

Explore what's new in
Microsoft SharePoint 2013

Microsoft

SharePoint

Explore Microsoft SharePoint 2013

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Abstract

This book provides information about what's new in SharePoint 2013. The audiences for this book include application specialists, line-of-business application specialists, and IT administrators who want to know more about SharePoint 2013.

The content in this book is a copy of selected content in the [SharePoint 2013 technical library](#) as of the publication date. For the most current content, see the technical library on the web.



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Getting help

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IT Professional Reviewer's Guide for SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how new capabilities in SharePoint Server 2013 can help IT pros better manage cost, risk, and time.

This guide describes how SharePoint Server 2013 builds on the investments of previous SharePoint releases to help you do the following:

- Lower IT costs with a flexible and scalable collaboration platform.
- Better manage risk by safeguarding your business with secure and reliable capabilities.
- Increase productivity through cost-effective and efficient management.

Download this guide as a PDF document.

[SharePoint Server 2013 Preview IT Professional Reviewer's Guide](http://go.microsoft.com/fwlink/p/?LinkId=263441)

(<http://go.microsoft.com/fwlink/p/?LinkId=263441>)

See also

[SharePoint 2013 for IT pros](#)

What's new in authentication for SharePoint 2013

Applies to: *SharePoint Server 2013 Standard, SharePoint Server 2013 Enterprise, SharePoint Foundation 2013*

Topic Last Modified: 2014-09-13

Summary: SharePoint 2013 includes improvements in claims infrastructure and authentication features that enable new server-to-server and app authentication scenarios.

Authentication enhancements in SharePoint 2013 make the use of claims-based authentication easier and enable new scenarios and functionality for Exchange Server 2013, Lync Server 2013, and apps in the SharePoint Store or App Catalog. SharePoint 2013 introduces support for server-to-server authentication and app authentication by utilizing and extending the Open Authorization 2.0 (OAuth 2.0) web authorization protocol. OAuth is an industry standard protocol that provides temporary, redirection-based authorization. A user or a web application that acts on behalf of a user can request authorization to temporarily access specified network resources from a resource owner.

Support for OAuth in SharePoint 2013 allows users to grant apps in the SharePoint Store and App Catalog access to specified, protected user resources and data (including contact lists, documents, photographs, and videos) without requiring the app to obtain, store, or submit the user's credentials. OAuth allows app and services to act on behalf of users for limited access to SharePoint resources. For example, a user might approve permissions to an app to grant access to a specific folder of a document library. This enables an app, such as a third-party photo printing app, to access and copy the files in the specific folder upon user request, without having to use or verify the user's account credentials.

User authentication and authorization in SharePoint 2013

User authentication in SharePoint 2013 is the process that verifies the identity of a user who requests access to a SharePoint web application. An authentication provider issues the authenticated user a security token that encapsulates a set of claims-based assertions about the user and is used to verify a set of permissions that are assigned to the user. User

authorization in SharePoint 2013 is the process that determines the users who can perform defined operations on a specified resource within a SharePoint web application. SharePoint 2013 supports user authentication based on the following methods:

- Windows claims
- Security Assertion Markup Language (SAML)-based claims
- Forms-based authentication claims

These claims-based authentication methods are now the recommended authentication methods for SharePoint 2013.

The app authentication and server-to-server authentication features of SharePoint 2013 require claims-based authentication. Because of this, claims-based authentication is the default for new web applications in SharePoint 2013. When you create a web application in Central Administration, you can only specify authentication methods for claims-based authentication. Although Windows Classic mode authentication is still available in SharePoint 2013 and can be configured through Windows PowerShell, we recommend that you use claims-based authentication. Windows Classic mode authentication is deprecated in SharePoint 2013.

Improvements in claims infrastructure

SharePoint 2013 also includes the following improvements in claims authentication infrastructure:

- Easier migration from classic mode to Windows-based claims mode with the new **Convert-SPWebApplication** Windows PowerShell cmdlet

Migration can be run against each content database and each web application. This is in contrast to SharePoint 2010 Products, in which the migration was run against each web application. For more information, see **Migrate from classic-mode to claims-based authentication in SharePoint 2013**.

- Login tokens are now cached in the new Distributed Cache Service

SharePoint 2013 uses a new Distributed Cache Service to cache login tokens. In SharePoint 2010 Products, the login token is stored in the memory of each web front-end server. Each time a user accesses a specific web front-end server, it needs to authenticate. If you use network load balancers in front of your web front-ends, users need to authenticate for

each web front-end server that is accessed behind the load balancer, causing possible multiple re-authentications. To avoid re-authentication and its delay, it is recommended to enable and configure load balancer affinity (also known as sticky sessions). By storing the login tokens in the Distributed Cache Service in SharePoint 2013, the configuration of affinity in your load balancing solution is no longer required. There are also scale-out benefits and less memory utilization in the web front-ends because of a dedicated cache service.

- More logging makes the troubleshooting of authentication issues easier

SharePoint 2013 has much more logging to help you troubleshoot authentication issues. Examples of enhanced logging support are the following:

- Separate categorized-claims related logs for each authentication mode
- Information about adding and removing FedAuth cookies from the Distributed Cache Service
- Information about the reason why a FedAuth cookie could not be used, such as a cookie expiration or a failure to decrypt
- Information about where authentication requests are redirected
- Information about the failures of user migration in a specific site collection

Server-to-server authentication

SharePoint 2013 extends OAuth to implement a server-to-server authentication protocol that can be used by services such as SharePoint 2013 to authenticate other services such as Exchange Server 2013 or Lync Server 2013 or services that are compliant with the server-to-server authentication protocol.

SharePoint 2013 has a dedicated local server-to-server security token service (STS) that provides server-to-server security tokens that contain user identity claims to enable cross-server authenticated access. These user identity claims are used by the other service to lookup the user against its own identity provider. A trust established between the local STS (the SharePoint 2013 server-to-server STS) and other server-to-server compliant services (the Exchange Server 2013 or Lync Server 2013 server-to-server STS) is the key functionality that makes server-to-server possible. For on-premises deployments, you configure the JavaScript Object Notation (JSON) metadata endpoint of the other server-to-server compliant service to

establish this trust relationship. For online services, an instance of the Azure Access Control Service (ACS) acts as a trust broker to enable cross-server communications among the three types of servers.

The new server-to-server STS in SharePoint 2013 issues access tokens for server-to-server authentication. In SharePoint 2013 (and also in SharePoint 2010 Products), trusted identity providers that are compliant with the WS-Federation protocol are supported. However, the new server-to-server STS in SharePoint 2013 performs only the functionality that enables temporary access tokens to access other services such as Exchange Server 2013 and Lync Server 2013. The server-to-server STS is not used for user authentication and is not listed on the user sign-in page, the Authentication Provider UI in Central Administration, or in the People Picker in SharePoint 2013 Products.

App authentication

SharePoint 2013 uses OAuth 2.0 to authorize requests by apps in the SharePoint Store and App Catalog to access SharePoint resources on behalf of a user. The user grants permission to apps in the SharePoint Store and App Catalog to access SharePoint resources on the user's behalf when they are installed. For example, a user installs an app from the SharePoint Store. A SharePoint site contains an embedded HTML inline frame (IFRAME) that the app renders and that requires the app to access a user list. When a Web browser displays the site, the app then calls back to the server running SharePoint 2013 to access the list on behalf of the user. After the app obtains the data from the list, it displays the contents of the IFRAME.

The app authentication process in SharePoint 2013 uses OAuth to verify a claim that an app makes and assert that the app can act on behalf of an authenticated user. In SharePoint 2013, an instance of the Azure ACS acts as the app identity provider. You can also use app authentication without ACS. The authorization process verifies that an authenticated app has permission to perform a defined operation or to access a specified resource.

See also

Explore SharePoint 2013

Plan authentication in SharePoint 2013

Configure authentication infrastructure in SharePoint 2013

What's new for Business Connectivity Services in SharePoint 2013

Applies to: SharePoint Server 2013, SharePoint Foundation 2013

Topic Last Modified: 2013-12-18

Summary: Learn about the new features and capabilities of Business Connectivity Services (BCS) in SharePoint 2013, including OData, BDC models, and apps for SharePoint.

The SharePoint 2013 and the Office 2013 suites include Microsoft Business Connectivity Services. With Business Connectivity Services, you can use SharePoint 2013 and Office 2013 clients as an interface into data that doesn't live in SharePoint 2013 itself. It does this by making a connection to the data source, running a query, and returning the results. Business Connectivity Services returns the results to the user through an external list, or app for SharePoint, or Office 2013 where you can perform different operations against them, such as Create, Read, Update, Delete, and Query (CRUDQ). Business Connectivity Services can access external data sources through Open Data (OData), Windows Communication Foundation (WCF) endpoints, web services, cloud-based services, and .NET assemblies, or through custom connectors.

This article lists the new and enhanced capabilities of Business Connectivity Services in SharePoint 2013. If you are new to Business Connectivity Services, see **Overview of Business Connectivity Services in SharePoint 2013**. To learn more about changes and new features for developers that have been added to Business Connectivity Services (BCS) for SharePoint 2013, see [What's new in Business Connectivity Services in SharePoint 2013](#) in the MSDN Library

In this article:

- [OData support](#)
- [Automatic generation of BDC models for OData data sources](#)
- [Event listener](#)
- [Support for SharePoint apps plural](#)
- [External list enhancements](#)
- [Business Connectivity Services in SharePoint Online enhancements](#)

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- [REST \(CSOM\) object model for Business Connectivity Services for web and mobile app developers](#)
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 - [OData Windows PowerShell cmdlets](#)
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OData support

SharePoint 2013 introduces support for OData Business Data Connectivity (BDC) connections. This is in addition to data connections for WCF, SQL Server, and .NET assemblies. The Open Data Protocol (OData) is a web protocol that is used to query and update data. OData applies web technologies such as HTTP, Atom Publishing Protocol (AtomPub), and JavaScript Object Notation (JSON) to provide access to information from a variety of applications, services, and stores. For more information about OData, see [Introducing OData: Data Access for the Web, the cloud, mobile devices, and more](#) in the MSDN Library. For years, SharePoint has been an OData provider, which means a SharePoint list can be consumed by using OData. In SharePoint 2013, you can now connect to an external data source by using OData. For examples of OData providers and for more information about OData support, see "Connecting to Open Data (OData) Data Sources" in [What's new in Business Connectivity Services for developers](#) in the MSDN Library. For more information on using OData in BCS in SharePoint 2013, see [Using OData sources with Business Connectivity Services in SharePoint 2013](#) in the MSDN Library.

Business Connectivity Services supports Anonymous, Basic, Windows, and Custom authentication to OData services when it is used with the Secure Store Service. If you want to apply permissions at more discrete levels, use OData connections. OData connections provide an easier way to create BDC models that work for both SharePoint 2013 and Office 2013 client applications. In SharePoint 2013, you can connect external lists that are surfaced through OData to Office 2013 clients and you can work with the data when you are offline. When the Office 2013 client reconnects, it performs bidirectional synchronization with the OData source.

Automatic generation of BDC models for OData data sources

Before SharePoint 2013 or SharePoint Online can be used as an interface to external data, they must understand what kind of data source it is, how to talk to it, and what kind of

authentication the external system expects. These items—and also which tables to read, which items from those tables are of interest, and which operations to perform on them—are all described to Business Connectivity Services in a BDC model. In SharePoint 2013, you must use Visual Studio 2010 to create BDC models for OData data sources. To make the BDC model creation process smoother, Visual Studio 2010 will be able to connect to the OData endpoint through Business Connectivity Services and read the OData source. Visual Studio 2010 will then automatically generate the BDC model based on the available metadata. The BDC model can then be either imported into the Business Data Catalog as a farm-scoped external content type, or be included in an app for SharePoint. Farm-scoped external content types can be used in external data lists, business data Web Parts, or business data in lists anywhere across the SharePoint farm.

The BDC model will not contain any filters because it is not possible to know what these would be beforehand. By default, Visual Studio 2010 will generate all the Business Connectivity Services operations for all the OData operations (Get, Put, Post, and Delete).

Event listener

SharePoint 2013 provides an event listener. The event listener includes an event subscriber on the SharePoint 2013 side. The subscriber receives notifications from the event publisher (on the external system side) on changes to the data and then initiates predefined actions when changes occur. This enables SharePoint users and custom code to receive notifications of events that occur in the external system. The users and custom code need to explicitly subscribe to events on entities for which they want to receive a notification. The external system can use any of the supported connections (OData, SQL, or WCF) for transactions with the external system. However, to support eventing, the external system must implement interfaces that allow users to subscribe to events and it must send the notifications back as ATOM feeds or JSON objects to the SharePoint 2013 endpoint.

SharePoint 2013 supports a pull model for getting data from an external system and it introduces a subscription model. In this version, developers can create BDC models that subscribe to published events from an event publisher in the external system. The developers can target a particular entity in the external system, such as the Customer entity, and receive notifications about events that are published on that entity. This enables developers to write custom code for external lists that trigger SharePoint events when data is changed. SharePoint users can also subscribe to alerts on external lists that are associated with a BDC model in

which a developer has defined a subscription. For example, you can create a custom event on an external list that sends an email message to an employee when a customer account is assigned to that employee in the external system. You can do this by subscribing to a particular event (or alert) on a particular view of an external list. Note that users can subscribe to an event the same way that they did in SharePoint Server 2010. For information about how to subscribe to an alert, see [Create an alert or subscribe to an RSS Feed](#) on Office.com. For more information, see "Receiving Events from External Systems" in [What's new in Business Connectivity Services for developers](#) in the MSDN Library.

Support for apps for SharePoint

SharePoint 2013 introduces apps for SharePoint. By using apps for SharePoint, you can add functionality to a SharePoint site by using the self-contained app for SharePoint. When installed, apps for SharePoint do not make any changes to the underlying code on the computer that is running SharePoint Server. Therefore, each app for SharePoint is isolated from the rest of the system. Because apps for SharePoint contain all the resources that they need to function, they are very safe to use and also can be uninstalled cleanly. This article focuses on Business Connectivity Services support for apps for SharePoint. Business Connectivity Services supports apps for SharePoint in two ways. First, BDC models can be scoped to apps for SharePoint. Second, connection information is defined and stored separately from the app-scoped BDC model in BDC connections.

About SharePoint app-scoped external content types and connections

In SharePoint 2013, developers of apps for SharePoint can package BDC models in an app for SharePoint. The Business Connectivity Services runtime then creates external content types that are scoped to the app for SharePoint. This limits use of the external content type to the app for SharePoint. Connection properties can be specified in two ways, either in the BDC model that is contained in the app for SharePoint or in a Business Connectivity Services connection settings object that is created and stored in the Secure Store. Otherwise, if you connect to a data source that requires authentication, the connection must be defined separately in the Business Connectivity Services layer by a developer. Also, an OData connection must be used to connect the app for SharePoint to the external data source. By defining the connections separately from the BDC models that are packaged within the app for SharePoint, administrators can more easily manage connections to external systems. A Business Connectivity Services connection settings object is a combination of the following:

-
- A name for the connection.
 - The endpoint URL of the data source.
 - A declaration of the credential type and authentication method that will be used to authenticate with the endpoint URL of the data source. You must use a credential type and authentication method that is supported by the external data source. For example, you can declare that the connection will use the credentials of the user that is logged in or a different set. Certificate details can be included also.

When an administrator installs an app for SharePoint that needs to access a data feed through Business Connectivity Services, the app for SharePoint must use a BDC connection. During installation, the administrator must grant permission to the app for SharePoint to use the appropriate BDC connection. Note that external content types created from an app-scoped BDC model are scoped to only the app for SharePoint that contains the model. However, multiple apps for SharePoint—each of which contains an app-scoped BDC model—can all point to the same Business Connectivity Services connection settings object. In this way, connection settings can be reused across different apps for SharePoint. For more information about what's new for developers for app-scoped external content types and how to create a connection, see "App-Scoped External Content Types" in [What's new in Business Connectivity Services for developers](#) in the MSDN Library. For a developer overview of apps for SharePoint, see [App-scoped external content types in SharePoint 2013](#)

External list enhancements

SharePoint 2013 includes enhancements to external lists that bring them to functional parity with other SharePoint lists.

Performance improvements in external lists

SharePoint 2013 introduces a number of improvements for external lists. These improvements reduce the load on the database servers in the SharePoint farm and increase the speed of list rendering. Performance is enhanced by having the external system do paging, filtering, and sorting of the external list data before it is sent to SharePoint.

Limiting records returned by the external system

When a limit filter is defined for a BDC model, users can specify the number of records in the list that they want displayed per page.

Data source filtering

Users can use a drop-down list on a column in an external list to filter queries. Developers can prepare Collaborative Application Markup Language (CAML) queries or calls to the SPList object model to filter a list. In SharePoint 2013, if a data source filter is defined in the BDC model, the filtering occurs on the external system before it is passed to SharePoint.

Sorting external lists

In SharePoint 2013, the user's request to sort an external list is sent to the external system. The external system sorts the data, and then sends it to the external list. To do this, the solution developer adds a sort filter to the BDC model for each column in the external list that the developer wants users to be able to sort. Sorting is applied on the entire dataset in the external system, instead of just the first set of data retrieved. The result is an accurately sorted list that is displayed to the user. For more information about paging, filtering, and sorting external lists, see "Enhanced Filtering, Sorting and paging for external lists" in [What's new in Business Connectivity Services for developers](#) in the MSDN Library.

Export external lists to Excel

In SharePoint 2013, you can export an external list to Excel 2010 or to Excel 2013. This works much like exporting SharePoint native lists to Excel in SharePoint Server 2010. However, there are some differences in how you control what gets exported and how you work with the exported data. By default, exporting external lists is enabled. However, an administrator can disable this.

When you export an external list to Excel, you basically get the list as it is displayed in the browser. You get only the data that is present in the selected view and the rows and columns in Excel will have the same sorting and filtering applied as the external list. The column names in the exported data will have the same language settings as the external list and the exported data is subject to any filters that are on the external system.

The process of exporting data creates a one-way (external list to Excel) link between the external list and the Excel version of the list. The Excel version can be refreshed at any time to reflect the current state of the source external list. This means that any changes users might have made to the Excel version are overwritten. Changes that are made in the Excel version are never pushed back up to the source external list.

Business Connectivity Services in SharePoint Online enhancements

All Office 365 for enterprises subscriptions include SharePoint Online. This version of SharePoint Online introduces Business Connectivity Services to the Office 365 users. By using this version, you will be able to bring external data into SharePoint Online from cloud-based data sources and from data sources that are behind your company's firewall in a hybrid scenario. Microsoft Business Connectivity Services can consume data sources that are exposed as WCF services, SQL Azure data services, OData endpoints, and web services.

REST (CSOM) object model for Microsoft Business Connectivity Services for web and mobile app developers

In SharePoint 2013, Business Connectivity Services exposes the Representational State Transfer (REST) APIs for web and mobile app developers to use. These APIs provide a standard interface to the developers.

Business Connectivity Services Client Runtime supports side-by-side Office 2010 and Office 2013 installations

Business Connectivity Services Client Runtime now supports side-by-side installation of Office 2010 and Office 2013 on the same client computer. For example, if Outlook 2010 and Lync 2013 are installed on the same client computer, by default both versions of Business Connectivity Services Client Runtime are also installed. This new feature enables Office 2010 and Office 2013 to continue to work without causing conflicts or failures when Microsoft Business Connectivity Services Client Runtime is used.

OData Windows PowerShell cmdlets

SharePoint 2013 includes the following six new Windows PowerShell cmdlets specifically for OData.

-
- **Get-SPODataConnectionSetting** Reads a Business Connectivity Services connection of a BDC service application and returns the Business Connectivity Services connection object.
 - **Get-SPODataConnectionSettingMetadata** Returns Business Connectivity Services connection metadata properties.
 - **New-SPODataConnectionSetting** Creates a new Business Data Connectivity connection.
 - **Remove-SPODataConnectionSetting** Deletes the Business Connectivity Services connection object together with its metadata object.
 - **Set-SPODataConnectionSetting** Can be used to edit the properties of an existing Business Connectivity Services connection.
 - **Set-SPODataConnectionSettingMetadata** Can be used to edit metadata properties of an existing Business Connectivity Services connection.

Additional resources

For developer-focused information about what's new in Business Connectivity Services, see [What's new in Business Connectivity Services for developers](#) in the MSDN Library.

See also

Overview of Business Connectivity Services in SharePoint 2013

What's new in eDiscovery in SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-06-05

Summary: Get a quick introduction to eDiscovery and in-place hold capabilities in SharePoint Server 2013.

The eDiscovery functionality in SharePoint Server 2013 provides improved ways to help you protect your business. SharePoint Server 2013 includes the following:

- A site collection from which you can perform eDiscovery queries across multiple SharePoint farms and Exchange servers and preserve the items that are discovered.
- In-place preservation of Exchange mailboxes and SharePoint sites — including SharePoint list items and SharePoint pages — while still allowing users to work with site content.
- Support for searching and exporting content from file shares.
- The ability to export discovered content from Exchange Server 2013 and SharePoint Server 2013.

The following sections describe the new functionality:

- [SharePoint eDiscovery Center](#)
- [SharePoint in-place holds](#)
- [SharePoint eDiscovery export](#)
- [Enterprise-wide eDiscovery](#)

SharePoint eDiscovery Center

SharePoint Server 2013 introduces a new site for managing discovery cases and holds. The *eDiscovery Center* site template creates a portal through which you can access discovery cases to conduct searches, place content on hold, and export content. For each case, you create a new site that uses the *eDiscovery Case* site template. Each case is a collaboration site that

includes a document library which you can use to store documents related to the management of the case. In addition, you can associate the following things with each case:

- **Sources:** Exchange mailboxes, SharePoint sites, or file shares from which content can be discovered.
- **eDiscovery sets:** Combinations of sources, filters, and whether to preserve content. eDiscovery sets are used to identify and preserve content.
- **Queries:** The search criteria, such as author, date range, and free-text terms, and the scope of the search. Queries are used to identify content to export.
- **Exports:** A list of all of the exports that were produced that relate to the case.

When there is a new need for discovery — for example, a legal case or an audit — a user who has appropriate permissions can create a new case, create eDiscovery sets to identify the specific material to be located, and then preserve the sites and mailboxes in which content was discovered. The user can then create queries to further refine the content that is relevant, preview the content, and export the content. When the case is closed, all of the holds associated with the case are released.

