



**Patricia Seybold Group**

---

E-Business Consultants & Thought Leaders

# **Confident Commerce**

IBM WebSphere Commerce Suite  
Version 5.1

*By Mitchell I. Kramer  
January 2001*

*Prepared for IBM Corporation*

## Table of Contents

---

Introduction .....	1
Functionality .....	3
Decision Support and Administration .....	8
Administration .....	15
Architecture .....	20
Product Marketing .....	23
Conclusion .....	25

## Illustrations and Tables

---

Illustration 1. Campaigns, Initiative, Conditions ...	7
Illustration 2. Marketing Combination Report for the Top 10 Impressions Clicked and Followed by Orders for Last Week .....	15
Illustration 3. Income Range of Sales Value and Units Sold for Last Month .....	16
Table 1. WebSphere Commerce Suite 5.1 Functionality .	3
Table 2. Conditions .....	8
Table 3. WebSphere Commerce Suite B2B Capabilities .	11
Table 4. WebSphere Commerce Suite 5.1 Decision Support .....	12
Table 5. WebSphere Commerce Suite 5.1 Administration	17
Table 6. WebSphere Commerce Suite 5.1 Architecture .	22
Table 7. WebSphere Commerce Suite 5.1 Product Marketing .....	23



# Confident Commerce

IBM WebSphere Commerce Suite Version 5.1

*By Mitchell I. Kramer, Senior Consultant*

*Prepared for IBM by Patricia Seybold Group*

## Introduction

---

### **A Framework for Evaluating and Comparing E-Commerce Servers**

Since 1997, based on research that began in early 1996, Patricia Seybold Group has published three editions of the In-Depth Research Report "A Comparative Evaluation of Electronic Commerce Servers." Within each edition of this report, we've presented a definition of electronic commerce, a description of electronic commerce servers (the software products used to implement electronic commerce), a framework for the evaluation and comparison of these products, and detailed, framework-based evaluations and comparisons of the leading examples of these products.

Our evaluation and comparison framework is a lens through which heterogeneous products can be analyzed and evaluated either individually or comparatively in a consistent manner. The framework consists of a hierarchical set of requirements that electronic commerce servers should address. The evaluation and comparison are based on our assessment of how well electronic commerce servers address the requirements. Over the years and in the multiple editions of the In-Depth Research Report, we've helped many organizations speed the evaluation of e-commerce servers and accelerate their comparison, leading to the selection of the optimum product for their requirements.

---

### **The Framework, Fourth Edition**

The framework has evolved significantly as the use of electronic commerce has matured and grown and as the technologies used for its implementation have changed. We're currently researching the fourth edition of the In-Depth Research Report and have recently documented

its accompanying framework. The new framework has five sets of requirements:

- **FUNCTIONALITY.** Functionality requirements evaluate what capabilities the product offers across the five e-commerce business processes.
  - **DECISION SUPPORT.** The newest requirement in the framework, decision support requirements evaluate a product's data warehousing, reporting, and analysis capabilities.
  - **ADMINISTRATION.** Administration requirements evaluate the product's tools and resources used to implement and manage a site.
  - **ARCHITECTURE.** Architecture requirements evaluate how the product is implemented.
  - **PRODUCT MARKETING.** Product marketing requirements assess the business aspects of the product and the company that offers it.
- 

### IBM WebSphere Commerce Suite v5.1

At just about the same time that we developed the fourth edition of the framework, IBM introduced WebSphere Commerce Suite (WCS) Version 5.1 (v5.1), the latest version of the company's sell-side electronic commerce server. We have long considered WCS and its predecessor, Net.Commerce product, to be among the leading sell-side electronic commerce servers. In v5.1, new and improved functionality (especially support for B2B applications), the integration of a comprehensive decision support system, improved management tools, excellent change management capabilities, support for internationalization, and a new Java architecture with deployment on IBM WebSphere certainly solidify that leadership position.

WCS v5.1 addresses all the requirements of our evaluation and comparison framework. We give it an evaluation of excellent in many areas. The key strengths of WebSphere Commerce Suite v5.1 are marketing functionality, customer service functionality, and support for business-to-business (B2B) applications. The product is best suited for B2B and business-to-consumer (B2C) e-commerce requirements across a wide range of company types and sizes. It is

most attractive to global companies that wish to deploy large-scale sites which integrate across multiple customer touch points and integrate a range of back office systems.

**This White Paper**

This white paper, prepared for IBM by Patricia Seybold Group, contains an examination of WebSphere Commerce Suite v5.1 that is based on the latest version of the evaluation framework. Evaluations for each of the five requirements areas of the framework are presented in tabular form followed by narrative comments that add explanations where appropriate.

Note that IBM offers several "editions" of WebSphere Commerce Suite, including START, PRO, Marketplace Edition, and Service Provider Edition. In this white paper, we'll focus our discussions on PRO, the high-end package of the product.

**Functionality**

**What Does the Product Do?**

Functional requirements address the capabilities of an electronic commerce server product. In other words, what does the product do? Functional requirements help analyze those capabilities more fully from the perspectives of the five business processes implemented by e-commerce servers—marketing, shopping, buying, fulfillment, and customer service—across their two application dimensions—B2B and B2C. Table 1 presents our high-level assessment of WCS v5.1 according to the functional requirements in the latest version of our evaluation framework. Our comments on that analysis follow.

<b>WebSphere Commerce Suite 5.1 Functionality</b>		
<b>Business Process</b>	<b>Requirement</b>	<b>Analysis</b>
Marketing	Customer Information	Customer information is excellent, resulting from significant improvements in v5.1. These improvements are support for any number of customer segments and support for B2B organizations.
	Catalog, Product, and Pricing Information	Catalog and product information are excellent. V5.1 adds significant improvements to a strong base. Most significantly, WCS supports multiple catalogs, multiple price lists, and rich and flexible relationships among catalog and product entities.

