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## Highlights

- Provides advanced search solutions to present search results in context
  - Helps save users valuable time by enabling higher-level concept searches
  - Enables multiple specific search capabilities to derive more value from unstructured data
  - Empowers employees to make more-informed business decisions
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# Turn your data into a competitive differentiator

## *IBM Content Analytics with Enterprise Search*

Every day, we create 2.5 quintillion bytes of data.<sup>1</sup> In fact, 90 percent of the data in the world today has been generated in the last two years alone.<sup>2</sup> As enterprises of all sizes create, accumulate and consume big data, they're recognizing that—like their employees—data can be a key asset and differentiator. Yet challenges lie in providing employees with efficient access to the valuable business information they need to be successful, especially when key assets are scattered across the enterprise and are isolated and inaccessible to the people, applications and processes that need them.

To help organizations navigate a fragmented content landscape and provide their employees with access to desired information based on its business context, IBM offers IBM Content Analytics with Enterprise Search, a unified content analytics and enterprise search platform designed to dynamically guide users directly to the high-value information they seek.

Through this analytics-enriched search experience, users can leverage highly sophisticated and accurate enterprise search capabilities that can help speed time to knowledge.



## Keeping up with evolving search requirements

Enterprise search platform products have evolved from the old “search-and-hope” method to increasingly progressive search solutions that are powered by advanced analytics capabilities. These new advanced search solutions need to be dynamic, contextual, scalable and secure as well as provide users with contextual understanding and effective navigation across numerous information silos.

### Dynamic

To properly guide users to the knowledge they seek, enterprise search applications need to employ dynamic facets that leverage business context to present logical groupings from what might potentially be massive, and overwhelming, search results. These facets should automatically extract business context from documents as they are indexed—and users need the ability to both customize existing facets and build new facets according to their specific information needs.

Truly dynamic search incorporates advanced visualization capabilities for seamless interaction with the enterprise search application so the user can visually filter results for better relevancy. Here’s an example:

*To target renewing customers, a knowledge worker in the customer service division of a telecommunications service provider needs to find information about past data services offerings in a particular region. A regular search engine will find all documents related to a service, a region or a type of customer. Then the knowledge worker will need to browse through the vast result set to find documents of interest. An effective search solution could greatly reduce the amount of time it takes to find the right documents by letting the knowledge worker progressively narrow down the search with facets to the smallest possible set of documents that pass through the facet filters—significantly boosting productivity.*

### Contextual

Plain keyword search methods rely on matching user inputs with metadata, and they display every document where the keyword is tagged in the metadata—regardless of its relevance. This method is suboptimal in an enterprise context because the typical knowledge worker is trying to find either a single document or a very small set of documents.

A more intelligent approach provides context by understanding the user’s intent and presenting only the documents that are relevant to the search. Here’s an example:

*With an advanced search solution, when the knowledge worker queries “phone number,” he or she not only sees results that include the words “phone” and “number” but also receives results that contain actual telephone numbers. That’s because the search tool recognizes what the worker requested (a concept as opposed to a keyword search) and understands the relationship between the two words (“phone” and “number”).*

### Scalable

The increasing volume, variety and velocity of information generated in today’s interconnected world continually present new challenges. As a result, enterprise search applications need to crawl through a rising number of information silos, including content repositories, file shares, corporate intranets, wikis and any number of other sources that contain billions of indexed content documents.

To be called an “enterprise” application, a solution must support the entire organization, and search applications must scale to meet the changing dynamics of the mountains of enterprise information. Here’s an example:

*A telecommunications service provider’s tactical investments in numerous technologies to manage and control its rapidly growing enterprise information have left the company with multiple silos of information. To provide access to any information sought by knowledge workers, the search system must be able to query the various connected repositories across geographies to produce the best results.*

### Secure

As enterprise search removes barriers to finding information, it also places a burden on IT departments to ensure that sensitive content is accessible only to authorized users. Enterprise search applications must address the need for data security at two levels: authentication by verifying the user and authorization when either granting or revoking that user's right to access some data or perform certain actions. Here's an example:

*When lower-level knowledge workers perform a query for information, their authentication and authorization should drive the search results—and they should not be able to see confidential information (such as executive plans and strategies) that they are not authorized to view.*

### Enabling analytics-driven search that understands the user's intent

One of the many limitations of traditional keyword search technologies is that they cannot find relevant content without extensive trial and error in entering a query. As illustrated previously, traditional keyword searches can be a powerful tool in discovering documents based on metadata or keywords, but they cannot enable the types of searches required by today's knowledge worker, including higher-level concept searches for names, telephone numbers, date ranges, parts or conditions.