SharePoint in-place holds

In SharePoint Server 2013, content that is put on hold is preserved, but users can still change it. The state of the content at the time of preservation is recorded. If a user changes the content or even deletes it, the original, preserved version is still available. Regular users see the current version of the content; compliance officers who have permissions to use the eDiscovery features of SharePoint Server 2013 can access the original, preserved version.

In-place holds in SharePoint Server 2013 offer improvements to the hold functionality in earlier versions of SharePoint Server. Improvements include the following:

- Documents, list items, pages, and Exchange Server 2013 mailboxes can be preserved.
- Preservation is done at the level of a site. Preserving a site preserves the contents of the site.
- Users can continue to work with content that is preserved. The content remains in the same location, and users can edit, delete, and add new content.

-
- A user who has permissions to perform eDiscovery can access the original version of preserved content.
 - You do not have to preserve a whole site or mailbox. You can specify a query filter to define the scope of preservation, and preserve only the content that matches the query filter.

SharePoint eDiscovery export

In SharePoint Server 2013, you can export the results of an eDiscovery search for later import into a review tool. You can export all of the content that is associated with an eDiscovery case. This includes the following:

- **Documents:** Documents are exported from file shares. Documents and their versions are exported from SharePoint Server 2013.
- **Lists:** If a list item was included in the eDiscovery query results, the complete list is exported as a comma-separated values (.csv) file.
- **Pages:** SharePoint pages, such as wiki pages or blogs, are exported as MIME HTML (.mht) files.
- **Exchange objects:** Items in an Exchange Server 2013 mailbox, such as tasks, calendar entries, contacts, email messages, and attachments, are exported as a .pst file.

An XML manifest that complies with the Electronic Discovery Reference Model (EDRM) specification provides an overview of the exported information.

Enterprise-wide eDiscovery

In SharePoint Server 2013, you can centrally manage eDiscovery across multiple SharePoint farms, Exchange servers, and file shares. From one eDiscovery Center, you can do the following:

- Create a case, define a query, and then search SharePoint Server 2013, Exchange Server 2013, and file shares throughout the enterprise for content that matches the query.
- Export all of the content that was identified.
- Preserve items in place in SharePoint Server 2013 or Exchange Server 2013.

-
- Track statistics related to the case.

To implement eDiscovery across the enterprise, you configure SharePoint Server 2013 Search to crawl all file shares and websites that contain discoverable content, and configure the central Search service application to include results from Exchange Server 2013. Any content from SharePoint Server 2013, Exchange Server 2013, or a file share or website that is indexed by Search or by Exchange Server 2013 can be discovered from the eDiscovery Center.

See also

[Overview of eDiscovery and in-place holds in SharePoint Server 2013](#)

[Plan for eDiscovery in SharePoint Server 2013](#)

What's new for mobile devices in SharePoint 2013

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2013-12-18

Summary: Learn about the new mobile features available in SharePoint 2013, including the mobile browser experience, device channels, and location.

SharePoint Server 2013 offers new, optimized viewing experiences across different mobile platforms. Additionally, several new features were added to help improve both worker productivity and usability on the device. This functionality includes the following:

- [Optimized mobile browser experience](#) For smartphone mobile devices SharePoint Server 2013 provides a lightweight, contemporary view browsing experience for users to navigate and access document libraries, lists, wikis, and Web Parts.
- [Device channels](#) You can render a single published SharePoint site in multiple designs to accommodate different device targets.
- [Push notifications](#) A push notification service on a SharePoint site can be enabled to send device updates such as a tile or toast notification to a Windows Phone device.
- [Location](#) SharePoint Server 2013 supports a new geolocation field type that can be used for mobile application development.
- [Business intelligence content](#) Certain devices are now able to view business intelligence content such as PerformancePoint Web Parts, Excel Services reports, and SQL Reporting Services reports.
- [Office Web Apps](#) You can view Word, Excel, and PowerPoint documents in mobile browsers with additional functionality in SharePoint Server 2013.

For an end to end look and understanding of the SharePoint Server 2013 mobile landscape, see the poster [Mobile architecture in SharePoint 2013](#). Also, for more information on how to administer your mobile environment see **Administer mobile devices in SharePoint 2013**.

Optimized mobile browser experience

SharePoint Server 2013 offers improvements to the mobile browser experience with the introduction of a new contemporary view. Depending on the mobile browser, users have one of the following browsing options:

- **Contemporary view** This view offers an optimized mobile browser experience to users and renders in HTML5. This view is available to Mobile Internet Explorer version 9.0 or later versions for Windows Phone 7.5, Safari version 4.0 or later versions for iPhone iOS 5.0, and the Android browser for Android 4.0 or later versions.
- **Classic view** This view renders in HTML format, or similar markup languages (CHTML, WML, and so on), and provides backward compatibility for mobile browsers that cannot render in the new contemporary view. The classic experience in SharePoint 2013 is identical to the mobile browser experience of SharePoint Server 2010.
- **Full screen UI** There is also the ability to have a full desktop view of a SharePoint site on a smartphone device.

The following figure shows the contemporary view for a smartphone browser.

Figure: Contemporary view on a smartphone browser

Site Pages: Home

Welcome to Adventure Works!

A bike that will leave you saying 'go Adventure Works or go home.' It doesn't matter if biking is your profession, your passion or just a great pastime,

Announcements

View: All items

- 2012 Off-Road Series Launch...
4/11/2012 12:20 AM
- Polish Review
4/9/2012 8:02 PM
- Upcoming event - China Bicyc...
2/9/2012 4:38 PM
- World Bike Expo @ Copenha...
9/27/2011 8:15 PM
- After party for Off-Road series
9/27/2011 8:12 PM
- Alivio 8 Speed Launch Campa...
9/27/2011 8:09 PM

Close

- This page location is:

- Asia
- Mobile WebApps and Sharepoint Experiences
- AdvWorks
- Shared Documents

- Pictures

1-6

Documents

View: All Documents

- coolqueries.txt
10/1/2012 12:18 AM, Håkon Brugård
- FW Social And OneDrive h...
9/21/2012 2:12 AM, Håkon Brugård
- RE Fyren i Kina som skriv...
9/26/2012 4:17 AM, Håkon Brugård
- SuggestedPeopleFeedbac...
10/4/2012 11:38 PM, Håkon Brugård
- SuggestionsV2.xlsx
10/5/2012 2:25 AM, Håkon Brugård

Site Contents

Lists, Libraries, and other Apps

- Calendar
- Documents
- MicroFeed
- Site Assets

New Item

Task Name*

Start Date

(e.g. MMddyyyy)

Due Date

(e.g. MMddyyyy)

Assigned To

% Complete

0

%

Note:

For the above figure the top row shows the contemporary view rendering on a Windows Phone, and the iPhone for the bottom row. The classic and contemporary views are only rendered for smartphone mobile browsers. For more information about which mobile browsers are supported in SharePoint Server 2013, see **Mobile device browsers supported in SharePoint 2013**.

Device channels

Browsing the web on a mobile device is now so common that it is essential that a SharePoint site should be optimized for readability and ease of use on smartphones and other mobile devices such as tablets.

Previous versions of SharePoint Server included a single default mobile view that was auto-generated based on the existing site, and that default mobile view was not easily customizable. Now, with mobile channels in SharePoint Server 2013, you can render a single publishing site in multiple ways by using different designs that target different devices. You create a single site and author the content in it a single time. Then, that site and content can be mapped to use different master pages, page layouts, and style sheets for a specific device or group of devices.

For more information on using device channels, and understanding the larger custom design and site branding experience for SharePoint 2013, see [Plan device channels](#) and [Overview of Design Manager](#).

Push notifications

SharePoint Server 2013 supports applications on mobile devices (such as smartphones, tablets, and so on) that should receive notifications from a SharePoint site. Notifications can include events that occur in the site, such as when a user adds an item to a list or updates an item. For mobile devices to receive these notifications, device applications must register with a SharePoint site. Once the device is registered, you can write event handler code to interact with Microsoft Push Notification Service or notification services of other mobile device platforms. Notifications are sent from the server where the application is hosted to the registered mobile device application.

Location

SharePoint Server 2013 introduces a new geolocation field type that can be used in a list. For example, you can now make lists “location-aware” and display latitude and longitude coordinates through Bing Maps. An entry is typically seen as a pushpin on the map view. Although there are several ways to use this geolocation field, one key scenario is for mobile application development. Users can track or log location-specific data while they work remotely from the corporate office. Alternatively, the application can help them locate points of interest when it performs offsite functions.

Business intelligence content

SharePoint Server 2013 enables a user to view certain kinds of dashboard content. This includes PerformancePoint reports and scorecards, and Excel Services reports in iOS 5.0 Safari browsers on iPad devices.

Office Web Apps

In SharePoint Server 2010, Office Web Apps Server provides browser-based companions for Word, Excel, and PowerPoint. When Office Web Apps Server is installed on SharePoint Server 2010, Office Mobile Web Apps is also installed on the server. Office Mobile Web Apps enables users to open documents in the mobile web application by using a mobile browser. With SharePoint Server 2013, Office Web Apps Server is no longer a companion product installed on a computer that is running SharePoint Server. Instead, Office Web Apps Server is a new stand-alone server product that still provides mobile browser-based viewers for these applications. These viewers called Word Mobile Viewer, Excel Mobile Viewer, and PowerPoint Mobile Viewer are optimized to render documents for phones. When integrated with SharePoint Server 2013, a user can enjoy enhanced viewing experiences when interacting with documents on the phone.

See also

Overview of mobile devices and SharePoint Server 2013

Administer mobile devices in SharePoint 2013

[Plan device channels](#)

[Mobile architecture in SharePoint 2013](#)

What's new in records management and compliance in SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn about the new site-based retention feature in SharePoint Server 2013.

The records management and compliance features in SharePoint Server 2013 provide improved ways to help you protect your business. The records archive and in-place record retention from earlier versions of SharePoint Server are still supported. SharePoint Server 2013 adds retention policies that are applied at the level of a site.

Site-based retention

Compliance features of SharePoint Server 2013 have been extended to sites. You can create and manage retention policies in SharePoint Server 2013, and the policies will apply to SharePoint sites and any Exchange Server 2013 team mailboxes that are associated with the sites.

Compliance officers create policies, which define the following:

- The retention policy for the whole site and the team mailbox, if one is associated with the site.
- What causes a project to be closed.
- When a project should expire.

When a project begins, the project owner creates a SharePoint site and an Exchange Server 2013 team mailbox. The project owner selects the appropriate policy template and invites team members to join the project. As the team adds documents to the site, sends email messages, and creates other artifacts such as lists, these items automatically receive the correct retention policies. When the work is completed, the project owner closes the project, which removes the project's folders from the team members' user interface in Outlook 2013. After a certain time, as specified by the policy, the project expires, and the artifacts associated with the project are deleted.

Rights Management connector for enhanced Rights Management protection

The Microsoft Rights Management connector (RMS connector) is an optional application that enhances data protection on your SharePoint 2013 servers by employing cloud-based Microsoft Rights Management services. Once you install the RMS connector, these services provide continuous data protection during the lifespan of the information and because the services are customizable, you can define the level of protection you need. For example, you can limit file access to specific users or set view-only rights for certain documents.

To learn about the RMS connector and how to install it, see [What's new in records management and compliance](#)

See also

Overview of site policies in SharePoint 2013

What's new in business intelligence in SharePoint Server 2013

Applies to: *SharePoint Server 2013 Enterprise*

Topic Last Modified: 2014-04-02

Summary: Microsoft provides comprehensive BI tools that integrate across Office applications and other Microsoft technologies. These tools enable analysis, reporting, dashboards, and visualizations.

Business intelligence (BI) in SharePoint 2013 provides comprehensive BI tools that integrate across Microsoft Office applications and other Microsoft technologies. These BI tools are: Excel 2013, Excel Services in SharePoint 2013, PerformancePoint Services in SharePoint Server 2013, Visio Services in SharePoint, SharePoint 2013, and Microsoft SQL Server.

Excel BI

Excel BI provides the capabilities to analyze and visually explore data of any size, and to integrate and show interactive solutions. In SharePoint Server 2013, Excel BI offers certain new features to support business intelligence applications.

These include the following:

- **In-Memory BI Engine (IMBI):** The In Memory multidimensional data analysis engine (IMBI), also known as the Vertipaq engine, allows for almost instant analysis of millions of rows and is a fully integrated feature in the Excel client.
- **Power View Add-in for Excel:** Power View enables users to visualize and interact with modeled data by using highly interactive visualizations, animations and smart querying.. Users can present and share insights with others through rich storyboard presentation capabilities. Power View is powered by the BI Semantic Model and the VertiPaq engine.
- **Decoupled PivotChart and PivotTable reports:** Users can now create PivotChart reports without having to include a PivotTable report on the same page.

Excel Services

Excel Services enables people to view and interact with Excel workbooks that have been published to SharePoint sites. Users are able to explore data and conduct analysis in a browser window just as they would by using the Excel client. For more information about Excel Services in Microsoft SharePoint Server 2010, see [Excel Services overview \(SharePoint Server 2010\)](#) on Microsoft TechNet. In SharePoint Server 2013, Excel Services offers certain new features to support business intelligence applications. These include the following:

- **Data exploration improvements:** People can more easily explore data and conduct analysis in Excel Services reports that use SQL Server Analysis Services data or PowerPivot data models. For example, users can point to a value in a PivotChart or PivotTable report and see suggested ways to view additional information. Users can also use commands such as Drill Down To to conduct analysis. Users can also apply the Drill Down command by using a single mouse click.
- **Field list and field well support:** Excel Services enables people to easily view and change which items are displayed in rows, columns, values, and filters in PivotChart reports and PivotTable reports that have been published to Excel Services.
- **Calculated measures and members:** Excel Services supports calculated measures and calculated members that are created in Excel.
- **Enhanced timeline controls:** Excel Services supports timeline controls that render and behave as they do in the Excel client.
- **Application BI Servers:** Administrators can specify SQL Server Analysis Services servers to support more advanced analytic capabilities in Excel Services.
- **Business Intelligence Center update:** The Business Intelligence Center site template has been streamlined. It not only has a new look, it is easier to use.

PerformancePoint Services

PerformancePoint Services enables users to create interactive dashboards that display key performance indicators (KPIs) and data visualizations in the form of scorecards, reports, and filters. For more information about PerformancePoint Services, see **PerformancePoint Services in SharePoint Server 2013 overview**. In SharePoint Server 2013, PerformancePoint Services offers certain new features to support business intelligence applications. These include the following:

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- **Dashboard Migration:** Users will be able to copy entire dashboards and dependencies, including the .aspx file, to other users, servers, or site collections. This feature also allows the ability to migrate single items to other environments and migrate content by using Windows PowerShell commands.
 - **Filter Enhancements & Filter Search:** The UI has been enhanced to allow users to easily view and manage filters including giving users the ability to search for items within filters without having to navigate through the tree.
 - **BI Center Update:** The new BI Center is cleaner, and easier to use with folders and libraries configured for easy use.
 - **Support for Analysis Services Effective User:** This new feature eliminates the need for Kerberos delegation when per-user authentication is used for Analysis Services data sources. By supporting Analysis Services Effective User feature, authorization checks will be based on the user specified by the EffectiveUserName property instead of using the currently authenticated user.

Visio Services

Visio Services is a service application that lets users share and view Microsoft Visio Drawing (*.vsdx) and Visio 2010 Web drawing (*.vdw) files. The service also enables data-connected Visio Drawing (*.vsdx) and Visio 2010 Web drawing (*.vdw) files to be refreshed and updated from various data sources.

- **Maximum Cache Size:** A new service parameter, it is located on the Central Administration Visio Graphics Service Application Global Settings page. The default value is 5120 MB.
- **Health Analyzer rules:** New corresponding Health Analyzer rules have been added to reflect the new Maximum Cache Size parameter.
- **Updated Windows PowerShell cmdlets, Set-SPVisioPerformance:** This cmdlet has been updated to include the new Maximum Cache Size parameter.
- **Commenting on drawings supported:** Users can add meaningful comments to a Visio Drawing (*.vsdx) collaboratively on the web via Visio Services in full page rendering mode.

What's new in social computing in SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2012-09-20

Summary: Learn about new features and functionality for social computing, such as My Sites, feeds, Community Sites, and Community Portals.

The social computing and collaboration features in SharePoint Server 2013 offer an improved administration and user experience, in addition to new functionality for enterprise users to share and collaborate with others in their organization.

The introduction of Community Sites offers a forum experience to categorize discussions around subject areas, and connect users who have knowledge or seek knowledge about subject areas. Improvements to My Sites offer a more intuitive workflow for users to develop their personal profiles, store content, and keep up-to-date with activities of interest.

Video: Social computing overview with Bill Baer



In this article:

- [Communities](#)
- [My Sites](#)

Communities

In SharePoint Server 2010 and SharePoint Foundation 2010, you could add a Discussion list to sites to facilitate discussions among members of the site. SharePoint Server 2013 and SharePoint Foundation 2013 continue to provide this Discussion list, but also expand on the discussion concept by introducing two new site templates named *Community Site* and *Community Portal*.

Community Sites offer a forum experience to categorize and cultivate discussions with a broad group of people across organizations in a company. Community Sites promote open communication and information exchange by fostering discussions among users who share their expertise and use expertise of others who have knowledge in specific areas of interest.

With Community Sites, you organize discussions in categories. Visitors can view the discussions and become members if they want to contribute to those discussions. Moderators manage the community by setting rules, reviewing and addressing inappropriate posts, marking interesting content as featured discussions, and so on. Moderators can also assign gifted badges to specific members to visually indicate that the member is recognized as a specific kind of contributor in the Community Site, such as an expert or a moderator. Each Community Site contains information about member and content reputation, which members earn when they actively post in discussions, and when their content is liked, replied to, or marked as a best answer.

You can deploy Community Sites or use community features in the following ways:

- **By deploying a stand-alone community** With a stand-alone community, you can create the Community Site at either a site collection or a site level. For example, you might create a community in a divisional portal if you want to facilitate discussions among members of the division and use the community categories to keep things organized.
- **By activating community features** You can activate community features on any site, which provides the core Community Site pages, moderation, membership, and reputation functionality within the existing site without creating a separate Community Site. This option is useful when you already have a site, such as a team site, where you want to include community functionality, such as earning reputations, without having to direct users to a separate site.

Additionally, when you have multiple Community Sites that you want to display to users in your enterprise, you can deploy the Community Portal. The Community Portal is a search-driven page that surfaces SharePoint site collections and sites in the SharePoint farm that use the Community Site template. Users can visit the Community Portal to discover popular communities and to search for communities that they might want to join. The Community Portal relies on enterprise search for security trimming, and displays only Community Sites for which a user has at least read permissions.

For more information about communities, see **Overview of communities in SharePoint Server 2013**, **Plan for communities in SharePoint Server 2013**, and **Create and configure communities in SharePoint Server 2013**.

My Sites

In SharePoint Server 2010, My Sites provided a central place for users to store personal and shared documents, in addition to promoting their user information and expertise, tagging content, and communicating with others by using the Note Board. Through people search, users were able to connect with one another and benefit from expertise of others in their organization.

In SharePoint Server 2013, My Sites continue to provide the benefits from the previous release. However, the user interface is completely redesigned and modernized to give users an inviting and intuitive experience. A key change to the user interface includes a simplified and unified navigation experience for your own and others' My Sites. Additionally, My Sites contain the new Microblog and Newsfeeds features. These features allow users to engage in short, public conversations, and keep up-to-date on activities from content and people in which they are interested.

This section discusses improvements and new functionality to the following areas of My Sites:

- [My Site document libraries](#)
- [Microblogging and feeds](#)
- [Deployment and configuration](#)
- [Central Administration changes](#)

My Site document libraries

In SharePoint Server 2010, each My Site contained two document libraries: personal and shared. Items stored in the personal document library were restricted to the My Site owner, and items in the shared document library were shared with everyone.

In SharePoint Server 2013, My Sites include several improvements to saving, synchronization, sharing, and moving of content. These improvements make My Sites a more robust solution for users to store and work with files in the SharePoint environment.

Saving and synchronizing content

When deployed, a user's My Site document library is the default save location for files saved from Office 2013 client applications. A discovery service identifies the user's My Site URL and offers it as the default location in addition to other locations available for saving files. This

promotes the workflow of storing files in the user's My Site document library where items can be managed, governed, shared, and moved. This helps reduce the amount of content that is stored in other systems, such as in email or on personal drives.

 **Note:**

In test environments where users have more than one My Site, the discovery service is unable to determine the default My Site location to use for saving files.

Users have the option to synchronize their My Site document library content with a local drive to enable offline access to documents. This option encourages the use of the My Site document library for storage instead of the users' local drives because it offers flexibility for users to work with documents in both online and offline scenarios.

Sharing content

SharePoint Server 2013 introduces the concept of sharing for all document libraries. This concept is leveraged by the My Site document library to ease the process of collaborating with other users on content. Sharing is based on the same permissions infrastructure as SharePoint Server 2010, but simplifies and improves the user experience. By using this simplified experience, users can specify permissions for a specific document without having to understand the inheritance model.

By default, all content that is stored in a user's My Site document library is restricted to the user, and other users cannot see content unless it is shared with them. If the user wants others to collaborate on a piece of content in that library, the user can share the content with specific users or groups, and select the permission those users or groups have to the content.

Even though the sharing process is available to all document libraries in SharePoint Server 2013, My Sites include a sharing hint, which displays all the users and the permissions for a specific piece of content. This makes it easier for users to see at a glance what they are sharing and with whom.

Microblogging and feeds

In SharePoint Server 2013, the Newsfeed page in the My Site continues to provide an aggregated view of activities from content and people the user is following. However, the feed is improved with new microblogging functionality that enables users to do the following:

- Participate in conversations by posting comments and replies.
- Post pictures and links.

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- Use tags (starting with the # symbol) to define keywords that users can follow and search for.
 - Use mentions (starting with the @ symbol) to tag users in posts and replies.
 - Indicate agreement with comments and replies by clicking Like.
 - Follow people, documents, sites, and tags to customize their feed.

In SharePoint Server 2013, a new in-memory cache known as the Distributed Cache (which uses AppFabric for Windows Server) maintains the Newsfeed. AppFabric is installed and configured as part of the SharePoint Server 2013 prerequisites. For more information about SharePoint Server 2013 prerequisites, see **Prepare for installation of SharePoint 2013**.

This feeds infrastructure better supports the read and write operations generated by users' activities and participation in microblogging. The feeds API is extensible, which enables scenarios where activities can be added to the newsfeed or consumed by other applications programmatically. For example, you might develop a new application for users to check in to locations, such as a building, and broadcast their check-ins to their feed by using the feeds API.