	CRM/ Merchandising	CRM and merchandising functionality are very good. CRM and merchandising programs are supported by this packaged marketing functionality: <ul style="list-style-type: none"> <li>⚡ Four types of prepackaged item-based and order-based discounts</li> <li>⚡ Integrated marketing campaigns that recommend products or create awareness</li> <li>⚡ Multiple catalogs</li> <li>⚡ Member group-based price lists</li> <li>⚡ Database implemented or personalization-based cross-selling, up-selling, and substitution</li> </ul>
	Personalization	WCS personalization is very good. Rule based or collaborative filtering techniques may be used where each is most appropriate.
Shopping	Shopping Methods	Shopping methods in WCS are excellent. The combination of packaged functionality and the Product Advisor add-on implement shopping via browsing, parametric searching, full-text searching, and comparison. Product Advisor also provides a method called Sales Assistance, which implements an interactive, decision tree approach to selling complex products or supporting novice customers.
	Shopping Features	WCS packages shopping features that add very good functionality. Support for auctions is excellent. Interest lists, a good feature, enable customers or marketers to create and reuse shopping lists.
Buying	Order Generation	Buying functionality addresses requirements. Orders may have multiple shipping addresses. Inventory processing has been improved in v5.1 by packaging richer functionality and easier integration of fulfillment systems. Shipping offers good flexibility in terms of shipping methods, shippers, and calculation of shipping charges. Taxation may be implemented by good packaged functionality or an external application. Pricing is a strong point, with flexible calculations of discounts, order items, and order totals.
	Buying Features	WCS packaged three buying techniques that provide useful alternatives to standard order processing. The three are quick order, re-order, and scheduled order. New in v5.1, the product supports quotes. Quotes provide a price for the contents of a shopping cart for a specified period of time.
<b>WebSphere Commerce Suite 5.1 Functionality</b> <i>(continued)</i>		
Fulfillment	Fulfillment Center	Fulfillment functionality meets requirements. As is common in sell-side e-commerce servers, WCS implements fulfillment through integration with an external application and through tracking order status.
Customer Service	Customer and Order Management	Customer service functionality is very good, especially order management, which is excellent. For customer management, support is provided for finding and listing customers and for changing profile, demographic, and password information. Order management capabilities include find and/or list orders, change payment methods, process payments, create an order for a customer, create an order for a non-registered shopper, change order status, change the quantity of products in an order, add/remove a product in an order, change the billing address, change the shipping address, change the shipping method, add/view a comment, change the order amount, split an order, cancel an order.

*Table 1. This table lists the functionality requirements for sell-side e-commerce servers and analyzes how well WebSphere Commerce Suite v5.1 addresses those requirements.*

**Marketing**

If we had to pick the one area where WCS v5.1 best addressed requirements, it would be marketing functionality. The product offers terrific marketing

capabilities—as comprehensive as we’ve seen in any sell-side electronic commerce server. Customer, product and catalog, and pricing information are all excellent because they’re rich and flexible and because they support B2B applications extremely well. Marketing campaigns are a very attractive and innovative new feature. They enable the development and management of proactive and measurable CRM and merchandising programs. We’ll discuss them in more detail in the next section of this white paper.

**DISCOUNTS.** Discounts address e-commerce requirements. WCS packages four types of discounts. Their application is rule based, allowing variation in value and application and enabling targeting based on customer groups or other customer attributes. These are good capabilities, but they’re what we expect an e-commerce server to offer.

**PERSONALIZATION.** IBM has improved personalization. WCS v5.1 still integrates Blaze Advisor rules and the Blaze rules engine for their evaluation. Developers can use all of Blaze’s rich and flexible but complex capabilities. However, business managers are now insulated from this complexity. When they build marketing campaigns with Commerce Suite Accelerator, campaign targeting and scheduling as well as offer qualification are accomplished with visual, wizard-based tools. Rules are automatically generated and managed as a result of input to the wizards. In addition, through the integration of Macromedia LikeMinds, business managers may choose to use collaborative filtering rather than rules for personalization. This approach is more effective when little is known about the shopper or customer.

---

**Campaigns  
Overcome  
Limitations of HTTP**

Shoppers and customers interact with e-commerce sites through the request/response protocol of HTTP that, from customer service and marketing perspectives, have two significant disadvantages. First, each request is handled independently. They can’t be handled within a larger context, say, of a task or a scenario that is made up of multiple interactions, enabling customers and shoppers to achieve objectives. Second, request/response processing prevents sellers from taking business initiatives. They can only react to



customer requests. They can't proactively deliver content.

The new campaigns feature of WebSphere Commerce Suite v5.1 overcomes and eliminates these limitations. Campaigns create contexts or scenarios wherein customers can perform and accomplish tasks and marketers can deliver business initiatives and marketing campaigns. WCS campaigns can span multiple interactions and can even cross multiple sessions. Their execution can be scheduled to occur between start and end times, on specified days of the week or hours of a day, making them proactive, not simply reactive to the latest request.

Scheduled proactive campaigns deliver better e-commerce experiences for customers and more effective e-commerce CRM and merchandising for business managers and marketers. As a result, campaigns can improve higher customer satisfaction and loyalty. They can make it easier to acquire and retain customers and to promote, cross-sell, and up-sell products. Campaigns alone are motivation enough for you to consider WCS as your sell-side e-commerce server. If you're already a user of Net.Commerce or of a previous version of WebSphere Commerce, then campaigns should accelerate your migration to v5.1. Let's take a closer look at them.