An analytics-driven search:

- Unifies content across multiple internal and external content sources to provide a single search environment for the enterprise
- Helps deliver conceptually and contextually enhanced search solutions to connect the user with the right information at the right time
- Can be configured to understand the meaning and context of the documents to render results semantically, with richer facets, accurate filters and better relevancy

A key component of analytics-driven search is natural language processing, which assists in extracting concepts and entities for a deeper level of contextual understanding. One of the benefits of this type of higher-level search is that—through sophisticated language identification, linguistic analysis and pattern matching—users can query for content without worrying about syntax.

### Uncovering insights from unstructured data to shape business outcomes

An enterprise search solution such as IBM Content Analytics with Enterprise Search can:

- Perform security-rich enterprise searches, with additional detail and value derived from analytics built off the content being searched
- Explore content with analytics-driven, faceted navigation that allows for search and selection of content based on concepts, corporate taxonomy and entities that are buried in the unstructured text—providing even deeper insight into the result set based on relevance to the query as opposed to just frequency of results
- Provide a timeline-based query view with a simple sequential metaphor to search for and select content based on the time aspect of the content itself (for example, when created, edited and mentioned)
- Further enhance the depth and breadth of the search experience through capabilities that include document clustering, query tree, query builder, find similar and near-duplicate document detection
- Allow you to customize the search interface via fully configurable panels to enable rapid user experience prototyping

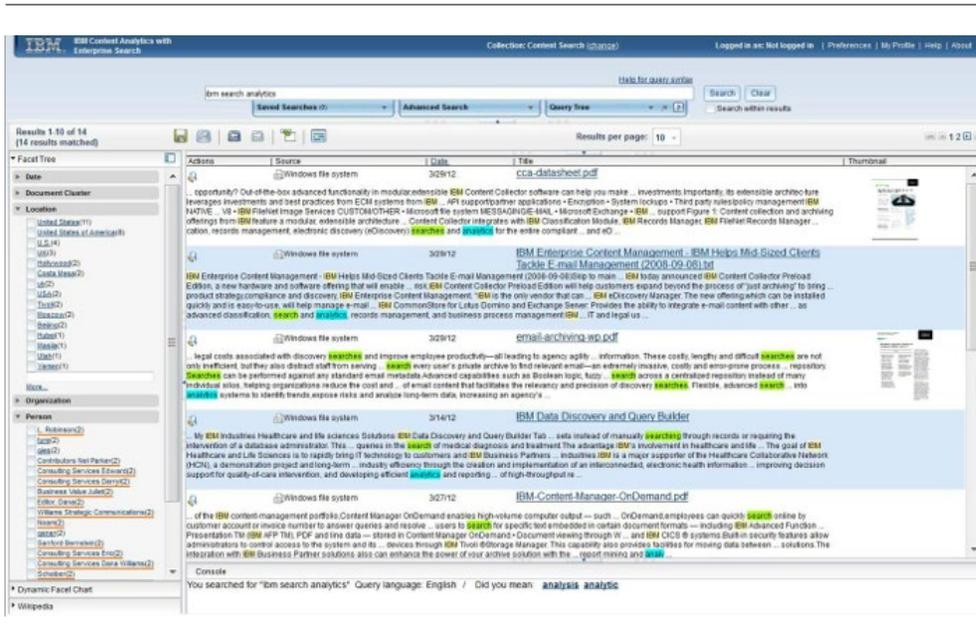


Figure 1: IBM provides a search and analytics platform that embeds the power of content analytics into enterprise search applications.