In SharePoint Server 2013, each My Site requires a document library for microblogging and feeds. This document library contains a microblogging list that maintains all of a user's posts instead of maintaining them in the My Site Host site collection as in SharePoint Server 2010. This means that activities are persisted indefinitely and no longer limited to 14 days as in SharePoint Server 2010. The Newsfeed page displays the aggregated view of recent activities that are maintained in the cache, whereas the user's profile page displays all activities maintained in the user's microblogging list.

Deployment and configuration

The planning, deployment, and configuration steps for My Sites are much the same as in SharePoint Server 2010. For more information, see **Plan for social computing and collaboration in SharePoint Server 2013** and **Administer the User Profile service in SharePoint Server 2013**.

This section describes the considerations for upgrading My Sites from SharePoint Server 2010, and new and updated settings for My Sites in SharePoint Server 2013.

Upgrade considerations

If you upgrade from SharePoint Server 2010 to SharePoint Server 2013, there are special considerations for My Sites. Make sure that you upgrade the My Site Host site collection before you allow users to upgrade their individual My Sites in SharePoint Server 2013. This ensures that the server software and database changes are complete so that users can start the upgrade of their individual My Sites successfully. Upgrade of a specific My Site occurs the first time that a user opens an individual My Site. An upgrade request is queued until the My Site upgrade is completed. While the upgrade request is in the queue, users can continue to use their My Sites though the sites will appear as they did in SharePoint Server 2010 until the upgrade is completed. Following upgrade, users see the new user interface the next time that they visit their My Site.

Central Administration changes

SharePoint Server 2013 includes several changes to the User Profile service application settings in Central Administration to support new My Sites functionality.

Configure permissions for personal and social features

The Manage User Permissions page contains new and updated settings for the User Profile service application. You can select one or more of the following permissions for users and groups that you want to grant permission to personal and social features:

- **Create Personal Site (required for personal storage, newsfeed, and followed content)** This permission enables users to create personal sites to store their documents, newsfeed, and followed content.
- **Follow People and Edit Profile** This permission enables users to follow people from their My Site and to edit their personal profile.
- **Use Tags and Notes** This permission enables users to use the Tags and Notes feature from SharePoint Server 2010. The Tags and Notes feature is provided primarily for upgrade purposes so that users can continue to access the tags and notes they created in the previous version of SharePoint Server. However, you might also use this permission to enable users to leave notes on documents in SharePoint Server 2013.

Configure microblogging and following settings

Central Administration contains new settings for User Profile service application administrators to configure microblogging and following activities:

- **Enable microblogging e-mail notifications** On the **Setup My Sites** page, under **E-mail Notifications**, select **Enable newsfeed email notifications** if you want users to receive email notifications that relate to their microblogging activities.
- **Manage Following page** On the User Profile service application administration page, under **My Site Settings**, click **Manage Following**. From the **Manage Following** page, you can configure limits for the number of people, documents, and sites that users can follow from their My Site.

Configure policies for privacy and people

Central Administration contains new policy settings for the User Profile service application and My Sites. These settings appear on the Manage Policies page of the User Profile service application. There are two new sections that display privacy and people settings. You can select a specific policy to change whether the policy is enabled, the default privacy setting for users, and whether users can override the setting from their own profiles. In SharePoint Server 2013, the Default Privacy Setting for policies contains only two settings: **Only Me** and **Everyone**. The additional settings from SharePoint Server 2010 of **My Manager**, **My Team**, and **My Colleagues** are removed. Setting a policy to **Only Me** sets the default behavior for feed events to off, whereas setting it to **Everyone** turns it on. If you allow users to override the setting, they can choose whether to change the default behavior on their individual profiles.

The following are new settings under Privacy Settings:

- Following a Document or Site on My Site
- Tagging an Item on My Site
- Workplace anniversary on My Site
- Following a Tag on My Site
- Updating "Ask Me About" on My Site
- Rating an Item on My Site
- Following a Person on My Site

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- Posting on a Note Board on My Site
 - Job Title Change on My Site
 - Posting a new blog post on My Site
 - Birthday Celebration on My Site

The following are updated settings under People Settings:

- People on My Site
- Auto-follow people from team
- People Recommendations



Note:

These People Settings existed in SharePoint Server 2010 under the My Colleagues section, but they are renamed in SharePoint Server 2013 because the concept of colleagues is now changed to people. Additionally, the **People on My Site** setting now defines the default privacy setting for all people a user follows, instead of individual privacy settings. This means that when you set the privacy setting to **Everyone**, everyone who accesses a user's profile can see the people whom that user follows.



Note:

My Sites are private by default. There is a privacy setting named **Make My Sites Public** that an administrator can use to make all users' My Sites public by default. The **Make My Sites Public** setting is located in the User Profile service application under **Setup My Sites**. Even if an administrator configures any of these policy settings, these policy settings are overridden if the **Make My Sites Public** setting is selected.

See also

Overview of communities in SharePoint Server 2013

Plan for communities in SharePoint Server 2013

Create and configure communities in SharePoint Server 2013

Plan for My Sites in SharePoint Server 2013

Configure My Sites in SharePoint Server 2013

Overview of microblog features, feeds, and the Distributed Cache service in SharePoint Server 2013

Plan for feeds and the Distributed Cache service in SharePoint Server 2013

What's new in web content management for SharePoint 2013 publishing sites

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn about web content management features for building Internet, intranet, and extranet SharePoint publishing sites.

SharePoint Server 2013 includes new and improved features for web content management that simplify how you design publishing sites and enhance the authoring and publishing processes of your organization. SharePoint Server 2013 also has new features that use the power of search to surface dynamic web content on publishing sites.

Content authoring improvements

Content authors have a better experience in SharePoint Server 2013. Content authors can now copy content from Word, paste it directly into a Rich Text Editor Web Part, Content Editor Web Part, or an HTML field control on a page, and have the resulting semantically correct HTML markup display in the styles that were defined by the site designer. Site owners and designers can now customize the global and current navigation menus by dragging and dropping menu items directly on the page.

SharePoint Server 2013 adds many new features for videos and using videos on pages. A new video content type is added, and the video upload process is improved for content authors. Thumbnail preview images are created automatically when a video is uploaded to an asset library, and content authors can choose a frame from the video and use that as the thumbnail preview image. For automatic thumbnail creation to work, the Desktop Experience feature must be installed on the front-end web server that hosts SharePoint Server 2013. For information about the Desktop Experience feature, see [Desktop Experience Overview](#).

In SharePoint Server 2013, content authors can insert an iframe element into an HTML field on a page. This lets content authors embed dynamic content from other sites, such as videos or map directions. By default, certain trusted external domains are already approved for use in iframes. Site collection administrators can customize the field security settings by changing the default trusted external domains. They can also allow content authors to insert iframes for any

external domain, or prevent them from inserting iframes on any page. To change the field security settings for a site collection, click **HTML Field Security** on the Site Settings page.

Finally, SharePoint Server 2013 supports *image renditions*. Image renditions let you display different sized versions of an image on different pages. When you create an image rendition, you specify the width and height for all images that use that image rendition. For example, if the site has a news article page layout that contains an image field, you can create an image rendition named Article_image to display the full-sized image in the article page. A second image rendition named Thumbnail_small can be used to display a smaller version of the image associated with a particular article when the image is displayed in a Web Part that lists all recent news articles on the site home page. To use image renditions, you first define the image rendition sizes. Next, you generate the default image preview by uploading an image, which you can adjust if it is necessary. Finally, you add the image to a page and specify which image rendition to use on that page.

By default, the image preview that is displayed for an image rendition is generated from the center of the image. You can adjust the image preview for individual images by selecting and resizing the portion of the image that you want to use as the image preview. For example, if a photo contains a person's face but the default image preview does not show the whole face, you can change the selected image area so that the whole face is displayed.

Image renditions let you have large source images on the site and also have places on the site where pages only use smaller versions. This reduces the size of the file that is downloaded to the client, which improves site performance. Image renditions also let you have multiple versions of the same image that are cropped differently without having to upload multiple images. This reduces the storage space that is required for images. Finally, image renditions are useful in mobile scenarios, where different versions of images can be displayed based on the device that is used.

 **Important:**

Before you can use image renditions, you must enable the BLOB cache. For information about how to enable the BLOB cache, see "Configuring BLOB cache settings" in [Configure cache settings for a Web application \(SharePoint Server 2010\)](#).

To use image renditions, click **Image Renditions** on the Site Settings page. You define an image rendition by specifying a name, such as Thumbnail_small, and the width and height in pixels for that image rendition. You can create as many image renditions as you want for your site design. To use an image rendition for a specific image on a page, you add an image to a page as you typically would. When you add an image to a page, the Edit Image Properties

page displays a list of image renditions that you can apply. The image is then displayed on the page using the dimensions specified in the selected image rendition.

You can also use image renditions on a page by specifying a value in the **RenditionID** property for an image field control on a page layout, or by using a URL that has the **RenditionID** parameter to point directly to the version of the image that you want to use. The rendition ID is displayed on the Image Renditions settings page for a site collection or site. After you create an image rendition, you can provide a list of available rendition IDs to content authors so they always know what value to use for the **RenditionID** in field controls or as a parameter in a URL. For example, if the image rendition named Thumbnail_small has **RenditionID** 2, you can give that information to content authors so that they always use **RenditionID** 2 anywhere they want to insert a small thumbnail of an image.

You can also use the following alternative methods to specify the **RenditionID**:

- To specify the **RenditionID** property in the image field control, enter the numeric ID that corresponds to the rendition that you want to use when an image is inserted into that field control during page editing.
- To specify the **RenditionID** parameter in the URL, add "?RenditionId=n" to the image URL, where n is the RenditionID. For example, the URL `http://contoso.com/Images/myimage.jpg?RenditionId=2` will load the image rendition with ID 2 for the image file myimage.jpg.

Variations for multilingual sites

In SharePoint Server 2013, the variations feature is used exclusively for multilingual sites. The variations feature makes content available to specific audiences on different sites by copying content from a source variation site to one or more target variation sites, and tracking relationships between source and target content. Users who visit the site are redirected to the appropriate variation site based on the language setting of their web browser.

SharePoint Server 2013 now has an integrated translation service that lets content authors select content for export for human translation or specify content for machine translation. Translated content can also be used across multiple site collections by using cross-site publishing. For information about cross-site publishing, see [Cross-site publishing](#) later in this article.

By using SharePoint Server 2013, content authors can nominate lists on source variation sites to be propagated to target variation sites. List items such as documents, images, or

announcements propagate independently from pages. For example, if you have a page that links to a document, and you change only the document, the document will be propagated to the target variation site without the user having to republish the page that references the document.

In SharePoint Server 2013, additional changes were made to the variations feature to improve performance, such as enabling bulk export of pages. Logging functionality is updated to improve the usefulness of error messages, and logs can now be exported to Excel.

 **Note:**

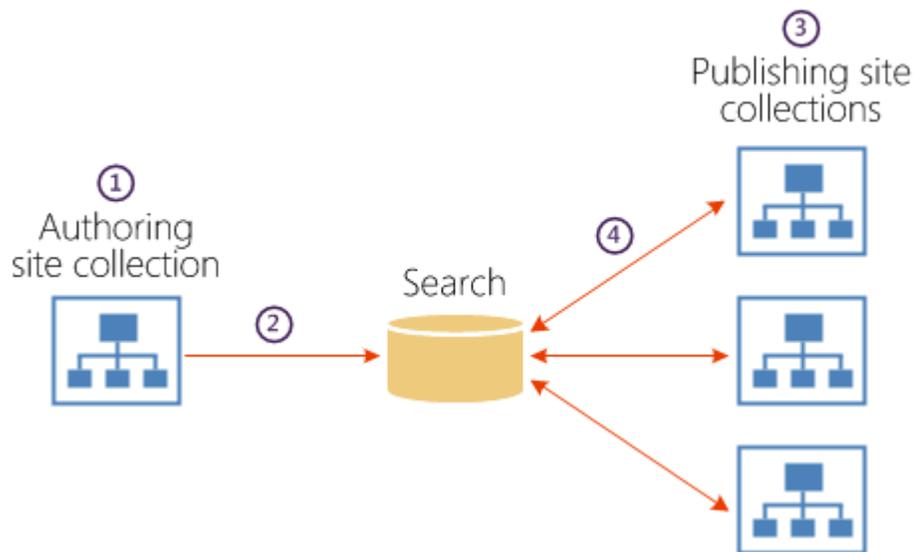
In SharePoint Server 2010, you could use variations to make content available to audiences based on language, country and region, mobile device, or corporate branding needs. In SharePoint Server 2013, you use cross-site publishing to make content available to users in a single language, or if you want to brand the same content with different corporate branding requirements. If you want to make content available to users on multiple mobile devices, use mobile channels and device-specific targeting. For information about cross-site publishing, see [Cross-site publishing](#) later in this article. For information about how to design mobile channels, see [What's new with branding sites in SharePoint Server 2013](#) (<http://go.microsoft.com/fwlink/p/?LinkId=255056>).

Cross-site publishing

Cross-site publishing lets you store and maintain content in one or more authoring site collections, and display this content in one or more publishing site collections. When you change the content in an authoring site collection, those changes are displayed on all site collections that are reusing this content.

Cross-site publishing uses search technology to retrieve content. On a site collection where the Cross-Site Collection Publishing feature is enabled, libraries and lists have to be enabled as catalogs before the content can be reused in other site collections. For more information, see [Catalog-enabled libraries and lists](#). The content of the library or list catalogs must be crawled and added to the search index. The content can then be displayed in a publishing site collection by using one or more Content Search Web Parts. For more information, see [Content Search Web Part](#).

The following illustration shows how content is stored in an authoring site collection, indexed by the search system, and then reused across three separate publishing site collections (1:n).



1. Content is created in libraries and lists that are shared as catalogs in the authoring site collection.
2. The search system crawls the content and builds the search index.
3. A user views a page on a publishing site, which triggers queries from Content Search Web Parts.
4. Results are returned from the search index, and shown in Content Search Web Parts on the page.

Catalog-enabled libraries and lists

SharePoint Server 2013 has added the ability to designate any library or list as a catalog. After the Cross-Site Collection Publishing feature is enabled for a site collection, you can designate any library or list within that site collection as a catalog so that content can be reused on publishing site collections.

You can use catalog-enabled libraries or lists for scenarios such as an article library, knowledge base library, or product catalog. For example, in an Internet business scenario where a company is selling electronic products such as TVs and radios, the company can use one or more lists that are enabled as catalogs to share product information such as brand, color, and size as it applies to each product. By using cross-site publishing, this information can then be displayed in one or more publishing site collections.

Another example is an intranet scenario, where all knowledge base articles created in an organization can be written and stored in one or more libraries that are enabled as catalogs in a content site collection. By using cross-site publishing, different combinations of these knowledge base articles can be displayed on one or more publishing site collections — for example, based on how relevant the articles are for the different departments in the organization.

SharePoint Server 2013 includes a new publishing site collection template, the Product Catalog Site Collection, designed to author, store and maintain data that is used in a catalog scenario. By default, the Cross-Site Collection Publishing feature is automatically enabled in the Product Catalog Site Collection. However, you must still configure the catalog settings to share content with other site collections, just as you would with any other library or list.

When you connect a library or list that is enabled as a catalog to a publishing site collection, a *result source* is automatically created for this library or list. A result source narrows the scope from which the search results can be retrieved. That is, the result source created for a library or list is limited to content within this library or list. For example, you can use the automatically generated result source to limit a query in a Content Search Web Part. You can also copy a result source or change it to specify an even narrower search result scope.

Managed navigation

Managed navigation lets you define and maintain the navigation on a site by using term sets. Managed navigation supplements the existing SharePoint navigation that is based on site structure. You create the managed navigation structure by adding terms to term sets in the Term Store Management tool. You can copy the navigation term set and translate it into the same languages that are used for variations labels. For more information about terms and term sets, see **Overview of managed metadata in SharePoint Server 2013**.

You can combine portions of term sets from different site collections to create the navigation of a website. This can be valuable in an Internet business scenario in which you have a catalog of products. This is because you can use one term set for the navigation within product pages, and another term set for the navigation within non-product pages. Together, these term sets form the navigation for the whole site. For example:

- In an authoring site collection, you create a term set for the navigation of the product pages. A term within this term set typically represents a product category—for example, Audio, Cameras, or Computers.

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- In the publishing site collection, you create a term set for the navigation of the non-product catalog pages. A term within this term set usually represents pages — for example, Home, About, or Careers.
 - By using cross-site publishing to display content from the authoring site collection in the publishing site collection, you can combine the terms from the two site collections to create the complete website navigation — in this example, Home, Audio, Cameras, Computers, About, and Careers.

Category pages

Category pages are page layouts that are used for displaying structured content such as catalog data. You can use category pages when you want to aggregate content that meets certain criteria or parameters. For example, in an intranet scenario, all company events are maintained in a list that is shared as a catalog. You want the information about each event to appear in the same manner—for example, with a title in bold, followed by information about when and where the event occurs. To avoid having to create one page for each event, you can create some category pages that can be used to display all events in the same manner.

Category pages are closely tied to managed navigation. This is because you can associate a category page with a specific term within the term set that is used for managed navigation. For example, in the company events scenario that was described earlier, you can have a term set in which the different departments are used for managed navigation. You can use two separate category page templates to display the different events. Category page 1 can be used to display all events related to the Marketing department, and Category page 2 can be used to display all events related to the Human Resources department.

Friendly URLs

By using managed navigation and category pages, the URLs of category pages can be built from the terms that you have specified in the term set, such as Computers or Marketing. For individual catalog items, you can specify that the URL consists of additional properties from the library or list that is shared as a catalog. This lets you create more meaningful, user-friendly URLs, instead of having URLs that consist of strings that do not make sense to users. In SharePoint Server 2010, the URLs for publishing sites included the name of the Pages library — for example, <http://www.contoso.com/Pages/Computers.aspx#/ID=453&Source=http%3A%2F1010101>. In

SharePoint Server 2013, you can create URLs that are more user-friendly — for example <http://www.contoso.com/Computers/model101>.

Content Search Web Part

SharePoint Server 2013 has added a new Content Search Web Part that displays content that was crawled and added to the search index. To display content in the Content Search Web Part, you specify a query in the Web Part. This query is automatically issued, and it returns results from the search index when users browse to a page that contains the Content Search Web Part. The Content Search Web Part is especially powerful when it is used in combination with managed navigation and category pages. For example, in an Internet business scenario where a product catalog is displayed, a term within the term set specified for managed navigation is associated with a specific category page, as described earlier in [Category pages](#). You can specify that a query in a Content Search Web Part on a category page use the current navigation category as part of the query. For example, when users browse to a category, such as Computers, a query is issued from the Content Search Web Part to return all items from the search index that are specified as Computers. Similarly, when users browse to the category Audio, the same Content Search Web Part on the same category page will display items in the search index that are specified as Audio.

Refiners and faceted navigation

Refiners are based on managed properties from the search index. Managed properties represent the specifications of the items in the catalog-enabled library or list — for example, Author, Date, Color, or Product Category. In a catalog scenario, you can add a Refinement Panel Web Part to a category page so that users can narrow the content as they browse through different pages. For example, in an Internet business scenario in which a catalog of mobile telephones is displayed, the managed property Color is set as a refiner. When a user views all mobile telephones in the catalog, all available colors are displayed in the Refinement Panel Web Part. When a user clicks a specific color, such as Gray, only mobile telephones with the color Gray are displayed. Similarly, in the scenario in which company events are displayed, the managed property Date is set as a refiner. In the Refinement Panel Web Part, users can see for which dates events are scheduled. When they click a particular date, they refine the results so that only events scheduled to occur on that date appear.

By using *faceted navigation*, you can configure different refiners for different terms in a term set. For example, in an Internet business scenario in which a product catalog is displayed, you can set the managed property Screen size as refiner for the term Computer, and the managed

property Megapixels as refiner for the term Cameras. The faceted navigation guides users to content that is relevant for each specific category, and makes it easier and faster to browse through catalog content.

Analytics and recommendations

The new Analytics Processing Component in SharePoint Server 2013 runs different analytics jobs to analyze content in the search index and user actions that were performed on a site to identify items that users perceive as more relevant than others.

The new functionality for displaying content recommendations based on usage patterns uses the information from the analyses. By including recommendations on a page, you can guide users to other content that may be relevant for them. For example, you can guide users to popular items in a category or let them know that users who viewed this item also viewed another item.

The search recommendations framework works in the following way:

- **User actions produce usage events.** When users interact with a SharePoint Server 2013 website — for example, when they click a link, press a button, or view a document—their actions are stored as usage events.
- **Usage events are counted and analyzed.** The recommendations algorithm in the Analytics Processing Component counts and analyzes the usage events.
- **Information is added to the index.**

After processing in the Analytics Processing Component, the information is added to the search index and the Reporting database.

You can use search recommendations to do the following:

- **Add Recommended Items and Popular Items Web Parts to a site.** In SharePoint Server 2013, you can display recommendations on a site by adding one or more Recommended Items Web Parts. You can configure the Web Part to display recommendations for the document or item that a user is viewing. For example, these recommendations can be displayed under the heading *Users who viewed this document also viewed*.

You can use the Popular Items Web Part to display the most popular items that satisfy a set of criteria. For example, these recommendations can be displayed under the heading *Most popular items in this category*.

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- **Get insights through reports.** Information about usage events is displayed in Excel reports. You can use the reports to view user statistics to understand the traffic pattern on a website.
 - **Act on insights.** Based on the information in the reports, you can make decisions about how to fine-tune the website.
 - **Monitor changes.** The reports are updated based on the changes that are made, and you can monitor the effect of the changes.

Branding

New features for publishing sites in SharePoint Server 2013 minimize the special SharePoint knowledge that is required to successfully design and brand a SharePoint site. To brand a SharePoint site, designers just create a site design as they typically would, by implementing HTML, CSS, and JavaScript. Designers can create these files by using their design tool of choice, whether that is Adobe Dreamweaver, Microsoft Expression Web, or some other HTML editor. You don't have to use SharePoint Designer or Visual Studio 2012 to brand a SharePoint site. For information about how to brand sites in SharePoint Server 2013, see [What's new with SharePoint 2013 site development](http://go.microsoft.com/fwlink/p/?LinkId=255056) (<http://go.microsoft.com/fwlink/p/?LinkId=255056>).