---

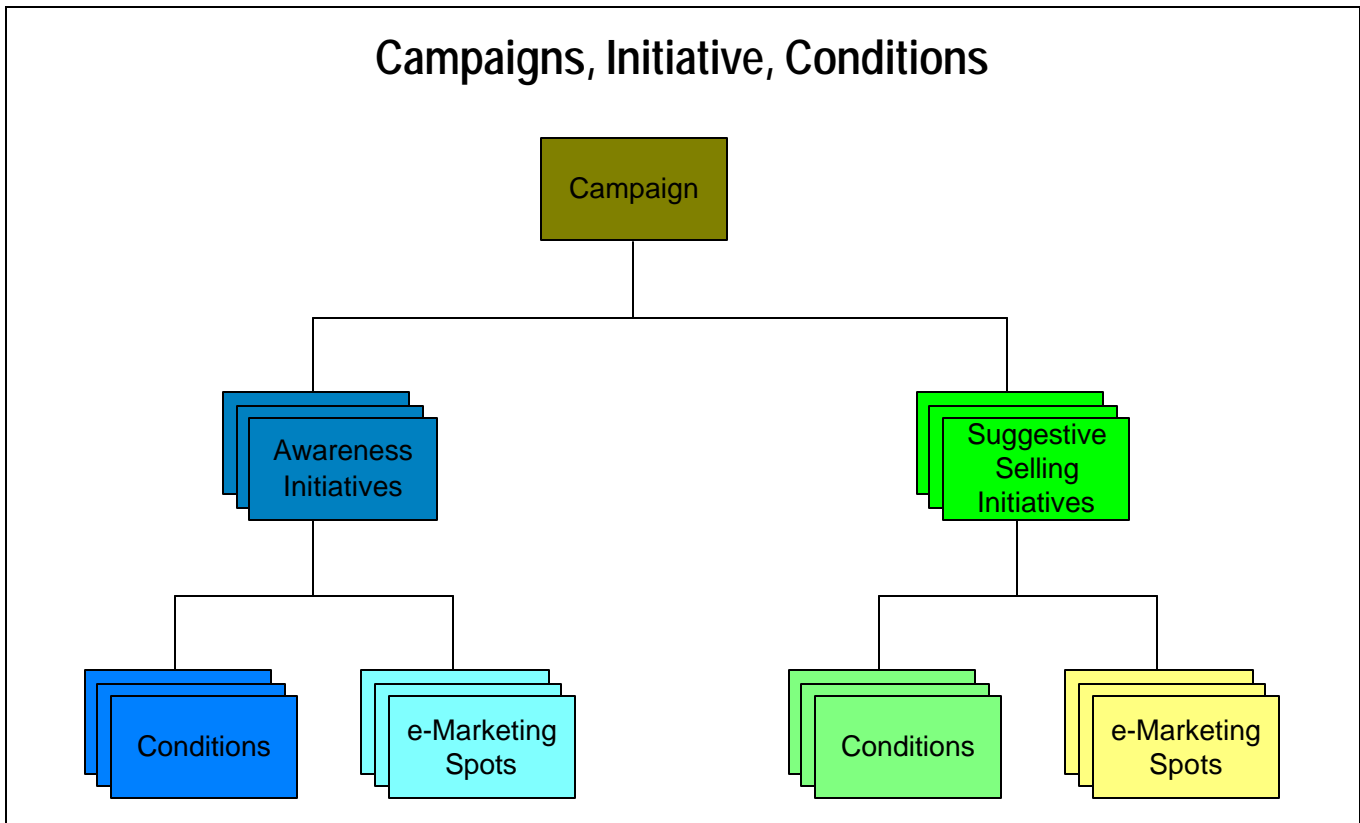
### Campaigns, Initiatives, Conditions

WCS marketing campaigns have three elements that are organized into a hierarchy. The three elements are campaigns, initiative, and conditions. Illustration 1 shows the relationships among them.

**CAMPAIGNS.** Campaigns are organizing and naming elements. Business managers or marketers design campaigns to achieve any of the key marketing objectives: acquire and retain customers, and promote, cross-sell, and up-sell products. A campaign, in turn, contains one or more initiatives, and each initiative contains one or more conditions.

**INITIATIVES.** Initiatives are the marketing programs that make up a campaign. WCS campaigns may have any number of initiatives, each running independently. The output of WCS campaigns is Web content. Each initiative defines **where** within the Web pages of a WCS electronic

commerce site this output is to be presented to shoppers and customers. (Conditions specify *what* content is to be presented.) When the site's content is designed, developers reserve special placeholders, called e-Marketing Spots, within Web page templates to contain campaign output.



*Illustration 1. WCS marketing campaigns are made up of three elements: campaigns, initiatives, and conditions. This illustration shows the relationships among these elements.*

WCS campaigns have two types of initiatives: suggestive selling initiatives and awareness advertisements. A suggestive selling initiative is designed to recommend products. Its output is product content designed to promote, cross-sell, and/or up-sell. An awareness advertisement is designed to create company visibility, brand awareness, and product awareness. Its output is ad copy.

CONDITIONS. A set of four types of conditions defines the target market, the timing, the context, and the content that populates e-Marketing Spots for

initiatives. Table 2 lists and describes these four types of conditions.

WCS campaigns are powerful and flexible marketing tools. Conditions, which qualify a campaign's initiatives, deliver their power and flexibility. Target markets can be as broad as every customer and shopper or as narrow as only those customers in certain groups with certain values for profile, demographic, and organization attributes. Timing conditions enable the delivery of offers across long intervals. Context conditions further qualify the target market through dependencies on a wide range of e-commerce information. Target market, timing, and behavior conditions, in combination with content conditions, provide the capability to make campaign output dynamic. The content displayed in an e-Marketing Spot can vary with the evaluation of these conditions.

