configure the database to serve as a staging server
- Enter parameters for WebSphere Commerce Payments

   The Configuration Manager now contains tools to create Oracle tablespaces and users, and to configure remote Web servers.

Also new in this release is the Password Manager tool, which allows users to manage their WebSphere Commerce passwords from a single location.

For more information on the Configuration Manager, refer to the appropriate *WebSphere Commerce Installation Guide* for your platform and edition.

Organization Administration Console

The Organization Administration Console allows you and the buyer's administrators to control the organizations that access your site or store. This buyer-side interface enables the buyer administrator to approve the customers within their organization, and the orders made by those customers. The buyer administrator also has the ability to assign access levels to their members.

In Version 5.4, all functionality relating to organization administration was moved from the Administration Console to the Organization Administration Console. In this release, new functionality includes:

- Search for organizations under the **Organization Management** menu. The organization list appears with the list of organizations that meet the search criteria, such as name or parent organization.
- Include or exclude members from a group that they implicitly belong to using the **Member Management** menu.
- Lock or unlock an organization under the **Member Management** menu. Locking an organization prevents descendant users of this organization from logging on.

For more information on the Organization Administration Console, refer to the online help and the *WebSphere Commerce Administration Guide*.

Information resources

The following lists the product information resources for Site Administrators:

Installation and configuration

- *WebSphere Commerce Quick Beginnings*
- *WebSphere Commerce Installation Guide*
- *WebSphere Commerce Additional Software Guide*

Migration

- *WebSphere Commerce Migration Guide*

Security

- *WebSphere Commerce Security Guide*

Administration

- *WebSphere Commerce Administration Guide*

- *WebSphere Commerce Connectivity and Notification*

Connecting with external systems

- WebSphere Commerce online help

Problem determination

- Refer to the Technotes on the WebSphere Commerce support page.

Updated versions of these publications are available from the WebSphere Commerce Technical Library page.

Part 4. Running your store front

This part of the book introduces the main tasks involved in the day-to-day operation of your storefront. To perform the tasks described in this section you use the WebSphere Commerce Accelerator which is a browser-based tool.

The WebSphere Commerce Accelerator allows you to maintain online stores, hubs, and catalogs by completing various store operations, from managing the look and feel of your store to creating and maintaining orders to tracking store activities.

If you are authorized to work with multiple stores, when you log on to the WebSphere Commerce Accelerator, you select the store and language with which you want to work. If you are authorized to work with a single store, the store name is pre-selected during logon. Additionally, if the store supports more than one language, you can select the language with which you want to work. Finally, if you are assigned a role with fulfillment duties, you can also choose the fulfillment center associated with the store when you log on.

Tasks that you are authorized to perform in your role are displayed on the WebSphere Commerce Accelerator home page menus. These tasks are based on user roles, authority levels, and the business model and type of store.

The following business models and store types are supported by WebSphere Commerce Accelerator, and depending on your user role when logging onto the WebSphere Commerce Accelerator, you will see and be able to access different menus and menu options from the home page.

- Consumer direct view
- B2B direct view
- Value chain views:
 - Catalog asset store
 - Hosting:
 - Hosting hub
 - Hosted storefront asset store
 - Hosted store
 - Demand chain:
 - Channel hub
 - Reseller storefront asset store
 - Hosted store for resellers
 - Supply chain:
 - Supplier hub
 - Supplier asset store
 - Hosted store for suppliers

Go to the following URL:

`https://host_name:8000/accelerator`

where `host_name` is the name of the WebSphere Commerce Server.

Chapter 8. Managing inventory

This chapter describes key tasks in setting up the inventory system and managing inventory in the fulfillment center. Several different roles, or types of users work with inventory in the fulfillment center, each section describes a particular role.

► **B2C** Operations Manager or ► **B2B** Logistics Manager

- Maintaining fulfillment center information
- Maintaining return reasons
- Return Management reports

Buyer

- Maintain vendor information
- Maintain product information
- Manage expected inventory

Receiver

- Receive expected inventory
- Adjust inventory quantity
- Create an ad hoc inventory receipt
- Receive returned merchandise

Returns Administrator

- Disposition returned merchandise

Determining how to manage inventory

Inventory includes anything that can be physically accounted for in a fulfillment center. There are specific definitions of types of inventory that can be fulfilled, such as items, products, SKUs, bundles, packages, and dynamic kits; but these are all considered inventory. During the installation and planning phase of your site the ► **B2C** Operations Manager or ► **B2B** Logistics Manager should work together with the store development team to determine an appropriate method to manage inventory.

WebSphere Commerce supports the following inventory management methods:

- Use the Available to Promise (ATP) tools in the WebSphere Commerce Accelerator to track and manage inventory.

This method only takes into account inventory sold through your online store. WebSphere Commerce is unaware of any other method of selling your products.

- Use an external system to track and manage inventory.

In this method the site would configure WebSphere MQSeries and the messaging system to communicate between WebSphere Commerce and the fulfillment center.

- Use WebSphere Commerce without Available to Promise (ATP) support

For backward compatibility, if you used task commands in previous product releases to interface with your own inventory system, such as the `ResolveFulfillmentCenter`, `CheckInventory`, `UpdateInventory`, and `ReverseUpdateInventory` commands, you can continue to use the default task

command implementations for these commands. The WebSphere Commerce system determines which set of interfaces to use via a configuration flag setting.


If your site uses either of the first two methods, you have the tools at your disposal to know which inventory is Available to Promise (ATP). ATP provides a mechanism to ensure that commitments made to customers are based on info a seller has about expected inventory, as well as inventory currently available. You can manage Expected Inventory Records (anticipation of arrival of inventory from a vendor to a fulfillment center); and track and manage inventory.

Inventory allocation

Available inventory is determined by examining all receipts for an item that are available to a given store and taking into account any inventory that has been reserved (for an auction or any other purpose) or allocated to a backorder.

Managing inventory using WebSphere Commerce Accelerator

WebSphere Commerce provides you with tools to manage inventory:



- Inventory management interface allows you to track and manage their product inventory.
- Real-time product inventory update as products are ordered or returned by customers.
 - Customers can see if any products included in their order are currently on backorder. Based on this information customers can decide whether to cancel their order, or split their orders.
 - Customer Service Representatives or Account Representatives can see if any products are currently on backorder when using the Place Customer order notebooks.
 - The  Sales Manager and Buyer can see inventory status by running the Inventory Status report, described on page 107.
- Backorder support.
 - To allow specific products to be backordered the Product Manager selects Allow backorder on the Product Fulfillment page of the Product notebook.
 - The Product Manager can also force a particular product to be backordered, to do this the Product Manager specifies Force backorder on the Product Fulfillment page of the Product notebook.
 - To see which products are on backorder run the Products on Backorder report, described on page 107.
- Create an expected inventory record.
- Create ad hoc inventory receipts for a fulfillment center.
- Receive inventory against an expected inventory receipt for a fulfillment center.
- Check if expected inventory receipt is complete.

Setting up the inventory subsystem

To use the inventory and ATP functions in your store, the following functions must be defined:

- Fulfillment center(s)
- Inventory adjustment codes, refer to the *WebSphere Commerce Store Development Guide*.
- Return reason codes
- Vendors
- Products

Fulfillment center

Fulfillment centers are used by stores as both inventory warehouses and shipping and receiving centers. One store may have one or many fulfillment centers associated with it. In the WebSphere Commerce Accelerator, a user assigned to the Seller,  Operations Manager or  Logistics Manager, Buyer, Returns Administrator, Receiver or Pick Packer role selects a fulfillment center at logon time. You can change to a different fulfillment center without logging out by clicking the icon in the upper left corner of the WebSphere Commerce Accelerator.

The  Operations Manager or  Logistics Manager can view, create, change or delete a fulfillment center.

Vendors

A vendor is any organization from which your store purchases merchandise. Vendors are defined by the Buyer. The Buyer can view a list of all vendors, create a new vendor, change an existing vendor, and delete a vendor.

To create a new vendor, provide the following information: vendor's name and address, vendor's contact information.

Expected inventory records are shown by vendor, External ID (usually a purchase order number), and order date on the Expected Inventory page.

Products

Before inventory can be received into the fulfillment center a corresponding product record must exist. Product records are created when the store is created. The Product Manager can create and update products by using the WebSphere Commerce Accelerator. For more information, refer to Chapter 9, "Managing the catalog", on page 55.

Managing inventory

This section describes the cycle of recording expected inventory, until the inventory is received and is classified as inventory on hand. Inventory can be received by using either of these methods:

- Expected inventory that has an associated expected inventory record
- Ad hoc inventory, or inventory not recorded as expected

Expected inventory records

An expected inventory record lists items that a fulfillment center expects to receive. Each expected inventory record contains the following information: vendor name, order date, inventory details and optionally an external ID. Inventory details contain information such as, the product SKU, fulfillment center, expected date, quantity, unit of measure, and comments. An expected inventory record may contain information about one or more products. The Buyer can view, change, add, close, receive, and delete expected inventory records.

An expected inventory record cannot be deleted once inventory has been received against it, and expected inventory details cannot be changed or deleted once any of that inventory has been received.



When orders are placed for inventory that is available in a fulfillment center, the WebSphere Commerce allocates inventory to those orders. Allocating inventory to an order makes it unavailable to the order system. If the order is canceled, the inventory becomes available again.

If an order is placed for inventory that is not available, a backorder can be created. If there is expected inventory that could be used to fulfill the order, inventory is allocated against an expected inventory record.

Ad hoc inventory receipts

Ad hoc inventory receipts are created when inventory arrives at a fulfillment center without a corresponding expected inventory record. This could be due to an unexpected inventory arrival, or the Seller could choose not to use expected inventory records to record inventory receipts.

Step-by-step procedures

What you can do		See the topic...
Application developer	Understand, and set up, the inventory system	<i>Inventory assets in the WebSphere Commerce Store Development Guide.</i>
	Understand how the inventory system is implemented in a store.	<i>WebSphere Commerce Sample Store Guide</i>
	Understand the data model as it relates to inventory and fulfillment	<i>Data model in the WebSphere Commerce Studio online help.</i>
 Operations Manager or  Logistics Manager	Work with inventory and fulfillment features in the WebSphere Commerce Accelerator	<ul style="list-style-type: none"> • <i>Fulfillment centers</i> • <i>Releases and shipments</i> • <i>Inventory adjustments</i> • <i>Ad hoc inventory receipts</i> in the WebSphere Commerce online help.

Chapter 9. Managing the catalog

This chapter describes the following tasks:

- Managing categories
- Managing products

In WebSphere Commerce the primary tools to create and manage catalog information are the Loader package, and the WebSphere Commerce Accelerator product management tools. For more information about using the Loader to create a catalog refer to Chapter 6, “Creating your online catalog”, on page 35. This tool is run by the Site Administrator. The Product Manager and Category Manager can update products, by using the tools provided in the WebSphere Commerce Accelerator. The WebSphere Commerce Accelerator also provides a tool to upload catalog data from a Comma Separated Value (CSV) file.

Category management

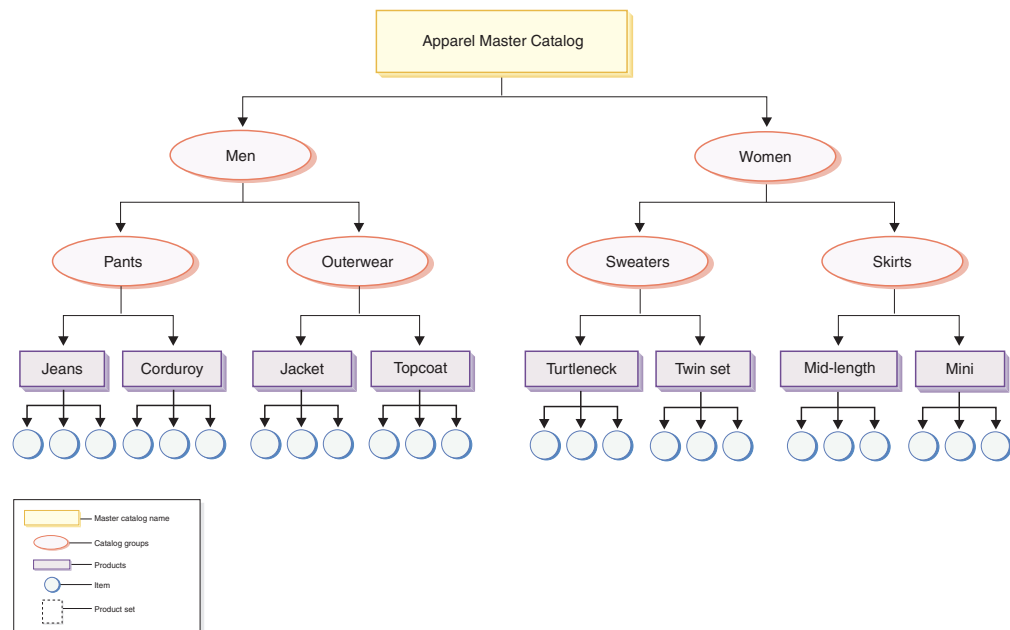
The Category Manager manages the category hierarchy by creating, changing and deleting categories.

The master catalog is the central tool for managing your store’s merchandise. The master catalog contains all the catalog information that the store requires. This is the single catalog containing all catalog entries. In WebSphere Commerce the catalog is multilingual, that is the descriptions, attributes and images can vary by language.

The catalog structure used in your store depends on your store’s business model.

The master catalog in a Consumer Direct store

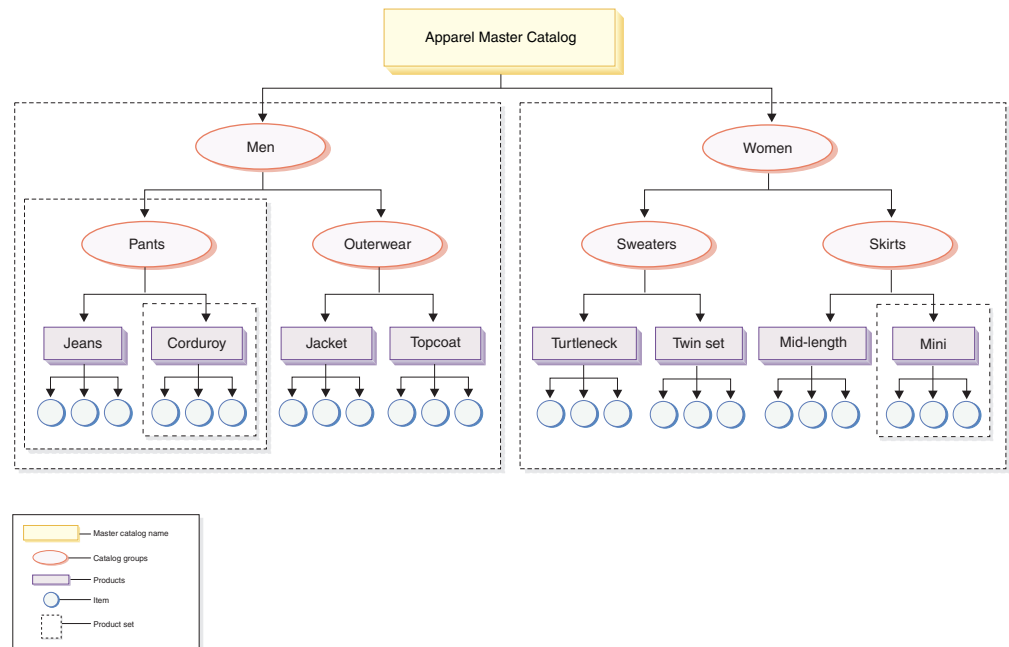
Using the Product Management tool to view your catalog provides a representation of the master catalog.



This part of the master catalog follows a basic navigation for a store containing clothing for Men and Women. Following the two top or parent catalog groups, are additional catalog groups (Pants, Outerwear, Sweaters, and Skirts), going to products (Jeans, Corduroy, Jacket, Topcoat, Turtleneck, Twin set, Mid-length, and Mini) and their related SKUs.

The master catalog in a Business Direct store

Using the Product Management tool to view your catalog provides a representation of the master catalog.



This part of the master catalog follows a basic navigation for a store containing clothing for Men and Women. Following the two top or parent catalog groups, are additional catalog groups (Pants, Outerwear, Sweaters, and Skirts), going to products (Jeans, Corduroy, Jacket, Topcoat, Turtleneck, Twin set, Mid-length, and Mini) and their related SKUs.

This master catalog section contains product sets, which partition the catalog into logical subsets and allow you to show different parts of your catalog to different contract participants. You can use product sets to do the following:

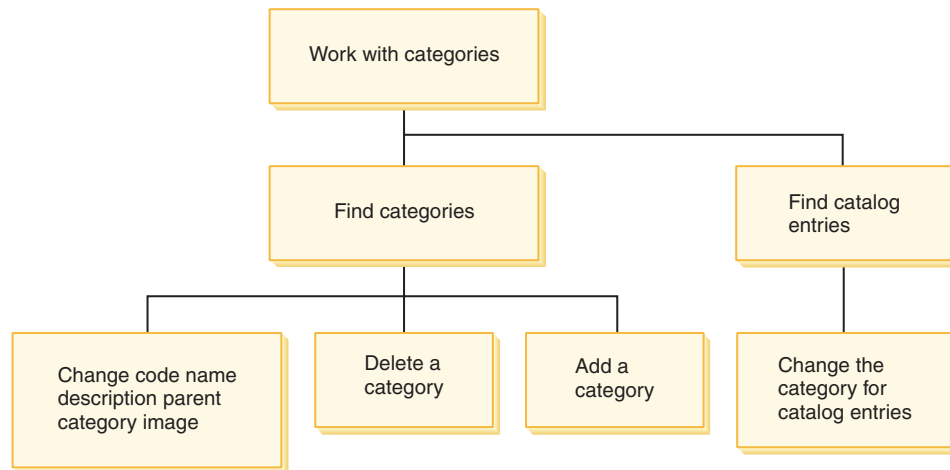
1. Adjust the price of products within a price list.
2. Include or exclude portions of the master catalog in a contract. This is referred to as *entitlement*, or *product selection constraints*.

A price list policy specifies the prices for a collection of products. These prices may be in multiple currencies. The price list policy can include quantity-based prices. WebSphere Commerce creates one price list for all products in a store's master catalog. The price list policy is the base pricing of all products in the master catalog. Contracts reference the price list policy; the contract may offer percentage adjustments from the base price. Contracts enable a customer organization to purchase products from a store or a group of stores at a specified price for a specified period of time under specific conditions. Each product set can be referenced by one or more contracts. In this case, one set of users can view the product set enclosing Pants, while another can view the product set enclosing Corduroy, and so on. Users can participate in more than one contract.

Managing categories

You can view the categories and the category hierarchy for the catalog. By viewing the parent and child associations between categories, you can determine where additional categories might be needed, and where some existing categories need to be either changed or deleted. For example, if you want to add a category for music-related videotapes, you can review the list of categories to determine whether or not the new category would be a parent category or if it should be associated with an existing category. In WebSphere Commerce you can have unlimited number of hierarchical levels.

A category, is a group of objects that have similar properties. Categories are used to organize products or services offered by the store. The Category Manager can create, find, list, change, and delete categories. You can classify products and SKUs under different parent categories.



Step-by-step procedures

What you can do		See the topic...
Category Manger	<ul style="list-style-type: none"> • Create a category • Change a category • Change the parent category of a child category • Delete a category 	"Working with the catalog" in the WebSphere Commerce online help.
Category Manager Product Manager	Change a category that a catalog entry displayed under	"Working with the catalog" in the WebSphere Commerce online help.
Category Manager	Create a product set	"Selecting a category for contract use" in the WebSphere Commerce online help.

Catalog

Catalog business policies define the scope and characteristics of the products for sale; including prices and categorization within the store's master catalog. You can create the following catalog business policies:

Product management

Product management refers to the process of managing catalog entries. In WebSphere Commerce there are several kinds of catalog entries as follows:

Products

Products act as templates for SKUs, the individual pieces of merchandise which are ultimately sold to a customer. The product wizard allows you to create new products for your catalog. Use the product notebook to view or change product details, such as names, descriptions, and images, or delete products from your catalog. You can update product taxes, discounts, and shipping categories, and add shipping measurements for each product. You can also customize fulfillment options for your product, such as tracking inventory or backordering a product for an order.

SKUs Once you have created your product, you must create SKUs to represent each orderable item of merchandise for sale. All SKUs related to a particular product exhibit the same set of attributes and are distinguished by their attribute values. Create SKUs using the SKU wizard. Or you can automatically generate SKUs for a product, once you have created all required product attributes. The SKU notebook allows you to view or change SKU details, such as names, descriptions, and images, and delete SKUs from your catalog. You can update sales tax, discounts, and shipping categories, and add shipping measurements for each SKU.

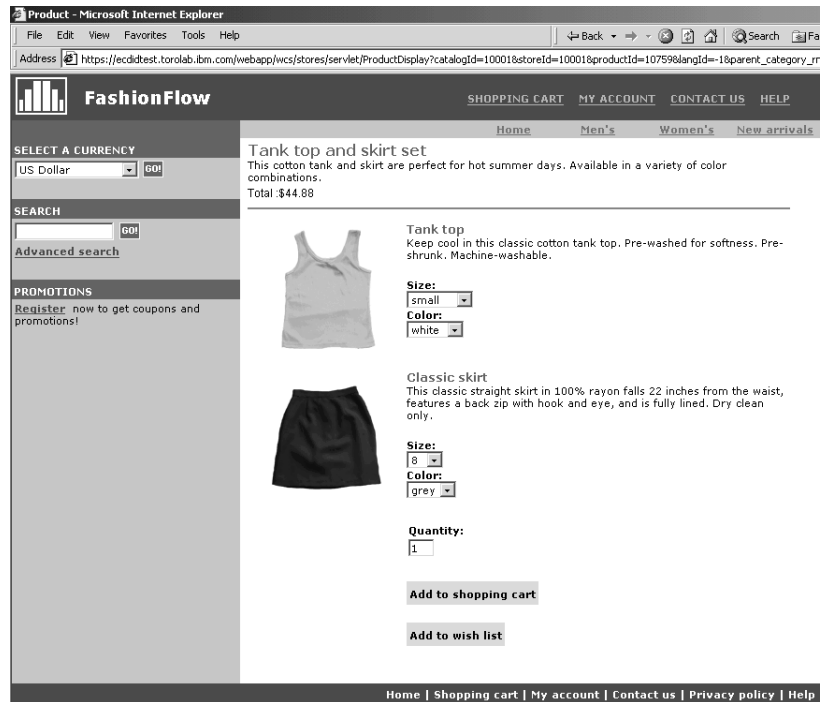
Bundles and kits

Bundles and kits are groupings of catalog entries. Used for promotional purposes, the catalog entries in bundles and kits are grouped in such a way to attract customers.

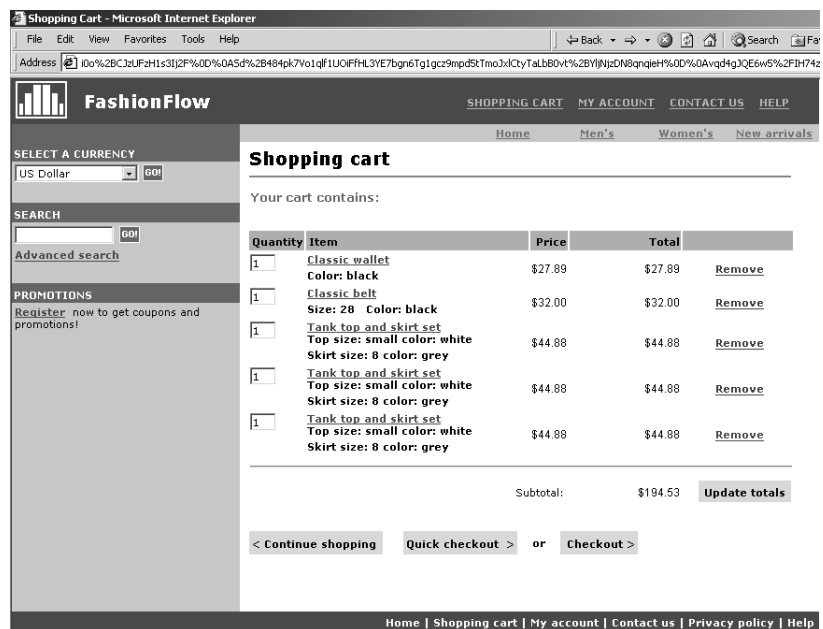
Prebuilt kit

A collection of catalog entries that cannot be sold separately. For example, a computer prebuilt kit might contain a specific central processing unit, monitor, and hard drive. A prebuilt kit has its own price and can be added to the shopping cart. Once added to the shopping cart, you cannot change the prebuilt kit contents. Viewed in similar ways as a product, a prebuilt kit has defining attributes.