Device-specific targeting

SharePoint Server 2013 supports targeting different devices such as smartphones, tablets, and set-top boxes. Designers can create channels that allow a single publishing site to be rendered in multiple ways by using different designs that target different devices. For information about how to design channels, see [What's new with SharePoint 2013 site development](http://go.microsoft.com/fwlink/p/?LinkId=255056) (<http://go.microsoft.com/fwlink/p/?LinkId=255056>). For information about additional optimizations for mobile support in SharePoint Server 2013, see [What's new for mobile devices in SharePoint 2013](#).

What's new in workflow in SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-07-08

Summary: Learn about the new components and concepts in SharePoint Server 2013 workflow.

SharePoint Server 2013 brings a major advancement to workflow: enterprise features such as fully declarative authoring, REST and Service Bus messaging, elastic scalability, and managed service reliability.

SharePoint Server 2013 can use a new workflow service built on the Windows Workflow Foundation components of the .NET Framework 4.5. This new service is called Workflow Manager and it is designed to play a central role in the enterprise. Processes are central to any organization and workflow is the orchestrator of processes.

In this article:

- Two SharePoint workflow platforms
- SharePoint Designer enhancements
- Workflow Manager capabilities
- Windows PowerShell cmdlets that manage workflow

Two SharePoint workflow platforms

The SharePoint 2010 Workflow platform has been carried forward to SharePoint Server 2013. All of your workflows that were built by using SharePoint Server 2010 will continue to work in SharePoint Server 2013.

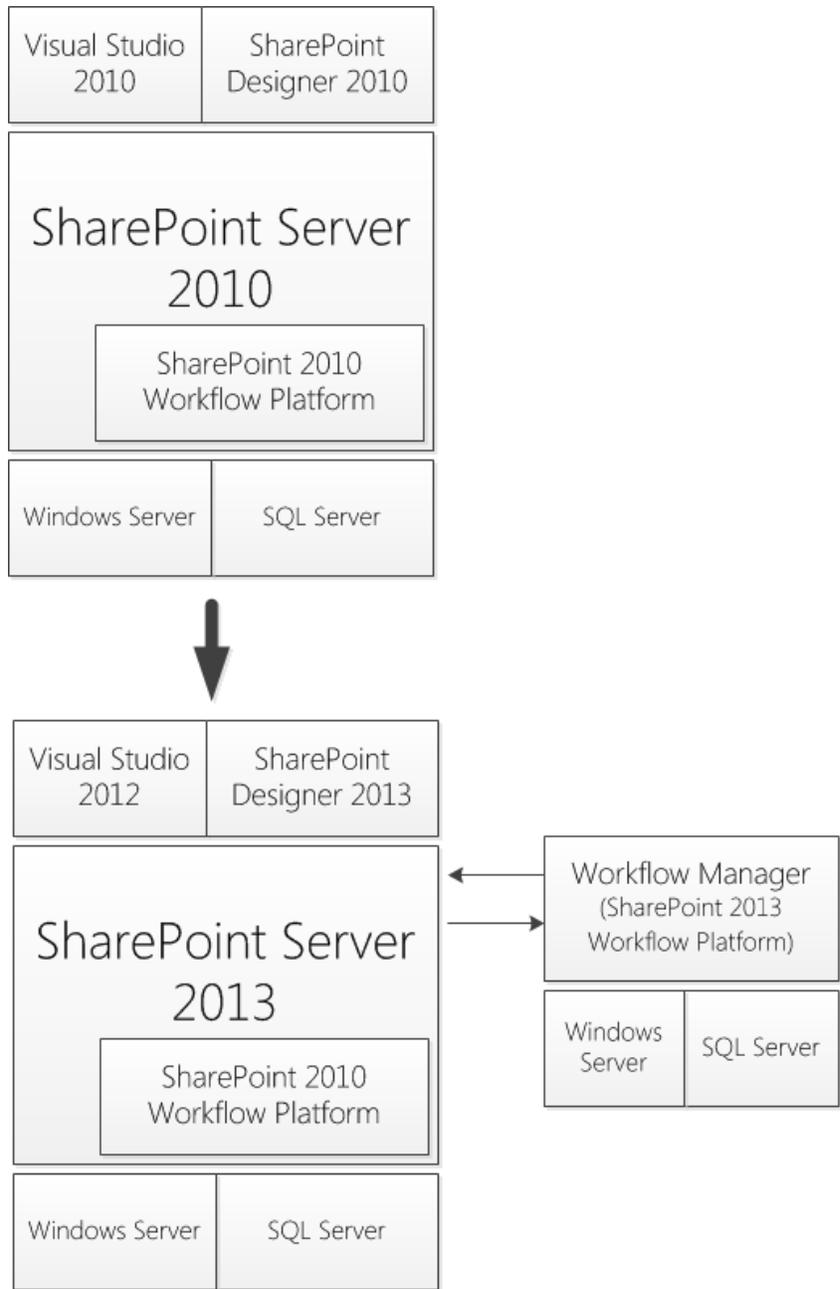
In SharePoint Server 2010 the workflow engine installed automatically with the product. This continues to be the case with the SharePoint 2010 Workflow platform in SharePoint Server 2013. If you simply install SharePoint Server 2013 and do not install and configure Workflow

Manager then you will have a nearly identical experience with building workflows as you did in SharePoint Server 2010.

The SharePoint 2013 Workflow platform only becomes available to you, and your tools, after you download and install the new Workflow Manager service and configure it to communicate with your SharePoint Server 2013 farm. For a detailed guide on this process, see [Start: Set up and configure SharePoint 2013 Workflow Manager](#).

The figure illustrates the concept.

Figure: Architectural changes in SharePoint Workflow



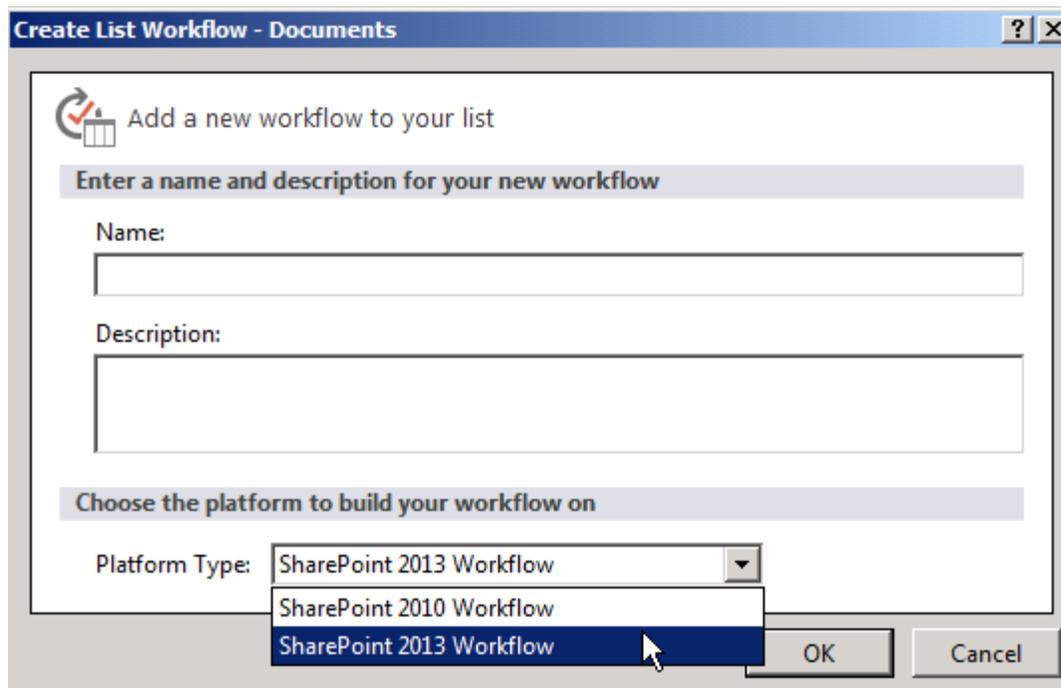
SharePoint Designer enhancements

SharePoint Designer 2013 includes new functionality designed specifically for Workflow Manager. In SharePoint Designer 2013 this new platform is known as the SharePoint 2013 Workflow platform. These new features include:

- A visual workflow development experience that uses a Visio 2013 add-in

- A new action that enables no-code web service calls from within a workflow
- New actions for creating a task and starting a task process
- New coordination actions that let you start a workflow built on the SharePoint 2010 Workflow platform from a workflow built on the SharePoint 2013 Workflow platform
- A new Dictionary type
- New workflow building blocks such as Stage, Loop, and App Step

When you create a workflow in SharePoint Designer 2013, you have the option of choosing the platform on which you wish to build a workflow in the workflow creation dialog as shown in the figure.



Workflow Manager capabilities

Workflow Manager brings a new class of workflow to SharePoint Server 2013. Workflows built by using Workflow Manager can take advantage of several new capabilities. These include enterprise features such as:

- High Density and Multi-Tenancy
- Elastic Scale

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- Activity / Workflow Artifact Management
 - Tracking and Monitoring
 - Instance Management
 - Fully Declarative Authoring
 - REST and Service Bus Messaging
 - Managed Service Reliability

To learn more about Workflow Manager, see [Workflow Manager](#).

Windows PowerShell cmdlets that manage workflow

As a SharePoint Server 2013 workflow administrator you should be familiar with Windows PowerShell. After you have installed the Workflow Manager service you will need to configure it to communicate with your SharePoint Server 2013 farm. This pairing is accomplished by using Windows PowerShell cmdlets. Windows PowerShell is used exclusively when you manage and monitor Workflow Manager.

See also

Getting started with SharePoint Server 2013 workflow

[Workflow development in SharePoint Designer 2013 and Visio 2013](#)

What's new in search in SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-07-16

Summary: Learn about new search capabilities in SharePoint Server 2013, including ways to configure and monitor the system and improve search results.

In this article:

- [Search user interface improvements](#)
- [Relevance improvements](#)
- [Changes in crawling](#)
- [Discovering structure and entities in unstructured content](#)
- [More flexible search schema](#)
- [Search health reports](#)
- [New search architecture](#)

Search user interface improvements

Without having to open each search result, users can quickly identify useful results in ways such as the following:

- Users can rest the pointer over a search result to preview the document content in the *hover panel* to the right of the result.
- Users can quickly distinguish search results based on their type. For example, Microsoft Office documents display the application icon in front of the title of the search result. Newsfeed conversation results display the number of replies and the number of likes to the right. Site results list the top links that users often click on the site. People in results show the picture and the Lync availability status to the left.

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- By default, certain types of related results are displayed in groups called *result blocks*. A result block contains a small subset of results that are related in a particular way. For example, results that are PowerPoint documents appear in a result block when the word "presentation" is one of the search terms. Administrators and site owners can also create result blocks to group other results. Like individual search results, you can promote result blocks or rank them with other results.

Search helps users quickly return to important sites and documents by remembering what they have previously searched and clicked. The results of previously searched and clicked items are displayed as query suggestions at the top of the results page.

In addition to the default manner in which search results are differentiated, site collection administrators and site owners can create and use *result types* to customize how results are displayed for important documents. A result type is a rule that identifies a type of result and a way to display it.

Site collection administrators and site owners can use display templates to customize the appearance of search results by using an HTML editor, and they can customize the behavior of search results by using JavaScript. They can specify display templates that determine how result types appear.

Relevance improvements

A search result, suggestion, or recommendation is more relevant when it better satisfies the intent of the person who issues the query. SharePoint Server 2013 improves relevance in areas such as freshness of search results, linguistics, and document parsing. It also improves relevance in the following areas:

- New ranking models
- Analysis of content and user interaction
- Query rules
- Result sources

New ranking models

SharePoint Server 2013 provides new ranking models for people search, intranet sites, and Internet sites. A ranking model determines recall (which items are displayed in the search results) and rank (the order in which search results are displayed).

Analysis of content and user interaction

The search system determines the relevance of search results in part by how content is connected, how often an item appears in search results, and which search results people click. The search system also determines which items users most commonly click in SharePoint. The new analytics component in SharePoint Server 2013 tracks and analyzes this information and uses it to continuously improve relevance.

Based on analytics information, site collection administrators and site owners can customize the user experience by adding Web Parts to display recommendations and popular items, or to display *deep links*, which link directly to sub-sections of a main page that are frequently visited.

The search service also uses analytics to compute data for search usage reports. Administrators can get these reports in a timely manner, even on large deployments.

Query rules

Without any custom code, Search service administrators, site collection administrators, and site owners can help searches respond to the intent of users by creating *query rules*. In a query rule, you specify conditions and correlated actions. When a query meets the conditions in a query rule, the search system performs the specified actions to improve the relevance of the search results. For example, you might specify a condition that checks whether the query matches a term in a SharePoint term set, or another condition that checks whether the query is frequently performed on a particular search vertical in your search system, such as Videos.

A query rule can specify the following types of actions:

- Add *Promoted Results* (formerly called Best Bets) that appear above ranked results. For example, for the query "sick leave," a query rule could specify a particular Promoted Result, such as a link to a site that has a statement of company policy regarding time off work. These items were previously referred to as Best Bets in SharePoint 2010.

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- Add one or more result blocks. For example, for a query that contains "Fabrikam sales report," a query rule might use a taxonomy dictionary to recognize Fabrikam as a customer, and then display a result block with pertinent results about Fabrikam from a customer relationship management (CRM) system.
 - Change ranked results, such as by modifying their relevance. For example, for a query that contains "download toolbox," a query rule could recognize the word "download" as an **action term** and boost results from a particular download site on your intranet.

Result sources

In SharePoint Server 2010, scopes and federated locations provided ways to limit searches to a certain set of content or subset of search results. In SharePoint Server 2013, *result sources* replace scopes and federated locations.

You create and use a result source to specify a location from which to get search results and to specify a protocol for getting those results. In SharePoint Server 2010, you specified a location and a protocol by creating a federated location. In SharePoint Server 2010, you could specify the protocol as local SharePoint index, FAST Search Server 2010 for SharePoint index, or OpenSearch. In SharePoint Server 2013, you can specify the *Source Type* as local SharePoint index, remote SharePoint index, OpenSearch, or Microsoft Exchange Server index. If you specify remote SharePoint index as the Source Type, you do not have to supply any custom code to handle authentication, unlike in SharePoint Server 2010.

In a result source, you can also restrict queries to a subset of content by using a *query transform*. For example, the pre-defined "Local Video Results" result source uses a query transform to return only video results from the local SharePoint index. In SharePoint Server 2010, you configured this kind of query restriction by using search scopes.

On a search results page, you can expose results for queries on a particular result source in several ways, such as in a result block or in a dedicated Web Part.

In SharePoint Server 2010, only a Search service application administrator was able to create and configure federated locations. In SharePoint Server 2013, site collection administrators, site owners, and site designers can also create and configure result sources to meet their specific requirements.

Changes in crawling

SharePoint Server 2013 includes many changes and improvements related to crawling content.

Continuous crawl

In SharePoint Server 2013, you can configure crawl schedules for SharePoint content sources so that crawls are performed continuously. Setting this option eliminates the need to schedule incremental crawls and automatically starts crawls as necessary to keep the search index fresh. Administrators should still configure full crawls as necessary. For more information, see **Manage continuous crawls in SharePoint Server 2013**.

Host distribution rules removed

In SharePoint Server 2010, host distribution rules are used to associate a host with a specific crawl database. Because of changes in the search system architecture, SharePoint Server 2013 does not use host distribution rules. Instead, Search service application administrators can determine whether the crawl database should be rebalanced by monitoring the **Databases** view in the crawl log.

Removing items from the search index

In SharePoint Server 2010, Search service application administrators could remove items from the search index by using **Search Result Removal**. In SharePoint Server 2013, you can remove items from the search index only by using the crawl logs.

Discovering structure and entities in unstructured content

You can configure the crawler to look for "entities" in unstructured content, such as in the body text or the title of a document. These entities can be words or phrases, such as product names. To specify which entities to look for in the content, you can create and deploy your own dictionaries. For companies, you can use the pre-populated company extraction dictionary that SharePoint Server 2013 provides.

You can store these entities in your search index as separate managed properties and use those properties later—for example, in search refiners.

To improve search relevance, the document parsing functionality in the content processing component analyzes both the structure and content of documents. Document parsers extract useful metadata and remove redundant information. For example, parsers extract headings and subheadings from Word documents, and titles, dates, and authors from slides in

PowerPoint presentations. For HTML content, redundant generic information such as menus, headers, and footers are classified as such and removed from document summaries in the search results.

More flexible search schema

By defining crawled properties, managed properties, and the mappings between them, the search schema determines how the properties of crawled content are saved to the search index. Crawled properties and how these are mapped to managed properties define how to transform crawled content into managed properties. The search index stores the contents of the managed properties. The attributes of the managed properties determine the search index structure.

SharePoint Server 2013 introduces new attributes that you can apply to managed properties, such as sortable and refinable. The sortable attribute reduces the time that is required to return large search result sets by sorting results before they are returned. The refinable attribute enables you to create a refiner based on a particular managed property.

In SharePoint Server 2013, you can have multiple search schemas. The main search schema is defined at the Search service application level. Site collection administrators can create customized search schemas for different site collections.

For more information, see **Manage the search schema in SharePoint Server 2013**.

Search health reports

SharePoint Server 2013 provides many query health reports and crawl health reports. In SharePoint Server 2010 and FAST Search Server 2010 for SharePoint, similar reports were called Search Administration Reports. For more information, see **View search diagnostics in SharePoint Server 2013**.

New search architecture

SharePoint Server 2013 introduces a new search architecture that includes significant changes and additions to the search components and databases. For examples and more information, see the **Search** technical diagrams in **Technical diagrams for SharePoint 2013**.

Changes from SharePoint 2010 to SharePoint 2013

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2014-05-23

Summary: Learn about the features and functionality that are deprecated in SharePoint 2013.

This article describes the features in SharePoint 2010 Products that have been deprecated or removed from SharePoint 2013. Deprecated features are included in SharePoint 2013 for compatibility with previous product versions. These features will be removed in the next major release of SharePoint Products. For information about new features in SharePoint 2013, see "TechNet evaluation articles for SharePoint 2013" in **Explore SharePoint 2013**.

Important:

The information in this article applies to both SharePoint Foundation 2013 and SharePoint Server 2013.

In this article:

- [Features deprecated in SharePoint 2013](#)
- [SharePoint Foundation 2010 deprecated search features](#)
- [SharePoint Server 2010 deprecated search features](#)
- [FAST Search Server 2010 for SharePoint deprecated features](#)

Features deprecated in SharePoint 2013

The following features and functionality have been deprecated or changed in SharePoint 2013.

Visual upgrade

Description: The visual upgrade feature in SharePoint Server 2010 is not available in SharePoint 2013. For the upgrade from Office SharePoint Server 2007 to SharePoint Server 2010, you could choose to use the visual upgrade feature to give site collection owners and site owners the opportunity to preserve the previous user interface temporarily while still upgrading the infrastructure and databases, site collections, and features to the latest version.

This allowed site collection owners and site owners to update customizations to work in the new user interface. Once the database and site collection upgrade was complete, the user had the option to upgrade the user interface on a more granular level of the website (SPWeb object).

Reason for change: The visual upgrade feature is replaced with deferred site collection upgrade. The site collection upgrade process is not reversible. The deferred site collection upgrade is a more comprehensive upgrade process than visual upgrade.

Visual upgrade preserved only the old master pages, CSS files, and HTML files. Deferred site collection upgrade preserves much more, including SPFeature functionality. To achieve the deferred site collection upgrade, major changes in the architecture were required, including the removal of visual upgrade.

With deferred site collection upgrade, you can continue to use the UI from the previous version (SharePoint Server 2010) more seamlessly than is possible with visual upgrade. The master page, CSS, JScript, and SPFeatures will remain in SharePoint Server 2010 mode. One key difference is that the granularity of upgrading the user interface is per site collection (SPSite) instead of site (SPWeb). Users can still preview their site in the new SharePoint 2013 user interface before committing. However, this is accomplished by creating and upgrading a temporary copy of their site collection instead of a preview in the existing instance of the site collection. The reason for previewing a copy of the site collection is because of the complexity of what occurs during site collection upgrade. Once a site collection is upgraded, it cannot be rolled back. Therefore, performing a preview would not be possible except in a copy of the site collection.

Migration path: Site collection administrators who are using visual upgrade to continue to use SharePoint Server 2007 must move to the SharePoint Server 2010 user interface before upgrading to SharePoint 2013. After the content database is upgraded, users can use deferred site collection upgrade to continue to use the SharePoint Server 2010 experience for their site collections. Site collection administrators can be notified by their farm administrator when a site collection is ready for upgrade and the site collection administrators can then choose to either perform the upgrade of their site collection or optionally first preview the new functionality in a temporary copy of their site collection.

Any SharePoint user interface might have dependencies on visual upgrade. The main dependency was getting the user interface version and then outputting the correct user interface (new or legacy). The visual upgrade API feature is updated so that the user interface version is remapped to the new **site collection compatibility level** property. This returns the

same information about which version the site uses as before. Therefore, dependent code does not need to change.

Document Workspace site template

Description: When you create a site in SharePoint 2013, the Document Workspace site template is not available.

Reason for change: The scenario of collaborating on a document is now provided by the Team Site site template. The Document Workspace site template was removed from SharePoint 2013 to simplify the list of templates that are available when a user creates a new site collection.

Migration path: Existing sites that were created by using the Document Workspace site template will continue to operate in SharePoint 2013. The Document Workspace site template will be removed completely from the next major release of SharePoint and sites that were created by using the Document Workspace site template will not be supported.

Personalization Site site template

Description: When you create a site in SharePoint 2013, the Personalization Site site template is not available.

Reason for change: The Personalization Site site template was not a widely used site template. The Personalization Site site template was removed from SharePoint 2013 to simplify the list of templates that are available when a user creates a new site collection.

Migration path: Existing sites that were created by using the Personalization Site site template will continue to operate in SharePoint 2013. The Personalization Site site template will be removed completely from the next major release of SharePoint and sites that were created by using the Personalization Site site template will not be supported.

Meeting Workspace site templates

Description: When you create a site in SharePoint 2013, all five of the Meeting Workspace site templates are not available. This includes the Basic Meeting Workspace, Blank Meeting Workspace, Decision Meeting Workspace, Social Meeting Workspace, and Multipage Meeting Workspace. In addition, the integration with Meeting Workspaces has been removed from Outlook 2013, and the commands to create a Meeting Workspace in Outlook 2013 have been removed from the Quick Access Toolbar and the Ribbon.

