

Search Technologies for SharePoint 2010 Products

Search model 1 of 4

Search technologies

Microsoft® SharePoint® Foundation 2010 search

Microsoft SharePoint Foundation 2010 provides built-in search for SharePoint site collections with the following capabilities:

- Search is scoped to a single site collection.
- Search does not crawl external data sources.
- Most search capabilities are configured automatically.
- The search system crawls automatically without scheduling and without administrator control.
- IFilters for Office document formats and other common file formats are included.
- Scales to approximately 10 million items per search server.

Take advantage of the SharePoint Foundation 2010 search if:

- The organization does not require enterprise-wide search or searching external data sources.
- You do not need search scoped beyond the site-collection level.
- The budget does not permit the purchase of additional search capabilities.

Search topologies

Single server
SharePoint Foundation 2010, including search, can be installed on a single server.

Dedicated search server
SharePoint Foundation 2010 can be scaled across multiple servers:

- Search can be put on a dedicated application server.
- The search server includes both the query and index functions and these cannot be separated.
- The search role cannot be deployed to more than one server for redundancy or to increase performance.

Scaled for capacity
To increase the capacity of the farm, you can deploy multiple search servers as follows:

- Each search server is assigned to crawl different content databases.
- Each search server uses a separate crawl database and property database for indexing and responding to queries.
- Each search server can store approximately 10 million items in the index.

Note: SharePoint Foundation 2010 search databases can be deployed to a dedicated instance of Microsoft SQL Server® to increase performance.

Microsoft® Search Server Express

Microsoft Search Server 2010 Express is a free downloadable product that provides search over enterprise content.

- Crawls external data stores, including SharePoint sites, Web sites, Windows file shares, Exchange Public Folders, Business Data Catalog connections, and Lotus Notes.
- Federates query results from any OpenSearch or RSS-compliant feed.
- Deployment is limited and cannot be scaled to multiple database or application servers for redundancy or to increase capacity or performance. However, if you install using the Advanced option, you can add Web servers.
- Can use SQL Server Express (eliminating the requirement for a SQL Server license) or SQL Server.
- Scales to approximately 300,000 items with SQL Server Express, or approximately 10 million items with SQL Server.

Consider Search Server Express if you want an entry-level departmental solution where a single server meets your needs.

Deployment

Search Server Express cannot be deployed to more than one server for redundancy or to increase capacity or performance.

To use Search Server Express with a Windows SharePoint Services farm, configure Search Server Express to crawl the SharePoint farm as an external data store.



Microsoft Search Server 2010

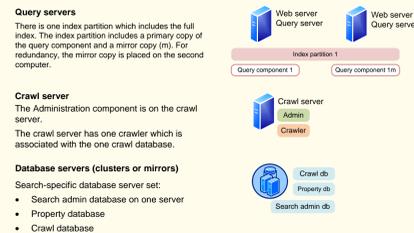
Microsoft Search Server is an enterprise-wide search product that can scale to multiple servers.

- Provides much of the search functionality of Microsoft SharePoint Server 2010.
- Can be deployed across multiple servers for redundancy or to increase capacity or performance.
- Scales to approximately 100 million items.

Consider using Search Server if you need an enterprise-scale search solution that supports multiple crawl servers and query servers. Search Server is suitable for deployment in a large network.

Small Search Server topology (~10M items)

You can scale Search Server from a limited deployment consisting of one or two servers to large farms consisting of 15 or more servers. This example topology consists of five servers in a configuration that supports approximately 10 million items.



Microsoft SharePoint Server 2010

SharePoint Server 2010 search includes all the search features available in Search Server 2010 and provides the additional advantage of being tightly integrated with SharePoint productivity tools such as social networking features and managed taxonomy.

- Scalable search topology.
- Integrates with the social networking features of SharePoint Server:
 - Indexes and finds people results.
 - Searches My Sites.
- Leverages managed taxonomy features:
 - Takes advantage of user-generated tags.
 - Managed taxonomy influences search rankings and experience.
- Scales to approximately 100 million items.
- Can be installed in a multi-tenant hosting environment.

Using SharePoint Server 2010 for enterprise search enables you to take advantage of other features of SharePoint Server 2010.

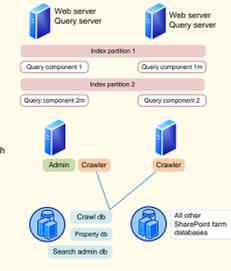
Medium shared search topology (~20M items)

This farm is intended to provide the full functionality of SharePoint Server 2010. It is not a dedicated search farm, although at this scale point you could consider deploying a dedicated search farm. As a full functionality SharePoint farm, additional service applications (depending on which additional services are installed on the farm) can be on the crawl servers or can be on servers that are added to the farm. For information about larger server farms and dedicated search farms, see the following model: Search Architectures for Microsoft SharePoint Server 2010.

Combined Web and query servers

Place the Web server role and the query role on the same servers.

There are two index partitions, each with a primary query component and a mirror copy (m). For redundancy, the mirror copy of the query components for each index partition is located on a different servers.



Crawl servers

Administration component is on one server.

Each server has a crawler. Both crawlers are associated with the crawl database. In farms with more than one crawl database, each crawl database has two different crawlers associated with it that are located on different servers.

Database servers (clusters or mirrors)

One search-specific database server set:

- Search administration database
 - Crawl database
 - Property database
- One database server set for all other SharePoint databases.