The following image shows a kit in the FashionFlow sample store.



Notice that the customer cannot remove any SKUs from the kit.



Bundle

A collection of catalog entries which allow customers to buy multiple merchandise with one click. For example, when a bundle for a computer is a central processing unit, a monitor, a hard drive, and a CD-ROM drive, the components can be sold separately. A bundle's price is composed by its different catalog entries. A bundle cannot be purchased directly.

The following image shows a bundle in the FashionFlow sample store.

FashionFlow SHOPPING CART MY ACCOUNT CONTACT US HELP

Home Men's Women's New arrivals

Casual ensemble
This shirt, pant and belt combination is perfect for those casual days at the office. To finish off the outfit, a snappy leather wallet is included.

Dress shirt
\$43.99
100% cotton dress shirt with point collar and single needle stitching. Looks great with or without a tie! Machine-washable.
Quantity: 1
Size: small
Color: dark khaki

Plain front cotton pants
\$38.50
Wear these comfortable yet stylish 100% cotton pants to work. Plain front, 2 back button pockets, zip front and belt loops. Pre-washed and Pre-shrunk. Machine wash.
Quantity: 1
Color: charcoal gray
Size: large

Classic wallet
\$27.99
This classic, pure leather, folding wallet features an ID window, currency pocket and six card slots.
Quantity: 1
Color: black

Classic belt
\$32.00
This classic belt looks great with your favorite jeans, or takes you to work in style. 1 1/2 inches wide in full-grain leather with a solid nickel buckle.
Quantity: 1
Size: 28
Color: black

Add to shopping cart

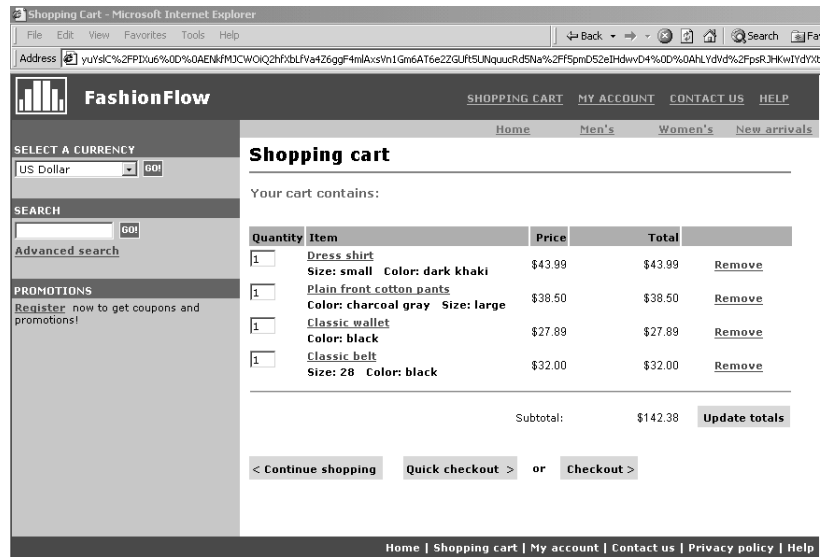
SELECT A CURRENCY
US Dollar

SEARCH

[Advanced search](#)

PROMOTIONS
[Register](#) now to get coupons and promotions!

Notice that the customer can remove one or more SKUs from the bundle.



Static kits

A static kit is a group of products that are ordered as a unit. The information about the products contained in a static kit is predefined and controlled within WebSphere Commerce. The individual components within the order cannot be modified and must be fulfilled together. A static kit will backorder if any of its components are unavailable.

Dynamic kits

A dynamic kit is an orderable SKU that consists of one or more SKUs, or components. The definition of the components that make up the kit is not known until the kit is ordered and configured, hence the name dynamic kit.

Some catalog entries may also have attributes. There are two types of attributes:

Defining attributes

Defining attributes are properties of SKUs in an online store, such as color or size. Attribute values are the property of an attribute such as a specific color (blue or yellow) or size (medium). You must predefine attribute values before assigning them to SKUs. Attribute values are implicitly related to their attributes. Each possible combination of attributes and attribute values equals a new SKU. After creating attributes and their values, you can update information such as name, description, and type (text, whole numbers, or decimal numbers). Defining attributes are also used for SKU resolution.

Descriptive attributes

Descriptive attributes are simply additional descriptions. For example, some pieces of clothing should only be dry cleaned, never wash. 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.

Characteristics of products, SKUs, bundles and kits

In the WebSphere Commerce Accelerator catalog entries can contain the following characteristics:

Note: Note that Dynamic kits can be viewed in the Product management tools, but not created. Static kits are first created as prebuilt kits (and can only be viewed as such in the Product Management tools) but then the Site Administrator can change the prebuilt kit to a static kit by running an SQL command:

	Product	SKU	Bundle	Kits	
				Pre-built	Dynamic
General information Code Name Announcement date Withdrawal date Last updated Display to customers For purchase On auction	X	X	X	X	X
Description Short description Long description 1 Long description 2 Long description 2	X	X	X	X	X
Images to display on store pages Full size image Thumbnail image	X	X	X	X	X
Discount code	X	X		X	X
Manufacturer information Manufacturer part number Manufacturer name	X	X	X	X	X
Sales tax	X	X	X	X	X
Shipping tax	X	X	X	X	X
URL	X	X	X	X	X
Units of measure for shipping Weight Weight measure Sold in multiples of this amount Number of items per package Unit of Measure	X	X	X	X	X

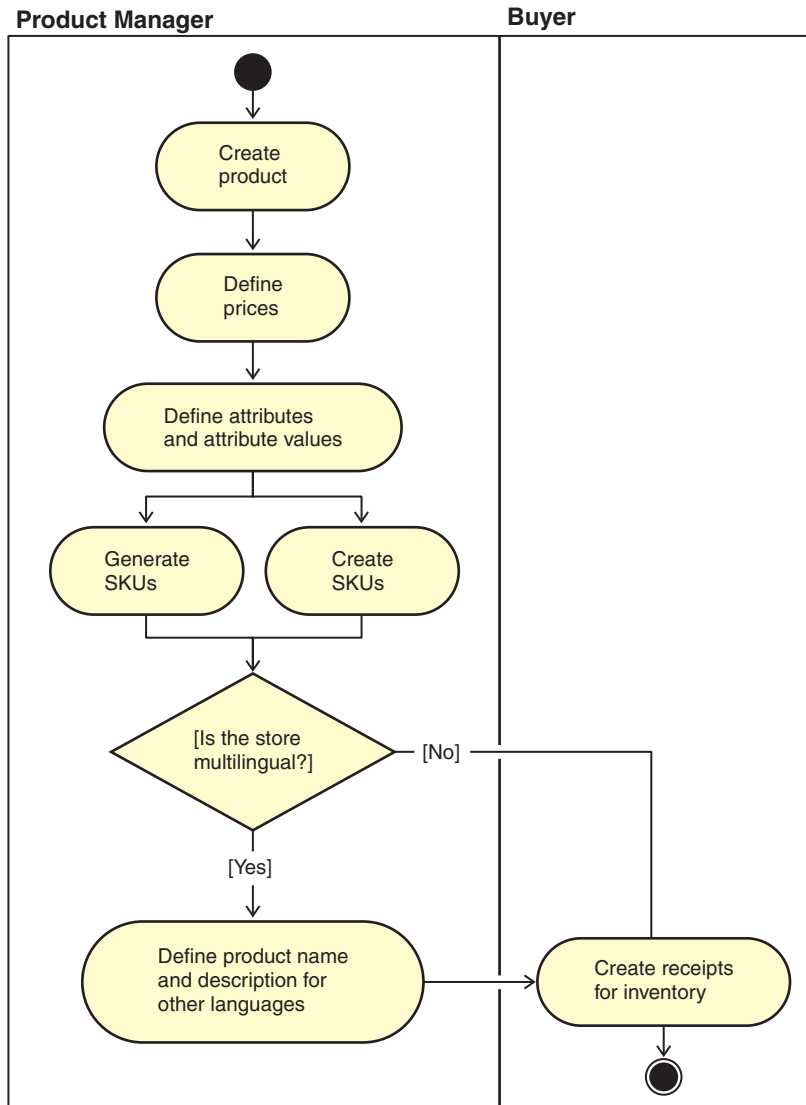
	Product	SKU	Bundle	Kits	
				Pre-built	Dynamic
Product fulfillment Track inventory Allow back order Force back order Release separately Returnable Creditable Inventory tracking amount Inventory tracking unit of measure	X			X	X
Category Group the product and all associated SKUs under a category	X		X	X	X
Attribute Add or maintain defining attribute values for a SKU		X		X	X

Creating products, attributes, and SKUs

After the Category Manager has created categories in the catalog, the Product Manager can create catalog entries.

The following diagram shows the steps required to create a new product by using the WebSphere Commerce Accelerator. After completing all the steps customers

will be able to see and purchase the product from the store's pages.



Step-by-step procedures

For step-by-step directions on managing the catalog in your store refer to the WebSphere Commerce online help.

What you can do		See the topic...
Product Manager	Announce a product	Adding a product
	Discontinue a product	Changing a product
	Withdraw a product	Changing a product
	Specify whether is product is displayed to customers	Hiding a product
	Specify whether a product is buyable or non-buyable within a specified period of time.	Changing a product
	Change an information for many products simultaneously (for example change the manufacturer name for all products within a given category)	Finding and replacing text in the dynamic table
	List all products containing a particular attribute value	Finding a catalog entry
	Pricing Set a price range for a product Set a price range for a SKU Set a price range for a pre-built kit	Adding a price to a product, Changing the price of a product
	Add an additional description to a product, for example, dry-clean only on a shirt	Adding a descriptive attribute
	Create a grouping of products to enable customers to easily purchase several products at once, while still allowing customers to remove one or more items from the group.	Creating a bundle
	Create a collection of products that cannot be sold individually. Customers will not be able to remove items from the group.	Creating a kit
	Add an additional attribute to a product such as color or size	Adding a defining attribute
	Add an additional attribute value to a product, such as blue, or small.	Adding an attribute value
Deleting catalog entries	Deleting a product Deleting a SKU Deleting a bundle or kit	
Site Administrator	Creating a static kit	Creating a static kit
Application developer	Creating a catalog	<i>WebSphere Commerce Store Development Guide.</i>

Chapter 10. Managing customer information

This chapter describes the customer registration information that may be changed by a Customer Service Representative, or an Account Representative. In addition to changing customer registration information the CSR may also register a customer to a store, reset the customer's password, and lock or unlock the customers account.

Customer registration information

A Customer Service Representative can manage customer information for registered customers. Non-registered, or guest customers do not have information stored in the database and as such there is no customer information to manage.

non-registered customer

A customer that does not have a customer logon ID and password for shopping at the store. The customer has not provided registration information, such as contact or demographic information, and any interests lists or shopping cart items will not be retained for future visits. A non-registered customer is considered a guest.

registered customer

A customer that has provided information to create a registration profile. This customer has a logon ID and password, which are required when submitting orders at the store. Any interest lists or shopping cart items are "saved" so that the customer does not have to browse through the online catalog during return visits.

Changing customer registration information

To manage customer information, such as a customer's address, password, or account status Customer Service Representatives or Account Representative can search for customers; then update the appropriate information. The registration information that customers provide depends on the information collected on the store's Registration page. Some registration information may be optional. To view or update customer information use the Customer Information notebook. The notebook shows the following:

General

Security information, a challenge question and answer for identification purposes, and an X.509 security certificate status, if applicable. General information also includes the customers full name, preferred shopping language and currency and the account status (enabled or disabled).

Address

Full address.

Contact

Contact information, such as e-mail addresses, phone numbers, and fax numbers. Customers can indicate their preferred method of communication and the best time to call. Customers can also specify whether or not they want to receive promotional material from the store.


Demographic

Demographic information, such as age, gender, marital status, annual

income, number of household members, number of children, return customer, occupation, employers and hobbies.

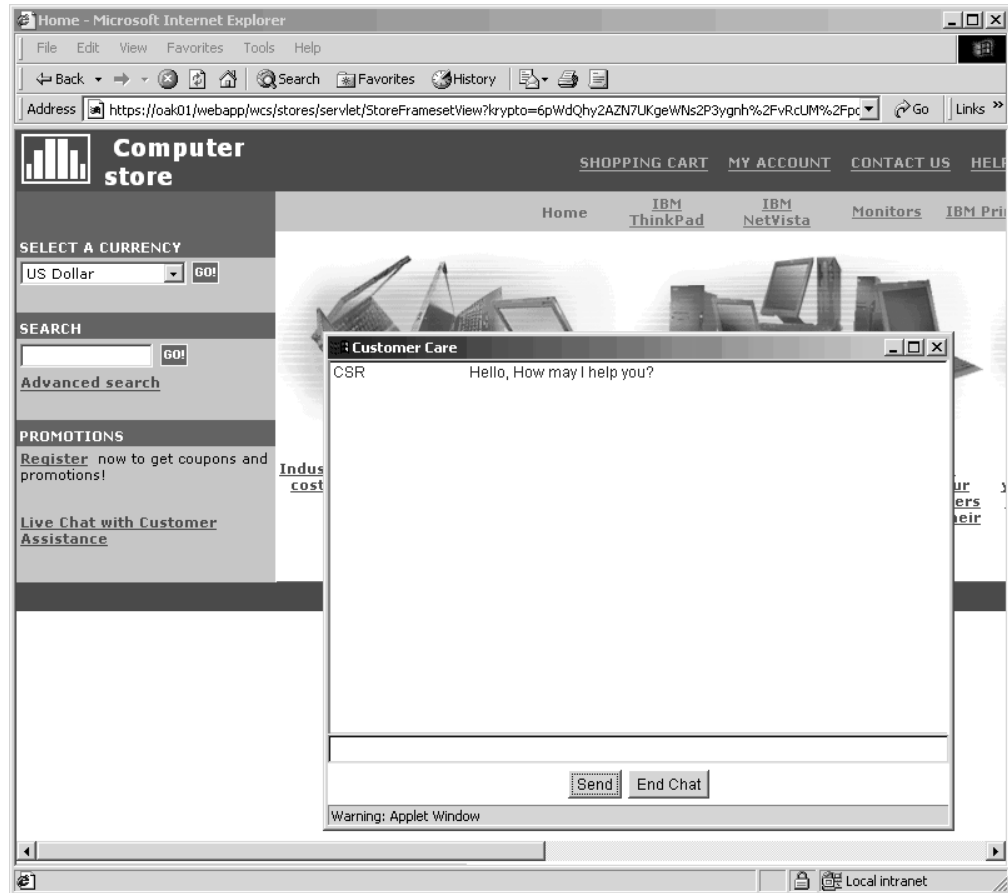
Step-by-step procedures

Account Representatives or Customer Service Representatives can perform the following tasks:

What you can do		See the topic...
Customer Service Representative Account Representative	Find a customer Register a customer to a business-to-consumer store View a customer summary Lock or unlock a customer's account Reset the customer's password Change the customer's address Change the customer's demographic information Change the customer's contact information Specify that the customer does not want to receive promotional e-mail from the store	Refer to the topic "Customer information" in the WebSphere Commerce online help.
 Business Site Administrator	Create a user Change a user	Refer to the topic "Customer information" in the WebSphere Commerce online help.

Chapter 11. Customer care

The customer care feature provides customer service real-time support via synchronous text interface (instant messaging - IM) using Lotus Sametime between a Customer Service Representative and store customers or buyers. A customer may enter the site, and click a link on the store page to connect to a Customer Service Representative (CSR) so that the two parties can communicate or chat over the Internet.



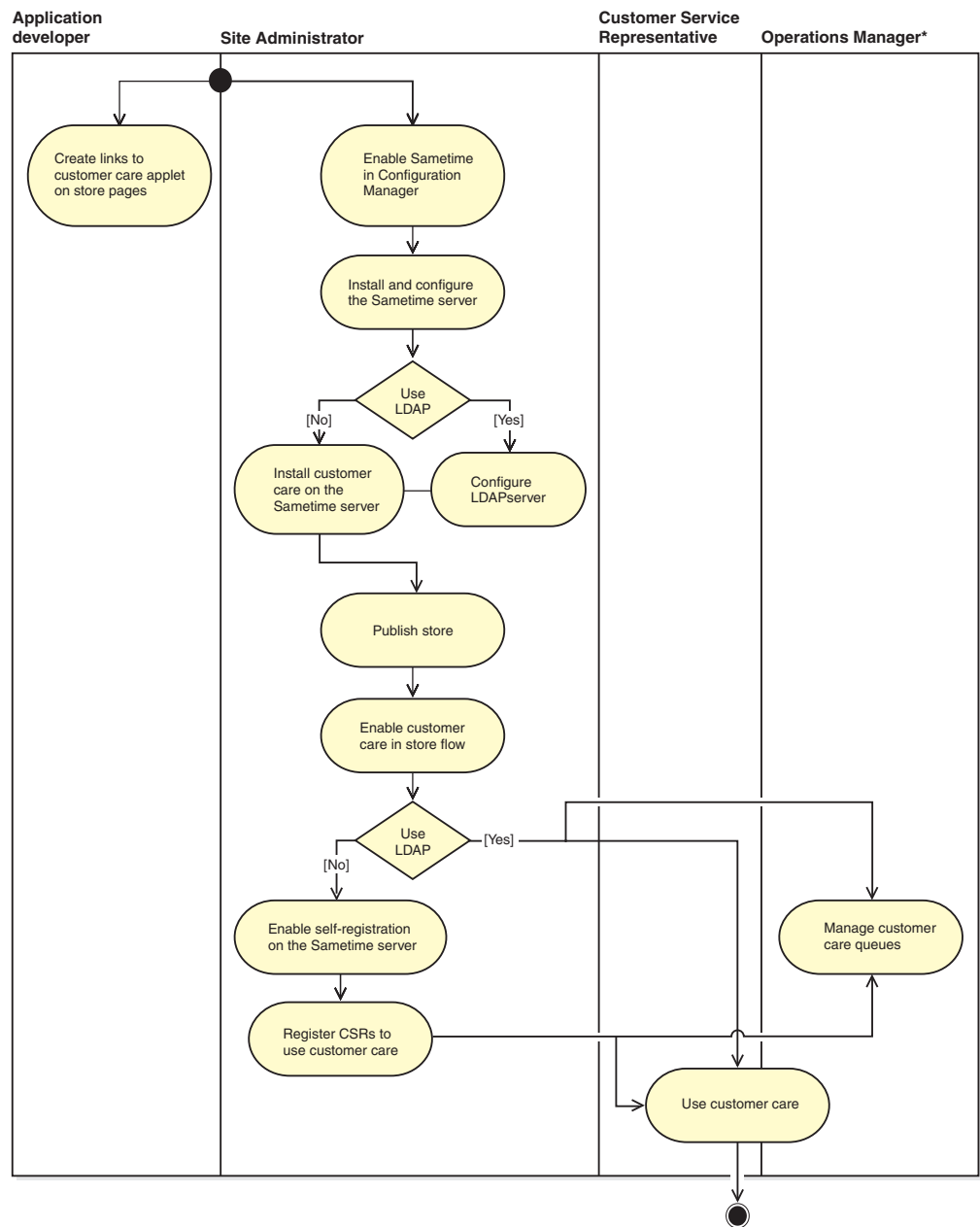
A CSR accesses the customer care interface through the WebSphere Commerce Accelerator. In addition, the CSR can view the store page where the customer needs assistance, and retrieve shopping cart and profile information. This interface also allows the CSR to chat with other CSRs.

In this release of WebSphere Commerce the customer care feature now supports queues. Key features of customer care queues include the following:

- Multiple queues and the ability for CSR to route customers waiting for assistance. The Operations Manager can create, change, delete, and assign CSRs to the queues, using the WebSphere Commerce Accelerator. Customer Service Representatives can select to serve any customer assigned to their queues.
- Customer Service Representatives can monitor customized customer attributes in a store.

Setting up and using customer care

The following diagram shows the process to set up and use customer care in a store. Refer to "Step-by-step procedures" on page 71 for a list showing where to find more information about how to perform each task.



Step-by-step procedures

What you can do		See the topic...
Site Administrator	Install and configure Lotus Sametime Server and the customer care feature	"Installing customer care" in the <i>WebSphere Commerce Additional Software Guide</i> .
	Configure the store to use customer care	"Configuring stores using WebSphere Commerce" in the WebSphere Commerce online help.
	Change customer care settings (Monitoring type, session limit, shopping carts, Sametime server)	"Modifications that can be done by the administrator" in the WebSphere Commerce online help. You can also refer to the <i>WebSphere Commerce Additional Software Guide</i> .
Operations Manager	Work with customer care queues.	<ul style="list-style-type: none"> • Assigning a customer care queue • Deleting a customer care queue • Creating a new customer care queue • Changing a customer care queue
Customer Service Representative	Use customer care to help customers on the site	"Using customer care" in the WebSphere Commerce online help.
Application developer	Enable customer care on store pages.	Refer to the customer care topic in the <i>WebSphere Commerce Store Development Guide</i> and in the <i>WebSphere Commerce Sample Store Guide</i> .

Chapter 12. Managing orders

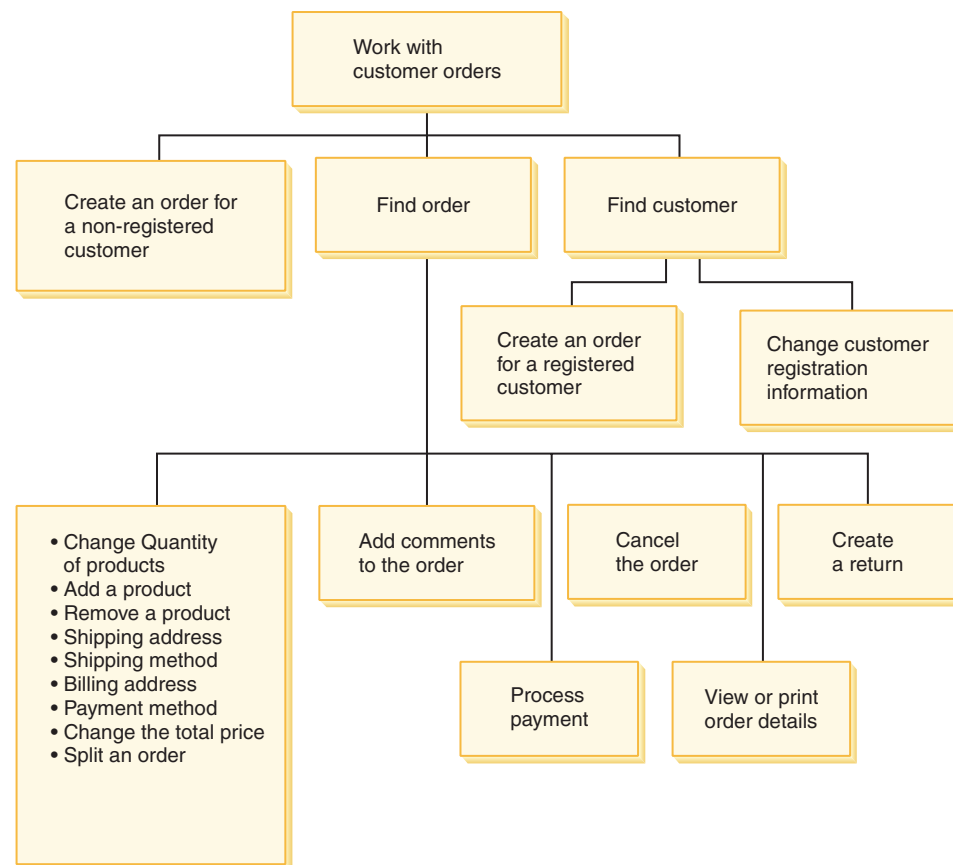
A Customer Service Representative, or in a business-to-business site, an Account Representative can track and manage details about orders, including the customer, recipient, products and quantity, total cost (including tax and shipping charges), shipping specifications, payment method, and any comments.

