Databases That Support SharePoint 2010 Products

Microsoft® SQL Server® databases are integral to Microsoft® SharePoint® 2010 Products. The databases used in a specific environment are determined by the product, version, edition, and features that are running. Database size, and the edition of SQL Server that you run will be determined by the capacity and feature requirements of your environment.

For more detailed information about each database, see the articles:
- Database types and description for SharePoint Server 2010 (http://go.microsoft.com/fwlink/?LinkId=187312)
- Database types and description for SharePoint Foundation 2010 (http://go.microsoft.com/fwlink/?LinkId=187313).

Definitions

Relative size: Database size, relative to other SharePoint databases. (Not to scale)

Co-location guidance: Whether a database must or must not be located on the same server instance with another database.

Scaling guidance: Scale up: to increase the size available to the database, move to a larger server. Scale out: to increase the size available to the database, add another database. Multiple database icons indicate *scale out*.

Read/write characteristics: Whether the database is mostly used for reading or writing data.

Recommended SQL Server edition: A specific edition of SQL Server that is recommended, and why. In general, in this poster, recommendations are made based on the assumption that you are running an enterprise environment.

Microsoft SharePoint Foundation 2010

Configuration
Contains data about all SharePoint databases, all Internet Information Services (IIS) Web sites or Web applications, trusted solutions, Web Part packages, site templates, and Web application and farm settings specific to SharePoint 2010 Products, such as default quota and blocked file types.
Relative size: Small
Co-location guidance: Must be co-located with Central Administration content database
Scaling guidance: Scale up—only one configuration database is supported per farm. (Significant growth is unlikely).

Central Administration Content
Content database for the Central Administration site.
Relative size: Small
Co-location guidance: Must be co-located with configuration database
Scaling guidance: Scale up—only one Central Administration content database is supported per farm. (Significant growth is unlikely).
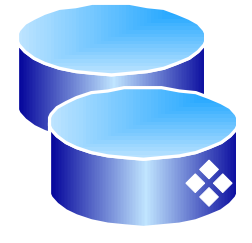
Content
Stores all site content, including site documents or files in document libraries, list data, Web part properties, audit logs, sandboxed solutions, and user names and rights. All of the data for a specific site resides in one content database. Content databases can contain more than one site collection. Also stores data for Office Web Applications, if in use.
Relative size: Varies based on number and size of documents and number of users.
Important: We strongly recommended limiting the size of content databases to 200 GB to help ensure system performance.
Content database sizes up to 1 terabyte are supported only for large, single-site repositories and archives with non-collaborative I/O and usage patterns, such as Records Centers.
Co-location guidance: None
Scaling guidance: Scale up a database that supports a site collection. Scale out at the Web application level: add more content databases as needed to support additional site collections.
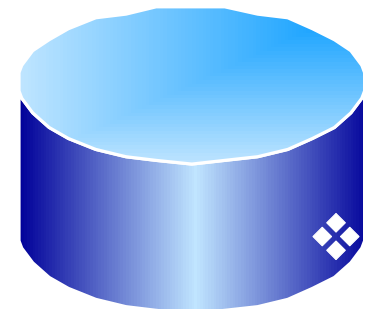
Usage
(Usage and Health Data Collection service application)
Stores health monitoring and usage data temporarily, and can be used for reporting and diagnostics.
The Usage database is the only SharePoint database that be queried directly and have schema modified by external applications.
Relative size: Extra-large. Size varies based on retention policy.
Co-location guidance: Place on separate spindle
Scaling guidance: Scale up the database. Only one Usage and Health Data Collection service application instance is supported per farm.
**Read/write characteristics:** Write-heavy

Business Data Connectivity
(Business Data Connectivity service application)
Stores external content types and related objects.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).
Read/write characteristics: Read-heavy

Application Registry
(Application Registry service application)
Stores data required for backward compatibility for the Business Data Connectivity API. Used during upgrade, and can be deleted when upgrade is complete.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).
Read/write characteristics: Read-heavy
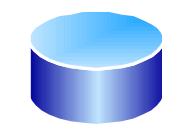
Subscription Settings
(Microsoft SharePoint Foundation Subscription Settings service)
Stores features and settings information for hosted customers. This database is not created by default—it must be created by using Windows PowerShell or SQL Server.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
Read/write characteristics: Read-heavy

Microsoft SharePoint Server 2010, Standard edition
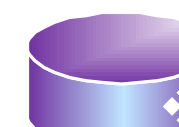
Search Administration
(Search Administration service application)
Hosts the Search application configuration and access control list (ACL) for the crawl component.
Relative size: Medium
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.

