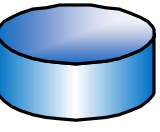# DATABASES THAT SUPPORT SHAREPOINT 2013

Microsoft SQL Server databases are integral to SharePoint 2013. 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 are determined by the capacity and feature requirements of your environment.

Definitions

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

I/O patterns: Whether the database is mostly used for reading or writing data.

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.

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.
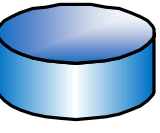
SHAREPOINT

SharePoint system databases

Configuration
(Small)
(SharePoint_Config)
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 2013, such as default quota and blocked file types.
Requirements:
- Must be co-located with Central Administration Content database
- Only one Configuration database is supported per farm.
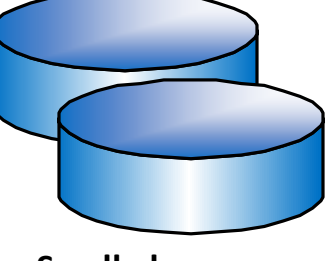**Scaling guidance:** Scale up only, significant growth is unlikely.

Central Administration Content
(Small)
(SharePoint_AdminContent_<GUID>)
Content database for the Central Administration site.
Requirements:
- Must be co-located with Configuration database
- Only one Central Administration Content database is supported per farm.
Scaling guidance: Scale up only, significant growth is unlikely.

Content
(Small - large)
(WSS_Content)
Stores all site content, including site documents or files in document libraries, list data, Web part properties, audit logs, apps for SharePoint, 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. The database size varies based on usage pattern, for example the number and size of documents and the number of users.
Important guidance: We strongly recommend 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.
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.
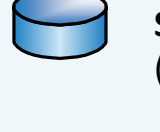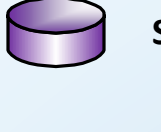
Legend

Database types

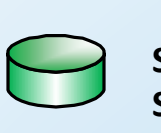- SharePoint 2013 system databases (Foundation, Server)
- SharePoint 2013 common databases (Foundation, Server)
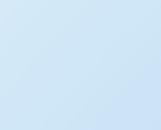- SharePoint Server 2013 (Standard, Enterprise)
- Search service application
- User Profile service application
- SQL Server 2008 R2 SQL Server 2012
- SQL Server 2008 R2 Reporting Services SQL Server 2012 Reporting Services

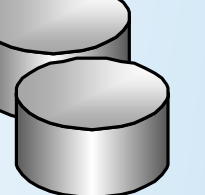**Database size ranges**
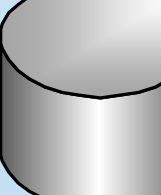(Database icons shown are not to scale)

- Very Small: 100 MB or less
- Small: Up to 1 GB
- Medium: Up to 100 GB
- Support multiple databases (scales out)
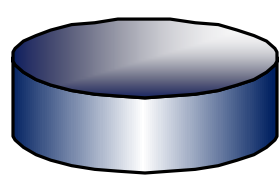
Other notations

- Large: Up to 1 terabyte
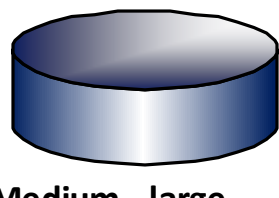- Extra-large: 1 terabyte or more

SHAREPOINT SERVICE APPLICATIONS

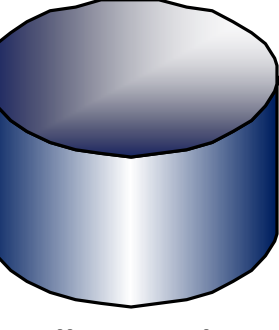## SharePoint User Profile service databases (Server)

Profile
(Medium - large)
(User Profile service application, User Profile Service Application_ProfileDB_<GUID>)
Stores and manages users and their social information.
Scaling guidance: Scale up the database that supports the service application instance.
Scale-up 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.
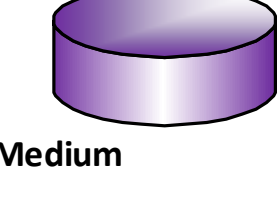**I/O patterns:** Read-heavy

Synchronization
(Medium - large)
(User Profile service application, User Profile Service Application_SyncDB_<GUID>)
Stores configuration and staging data for use when profile data is being synchronized with directory services such as Active Directory. Size is determined by number of users, groups, and the ratio of users to groups.
Scaling guidance: Scale up the database that supports the service application instance.
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.
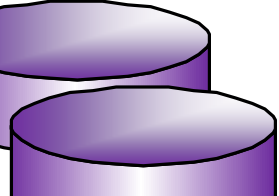**I/O patterns:** Even