In WebSphere Commerce an order is: One or more products, their prices, and the quantity specified, that a customer has selected to purchase or has purchased. A Customer Service Representative can also place an order on behalf of a customer. In addition to products, a customer order includes a billing address; shipping address (not applicable to downloadable purchases, such as software); shipping method, carrier, and service; payment information; tax and shipping charges; and any comments or price adjustments stipulated by the person placing the order.

This chapter provides an an introduction to common order-related tasks.

Working with customer orders

The following diagram shows common order-related tasks.



Find customer orders

You can search for an order based on the order number, the customer logon ID, order status, or account number. You can also sort orders to

display the information you are looking for more clearly. For example, you can sort orders by the order status or by the last name of the user.

Order status codes help you track orders placed by users. You can use order status codes to track the progress of an order. Some commonly used order status codes are shown in the table below.

Code	Name	Description
I	Submitted	The customer has submitted the order, but has not yet initiated payment.
S	Shipped	All order items have been manifested.
X	Canceled	The order has been canceled.
R	Released	All order items have been released for fulfillment.
D	Deposited	Payment has been captured.

You can search for any order that is in the WebSphere Commerce database.

Change customer orders

Changes can be made to a submitted order so long as the order has not yet been released for fulfillment. Orders that have an order status of Shipped, Canceled, Released or Deposited can not be changed.

Cancel an order

Orders that have an order status of Shipped, Canceled, Released or Deposited can not be canceled. When you cancel a customer order, you can include a reason for the cancellation, such as the customer mistakenly ordered the wrong product, or the product selected is temporarily out of stock and the customer does not want to wait for the new stock. You can choose whether to send the customer an e-mail containing the text of this comment. *After an order has been canceled, it cannot be recovered.*

Add comments to an order

You can add a comment to an order for your own reference, or e-mail the comment to the customer. For example, if there is insufficient inventory to fulfill an order, you can indicate the reason in a comment and e-mail it to customers. This way, customers are aware of delayed shipments.

Process payment for an order

Before an order can be shipped, payment must be approved. WebSphere Commerce Payments is used to process payments. To change the payment status of a customer order, Customer Services Representatives and Account Representatives can link to WebSphere Commerce Payments from the WebSphere Commerce Accelerator.

Create an order for a non-registered customer

Follow the Place Guest Order pages sequentially to provide the information required for an order, including the products, quantity, billing address, shipping address, shipping method, payment option, and a comment or special price adjustment, if desired.

Create an order for a registered customer

Follow the Place Order wizard pages sequentially to provide the information required for an order, including the products, quantity, billing address, shipping address, shipping method, payment option, and a comment or special price adjustment, if desired.

Step-by-step procedures

What you can do		See the topic...
Customer Service Representative	Creating an order	<ul style="list-style-type: none"> • Creating an order for a registered customer • Creating an order for a non-registered customer • Creating an order for a business user
	Changing an order (quantity of products, adding a product, removing a product, shipping address, shipping method, total price, payment option, billing address, adding a comment, splitting, payment processing)	<ul style="list-style-type: none"> • Changing an order
	Viewing order information (comments, order summary, summary, payment status, invoices, personalized attributes)	<ul style="list-style-type: none"> • Viewing order information
	Processing payments	<ul style="list-style-type: none"> • Processing payment for an order • Changing payment processing for an order • Viewing the payment status for an order
application developer	Customize the Order Management subsystem	TheWebSphere Commerce Studio online help , integrated with WebSphere Studio, provides extensive information on the Order Management subsystem and how to extend it. Select Order Management subsystem from the Concepts navigation.
Site Administrator	Delete stale orders from the database	See the section on the <i>Database cleanup utility</i> in the <i>WebSphere Commerce Administration Guide</i> .

Chapter 13. Returns

This chapter describes the following key customer service tasks:

- Working with returns

The tasks listed above are normally performed by a Customer Service Representative, or for a business-to-business store by an Account Representative. The Customer Service Supervisor is responsible for approving any system-denied returns.

Return reasons

A return reason is a store-defined reason that a product may be returned. The return reasons should be from both the Seller and the customers perspective, since these may not always be the same. For example, a customer might return a product because it does not work properly, but Returns Administrator might find that the customer did not follow the instructions in using the product, and that it actually works fine. Return reasons are based on the perspective of either the customer or seller.

When the Customer Service Representative creates a return, the customer's return reason is specified. When the Returns Administrator specifies the disposition of the return the Sellers return reason is specified.

Working with returns

If a customer is not satisfied with their purchase, they can request a refund for the amount of the original purchase, in the form of a credit to their credit card or to a line of credit. In WebSphere Commerce, a return includes a credit for the taxes paid on the order, but not necessarily the shipping charges. To refund the customer shipping costs, you can manually add this to the total refund amount.

Depending on your business, a return does not always require the customer to physically return the unwanted product. For example, if a customer wants a refund for fresh produce from a grocery store, the store would not likely require the produce to be returned to the store.

When a store is created the store defines return policies, for example, the FashionFlow store defines that all returns are automatically returned if the return is initiated within 30 days of the purchase. The FashionFlow store does not charge for returns.

A Return Merchandise Authorization (RMA) is initiated when merchandise is returned to a fulfillment center. Some stores may require customers to contact the store and ask a Customer Service Representative to initiate the RMA; other stores will initiate an RMA when returned merchandise arrives at the fulfillment center. All returns that fall within the store's return policy are automatically approved by the system. Returns that fall outside of the store's returns policy may be approved by the Customer Service Supervisor.

Returns business policies

Returns business policies define if returns are accepted, the time period they are accepted for, and any re-stocking fees applied to returns. You can set the following returns business policies.

Return charges

Return charges specify the amount refunded for returned merchandise. It covers restocking fees and percentage of price refunded.

Return approvals

A return approvals policy states the time period after shipping the merchandise for which returns will be accepted.

Return payment method

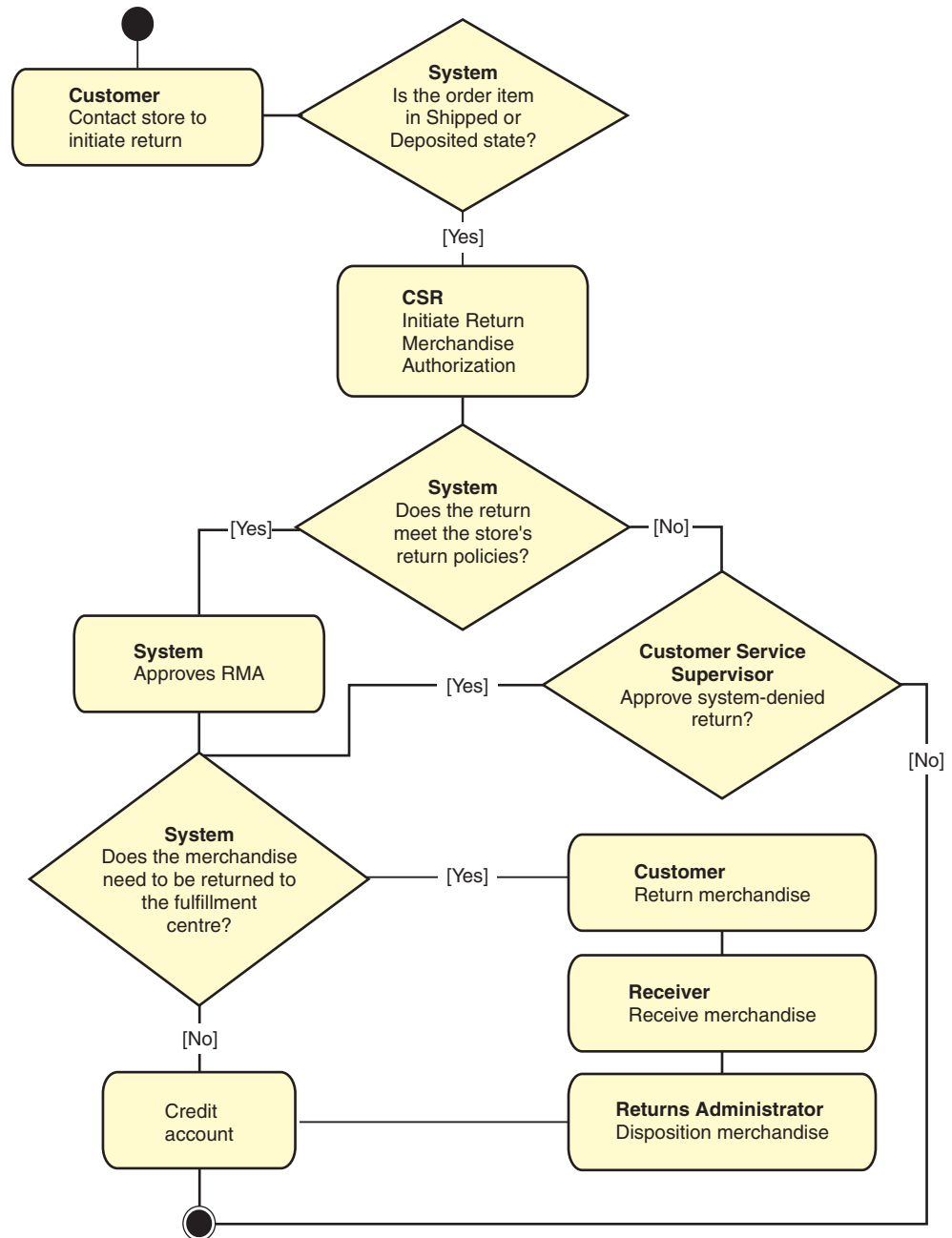
The refund payment method policy defines how the buyer is refunded for goods returned.

System-denied returns

WebSphere Commerce will deny any returns that do not fall within the store's return policy. A user assigned to the Customer Service Supervisor role may approve any system-denied returns. Common reasons for denying a return include the following:

- The product was designated as returnable in the Product Management notebook, but the Customer Service Representative overrode this setting. For example, a CD is designated as returnable in the Product Management notebook, however, the customer contacts the store to say that the CD was scratched during delivery. Rather than have the customer ship the product back to the store, the store may simply ship the customer a second CD without requiring the customer to return the defective one. In this case, the Customer Service Representative can indicate, in the Return Product notebook, that the CD does not need to be returned to the fulfillment center.
- The quantity returned is more than the quantity shipped. For example, the customer orders three books, but tries to return four.
- The credit amount requested is more than the amount paid for the original purchase. For example, a merchant ships an order to a customer before authorizing the customer's credit card. The credit card is subsequently stolen; therefore, when the merchant attempts to deposit against the credit card the deposit fails. The customer returns the merchandise to the store. The system will deny this return since the merchant has not deposited against the credit card.
- The return period has expired. For example, the store may not accept returns after ten days after the original purchase.
- The product was designated as non-creditable in the Product Management notebook. For example, some refurbished pieces of computer equipment offered through a company's outlet Web site might be marked as non-creditable.
- The store does not have an automatic approval policy, therefore all returns must be manually approved.

The following diagram shows how to process returns by using the WebSphere Commerce Accelerator.



Step-by-step procedures

What you can do		See the topic...
Customer Service Representative	Find a return, cancel a return, change a return, view return details	<i>Returns and refunds</i> in the WebSphere Commerce online help
Customer Service Supervisor	Approve a system-denied return.	<i>Approving system-denied returns</i> in the WebSphere Commerce online help

What you can do		See the topic...
Logistics Manager, Operations Manager	Set up return reason codes	<i>Return reasons</i> in the WebSphere Commerce online help
Product Manager	Specifying the return criteria for products sold by the store	<i>Adding a product</i> in the WebSphere Commerce online help
application developer	Changing the store's return policy	<i>WebSphere Commerce Store Development Guide</i>

Chapter 14. Marketing

WebSphere Commerce facilitates marketing and personalization by enabling Marketing staff to interact with the site directly, instead of requesting that the Information Technology department make required changes. Marketing Managers create large-scale marketing campaigns that target various customer profiles. Campaigns drive site sales, increase revenue, or increase customer awareness.

This chapter provides the following information:

- Discounts
- E-marketing Spots
- Customer profile creation and maintenance
- Marketing campaign, and campaign initiative creation and maintenance
- Coupon Promotions

Discounts

Discounts allow you to offer customers incentives to purchase. You can offer percentage discounts (such as 10% off), or fixed-amount discounts (such as \$15 off). Discounts can apply to specific products, specific SKUs, or to the total purchase. For example, you can offer a 20% reduction to senior citizens; or if you have many red baseball caps in stock, you can offer a 25% discount on the caps for a limited time.

Create discounts by using the Discount wizard in the WebSphere Commerce Accelerator. Users belonging to any of the following roles may create discounts: Product Manager, Buyer, Category Manager, and Sales Manager. Discounts can also be created by using the Loader package (by the Site Administrator), or imported during migration from previous version. These discounts will function correctly, but may not display properly in the WebSphere Commerce Accelerator.

Discounts can be either active, or inactive. Discounts are set as active by default when created, but can be deactivated at any time using the WebSphere Commerce Accelerator. For example, you might want to deactivate a discount before it expires if you notice that the inventory level for a discounted product is too low for the increased demand.

In WebSphere Commerce there are two ways in which you can implement discounts:

schema-based system

Defined discounts using tables in the WebSphere Commerce database. The schema-based discount system is maintained for those sites being upgraded from previous versions.

rule-based system

The discounts are rules in the rule server in the WebSphere Commerce Server. If you are creating a new site, you should implement the rule-based discount system some discount types are not available using the schema-based system.

Discounts are available in the following business models: Consumer direct, B2B direct, hosted store, hosted store for suppliers, hosted store for resellers.

Discount types

The following list shows the different discount types available in WebSphere Commerce.

The following discounts are always available

- Percentage off total purchase
- Amount off total purchase
- Percentage off per product
- Amount off per product
- Amount off qualifying products

The following discounts are only available if you are using rules-based discounts

- Order level shipping discount
- Buy X of item A, give another A for free
- Buy product or item A, or B, or C, and give D as a gift

Assigning a discount to a product or SKU

You can assign a discount to either a product or a SKU. Assign a discount to a product if all orderable SKUs contained within the product are to be discounted. Assign the discount to a particular SKU if not all of the SKUs under a product are to be discounted.

Advertising discounts

You can advertise discounts using the marketing tools in the WebSphere Commerce Accelerator. To do so, create ad copy which supports the discount, and select the ad copy when you are scheduling the advertisement to occupy a particular e-Marketing Spot.

Targeting a discount to a set of customers

To target a discount to a particular group of customers, you need to create a customer profile. The following table illustrates the differences between the calculation methods used (for product-level discounts), and the end results.

A customer buys 4 books which each cost ten dollars. The customer also purchases 3 DVDs which each cost twenty dollars. The total price without a discount is \$100. The discount is applied to determine the final price.

Discount type		Rules		Calculation	Result
Percentage off total purchase	Simple	25% off total purchase with no minimum qualifications.		$[(4 \times \$10) + (3 \times \$20)] \times (1 - 25\%)$	\$75
	Multi-range	0-\$39.99	No discount	$[(4 \times \$10) + (3 \times \$20)] \times (1-10\%)$	\$90
		\$40-\$109.99	10% off total purchase		
\$110 and up	20% off total purchase				

Discount type		Rules		Calculation	Result
Amount off total purchase	Simple	Spend at least \$90 and get \$15 off total purchase		$[(4 \times \$10) + (3 \times \$20)] - \$15$	\$85
	Multi-range	0-\$99.99	No discount	$[(4 \times \$10) + (3 \times \$20)] - \$10$	\$90
		\$100-\$199.99	\$10 off total purchase		
\$200 and up	\$20 off total purchase				
Percentage off per product	Simple	25% off each book when four or more books are purchased.		$[4 \times (\$10 \times \{1 - 25\%\})] + (3 \times \$20)$	\$90
	Multi-range	1-5 books	10% off each book	$[4 \times (\$10 \times \{1 - 10\%\})] + (3 \times \$20)$	\$96
		6 or more books	20% off each book		
Amount off per product	Simple	When 3 or more books are purchased, get \$5 off each book		$[4 \times (\$10 - \$5)] + (3 \times \$20)$	\$80
	Multi-range	1-5 books	\$10 off book sub-total	$[(4 \times \$10) - \$10] + (3 \times \$20)$	\$90
		6 or more books	\$20 off book sub-total		
Amount off per qualifying product	Multi-range	1-5 books	\$3 off each book	$[4 \times (\$10 - \$3)] + (3 \times \$20)$	\$88
		6 or more books	\$6 off each book		

Step-by-step procedures

What you can do	See the topic...	
Site Administrator	Enable rule-based marketing content discounts	<i>Enabling WebSphere Commerce's personalized marketing content in the WebSphere Commerce online help.</i>
	Activating rules-based discounts	<i>Checking the status of a rule service in the WebSphere Commerce online help.</i>
	Managing rules-based data	<ul style="list-style-type: none"> • <i>Propagating Rule-based discount data from a staging server to the production server</i> • <i>Maintaining a staging server with rule-based discounts</i> in the WebSphere Commerce online help.

What you can do		See the topic...
Seller, Buyer (sell-side), Category Manager, Product Manager	Assign a discount code to a catalog entry (product, SKU, pre-built kit, or bundle)	WebSphere Commerce online help
	Create, activate, deactivate or delete a discount code	WebSphere Commerce online help
	Create an order-level discount	WebSphere Commerce online help
	Create a product-level discount	WebSphere Commerce online help
Application developer	Understand the discount data model	Calculation rule - discount data model in the WebSphere Commerce Studio online help
	Understand the discount implementation in a sample store	Configure and activate pre-defined discounts in the <i>WebSphere Commerce Sample Store Guide</i>

e-Marketing Spots

An e-Marketing Spot displays advertising content, or category recommendations, or product recommendations.

Application developers place e-Marketing Spots on the appropriate pages. Each e-Marketing Spot has a unique name. The Marketing Manager selects the e-Marketing Spot that they want to target as part of the campaign creation process.

While the customer browses your store, the e-Marketing Spots communicate with the WebSphere Commerce Server to determine what content should be displayed in their place. A JSP page may contain any number of e-Marketing Spots. Any JSP page in your site may contain an e-Marketing Spot.

The screenshot shows the WebFashion website interface. At the top, there are navigation links for SHOPPING CART, MY ACCOUNT, CONTACT US, and HELP. Below these are links for Home, Men's, Women's, and New arrivals. A language selection dropdown is set to 'United States English'. A 'SERVICES' section offers a 10% discount for new registrants. The main content area features three product recommendations under the heading 'Check out this month's best-selling products:'. Each product is accompanied by a small image and a descriptive text block with a 'Details' link. The products are: 100% cotton shorts, a fun summer t-shirt with stripes, and a sleeveless nightie with a night-sky print. The footer contains links for Home, Shopping cart, My account, Contact us, Privacy policy, and Help.

If an e-Marketing Spot contains an advertisement; then you must define ad copy to be placed in the e-Marketing Spot.

ad copy

Ad copy refers to all of the supporting material created for your campaigns. Graphic artists and writers create ad copy, in Flash, gif or JPEG format. Ad copy includes product pictures, graphics that are used in advertising, and marketing text.

Customer profiles

Customer profiles define groups of customers that have common sets of characteristics. These profiles identify targets for your marketing campaigns. You create profiles by selecting criteria and then assigning target values. When a customer visits your site, the system compares their personal information against the specified criteria. Depending on the customer, and the profiles that you have defined, profile-specific awareness advertisements or suggestive selling messages display. There are numerous possible criteria, including: data supplied during registration; purchase history information; and information about the frequency of a customer's visits.

For example, you can assign profiles for groups such as senior citizens, by creating a profile that targets customers who are at least sixty years old. You can further refine this profile to target senior women by specifying that in addition to the age requirement, the profile also targets customers who are female.

Profiles serve as dynamic targets for your marketing efforts. Depending on the criteria defined, your customers may or may not fit a particular profile at any given time. For instance, you might create a profile named "New Customers", which includes only customers who have registered in the last 30 days. While most of your customers would not belong to this profile, all new customers would fit this profile upon registration. New customers would fit this profile for a maximum of 30 days. This is dynamic because it requires no intervention on your part, applies to customers on an individual basis, and is determined in real-time. The cut-off date for inclusion in this profile depends on the customer's date of registration and the maximum days limit defined during profile creation.

If you choose to use customer profiles, you must create them prior to creating marketing campaigns. During campaign creation, you select the target profile. You can create campaigns that are applicable to all customers; however, customer profiles can target a specific sub-set of customers.

Customer profile management

Use the Customer Profile page to find out about the customer profiles defined for the current store. The list contains information about the name and description of the profile. You can sort the displayed profiles, create new profiles, create copies of profiles, delete profiles, see the customers who belong to a particular profile, and modify profiles.

Customer profile creation guidelines

To effectively use customer profiles, the store's pages must capture the information required by the profile. Merchandising and Marketing Managers must communicate their requirements to Store Developers. A well-designed registration page, that communicates how customers enter information will eliminate potential problems. Note the following:

- Strings are matched exactly and are case-sensitive

To create a customer profile based on state, you could enter "New York" on the State or Province page in the Customer Profile notebook. Any customer who

enters "New York" on the store's registration page is included in the profile. However, a customer who enters "NY" is not included. To target all intended customer you could use a list on the registration page. Instead of typing the state, customers would select the state from the list. Consider using lists for country or region of residence, city of residence, e-mail address domain, interests, phone number, and either zip or postal code.

- Any found strings will include the customer in the profile

To create a customer profile based on an area code, you could enter 905 on the Phone Number page of the Customer Profile notebook. Any customer whose phone number has the three digits 905 is included in the profile. This is true whether they correspond to the customer's area code, exchange, or the end of the phone number. If you specify (905), but the customer types 905, that customer is excluded from the profile. To avoid this problem, you should specify the parentheses when creating the profile. The application developer should ensure that the Store Registration page validates that there are parentheses around the area code.

Campaigns

There are two primary components that comprise any campaign, which work together to provide a complete, flexible marketing strategy.

1. The Campaign.

A campaign is a major marketing effort. A campaign has associated business objectives. They function as containers for initiatives.

2. The Campaign initiatives.

Deliver the personalized content. Initiatives are coordinated activities that are designed to achieve the overall goal of a campaign. They represent the individual messages used to achieve a campaign's business objective. There are three types of initiative.

Suggestive selling

Used to provide a product or category recommendation. These recommendations suggest associated products in an attempt to up-sell or cross-sell products to a customer. Suggestive selling initiatives also remind customers of related products that they might want to consider purchasing. The recommendations are based on the customer's previous purchases, or the current contents of the customer's shopping cart.

Collaborative filtering-based recommendation

Used to provide a product recommendation. These recommendations suggest associated products in an attempt to up-sell or cross-sell products to a customer. They also remind customers of related products that they might want to consider depending on the customers' overall shopping behavior, rather than predefined rules. In order to use these initiatives the site must have installed and configured LikeMinds Personalization Server.