Crawl
(Search service application)
Stores the state of the crawled data and the crawl history.
Relative size: Extra-large
Co-location guidance: In large-scale environments, locate on a server that does not contain the Property database.
Scaling guidance: Scale out—add more Crawl databases.
Read/write characteristics: Read-heavy
Recommended SQL Server edition: SQL Server 2008 Enterprise edition, so that the Search service application can take advantage of data compression.

Property
(Search service application)
Stores information associated with the crawled data, including properties, history, and crawl queues.
Relative size: Large to extra-large
Co-location guidance: In large-scale environments, put this database on its own server to achieve faster query results.
Scaling guidance: Scale out—add more Property databases.
Read/write characteristics: Write-heavy
Recommended SQL Server edition: SQL Server 2008 Enterprise edition, so that the Search service application can take advantage of data compression.

Web Analytics Reporting
(Web Analytics service application)
Stores aggregated standard report tables, fact data aggregated by groups of sites, date, and asset metadata, and diagnostics information.
Relative size: Extra-large to enormous. Size varies based on retention policy.
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
Recommended SQL Server edition: SQL Server 2008 Enterprise edition, so that the Web Analytics service application can take advantage of table partitioning.

Web Analytics Staging
(Web Analytics service application)
Temporarily stores un-aggregated fact data, asset metadata, and queued batch data.
Relative size: Medium, determined by the number of reports generated.
Co-location guidance: None
Scaling guidance: Scale out—add another Web Analytics Staging database.

State
(State service application, InfoPath Forms Services, Visio Services)
Stores temporary state information for InfoPath Forms Services, Exchange, the chart Web Part, and Visio Services.
Relative size: Medium-large, depending on usage of features that store data in it.
Co-location guidance: None
Scaling guidance: Scale out—add another State database by using Windows PowerShell cmdlets.
Read/write characteristics: Slightly read-heavy.
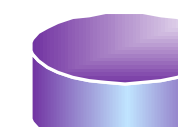
Profile
(User Profile service application)
Stores and manages users and their social information.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
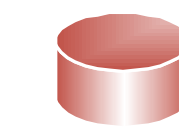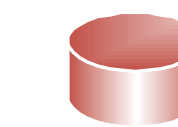**Read/write characteristics:** Read-heavy

Synchronization
(User Profile service application)
Stores configuration and staging data for use when profile data is being synchronized with directory services such as Active Directory.
Relative size: Medium-large, determined by number of users, groups, and the ratio of users to groups
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
Read/write characteristics: Even

Social Tagging
(User Profile service application and the Metadata Management service application, if tags are used for metadata)
Stores social tags and notes created by users along with their respective URLs.
Relative size: Small to extra large, determined by the number of tags and ratings created and used
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
Read/write characteristics: Read-heavy
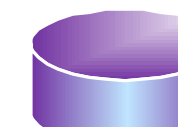
Managed Metadata Service
(Managed Metadata service application)
Stores managed metadata and syndicated content types.
Relative size: Medium
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance. Add additional instances of the Managed Metadata service application to scale out, or for business reasons.
Read/write characteristics: Read-heavy

Secure Store
(Secure Store service application)
Stores and maps credentials such as account names and passwords.
Relative size: Small
Co-location guidance: For secure credential storage, it is recommended that the secure store database be hosted on a separate database instance with access limited to one administrator.
Scaling guidance: Scale up the database that supports the service application instance.
You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
Read/write characteristics: Read-heavy

Microsoft SharePoint Server 2010, Enterprise edition

Word Automation Services
(Word Automation Services service application)
Stores information about pending and completed document conversions.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance. (Significant growth is unlikely).

PerformancePoint
(PerformancePoint service application)
Stores temporary objects and persisted user comments and settings.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up the database that supports the service application instance. You can scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
**Read/write characteristics:** Read-heavy

Related Products

The following products must be installed in a farm that is running SharePoint Server 2010 Enterprise Edition.

Microsoft Project Server 2010

Draft
Contains data for editing projects and tables used by the Project Queue. Data in this database is not directly accessible by end users.
Relative size: Medium
Co-location guidance: Must be located on the same database instance as the Archive and Published databases
**Scaling guidance:** Scale up.
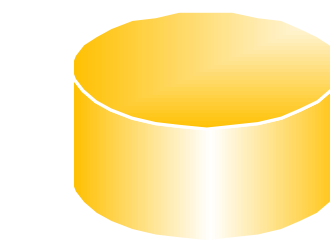
Published
Contains a copy of all of the projects that have been published, tables specific to Project Server (timesheets, resources, custom fields, security definitions, and other metadata), and the tables used by the Project Queue. Data in this database is not directly accessible by end users.
Relative size: Large
Co-location guidance: Must be located on the same database instance as the Archive and Draft databases.
Scaling guidance: Scale up.