Social Tagging
(Small – extra-large)
(User Profile service application and the Metadata Management service application, if tags are used for metadata, User Profile Service Application_SocialDB_<GUID>)
Stores social tags and notes created by users along with their respective URLs. Size is determined by the number of tags and ratings created and used.
Scaling guidance: Scale up the database that supports the service application instance. 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.
I/O patterns: Read-heavy

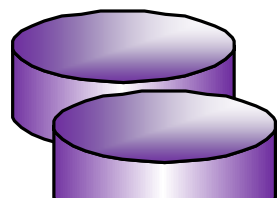## SharePoint Search Service Application databases (Foundation and Server)

Search Administration
(Medium)
(Search service application, Search_Service_Application_DB_<GUID>)
Hosts the Search application configuration and access control list (ACL) for the crawl component.
Scaling guidance: Scale up the database that supports the service application instance.
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.
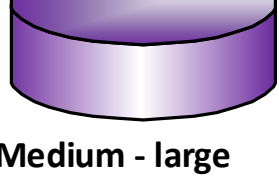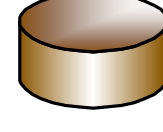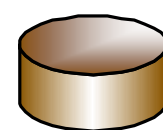
Analytics Reporting
(Medium - large)
(Search service application, Search_Service_Application_AnalyticsReportingStoreDB_<GUID>)
Stores the results for usage analysis reports and extracts information from the Link database when needed.
Scaling guidance: Scale-out — add additional Analytics Reporting database using a split operation when the main database size becomes >200GB.
I/O patterns: Write-heavy during nightly analytics update.

Crawl
(Medium)
(Search service application, Search_Service_Application_CrawlStoreDB_<GUID>)
Stores the state of the crawled data and the crawl history.
Co-location guidance: In large-scale environments.
Scaling guidance: Scale-out — add additional Crawl database per every 20 million items crawled.
I/O patterns: Read-heavy
Recommended SQL Server edition:
SQL Server 2008 R2 with Service Pack 1 (SP1) or SQL Server 2012, Enterprise edition, so that the Search service application can take advantage of data compression.

Link
(Medium - large)
(Search service application, Search_Service_Application_LinkStoreDB_<GUID>)
Stores the information that is extracted by the content processing component and the click through information.
Co-location guidance: On sites with heavy traffic we recommend the Links database to utilize separate spindles from other databases.
Scaling guidance: Scale-out — add additional Link database per 60 million documents crawled. Also add additional Link database per 100 million expected queries per year. The Link database grows on disk by 1 GB per 1 million documents fed. The click data grows linearly with query traffic, 1 GB per million queries.
I/O patterns: Write-heavy during content processing

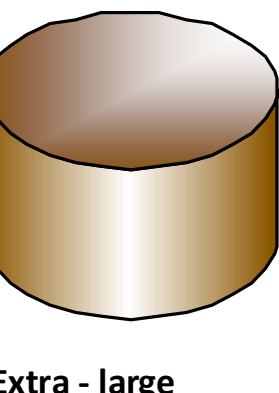## SharePoint 2013 (Foundation and Server) service application databases

App Management
(Small)
(App Management service application, App_Management_<GUID>)
Stores the App licenses and permissions that are downloaded from the Global Marketplace.
Scaling guidance: Scale-out only on SharePoint Online
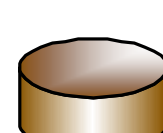**I/O patterns:** Write-heavy during Apps installation and license renewal.

Secure Store Service
(Small)
(Secure Store service application, Secure_Store_Service_DB_<GUID>)
Stores and maps credentials such as account names and passwords.
Co-location guidance: For secure credential storage, it is recommended that the secure store database be hosted on a separate database instance with limited access to one administrator.
Scaling guidance:
- Scale up the database that supports the service application instance.
- 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.