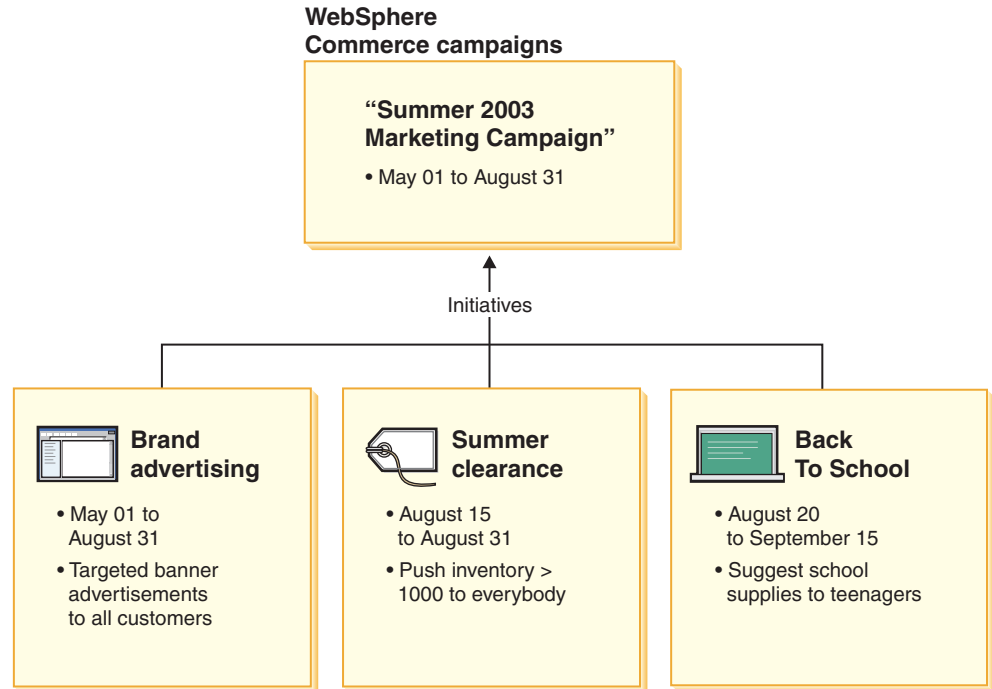
Awareness advertisement

Used to display advertisements that are designed to increase a customer's awareness. For instance, awareness advertisements inform customers about upcoming events, or increase brand awareness.

Campaign initiatives also have one or more target locations, namely e-Marketing Spots.

Suggestive selling initiative

The following diagram shows the relationship between a campaign and the initiatives contained within it.



The diagram illustrates a fictitious marketing campaign, called the “Summer 2002 Marketing Campaign.” The campaign contains the following three initiatives:

Back to school

This is a suggestive selling initiative, which targets a customer profile called teenagers, and recommends school supplies. The back to school initiative runs from August 20 until September 15.

Summer clearance

This is a suggestive selling initiative, which targets all customer profiles, and recommends all products that have an inventory count greater than 1000. The summer clearance initiative runs from August 15 until August 31.

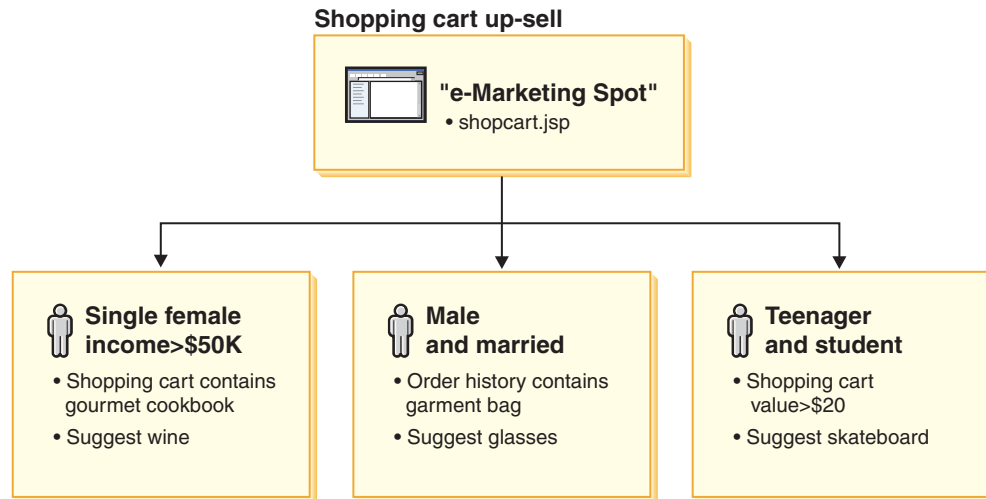
Brand advertising

This is an awareness advertisement initiative, which targets all customer profiles, and shows banner advertisements that are intended to increase brand awareness. The brand advertising initiative runs from May 1 until August 31.

Suggestive selling initiative with conditions

The following diagram shows a relationship between e-Marketing Spots, customer profiles, and suggestive selling initiative. A suggestive selling initiative results in

dynamic content.



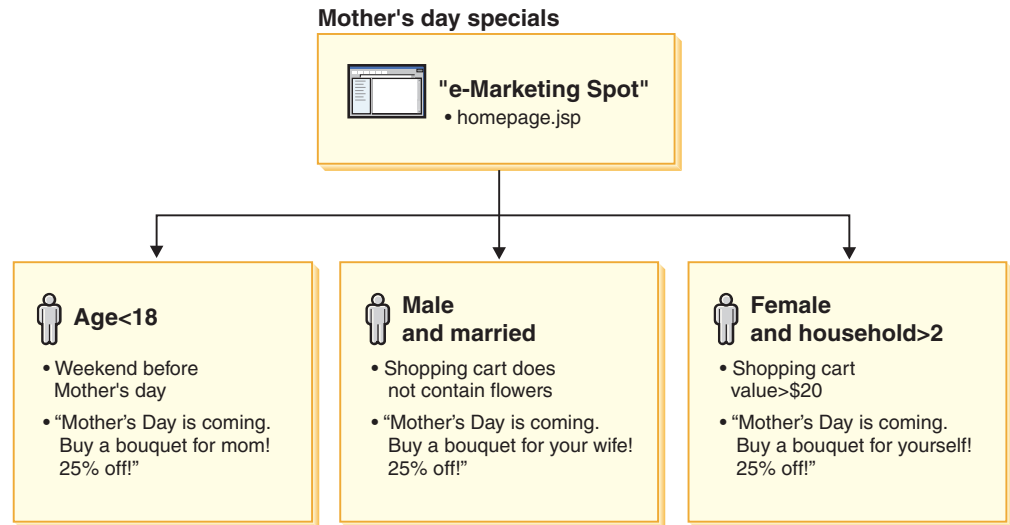
This page has a defined e-Marketing Spot. This e-Marketing spot corresponds to a suggestive selling initiative. The initiative associated with the e-Marketing Spot has three conditions, represented by a row in the diagram. The conditions specify the target customer profile, the situation in which the condition is true, and the product recommendation to display when the condition is true. When this page displays, one of the following four things can happen:

- If the customer is single, female, earns more than fifty-thousand dollars per year, and her shopping cart contains a gourmet cookbook, recommend a bottle of wine.
- If the customer is male, and married, and his order history contains a garment bag, recommend a pair of sunglasses.
- If the customer is a teenager, and a student, and their shopping cart has a current value of greater than twenty dollars, recommend a skateboard.
- If the customer does not fit any of these profiles, or if the situation does not meet the specific criteria, no recommendations display.

Awareness advertisement

For each campaign initiative that you create, you must define a condition when the initiative is true. Associate each condition with an individual initiative. Conditions lay out the scenarios under which a particular initiative's content displays. To create conditions you answer questions; your answers define the condition. The questions include who the initiative should target, when (which day of the week) the initiative is considered, what content should be displayed, and which customer behaviors should be targeted. Your answers to these questions define the situation in which a particular condition will be true, and the personalized content will display. Conditions also provide the ability to display multiple messages in the same spot, under different situations.

The following diagram shows the relationship between e-Marketing Spots, customer profiles, and awareness advertisement initiatives. Imagine that an online store has a spring campaign, and an initiative designed to raise awareness for Mother's day.



The e-Marketing Spot corresponds to an awareness advertisement initiative for Mother's Day. The initiative associated with the e-Marketing Spot has three conditions, each represented by a row in the diagram. Each row shows how conditions work to determine the dynamic content for a given situation. The conditions specify the target customer profile, the situation in which the conditions will be true, and the target ad copy to display when the condition is true. When this page displays, one of the following four things can happen:

- If the customer is under eighteen years old, and the current day is the weekend before Mother's Day, display an advertisement to remind the customer to buy flowers for their mother.
- If the customer is male, married, and his shopping cart does not contain flowers, display an advertisement to remind the customer to buy flowers for his wife.
- If the customer is female, has a household size of two or more, and her shopping cart has a current value of more than twenty dollars, display an advertisement to remind the customer to buy flowers for herself.
- If the customer does not fit any of these profiles, or if the situation does not meet the specific criteria, no advertisements display.

Campaign management

The Campaign notebooks facilitate marketing campaign creation and maintenance. These online campaigns organize marketing techniques, including suggestive selling and awareness advertisements. Campaigns represent large marketing efforts, typically associated with an occasion, or objective, such as a back-to-school campaign or a Christmas campaign. The initiatives and their conditions implement rule-based processing that generates personalized content on a customer-by-customer basis.

The content of a campaign displays on your store's JSP pages. Special data beans called e-Marketing Spots contain the content. application developers create these, and use them as placeholders during page design.

Use the Campaigns page to show the marketing campaigns defined for the current store. The list contains information about the name and description of the campaign. You can also perform other actions from this list, including creating new campaigns, deleting campaigns, and modifying existing campaigns.

Promotions

Coupon Promotions

Coupon Promotions allow the Product Manager to offer customers incentives to purchase. A *coupon* is an instance of a coupon promotion. A coupon can apply to specific products, (referred to as a product type condition), categories, or to the total purchase, referred to as an (order type condition). For example, if you have many red baseball caps in stock, you can offer 25% off on the caps for a limited time. Or you could offer \$3 off on the purchase of a baseball cap to everyone who purchases products worth \$50 from your store.

The coupon may be offered to a customer via the Web through the store front, or it may be offered through e-mail. Regardless how a coupon is obtained, it can be redeemed at checkout time by the customers.

Coupon promotions are available in the following business models: consumer direct, B2B direct and reseller hosted store.

An eCoupon is an online electronic equivalent of a paper coupon. It is an electronic offer made by an online store, to a customer. The eCoupon gives the customer a discount on some or all items in an order. The eCoupon may be subject conditions such as only one coupon may be used per order.

Coupon types

- percentage or amount off product price
- percentage or amount of products in a specific category
- percentage or amount off order total

Metrics for coupons

- Number of products or categories sold with coupon redeemed
- Revenue generated for the product or category with coupon redeemed
- Revenue generated for order with coupon redeemed

There are three components of an electronic coupons:

Coupon Promotion

A promotion run by a Product Manager. The promotion offers coupons to customers.

Coupon

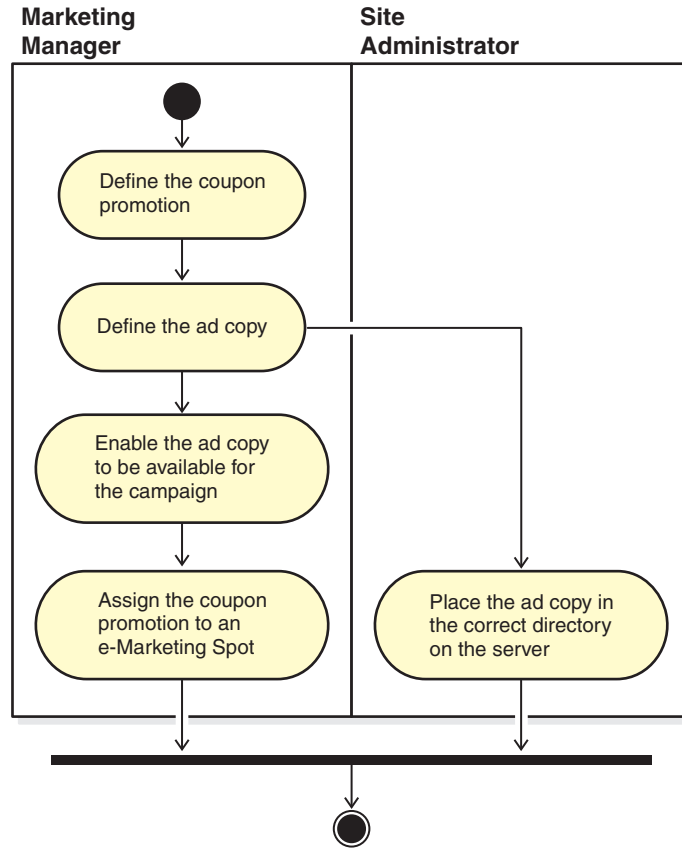
An electronic version of a paper coupon. A coupon is an instance of a Coupon Promotion, that can be uniquely identified within the system.

Coupon Wallet

A collection of a registered or guest customers eCoupons.

Setting up a Coupon Promotion

The following example describes the steps involved in setting up a coupon promotion.



Define the Coupon Promotion

1. Define general characteristics of the coupon promotion, such as the name, description and currency.
2. Define the time period for which the coupon promotion is in effect. The coupon promotion may have a defined start and end time, or may always be in effect.
3. Define the number of coupons. You may define a limited number of coupons, or an unlimited amount.
4. Define the how customers become eligible to receive the coupon:

Product type

The customer must purchase a particular product or SKU.

Category type

The customer must meet a minimum or maximum purchase amount.

Minimum amount qualification

The minimum purchase amount within the category needed for qualification of coupon redemption.

Maximum amount qualification

(Optional) The maximum purchase amount within the category needed for qualification of coupon redemption.

Order type

The customer must meet a minimum or maximum order amount.

Minimum amount qualification

The minimum purchase amount needed for qualification of coupon redemption.

Maximum amount qualification

(Optional) The maximum purchase amount needed for qualification of coupon redemption.

5. Determine how the adjustment will be applied:

Percentage off per product

The percentage to be offered on each selected product.

Fixed amount off per product

The total amount off on the purchase of each product.

Percentage off on total order

Offer a percentage off on the total order.

Fixed amount off on total order

Offer a fixed amount off on the total order.

Define the ad copy

The media design team creates full-size and thumbnail images of any images required for the promotion. The team also writes the textual descriptions for the promotion.

6. Copy the necessary graphics or Flash files to the correct directory on the WebSphere Commerce Server machine. The Site Administrator may be the only person able to access this directory.
7. Use the Ad copy function to make the text and graphics used in the eCoupon available to the campaign initiative and to Set the action URL for the eCoupon promotion. Using the Ad copy notebook is described in the section on page 84.
8. Assign and schedule the coupon promotion to an e-Marketing Spot.

How a customer uses eCoupon promotions

To use eCoupons the customer does the following:

1. A registered or guest customer clicks on the banner advertisement to accept the offered eCoupon promotion.
WebSphere Commerce creates an instance of the coupon and adds it to the customer's coupon wallet.
2. The customer clicks the eCoupons link.
All valid eCoupons display.
3. The customer checks for the applicable eCoupons against the contents of the current shopping cart. The customer purchases an applicable product and applies the corresponding eCoupon.
The discount is shown on the Order Checkout page.

Step-by-step procedures

What you can do		See the topic...
Product Manager	Use the WebSphere Commerce Accelerator to create and delete coupon promotions	<i>Coupon promotions</i> in the WebSphere Commerce online help.
Customer Service Representative	Use the WebSphere Commerce Accelerator to redeem a coupon when processing a customer order	<i>Changing the total price of an order</i> in the WebSphere Commerce online help.

What you can do		See the topic...
Application developer	Understand the coupon data model	E-coupon data model in the WebSphere Commerce Studio online help.
	See how coupons are implemented in a sample store.	<i>Creating and using coupons in the WebSphere Commerce Sample Store Guide.</i>

Chapter 15. Merchandising

This chapter describes the Merchandising capabilities of WebSphere Commerce. Merchandising constructs enable businesses to better promote products and categories to their customers.

There are two types of merchandising that may be used within WebSphere Commerce.

- Merchandising associations
- Shopping metaphors

Merchandising associations

Merchandising associations suggest combinations of different catalog entries for promotional purposes. These associations model desired relationships between merchandise. As product recommendation strategies to increase store sales, merchandising associations define relationships between selected catalog entries. In addition to promotional associations such as cross-selling, up-selling, and suggested accessories, key words highlight extra semantic information of merchandising relationships, such as *requires*, *temp*, *none*, and *comes with*.

Merchandising associations are composed of source catalog entries and target catalog entries. A source catalog entry is the merchandising association's point of origin: when you select a catalog entry defined as the source, you will be able to view the defined relationships. A target catalog entry is the promotional catalog entry at the end of the merchandising association.

Merchandising associations display in e-Marketing Spots.

You can create one of the following types of merchandising associations:

Cross-sell

Suggests another catalog entry based on an already chosen catalog entry. For example, a merchant can suggest a high-resolution color printer when a digital camera is purchased, or a particular type of batteries when a flashlight is purchased.

Up-sell

Suggest a better catalog entry based on the one selected. For example, a merchant can suggest a higher quality television when a low-end model is selected.

Accessory

Suggest an accessory that will complement the selected catalog entry. For example, a merchant can suggest an extra game controller when a video game system is selected.

Alternative

A relationship between one product and another considered its functional equivalent (i.e. Duracell -> Energizer batteries).

Replacement

A relationship between a product meant to replace an existing product. A new product introduced will replace one that is being discontinued. (i.e. Panasonic DVD A100 is being replaced with A101).

If necessary, application developers can customize merchandising associations for other types of associations such as down-sell.

Step-by-step procedures

What you can do		See the topic..
Application developer	Modify store pages to display merchandising associations.	<i>Adding an EMarketingSpot bean to a JSP file</i> in the WebSphere Commerce Studio online help.
	Understand the Merchandising association implementation.	<i>Merchandising association data model</i> in the WebSphere Commerce Studio online help.
Seller, Buyer (buy-side), Category Manager, or Product Manager	Find, create, change, or delete a merchandising association.	<i>Merchandising associations</i> in the WebSphere Commerce online help.
Reseller	Create or change a reseller merchandising association	<ul style="list-style-type: none"> • Creating a reseller merchandising association • Changing a reseller merchandising association in the WebSphere Commerce online help

Product Advisor

The Product Advisor is a tool used to create an interactive online product catalog that provides customers with different ways of finding what they want, called shopping metaphors. Customers with little knowledge of a product category can use the Guided Sell metaphor, which guides them toward appropriate products through a series of questions and answers. Those with more knowledge can use the Product Exploration metaphor, which lets them select desired product features from a list. Once the selection has been narrowed down through either of the methods mentioned previously, customers can use the Product Comparison metaphor to compare similar products side by side. The Product Advisor checks each customer's entitlement, and only displays search results that the customer is entitled to view.

There are two search methods available for use with the Product Advisor.

separate search space

Additional tables added to the database to reformat existing product data to enable optimized parametric searches, which are focused on individual categories. The category and attribute information is separated from the base database tables.

base search space

Searches the WebSphere Commerce database that is created during instance configuration.

Both search spaces require some additional attribute metadata be populated in the Product Advisor tables in the database. Create search space using WebSphere Commerce Accelerator using the scheduler commands. The Product Advisor

includes scheduler commands to help automate the process of creating either search space. You must create an XML file to use as input to the scheduler command to meet your requirements.

Customers interact with the catalog by using *shopping metaphors*. There are three types of shopping metaphors, each of which presents the catalog data in a unique manner:

Product Comparison

The Product Comparison metaphor displays related products side by side, so that customers can identify the similarities and differences between them. Launch the Product Comparison metaphor directly, or from either the Product Exploration or Sales Assistance metaphors. The Product Comparison metaphor allows the customer to compare the selected products.

Product Exploration

The Product Exploration metaphor is for customers who are familiar with the features of a given category of products. The customer selects the feature values that they want, which initiates a parametric search of the product data. The Product Exploration metaphor can be used to display the resulting list of the appropriate products matching the selected parameter values.

Sales Assistance

The Sales Assistance metaphor is for customers who are not sure where to start. It presents them with a series of multiple-choice questions, where each answer determines the next question. You can create as many answers as you want for a given question. For each answer, you can create one subsequent question.

As the customer answers the questions, the information provided by each answer is collected. An increasingly refined list of products that match the answers is determined. The customer can choose to view this list at any time or to continue with the questions. By default, the answers to the last question available will link to a previously defined Product Comparison metaphor. When the customer answers the last question, a list of matching products automatically displays. You can override the default to target a different metaphor or a different URL.

Metaphors may be created using the tools in the WebSphere Commerce Accelerator, or by running scheduled commands from the Administration Console. If you create metaphors by using scheduled commands, you must create an XML file that will be used as the input to the scheduled commands.

Determining whether your catalog data is suitable for Product Advisor

To help you determine whether your catalog is suitable for use with Product Advisor consider the following areas:

Features

You should ensure that your catalog is rich in product features. Metaphors include or remove products from a list of products that are based upon the products' feature values. To distinguish between several products a product must have ample features.

Consider a store that sells computers and has defined several features for the computers. Examples of these user-defined features include: CD-ROM drive, hard drive, memory, operating system, and processor. Based upon these features, the metaphors narrow down the selection of applicable products for the customer. For example, customers may state that they are only interested in computers that have a minimum memory capacity of 256 MB. In order for the

metaphors to make use of that information, define a feature for that characteristic (in this case, *memory*). In other words, understand and define the features by which you expect that customers will differentiate between products, before you create your shopping metaphors.

Catalog hierarchy

The catalog hierarchy should group products with the same features into one category.

Product attributes

Product Advisor uses the attributes defined in the WebSphere Commerce database tables as features. Use one attribute for each feature that is required by Product Advisor. Ensure that you use the same attribute for all products (or items) in a category.

Question and answer flow design for the Sales Assistance metaphor

You need to capture the knowledge of your sales force in this metaphor. Ensure that you solicit the input of the appropriate sales and product specialists when designing this information.

Step-by-step procedures

What you can do		See the topic..
Application developer	Understand the Product Advisor implementation.	<ul style="list-style-type: none"> • Product Advisor • Product Advisor data model • Sample JSP files in the WebSphere Commerce Studio online help.
Seller, Buyer (buy-side), Category Manager, or Product Manager	Use shopping metaphors in a store	<ul style="list-style-type: none"> • Product Advisor • Creating a Product Comparison metaphor • Creating a Product Exploration metaphor • Creating a Guided Sell for a category • Creating search space for Product Advisor in the WebSphere Commerce online help.

Chapter 16. Auctions

Auctions are an increasingly popular sales model for online transactions. Auctions provide a method for negotiating and dynamically establishing the price and other terms for the sale of products and services. WebSphere Commerce provides tools to help you create and manage auctions for your site. The auctions component provides an ideal environment for implementing small to moderate-scale auctions as part of your e-commerce solution.

The creation and management of a WebSphere Commerce auction is simple. The Product Manager can use system-provided auction styles or create custom auction styles. Auction styles contain predefined values for input fields and reduce the time required for auction creation.

WebSphere Commerce auctions are highly secure. In multi-store malls, merchants or administrators of one store cannot set up or modify auctions for another store. Authorized users can view auction bids. By default, users that are assigned to the Seller or Product Manager role can view auction bids. Only registered customers who are logged on to the site can submit bids. The system encrypts all sensitive information.

Multi-attribute search features enable you to search for specific auctions. You can search for auctions by auction Id, type or product. You can also search for auction styles and bid control rules.