<b>Conditions</b>	
<b>Condition</b>	<b>Description</b>
Target Market	Target market conditions specify which customers and/or customer groups are targeted for an initiative. The target market may be based on any customer information attribute, including demographics, group membership, business profile, or purchase history.
Timing	Timing conditions specify when the initiative is active. Marketers specify timing as start and end dates, times of day, or days of the week. Each initiative has a start date and time and an end date and time that can override the start and end dates and times of the campaigns to which they belong.
Context	Context conditions are expressions on all the information available for a particular customer request that is made within an initiative. This context includes order items within the customer's purchase history or the contents of the shopping cart.
Content	Content conditions define the output of initiatives. They contain the information presented to customers or shoppers as a result of the evaluation of target market, timing, and behavior conditions. For awareness initiatives, content is advertisements. For suggestive selling initiatives, content is product recommendations.

*Table 2. Conditions qualify initiatives. They're sets of four types of expressions. The types of expressions are described in this table.*

**Shopping**

Shopping has long been a strength of WebSphere Commerce Suite. WCS PRO, along with the Product Advisor feature, offers a wide array of shopping methods. Although competing electronic commerce servers offer similar capabilities, none has anything similar to Product Advisor's Sales Assistance. This "metaphor" uses a decision tree dialog-based set of

scripted questions and answers to guide customers through product evaluation and selection.

For shopping features, those capabilities that go beyond shopping requirements, interest lists are quite common, but auctions can be a very useful feature and a significant differentiator. None of the leading sell-side e-commerce servers packages auction capabilities.

---

**Buying**

The best aspect of buying functionality is pricing. With support for customer group-based price lists and rule-based discount calculations against a nice range of discount types, pricing can be very flexible. Pricing strategies can be developed to implement merchandising and CRM programs. This pricing approach is a perfect fit for B2B customers, especially those with many accounts and many contracts.

---

**Fulfillment**

We don't expect that sell-side electronic commerce servers will actually implement fulfillment. Picking, packing, and shipping can't be done electronically. But tracking can, and that's what WCS does.

---

**Customer Service**

To repeat what we stated in Table 1, customer service functionality in WCS is excellent. What makes this functionality so are order management capabilities, especially the following:

- Creating orders for either customers or non-customers
- Adding comments to orders, then viewing them
- Splitting orders
- Changing the order amount

These are powerful capabilities that enable customer support reps to handle customer inquiries, customer requests, and customer complaints comprehensively during a customer call. They result in more effective customer service and more satisfied customers. Note that customers may be authorized to perform many of these capabilities. It's good to allow them to update information about themselves. Even some order management functions are best performed by customers, an approach that can free CSRs to focus on customer issues.

---

### **Strong B2B Support**

Sell-side electronic commerce servers were originally positioned to support B2C applications, especially retail. B2B capabilities have been introduced more recently. Today, most sell-side e-commerce servers are positioned to support B2B as well as B2C. However, that positioning is not always reflected in the products' capabilities. In v5.1, for the first time, WebSphere Commerce Suite packages B2B capabilities. They're quite good as compared to competing offerings. Table 3 lists the B2B requirements of our evaluation and comparison framework and describes how WebSphere Commerce Suite addresses them with packaged capabilities.

WebSphere Commerce Suite v5.1 addresses extremely well B2B requirements for customer information, catalog and product information, and pricing. Support for business organizations, multiple catalogs, and multiple price lists is especially good. The information structures that represent these critical business entities are rich in predefined attributes and in relationships, yet flexible enough to address any site-specific requirements.

The most glaring gap in WCS's B2B capabilities is the lack of support for purchase orders. The product packages support only for credit/debit card payment methods. Support for purchase orders requires significant customization.

## **Decision Support and Administration**

---

### **Comprehensive Business Analysis**

With sell-side electronic commerce servers, the time for comprehensive business analysis is now. The best way to offer this analysis is through data warehousing integration, a major requirement in our evaluation framework. Whether data warehousing capabilities are provided through packaged functionality or through integration with external products, the requirements that must be addressed are:

- Extraction, transformation, and loading
- Reporting
- Analytics

<b>WebSphere Commerce Suite B2B Capabilities</b>	
<b>Capability</b>	<b>Description</b>
Customer Information	Customers may be individual "members" or organizational structures that represent B2B accounts. These organizational structures are hierarchies of organization entities, multiple levels of organizations within those organizational entities, and users within those organizations. In addition, customers may be organized into departments, and management relationships between customers may be specified.
Catalog and Product Information	Catalogs are hierarchies of root categories, sub-categories, and catalog entries. Catalog entries may represent products, product bundles, or product packages. Product bundles and packages contain any number of products. Products may contain any number of SKUs.  WCS supports multiple, concurrent, online catalogs. For B2B applications, individual catalogs may be associated with organizations and/or contracts.
Pricing	WCS supports separate price lists for B2B accounts and/or B2B contracts. The information elements of WCS pricing are offers, trading positions, and contracts. An offer specifies the price for an individual catalog entry for organization, individual customers, or customer groups. The price can be specified in different currencies and have a quantity range, which may specify a minimum and/or maximum quantity that may be sold in an order under an offer. Trading positions are collections of offers that belong to organizations and individual customers. Thus, a trading position represents a price list. A trading position can have an effective time range, can be published or not, and can be displayed differently in each store for each member group. In addition, a store has contracts. Contracts contain collection offers. They're seller-oriented price lists that may be applied to multiple B2B accounts.
Payment Methods	WCS v5.1 packages support for credit/debit card payment methods.
Integration with External Purchasing Systems	WCS does not package support for integrating external purchasing systems. Although the product includes support for several predefined, inbound messages from external systems, none of these messages represents a purchase requisition.
Integration with External Supplier Systems	WCS provides support for integration with external supplier systems. The support is based on a messaging approach implemented by XML-encoded messages and IBM MQSeries middleware. Outbound messages representing, for example, fulfillment requests for orders or requests for inventory status must be defined by developers. Several inbound messages are predefined. These predefined messages include product price update, product inventory quantity update, and order status update, all key to supplier integration.  The Enterprise Access Builder feature of VisualAge for Java Enterprise Edition facilitates integration with many popular software packages. Classes that enable access to the logic and data of these systems are automatically generated by Enterprise Access Builder. These classes are then used within WCS commands. VisualAge for Java Enterprise is packaged with WCS Pro.