Reason for change: SharePoint 2013 and Office 2013 provide other features that support meetings and collaboration. For example, you can use Lync to conduct live meetings, OneNote to take notes during meetings, and a SharePoint team site or My Site to store shared meeting notes.

Migration path: Sites created using the Meeting Workspace site templates that are upgraded to the SharePoint 2013 user experience will no longer operate in SharePoint 2013. In the event continued use is necessary while a migration plan is determined, sites using the Meeting Workspace site template should be operated in SharePoint 2010 mode. Client integration features when operating in SharePoint 2010 mode require a 2010 version of the Microsoft Office client. The Meeting Workspace site templates will be removed completely from the next major release of SharePoint and sites that were created by using the Meeting Workspace site templates will not be supported.

Group Work site template and Group Work solution

Description: When you create a site in SharePoint 2013, the Group Work site template is not available. This Group Work site template provides a groupware solution that teams can use to create, organize, and share information. The Group Work site template includes the Group Calendar, Circulation, Phone-Call Memo, document library, and other basic lists. The Group Work site template and the Group Work solution are discontinued and not available in SharePoint 2013.

Reason for change: The Group Work site template was not a widely used site template. The Group Work site template was removed from SharePoint 2013 to simplify the list of templates that are available when a user creates a new site collection.

Migration path: Existing sites that were created by using the Group Work site template will continue to operate in SharePoint 2013. The Group Work site template will be removed completely from the next major release of SharePoint and sites that were created by using the Group Work site template will not be supported.

Visio Process Repository site template

Description: When you create a site in SharePoint 2013, the Visio Process Repository site template will continue to be available. However, the Visio Process Repository site template will be removed in the next major release of SharePoint.

Reason for change: The Visio Process Repository site template is not a widely used site template. The Visio Process Repository site template was removed from SharePoint 2013 to simplify the list of templates that are available when a user creates a new site collection.

Migration path: Not required. The Visio Process Repository site template is available in SharePoint 2013.

Unghosting and customizing CSS files

Description: The following methods are included in SharePoint 2013, but will be removed from the next major release of SharePoint:

- **Microsoft.SharePoint.SoapServer.Webs.CustomizeCss**
- **Microsoft.SharePoint.SoapServer.Webs.RevertCss**

The **Webs.CustomizeCss** method applies style sheet customization to a particular file.

The **Webs.RevertCss** method reverts style sheet customization of a file to the default style sheet.

These two methods are stored in Webs.asmx.cs and are defined in Webswsdl.asps.

Reason for change: The methods are outdated and are no longer needed.

Migration path: None.

Imaging Web service

Description: The Imaging Web service provides functionality for creating and managing picture libraries. The Imaging Web service will be removed from the next major release of SharePoint. The Imaging Web service is included and supported in SharePoint 2013.

Reason for change: The Imaging Web service is not widely used. The only client application for the Imaging Web service, Office Picture Manager, is no longer included with SharePoint 2013. The Imaging Web service is being removed to reduce security vulnerabilities and to simplify the number of ways to connect to SharePoint 2013.

Migration path: All the functionality of the Imaging Web service is available through the client-side object model (CSOM). The CSOM provides client-side applications with access to a subset of the SharePoint Foundation server object model, including core objects such as site collections, sites, lists, and list items. Also, Web Distributed Authoring and Versioning

(WebDAV) provides clients with key functionality of the Imaging Web service (for example, upload, download, and rename).

Excel Services — Can't edit workbooks in the browser that have external data connections

Description: Workbooks with external data connections that use Windows authentication cannot be refreshed in the browser. Instead, you are prompted to open the workbook in the Excel client program. Workbooks that have database or Windows credentials stored either in the Secure Store Service or in the connection string can still be edited in the browser. This change applies only when Excel Web App in Office Web Apps Server is used to view workbooks, not when Excel Services in SharePoint Server 2013 is used.

Reason for change: This is a design limitation in SharePoint 2013.

Migration path: You can still refresh these workbooks in the Excel client program. Additionally, a service application administrator can configure that workbooks are viewed in SharePoint 2013 instead of Office Web Apps Server.

Web Analytics in SharePoint Server 2010

Description: Web Analytics in SharePoint Server 2010 has been discontinued and is not available in SharePoint 2013. Analytics processing for SharePoint 2013 is now a component of the Search service.

Reason for change: A new analytics system was required for SharePoint 2013 that included improvements in scalability and performance, and that had an infrastructure that encompasses SharePoint Online. The Analytics Processing Component in SharePoint 2013 runs analytics jobs to analyze content in the search index and user actions that are performed on SharePoint sites.

SharePoint 2013 still logs every click in SharePoint sites and still provides a count of hits for every document. User data is made anonymous early in the logging process and the Analytics Processing Component is scalable to the service.

This analytics data is used in SharePoint 2013 to provide new item-to-item recommendation features, to show view counts that are embedded in SharePoint 2013 and Search Server user interface, to provide a report of the top items in a site and list, and to influence the relevancy algorithm of search.

What happens to Web Analytics after upgrade: The Web Analytics Service is not upgraded to the Analytics Processing Component in SharePoint 2013. When you upgrade to SharePoint 2013, the databases that contain the data from Web Analytics in SharePoint Server 2010 are not removed. These databases are not used by or maintained by the Analytics Processing Component in SharePoint 2013. This means that documents on sites in SharePoint Server 2010 that are upgraded will show a hit count of 0.

When you upgrade to SharePoint 2013, do not attach and upgrade the databases that contain the data from Web Analytics in SharePoint Server 2010. We recommend that you turn off Web Analytics in the SharePoint Server 2010 environment before you copy the content databases that you want to upgrade to SharePoint 2013.

Reports from Web Analytics for the top items in a site are carried forward. Reports that show browser traffic, top users of a site, and referring URL are not carried forward and are not used by the Analytics Processing Component in SharePoint 2013.

Administrative reports for the quota usage of site collections in the farm are not available in SharePoint 2013.

SharePoint 2013 does not support the Web Analytics Web Part. After a farm is upgraded to SharePoint 2013, all instances of a Web Analytics Web Part will not function. The page that includes the Analytics Web Part will render and a message appears that informs the user that the Web Part is no longer supported.

Migration path: None. Data collection for Analytics Processing in SharePoint 2013 starts immediately for sites, including SharePoint Server 2010 sites.

Organization Profiles

Description: The Organization Profiles feature is deprecated in SharePoint Server 2013. Organization Profiles contain detailed information about an organization such as teams, divisions, and other information that describes the organization's hierarchy.

Reason for change: SharePoint features related to identities continue to evolve around the core concepts of users and groups, and SharePoint will not be investing further in OrgID.

Migration path: Existing solutions based on Organization Profiles will continue to operate in SharePoint 2013. The Organization Profiles feature will be removed completely from the next major release of SharePoint, and solutions created by using Organization Profiles will not be supported.

SharePoint Foundation 2010 deprecated search features

The following functionality has changed in SharePoint Foundation search.

Search capabilities

Description: The search capabilities of SharePoint Foundation 2013 have changed, and are now based on the same search implementation as SharePoint Server. This provides many improvements, but also means that the search configuration is very different.

Reason for change: Alignment of basic capabilities between SharePoint Server and SharePoint Foundation.

Migration path: No migration of search settings is supported.

SharePoint Server 2010 deprecated search features

The following section provides details about the deprecated search features in SharePoint Server.

Modifying the search topology using a web-based interface

Description: SharePoint 2013 uses the web-based interface to show the current status of the topology. You change the topology by using Windows PowerShell. SharePoint Server 2010 also included a web-based option for changing the topology.

Reason for change: The core search architecture of SharePoint 2013 has a more complex and flexible topology that can be changed more efficiently by using Windows PowerShell.

Migration path: Use Windows PowerShell to modify the search topology.

Diacritic sensitivity element in the thesaurus

Description: In SharePoint Server 2010, thesaurus files contain a `<diacritics_sensitive>` element. This element determines whether diacritical marks such as accents should be ignored or applied by the search system when expanding a query with terms from the thesaurus. By default, the `<diacritics_sensitive>` element is set to zero to ignore diacritical marks.

In SharePoint 2013, the `<diacritics_sensitive>` element is not available. Instead, diacritical marks are always respected when matching query terms with terms in the thesaurus.

Diacritic variants are not automatically matched with query terms. Therefore, fewer query terms might be expanded by synonyms. For example, the thesaurus entry `<munchen>` is not matched with the query term `<münchen>`.

Reason for change: The feature has limited usage. The same behavior as in SharePoint Server 2010 can be achieved by adding diacritic variants in the thesaurus.

Migration path: Update the thesaurus dictionaries that are tagged as diacritic insensitive. To update thesaurus dictionaries, add diacritic variations of the relevant terms.

Replacement mode within the thesaurus

Description: The thesaurus replacement mode is deprecated in SharePoint 2013.

In SharePoint Server 2010, you can classify entries in the thesaurus as expansions that are added to the query in addition to the original term. Likewise, you can classify entries as replacements of the original term in a query.

In SharePoint 2013, thesaurus replacements are no longer supported. All entries in the thesaurus are expansions, and the original term is not removed from the query. The original query term is always evaluated when you search the index. You cannot remove synonyms or words from the index.

Reason for change: The feature has limited usage, and may also have unwanted side-effects for relevance.

Migration path: No equivalent feature.

Search Query web service

Description: The Search Query web service is deprecated in SharePoint 2013.

In SharePoint Server 2010, the Search Query web service exposes the SharePoint Enterprise Search capabilities to client applications. This enables you to access search results from client and web applications outside the context of a SharePoint site.

Reason for change: The Search Query web service is deprecated because the client object model (CSOM) and a new REST-based web service are available for developing Office-wide

extensibility scenarios. The CSOM exposes the same functionality as the Search Query web service, and a larger set of functionality for stand-alone client applications.

Migration path: Change custom search solutions to use the CSOM or REST-based web service instead of using the Search Query web service.

Search RSS and search from Windows

Description: The search RSS feature is deprecated in SharePoint 2013. The functionality for performing enterprise searches from Windows 7 depends on search RSS and this element has also been deprecated in SharePoint 2013.

The RSS link no longer appears on the results page. This link is replaced by the Search Alerts link.

Before upgrading site collections to SharePoint 2013, you can continue to use RSS in the SharePoint 2010 version of the Search Center. However, after you upgrade the Search Center to SharePoint 2013, the RSS is no longer available. In SharePoint 2013, you can create custom RSS feeds that use the client object model (CSOM), which targets the needs of your particular application and the RSS readers.

Reason for change: Most RSS readers that are available do not support claims authentication. In SharePoint 2013, claims authentication is the default authentication model. By using claims authentication, RSS readers work while the authentication cookie is cached. However, after the cookie expires, RSS readers cannot refresh their authentication, and so they stop working.

Migration path: After migrating a site to SharePoint 2013, you can create search-based alerts to be notified of changes to search results. You can also create a custom RSS feed in SharePoint document libraries, by using the UX extensibility platform.

Custom word breaker dictionaries

Description: The format of the custom word breaker dictionaries has changed in SharePoint 2013. In SharePoint 2013, you can only create one language-independent dictionary. In SharePoint Server 2010, you can create language-specific custom dictionaries (one dictionary for each language) to edit the word breaker behavior of enterprise search. The word breaker behavior for East Asian (CJK) languages has not changed in SharePoint 2013.

In SharePoint 2013, custom word breaker dictionaries from earlier versions of SharePoint Server are not supported.

Reason for change: The search processing framework for SharePoint 2013 is new, and the way the word breakers operate has changed.

Migration path: You must combine existing custom dictionaries into one language-independent dictionary.

Configuration of stemming in the registry

Description: The configuration of stemming in the registry is no longer supported in SharePoint 2013. Modifying stemming entries in the registry has no effect during search. In SharePoint Server 2010, you can turn stemming on or off, or you can replace it with a third-party stemmer by changing the registry. In SharePoint 2013, you cannot use a third-party stemmer.

Reason for change: This feature has limited feature usage.

Migration path: There is no migration path available for custom stemmers. You can enable or disable stemming in the Search Result Web Part.

SharePoint Search SQL syntax

Description: In SharePoint Server 2010, you could construct complex search queries by using SQL syntax.

Search in SharePoint 2013 supports FAST Query Language (FQL) syntax and Keyword Query Language (KQL) syntax for custom search solutions. You cannot use SQL syntax in custom search solutions.

Custom search solutions that use SQL syntax with the Query object model and the Query web service that were created in earlier versions of SharePoint Server do not work when you upgrade them to SharePoint 2013. If you submit queries by using these applications, you will receive an error.

Reason for change: The core search architecture has changed in SharePoint 2013, and the SQL syntax is no longer supported.

Migration path: Change current search solutions to use either the KQL syntax or FQL syntax for queries.

Shallow search refiners

Description: SharePoint Server Search in Office 2010 supported shallow search refiners. FAST Search Server 2010 for SharePoint supports shallow refiners and deep refiners. In SharePoint 2013, only deep search refiners are supported.

We recommend that you use deep search refiners to refine searches. In SharePoint 2013, deep refiners are an improvement to the existing FAST Search Server 2010 for SharePoint functionality. For example, the resource usage for each refiner is improved in SharePoint 2013.

In SharePoint 2013, you can view refiners as you did in the earlier version of the product. However, the refiners are now computed differently. They are created based on index structures that are aggregated across the full result set.

Reason for change: The shallow search refiners are replaced with an improved implementation of deep search refiners.

Migration path: No specific migration steps are necessary.

FAST Search Server 2010 for SharePoint deprecated features

The following section provides details about the deprecated features in FAST Search Server 2010 for SharePoint.

FAST Search database connector

Description: The FAST Search database connector is not supported in SharePoint 2013.

Reason for change: The connector framework for SharePoint 2013 is combined with the BCS framework and the Business Data Catalog connectors.

Migration path: Replace the FAST Search database connector with the Business Data Catalog-based indexing connectors in the BCS framework.

FAST Search Lotus Notes connector

Description: The FAST Search Lotus Notes connector is not supported in SharePoint 2013.

The Lotus Notes indexing connector (BCS framework) provides similar functionality as the FAST Search Lotus Notes connector. The FAST Search Lotus Notes connector supports the Lotus Notes security model. This includes Lotus Notes roles, and lets you crawl Lotus Notes databases as attachments.

Reason for change: The connector framework for SharePoint 2013 is combined with the BCS framework and the Business Data Catalog connectors.

Migration path: Replace the FAST Search Lotus Notes connector with the Lotus Notes indexing connector, or with a third-party connector.

FAST Search web crawler

Description: The FAST Search web crawler is not supported in SharePoint 2013.

The SharePoint 2013 crawler provides similar functionality to the FAST Search web crawler.

Reason for change: The crawler capabilities are merged into one crawler implementation for consistency and ease of use.

Migration path: Use the standard SharePoint 2013 crawler. The following table explains the differences between the FAST Search web crawler and the SharePoint 2013 crawler.

Feature	FAST Search web crawler	SharePoint 2013 crawler
Refeed documents	You can refeed documents that you have previously downloaded to the index without having to recrawl them.	You can perform a full recrawl with similar functionality, but with slightly decreased performance of feeds.
Extract dynamically generated links and content from Java	You can extract dynamically generated links and content from JavaScript.	No longer supported. There is no replacement for this feature in SharePoint 2013.

Feature	FAST Search web crawler	SharePoint 2013 crawler
Language-focused crawls	<p>You can extract dynamically generated links and content from JavaScript. You can perform crawls focused on language.</p> <p>You can focus a crawl on a certain language, by only following links from and storing content for documents that match specific languages.</p> <p>This feature is intended for large scale crawls that target specific languages but that do not limit the crawl to a top level domain.</p>	No longer supported. There is no replacement for this feature in SharePoint 2013.
Modify URIs	<p>You can modify the URIs before crawling them.</p> <p>Such a modification of the URI enables you to remove certain features of the URI, such as dynamic components, and to rename host names.</p>	You can apply prefix-type URI rewriting with the "Server name remapping" feature in Search Admin. This allows you to perform the most relevant modifications of the URI.

Find similar results

Description: The Find similar results feature is not available in SharePoint 2013. The Find similar results feature is supported in FAST Search Server 2010 for SharePoint to search for results that resemble results that you have already retrieved.

Reason for change: The Find similar results feature is available only within the query integration interfaces, and it does not consistently provide good results in many scenarios.

Migration path: There is no migration path available.

FAST Query Language (FQL) deprecated features

Description: The FQL features are aligned with the features of the SharePoint Keyword Query Language (KQL) syntax

The following table describes the FAST Query Language (FQL) features that are deprecated in SharePoint 2013.

FQL operator or feature	Changed behavior in SharePoint 2013
<code>ANY</code> operator	This operator has the same effect as the <code>OR</code> operator.
<code>RANK</code> operator	This operator is accepted but does not affect result ranking.
<code>XRANK</code> operator	This operator has a new and more flexible syntax. The old syntax is deprecated. The <code>boost</code> parameter is mapped to the new <code>cb</code> parameter. The <code>boostall</code> parameter is ignored.

FQL operator or feature	Changed behavior in SharePoint 2013
STRING operator	<p>The N parameter is accepted but ignored.</p> <p>The MINEXPANSION/MAXEXPANSION parameters are not supported.</p> <p>The ANNOTATION_CLASS parameter is not supported.</p> <p>For the MODE parameter, the following arguments are deprecated, and have the following behavior:</p> <ul style="list-style-type: none"> • ANY: Equal to the OR mode. • NEAR/ONEAR: Equal to the AND mode. • SIMPLEALL/SIMPLEANY: The query string argument is evaluated according to the KQL query syntax.
Implicit typing of numeric data types	The FQL parser is not search schema-aware, and some implicit numeric data typing is no longer supported.

Reason for change: To simplify the query syntax, some redundant syntax features were removed from SharePoint 2013.

Migration path: The following table describes what to replace the deprecated FQL operators or features with.

Replace this FQL operator or feature	With
ANY operator	WORDS operator
RANK operator	XRANK operator
XRANK operator	New syntax

Replace this FQL operator or feature	With
STRING operator	For proximity operations, use the <code>NEAR/ONEAR</code> operators. For mapping of end-user query text, use the KQL mode.
Numeric data types	Type numeric data explicitly. Use either the <code>int/float/decimal</code> operators, or consistently use <code>decimal/float</code> syntax (with decimals always included) in the query.

URL Query syntax

Description: In FAST Search Server 2010 for SharePoint, the URL-related managed properties (such as site, or path) are tokenized as a text string, and you can query any subpart of the URL. This includes `STARTS-WITH`, `ENDS-WITH`, `PHRASE` and proximity queries on URL properties. Special characters such as `"/`, `"_` and `"-` are handled as word delimiters.

In SharePoint 2013, the entire URL is tokenized as one word. This includes special characters such as `"/`, `"_` and `"-`. You can query these managed properties by:

- Searching for the full string for the site or path.
- Searching for the leading part of the site or path.
- Omitting the protocol part (`http`, `https`), and omitting the leading part of the domain address in the query expression, for the site managed property.

Reason for change: The implementation in SharePoint 2013 is aligned with SharePoint Server 2010 search. The FAST Search Server 2010 for SharePoint implementation has a very high query performance cost, especially when you search for the full URL or a leading subset of the URL.

Migration path: The following table provides details on how to change FAST Search Server 2010 for SharePoint query expressions to match the SharePoint 2013 URL query syntax.

To match	Then
The complete URL string	Search for the exact string. Special characters in the URL must match. Do not use the <code>PHRASE</code> operator.
The leading part of the URL	Do not use the wildcard character.
Any part of the URL	<ul style="list-style-type: none"> Map the relevant crawled property to an additional managed property of type text. Use this managed property as a property filter in your query.

Specific search scope filters

Description: In SharePoint 2013, search scopes are automatically converted to result sources.

In FAST Search Server 2010 for SharePoint, you can specify additional filtering conditions for search scopes, as described in the following table:

Filter(s)	Description
FQL scope	These filters may contain FQL syntax. In SharePoint 2013, you can use migrated FAST Search scope filters, but you cannot change them.
Alternative full-text index for the query	<p>This filter provides a non-default full-text index for the full-text part of the queries.</p> <p>In SharePoint 2013, you can use migrated FAST Search scope filters that contain an alternative full-text index. However, you cannot change or convert these filters to result sources.</p>

Reason for change: The search scope functionality was replaced by a more powerful functionality for result sources. For more information, see [Configure result sources for search](#).

Migration path: You must convert FQL scope filters to corresponding result sources. You can use an alternative full-text index in the query syntax.

Anti-phrasing

Description: The search anti-phrasing feature in FAST Search Server 2010 for SharePoint is not supported in SharePoint 2013.

Anti-phrasing removes phrases that do not have to be indexed from queries, such as “who is”, “what is”, or “how do I”. These anti-phrases are listed in a static dictionary that the user cannot edit.

In SharePoint 2013, such phrases are not removed from the query. Instead, all query terms are evaluated when you search the index.

Reason for change: The FAST Search Server 2010 for SharePoint feature has limited usage due to the limited number of customization options.

Migration path: None.

Offensive content filtering

Description: The filtering of offensive content in search is deprecated in SharePoint 2013.

In FAST Search Server 2010 for SharePoint, you can choose to filter offensive content. Offensive content filtering is not enabled by default.

In SharePoint 2013, you can no longer block documents that contain potentially offensive content from being indexed.

Reason for change: The feature has limited usage.

Migration path: None.

Substring search

Description: The substring search feature was removed in SharePoint 2013.

In FAST Search Server 2010 for SharePoint, substring search (N-gram indexing) can be used in addition to the statistical tokenizer in East Asian languages. Substring search can be useful for cases in which the normal tokenization is ambiguous, such as for product names and other concepts that are not part of the statistical tokenizer.

Reason for change: The feature has limited usage, and has very extensive hard disk requirements for the index.

Migration path: None.

Person names and location extractions

Description: In SharePoint 2013, you cannot extract person names and locations from documents by using predefined extractors.

In SharePoint 2013, you can create custom extractors to extract person names and locations. The difference between the predefined extractors in FAST Search Server 2010 for SharePoint, and custom extractors in SharePoint 2013, is that custom extractors are only based on dictionary entries, whereas the predefined extractors also use extraction rules.

Reason for change: This feature has limited usage and usually requires extensive customization. In most cases, we recommend that you use customer-specific dictionaries.

Migration path: Use custom extractors for person names and locations.

Number of custom entity extractors

Description: In SharePoint 2013, the number of custom entity extractors that you can define is limited to 12.