The Customer Service Representative uses discussion forums to view and respond to messages from customers regarding an auction. Use these forums to provide customers with extra information about the product on auction, auction rules, or future auctions.

Auctions are available in the following business models: Consumer direct, B2B direct, Reseller Marketplace, Reseller hosting hosted store, and supplier hosted store.

Features for auction participants

The actions that auction participant can perform are described in the list below.

Auction rules

A set of rules governs each auction. The bidder must review and understand these rules before participating in an auction. Auction rules specify the following information:

- The type of auction, product name, and quantity.
- The reserve price for the auction, if it exists.
- The deposit amount. Winners who refuse to accept the auctioned items forfeit the deposit amount. The database records the deposit amounts when a customer submits a bid; however, WebSphere Commerce Payments does not process the deposits. If you want to process deposits, you must write code to implement the deposit processing.
- The auction start date and time.
- Conditions that govern the auction end such as scheduled end date and time.
- Bid rules for the auction that describe the minimum bid price, quantity, and bid increment. Bid rules apply to Open Cry and Sealed Bid auctions.
- The pricing mechanisms for the auction.

When more than one product is available in an auction, the auction may have multiple winners. The winning bids may be for different values. Pricing mechanisms take effect when multiple items are available for auction, or the auction quantity is not the same as the minimum bid quantity. WebSphere Commerce auctions support two pricing mechanisms.

Discriminative

Auction winners pay their exact bid amounts.

Non-discriminative

Auction winners pay the price paid by the winner with the lowest winning bid.

Open Cry auctions or Sealed Bid auctions must use either discriminative or non-discriminative pricing.

- Additional comments about the auction. Include your comments in the short or long description fields on the rules page. The information you add is communicated to bidders.

If the auction rules change during an auction, bidders must reread the auction rules before submitting or updating bids. Bids submitted prior to the rule change are not affected and may still win the bidding.

Autobids

Participants may have automatic bids submitted in Open Cry auctions by setting up autobids that specify the maximum bid value and other information.

Auctions gallery

The auctions gallery displays auctions of interest to customers. They may add or remove auctions from the auctions gallery. The auctions gallery includes auctions that are explicitly added to the gallery by the customer, so that they can monitor or participate in the auctions. If a customer submits a bid for an auction, that auction is added to the gallery.

Auction notification messages

Participants receive messages notifying them of events such as winning an auction. If customers do not read the message within a specified time, they automatically receive an e-mail message containing the same text.

Discussion forums

Customers can communicate with the store through discussion forums for auctions.

Auction types

WebSphere Commerce provides three auction types:

Open Cry

Open Cry auctions follow the public meeting model; that is, all bids are available for everyone to see. Open Cry auctions typically include a short response time between final bid submission and the time that the administrator closes the auction. These auctions work well when prospective buyers participate in the auction simultaneously, and feel comfortable about quickly submitting counter bids. If necessary, the administrator can extend the time between the final bid submission and the close of the auction. This gives customers more time to react and submit bids.

Sealed Bid

Single-round Sealed Bid auctions utilize a private bidding process. Each participant submits a private bid, known only to themselves and the administrator. The auction closes at the bid submission deadline. The administrator determines the winners and losers of the auction. Use Sealed Bid

auctions when it is impractical for bidders to prepare counter bids instantaneously. The following characterize Sealed Bid auctions:

- Anonymity of bids amongst bidders
- Long submission deadlines that allow the bidders to gather information, make decisions, and prepare and submit their bids

Dutch

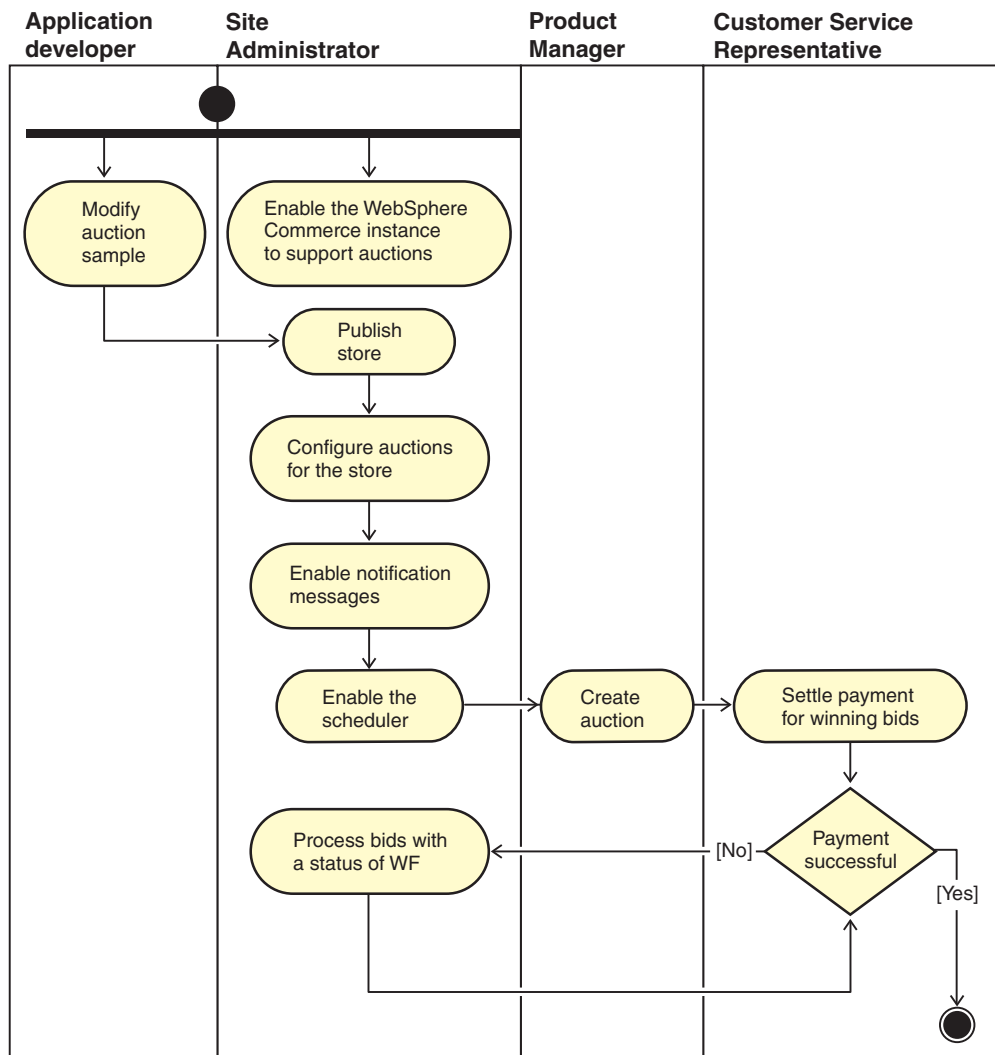
In a Dutch auction, the administrator announces a price and asks if there are any participants willing to conduct a trade at that price. In Open Cry auctions and Sealed Bid auctions, participants submit bid prices. The auction starts with a high bid price that is lowered over time until there are sufficient bidders to clear the inventory.

In all auctions, the interactions are between your store and customers, not between customers.

Unlike in a traditional auction environment that runs auctions sequentially, several WebSphere Commerce auctions can run simultaneously.

Setting up WebSphere Commerce auctions

The following diagram shows the people who are involved with implementing and maintaining auctions in the store:



Managing auctions for the store

Once an auction has been created, you can view, change, retract, or close it. You can also view submitted bids and withdraw active bids for customers. Auction management also includes discussion forum functions. You can respond to questions from customers, post additional information, and remove individual messages or entire discussion threads.

Users assigned to the Product Manager or Buyer (sell-side) role can perform the following tasks:

- Create a new auction
- Change an existing auction
- View a summary of an auction
- Retract an auction
- Manage auction discussion forums
- Manage bids

- Close bids
- Find auctions

Managing auctions for customers

Typically, Customer Service Representatives manage auctions for customers.

The CSR can view details about auctions, including the following information:

- Auction ID, which uniquely identifies the auction
- Auction type: Dutch, Open Cry, or Sealed Bid
- Product SKU, which uniquely identifies the product on auction
- Auction status
- Quantity of products in the auction

The CSR can perform the following tasks:

- Find auctions
- View auctions
- Withdraw auction bids for customers
- Create and manage discussions forums for customers

Step-by-step procedures

What you can do	See the topic...
application developer Modify the auction sample pages	The sample stores provided with WebSphere Commerce provide sample auction pages. Look in the SAR file for each model, for example, <code>BusinessIndirectReseller.sar</code> For information about the sample stores, see the <i>WebSphere Commerce Sample Store Guide</i> .
Site Administrator Enable the site to use auctions	WebSphere Commerce online help Process a bid with the status WF Enable auction notification messaging Configuring store flow using WebSphere Commerce Accelerator
Site Administrator Maintain the database	Refer to the <i>Database cleanup utility</i> section of the <i>WebSphere Commerce Administration Guide</i> .
Site Administrator Troubleshoot	WebSphere Commerce online help Process a bid with the status WF
Product Manager, Buyer (sell-side)	WebSphere Commerce online help Change existing auctions Manage bids Withdraw a participant's bid Manage discussions Retract an auction Close bidding for an auction
Customer Service Representative	WebSphere Commerce online help Manage discussions Withdraw a participant's bid

Chapter 17. Reporting and business intelligence

This chapter describes the operational reporting and business intelligence capabilities of WebSphere Commerce. In WebSphere Commerce there are two types of reports:

Business intelligence reports

More robust business intelligence reporting capabilities are provided by WebSphere Commerce Analyzer, an optional component of WebSphere Commerce.

Operational reports

Provides reports for inventory, product, return, contract management and Product Advisor usage. These reports are referred to as operational reports.

Analytics and business intelligence

WebSphere Commerce Analyzer is a comprehensive set of tools for analyzing e-commerce results. In particular, the WebSphere Commerce Analyzer data mart contains extractions from the WebSphere Commerce operational data, resulting in extensive information about the business. Using the delivered reports for analysis, business users can gain insight into trends and customer characteristics, make better decisions, form strategies, and learn how to improve their business.

In the previous release of WebSphere Commerce, analytical reporting was accomplished with WebSphere Commerce Analyzer, Entry Edition. You need deeper insight to their data, and better understanding of trends. Since data mining and business intelligence are essential components of WebSphere Commerce, the WebSphere Commerce Analyzer from previous releases was greatly enhanced with both on board data analysis tools and reporting technology. Enhanced features are:

- A data mart, installed on a separate server, where you can run detailed data analysis and reporting without affecting the performance of the WebSphere Commerce operational systems. The data mart is designed with predefined and expandable reporting tables to provide historical data for comparison purposes.
- A set of tools to extract, transform, and load data from the WebSphere Commerce operational database into the data mart. These extraction tools come with predefined extractions that are easily expanded to address your custom data requirements.
- A set of data mining tools for business intelligence analysis against the data mart. This data mining technology delivers the ability to look for trends and characteristics in data that might not be otherwise apparent, resulting in insights that deliver great business value.
- The Reporting Framework delivers an extensive list of analytical reports to the user. Over 250 reports in 16 categories ensure the user will have the data needed specific to the area of interest. This framework is delivered with the WebSphere Commerce Analyzer, so companies can expand the reports delivered with the system by changing existing reports, or creating new ones. This Reporting Framework replaces the Brio Broadcast Server included in previous releases. If you want more robust reporting capability, reporting integration kits will be available for several of the commercial reporting vendors.

- Clickstream analytics are included with the data mart, allowing you to do detailed analysis between the transactional and clickstream data. This will enable better insight about the functions and processes.
- Marketing Managers can use the sophisticated data mining technology to identify trends in the data and identify customer profiles that fit these trends. For example, look for customer segments that ordered more than a single item from a previous promotion, and used express shipping. The data mining is capable of dynamically looking for results that meet the characteristics you specify in the model. There are 26 predefined models delivered and you can add as many as you like. The customer profiles can drive the creation of a list of users in the promotions or campaigns function of the WebSphere Commerce Accelerator, resulting in *closed-loop* analytics.

Closed-loops analytics

Closed-loop analytics provide rapid 'analytics to actions' technology. Closed-loop analytics integrate advanced data mining analysis results so that a Marketing Manager can create an explicit customer profile based on the segments generated from WebSphere Commerce Analyzer's data mining function.

This closed-loop function eliminates the manual steps between WebSphere Commerce Analyzer and WebSphereCommerce by automating the creation of an explicitly targeted customer list. More accurate customer profiles are created by using the segment (member list) generated by WebSphere Commerce Analyzer (explicit profile).

WebSphere Commerce operational reports

Account management reports

The Sales Manager can optimize and maximize contract values by analyzing performance and effectiveness of the contract. Get to know the customers better to optimize customer value and maximize the ability to sell products and service to the right customers. Reveal subtle behavior patterns and critical purchasing trends to optimize commerce activity. Close the loop by acting on hidden trends and information to provide real results

The Sales Manager can quickly produce reports related to a particular account or contract. Account Representatives can produce reports relating to their own accounts and contracts.

Orders by account

Review orders for the selected account balance.

Limits of limited purchase orders by account

Review the current balance, and the limit of purchase orders for the selected account.

Refund by account

Review the refunds issued to the selected account.

Contracts close to expiry date

Review the contracts for the selected account that are close to expiring.

Contract management reports

The Sales Manager can quickly produce reports related to a particular account or contract. Account Representatives can produce reports relating to their own accounts and contracts.

Charge amounts by contract

This report lists all of the orders associated with the selected contract.

Refunds by contract

This report lists all of the refunds associated with the selected contract.

Expected inventory management

Inventory receipts through expected inventory records

Review expected inventory record receipt

Open expected inventory records

Review expected receipts and outstanding expected inventory records.

Inventory reports

The WebSphere Commerce Accelerator provides the following reports to track problems regarding inventory.

Inventory receipts by product

This report lists all receipts: receipts received through expected inventory records, ad hoc receipts, and receipts added as a result of product disposition. Use this report to review inventory receipts. Report options include the start date, end date, SKUs, and fulfillment centers. The report can be sorted by either the SKU, or the date received.

Inventory adjustments

This report shows inventory adjustments by product. Report options include the start date, end date, SKUs, fulfillment centers, and adjustment reasons. The report can be sorted by the adjustment date, or SKU. The report is grouped by the product, fulfillment center, and adjustment date.

Inventory status

This report shows the current inventory allocation and receipt status of products in stock. Report options include SKUs, and fulfillment centers. The report can be sorted SKU. The report is grouped by the fulfillment center and SKU.

Inventory receipts through expected inventory records

This report shows expected inventory record receipts.

Shipping exceptions

This report shows which releases are missing manifest information.

Products on backorder

This report shows cumulative backorder information by product. Use this report to review the current inventory allocation and receipt status of products in stock. Report options include SKUs and fulfillment centers. The results can be sorted by SKU. The report is grouped by the fulfillment center and SKU.

Order summary

This report summarizes orders received by the store for a user-defined sales period.

Discounts

This report displays information about the sales revenues and sales targets associated with defined discounts.

Overdue backorders

This report shows orders that have products on backorder that are overdue.

Open expected inventory records

This report shows open expected inventory records. Use this report to review expected receipts and outstanding expected inventory records.

Marketing reports

Before using the Marketing reports, the Site Administrator must enable the Marketing Events monitor.

Campaign initiatives generate statistics about their use. These statistics can be viewed by Sellers, and Marketing Managers, using the WebSphere Commerce Accelerator. The statistics illustrate an initiative's clickthrough rate for each e-Marketing Spot where it is implemented. These statistics provide feedback on the effectiveness of the initiative, as well as comparative success rates among the various locations in which it displays.

Campaign initiative statistics

For each campaign initiative the following information: e-Marketing Spot, visits, clicks, click ratio.

Product Advisor statistics

Use this list to view the site-wide statistics for all Product Advisor metaphors. Statistics are displayed in a table with the following information: category ID, category name, metaphor name, count.

Product Comparison statistics

Use this list to view the site-wide statistics for all Product Comparison metaphors. Statistics are displayed in a table with the following information: category, category name, ID views (the total number of products that have been compared), clicks (the number of times that metaphor usage has led to subsequent clicks on a specific product).

Product Exploration statistics

Use this list to view the site-wide statistics for all Product Exploration metaphors. Statistics are displayed in a table with the following information: category ID, category name, feature name, count.

Sales Assistance statistics

Use this list to view the site-wide statistics for all Sales Assistance metaphors. Statistics are displayed in a table with the following information: category ID, type, tree ID, concept ID, parent Concept ID, concept name.

Product management reports

The WebSphere Commerce Accelerator provides the following reports to manage products.

Outstanding returns

Determine which returned inventory has not yet been received.

Products on backorder

Determine which products, and how many of each, are on backorder.

Inventory receipts by product

Review inventory receipts.

Inventory status

Review current inventory allocation and receipt status of products in stock.

Return management reports

Returns with partial receipts

This report shows returns for which at least one product has been received from the customer and at least one product has not been received from the customer.

Return receipts not disposed

This report shows returns by product for those products that have been received but not yet disposed.

Outstanding returns

This report shows returns that have been recorded, but for which none of the products have been received from the customer. This report does not depict returns that have been logged where some of the products have been received from the customer; these returns can be found in the Returns with Partial Receipts report.

Shipping exceptions

Shipping exceptions

Determine which releases are missing manifest information.

Chapter 18. Managing business relationships

This chapter describes the process of managing business accounts in WebSphere Commerce Business Edition. The information in this chapter only applies to stores that use the Business Direct sales model, such as stores created from the ToolTech sample store.

Business accounts

Business accounts are the starting point for managing a store's relationships with customer organizations. You can use business accounts to track contracts and orders for customer organizations. You can also configure how buyers from customer organizations shop in your store.

A business account records the following information about a customer organization:

- The name of the customer organization and a contact person within that organization
- The department and name of the account representative from the store assigned to the customer organization
- Information about purchase orders a customer organization has with a store
- How invoices are delivered to the customer organization
- The amount of a store-issued credit line (if the customer organization has a credit line)
- Any general remarks about the business account

Business accounts are managed by users assigned to the Sales Manager role.

Contract

Contracts enable a customer organization to purchase products from a store or a group of stores at a specified price for a specified period of time. Contracts can be created either by using the WebSphere Commerce Accelerator, or by creating XML files and importing them to populate the database.

Customer entitlement

Business policies set the scope of supported practices within a store or group of stores. Customer entitlement allows you to customize the behavior of a store for different customers. Customer entitlement refers to the actions that a customer can perform in a store. You *entitle* customers to various aspects. This includes what products they can purchase, the product price, and the acceptable payment methods. Customer entitlement is prescribed by the terms and condition defined in a *contract* between the Buyer and the Seller.

Default contract

The default customer entitlement is defined by a store's *default contract*. This default contract usually specifies that customers can access the master catalog and purchase items at base prices. The default contract also specifies which payment methods the store accepts, and which shipping providers are used to send orders. The default contract applies to all customers shopping at a store who are not

entitled under any other contract with the store. If the customer is permitted to purchase products that are not covered by a contract, the default contract applies to product not covered by a contract.

Out-of-the box, the default contract for a store is setup to specify the following customer entitlement:

- The customer can purchase all products available in the store catalog.
- The customer pays the base price for products. No markups or markdowns apply.
- Payment is specified during order processing. The customer can use any payment method accepted by the store.
- The customer can choose any shipping provider supported by the store to ship the order.
- The ship-to address for an order is specified by the customer during order processing.
- Shipping charges are calculated by the seller upon order capture.
- There is no charge for returns.
- A refund is always approved for products returned within 30 days.
- The buyer is refunded for a return using the original payment method.

If, you do not want to use the default contract for a particular customer organization; create a contract for that organization.

Creating an organization, account and contract for a customer

This section describes the seven steps required to add an additional organization, account, customer and contract to the ToolTech store. The contract is created by using the WebSphere Commerce Accelerator.

Step 1. The Site Administrator creates an organization to represent the Buyer organization.

Step 2. The Site Administrator creates a user with the Buyer role for the Buyer organization.

Step 3. The Sales Manager creates an account with the Buyer organization.

Step 4. The Account Representative creates a contract.

a. Define the contract name and description.

Optionally, you can provide start dates and end dates for the contract. If you do not provide start and end dates for the contract, the contract will start on the current date and will expire in one year. You can also specify that the contract does not have an expiry date.

b. Define which customers (buyer organizations) to which the contract applies.

The Available Customers list displays the Buyer organization of the account and any organizational units within it

c. Define pricing and pricing constraints

Use the Pricing pages to define what products are available under a contract and what prices the customer will pay for the products. You can price products in the contract by using any combination of the following methods: Percentage pricing, fixed pricing, and selection constraints.

- **Percentage pricing**

- Apply an adjustment on the entire master catalog

Define a percentage price adjustment for the entire catalog. Everything within the catalog will adopt the price adjustment. All products in the store catalog are available for sale, with a percentage adjustment (markup or markdown) from the base price defined in the store's master catalog.

- Apply an adjustment on the following contract optimized categories

All products in the store catalog are available for sale, with a percentage adjustment on the selected subcategory. The percentage adjustment (markup or markdown) is applied to the base price defined in the store's master catalog.

- Apply an adjustment on the following categories and products

All products in the store catalog are available for sale, with a percentage adjustment on the selected subcategories or products. The percentage adjustment (markup or markdown) is applied to the base price defined in the store's master catalog.

To include or exclude subcategories from the contract use the Contract Selection Constraints page.

- **Fixed pricing**

Fixed pricing specifies that both the list of products for sale and their prices are customized for sale in a contract. Any product in the store catalog can be added to a fixed price list. Note that price lists are unique per contract. You cannot reuse price lists between contracts.

- **Contract Product Selection Constraints**

Use selection constraints if the contract specifies percentage pricing, but the entire store master catalog should not be offered for sale. You can either exclude or include categories and items for sale under the contract.

Exclude for sale the following categories and items in this contract

Specify catalog subcategories and items to exclude from the the master catalog in the contract.

Include for sale the following categories and items in this contract

Specify catalog subcategories and items from the master catalog to include in the contract.

d. Define Shipping terms and conditions.

Shipping terms and conditions specify how orders will be shipped, where they will be shipped to and who will pay for the shipping.

Providers

Select to define how orders created under a contract are shipped. If a provider is not selected, orders can be shipped by any mode available in a store. The list of available shipping providers shows all shipping providers defined for the store.

Charge type

Select to define whether the shipping charges are charged by the shipping carrier, or by the store.

Addresses

Select to specify where orders made under a contract are shipped. This allows you to limit the locations where orders

can be shipped. If the ship-to address is not specified, a ship-to address must be specified each time an order is made under a contract. The Available shipping address list shows the shipping address provided for the account.

- e. Select a payment method.

Specify the payment methods that will be accepted for orders made under the contract. If no payment method term is specified in a contract, payment in all methods accepted by the store will be accepted for orders made under the contract. For example, a contract could specify a payment method of offline card. If the account has a credit line you can specify that payment may be made under the credit line for this contract.

- f. Define how returns are handled.

Policies

Select how returns are approved and any charges the customer must pay for returns.

Refund

Select the payment methods that a customer can choose from when receiving refunds under a contract. If not specified, customers can choose from all payment methods available in a store.

- g. Define order approval amounts.

Check the Approval required checkbox to specify if orders must be approved by the customer organization. If order approval is required you can specify a minimum order approval amount. This would allow orders with a value below the currency value to be filled without approval from the customer organization.

- h. Specify attachments.

Attachments refer to any information that is attached to a contract. For example, an attachment may be a standard Terms and Conditions document in PDF format, that a customer organization attaches to all contracts. Enter the complete URL for the attachment, for example <http://www.ibm.com/attachments/terms.pdf>. The Contract Summary page lists all contract attachments.

- i. Add remarks.

Remarks may be any comments about the contract. The contract remarks are displayed on the Contract Summary page.

- j. Save the contract.