Archive
Stores the backup data of projects, resources, calendars, enterprise custom fields, the enterprise global Project Web Access view definitions, Project Web Access system settings, and category and group security settings. Data in this database is not directly accessible by end users.
Relative size: Small, but can grow to extra-large if in use. Growth limits can be set.
Co-location guidance: Must be on the same database instance as the Published and Draft databases.
Scaling guidance: Scale up.
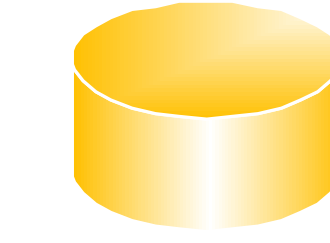
Reporting
Repository for the entire portfolio of projects, including stable snapshots of each project plan based on the last time a project was published, and de-normalized time-phased data. Data in the Reporting database is accessible by end users.
Relative size: Large
Co-location guidance: Can be on different SQL Server instance than other Project Server 2010 databases.
Scaling guidance: Scale up.
Read/write characteristics: Read-heavy

Microsoft FAST Search Server 2010 for SharePoint

Search Administration
Stores and manages search setting groups, keywords, synonyms, document and site promotions and demotions, term entity extractor inclusions and exclusions, spell check exclusions, best bets, visual best bets, and search schema metadata.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).
Read/write characteristics: Read-heavy

Microsoft SQL Server PowerPivot for SharePoint

PowerPivot Service Application
Stores the location of cached or loaded PowerPivot data files, data refresh schedules, and PowerPivot usage data that is copied from the central usage data collection database.
PowerPivot requires SQL Server 2008 R2 Enterprise Edition Analysis Services in the environment.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).
Additional information: When in use, PowerPivot stores additional data in content databases and in the Central Administration content database. PowerPivot-related files are often quite large.

SQL Server

System

master
Records all system level information for a SQL Server instance, including logins, configurations, and other databases.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).

msdb
Records operators, and used by SQL Server Agent to schedule alerts and jobs.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).

model
Used as the template for all databases created in an instance.
Relative size: Small
Co-location guidance: None
Scaling guidance: Scale up. (Significant growth is unlikely).

tempdb
Holds all temporary tables and temporary stored procedures and fills any other temporary storage needs. The tempdb database is re-created every time the SQL Server instance is started.
Relative size: Medium, depending on activity
Co-location guidance: Locate on a separate spindle from all other databases
Scaling guidance: Scale up

Microsoft SQL Server Reporting Services

SQL Server Reporting Services is often used with SharePoint Server 2010 Excel Services, PerformancePoint Services, and Visio Services, but is not required.
If you are running Access Services, then SQL Server 2008 R2 Reporting Services is required. The requirements for Reporting Services depend on the mode in which you are running, as follows:
- Local mode requires only SharePoint Server 2010 and the SQL Server 2008 R2 Reporting Services Add-in.
- Connected mode requires SharePoint Server 2010, the SSRS Add-in, and a SQL Server 2008 R2 Report Server, available in Standard or Enterprise Edition.

ReportServer
Stores all report metadata including report definitions, report history and snapshots, and scheduling information. When ReportServer is in use, report documents are stored in SharePoint content databases.
Relative size: Small
Co-location guidance: Must be located on the same database server as the ReportServerTempDB database.
Supports service applications: Often used with Access services, Excel services, PerformancePoint services, and Visio services, but not required.
Scaling guidance: Scale up
Read/write characteristics: Read-heavy

ReportServerTempDB
Stores all of the temporary snapshots while reports are running.
Relative size: Varies frequently. Small to extra-large, depending on use of cached report snapshots.
Co-location guidance: Must be located on the same database server as the ReportServer database.
Scaling guidance: Scale up
Read/write characteristics: Read-heavy

Legend

Database size ranges (not to scale)

- **Small:** 1 GB or less
- **Medium:** Up to 100 GB
- **Large:** Up to 1 terabyte
- **Extra-large:** 1 terabyte or more

Other notations

- Installed with Microsoft Search Server 2010 Express and Standard
- Supports multiple databases (scales out)

Microsoft®