In FAST Search Server 2010 for SharePoint Service Pack 1 (SP1), you can define an unlimited number of custom extractors. You can use custom entity extractors to populate refiners on the search result page.

There are 12 predefined custom entity extractors in SharePoint 2013:

- Five whole-word case-insensitive extractors
- Five word-part case-insensitive extractors
- One whole-word case-sensitive extractor

-
- One word-part case-sensitive extractor

Reason for change: By using a predefined set of custom entity extractors, the content processing architecture is more simple and easier to use.

Migration path: Use the predefined set of custom entity extractors.

Supported document formats

Description: SharePoint 2013 no longer supports rarely used and older document formats that are supported in FAST Search Server 2010 for SharePoint by enabling the Advanced Filter Pack. Both the ULS logs and the crawl log indicate the items that were not crawled.

In SharePoint 2013, the set of supported formats that are enabled by default is extended, and the quality of document parsing for these formats has improved.

Reason for change: The file formats for indexing are older formats and are no longer supported.

Migration path: You can work with partners to create IFilter-based versions of the file formats that can no longer be indexed.

Content processing extensibility

Description: The FAST Search Server 2010 for SharePoint content processing extensibility feature has changed in SharePoint 2013. Content processing prepares an item from a content source for indexing and searching. The FAST Search Server 2010 for SharePoint content processing extensibility feature uses a sandbox where your custom code runs. See <http://msdn.microsoft.com/library/ff795801.aspx> on MSDN, FAST Search, for more information.

SharePoint 2013 provides a new web service interface for content processing extensibility.

The new implementation of this feature has the following improvements:

- The web service callout provides more flexibility about where the custom code runs than it does with the sandbox callout.
- You can define triggers for the web service callout to optimize performance.
- Content processing is performed on managed properties instead of on crawled properties. This makes it simpler to manage the items that are changed.

Reason for change: The content processing architecture of search has changed to improve performance and flexibility.

Migration path: To integrate with the new SharePoint content processing component, you must change the code. The custom content processing code must be packaged as a web service.

Custom XML item processing

Description: FAST Search Server 2010 for SharePoint includes a custom XML item processing feature as part of the content processing pipeline. Custom XML item processing is not supported in SharePoint 2013.

Reason for change: In SharePoint 2013, the content processing architecture has changed. Custom XML item processing was removed and we recommend that you implement a mapping functionality outside SharePoint.

Migration path: Custom XML item processing can be performed outside the content processing pipeline, for example by mapping XML content to a SharePoint list, or to a database table.

Adding a test item to the index

Description: DocPush is a test and diagnostic command-line tool that submits test documents to the FAST Search Server 2010 for SharePoint index. A similar command-line tool is not available in SharePoint 2013.

Reason for change: The administration and diagnostics of feeding and crawling has changed in SharePoint 2013.

Migration path: None. You can create test documents or test lists in SharePoint to test crawling and feeding. To remove items from the search index or to verify that there are any errors on an item, you can use the crawl log. See **View search diagnostics in SharePoint Server 2013** for more information.

To remove items from the search results, use the Search Result Removal feature in Queries and Results. See **Delete items from the search index or from search results in SharePoint Server 2013**.

See also

Explore SharePoint 2013

May 2014 cumulative update (CU) changes to SharePoint Server 2013 hybrid

Applies to: *SharePoint Server 2013*

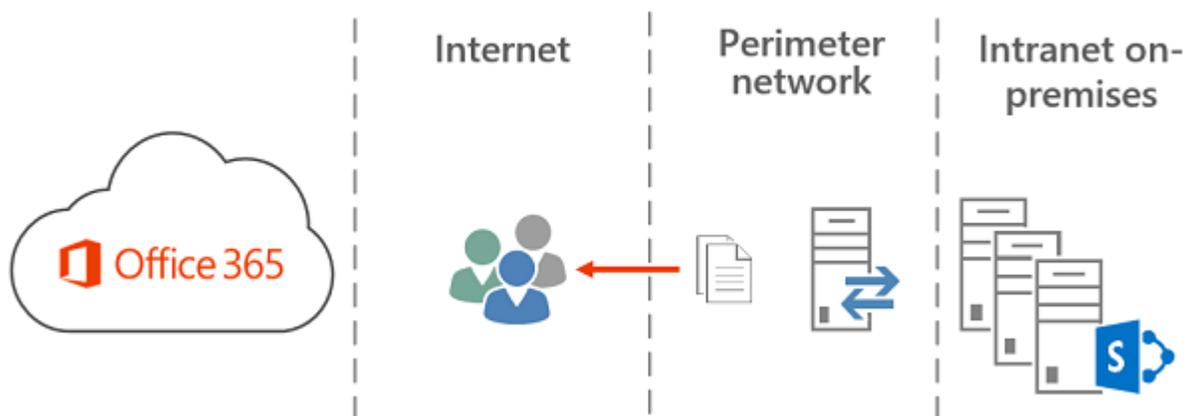
Topic Last Modified: 2014-05-26

Summary: The May 2014 cumulative update (CU) for SharePoint Server 2013 includes a code change to the SharePoint authentication service that gives farm administrators greater control over OAuth request validation behavior. If you need these updates follow the instructions in the two KB Articles below:

[Cumulative update package for SharePoint Foundation 2013 – May 7, 2014](#)

[Cumulative update package for SharePoint Server 2013 – May 7, 2014](#)

The big news is that, in an inbound or two-way SharePoint hybrid, the code change lets hybrid users outside the on-premises intranet securely access on-premises content. When hybrid users with the permission to see the information click an on-premises result in combined SharePoint Online (SPO) search results, they will be able to open the document without needing an active VPN or DirectAccess connection to the intranet.



The challenge

Imagine that your company has SharePoint hybrid users who work remotely; for example, from hotel rooms or airports during visits to customer sites. If these users click on-premises

links in their search results, they must be connected to the corporate network using one of the following technologies to open a document:

VPN

DirectAccess

Otherwise, these requests would return a **403 Forbidden** error message. In fact, clicking an on-premises search result would return a 403 error to a user on any network outside the reverse proxy. The challenge was to simplify this user scenario so that it acted more like an intranet/on-premises users' experience. This is what drove the code change.

Technical details

SharePoint hybrid architectures are based on a server-to-server (S2S) trust relationship between SharePoint 2013 and Office 365. SharePoint 2013 uses OAuth 2.0 to establish this trust.

OAuth works by passing a bearer access token that contains a user claim to the resource server. The resource server authorizes the requested transaction on behalf of the user. OAuth must be able to validate some key information to construct a token that the client and resource can use to communicate. Some technical details are described here for context, but we've omitted details that aren't relevant to the issue.

When SharePoint Server gets a search query request from SPO, it returns an HTTP 401 challenge with a bearer token. SPO sends the token back with the URL of the SharePoint farm to which it is sending the request, among other values. The SharePoint authentication service checks whether the original request URL in the bearer token matches the public URL of the web applications in the farm. If there is no web application that has a matching public URL, the authentication service denies the request and sends a 403 error response to the client.

This problem has three elements:

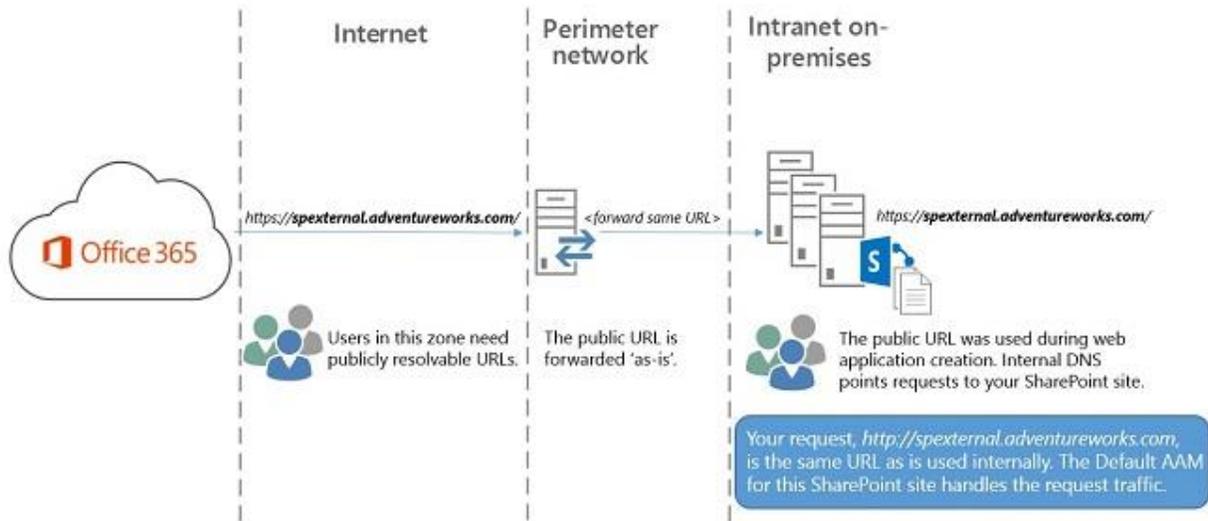
1. The request URL (which is the value of the audience claim in the OAuth bearer token) must exactly match the public URL of the destination web application. This is an OAuth requirement.
2. Traffic from SPO must be relayed to the on-premises SharePoint farm by a reverse proxy, and it must be configured to pre-authenticate all inbound traffic with client certificate authentication. This is required in inbound and two-way SharePoint hybrids.

-
3. The URLs of SharePoint pages and content that a remote user sees always begin with the public URL of the web application that contains the site collection. This is required for public DNS routing.

In an inbound hybrid search topology, SPO queries the on-premises SharePoint farm using a public URL (for example, <https://spexternal.adventureworks.com>). This URL resolves to an endpoint on a reverse proxy that's configured to first pre-authenticate requests from SPO with a client authentication certificate, and then relay the request to the SharePoint farm. Client certificate authentication between SPO and the reverse proxy is a required security method for all inbound hybrid topologies.

After the query reaches the on-premises SharePoint farm and is processed, search results are sent back to SPO. SharePoint hybrids render content to remote users by using the web application's public URL. This includes rendering search results URLs, for example <https://spexternal.adventureworks.com/<path>>. But remote users wouldn't be able to access content at this URL because, even though this is a publicly resolvable URL, it routes all requests to an intranet site inside an organization. Also, they wouldn't have the client authentication certificate that would let them pass through the reverse proxy.

If you're not familiar with them, alternate access mappings or AAMs are used in SharePoint to define what URLs have access to a SharePoint site. They are also used to return a proper URL for a proper access zone (such as Internet, Extranet, or Intranet). Every site has at least a default AAM. This can be a URL that is registered in internal DNS, such as <https://sharePoint>, or a URL that can be registered in both internal and external DNS, like <https://spexternal.adventureworks.com>. Depending on how you created the SharePoint site, you may have a publically resolvable URL both inside and outside of your reverse proxy.



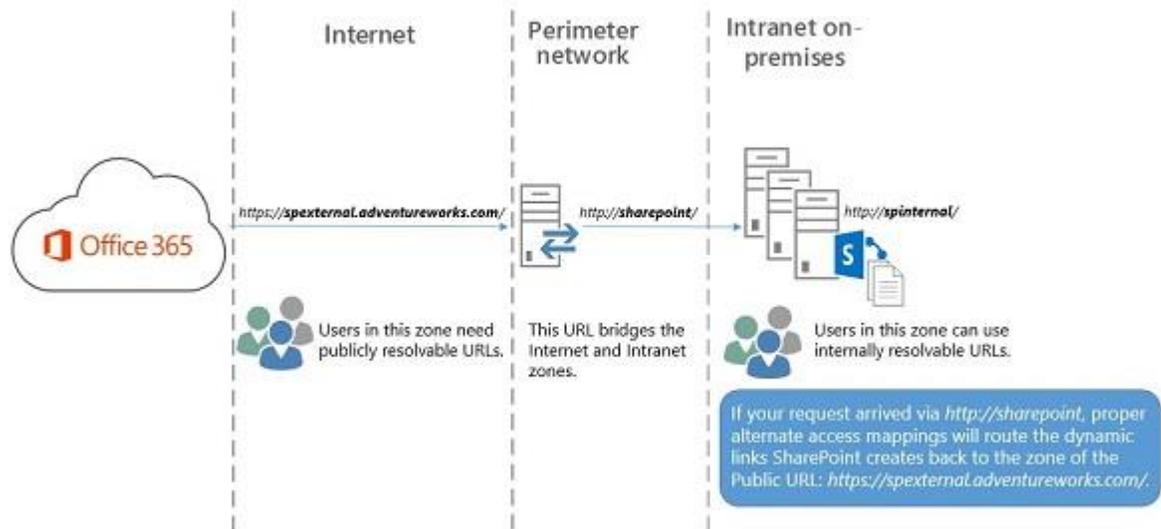
Alternate Access Mappings

[Edit Public URLs](#) | [Add Internal URLs](#) | [Map to External Resource](#)
Alternate Access Mapping Collection: [SharePoint - spexternal.adventureworks.com](#)

Internal URL	Zone	Public URL for Zone
https://spexternal.adventureworks.com	Default	https://spexternal.adventureworks.com

If the internal and external URLs for your SharePoint site aren't the same, you can associate up to five public URLs, URLs that are resolvable by public DNS, with a single SharePoint web application through AAMs. This means if the public URL you purchased is different from the internal URL of the site, the public URL can be linked to the web application by adding it in a zone (for example, the Internet zone).

Also, if you are routing Internet traffic to an internal SharePoint site but you have to terminate the public URL on the reverse proxy, you can 'Add Internal URLs' to a zone. This is an alternate URL mapping recognized by SharePoint that can return the public URL back to external users. In this case, you would be using the Internal URL to bridge the distance from the reverse proxy to SharePoint Server, which is where the term *bridging URL* comes from. You can see the Default zone URL, and two Extranet zone URLs below. The second Extranet entry is for a bridging URL. Internally, the site can be accessed with 'http://sharepoint', but when SharePoint returns any dynamically generated URLs to users browsing http://sharepoint, they contain the public URL resolvable in public DNS. This means extranet users at the other side of the bridge get a URL that is properly resolvable for their access zone.



Alternate Access Mappings

[Edit Public URLs](#) | [Add Internal URLs](#) | [Map to External Resource](#) Alternate Access Mapping Collection: [SharePoint - 80](#)

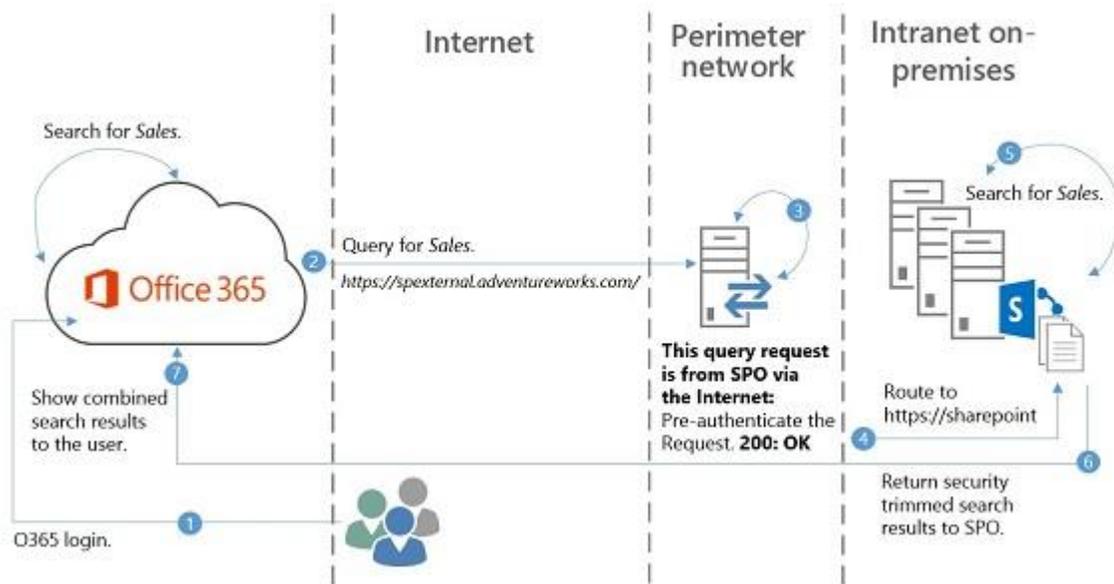
Internal URL	Zone	Public URL for Zone
http://spinternal	Default	http://spinternal
https://spexternal.adventureworks.com	Extranet	https://spexternal.adventureworks.com
http://sharepoint	Extranet	https://spexternal.adventureworks.com

Problem scenario

This is what the problem looks like for a user coming from outside of the domain.

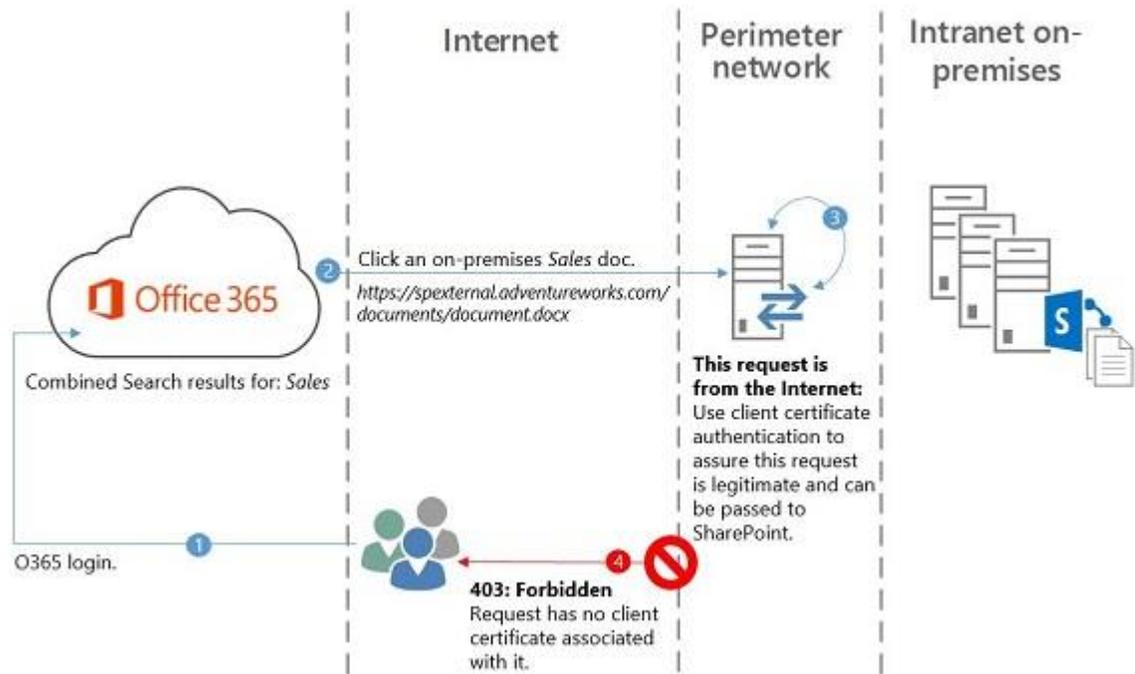
1. An enterprise user, working remotely, authenticates to the company's SPO search portal (`https://adventureworks.sharepoint.com/search`) and enters a search term.
2. SPO queries the on-premises SharePoint farm using the external URL (`https://spexternal.adventureworks.com`) that resolves to the reverse proxy endpoint.
3. The request is pre-authenticated using a shared client authentication certificate and the reverse proxy relays the request to the SharePoint farm using the internal URL `https://sharepoint`.
4. The SharePoint authentication service compares the original request URL in the request's bearer token with the public URL of the web application. The values match, and SharePoint validates the request.

5. SharePoint processes the search request, security trims the results based on the permissions of the user account making the request, and returns the results to SPO.
6. Search results from both SPO and on-premises SharePoint Server are shown on the SPO search results page.



But when the remote user logs in and clicks an on-premises document link in the search results (`https://spexternal.adventureworks.com/documents/document.docx`), the request to open this document from its document library must also use the public URL that resolves to the reverse proxy endpoint (just as seen in the original SPO query).

The reverse proxy responds by requesting the client certificate from the user's computer. Since this certificate is not present, the reverse proxy cannot pre-authenticate the request, and returns a 403: Forbidden error to the client computer. A process that looks like this:



Public URLs

Reverse proxy endpoint: <https://spexternal.adventureworks.com>

Internal URLs

Hybrid site bridging URL: <https://sharepoint>

Hybrid site public URL: <https://spexternal.adventureworks.com>

The fix

May CU lets SharePoint farm administrators choose a solution to this dilemma. Either use the web application's public URL, or a SharePoint alternate access mapping (AAM), to validate OAuth requests. After installation of May CU, farm administrators can switch between these two options:

- **Public URL matching:** As it does natively, the SharePoint authentication service compares the original request URL with the public URL of the primary web application. These URLs must match for the request to succeed.

This option is ideal for host named site collection-based SharePoint sites, or path-based sites with the same default URL as the public URL.

-
- **AAM matching:** Instead of using the original request URL for comparison (which may be a bridging URL used by the reverse proxy to relay the request) the authentication service compares this URL with the AAMs configured for the web application, and allows the request if a match is found. This feature can be enabled from the SharePoint Management Shell.

This option is helpful if the internal URL of a site does not match the public URL, such as in path-based sites where the default URL isn't the same as the public URL or in any situation where the internal URL must not be public knowledge.

By adding a second reverse proxy endpoint, different Internet-routable URLs can be used to process requests from SPO, versus requests from users accessing on-premises SharePoint content.