The newly created contract is shown on the Contracts page. The contract is in Draft status. Before the contract can be used in the store it must be approved and deployed.

Step 5. Submitting the contract for approval

A submitted contract is a draft contract that is complete and has been submitted for approval. Before a contract can be submitted at least one pricing term, a shipping charge type and a customer must be defined. The Sales Manager or Account Representative decides when a draft contract is ready to submit for approval. If approvals have been set up then, the designated approvers for the contract must review the contract. If no approvals have been set up the contract will go to Active state.

Step 6. Approving the contract

If the designated approvers for the contract decides a contract is complete and acceptable, they can move the contract into the approved state. WebSphere Commerce will automatically attempt to deploy an approved contract.

Contracts can be approved or rejected by approvers and administrators with appropriate access. Usually, the Sales Manager approves contracts. The process for approving or rejecting a contract is the same process used for all approvals in WebSphere Commerce.

Step 7. Deploying the contract

A successfully deployed contract is a contract that is active. Registered users of the buyer organization can now shop and make purchases at the store under the terms prescribed in the contract.

Determining how to create a contract

Most stores will use the WebSphere Commerce Accelerator to create and manage contracts. However, some terms and conditions cannot be specified by using the WebSphere Commerce Accelerator. If you require these terms, you must create the contract by using XML files.

Terms and conditions that cannot be defined by using the WebSphere Commerce Accelerator

Right to buy amount

This term places a limit on the combined value of all orders placed under a contract. The value of all orders made under the contract must be less than or equal to a specified amount. If this limit is exceeded when placing an order, processing of the order will fail.

Obligation to buy amount

This term specifies the minimum value of all orders that must be placed under the contract within a specified time after the contract is deployed. If the cumulative value of orders placed under the contract is below the specified amount at the specified time, the store can cancel the contract.

Fulfillment center

This term allows you to specify the fulfillment center from which orders placed under the contract must be filled.

Invoice Format

Specifies the layout of invoices to be sent by e-mail to the customer organization.

Step-by-step procedures

What you can do		See the topic..
Sales Manager	Set up and manage business accounts.	<i>Managing a business account: an overview (Business Edition)</i> in the WebSphere Commerce online help.
Account Representative	Working with contracts	<i>Creating a new contract using WebSphere Commerce Accelerator (Business Edition)</i> in the WebSphere Commerce online help.

Chapter 19. Request for Quote (RFQ)

Request for Quotes (RFQ) is one of the trading mechanisms available in WebSphere Commerce. Buyers can add products to an RFQ by browsing the catalog, or by using a requisition list. Buyers can include any number of products in one RFQ, and define unique specifications for each product. They can also specify the terms and conditions for the transaction. A seller can view and respond to an RFQ when the RFQ is in Active state. A Buyer can also change or cancel an RFQ.

When sellers respond to an RFQ, they have the option of responding to each product, and to each product specification. A Seller also modify or cancel a response. The Seller can also substitute products in the response.

The Seller can evaluate RFQ responses in Closed state to choose a winner, or multiple winners. When the RFQ response is accepted by the buyer and the seller is notified, the RFQ transaction is completed through one of the following two processes:

- The buyer places an order that already contains the RFQ information.
- A contract already containing the RFQ information is created.
- The RFQ can go to the next round

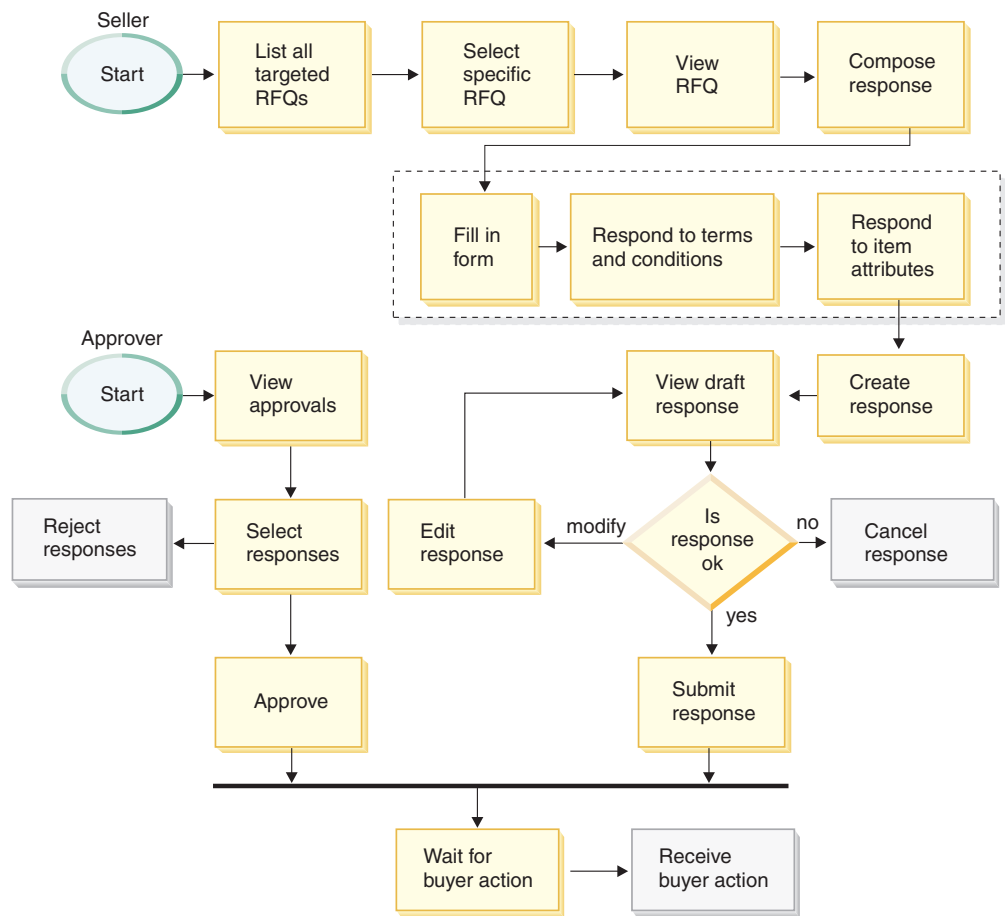
A record of the RFQ is maintained in the RFQ Request List for a predetermined period, so that they can copy an RFQ that they repeatedly use. Responses are retained for the same period to facilitate a seller's response to similar requests from the same buyer.

Sellers can enable approval flow for the RFQ response process if they want responses to be reviewed prior to transmittal to the buyer.

RFQs are available in the Business direct and Supplier hosted store models.

The RFQ process

The following diagram shows the RFQ process in WebSphere Commerce from the Seller's perspective.



Several stages in the process depicted above have "states" associated with them. States represent the status of the response process at a certain time in its lifecycle. States help the user keep track of a particular business process and provides WebSphere Commerce with benchmarks it can use to manage all business processes within the system.

The approver plays a role in this process only if approvals have been enabled for the selling organization. If the organization administrator has enabled approvals during the membership registration process, the submitted response is first reviewed by an approver. It is transmitted to the buyer if approved.

Sellers can view the state of an RFQ response in the Status column of the RFQ Response page.

Step-by-step procedures

What you can do		See the topic..
Application developer	Understand the RFQ implementation	<ul style="list-style-type: none"> Request for Quote (RFQ) Trading subsystem commands Request for Quote (RFQ) data model in the WebSphere Commerce Studio online help.
	Enable RFQs in the store	Refer the the section about the ToolTech store in the <i>WebSphere Commerce Sample Store Guide</i> .
Sales Manager	Add, change or delete attributes in the personalized attribute dictionary	<i>Personalized attributes</i> in the WebSphere Commerce online help
	Create an RFQ response	<i>Creating an RFQ response: overview</i> in the WebSphere Commerce online help.
Site Administrator	Set up an maintain RFQs in a store	<ul style="list-style-type: none"> Enabling and disabling the RFQ trading mechanism If you want to enable approvals, Selecting approval types for an organization Determine whether to enable RFQ response approval Enabling RFQ notification messaging WebSphere Commerce online help

Chapter 20. Collaboration

The collaborative workspaces feature is available with WebSphere Commerce Business Edition. Lotus QuickPlace is the self-service Web tool for team collaboration. QuickPlace enables the creation of a secure and central workspace on the Web instantly. Structured for immediate participation, teams use QuickPlace to do the following:

- Coordinate people, tasks, plans, and resources.
- Collaborate share ideas and discussion, resolve issues, coauthor documents, exchange files, manage due diligence.
- Communicate actions and decisions, key findings and lessons, publish knowledge captured to a broader base of readership.

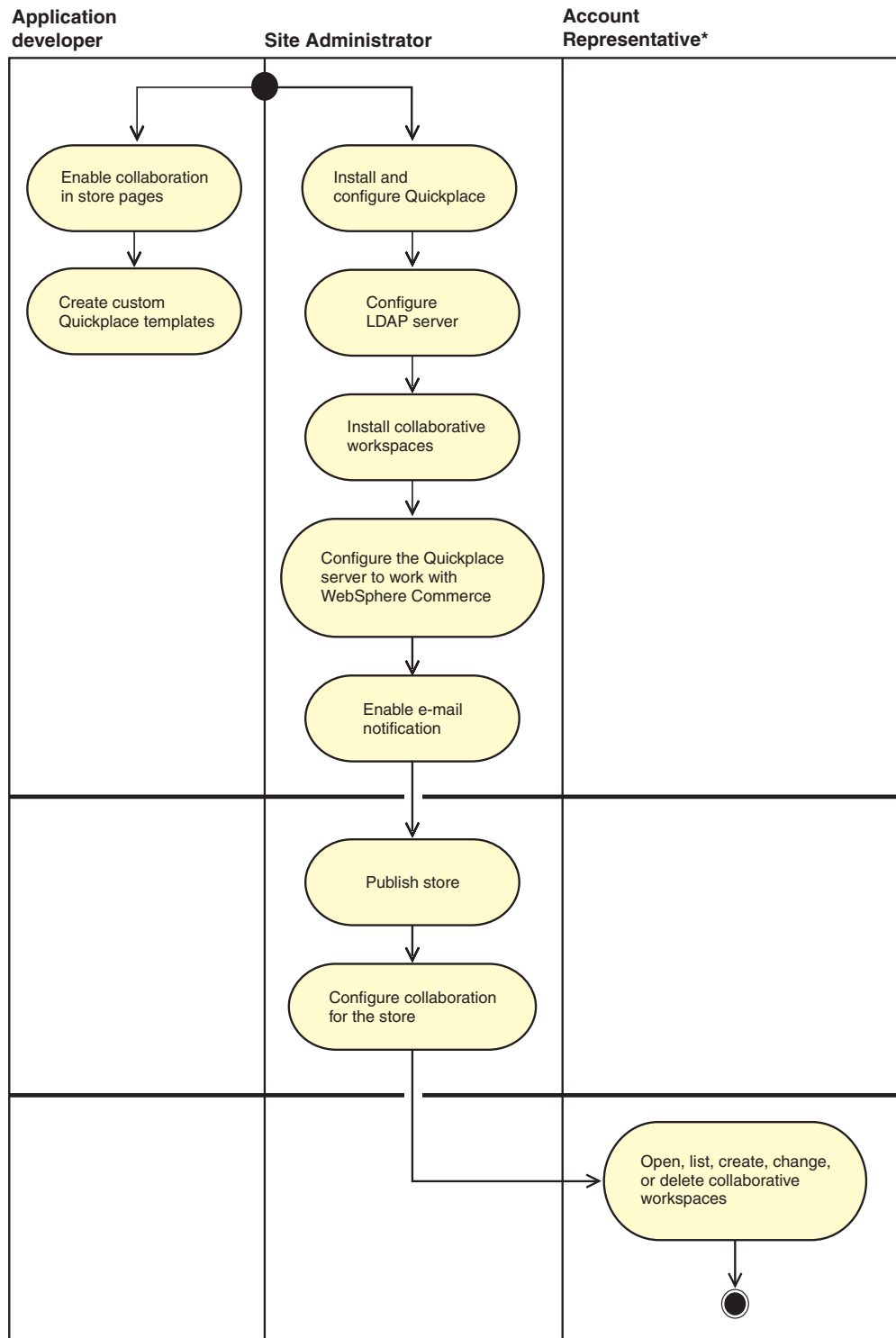
Teams use QuickPlace for project management, rapid response to ad-hoc initiatives, team Web sites, and to facilitate discrete business processes that span the extended enterprise and value chain.

In this release of WebSphere Commerce the following enhancements have been made to the collaborative workspaces feature:

- Support for QuickPlace 3.0.
- Non-member data elements have been moved from LDAP into the database. This will keep the LDAP directory structure clean and exclusive to member type data.
- Support for more LDAP directories.

Setting up and using collaborative workspaces

The following diagram shows the process required to set up and use collaborative workspaces with WebSphere Commerce. For a list of resources that explains how to perform each task shown in the diagram refer to the section, "Step-by-step procedures" on page 123.



Step-by-step procedures

What you can do		See the topic...
Application developer	Enable collaboration on store pages	The collaboration features available in various store models are described in the <i>WebSphere Commerce Sample Store Guide</i> .
	Create custom Quickplace templates	Refer to the <i>Customizing QuickPlace</i> Redbook.
Site Administrator	Install and configure Quickplace	<i>WebSphere Commerce Additional Software Guide</i>
	Configure LDAP server	<i>WebSphere Commerce Additional Software Guide</i>
	Install and configure collaborative workspaces	<i>Installing collaborative workspaces in the WebSphere Commerce Additional Software Guide</i> .
	Publish store	<i>Publishing a store archive in WebSphere Commerce</i> in the WebSphere Commerce online help.
	Enable e-mail notification	<i>Enabling e-mail for collaborative workspaces</i> in the WebSphere Commerce online help.
	Configure collaboration store flow	<i>Changing store flows using WebSphere Commerce Accelerator</i> in the WebSphere Commerce online help.
Account Representative	Work with collaborative workspaces	<ul style="list-style-type: none"> • Collaboration • Creating a collaborative workspace WebSphere Commerce online help.

Appendix. Where to find information

WebSphere Commerce has online and hardcopy information describing the complete e-commerce solution. WebSphere Commerce Studio information is included as part of WebSphere Commerce. In addition, the software products that are bundled with either of WebSphere Commerce or WebSphere Commerce Studio provide further information, describing the specific features and functions of the software. This section provides a quick overview of where to locate the various types of information.

WebSphere Commerce online help

The WebSphere Commerce online help consists of online information that can be viewed using a Web browser.

The online help can be accessed from a Web browser that runs on Internet Explorer, Version 5.5, or higher using the following address:

https://host_name:8000/wchelp/, where *host_name* is the name of your WebSphere Commerce machine.

WebSphere Commerce Studio online help

The online help applicable to developers, such as API and command reference information, is fully integrated with WebSphere Commerce Studio. The online help system included in WebSphere Commerce Studio includes several enhancements, including the ability to bookmark topics and advanced search capabilities. Optionally, you may run this online help system as an Infocenter, that is you can serve the WebSphere Commerce Studio help without running WebSphere Commerce Studio.

The WebSphere Commerce help system has been tailored for Site Administrators and business users. API and command reference information has been moved to the online help that ships with WebSphere Commerce Studio.

Further information on the Web

You can find other sources of useful information on the Web, as described in the following sections.

Support

To find support information, including newsgroups, FAQs, technical notes, troubleshooting information and downloads refer to the following Web address: ibm.com/software/webservers/commerce/support.html.

Software partners

There are many software partners that offer products and services to enhance WebSphere Commerce. For information about these partners, visit the www.ibm.com/software/webservers/commerce/community and click the **Software Developers** link.

Redbooks

To find more advanced technical information, visit the Redbooks Web site, which is located at www.ibm.com/redbooks and search for WebSphere Commerce.

WebSphere Commerce product documentation

Updated publications and online help can be downloaded from the Technical Library page of the WebSphere Commerce Web site:

<http://www.ibm.com/software/commerce/library/>

Installation and configuration information

An Installation Guide is included with WebSphere Commerce. This book describes how to install and configure WebSphere Commerce.

An Installation Guide is also included with Commerce Studio. This book describes how to install and configure Commerce Studio.

Programming information

The *WebSphere Commerce Programming Guide and Tutorials* is available from the WebSphere Commerce Technical Library page of the WebSphere Commerce site. This book describes concepts and architecture, provides a programmer's model, explains the development lifecycle, and provides examples on how you can customize your e-commerce environment.

Glossary

A

B2B access control policy. A group of constraints and criteria, established by the Site Administrator, restricting a user's access only to those resources necessary for carrying out the responsibilities relevant to their assigned role.

access group. A type of member group used to define access control. Commands and views are associated with one or more access groups, allowing members assigned to that role to have access to those views and commands. WebSphere Commerce predefines a set of access groups. The Site Administrator uses the WebSphere Commerce Administration Console to assign access to these groups, and to add new groups, if necessary.

B2B Account Representative. The Account Representative role is the primary role responsible for creating contracts for accounts, changing orders for accounts, and monitoring account activity. Account Representatives are part of the sales organization, and as such may be involved in the creation of targeted sales promotions such as discounts and coupons.

B2B action group. An explicitly defined group of operations corresponding to Java commands that act on resources.

activate. (1) To initiate a merchandising program, such as a discount offer. (2) To transfer an enterprise bean from secondary storage to memory.

ad copy. The information, images and other media used to support a marketing activity. Also referred to as *sales collateral*.

address book. A collection of shipping and billing addresses owned by a customer. These are useful for a customer who wishes to purchase gifts and ship them to different addresses.

ad hoc inventory receipt. A record of physical inventory that arrived at a specific fulfillment center at a specific time, and was not expected inventory.

applet. An application program, written in the Java programming language, that can be retrieved from a Web server and executed by a Web browser. A reference to an applet appears in the markup for a Web page, in the same way that a reference to a graphics file appears; a browser retrieves an applet in the same way that it retrieves a graphics file. For security reasons, an applet's access rights are limited in two ways: the

applet cannot access the file system of the client upon which it is executing, and the applet's communication across the network is limited to the server from which it was downloaded. Contrast with *servlet*.

application. In Java programming, a self-contained, stand-alone Java program that includes a static main method. It does not require an applet viewer. Contrast with *applet*.

application partitioning. In the scheduler, the grouping together of heavily running jobs. This helps to avoid overloading the scheduler's default application pool.

application server. A server program in a distributed network that provides the execution environment for an application program. For example, the WebSphere Commerce Server provides the execution environment for online stores.

B2B approvable action. A command or group of commands invoked by a user that cannot be executed without prior approval from an approver within the organization.

B2B approval flow. The series of steps initiated when a user attempts to execute a task involving an approvable action. The process first verifies that the user is authorized to invoke the command. If the user is authorized, the request for command execution is sent to the appropriate approver for acceptance or rejection. Multiple levels of approval are possible.

B2B approver. The individual authorized to approve or reject an approvable action.

B2B approver group. The designated users within a specific organization to whom an approval request is directed when an approvable action is invoked. Requests are directed to the entire unit, rather than a single individual.

ASCII (American Standard Code for Information Interchange). A standard code for representing characters using binary values. The standard code is used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII character set uses the numbers 0 through 127 to represent all English characters as well as special control characters. Most PC-based systems use an 8-bit extended ASCII code, with an extra 128 characters used to represent special symbols, foreign-language characters, and graphic symbols. UNIX(R) and DOS-based operating systems

(except for Windows NT(R)) use ASCII for text files. Windows NT uses the newer Unicode standard. Conversion programs allow different operating systems to change a file from one code to another.

assortment. An ad hoc grouping of products that do not share any concrete relationships. Assortments are typically used to group products for merchandising purposes. Examples include groupings based on holiday themes, such as Easter or Valentine's day.

atomic catalog entry. A non-divisible collection of catalog entries available for purchase. Commonly referred to as a *package*.

ATP inventory.. See *available to promise inventory*.

attribute. A property of an item in an online store such as, a color or size. Items can have several attributes.

auction. A method of sale involving negotiating and dynamically establishing the price and other terms of sale for goods and services, typically to the highest bidder.

available to promise (ATP) inventory. Inventory on hand minus inventory allocated to backorders and reserved inventory.

B

B2B (business-to-business). B2B e-commerce software builds Web sites for the exchange of products, services, or information between businesses. Typical B2B transactions occur between buyers, suppliers, manufacturers, resellers, distributors, and trading partners. Contrast with *B2C*.

B2C (business-to-consumer). B2C e-commerce software builds Web sites for the exchange of products, services, or information between businesses and consumers. Also known as the retail part of e-commerce. Contrast with *B2B*.

back-office business logic. The implementation of business logic, using commands and customized code, allowing a customer to complete an action in the store front. For example, the implementation of business logic that allows a customer to complete an order. Contrast with *store front assets*.

backorder. The status of an ordered product when inventory allocation has determined that the product is not available.

base search space. An implementation of the Product Advisor. This style of implementation uses WebSphere Commerce base database tables to facilitate searching a particular category of products. See also *separate search space*.

batch. A collection of payment transactions, such as captures, credits, capture reversals, and credit reversals, processed as a group. A batch is submitted as a single unit to the Acquirer's financial system. Business guidelines regarding the use of batch processing are developed by credit acquiring institutions. Merchants also establish policies that align with these guidelines.

bean. A definition or instance of a JavaBeans component. See *Java bean*.

bean-managed persistence (BMP). In the EJB development environment, persistence that is managed by an entity bean. Contrast with *container-managed persistence (CMP)*.

BMP. See *bean-managed persistence*.

broadcast job. A job that runs on all clones at once. Like any other job, it is handled by the scheduler.

buffer. A portion of storage used to temporarily hold text, markup tags, and other objects.

bundle. A concept that allows Product Managers and Marketing Managers to provide a single-click function for referring to multiple items. More formally, a bundle is a composite catalog entry consisting of at least one SKU. When a bundle is added to an order, it is decomposed into its orderable items, which are then added to the order, and the price is aggregated. A bundle cannot be directly purchased. See also *package*.

business intelligence. The consolidation and analysis of data collected in the day-to-day operation of a business, which is then used as a basis for better business decisions and competitive advantage.

B2B business policy. A set of rules followed by a store or group of stores defining business processes, industry practices, or the scope and characteristics of business offerings.

Buyer. The Buyer is the primary contact with vendors; the Buyer handles negotiations and ordering from vendors, keeps track of inventory, makes purchase order decisions, tracks expected inventory records and receipts, and tracks reasons for returns.

C

cache. A special-purpose buffer storage, smaller and faster than main storage, used to hold a copy of instructions and data obtained from main storage and likely to be needed next by the processor.

calculation code. Associated with order items, catalog entries, or catalog groups to specify how discounts, shipping charges, sales or use taxes, and shipping taxes should be calculated.

calculation rule. Defines how a calculation will be done. Each calculation code contains a set of calculation rules. In general, only a subset of a calculation code's calculation rules are applicable for a particular set of order items. For example, different rules apply when shipping to different regions.

calculation scale. A set of ranges that can be used by a calculation rule. For example, for shipping charges, you may have a set of weight ranges that each correspond to a particular cost. That is, a product that weighs between 0 to 5 kg might cost \$10.00 to ship, while a product weighing 5 to 10 kg might cost \$15.00 to ship.

call center. In WebSphere Commerce, a group of staff who are assigned as users in the Customer Service Representative access group, during which time they may invoke some functions on behalf of a customer. For example, they can update customer information, including the password; they can also update orders or place a new order. The `forUser` parameter is used to enable call centers.