*Table 3. This table lists B2B requirements for sell-side electronic commerce servers and describes how WebSphere Commerce Suite v5.1 address those requirements.*

Table 4 presents our high-level assessment of WCS v5.1 according to the decision support requirements in the latest version of our evaluation framework. Our comments on that analysis follow.

WebSphere Commerce Suite 5.1 Decision Support		
Requirement	Feature	Description
Decision Support	Data Warehousing	Data warehousing capabilities are new and very good. WCS packages a complete data warehousing system. Called Commerce Analyzer, this feature includes a predefined DB2 data mart and automated extraction, transformation, and loading processing. The data extracted from the DB2 or Oracle databases of the online system and loaded in the data mart include both transaction information and behavior information.
	Reports	Brio Broadcast Server implements reporting functionality in WCS. This reporting and report distribution product is bundled with WCS. There are a very large number of predefined reports. They run on demand or on a scheduled basis. They are distributed over the Web and are accessed securely through WebSphere Commerce Suite Accelerator, the same toolset that business managers use for just about all e-commerce tasks.
	Analytics	Commerce Analyzer does not package analytics.

*Table 4. This table lists the decision support requirements for sell-side e-commerce servers and analyzes how well WebSphere Commerce Suite v5.1 addresses those requirements.*

---

**New and Comprehensive Capabilities**

Two versions ago, IBM's sell-side e-commerce server offering, Net.Commerce v3.2, didn't even have a reporting capability. V5.1 packages a complete decision support system that includes a data mart, automated extraction, transformation, and loading (ETL) capabilities that include support for both initial load and incremental update, a very large set of predefined reports, and, through Brio Broadcast Server, Web-based report distribution and viewing capabilities. Only analytical capabilities are missing. Decision support capabilities are the newest requirement in our framework. The decision support capabilities in WCS v5.1 address these requirements very well.

It is significant that the Commerce Analyzer data mart includes both behavior and transaction information. Data marts historically have contained only transaction information. Transaction information reflects the results of customer interactions with an e-commerce site. Behavior information shows what

customers do before they make the decisions that result in transactions or abandonment. Analysis of transaction information can be very useful, but the analysis of the combination of transaction and behavior information can be invaluable.

The integration of Brio Broadcast Server gives Commerce Analyzer an excellent report distribution facility. Once reports are generated, Broadcast Server makes them available over a site's intranet to all authorized users. Web browsers are all that's needed to view reports.

---

## Reports

When we stated that a very large set of predefined reports was packaged with Commerce Analyzer, it was far more an understatement than an exaggeration. Commerce Analyzer packages five types of reports:

- Marketing
- Products
- Geographic area
- Customer demographics
- Time period

**MARKETING REPORTS.** Marketing reports provide information about campaigns. They are organized into groups for campaigns, initiatives, e-Marketing Spots, and combinations of these three elements. In addition, each of the four groups contains reports on units abandoned, impressions displayed, impressions clicked, and impressions clicked and followed by orders. Also, the reports may be scoped to present all information or just top 10 information. Further, the reports may be generated for specified time periods: day, week, month, quarter, or year. And the reports may be presented in tabular or bar chart formats. That's a lot of reports. Illustration 2 shows a sample combination report for the top 10 impressions clicked and followed by orders for last week in tabular format.

**PRODUCTS REPORTS.** Products reports show sales value, units sold, and units abandoned for the top 10 and bottom 10 products and a combination of sales value and units sold for all products. All reports present both monetary value amounts and percentages.



**GEOGRAPHIC AREA REPORTS.** Geographic area reports are organized into groups for countries, states or provinces, cities, and postal codes. Each of these groups has reports on sales value and units sold, impressions displayed, impressions clicked, impressions clicked followed by orders. These reports may be generated by time period and presented in tabular or bar chart formats.

**CUSTOMER DEMOGRAPHICS REPORTS.** Customer demographics reports present sales value, number of units sold, and percentages of purchases by sales value and units sold that were made by customers in the demographics of age ranges, income ranges, gender, or marital status. These reports may be generated by time period and presented in tabular or bar chart formats. Illustration 3 shows a sample income range report for the current month.

**TIME PERIOD REPORTS.** Time period reports present sales value, number of units sold, and percentages of purchases by sales value and units sold for each hour of yesterday, each day of this week, each day of this month, each week of this month, each month of this quarter, each month of this year, and each quarter of this year.