Usage
(Extra - large)
(Usage and Health Data Collection service application, SharePoint_Logging)
Installed on SharePoint Online or SQL Azure and also on-premise but not provisioned by default.
Stores health monitoring and usage data temporarily, and also used for reporting and diagnostics. The Usage database is the only SharePoint database that can be queried directly and have schema modified by either Microsoft or third-party applications.
The database size varies based on retention policy and actual traffic load.
Co-location guidance: Place on separate spindle
Scaling guidance: Scale up the database.
Requirements: Only one Usage and Health Data Collection service application instance is supported per farm.
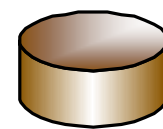**I/O patterns:** Write-heavy

Subscription Settings Service
(Small)
(Microsoft SharePoint Foundation Subscription Settings service application, SettingsServiceDB)
Stores features and settings information for hosted customers. This database is not created by default but must be created by using Windows PowerShell or SQL Server.
Scaling guidance:
- Scale up the database that supports the service application instance.
- 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.
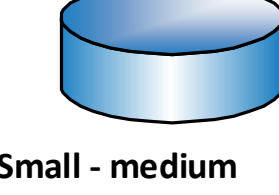**I/O patterns:** Read-heavy

Business Data Connectivity
(Small)
(Business Data Connectivity service application, Bdc_Service_DB_<GUID>)
Stores external content types and related objects.
Relative size: Small
Scaling guidance: Scale up, (significant growth is unlikely).
I/O patterns: Read-heavy
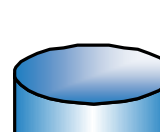
SharePoint Server 2013 service application databases

Project Server 2013
(Small - medium)
(Project Server service application , ProjectWebApp)
The database stores all the data for a single Project Web App (PWA) enabled site, along with the following:
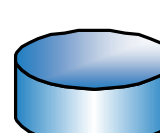- All Project and Portfolio Management (PPM) data
- Time tracking and Timesheet data
- Aggregated SharePoint project site data
Significant database growth is unlikely.
Scaling guidance: Scale up the SQL Server that hosts the Project Server service application databases.
I/O patterns: Read-heavy

SQL Server PowerPivot Service Application
(Small)
(PowerPivot Service service application, DefaultPowerPivotServiceApplicationDB_<GUID>)
Stores data refresh schedules, and PowerPivot usage data that is copied from the central usage data collection database. Significant growth is unlikely.
When in use, PowerPivot stores additional data in content databases and in the Central Administration content database.
Requirements: SQL Server 2012 Analysis Services, Business Intelligence or Enterprise Edition.
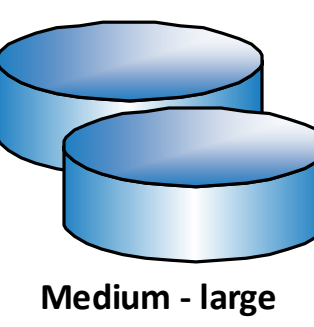**Scaling guidance:** Scale up.

PerformancePoint Services
(Small)
(PerformancePoint Services service application, PerformancePoint Service_<GUID>)
Stores temporary objects and persisted user comments and settings.
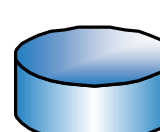**Scaling guidance:**
- Scale up the database that supports the service application instance.
- Scale out by creating additional instances of the service application, however, the decision to create a separate service application is likely to be based on business, rather than scale, requirements.
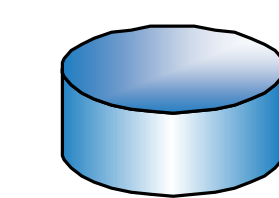**I/O patterns:** Read-heavy

State Service
(Medium - large)
(State service application, InfoPath Forms Services, Visio Services, SessionStateService_<GUID>)
Stores temporary state information for InfoPath Forms Services, Exchange, the chart Web Part, and Visio Services. Database size depends on the usage of features that store data in it.
Scaling guidance: Scale up by adding another State database using Windows PowerShell cmdlets.
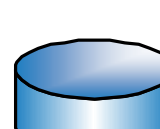**I/O patterns:** Read-heavy

Word Automation Services
(Small)
(Word Automation Services service application, WordAutomationServices_<GUID>)
Stores information about pending and completed document conversions and updates.
Relative size: Small
Scaling guidance: Scale up the database that supports the service application instance. (Significant growth is unlikely).
I/O patterns: Read and write-heavy once per conversion item.