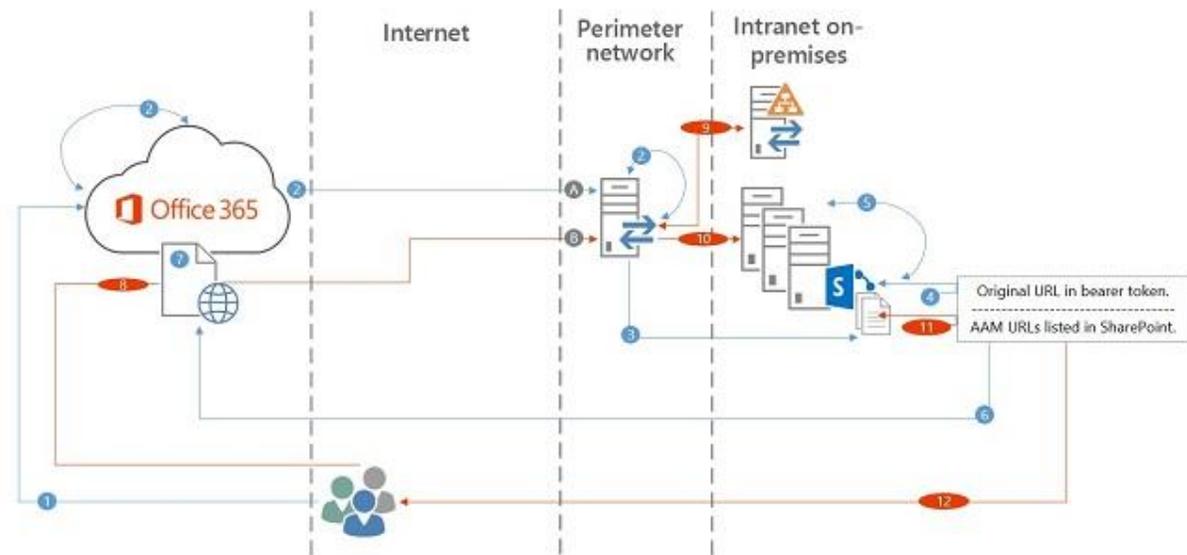
1. Configure one reverse proxy endpoint to listen for SPO queries. These can be routed to a URL that does not match the public URL of the web application.
2. A second reverse proxy endpoint can be set up to listen for user requests for content. This endpoint can use the web application's public URL, and can pre-authenticate user requests for on-premises SharePoint content by using Active Directory Federation Services (ADFS), Forms Based Authentication (FBA), or any other authentication methods that are available.

A scenario with AAM matching enabled

Here's how the process works after May's cumulative update.

1. An enterprise user, working remotely, authenticates to the organization's SPO search portal (<https://adventureworks.sharepoint.com/search>) and enters a search term.
2. Three related things happen here: SPO queries itself, but also the on-premises SharePoint farm using the external URL (<https://spo-query.adventureworks.com>), which resolves to reverse proxy endpoint A. Also, this request is pre-authenticated using a shared client authentication certificate.
3. The reverse proxy relays the request to the SharePoint farm using the internal URL <https://sharepoint>.
4. The SharePoint authentication service compares the original request URL in the request's bearer token with the list of internal URLs (AAMs) configured for the web application. The internal URL <https://sharepoint> is confirmed as an AAM in the web application, and SharePoint authenticates the request.

5. SharePoint parses the search index and does security trimming based on the user context.
6. Results are returned to SPO and, because the results URLs must be publicly routable, the URLs begin with the public URL of the web application (<https://spexternal.adventureworks.com>).
7. In the SPO search portal page, search results from both SPO and on-premises SharePoint are displayed. Now the user clicks on a search result. The document for that result is located in an on-premises SharePoint document library (<https://spexternal.adventureworks.com/documents/document.docx>). This new request goes to reverse proxy endpoint B.
8. The reverse proxy pre-authenticates the request using AD FS.
9. The reverse proxy relays the request to the SharePoint farm, again using the internal URL, <https://sharepoint>.
10. SharePoint matches the request URL against AAMs in the web application, and authenticates the request.
11. SharePoint returns the content to the user.



Public URLs

Reverse proxy endpoint A is for SPO queries: <https://spo-query.adventureworks.com>

Reverse proxy endpoint B is for user requests: <https://spexternal.adventureworks.com>

Internal URLs

Hybrid site bridging URL AAM: <https://sharepoint>

Hybrid site public URL AAM: <https://spexternal.adventureworks.com>

Configuration

To toggle AAM matching, you can run the PowerShell commands outlined here. These commands set the value of the property `UseIncomingUriToValidateAudience` to **True**. The default setting, which uses native public URL matching, is **False**.

To set AAM Matching for the entire farm, use this code:

```
$config = Get-SPSecurityTokenServiceConfig
$config.UseIncomingUriToValidateAudience = $true
$config.Update()
```

To set AAM Matching for a specific web application, use this code:

```
$webApp = Get-SPWebApplication <web application URL or ID>
$webApp.UseIncomingUriToValidateAudience = $true
$webApp.Update()
```

The web application setting (if it is configured) overrides the farm setting.

Overview of identity management in SharePoint 2013

Applies to: *SharePoint Server 2013 Standard, SharePoint Server 2013 Enterprise, SharePoint Foundation 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how SharePoint 2013 supports authentication, authorization, and the storage, synchronization, and display of entities and their attributes.

Identity management in SharePoint 2013 is the combination of the following parts:

- The set of identifiers for entities, their storage location, the creation of trust relationships among identity stores, and the display of identifier information.

Users, computers, or services are examples of entities.

- The methods, typically provided by a form of credential exchange that is protected with cryptography, that use identifiers to authenticate access to a resource.
- The methods, typically specified by a set of permissions that are assigned to identifiers, that specify and enforce the authorization of access to a resource.

Elements of an identity management system

A typical identity management system consists of the following elements:

- Entities
- Stores for accounts and attributes
- Authentication methods
- Authorization methods
- Storage, synchronization, and display of entity attributes

The following sections describe these elements and how SharePoint 2013 supports them.

Entities

Within an identity management system, an entity represents a physical or logical object that requires access to a resource. Entities on a network that uses Active Directory Domain Services (AD DS) include users, computers, and services. Each entity has an identity that can correspond to an account in a directory, such as AD DS. Accounts can consist of a set of attributes that describe the entity, such as name, group membership, email address, and so on.

For identity management in SharePoint 2013, entities are users, groups, services, computers, and apps.

Stores for accounts and attributes

A store that contains accounts and attributes provides a location for entity accounts and their attributes. Networks that use AD DS store accounts and attributes in AD DS. The store that contains accounts and attributes can do the following:

- Validate account credentials during authentication.
- Provide account attributes to the entity that requests authentication so that those attributes can be used for authorization.

SharePoint 2013 can use the forms-based or Security Assertion Markup Language (SAML) user authentication methods for AD DS or additional stores. SharePoint 2013 does not include a store for accounts and attributes.

Identity federation is the process that links multiple stores of accounts and attributes through trust relationships so that authentication and authorization for access to resources can occur seamlessly across those stores. [Forefront Identity Manager 2010 R2](#) enables you to manage identity life cycle and role management across heterogeneous identity platforms.

Methods of authentication

An authentication method is a specific set of messages that computers send to each other to perform authentication. A message validates an identity of an entity. The result of the authentication process is a security token, which typically contains cryptographic proof that a store of accounts and attributes has validated the identity. The security token can also contain entity attributes, such as the list of security groups to which the entity belongs.

For AD DS, the authentication method is typically either NTLM or the Kerberos protocol. For example, when a user logs on to a domain-joined computer, it collects the security credentials from the user and uses the Kerberos protocol to validate those credentials with an AD DS domain controller. The user's computer receives a Kerberos ticket to use when the user accesses resources. The Kerberos ticket contains cryptographic proof that AD DS has validated the credentials and a list of groups to which the user belongs.

Claims-based identity and authentication

Although Kerberos and NTLM work well for AD DS-based networks, they do not extend easily to multiple stores of accounts and attributes from third-party vendors or to identity management systems in the cloud.

For claims-based identity, a user obtains a security token that a trusted security token service (STS) has digitally signed and that contains a set of claims. Each claim represents a specific item of data about the user such as his or her name, group memberships, and role on the network. Claims-based identity enables applications to rely on the security token for proof of authentication and the set of claims for authorization or other processing. Claims-based identity typically enables a user to perform an authentication to obtain the security token and submit that token to applications. The claims-aware application verifies the digital signature of the security token and uses the claims to implement authorization and other application-specific functions.

Claims-based identity and authentication in Windows is built on Windows Identity Foundation (WIF), which is a set of .NET Framework classes that is used to implement claims-based identity. Claims-based authentication relies on standards such as WS-Federation, WS-Trust, and protocols such as SAML.

A simplified claims-based identity implementation contains the following components:

- **A claims-aware client application** An application that can obtain a security token from an STS and submit security tokens for authentication and authorization. An example of a claims-aware client application is a web browser, such as Internet Explorer.
- **An STS** A server or service that creates security tokens for claims-aware client applications. The STS that is in SharePoint 2013 provides its own security tokens to requesting claims-aware client applications, and it can also use Active Directory Federation Services (AD FS) 2.0 as an external STS.

-
- **A relying party** A computer or application that relies on an STS for tokens. The relying party redirects claims-aware client applications to the STS to obtain a suitable security token. SharePoint 2013 can act as a relying party to an external STS. An example is a SharePoint web application that is configured to use AD FS as its STS.
 - **A claims-aware server application** An application that requires a security token for authentication and authorization. An example is a SharePoint 2013 web application that uses claims-based authentication (the default).

SharePoint 2013 supports claims-based identity and authentication for the following entities:

- **Users** The validation of a user's identity against a store of accounts and attributes that contains the user's credentials and can verify that the user submitted them correctly. User authentication occurs when a user attempts to access a SharePoint resource. For more information, see **Plan for user authentication methods in SharePoint 2013**.
- **Apps** The validation of the identity a remote app for SharePoint and the authorization of the app and an associated user to request a secured SharePoint resource. App authentication occurs when an external component of a SharePoint Store app or an App Catalog app, such as a web server that is located on the intranet or the Internet, attempts to access a secured SharePoint resource. For more information, see **Plan for app authentication in SharePoint 2013**.
- **Servers** The validation of a server's request for resources that is based on a trust between the STS of the server that runs SharePoint 2013 and the STS of another server that supports the OAuth server-to-server protocol. Based on this trust relationship, a requesting server can access secured resources on the server that is running SharePoint 2013 on behalf of a specified user account, subject to server and user permissions. For more information, see **Plan for server-to-server authentication in SharePoint 2013**.

Methods of authorization

After authentication succeeds, an application must determine whether the entity is authorized to access the requested resource. To perform this analysis, the application compares the identity information about the entity—such as the user name and the groups for which it is a member—in the security token (for claims-based identity) or Kerberos ticket to the list of default or configured permissions for the resource being accessed.

Permissions are settings that specify an entity (such as a user or group name) and what that entity is allowed or not allowed to do (such as read, edit, or delete files in a shared folder). To

obtain access to the resources, the configured permissions must permit the type of access that the entity requests.

SharePoint 2013 provides permissions for users to access web applications and their resources, server permissions for server-to-server resource requests, and app permissions for app resource requests.

For more information about how to plan for permissions in SharePoint 2013, see **Permissions planning for sites and content in SharePoint 2013** and **Plan app permissions management in SharePoint 2013**.

Methods to store, synchronize, and display entity attributes

To configure permissions, the identity management system must obtain the list of entities from a storage location and display them for you. If that storage location is not the original store of accounts and attributes, the entity information must be synchronized with that store and replicated to other computers.

In SharePoint 2013, the facility that displays entity information for permissions configuration is People Picker and the service that collects, synchronizes, and replicates local entity information is the User Profile application service.

For more information, see **People Picker and claims providers overview (SharePoint 2013)** and **Overview of the User Profile service application in SharePoint Server 2013**.

See also

Plan for user authentication methods in SharePoint 2013

Plan for app authentication in SharePoint 2013

Plan for server-to-server authentication in SharePoint 2013

Permissions planning for sites and content in SharePoint 2013

Plan app permissions management in SharePoint 2013

People Picker and claims providers overview (SharePoint 2013)

Overview of the User Profile service application in SharePoint Server 2013

Test lab guides for SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Find the set of Test Lab Guides (TLGs) for SharePoint Server 2013 to gain valuable hands-on experience before planning and deployment.

The following articles on TechNet and related resources provide information about TLGs for SharePoint Server 2013.

TechNet articles about TLGs for SharePoint Server 2013

The following articles about the set of TLGs for SharePoint Server 2013 are available to view online. Writers update articles on a continuing basis as new information becomes available and as users provide feedback.

	Content	Description
	Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm	Describes the steps to configure a three-tier farm (web front-end, application, and database tiers) by using SharePoint Server 2013.
	Test Lab Guide: Configure intranet and team sites for SharePoint Server 2013	Describes the steps to configure intranet and team sites in the SharePoint Server 2013 three-tier farm test lab.

Content	Description
Test Lab Guide: Demonstrate permissions with SharePoint Server 2013	Learn how to configure and demonstrate SharePoint 2013 permissions based on the Test Lab Guide: Configure intranet and team sites for SharePoint Server 2013 .
Test Lab Guide: Demonstrate profile synchronization for SharePoint Server 2013	Describes the steps to configure and demonstrate profile synchronization against a single Active Directory Domain Services (AD DS) domain controller in the SharePoint Server 2013 three-tier farm test lab.
Test Lab Guide: Demonstrate Social Features for SharePoint Server 2013	Describes the steps to configure and demonstrate the new social features in SharePoint Server 2013 (My Sites, Newsfeeds, Community Sites, and Team Site feeds) in the SharePoint Server 2013 three-tier farm test lab.
Test Lab Guide: Demonstrate SAML-based Claims Authentication with SharePoint Server 2013	Describes the steps to configure and demonstrate Security Assertion Markup Language (SAML)-based claims by using Active Directory Federation Services (AD FS) 2.0 in the SharePoint Server 2013 three-tier farm test lab.

Content	Description
Test Lab Guide: Demonstrate forms-based claims authentication for SharePoint Server 2013	Describes the steps to configure and demonstrate forms-based authentication in the SharePoint Server 2013 three-tier farm test lab.
Test Lab Guide: Configure eDiscovery for SharePoint Server 2013	Describes the steps to configure eDiscovery for SharePoint Server 2013 and Exchange Server 2013 in the SharePoint Server 2013 three-tier farm test lab.
Test Lab Guide: Configure a highly available SharePoint Server 2013 Search topology	Provides step-by-step instructions to create a test lab that demonstrates how to configure a search topology that provides high availability
Business Intelligence test lab guides	A set of test lab guides that describe the steps to configure and demonstrate business intelligence features in the SharePoint Server 2013 three-tier farm test lab.

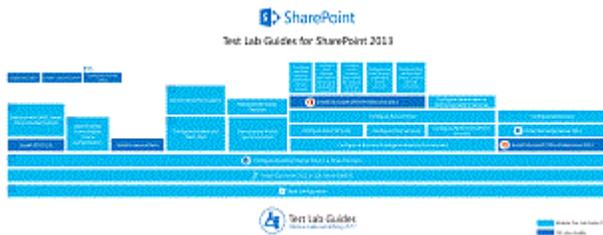
You can view the entire SharePoint 2013 TLG stack and link to each article or white paper in poster format.

You might need additional software to view these files. See the following table for more information.

File type	Software
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File type	Software
.pptx	PowerPoint 2013, PowerPoint 2010, or the free PowerPoint viewer If you use the PowerPoint viewer, right-click the PowerPoint version link, click Save Target As , save the file to your computer, and then open the file from your computer.
.pdf	Any PDF viewer, such as Adobe Reader

SharePoint 2013 test lab guide stack



[Zoom into the poster in full detail with Zoom.it from](#)

[Microsoft](#)

[PowerPoint version](#)

[PDF version](#)

Additional resources about TLGs

The following resources about TLGs are available.

Content	Description
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	Content	Description
Microsoft TechNet	<ul style="list-style-type: none"> • Test Lab Guides (http://microsoft.com/testlabguides) • SharePoint Server 2013 Test Lab • Installation and deployment for SharePoint 2013 IT pros Resource Center 	<ul style="list-style-type: none"> • Visit the central Test Lab Guides portal in the TechNet Wiki for a description of TLG content and links to all the published TLGs. • Visit this portal page in the TechNet Wiki for all of the TLG content for SharePoint Server 2013. • Visit the Resource Center to access videos, community sites, documentation, and more.
Blogs	<ul style="list-style-type: none"> • Microsoft Test lab Guides 	Visit this blog for the latest information about TLG content published across Microsoft.



Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to install and configure SharePoint Server 2013 on multiple servers with Microsoft SQL Server 2012 by using the computers in the Base Configuration test lab.

This document is the [Test Lab Guide](#) version of the procedures that are described in **Install SharePoint 2013 across multiple servers for a three-tier farm**.

This document contains instructions for the following:

1. Configuring the Base Configuration test lab.
2. Installing and configuring a new server named SQL1.
3. Installing SQL Server 2012 on the SQL1 server.
4. Installing SharePoint Server 2013 on the APP1 server.
5. Installing and configuring a new server named WFE1.
6. Installing SharePoint Server 2013 on WFE1.
7. Demonstrating the facilities of the default Contoso team site on WFE1.

Watch the configure SharePoint Server 2013 in a three-tier farm test lab guide overview video



For information about how to configure this test lab in Hyper-V, see [Hosting the SharePoint Server 2013 Three-Tier Test Lab with Windows Server 2012 Hyper-V](#).

Download the test lab guide

[Test Lab Guide: Configure SharePoint Server 2013 in a Three-Tier Farm](#)

See also

Install SharePoint 2013 across multiple servers for a three-tier farm

[Test Lab Guides](#)

Test Lab Guide: Configure intranet and team sites for SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure intranet and team sites based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

This document explains how to set up multiple web applications, site collections, subsites, and pages for intranet departments and teams.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Configure the intranet and team sites on APP1.
3. Verify the intranet and team sites.

Watch the configure intranet and team sites with SharePoint Server 2013 test lab guide overview video



For eBook versions of this TLG (including DOCX, EPUB, MOBI, and PDF), see [Test Lab Guide: eBook for SharePoint Server 2013 Intranet and Team Sites](#).

Download the test lab guide

[Test Lab Guide: Configure Intranet and Team Sites with SharePoint Server 2013](#)

See also

[Test Lab Guides](#)

Test Lab Guide: Demonstrate permissions with SharePoint Server 2013

Applies to: *SharePoint Server 2013 Standard, SharePoint Server 2013 Enterprise*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate SharePoint 2013 permissions based on the [Test Lab Guide: Configure intranet and team sites for SharePoint Server 2013](#).

This document explains how to set up and demonstrate SharePoint permissions in the following scenarios:

- Locking down a subsite so that only members of a specific department can access it
- Creating a subsite that the vendors of an organization can access
- Creating an archives subsite so that documents can be added, viewed, and changed, but not deleted

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 intranet and team sites test lab.
2. Preparing groups and accounts and initial permissions.
3. Configuring a secured Human Resources subsite.
4. Configuring a subsite for vendor use.
5. Configuring an archives subsite.

Watch the demonstrate permissions with SharePoint Server 2013 test lab guide overview video



[Download the test lab guide](#)

[Test Lab Guide: Demonstrate Permissions with SharePoint Server 2013](#)

See also

[Test Lab Guides](#)

Test Lab Guide: Demonstrate profile synchronization for SharePoint Server 2013

Applies to: *SharePoint Server 2013 Standard, SharePoint Server 2013 Enterprise*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate user profile synchronization based on the Test Lab Guide: Configure SharePoint Server 2013 in a Three-Tier Farm (<http://technet.microsoft.com/en-us/library/jj219610.aspx>).

This document explains how to set up the SharePoint Server synchronization tool to synchronize profiles between SharePoint Server 2013 and a single Active Directory Domain Services (AD DS) domain controller.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Creating a My Site web application and site collection and configuring settings.
3. Configuring the User Profile service application.
4. Creating a synchronization connection on APP1 to a directory service on DC1.
5. Demonstrating user profile synchronization.

Download the test lab guide

[Test Lab Guide: Demonstrate profile synchronization for SharePoint Server 2013](#)

See also

[Test Lab Guides](#)

Test Lab Guide: Demonstrate Social Features for SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate the new social features of SharePoint Server 2013 based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

This document is the [Test Lab Guide](#) version of the procedures that are described in **Configure social computing features in SharePoint Server 2013**.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Creating a My Site site collection and configure settings.
3. Configuring Following settings.
4. Configuring Community Sites.
5. Configuring site feeds.
6. Demonstrating social features.

Download the test lab guide

[Test Lab Guide: Demonstrate Social Features for SharePoint Server 2013](#)

See also

Configure social computing features in SharePoint Server 2013

[Test Lab Guides](#)

Test Lab Guide: Demonstrate SAML-based Claims Authentication with SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate Security Assertion Markup Language (SAML)-based claims authentication with Active Directory Federation Services (AD FS) 2.0 and SharePoint Server 2013 based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

This document is the [Test Lab Guide](#) version of the configuration described in **Configure SAML-based claims authentication with AD FS in SharePoint 2013**.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Configuring AD FS 2.0.
3. Configuring SAML-based claims authentication.
4. Demonstrating SAML-based claims authentication.

Watch the SAML-based claims authentication with SharePoint Server 2013 test lab guide overview video



Download the test lab guide

[Test Lab Guide: Demonstrate SAML-based Claims Authentication with SharePoint Server 2013](#)

See also

Configure SAML-based claims authentication with AD FS in SharePoint 2013

[Test Lab Guides](#)

Test Lab Guide: Demonstrate forms-based claims authentication for SharePoint Server 2013

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate form-based authentication for SharePoint Server 2013 based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

This document is the [Test Lab Guide](#) version of the configuration described in **Configure forms-based authentication for a claims-based web application in SharePoint 2013**.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Configuring forms-based authentication.
3. Demonstrating forms-based authentication.

Watch the demonstrate forms-based claims authentication for SharePoint Server 2013 test lab guide overview video



Download the test lab guide

[Test Lab Guide: Demonstrate Forms-based Authentication with SharePoint Server 2013](#)

See also

Configure forms-based authentication for a claims-based web application in SharePoint 2013

[Test Lab Guides](#)

Test Lab Guide: Configure eDiscovery for SharePoint Server 2013

Applies to: *SharePoint Server 2013, Exchange Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure eDiscovery for SharePoint Server 2013 based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

This document explains how to set up eDiscovery between SharePoint Server 2013 and Exchange Server 2013.

This document contains instructions for the following:

1. Setting up the SharePoint Server 2013 three-tier farm test lab.
2. Installing Microsoft Office 2013 on CLIENT1.
3. Setting up Exchange Server 2013 on EX1.
4. Installing the Exchange Web Service API.
5. Configuring a trust relationship between SharePoint 2013 and Exchange Server 2013.
6. Configuring Exchange for SharePoint eDiscovery Center.
7. Configuring Search to crawl all discoverable content.
8. Creating an eDiscovery center.
9. Adding User1 to the Discovery Management Role Group in Exchange 2013.