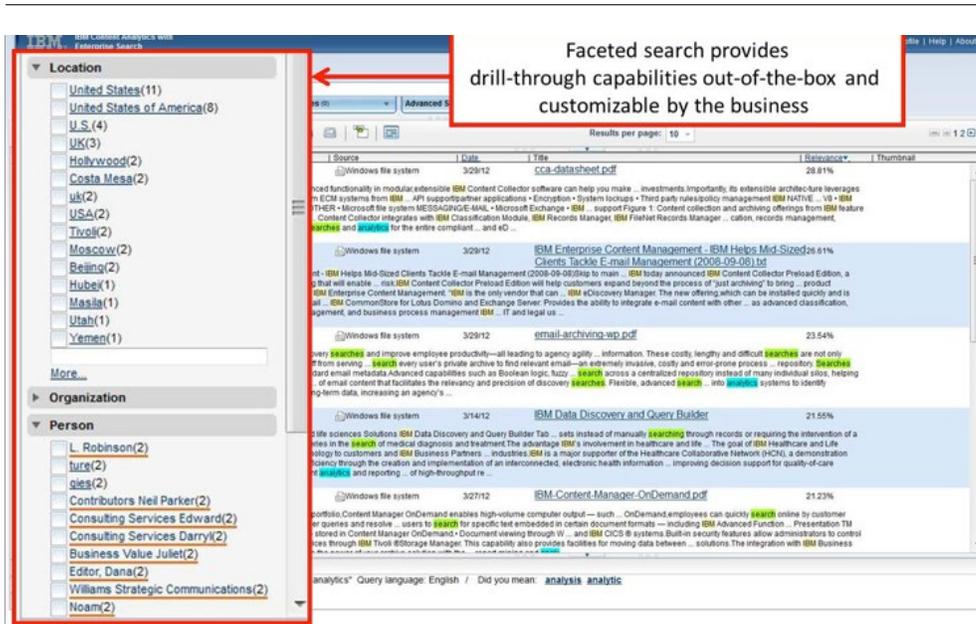


Figure 2: IBM Content Analytics with Enterprise Search lets users apply multiple filters through which to explore a collection of unstructured data.

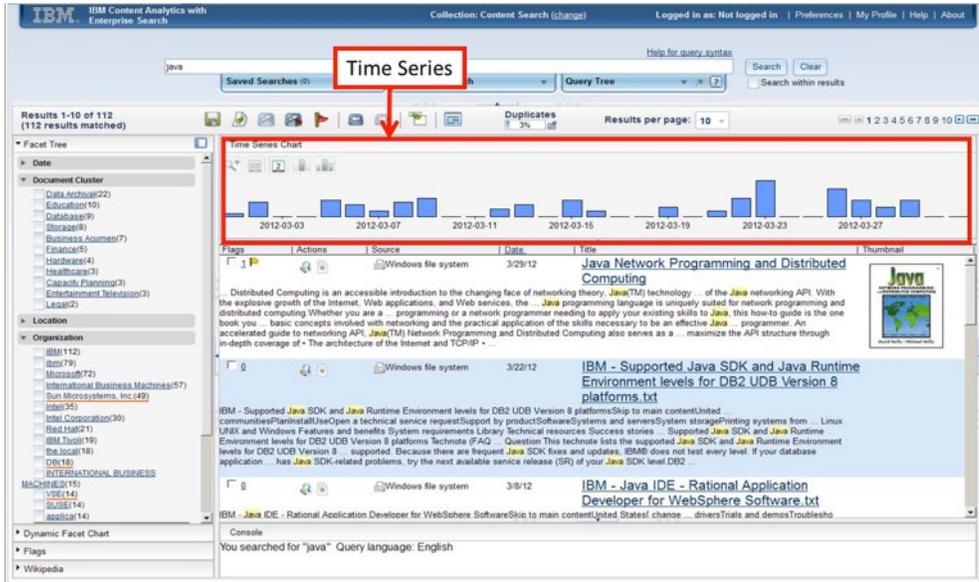


Figure 3: Quickly search your enterprise repository with time-series search capabilities, including when content was created and edited

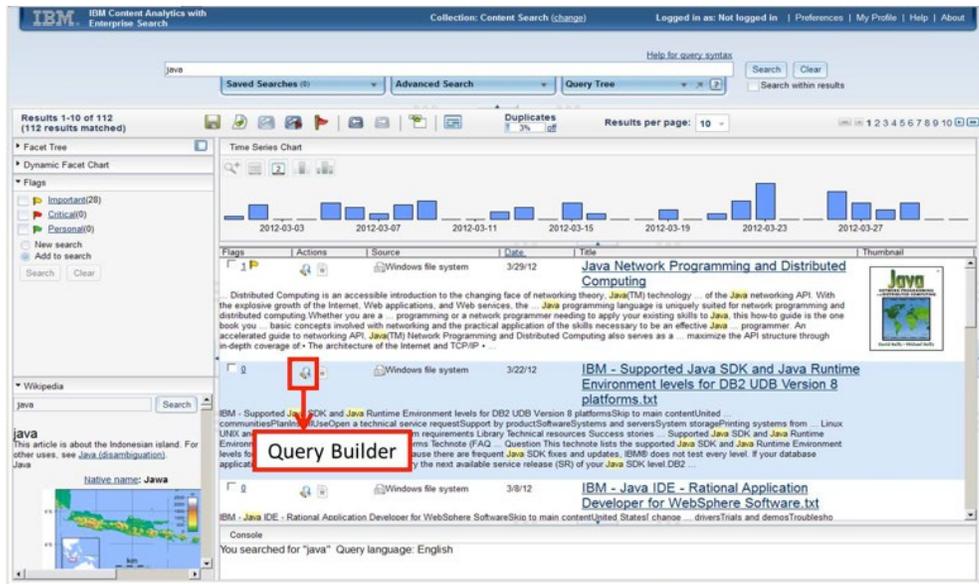


Figure 4: Query-building capabilities inherent in IBM Content Analytics with Enterprise Search allow users to extract data according to specific criteria.