▶ 400 **calling command ID.** A numeric identifier for a command that calls an API function.

campaign. A planned series of operations including advertisements and suggestive selling techniques, that are pursued to achieve a defined set of business objectives. In the WebSphere Commerce Accelerator, campaigns are used to coordinate and aggregate groups of campaign initiatives.

capture. The process by which your Acquirer receives payment from the customer's financial institution and remits the payment to you. A "capture" is the guarantee that the funds are available and that the transfer will take place.

catalog. See *online catalog*.

catalog entry. An object in an online catalog. An entry has a name, description, list price, and other details. The entry can be as simple as a SKU; it may also be a product that is automatically broken down into its component items such as a bundle or package.

catalog group. A collection of one or more catalog entries or catalog groups which create a navigational hierarchy for an online catalog.

category. A group of objects that have similar properties. In WebSphere Commerce, categories are used to organize products or services offered by the store. For example, a clothing store may include categories arranged by lifestyle (casual, formal, outdoor), gender (men, women), or age (infants, children, adults). A category is usually implemented as a catalog group. See also *child category* and *parent category*.

Category Manager. A defined role in WebSphere Commerce that manages the category hierarchy by creating, modifying, and deleting categories. The category hierarchy organizes products or services offered by the store. The Category Manager also manages products, expected inventory records, vendor information, inventory, and return reasons.

category page. A Web page in an online store that displays product categories. Category pages connect customers to child category pages or to products that belong to the selected category.

category table. A dynamic table that displays category information in a series of rows and columns.

CCF. See *Common Connector Framework*.

certificate authority (CA). An organization that issues certificates. The CA authenticates the certificate owner's identity and the services that the owner is authorized to use, issues new certificates, renews existing certificates, and revokes certificates belonging to users who are no longer authorized to use them.

child category. A category that is subordinate to another category in a hierarchy. See also *parent category*.

clickstream. In Web advertising, the sequence of clicks or pages requested as a visitor explores a Web site.

Clickstream Engine. The LikeMinds Personalization Server component that accesses transaction information and generates recommendations based on users' shopping behavior as they navigate a Web site. WebSphere Commerce generates events based on shopping behavior, including viewing a product detail page and adding items to a shopping cart or wish list. These events are forwarded to the Clickstream Engine.

clickthrough rate. In Web advertising, the number of clicks on an ad on an HTML page as a percentage of the number of times that the ad was downloaded with a page. Contrast with *impression*.

client. A functional unit that receives shared services from a server. For example, a personal computer requesting HTML documents from a Web server is a client of that server.

clone. An identically configured copy of an object, such as an application server. Clones can be used for workload management purposes, for example, to support horizontal scaling and vertical scaling.

CMP. See *container-managed persistence*.

collaborative filtering. A technology that calculates the similarity between users based on the opinions and ratings of a number of other people. Collaborative filtering uses the behaviors of those customers who most closely resemble the current customer as a

functional basis for making predictions and recommendations for the current customer.

command bean. A Java bean that contains the programming logic to handle a particular request. The WebSphere Commerce commands follow the WebSphere command programming model. There are four types of commands: *controller commands*, *task commands*, *data bean commands*, and *view commands*.

commerce server. See *WebSphere Commerce Server*.

commit. To end a unit of work by releasing locks so that changes made by that unit of work become available to other processes.

commitment boundary. A point at which there are no changes to a database file pending within a job.

commitment control. A way of grouping file operations that allows the processing of a group of database changes as one unit or the removal of a group of database changes as one unit.

Common Connector Framework. Interface and class definitions that provide a consistent means of interacting with enterprise resources (for example, CICS(R) and Encina(R) transactions) from any Java execution environment.

composite catalog entry. A collection of catalog entries that breaks down to its separate components when ordered. Commonly referred to as a *bundle*.

Composition Services. The component of the WebSphere Commerce messaging system that provides a formatted output for messages using JSP templates.

compound key. In a relational database, a key that consists of two or more attributes in a relation.

compress. To reduce the size of a set of data, such as a file, in order to save space or transmission time.

configurator. Software that provides a dynamic rules-based kit (bundling) capability to determine a group of items that may be sold together. The configurator may also supply a price for the configuration. This grouping is based on pre-defined rules in addition to user interaction with the configurator.

container-managed persistence (CMP). In the EJB development environment, persistence that is delegated to an enterprise bean's container, as opposed to being managed by the bean itself. Contrast with *bean-managed persistence (BMP)*.

contract. In WebSphere Commerce, an agreement representing the terms and conditions that apply to a transaction; a logical grouping of trading position containers available in a store. For example, discounts

and shipping charges for an order item may be calculated differently depending on the associated contract.

controller command. A command that interacts with a Web controller directly. On completion, a controller command returns the name of a view task to be executed. The Web controller determines the correct implementation class of the view command and then invokes it.

counter value. A displayed monetary amount converted from the shopping currency into a different currency.

cross-sell. A product recommendation that is related or complementary to the currently displayed or selected product. See also *up-sell*.

CSR. See *Customer Service Representative*.

customer. A user of an online store.

customer group. A type of member group consisting of a collection of customers who have been grouped by a Site Administrator because they share similar shopping patterns or characteristics. Typically, customer groups are based on information that customers provide during registration. Customer groups may be entitled to discounts or other incentives, or be shown different product and category pages than other customers. A customer can belong to one or more customer groups per store.

customer profile. All information about the customer that is held by the Seller. This can include basic demographics, order history, or operational data such as the user ID and shipping address. Customer profiles are dynamic; Marketing Managers define the criteria for including a customer in a customer profile. Customer profiles can be the targets of campaigns.

Customer Service Representative (CSR). A defined role in WebSphere Commerce that manages customer inquiries. The Customer Service Representative also processes customer registration, orders, and returns. Some businesses may have a Customer Service Supervisor, who has authority to complete actions that cannot be accessed by a Customer Service Representative, such as approving system-denied

returns records. Professional The Customer Service Representative also works with auctions, such as withdrawing bids and managing discussion forums.

Customer Service Supervisor. A defined role in WebSphere Commerce that has access to all customer service tasks. The Customer Service Supervisor manages customer inquiries (such as customer registration, orders, returns, and auctions) and has authority to complete tasks that cannot be accessed by a Customer Service Representative, such as approving

system-denied returns records, and contacting customers regarding payment exceptions (such as credit card authorization failures).

D

data bean. A type of Java bean that is placed into a JSP file. The data bean represents data that is accessible by the application developer. Data beans can have associated commands that are invoked when the JSP instantiates the data bean at run time.

data bean command. A command associated with a data bean, and called by a JSP file. This command retrieves data for the data bean from a persistent object, such as an entity bean.

data bean manager. A module that invokes a data bean command to fetch data from corresponding entity beans.

datamart. A subset of a data warehouse that contains data tailored for the specific needs of a department or team. A datamart can be a subset of a warehouse for your entire organization.

delete cascade. A DB2(R) process that causes an action to be taken on rows in a database when another row is deleted.

delete rule. A rule associated with a referential constraint that either restricts the deletion of a parent row or specifies the effect of such a deletion on the dependent rows.

demilitarized zone (DMZ). In network security, a network that is isolated from, and serves as a neutral zone between, a trusted network (for example, a private intranet) and an untrusted network (for example, the Internet). One or more secure gateways usually control access to the DMZ from the trusted or the untrusted network.

deployment. (1) The act of packaging enterprise beans into a JAR file for distribution to a container on an enterprise bean server. (2) The process of making WebSphere Commerce application code available for use. This process includes packaging customized commands, data beans, and enterprise beans into JAR files. The JAR files must then be installed and configured within a container.

deployment descriptor. A serialized object that contains run-time settings for an enterprise bean and passes information to the EJB container about how to manage and control the enterprise bean.

discount. A price incentive offered to customers to promote a purchase.

display format. A set of display preferences that a customer at a multicultural store can select, depending

on their language and locale. For example, a multicultural commerce site may have different formats for United States English and Japanese. These display formats would differ in the language of the text as well as such features as currency, units of measure, and data formats.

display page. (1) A page in a catalog that displays category and product information. (2) A page in an online store that is generated in response to a command.

disposition. Disposing of or transferring inventory that has been returned to the Seller's fulfillment center by a customer.

DMZ. See *demilitarized zone*.

document type definition (DTD). The rules that specify the structure for a particular class of SGML or XML documents. The DTD defines the structure with elements, attributes, and notations, and it establishes constraints for how each element, attribute, and notation may be used within the particular class of documents. A DTD is analogous to a database schema in that the DTD completely describes the structure for a particular markup language.

domain name. In the Internet communications protocol, the name of a host system in a network. A domain name consists of a sequence of subnames separated by a delimiter character.

downstream. In the direction of data flow or towards the destination of transmission; generally from an information server toward an end user.

DTD. See *document type definition*.

dual display. The simultaneous display of a monetary amount in the shopping currency, and one or more counter value amounts in a different currency.

dynamic. Pertaining to an operation that occurs at the time it is needed rather than at a predetermined or fixed time. Contrast with *static*.

dynamic kit. A group of products that are ordered as a unit. The information about the products contained in a dynamic kit is controlled by an external configurator and supplied at order entry time. The individual components of a dynamic kit cannot be modified in the order, but they can be reconfigured by the configurator. The entire configuration must be fulfilled together. See also *bundle* and *composite catalog entry*.

E

EDI. See *electronic data interchange*.

EJB. See *Enterprise JavaBeans*.

EJB container. A run-time environment that manages one or more enterprise beans. The EJB container manages the life cycles of enterprise bean objects, coordinates distributed transactions, and implements object security. Generally, each EJB container is provided by an EJB server and contains a set of enterprise beans that run on the server.

electronic data interchange (EDI). The exchange of structured electronic data between computer systems according to predefined message standards.

e-Marketing Spot. In WebSphere Commerce, data on a Web page that typically results from a marketing activity such as a campaign.

encryption. The conversion of data into a form that cannot be easily understood so as to prevent unauthorized access, especially during transmission.

enterprise bean. A nonvisual object that conforms to the Enterprise JavaBeans architecture. Enterprise beans are deployed in an EJB container and run on an EJB server. There are two types of enterprise beans: session beans and entity beans.

Enterprise JavaBeans. A distributed component architecture defined by Sun Microsystems, Inc.

entity. In object-oriented design, an item that can be treated as a unit and, often, as a member of a particular category or type. An entity can be a concrete thing or an abstract idea.

entity bean. An enterprise bean that contains persistent data, and that can be saved in various persistent data stores. Each entity bean carries its own identity. There are two types of entity beans: container-managed persistence (CMP) entity beans and bean-managed persistence (BMP) entity beans. Contrast with *session bean*.

exception condition. An abnormal condition that may arise during execution of a program.

expected inventory. Inventory that has been ordered from a vendor and that is expected to be received by the Seller. This information is contained in an expected inventory record.

expected inventory record. Lists the inventory that has been ordered from a vendor and that is expected to be received by the Seller. An expected inventory record may contain information for multiple items, fulfillment centers, and dates. See also *inventory receipt*.

Extensible Markup Language. See *XML*.

F

factory. A bean that dynamically creates instances of beans. The command factory (used to create command

objects) is an example of the use of the factory design pattern in WebSphere Commerce.

failover. In high-availability cluster multiprocessing (HACMP), an active node's acquisition of resources that were previously owned by another cluster node in order to maintain the availability of those resources.

feature attribute. Specifies how the information about products is to be displayed to customers. For example, features with numerical descriptions can be displayed to a customer in either ascending or descending order.

foreign key. In a relational database, a key in one table that references the primary key in another table.

framework. A set of object classes that provide a collection of related functions for a user or piece of software.

fulfillment center. Serves as a storage warehouse where products are packaged and shipped to customers. Fulfillment centers, stores, and shipping carriers are treated as separate entities.

G

gateway. A functional unit that connects a local data network to another network.

geo-code. In WebSphere Commerce, an application-specific code representing a geographical region.

H

horizontal scalability. The ability to distribute Java virtual machine processes across multiple physical machines.

host. A computer that provides an access point to a network. A host can be a client, a server, or both a client and server simultaneously.

host name. In the Internet suite of protocols, the name given to a computer. Sometimes, *host name* is used to mean the fully qualified domain name; other times, it is used to mean the most specific subname of a fully qualified domain name. For example, if mycomputer.city.company.com is the fully qualified domain name, either of the following may be considered the host name:

- mycomputer.city.company.com
- mycomputer

HTML. See *Hypertext Markup Language*.

HTTP. See *Hypertext Transfer Protocol*.

HTTP Web controller. See *Web controller*.

Hypertext Markup Language (HTML). A markup language that conforms to the SGML standard and was designed primarily to support the online display of textual and graphical information that includes hypertext links. HTML is used to create electronic store pages for the Web.

Hypertext Transfer Protocol (HTTP). In the Internet suite of protocols, the protocol that is used to transfer and display hypertext documents on the Web.

I

ID resolution. The generation of reference numbers prior to loading XML elements into a database. ID resolution is used to uniquely identify data within the database system.

impression. In Web advertising, an ad's appearance on an accessed page. For example, if a Web page displays three ads, each ad would have one impression. Online publishers often sell ad space according to impressions. Contrast with *clickthrough rate*.

inbound message. A message that WebSphere Commerce receives from an external or back-end application. The Transport adapter supports five inbound messages in XML format: Order Status Update, Product Inventory Update, Product Price Update, Customer Update, and Customer New. Inbound messages are used to integrate WebSphere Commerce with other systems.

input method. A component that converts key strokes into text input that could not otherwise be typed directly, such as characters that are not native to your operating system. For example, the input method component can be used to type Japanese text on an English keyboard.

instance. See *WebSphere Commerce instance* and *Web server instance*.

interest item. An item that a shopper has indicated for recurring or potential purchase. An interest item is stored with quantity information, but not price information. An interest item list consists of one or more interest items.

inventory allocation. Designating inventory for an order against inventory that actually exists in a fulfillment center. Allocation is not the same as reservation, which is a more stringent policy, and does not typically apply to orders. Contrast with *inventory allocation against expected inventory*.

inventory allocation against expected inventory. Designating inventory for an order against inventory that is expected to be received at a fulfillment center. This information is typically found in an expected inventory record. Contrast with *inventory allocation*.

inventory on hand. Inventory that is physically available to fulfill orders.

inventory receipt. The receipt of products at a fulfillment center. Products may have been expected and recorded in expected inventory records, or received ad hoc. Ad hoc inventory receipts are not recorded in expected inventory records.

inventory sharing arrangement. An arrangement whereby a store makes its inventory receipts available to another store for inventory allocation.

IP address. The unique 32-bit address that specifies the location of each device or workstation in the Internet. For example, 9.41.41.103 is an IP address.

ISO 4217. A three-letter format standard adopted by the International Organization for Standardization, used to indicate the currency in which a monetary amount is expressed. For example, the United States dollar is expressed as USD.

item. An entity that has a part number or SKU. All items that are related to a particular product exhibit the same set of attributes and are distinguished by their attribute values. An item does not need to be associated with a product. If an item has no distinct attributes, it does not have an associated product.

J

JAR file format. JAR (Java Archive) is a platform-independent file format that aggregates many files into one. Multiple Java applets and their components (.class files, images, sounds, and other resource files) can be bundled in a JAR file and subsequently downloaded to a browser in a single HTTP transaction.

Java(TM). An object-oriented programming language for portable interpretive code that supports interaction among remote objects. Java was developed and specified by Sun Microsystems, Inc.

JavaBeans. As defined by Sun Microsystems, a portable, platform-independent, reusable component model.

Java bean. A reusable software component that follows the JavaBeans specification from Sun Microsystems, Inc. Beans have standard ways of implementing their properties, methods, and events so they can be examined and manipulated programmatically. WebSphere Commerce and Commerce Studio include WebSphere Commerce specific beans that you can use to add dynamic information to store pages created with JavaServer Pages technology.

Java Database Connectivity (JDBC). A specification for enabling Java programs to access databases using SQL queries.

Java Message Service (JMS). An API from Sun Microsystems, Inc. that supports the formal communication known as messaging between computers in a network. Using the JMS interface, a programmer can invoke enterprise messaging systems such as MQSeries(R).

JavaScript. A Web scripting language that resembles Java.

JavaServer Pages (JSP). A server-side scripting technology that enables you to embed Java code within static Web pages (HTML files) and to execute the Java code when the page is served. As a result, you can use JSP technology to create product data pages, which typically contain dynamic content, such as products, product prices, and attributes.

JDBC. See *Java Database Connectivity*.

job. A WebSphere Commerce command that is scheduled to run at a specified time or interval.

JSP. See *JavaServer Pages*.

JSP file. A file named with a .jsp extension that a developer authors using standard HTML tags, core JSP tags, custom JSP tags, and scripting language statements in order to display dynamic pages in a Web browser. [Sun Microsystems, Inc.]

JSP page. A text-based document using fixed template data and JSP elements that describes how to process a request to create a response. [Sun Microsystems, Inc.]

jurisdiction. A geographical region for tax or shipping purposes representing a country or region, province or territory, zip code range, or an application-specific geo-code.

L

LDAP. See *Lightweight Directory Access Protocol*.

Lightweight Directory Access Protocol (LDAP). An open protocol that uses TCP/IP to provide access to information directories.

LikeMinds Personalization Server. The software responsible for implementing collaborative filtering recommendations.

list price. A price that is part of the catalog entry. Since a catalog may be produced by a manufacturer, who would supply a list price as part of the description of each entry, the list price is not necessarily the price at which an entry is sold. The price at which items are sold is determined by a store and is known as the offer price. Thus, displaying the list price is, in general, not

always appropriate. If a store creates its own catalog entries, then it may display either the list price or the offer price in its catalog.

load balancing. A method of dividing the amount of work that a computer has to do between two or more computers so that all online users get served faster. If one server starts to get swamped, requests are forwarded to another server with more capacity. Typically, load balancing is the main reason for computer server clustering. Since load balancing requires multiple servers, it is usually combined with failover and backup service.

B2B **Logistics Manager.** A defined role in WebSphere Commerce that manages fulfillment. The Logistics Manager has access to all operational tasks, including the duties of the Pick Packer, Receiver, and Returns Administrator.

LUHN formula. An industry standard used by many credit card companies as a rudimentary prevention of credit card fraud.

M

manifest. A shipment confirmation that may contain tracking identification information.

marketing event. In WebSphere Commerce, any event within the system that is considered to be significant for the purposes of marketing. Most marketing events are directly driven by customer behavior. Examples include catalog browsing, navigation, and shopping cart activity.

Marketing Manager. A defined role in WebSphere Commerce that monitors, analyzes, and understands customer behavior. The Marketing Manager also creates and modifies customer profiles for targeted selling and creates and manages campaigns.

B2B **marketplace.** A business-to-business electronic commerce Web site in which those organizations granted access to the site are presented with a unified view of the products and services being traded on that site. They are also provided with a variety of trading mechanisms to facilitate trade among themselves.

master catalog. The main catalog containing all products, SKUs, descriptions, and standard pricing for each product. Each product belongs to a single category. See also *online catalog*.

member. A person, group, or organization known to the system. A member can be a user, an organization, an organization unit, or a member group. A member may act as a customer or an administrator, or may own entities. **B2B** A member must first become a member of the marketplace before becoming a user.

member group. Member groups implement role-based control in WebSphere Commerce. The type of member group indicates its intended usage. A customer group is for general use, while an access group is for access control purposes.

merchandising association. An association between two catalog items for the purpose of a sales activity. For example, a camera may have a "requires" merchandising association with a set of batteries, and a particular shirt may have a "goes with" merchandising association with a particular pair of pants.

merchant. Supervises the overall store objectives and management, in addition to tracking the store sales. The merchant is equivalent to *Seller*.

Merchant Initiated SET. A SET Secure Electronic Transaction LLC extension for SET Secure Electronic Transaction(TM) messages. The Merchant Initiated SET extension permits a merchant to use SET(TM) messages for authorization and capture of orders that were placed by the cardholder using a transmission method other than SET.

MQSeries(R) classes for Java Message Service. A set of Java classes that implement Java Message Service (JMS) interfaces by Sun Microsystems, Inc. to enable JMS programs to access MQSeries systems.

N

node. A connection point in a network; either a redistribution point or an end point for data transmissions. In general, a node has programmed or engineered capability to recognize and process or forward transmissions to other nodes.

non-registered customer. A customer who is not registered with a store. Non-registered customers are created when a customer adds something to the shopping cart, but has not yet registered.

O

object. (1) An item that a user can manipulate as a single unit to perform a task. An object can appear as text, an icon, or both. (2) In object-oriented design or programming, objects are grouped into classes that share common data definitions and member functions. Each object in the class is said to be an instance of the class.

offer. A price for a product, in one or more currencies, along with a set of conditions such as an effective time range or an acceptable quantity range, which must be satisfied in order to use the price. Also known as a *trading position*. See also *trading position container*.

offer price. A price at which items are offered by a store. The offer price is the final price paid, before

taxes, discounts, and shipping. Offer prices can be qualified by quantity ordered (that is, you can have a different price per quantity), time frame, member groups, or contract. When items are actually placed into an interest item list or into an order, the price shown is the offer price. See also *list price*.

online catalog. General term for a collection of catalog groups or catalog entries available for display and purchase at an online store.

online store. (1) A store that uses Internet technologies to sell or exchange goods or services. (2) A set of HTML and JavaServer Pages files, as well as tax, shipping, payment, catalog and other database assets. In WebSphere Commerce, these files and database assets are contained in a store archive. WebSphere Commerce provides sample stores and reference stores to be used by customers.

▶ AIX ▶ Solaris ▶ Linux **Open Database Connectivity (ODBC).** A standard application programming interface (API) for accessing data in both relational and nonrelational database management systems. Using this API, database applications can access data stored in database management systems on a variety of computers even if each database management system uses a different data storage format and programming interface. Contrast with *Java Database Connectivity*.

▶ AIX ▶ Solaris ▶ Linux **Open Database Connectivity (ODBC) driver.** Each database that supports ODBC has its own ODBC drivers. A driver provides a set of standard application programming interfaces to perform a variety of database functions such as connecting to the database, performing dynamic SQL functions, and committing or rolling back database transactions.

▶ B2C **Operations Manager.** A defined role in WebSphere Commerce that manages order processing, ensuring that orders are properly fulfilled, payment is received, and orders are shipped. The Operations Manager can search for customer orders, view details, manage order information, and create and edit returns.

▶ B2B See *Sales Manager*.

order. (1) One or more items or packages, or a combination thereof, selected for purchase. An order contains quantities, prices, shipping information, and tax and shipping charges, which are compiled and displayed to customers after they initiate the ordering process. In WebSphere Commerce, an order can be in one of the following order states: new, pending, shipped, completed, or canceled. (2) One or more products, their prices, and the quantity specified, that a customer has selected to purchase or has purchased. A Customer Service Representative can also place an order on behalf of a customer. In addition to products,

a customer order includes a billing address; shipping address (not applicable to downloadable purchases, such as software); shipping method, carrier, and service; payment information; tax and shipping charges; and any comments or price adjustments

stipulated by the person placing the order. **B2C**
An Operations Manager ensures that orders are properly fulfilled, payment is received, and orders are shipped. **B2B** A Sales Manager ensures that orders are properly fulfilled, payment is received, and orders are shipped.

B2B organization administrator. In WebSphere Commerce, the representative of a member organization who establishes organizational approval flows, and assigns roles to the users within the organization.

outbound message. A message generated by WebSphere Commerce that is sent to a back-end system. The WebSphere Commerce Transport adapter supports one outbound message, called Order Create. This message contains order information copied from the WebSphere Commerce Server to back-end systems, where further order fulfillment processes take place. Outbound messages are used to integrate WebSphere Commerce with other systems.

output queue. A generalized mechanism to separate a set of products that require special treatment in the fulfillment process. An output queue may direct information about ordered products to a printer or a file. For example, monogramming would require special attention; sending products to be monogrammed to the same output queue would allow for this.

owner. (1) A member who owns an entity. (2) One who has access and permission to operate on an entity.