Managed Metadata Service
(Medium)
(Managed Metadata Service service application, Managed Metadata Service Application_Metadata_<GUID>)
Stores managed metadata and syndicated content types.
Also stores the Taxonomy service metadata in a hierarchical structure for items that are used for tagging content and building site collections.
Relative size: Medium
Scaling guidance: Scale up the database that supports the service application instance.
Scale-out by creating additional instances of the service application.
I/O patterns: Read-heavy

Machine Translation Services
(Small)
(SharePoint Translation Services service application, SharePoint Translation Services_<GUID>)
Stores information about pending and completed batch document translations with file extensions that are enabled.
Relative size: Small
Scaling guidance: Scale up the database that supports the service application instance. (Significant growth is unlikely).
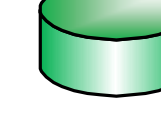**I/O patterns:** Read-heavy

Apps for SharePoint
(Very small)
(Apps_<GUID>)
Stores information about apps for SharePoint and Access Apps.
Scaling guidance: Scale up the database that supports the apps instance. (Significant growth is unlikely).
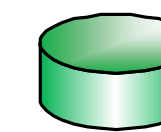**I/O patterns:** Read-heavy

SQL SERVER

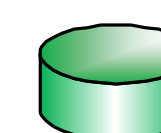## SQL Server 2008 R2 (SP1) & SQL Server 2012 system databases

master
(Small)
Records all system level information for a SQL Server instance, including logins, configurations, and other databases.
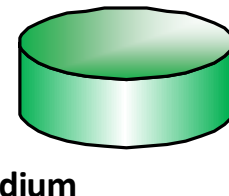**Scaling guidance:** Scale up. (Significant growth is unlikely).

model
(Small)
Used as the template for all databases created in an instance.
Scaling guidance: Scale up. (Significant growth is unlikely).

msdb
(Small)
Records operators, and used by SQL Server Agent to schedule alerts and jobs.
Scaling guidance: Scale up. (Significant growth is unlikely).

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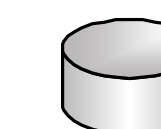*(Medium)*
Holds all temporary tables and temporary stored procedures and fills any other temporary storage needs. The tempdb database is re-created every time the SQL Server instance is started.
Co-location guidance: Locate on a separate spindle from all other databases
Scaling guidance: Scale up

Microsoft SQL Server 2008 R2 (SP1) Reporting Services & Microsoft SQL Server 2012 Reporting Services
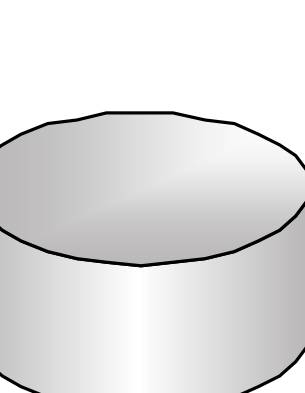
SQL Server Reporting Services is installed on a SQL Server report server. It stores items such as reports, report-related items and resources, schedules, and subscriptions. It can be configured as a stand-alone server (native mode), multiple servers in a farm, or it can be integrated with SharePoint Server (SharePoint mode).

SQL Server Reporting Services can be used with SharePoint Server 2013 Excel Services, PerformancePoint Services, Access Services, Project Server, and Visio Services. If you are running Access Services, then SQL Server 2012 is required.
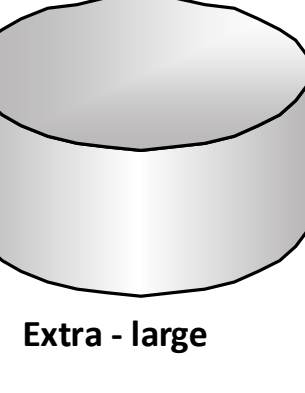
Report Server Catalog
(Small)
(ReportingService_<GUID>)
Stores all report metadata including report definitions, report history and snapshots, and scheduling information. When ReportServer is in use, report documents are stored in SharePoint content databases.
Requirements: Must be located on the same 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
I/O patterns: Read-heavy

ReportServerTempDB
(Small – extra-large)
(ReportingService_<GUID>_TempDB)
Stores all of the temporary snapshots while reports are running. The size varies frequently, depending on use of cached report snapshots.

Report Server Alerting
(Extra - large)
(ReportingService_<GUID>_Alerting)
This database is found in SQL Server 2012 only. Stores all Data Alerts metadata and runtime information required to produce Data Alerts for Reporting Services operational reports. Data from reports is processed within the database to match rules defined in Alert Definitions. The size varies frequently, depending on use of Data Alerts
Scaling guidance: Scale up; optimize file I/O; optimize memory usage
I/O patterns: Read-heavy, Write-heavy

Microsoft SharePoint

Microsoft