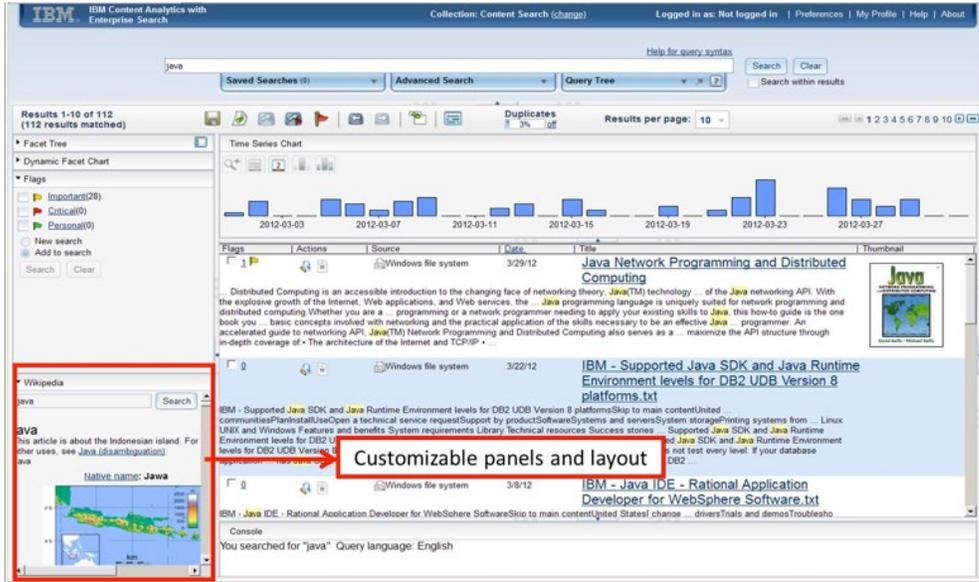


Figure 5: IBM Content Analytics with enterprise search allows users to customize the search interface and layout to show specific information.

Additional features in the IBM Content Analytics with Enterprise Search include:

- A custom plug-in that allows for integration of search terms into other applications, such as database lookups and dynamic query syndication
- Synonym expansion as a way of bringing conceptual understanding to keyword searches rather than having to rely on a special XML query syntax
- Annotator configuration to detect concepts in unstructured text based on regular expressions
- Sample configurations to detect phone numbers, URLs and email addresses, with a matching synonym dictionary that can also be used to meet specific user needs (for example, to detect part numbers or product names in a few simple steps)
- More than 30 source connectors with support for more than 150 content types across multiple platforms

### Using enterprise search as an entry point to sophisticated content analytics

Unlike keyword search solutions, advanced search and analytics capabilities can empower enterprise knowledge workers to make better decisions—regardless of the source or format of the content they seek. Content analytics solutions can rapidly process the meaning and context of human language to improve knowledge-driven searches and gain new insights from enterprise content.

Content analytics also provides the necessary tools to discover the business value contained within unstructured content through deep, rich text analysis of information. Solutions built on content analytics can help organizations surface undetected problems, fix content-centric process inefficiencies, improve customer service and corporate accountability, reduce operating costs and risks, and discover new revenue opportunities. For example, your organization can use content analytics to:

- Interactively discover and deliver business insight to other systems, uses and applications
- Identify trends, patterns and deviations within historical cases to improve case management decisions and to optimize processes
- Achieve deeper, more accurate analysis via modeling tools and advanced classification
- Reduce the time and complexity involved in building data and linguistic models, dictionaries or ontology

Whether for industry-specific needs or on a big data scale, IBM Content Analytics with Enterprise Search can provide the next generation of enterprise search solutions by unifying content analytics and advanced enterprise search onto a single platform. With the ability to uncover new insights and previously unknown realities that are affecting the business, knowledge workers can make better decisions that can ultimately improve the bottom line.

### Why IBM?

To stay competitive, companies need to maximize the value of enterprise information to improve business processes and enable better, more-informed decision making. By implementing an advanced enterprise search content analytics solution, companies can take advantage of the rich text analytic capabilities that are critical to uncovering hidden intelligence and value from structured and unstructured data.

Leveraging its deep-seated expertise in search and natural language processing, IBM is ideally positioned to deliver a strategic advanced enterprise search and analysis platform to help companies find the information they need and improve productivity while gaining significant levels of business insight.

### For more information

To learn more about the dynamic IBM Content Analytics with Enterprise Search platform, contact your IBM sales representative or IBM Business Partner, or visit:

[ibm.com/software/products/us/en/contentanalyticssearch](https://ibm.com/software/products/us/en/contentanalyticssearch)



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1,2 IBM, “What is big data?” <http://www.ibm.com/software/data/bigdata>



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