**WebSphere Commerce search**

WebSphere Commerce search provides enhanced search functionality in starter stores by enabling enriched search engine capabilities such as automatic search term suggestions and spelling correction, while influencing store search results by using search term associations, and search-based merchandising rules.

## Business benefits

WebSphere Commerce search provides the following key business benefits:

* It is built on the top of open architecture: Apache Solr and Apache Lucene.
* It contains a rich set of search functionality for shoppers in starter stores.
* It provides integrated search management tooling for business users in the Management Center.
* It extends the scope of searchable content for business users for both structured and unstructured content.
* It lowers the total cost of deployment and ownership, since its functionality is included as a feature of WebSphere Commerce.

## User roles that interact with WebSphere Commerce search

The following user roles interact with WebSphere Commerce search:

* Store developers who want to deliver powerful search-based catalog browsing flows.
* Site Administrators who want to deploy, manage, and maintain WebSphere Commerce search implementations.
* Business users who want to influence search results by using the Management center.

**FEP8+**

Price indexing and facets:

* WebSphere Commerce search builds calculated prices into the search index, so that a B2B storefront can use the indexed price mode to support contract-based pricing based on calculated prices.
* The storefront displays facet values based on the selected contract. Asset stores can either share prices, or use different prices for Extended Sites based on the selected pricing model.

Parallel preprocessing and distributed indexing:

* You can index large catalog data into the search server with parallel preprocessing and distributed indexing by sharding and merging.
* Data can be split either horizontally or vertically into different threads, so that each thread can process smaller chunks of the data. This approach is useful when the catalog size is large, or when preprocessing and indexing times are not acceptable.

Rule-based sales categories:

* Business users can create rule-based sales categories that use WebSphere Commerce search to find catalog entries that match defined search conditions. The matching catalog entries are automatically assigned to the categories. Rule-based sales categories can also be updated automatically.

Search relevancy enhancements:

* Site Administrators can group products in search results.
* Grouping products in search results allows you to aggregate the search results, and display accurate price ranges and facet counts based on the matched entitled items.

Starter store enhancements:

* The auto-suggest menu uses the SiteContentHandler REST service to apply entitlement and catalog filter rules when offering search suggestions.

Software stack:

* Updated to Apache Solr 4.7.0.

**FEP7+**

Deploy and scale the search and browse storefront traffic separately from WebSphere Commerce:

* The search runtime can be accessed directly through a REST interface from the storefront. With this approach, the search and browse-only traffic from the storefront can be offloaded away from the WebSphere Commerce server (transactional server), to the search server. That is, the search server acts as a read-only non-transaction service provider for storefront navigation. With this architecture, the search servers can be scaled separately and therefore the search and browse traffic can be handled independently, creating a flexible and scalable deployment model that can adjust to various storefront browsing traffic at different times or shopping seasons.
* Separate the site navigation and search workload in the search server from the transaction workload in the main WebSphere Commerce server.

Search index enhancements:

* Product and Category enhancements, including a new product and category sequencing approach. In addition, the storefront Department menu is constructed from the search index, rather than from the WebSphere Commerce database.
* Search expressions that are used for B2B product and category entitlement are precompiled at authoring time, and cached for reuse at runtime.

Lightweight REST services programming model on the search server:

* A set of search and navigational REST services are provided by the search server with lightweight runtime implementation and customization interface to access index data and database information.

Software stack:

* Updated to Apache Solr 4.3.0.

**FEP7**

BloomReach Search, Navigation, and Personalization (SNAP) integration:

* BloomReach provides search, navigation and personalization solutions that enable businesses to dynamically adapt site experiences to each unique shopper. BloomReach SNAP uses sophisticated algorithms to combine cross-device behavioral patterns, natural-language processing, machine-learning, and other web-wide signals of intent to automatically present the most relevant search results, navigational features, and contextual filters. BloomReach SNAP is powered by continuous learning technologies that respond to the shopper's changing context without the need for business users to manage extensive search rules. In cases where granular control is required, the BloomReach platform contains data-driven management tools to empower business users to make informed decisions around business rules.
* Using the WebSphere Commerce Search Connector, businesses can extend WebSphere Commerce search with the self-learning BloomReach SNAP solution. The WebSphere Commerce Search Connector enables WebSphere Commerce to communicate with the BloomReach SNAP service, including passing search results from the storefront for further processing.

**FEP6+**

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**FEP5+**

* Attributes for facet display. Product Managers can specify that shoppers can find a facet by using search-based navigation.
* The need for full reindexing is reduced. That is, almost all common business update operations through Management Center can now be converted into a delta update on the search index. This change can reduce the availability delay of pending changes due to index updates.
* Software stack. Updated to Apache Solr 3.5.0.
* Updates to Managing WebSphere Commerce search documentation include lifecycle management. For example, including workspaces and best practices when you are building search indexes in a staging environment.
* Store preview. By default, the workspace schema is indexed when a user previews the store changes that are made in a workspace.
* Greater control over site operations. The UpdateSearchIndex command has two new parameters: mode, and masterCatalogId.

**FEP4+**

* Cache invalidation: The search cache can now be invalidated in WebSphere Commerce search.

**FEP3+**

* Site search statistics: Analyze top search hits and misses so you can continually improve site search effectiveness and increase conversion rates.
* Indexing for categories: Enhance your store's auto-suggest feature by suggesting categories, in addition to products.
* Indexing for site content: Index static store pages, such as related articles and shipping information, so that customers can access the pages through search and auto-suggest.
* Search rule experiments: Gather usage and conversion statistics for specific search rules to see which rules are most effective at driving sales.

**FEP2+**

* WebSphere Commerce search is introduced as a new feature available with WebSphere Commerce. WebSphere Commerce search uses the Apache Solr search platform to deliver enhanced search capabilities in starter stores.
* Business users can manage search term associations and search-based merchandising rules with the Management Center. The built-in search capabilities and tools allow businesses to optimize the search experience, reduce the total cost of implementation, and provide a tightly integrated commerce and search solution.