P

package. (1) A collection of catalog entries that has a SKU and may be ordered as a single item. See also *bundle*. (2) A shipping unit that may be tracked by a shipping carrier.

package item. An item that is sold as part of a package.

packing slip. A printed document containing a list of all the products in a given release. Typically, this document also contains the ship-to address, shipping carrier information, and sometimes pricing information. The packing slip is used by packers to package the products in a release for shipping. It may then be included in the package itself so that the customer can verify that the correct products were sent.

parametric search. A search of the online catalog in which the searcher specifies attributes or values as criteria.

parent category. A category that contains other categories in a hierarchy. See also *child category*.

persistence. A characteristic of data that is maintained across session boundaries, usually in nonvolatile storage such as a database system or a directory. A bean persists by having its properties, fields, and state information saved to and restored from storage, rather than ceasing to exist when the application that created it is not running.

personalization. (1) The use of customer knowledge to present a customized shopping experience. (2) Creating for a given user a set of associated information that can be used to customize resources for that person.

personalization engine. The LikeMinds Personalization Server component that identifies which algorithm is used to generate customer recommendations. The LikeMinds Personalization Server supports five different engines: Clickstream, Purchase, Item Affinity, Preference, and Product Matching. WebSphere Commerce interacts with the Clickstream Engine.

B2B personalized attributes. In the RFQ trading mechanism, a list of attributes created by a selling organization that a buyer must use when sending an RFQ to that organization. In addition to the predefined attributes provided by the Seller, buyers may specify unique attributes in designated attribute fields.

PGP. See *Pretty Good Privacy*.

pick batch. A group of releases that are managed as a unit in a fulfillment center.

Pick Packer. A defined role in WebSphere Commerce that picks products from fulfillment centers and packs the products for shipping to customers. The Pick Packer also manages pick tickets and packing slips which are used to confirm shipment of products during order fulfillment.

pick ticket. A printed document containing a list of all the products required to fulfill the releases in a given pick batch. This document is used by pickers to gather the products that must be packaged and shipped for all of the releases included in the pick batch.

B2B post-approve. The execution of the post-approve command, if any, when an approvable action is approved. For example, the post-approve command might transmit a special notification process. See also *pre-approve* and *post-reject*.

B2B post-reject. The execution of the post-reject command, if any, when an approvable action is

rejected. For example, the post-reject command might check for the size of the order and notify a manager if it above a certain amount. See also *post-approve* and *pre-approve*.

B2B **pre-approve.** The execution of a command prior to the approval of the approvable action which initiated the approval request. For example, prior to the approval of an order, the command checking inventory is executed to ensure that the product is in stock. See also *post-approve* and *post-reject*.

preferred currency. The currency indicated by a customer as the one in which he or she would prefer to see prices. The preferred currency is indicated in the customer profile. See also *shopping currency* and *supported currency*.

preferred language. The language indicated by a customer as being the one in which he or she would like to conduct transactions. The preferred language may be indicated either in the customer profile or by use of the langId parameter, which is available from the URL-based controller commands. See also *shopping language*.

Pretty Good Privacy (PGP). An electronic transfer protocol that allows for the private exchange of files or mail using public key encryption.

primary key . In a relational database, a key that uniquely identifies one row of a database table.

product. (1) An entity that can be viewed as a group of SKU items that share attributes. All SKU items that are related to a particular product exhibit the same set of attributes and are distinguished by their attribute values. (2) For WebSphere Commerce Accelerator users, the orderable item is called a *product*. Although products and SKU items are differentiated for low level reasons (such as in the WebSphere Commerce database schema), the WebSphere Commerce Accelerator does not make this distinction.

Product Manager. A defined role in WebSphere Commerce that is responsible for determining the best way to display, price, and sell products in the online store. The Product Manager traces customer purchases and suggests discounts. The Product Manager also determines suggestive selling techniques, and creates and manages auctions and bid controls.

product page. A Web page that displays detailed information about a product in an online store.

product recommendation. A sales and marketing technique in which catalog inventory is suggested to customers based on their profile or on independent criteria. See *cross-sell* and *up-sell*.

production server. A WebSphere Commerce Server that is live for business.

project. A unit of organization of files and assets in WebSphere Studio. For example, you create a project in WebSphere Studio in which you manage all of the Web assets for your store.

publish. The act of transferring files to a location on the WebSphere Commerce Server. There are three contexts. (1) Using Store Services, you can publish the store archive to a WebSphere Commerce Server, thus creating an operational store. The store archive must be published to a WebSphere Commerce Server before you can view an operational store. (2) Using WebSphere Studio, you can publish Web assets to a store archive or to an operational store that resides locally on your workstation, on a shared file system, or on a remote system that you access using FTP.

Q

400 **QNETCOMM.** (1) The name of the WebSphere Commerce product library. (2) A subsystem space for WebSphere Commerce jobs. (3) The name of the default Web server instance; this Web server instance is used for running multiple WebSphere Commerce instances.

R

Receiver. A defined role in WebSphere Commerce that receives inventory at the fulfillment center, tracks expected inventory records and ad hoc receipts for ordered products, and receives returned products as a result of customer returns.

redirection URL. A URL used in a URL command to indicate the page that should be sent to the customer upon completion of the command.

reference store. An online store which contains fully functional code for selected features of an online store, for example, auctions. Reference stores are designed to be used by application developers as code samples of the highlighted features.

referential integrity. (1) The state of a database in which all values of all foreign keys are valid. (2) The condition that exists when all intended references from data in one column of a table to data in another column of the same or a different table are valid. Maintaining referential integrity requires that DB2 UDB for z/OS enforce referential constraints on all LOAD, RECOVER, INSERT, UPDATE, and DELETE operations.

referrals. Records that show the number of times a third-party business or Web site has referred customers to the Web site. Referrals can be recognized where the Seller and the third-party measure the number of referrals for recognition purposes. They can also be unrecognized where the Seller measures referrals for their own purposes. Referrals can be measured through

various techniques including clickstream analysis, clickthrough rates, affiliate marketing services, and surveys.

registered customer. A customer who is registered with a store. To register, a customer provides personal information to the WebSphere Commerce system, such as an e-mail address.

release. A set of products in a given order that have the same ship-to address, fulfillment center, and shipping carrier. Products in a release may be shipped in multiple packages. For example, a release could contain four computer monitors. It would not be practical to ship them all in one large box, but they are still considered a single release. Products that would otherwise be part of a single release may be released separately if the Seller's policy dictates.

report context. The basis for a displayed report. The context changes depending on which function you are using in the WebSphere Commerce Accelerator. Available report contexts include campaigns, initiatives, and a combined context.

B2B request for quote (RFQ). The trading mechanism used when a buyer solicits quotes for a specific set of goods or services. It can be used if a buyer does not find a particular item in the catalog, finds an item without a price, or wants to establish a long-term supply arrangement for a fixed-price item.

reserved inventory. Inventory that has been designated for a particular purpose, and is not available to allocate to orders.

resource bundle. Contains the text for the store pages. If the store supports more than one language, the resource bundle will contain multiple "bundles," that is one bundle per language. The bundle files are created and accessed according to the Java PropertyResourceBundle API.

B2B resource group. A group of resources that can include business objects such as contracts or a set of related commands. In access control policies, resource groups specify the resources to which the policy authorizes access.

return. One or more products, their prices, and the quantity specified, that a customer has selected for a refund from the store in which the product was originally purchased. The refund can be in the form of a credit, refund, or replacement product. Depending on your business, a return does not always require the customer to physically return the unwanted product. For example, a refund for a magazine subscription would not require a physical return.

return merchandise authorization (RMA). Authorization from the Seller for a customer to return products ordered from a store and receive a credit,

refund, or replacement product. At the Seller's discretion, a product may not need to be returned in order to receive a credit, refund, or replacement product.

Returns Administrator. A defined role in WebSphere Commerce that manages the disposition of returned products.

B2B RFQ. See *request for quote*.

B2B RFQ response. When using the RFQ trading mechanism, the reply a Seller sends to a buyer who has sent them an RFQ. The RFQ response indicates the terms and conditions under which the Seller will sell the products or services to that buyer.

RMA. See *return merchandise authorization*.

role. Defines what access levels a given user has and the specific resources they can modify at those levels. The user may be limited in how they can access information if they do not have the proper role. Multiple roles are permissible.

roll back. To remove changes that were made to database files under commitment control since the last commitment boundary. To return to a previous stable condition.

rule. A statement that associates a set of actions with a set of test conditions. The basic form of a rule is: if condition, then action. Rules are used extensively to implement personalization.

rule project. Contains information that your site requires to interact with the Blaze Advisor Rule Server.

rule service. An interface used to interact with the Blaze Advisor Rule Server. A rule service has defined input and output methods to facilitate communication between the two applications.

run-time environment. (1) An execution environment. (2) In WebSphere Commerce, an active Web site conducting business.

S

B2B Sales Manager. A defined role in WebSphere Commerce that manages order processing, ensuring that orders are properly fulfilled, payment is received, and orders are shipped. The Sales Manager can search for customer orders, view details, manage order information, and create and edit returns.

B2C See *Operations Manager*.

sample store. A fully functional online store, provided in store archive format with WebSphere Commerce. Sample stores are designed to be used as a base on which you create your online store.

sample store archive. A store archive that is meant to be copied and used as a base upon which to create new stores. Sample store archives can be copied and published multiple times; they do not contain generated primary keys that are specific to a particular instance of the database. Instead, they use internal aliases which are resolved by the IDResolver at the time of publish. The sample stores provided with WebSphere Commerce are sample store archives.

SAR file format . In WebSphere Commerce, SAR (store archive) is a platform-independent file format that aggregates many files into one. See *store archive*.

scalable. Pertaining to the capability of a system to adapt readily to a greater or lesser intensity of use, volume, or demand. For example, a scalable system can efficiently adapt to work with larger or smaller networks performing tasks of varying complexity.

scheduler. A multithread, multiprocess background server designed to handle the scheduling and launching of jobs, based on a simple timing scheme.

schema. The set of statements, expressed in a data definition language, that completely describe the structure of a database. In a relational database, the schema defines the tables, the fields in each table, and the relationships between fields and tables.

Secure Hypertext Transfer Protocol (S-HTTP). A security-enhanced variation of HTTP. S-HTTP allows servers and clients to authenticate each other and to define the kind of security used in transmissions. S-HTTP is an alternative to another well-known security protocol, Secure Sockets Layer (SSL). See also *secure server*.

secure server. A server that encrypts files it is sending and decrypts files it has received to facilitate secure communication with a client.

Secure Sockets Layer (SSL). A security protocol that allows the client to authenticate the server and all data and requests to be encrypted. The URL of a secure server protected by SSL begins with HTTPS (rather than HTTP). See also *secure server*.

security. Solution used by a computer system to insure that internal resources are protected from unintended or deliberately malicious reading, modification, or deletion.

Seller. (1) A defined role in WebSphere Commerce that has access to all WebSphere Commerce Accelerator capabilities. (2) The role that supervises the overall store objectives and management, in addition to tracking the store sales. The Seller role is equivalent to a *merchant*.

separate search space. An implementation of the Product Advisor. For this style of implementation, you must create additional database tables containing

metadata to facilitate searching a particular category of products. See also *base search space*.

server. (1) A functional unit that provides shared services to one or more clients over a network. (2) A computer or program that responds to commands from a client. Examples include a file server, a print server, and a mail server. See also *WebSphere Commerce Server* and *Web server*.

servlet. An application program, written in the Java programming language, that is executed on a Web server. A reference to a servlet appears in the markup for a Web page, in the same way that a reference to a graphics file appears. The Web server executes the servlet and sends the results of the execution (if there are any) to the Web browser. Contrast with *applet*.

servlet engine. The function of the Web application server that manages servlets. It manages the creation and deletion of servlets, dispatches the appropriate servlet for each URL it receives, and specifies which servlets should be automatically loaded into memory at start time and which servlets should be loaded upon initial request.

session bean. A relatively short-lived enterprise bean. There are two types of session beans: *stateful session beans* and *stateless session beans*. Contrast with *entity bean*.

session ID. A unique identifier that is assigned when a customer accesses WebSphere Commerce. For a non-registered customer, the session ID is assigned by the system. For a registered customer, the session ID is the login user ID.

SET Secure Electronic Transaction(TM). An industry standard for secure credit card and debit card payments over open networks such as the Internet. The SET(TM) protocol ensures confidentiality of information, integrity of all transmitted data, authentication of the cardholder and the merchant, and interoperability.

shipping carrier. A company that provides shipping services from a fulfillment center to a customer.

shipping category. Defines shipping specifications, and is typically determined by a range in weight, size, or amount. For example, you may have a shipping category for standard size products and a category for oversize products. These shipping categories will have different shipping rates. WebSphere Commerce defines two default shipping categories: cost per item and cost per order. These two categories cannot be changed or deleted.

shipping provider. The combination of a shipping carrier and a type of service offered by that carrier. For example, a shipping provider may be XYZ Courier, overnight service.

shopper. See *customer*.

shopping cart. A pending order. See also *interest item*.

shopping currency. The currency that is used by a store in its transactions with a particular customer. See also *preferred currency* and *supported currency*.

shopping language. The language that is used when displaying pages to a particular customer. If the customer's preferred language is supported by the store or site, then the preferred language is used as the shopping language. Otherwise, the shopping language is the default language for the store or site. See also *preferred language*.

S-HTTP. See *Secure Hypertext Transfer Protocol*.

Simple Mail Transfer Protocol (SMTP). In the Internet suite of protocols, an application protocol for transferring mail among users in the Internet environment. SMTP specifies the mail exchange sequences and message format. It assumes that the Transmission Control Protocol (TCP) is the underlying protocol.

Site Administrator. A defined role in WebSphere Commerce that installs, configures, and maintains WebSphere Commerce and the associated software and hardware. The Site Administrator responds to system warnings, alerts, and errors, and diagnoses and resolves system problems. This role typically controls access and authorization, manages the Web site, monitors performance, and manages load-balancing tasks.

SKU (stock keeping unit). An alphanumeric identifier for each item of merchandise, or catalog entry. The smallest unit available for keeping inventory control. It can include variables for department, class, vendor, style, color, size, and location.

SKU item. (1) A purchasable object with a SKU. It may consist of a single item, or it may consist of a product, a package, or a bundle. (2) For WebSphere Commerce Accelerator users, the orderable item is called a product. Although products and SKU items are differentiated for low level reasons (such as in the WebSphere Commerce database schema), the WebSphere Commerce Accelerator does not make this distinction.

SMTP. See *Simple Mail Transfer Protocol*.

SQL (Structured Query Language). A standardized programming language that is used to define and manipulate data in a relational database.

SSL. See *Secure Sockets Layer*.

staging server. An instance of a WebSphere Commerce Server that is used for testing purposes before new functions or data are deployed to the production server.

stateful. Of or pertaining to a system or process that keeps track of the state of interaction. Contrast with *stateless*.

stateful session bean. A session enterprise bean that acts on behalf of a single client and maintains client-specific session information (called conversational state) across multiple method calls and transactions. Contrast with *stateless session bean*.

stateless. Having no record of previous interactions. A stateless server processes requests based solely on information provided with the request itself, and not based on memory from earlier requests. Contrast with *stateful*.

stateless session bean. A session enterprise bean that does not maintain any conversational state. Stateless session beans are pooled with others in a container. Contrast with *stateful session bean*.

state machine. In WebSphere Commerce, the state machine enforces the validity of user actions, tracks the execution of actions within an instance of the business process, and provides the run-time user interface with a list of actions for an instance of the business process. In doing so, the state machine enables the configuration and execution of successive steps in the workflow process.

static. Pertaining to an operation that occurs at a predetermined or fixed time. Contrast with *dynamic*.

static kit. See *package*.

stock keeping unit. See *SKU*.

store. See *online store*.

store archive. A compressed file that contains all the assets (including file assets and database information) necessary to create a store. Publishing the store archive to a WebSphere Commerce Server creates an operational store. See *SAR*.

application developer. A defined role in WebSphere Commerce that creates the initial store, member groups, product display and other store pages, shopping metaphors, and order and payment systems including taxes and shipping. The application developer is also responsible for the look and feel of the store and any required code customization.

store entity. An abstract super class that can represent either a store or a store group.

store front assets. The part of an online store that customers see while shopping. Store front assets include HTML pages, JSP files, style sheets, images, graphics, and other multimedia file types. Contrast with *back-office business logic*.

store owner. In WebSphere Commerce, this position controls and owns the database and the file assets related to the online store. A store owner can be an organization.

Structured Query Language. See *SQL*.

suborder. The part of an order that is being shipped to a specific address. An order can consist of multiple suborders. For example, a customer may indicate different shipping addresses for different products in the shopping cart. Each shipping address and the products associated with it constitute a suborder.

supported currency. A currency that an online store is capable of displaying and handling. See also *shopping currency* and *preferred currency*.

T

targetable command. A command that can be executed on a different target container. A targetable command invocation incurs some overhead; making the task command not targetable can improve the performance of the overall command framework.

targeted e-mail. A means of communicating a campaign through e-mail to specific recipients based on customer profiling.

task command. A command that implements a specific application logic. In general, a controller command and a set of task commands together implement the application logic for a URL request. A task command is not targetable, meaning it is always executed in the same container as the controller command.

tax category. Indicates the different categories of tax a store may be required to collect, such as federal, state or provincial, and municipal tax. Each tax category must be assigned one of the tax types; either sales or shipping.

tax type. Indicates the type of tax; either sales or shipping. Each tax type has its own unique set of tax categories.

TCP/IP. See *Transmission Control Protocol/Internet Protocol*.

template. In WebSphere Commerce, a template is a skeleton or pattern that defines how information in the WebSphere Commerce database displays on a Web page. The template determines the location and type of text and images on the page, as well as other page attributes, such as a background color. The templates are created with JavaServer Pages (JSP) technology using HTML tags or beans that are linked to the WebSphere Commerce database.

top category. In an online catalog, a category of items that has no parent.

▶ **B2B trading mechanism.** Within WebSphere Commerce, a method by which buyers and Sellers carry out business transactions. Depending on the edition of WebSphere Commerce, these methods may include: fixed price, contract, RFQ, and auction.

trading position. See *offer*.

trading position container. Contains offers, also known as trading positions. The trading positions in a trading position container are made available to customers by associating the trading position with one or more contracts. A trading position container may be restricted. A customer shopping in a store cannot use offers in a restricted trading position container unless the customer is a member of one or more customer groups associated with that trading position container.

Transmission Control Protocol/Internet Protocol (TCP/IP). A set of communication protocols that support peer-to-peer connectivity functions for both local and wide area networks.

transport. A means by which to send an outbound message from WebSphere Commerce.

trigger. A trigger is an object that initiates an action when an UPDATE, DELETE, or INSERT operation is run against a table. The action is called a triggered action and the operation is called a trigger event. Triggered actions can perform such tasks as:

- Synchronizing other tables with changes made by trigger events
- Validating input data
- Generating values for newly-inserted rows

U

▶ **B2B UBF.** See *Unified Business Flow*.

Unicode. A universal character encoding standard that supports the interchange, processing, and display of text that is written in any of the languages of the modern world. It also supports many classical and historical texts in a number of languages. The Unicode standard has a 16-bit international character set defined by ISO 10646.

▶ **B2B Unified Business Flow (UBF).** A feature that allows for the flexible creation and alteration of business processes. Unified Business Flow allows developers to modify the business flows across the various subcomponents of WebSphere Commerce.

▶ **B2B Unified Trading Framework (UTF).** The common architecture upon which all trading

mechanisms can be built. This includes trading mechanisms that are developed in-house.

unit abandoned. An orderable item that was placed in a shopping cart but not ordered at the time the data was extracted.

up-sell. A product recommendation of a related yet pricier product in the same product line as the currently displayed or selected product. See also *cross-sell*.

URL. The address of a file on the Internet. The URL contains the name of the protocol, the fully qualified domain name, and the path and file location. See also *URL command*.

URL command. A controller command that has a URL interface. A URL command may be called by entering a URL in a browser.

use case. In WebSphere Commerce, a use case shows the flow of each user interaction in the sample store and acts as a template for creating your own store.

user group. See *customer group*.

 **UTF.** See *Unified Trading Framework*.

V

vertical scalability. The creation of multiple Java virtual machine processes on a single machine.

view. An alternative representation of data from one or more tables. A view can include all or some of the columns in the table or tables on which it is defined.

view command. A command that is used to compose a view as a response to a client request.

W

Web application document root. The location within the file system where an application's Web assets are stored (such as static HTML, JSP files, and GIFs).

Web application Web path. The portion of a URL associated with a Web application.

Web controller. An adapter to the WebSphere Commerce commands. There can be different types of Web controllers, one for each client invocation protocol, such as the HTTP request or MQSeries request.

Web server. A server on the Web that serves requests for HTTP documents. The Web server controls the flow of transactions to and from WebSphere Commerce. It protects the confidentiality of customer transactions and ensures that the user's identity is securely transmitted to the WebSphere Commerce Server. The

Web server implements the Secure Sockets Layer (SSL) protocol to achieve this level of security.

Web server instance. A unique configuration of the Web server to support one or multiple WebSphere Commerce instances.

WebSphere Application Server. A Java servlet-based Web application server used for deploying and managing Web applications. WebSphere Application Server is a Web server plug-in based on a server-side Java programming model that uses servlets, JavaServer Pages files, and enterprise beans.

WebSphere Commerce Accelerator. In WebSphere Commerce, a workbench of online tools used to maintain online stores through various store operations. If multiple languages are available on the WebSphere Commerce machine, you can complete these tasks for each language. If you are assigned a role with fulfillment duties, you can also choose the fulfillment center associated with the store using the WebSphere Commerce Accelerator. Tasks that you are authorized to perform in your role are displayed on the WebSphere Commerce Accelerator home page menus. These tasks are based on user roles and authority levels.

WebSphere Commerce beans. A set of Java beans, included with WebSphere Commerce and Commerce Studio, that access information from the database tables. Creating store pages using these beans allows you to display information that may often change, such as category and product lists or product prices.

WebSphere Commerce database. The database that contains the operational data for online stores.

WebSphere Commerce instance. A unique configuration of WebSphere Commerce to support an electronic commerce Web site, which may contain one or multiple stores.

WebSphere Commerce Server. The server that handles the store- and commerce-related functions of an e-commerce solution. The WebSphere Commerce Server provides all of the WebSphere Commerce functionality in a Web container and an EJB container.

WebSphere Commerce Studio. WebSphere Commerce Studio is available in three editions: Developer Edition, Professional Developer Edition, and Business Developer Edition. All editions include the tools required to develop the Web assets for your store.

WebSphere Studio. WebSphere Studio is a suite of tools that brings all aspects of Web site development into a common interface, allowing you to create, manage, and maintain your site from one central location.

widget. (1) An element of a graphical user interface (GUI) that displays information or provides a specific way for a user to interact with the operating system

and application. Widgets include icons, pull-down menus, buttons, check boxes, scroll bars, windows, forms, and many other devices for displaying information and for inviting, accepting, and responding to user actions. (2) In object-oriented programming, each type of widget is defined as a class (or a subclass under a broad generic widget class) and is always associated with a particular window. A widget implements procedures through its widget class structure. Most if not all application development languages today, such as Java, come with a ready-made library of widgets that a programmer can incorporate and modify.

wrapper. A program or script that sets the stage and makes possible the running of another, more important program.

WYSIWYG (What You See Is What You Get). The capability of a text editor to continually display pages exactly as they appear when printed or viewed through a Web browser.

X

X.509 certificate. Client certificate authentication for users entering a secured WebSphere Commerce site.

XML (Extensible Markup Language). A standard metalanguage for defining markup languages that was derived from and is a subset of SGML. XML omits the more complex and less-used parts of SGML and makes it easier to write applications to handle document types, to author and manage structured information, and to transmit and share structured information across diverse computing systems. XML is defined by the World Wide Web Consortium (W3C).

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Part Number: CT20BNA

Printed in U.S.A.

GC09-7675-00



(1P) P/N: CT20BNA



Spine information:



IBM WebSphere Commerce

Fundamentals

Version 5.5