FAST Search Server 2010 for SharePoint

Microsoft FAST™ Search Server 2010 for SharePoint includes all the search features and integration capabilities of SharePoint Server 2010 and adds deep platform flexibility and scale and enhanced content processing capabilities.

Consider using FAST Search Server 2010 for SharePoint in your environment if you:

- Require great scalability and performance.
- Require an enriched enterprise search experience with the ability to customize and tune relevancy and navigation.
- Have to crawl different types of internal and external content sources, including large-scale Web content.
- Want to use sophisticated content processing such as property extraction.

You can deploy FAST Search Server 2010 for SharePoint across multiple servers to meet demanding requirements for redundancy, performance, and capacity. It can be scaled along the following axes: document volume, query volume, and processing power for content, query, and results. Deployment, configuration and management take place through user interfaces, Windows PowerShell cmdlets, XML configuration files, and command-line operations.

FAST Search Server 2010 for SharePoint topologies

FAST Search Server 2010 for SharePoint uses SharePoint Server 2010 for query servers and for crawling content, but adds servers in a FAST farm. The additional servers process content, produce index partitions, and process queries. A single FAST farm can be shared across multiple SharePoint farms. A wide range of topologies are possible that cover both simple and demanding applications. One example is shown below.

Medium shared topology scaled out with FAST Search Server 2010 for SharePoint

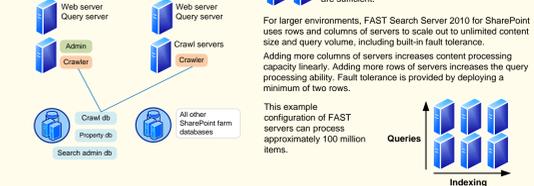
SharePoint Server 2010 server roles

Size the SharePoint Server 2010 farm based on overall needs for SharePoint Server services, including the volume of content to crawl. Query servers are still necessary, although the additional FAST servers will reduce the load on these servers.

Additional FAST servers

Add FAST servers to perform the following roles:

- Process content and build index partitions.
- Process search queries.



Search capabilities

Feature	SharePoint Foundation 2010	Search Server 2010 Express	Search Server 2010	SharePoint Server 2010	FAST Search Server 2010 for SharePoint
Basic search	✓	✓	✓	✓	✓
Visual Best Bets Keyword terms and synonyms defined by an administrator to enhance search results. For FAST Search Server 2010 for SharePoint only, a section of relevant information is displayed in addition to search results for a keyword term (for example, an image banner or HTML).		Limited	Limited	Limited	✓
Scopes Users can filter search results by using scopes.		✓	✓	✓	✓
Search enhancements based on user context Scopes Best Bets, visual Best Bets, and document promotions and demotions to a sub-group of employees.					✓
Custom properties Manage which properties are indexed and how these are treated in search results.		✓	✓	✓	✓
Property extraction Extracts key information (people names, locations, company names) from unstructured text to use as additional managed properties. (Limited: title, author, and date only.)		Limited	Limited	Limited	✓
Query federation Federates results from multiple search sources.		✓	✓	✓	✓
Query suggestions Provides help with query formulation based on what the user types.		✓	✓	✓	✓
Similar results Generates a new search based on the selected search result.					✓
Sort results on managed properties or rank profiles Sort results based on selected managed properties or by FAST Query Language (FQL) formula.					✓
Relevancy tuning by document or site promotions Promote selected documents or sites as highly relevant results for a keyword. Demote documents or sites to give lower rank. (Limited: promote documents for a given site, not query specific.)		Limited	Limited	Limited	✓
Shallow results refinement Refine results using metadata associated with the top results.		✓	✓	✓	✓
Deep results refinement Refine results using metadata associated with all results.					✓
Document preview and thumbnails Display thumbnails of Word and PowerPoint documents. Display inline (scrollable) previews of PowerPoint files on the results page.					✓
Windows 7 federation Enterprise search results are available in Windows desktop search.		✓	✓	✓	✓
People search Search users to find people by name or expertise.				✓	✓
Social search Relevancy is improved by how people interact and relate with content by factoring in social tagging and the relationship of people to content and other people.				✓	✓
Taxonomy integration Takes advantage of user generated tags. Managed taxonomy influences search rankings and experience.				✓	✓
Multi-tenant hosting Data partitioning of crawled data based on tenants.				✓	
Rich Web indexing support Indexing of wide variety of Web content, including Javascript.					✓

Supported repository indexing

Repository	SharePoint Foundation 2010	Search Server 2010 Express	Search Server 2010	SharePoint Server 2010	FAST Search Server 2010 for SharePoint
SharePoint sites	✓	✓	✓	✓	✓
Windows file shares		✓	✓	✓	✓
Exchange public folders		✓	✓	✓	✓
Lotus Notes		✓	✓	✓	✓
Web sites		✓	✓	✓	✓
IFilters for additional repositories		✓	✓	✓	✓
Structured content in databases		✓	✓	✓	✓

Manageability

Manageability	SharePoint Foundation 2010	Search Server 2010 Express	Search Server 2010	SharePoint Server 2010	FAST Search Server 2010 for SharePoint
UI-based administration	Limited	✓	✓	✓	✓
Scriptable deployment and management (Windows PowerShell)	✓	✓	✓	✓	✓
Microsoft System Center Operations Manager pack	✓	✓	✓	✓	✓
Health Monitoring	✓	✓	✓	✓	✓
Usage Reporting		✓	✓	✓	✓

Item-level scale

The number of items that can be indexed by each technology.