## Marketing Combination Report for the Top 10 Impressions Clicked and Followed by Orders for Last Week

WebSphere Commerce Suite Accelerator - Microsoft Internet Explorer  
 ProtoMart - United States English  
 Logout > Home > Reports

Store Marketing Merchandise Customer Orders Customer Service Help

• Impressions Clicked  
 Yesterday  
 Top 10 Table Bar Chart  
 This Week  
 Top 10 Table Bar Chart  
 This Month  
 Top 10 Table Bar Chart  
 This Quarter  
 Top 10 Table Bar Chart  
 This Year  
 Top 10 Table Bar Chart  
 • Impressions Clicked Followed By Orders  
 Yesterday  
 Top 10 Table Bar Chart  
 This Week  
 Top 10 Table Bar Chart  
 This Month  
 Top 10 Table Bar Chart

Date: 30-Nov-00 [Help](#)

Impressions Clicked Followed By Orders - By Top 10 Campaign/Initiative/e-Marketing Spots - For This Week

Rank	Campaign	Initiative	e-Marketing Spot	% Of Total
1	Camp3	tcd_32	Header	30.61%
2	Camp2	oid_22	AddressBookPage	17.35%
3	Camp4	cd_43	NewArrivalsPage	12.24%
4	Camp3	tcd_33	MenswearPage	10.20%
5	Camp5	scd_52aa	AccessoriesCategory1	9.18%
6	Camp1	oid_111	ShoppingCartPage	6.12%
7	Camp1	scd_110	StoreHomePage	4.08%
8	Camp6	oid_63aa	Footer1	3.06%
9	Camp5	scd_58aa	StoreHomePage1	2.04%
10	Camp5	oid_59aa	ShoppingCartPage1	1.02%
10	Camp5	scd_53aa	ActivewearCategory1	1.02%
10	Camp6	oid_62aa	AddressBookPage1	1.02%
10	Camp7	tcd_72aa	Header1	1.02%
10	Camp8	cd_82aa	MyAccountPage1	1.02%

*Illustration 2. This illustration shows a sample tabular marketing report on the combination of campaigns, initiative, and e-Marketing Spots for the top 10 impressions clicked and followed by orders for last week.*

## Administration

### Implementing and Managing an E-Commerce Site

Administration requirements address the tools needed to implement and manage an e-commerce site. In this latest edition of our In-Depth Research Report, there are four areas of administrative requirements:

- Tools
- System management
- Change management

- Internationalization
- Samples

## Income Range of Sales Value and Units Sold for Last Month



Illustration 3. This illustration shows a sample income range report for the current month presented in bar chart format.

Table 5 presents our high-level assessment of WCS v5.1 according to the administration requirements in the latest version of our evaluation framework. Our comments on that analysis follow.

### Tools

Tools for line-of-business managers are one of the product positioning elements of WCS. Commerce Suite Accelerator is easy to learn and easy to use. Its wizards and visual tools make it easy for business managers to perform most marketing, selling, and

customer service tasks involved deploying and managing an e-commerce site. Because Commerce Suite Accelerator is Web based and localizable, it can support any management style—centralized, distributed, or decentralized—for any organization around the world. Being Web based makes its capabilities easily accessible and location independent. Because it is localizable, it can be used by all the international locations of global companies or the non-English locales of non-English speaking companies. Most competing e-commerce servers also have high-level toolsets, but most are built on client/server applications and implement a non-localizable English client.

<b>WebSphere Commerce Suite 5.1 Administration</b>		
<b>Requirement</b>	<b>Feature</b>	<b>Description</b>
Administration	Tools	WCS includes a comprehensive set of Web-based tools. Their ease of learning and ease of use place most e-commerce implementation and management tasks into the hands of business managers and marketers. In addition, most significantly, they can be localized to the language of their users. The product also packages a comprehensive set of tools for Web content creation and application logic development within WebSphere Studio.
	Systems Management	WCS provides excellent systems management. An application performance monitor is packaged with v5.1.1. In addition, WCS is instrumented for easy integration into the Tivoli Management Environment.
	Change Management	WCS provides excellent change management capabilities. The product supports development, staging, and online environments as well as the publishing of data and code from the development system to the staging system and the promotion of entire sites from the staging system to the online system.
	Content Management	WCS does not package content management capabilities. Instead, it relies on external content management systems for this functionality, a common approach that addresses requirements.
	Data Import/Export	WCS includes a mass loader utility for importing any information into its database. The structure and format of the data to be imported are specified in XML, and the load process can be customized via XSL. No export capabilities are provided. In addition, WebSphere Catalog Manager, an add-on product, is specifically designed to create, manage, and implement catalog and product information. The product includes tools for importing, extracting, validating, editing, and aggregating catalog and product information. WebSphere Catalog Manager uses XML to define catalog structures, formats, and content. While the product can certainly be used for WCS catalogs, it may also be used for any other XML-based e-commerce catalogs.

	Internationalization	Internationalization is excellent. A WCS site can support multiple locales simultaneously and can present Web content for all those locales from a single data store with a single set of objects and JSP. Within a locale, any ISO language may be supported as well as any currency, including the euro. Significantly, as we mentioned above, even WCS's administrative tools may be localized.
	Samples	Samples minimally meet requirements. In Fashion, a comprehensive B2C retail site, is packaged with WCS.

*Table 5. This table lists the administration requirements for sell-side e-commerce servers and analyzes how well WebSphere Commerce Suite v5.1 addresses those requirements.*

---

While Commerce Suite Accelerator addresses the needs of business managers, IBM Visual Age for Java is the WCS developer's toolset. Visual Age for Java is an integrated component of WebSphere Studio.

---

**System Management**

The combination of a built-in application performance monitor, deployment on WebSphere (which leverages WebSphere's management capabilities), and integration with IBM's Tivoli Management Environment (TME) adds up to excellent system management capabilities. TME integration is the key differentiator.

---

**Change Management**

Effective change management is critical to maximizing the availability and reliability of online e-commerce sites. WCS packages more and better change management capabilities than competing sell-side e-commerce servers. Publishing utilities control the promotion of changes to file information, database information, and application logic from development environments to a staging environment. Staging utilities automate the promotion of changes to the online system.

---

**Internationalization**

WCS goes far beyond the globalization requirements of multiple locales per site and a configurable language and currency for each locale. To reflect the flexibility of its internationalization capabilities, it coined the term *multi-culturalism*. Multi-culturalism means that not only can WCS provide standard language translations and currency conversions but it also supports site-specific or "invented" languages, like "teenager English." In addition, WCS supports variations in product units. For example, one customer can see "lb." and another can see "kg."

From an implementation perspective, multi-culturalization is very efficient. A single set of JSP is used to present all cultures and a set of XML configuration files is required for each culture. Administrators have only to design and implement a single user interface to support any and all locales. This approach can speed a site's time to implement and simplify its maintenance.

## Architecture

---

### How Does the Product Do E-Commerce?

Architecture requirements examine how the product does electronic commerce. These requirements analyze the technologies that a vendor has used to build the product, how the product is organized, how its constituent parts communicate, and how the product may be modified and extended. There are six areas to examine within architecture requirements:

- Environments supported
- Organization and architecture
- Infrastructure
- Structure
- Customization
- Integration of external applications

Table 6 presents our high-level assessment of WCS v5.1 according to the architecture requirements in the latest version of our evaluation framework. Our comments on that analysis follow.

---

### A Complete Rewrite in Java

V5.1 is a complete rewrite of v4.1. Where v4.1 was a C++ application that could use Java technology for user presentation, v5.1 is a Java application. IBM re-implemented much of v4.1's functionality in Java and also added many functional improvements, new administrative tools, new samples, and the new decision support system. The result of this rewrite is that WCS has become a more attractive and more competitive product. In recent years, its attractiveness as a C++ application had suffered as Java became the language standard for Web applications.

---

### WebSphere Infrastructure

The deployment of v5.1 on the WebSphere Web application server is a significant improvement. Prior versions deployed on a proprietary infrastructure. WebSphere will provide WCS with better reliability, availability, and scalability. It is among the most widely used and well-proven Web application servers. Deployment on WebSphere also enables WCS's developers to focus on e-commerce functionality. The scope and scale of improvements in v5.1 proves the advantages of this focus.

---

**Best Practices in  
Application  
Structure**

WCS follows best practices for the structure of large-scale Java applications. There are stateless components that implement application logic and stateful components that represent business entities and provide persistence and transaction support. Both stateless and stateful components are coarsely grained, ideal for modularity and manageability. The Java implementation also replaces proprietary Net.Data macros with JSP for the generation of the user interface.

Java makes customization simpler. Java developers are more readily available for hire or for contracting than C++ developers. Java development has been proven to be more efficient than C++ development, especially in the phases of testing and debugging.

Comparatively, the Java implementation of WCS overcomes limitations and perceptual disadvantages more than it yields advantages. However, the use of JSP, EJBs, and container-managed persistence—all part of the J2EE standard—gives WCS advantages over competing approaches that use proprietary mechanisms for the user interface and for persistence.



WebSphere Commerce Suite 5.1 Architecture		
Requirement	Feature	Description
Architecture	Environments	<ul style="list-style-type: none"> <li>/// Web servers: IBM HTTP Server, Netscape Enterprise Server</li> <li>/// Server platforms: IBM AIX, Microsoft Windows NT/2000, Sun Solaris</li> <li>/// Databases: IBM DB2, Oracle8i</li> </ul>
	Organization	WCS has four major components: commands, tasks, database assets, and file assets. Commands execute as servlets. They are designed to be lightweight and to provide rapid responsiveness. When commands cannot service user requests completely, they delegate the additional work to tasks. The WCS database stores customer, catalog, product, pricing, and order information. It is accessed via JDBC from both commands and tasks. File assets store WCS content.
	Infrastructure	WebSphere Commerce Suite v5.1 is deployed on WebSphere, IBM's Web application server. WebSphere is a top product in its class. It provides a commercial infrastructure for WCS, replacing the proprietary infrastructure of previous product versions.
	Structure	WCS v5.1 is a Java application. Application logic is organized into commands and tasks. Both are implemented as coarsely grained Java components. Commands run a Web server application. Tasks run under control of WebSphere. Task logic is implemented within stateless components. Task state information is managed within stateful components that represent business objects implemented as EJBs with container-managed persistence and transaction support. Web page templates are implemented as JSP.
	Customization	Customization of application logic is accomplished with object-oriented development techniques and Java tools. WCS publishes the interfaces for all its commands and tasks but does not package any source code. Customization of Web content is accomplished with any tools that support JSP. WebSphere Studio includes tools for customizing both application logic and Web content. Customization of the WCS database is accomplished in two ways. First, WCS predefines several site-customizable columns in all key database tables. Developers may rename them and reference them in customized Web page templates and application logic. Second, developers may extend the tables using conventional database administration techniques. Web page templates and application logic must be modified to use these extensions.
	Integration with External Systems	Integration with external systems is accomplished through a component called the MQSeries Adapter. This component, obviously, uses the IBM MQSeries middleware product to implement an asynchronous, message-based approach to integration. Further, WCS packages and supports several predefined inbound and outbound messages to facilitate integration. These messages are implemented in XML.

*Table 6. This table lists the architecture requirements for sell-side e-commerce servers and analyzes how well WebSphere Commerce Suite v5.1 addresses those requirements.*

## Product Marketing

### Six Product Marketing Requirements

Product and vendor requirements are the business and marketing aspects of the companies that offer e-commerce servers. Table 7 presents our high-level assessment of WCS v5.1 according to the product marketing requirements in the latest version of our evaluation framework. Our comments on that analysis follow.

WebSphere Commerce Suite 5.1 Product Marketing		
Requirement	Feature	Description
Product Marketing	Product Viability	On one hand, there are no viability concerns with WebSphere Commerce Suite 5.1. It's the fifth major version of a product that was introduced in 1996. Previous versions have been widely accepted by a large installed base that numbers in the thousands and have been well-proven for e-commerce across sites of many types and many sizes. On the other hand, as we discussed in the section on architecture, v5.1 is a complete rewrite. In many respects, it's a new product that must be proved for implementation, reliability, performance, and scalability.
	Product Positioning	There are four elements to the product positioning for WebSphere Commerce Suite v5.1. The product is positioned to provide: <ul style="list-style-type: none"> <li>/// The platform of choice for Confident Commerce</li> <li>/// The most comprehensive support for addressing globalization.</li> <li>/// The fastest and most intuitive tools designed for business managers to know and serve their customers better.</li> <li>/// A comprehensive solution that speeds time-to-market</li> </ul>
	Target Markets	There are two dimensions to the target markets for WCS: company size and vertical industry. For company size, IBM has two targets: 1) small and mid-sized, and 2) large enterprise and multinationals. For vertical industry, IBM targets these segments for WCS: electronics, automotive, chemical, and petrochemical for B2B applications, and retail, media, and telecommunications for B2C applications. <ul style="list-style-type: none"> <li>/// Retail</li> <li>/// Distribution</li> <li>/// Manufacturing</li> <li>/// Communications</li> <li>/// Telecommunications</li> <li>/// Media</li> <li>/// Internet startups</li> <li>/// Financial Services</li> <li>/// Chemicals and Pharmaceuticals</li> </ul>

WebSphere Commerce Suite 5.1 Product Marketing <i>(continued)</i>		
Product Marketing <i>(continued)</i>	Price	<p>The pricing model for WebSphere Commerce Server PRO has build-time elements and runtime elements. The build time elements are per seat charges for Commerce Studio Developer. The runtime elements are charges per processor and per store charges. In detail for the various WCS packages, these prices are:</p> <ul style="list-style-type: none"> <li>⌘ Start Edition—\$9,000/processor plus \$500 per Store lic</li> <li>⌘ Pro Edition—\$45,000/processor plus \$8,000 per Store lic</li> <li>⌘ Commerce Studio Developer Edition \$2,500/user</li> <li>⌘ Commerce Studio Developer Pro Edition \$10,000 /user</li> </ul> <p>Note that these prices include the IBM HTTP Web Server, the IBM WebSphere Application Server, and the IBM DB2 database.</p>
	Company Viability	<p>There are absolutely no company viability issues with IBM. IBM remains healthy and innovative from business and technology perspectives. The company has continually demonstrated abilities to develop, deliver, market, sell, and support e-commerce products.</p>

*Table 7. This table lists the product marketing requirements for sell-side e-commerce servers and analyzes how well WebSphere Commerce Suite v5.1 addresses those requirements.*

**Product Viability**

WCS v5.1 is both a well-proven product and, due to its new Java architecture, a very new product. There are always viability issues with new products. For example, will the ISV be able to deliver the product? Will the product work? Will it be reliable, scalable? Also, organizations considering the selection of a new product can be frustrated by a lack of product reference organizations and a lack of production experience with the product.

Many of these viability issues don't exist for WCS v5.1, despite its newness. IBM has already delivered the product. It's been available since December 2000. As a result, product delivery prior to the January announcement and beta testing and early support programs in the fall of 2000, v5.1 is live and in production on many sites, both B2B sites and B2C sites, including these reference sites:

- 3M
- Corporate Express
- Deloitte Consulting
- Digital Convergence
- Guidant
- Iceland Foods
- Karstadt
- Mazda
- PacFusion

- Shell Australia
  - Siemens Germany
  - Siemens US
  - Staples
  - US Mint
- 

**Price**

WCS is very good value. For Pro, at \$45k per processor and \$8k per store plus \$10k per developer, the software license charges for a reasonable-sized site should be about \$500,000. This price includes the Web server, the application server, and the database. Among the leading e-commerce servers, this is about half the price of ATG Dynamo, Blue Martini CIS, and BroadVision One-To-One Commerce, and WCS offers comparable capabilities to these higher priced products.

---

**Technical Support**

Technical support is a requirements area new in this edition of the In-Depth Research Report. It's here because readers and clients told us of its importance.

IBM has been doing technical support for software for more than thirty years. In many ways, the company invented technical support for software. IBM pioneered inbound support techniques. It was the first to offer online access to technical support information to its customers, in the 1970s through its own private network and now through the Internet.

**Conclusion**

---

**A Strong Product  
from a Strong  
Company**

WebSphere Commerce Suite and the predecessor Net.Commerce have been among the leading sell-side electronic commerce servers since we've been analyzing this market space. Version 5.1 adds significant enhancements and very attractive new features, reinforcing the product's leadership position. The products best features, listed below, demand serious consideration in every e-commerce server selection decision.

- Marketing functionality including integrated campaigns
- Customer service functionality

- Support for B2B applications through customer, catalog and product, and pricing information
- Integrated decision support system
- Support for global sites
- Java architecture

In addition, don't forget that WebSphere Commerce Suite is backed by IBM. Today, more than in the dot-com boom days of the past few years, vendor viability has become an increasingly important decision factor. IBM is the type of vendor that you need.