Download the test lab guide

[Test Lab Guide: Configure eDiscovery for SharePoint Server 2013](#)

See also

[Test Lab Guides](#)

Test Lab Guide: Configure a highly available SharePoint Server 2013 Search topology

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure search for high availability by using the computers in the Configure SharePoint Server 2013 in a three-tier farm test lab.

This document is the [Test Lab Guide](#) version of the procedures that are described in [Test Lab Guide: Configure a highly available SharePoint Server 2013 Search topology](#).

This document contains instructions for the following tasks:

1. Configure the three-tier farm test lab.
2. Install and configure new application servers named APP2, APP3, APP4, and APP5.
3. Install SharePoint Server 2013 on the new application servers.
4. Create and configure the Search service application.
5. Change the default search topology.
6. Create a Search Center site.
7. Test the search on the default Contoso team site on WFE1.

Download the test lab guide

[Test Lab Guide: Configure a Highly Available SharePoint Server 2013 Search Topology](#)

See also

Install SharePoint 2013 across multiple servers for a three-tier farm

[Test Lab Guides](#)

Business Intelligence test lab guides

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2013-12-18

Summary: Learn how to configure and demonstrate the business intelligence solution for SharePoint Server 2013 based on the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#).

To create your own working test lab for business intelligence in SharePoint Server 2013, use the topics described in **Test Lab Guides for Business Intelligence**. These topics are part of the [Test Lab Guide](#) content set for SharePoint Server 2013.

The set of test lab guides for business intelligence in SharePoint Server 2013 are as follows:



- **Test Lab Guide: Create a Business Intelligence Baseline Environment**
- **Test Lab Guide: Configure Secure Store**
- **Test Lab Guide: Configure Excel Services**
- **Test Lab Guide: Configure the Excel Services unattended service account**
- **Test Lab Guide: Configure Excel Services data refresh by using an embedded connection**
- **Test Lab Guide: Configure Excel Services data refresh by using an external connection**
- **Test Lab Guide: Configure Visio Services**
- **Test Lab Guide: Configure the Visio Services unattended service account**
- **Test Lab Guide: Configure Visio Services data refresh using an external connection**
- **Test Lab Guide: Configure PerformancePoint Services**
- **Test Lab Guide: Configure data access for PerformancePoint Services**

See also

Test Lab Guides for Business Intelligence

Business intelligence scenarios and solutions

Learning roadmaps for SharePoint 2013

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2014-05-07

Summary: Build SharePoint 2013 expertise by stepping through a series of learning goals in these learning roadmaps.

A Learning Roadmap provides a methodical approach to help you build expertise as you achieve a series of learning goals. You start with prerequisites and then build on your knowledge and experience in levels:

- Introductory (level 100)
- Intermediate (level 200)
- Advanced (level 300)
- Expert (level 400)

Each section of a Learning Roadmap contains an ordered list of steps, which you should perform in the recommended order. Each step points to a resource (a Microsoft or third-party article, white paper, video, book chapter, blog post, and so on) and states a learning goal. After you meet the knowledge or experience requirements of a learning goal, move on to the next step.



Watch the Learning Roadmaps overview video



The following learning roadmaps are available for SharePoint 2013.

Learning roadmaps for SharePoint 2013

The following learning roadmap articles for SharePoint 2013 are available to view online. Writers update articles on a continuing basis as new information becomes available and as users provide feedback.

 Content	Description
Authentication in SharePoint 2013 learning roadmap	Use this learning roadmap to build expertise about authentication in SharePoint 2013.
Learn about upgrade for SharePoint 2013	Use this learning roadmap to build expertise about how to upgrade to SharePoint 2013.
Virtualize SharePoint 2013 learning roadmap	Use this learning roadmap to build expertise about how to install and configure SharePoint 2013 in a Microsoft virtual environment.
Windows PowerShell for SharePoint 2013 learning roadmap	Use this learning roadmap to understand Windows PowerShell for SharePoint 2013.
User profiles for SharePoint Server 2013 learning roadmap	Use this learning roadmap to gain expertise about user profiles and associated technologies in SharePoint Server 2013.

	Content	Description
	Database management for SharePoint 2013 learning roadmap	Use this learning roadmap to build expertise about database management in SharePoint 2013.
	Permissions for SharePoint 2013 learning roadmap	Use this learning roadmap to build expertise in permissions and permissions management in SharePoint 2013.

Additional resources about learning roadmaps

The following resources about learning roadmaps are available from other subject matter experts.

	Content	Description
Microsoft TechNet	Learning Roadmaps Portal	Learning roadmaps portal page in the TechNet Wiki.

See also

[SharePoint for developers](#)

Authentication in SharePoint 2013 learning roadmap

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2014-07-30

Summary: Use this learning roadmap to build expertise in the authentication technologies in SharePoint 2013.

SharePoint 2013 makes it easy for people to work together. SharePoint 2013 enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. Authentication in SharePoint 2013 defines how users, apps, and servers obtain authenticated access to protected SharePoint resources

If you are new to authentication in SharePoint 2013, this article can help you identify what you need to learn to develop expertise about authentication methods for SharePoint 2013. It includes prerequisite topics that explain fundamentals about the web infrastructure. Learn about prerequisite technologies first because SharePoint 2013 builds on them and assumes an understanding of the concepts. Afterwards, you can start to learn about authentication in SharePoint 2013 with the resources in the Level 100 (introductory), 200 (intermediate), and 300 (advanced) sections.



We recommend that you read the topics in the order listed.

- [Prerequisite information](#)
- [Level 100](#)
- [Level 200](#)
- [Level 300](#)
- [Ongoing Learning](#)

-
- [Additional Resources](#)

Prerequisite information

This section contains links to many articles and books that contain background information that will help you fully understand the different authentication methods that SharePoint 2013 supports.

- **Step 1: Learn about the basic, digest, and anonymous methods of authentication for Internet Information Services (IIS).**

In some cases, you might want to use the basic, digest, and anonymous authentication methods for SharePoint web sites. For an explanation of these authentication methods, see [IIS Authentication](#). For configuration steps, see [Configuring Authentication in IIS 7](#).

Your goal is to understand the use, role, and comparative advantages of the basic, digest, and anonymous methods of authentication for IIS and how to configure them for web sites that IIS hosts.

- **Step 2: Learn about the NTLM authentication method.**

When you use Windows claims or Windows classic user authentication methods, SharePoint 2013 can use the NTLM authentication method. See [Microsoft NTLM](#) and [NTLM Authentication Scheme for HTTP](#).

Your goal is to understand how NTLM works to authenticate user access to web sites.

- **Step 3: Learn about the Kerberos protocol and authentication method.**

When you use Windows claims or Windows classic user authentication methods, SharePoint 2013 can use the Kerberos protocol and authentication method. For the Kerberos protocol, see [What Is Kerberos Authentication?](#) and [How the Kerberos Version 5 Authentication Protocol Works](#). For the Kerberos protocol that is used for web authentication, see [How Kerberos Works](#).

Your goal is to understand how the Kerberos protocol works to authenticate user access to web sites.

- **Step 4: Learn about claims-based authentication.**

We recommend claims-based authentication for user authentication in SharePoint 2013. App authentication and server-to-server authentication required claims-based

authentication. See the [Claims-based Identity for Windows white paper](#), [An Introduction to Claims](#), and [Claims-Based Architectures](#).

Your goal is to understand the following concepts:

- The benefits of claims-based authentication
- The components of a claims identity infrastructure: identity provider, security token service, account and attribute store, web-enabled client and server applications, federation provider
- How claims-based authentication works to authenticate user access to web sites
- **Step 5: Learn about Open Authorization (OAuth).**

SharePoint 2013 uses OAuth for app authentication and server-to-server authentication. See [About OAuth](#), [OAuth 2.0 Tutorial](#), and "Section 1. Introduction" of [RFC 6749](#).

Your goal is to understand how OAuth provides an authorization mechanism to obtain access to protected resources.

- **Step 6: Learn how to create a public key infrastructure (PKI) with Active Directory Certificate Services (AD CS).**

Some authentication methods require installed digital certificates on servers that run SharePoint 2013. These certificates can be purchased from a third-party certification authority or you can deploy your own PKI. You can deploy your own PKI with AD CS. See [Designing a Public Key Infrastructure](#).

If you have to have AD CS for your PKI, your goal is to understand how to deploy an AD CS-based PKI and request specific types of certificates from an AD CS server.

- **Step 7: Learn how to configure HTTPS websites with Internet Information Services (IIS).**

Some authentication methods require HTTPS-based communication with servers that run SharePoint 2013 and that use IIS to host their web sites. See [How to Set Up SSL on IIS 7](#).

Your goal is to understand how to configure certificate bindings and enable HTTPS for web sites that run on IIS.

Level 100

The following documents contain introductory information about authentication in SharePoint 2013.

- **Step 1: Learn about the new features of authentication in SharePoint 2013.**

See [What's new in authentication for SharePoint 2013](#) and [SharePoint 2013 training for IT pros: Module 11](#).

Your goal is to understand the new capabilities of authentication, such as app authentication, server-to-server authentication, and improvements to existing capabilities in SharePoint 2013.

- **Step 2: Understand the differences between user, app, and server-to-server authentication in SharePoint 2013.**

See **Authentication overview for SharePoint 2013**.

Your goal is to understand how SharePoint 2013 uses user, app, and server-to-server authentication to provide user, app, and server resource access.

Level 200

The following content contains intermediate information about authentication in SharePoint 2013.

- **Step 1: Learn how to plan for and deploy user authentication in SharePoint 2013.**

See **Plan for user authentication methods in SharePoint 2013**, **Configure forms-based authentication for a claims-based web application in SharePoint 2013**, and **Configure SAML-based claims authentication with AD FS in SharePoint 2013**.

View the following:

Windows claims authentication in SharePoint 2013 video



Forms-based claims authentication in SharePoint 2013 video



SAML-based claims authentication in SharePoint 2013 video



- Your goal is to understand the following concepts:
 - The various methods to authenticate users that SharePoint 2013 supports and how they work
 - How to plan for the use of an authentication method in web applications and zones
 - How to configure forms-based authentication and Security Assertion Markup Language (SAML)-based authentication by using AD FS 2.0

- **Step 2: Demonstrate forms-based authentication in a test lab.**

See [Test Lab Guide: Demonstrate forms-based claims authentication for SharePoint Server 2013](#).

View the following:

Demonstrate forms-based claims authentication for SharePoint Server 2013 test lab guide overview video



Your goal is to configure and demonstrate forms-based authentication by using the built-in Lightweight Directory Access Protocol (LDAP) membership provider in a test lab.

- **Step 3: Demonstrate SAML-based claims-based authentication in a test lab.**

View the following:

Demonstrate SAML-based claims authentication for SharePoint Server 2013 test lab guide overview video



See [Test Lab Guide: Demonstrate SAML-based Claims Authentication with SharePoint Server 2013](#).

Your goal is to configure and demonstrate SAML-based claims-based authentication with AD FS as the identity provider in a test lab.

- **Step 4: Learn how to plan for and deploy app authentication in SharePoint 2013..**

See **Plan for app authentication in SharePoint 2013** and **Configure app authentication in SharePoint Server 2013**.

Your goal is to understand the various types of apps, the design considerations for app authentication, and how to configure SharePoint 2013 to support app authentication.

- **Step 5: Learn how to plan for and deploy server-to-server authentication in SharePoint 2013.**

See **Plan for server-to-server authentication in SharePoint 2013** and **Configure server-to-server authentication in SharePoint 2013**.

Your goal is to understand following concepts:

- The design considerations for server-to-server authentication
 - How to configure SharePoint 2013 to support server-to-server authentication for other SharePoint farms
 - How to configure SharePoint 2013 to support servers that are running Microsoft Exchange Server 2013
 - How to configure SharePoint 2013 to support servers that are running Microsoft Lync Server 2013
- **Step 6: Learn how to migrate a Windows classic web application to Windows claims.**

See **Migrate from classic-mode to claims-based authentication in SharePoint 2013**.

Your goal is to understand the different ways in which you can convert a web application that uses Windows classic user authentication to use Windows claims-based authentication in SharePoint 2013.

- **Step 7: Learn how to perform basic troubleshooting for claims-based user authentication.**

See **Claims authentication does not validate user (SharePoint 2013)**.

Your goal is to understand the following concepts:

- The tools that you use to collect claims authentication error and system state information
- How to determine the specific claims method being used in a user authentication attempt
- How to check configuration requirements
- How to capture and analyze claims authentication network traffic

Level 300

The following content contains advanced information about authentication in SharePoint 2013.

- **Step 1: Learn how to create custom claims providers for SharePoint 2013.**

See [Claims Walkthrough: Writing Claims Providers for SharePoint 2010](#).



Note:

Although this article is for SharePoint 2010, the content also applies to SharePoint 2013.

Your goal is to understand how to augment claims and provide name resolution in a custom claims provider for SharePoint 2013.

- **Step 2: Understand claims-based user authentication processes in SharePoint 2013.**

See the "Overview of Advanced Claims-Based Authentication Scenarios " section in [Claims Architecture and Scenarios for SharePoint 2010 Developers](#).

Your goal is to understand the high-level architecture for claims-based user authentication in SharePoint and the detailed processes for Windows, forms-based, and SAML-based claims authentication.

- **Step 3: Understand the browser interaction for claims-based user authentication in SharePoint 2013.**

See [Appendix B of A Guide to Claims-Based Identity and Access Control \(Second Edition\)](#).

Your goal is to understand the set of messages and their contents for various types of claims-based user authentication.

Ongoing learning

- **Share-n-dipity blog.**

See [Share-n-dipity](#).

Your goal is to keep up-to-date with Microsoft Principal Consultant Steve Peschka, a leading expert in SharePoint authentication issues.

Additional Resources

- [SharePoint 2013 Claims-based Authentication](#)
- [SharePoint 2013 Portal](#)

Feedback

Your feedback is valuable and welcome! Please rate this content by using the **Did you find this helpful** section at the bottom of the article, or send your comments and suggestions to [SharePoint IT Documentation Feedback](mailto:itspdocs@microsoft.com) (itspdocs@microsoft.com). The author will review your comments and use them to help improve this documentation. Your e-mail address won't be saved or used for any other purposes.

Learn about upgrade for SharePoint 2013

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2013-08-14

Summary: Use this learning roadmap to understand the process and build expertise about upgrade for SharePoint 2013.

The process for upgrading to SharePoint 2013 is complex and has a lot of steps. You have to know a lot about your existing environment, and about how the process works, before you upgrade. This article can help you get a baseline understanding of what upgrade means for SharePoint products. It contains links to other articles that explain concepts, illustrate the process, and help you avoid pitfalls when you are ready to plan and then start an upgrade.



This article is built like a college course curriculum: start with the prerequisites, and then move through the Level 100 (introductory), 200 (intermediate), and 300 (advanced) sections.

We recommend that you read the articles in the order listed.

Prerequisites – What do I need to know first?

Get familiar with these concepts before you start learning about upgrade to SharePoint 2013.

Step 1: Learn about SharePoint logical architecture and topologies



Physical
architecture
pieces



Logical architecture
pieces

When you upgrade to SharePoint 2013 from SharePoint 2010, you first create a SharePoint 2013 environment. That environment has **logical** architecture pieces (such as web applications, service applications, and site collections) and **physical** architecture pieces (such as web servers and database servers).

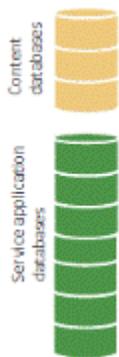
These articles and posters explain the logical and physical architecture for SharePoint:

- **Plan logical architectures for SharePoint 2013**
- [Topologies](#) model
- [Services](#) model

The [Architecture design for SharePoint 2013 IT Pros](#) Resource Center contains all of the above, plus more useful information about SharePoint 2013 architecture.

After reading these articles, you should understand what you want to have in place for SharePoint 2013. And it'll also help you understand what pieces of the logical and physical architecture are involved in each stage of upgrade.

Step 2: Learn about SharePoint databases

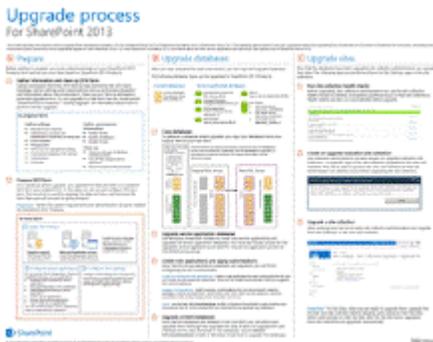


When you upgrade to SharePoint 2013, you perform what's called a **database-attach upgrade**. You back up the databases from the SharePoint 2010 environment, and then restore and upgrade the databases to SharePoint 2013. SharePoint has several database types. Only some of the databases can be upgraded. The [Databases](#) model explains what they all are, what kind of information they store, and how big they typically are. Look for information in the model about the content databases and the service application databases in the model. These are the ones you'll work with during upgrade.

Level 100 – Walk me through the process

In this section, you get familiar with the process of upgrade for SharePoint 2013.

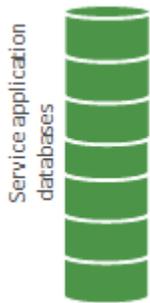
Step 1: Learn about the overall process for an upgrade to SharePoint 2013



The **Overview of the upgrade process to SharePoint 2013** article contains illustrations and a video that give you a **high-level overview** of the whole process. The [Upgrade Process](#) model has all of the steps on one big page that you can print.

Use this article and poster to understand the overall upgrade process and what happens in each phase of the process.

Step 2: Learn about upgrade for service applications



Many of the service applications can be upgraded from SharePoint 2010 to SharePoint 2013. Each service application is a little bit different though, so you need to understand what can be upgraded and what won't upgrade in the new environment. The **Services upgrade overview for SharePoint Server 2013** article talks about these differences and what to expect.

After you read the article, you'll know **which service applications can be upgraded** and any **considerations** to think about for each of those service applications.

Step 3: Learn about best practices



Some things can make upgrade easier, and some things can make it harder. Read **Best practices for upgrading to SharePoint 2013** to find out what you should and shouldn't do if you want the **best possible path**.

Level 200 – How will upgrade work for my environment?

Now that you understand the overall process, you probably want to know, well, how will it work for me? And by the way, how long will it take? The only way to know is to test it out with your own data. These articles help you do that.

Step 1: Learn about how to test upgrade



The article **Use a trial upgrade to SharePoint 2013 to find potential issues** tells you how to **try out upgrade** with a test copy of your data and look for potential issues. The [How to Test Upgrade](#) model has a summary of this article on one big page that you can print.

Test the upgrade process so that the actual upgrade goes smoothly and you do not have to recover from unexpected events. **Testing upgrade is our number one recommendation.** It's the only way to predict how things will go, and the only way to save yourself from a 5:00 PM Sunday crisis about whether or not your sites will be online again on Monday morning. The more testing you do, the better off you'll be.

Step 2: Learn about upgrade performance



Every environment is different. That's why we don't have a simple formula for x amount of data = x amount of time. Test your environment, and use the information in **Plan for performance during upgrade to SharePoint 2013** to figure out what your data is like and **how long** upgrade is likely to take. Is your hardware up to the task? Or is it going to be so slow you'll wonder if it'll ever get done? Find out before you're on a deadline. Don't forget to think about the **performance after the upgrade**. How much power will the SharePoint 2013 environment need?

Step 3: Learn about customizations and upgrade

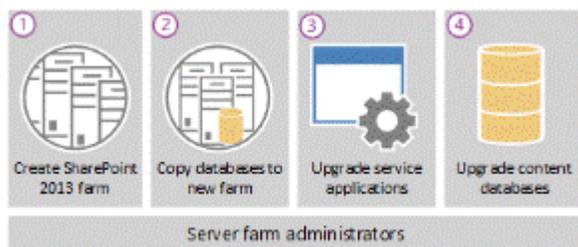
- Site definitions
- Style sheets
- Web Parts
- Web services
- Feature and solutions
- Assemblies
- Web.config changes
- InfoPath Form templates
- ...

Customizations cause the most grief for people running upgrade. Be prepared with a plan. Use the article **Create a plan for current customizations during upgrade to SharePoint 2013** to find out what you have in your environment, and how to approach upgrade for each type of common customization.

Level 300 – The detailed steps

You've had the overview, you know what to watch out for, now how do you really do it? Here's how.

Step 1: Learn about the specific steps in a database-attach upgrade



The chapter **Upgrade databases from SharePoint 2010 to SharePoint 2013** has **all of the steps** to perform to upgrade the environment. There's a **checklist** you can print out, and articles that cover each phase in the upgrade process.

Plus, there's an article about how to migrate users from classic authentication to claims authentication so you can use all the new features that rely on claims authentication.

Step 2: Learn about site collection upgrade



New in SharePoint 2013, you can upgrade your databases, then upgrade the site collections **on their own schedule**. The articles **Plan for site collection upgrades in SharePoint 2013** and **Upgrade site collections to SharePoint 2013** explain this process. And then you can decide whether you want to control the whole process yourself, or let your site collection owners help themselves.

Step 3: Learn how to troubleshoot upgrade



Even with the best preparation, sometimes things go wrong. Some of the most common problems are in the articles **Troubleshoot database upgrade issues in SharePoint 2013** and **Troubleshoot site collection upgrade issues in SharePoint 2013**. Use these articles to understand how to approach and troubleshoot issues when something goes wrong.

Step 4: Experiment with SharePoint 2013 upgrade in a test lab



We have test lab guides that walk through creating a test lab of SharePoint 2010. Why not use them to create a test environment and try stuff out? It won't be an accurate representation of your environment, so you can't rely on it for performance testing or finding issues, but you can run upgrade over and over until you know the steps well.

Use the SharePoint Server 2010 [Single Server](#) or [Three-Tier Farm](#) test lab guides to create a test lab that mimics key aspects of your SharePoint Server 2010 environment. Then use part 4 of the [Test Lab Guide: Configure SharePoint Server 2013 in a three-tier farm](#) to create a 2013 server named APP2, add it to the existing 2010 farm, and then upgrade the SharePoint Server 2010 test lab content to SharePoint 2013 using the procedures in **Upgrade to SharePoint 2013**.

This way you can have **hands-on experience** with the upgrade process in a **simple environment** and work up to the real thing.

Where can I find more information?



SharePoint 2013 training for IT pros: [Module 13: Upgrading to SharePoint 2013](#)

These videos have lots of detailed information about the upgrade steps.



Resource Center: [Upgrade and migrate to SharePoint 2013 \(IT pros\)](#)

This is a great entry point for all of the upgrade content.



Upgrade guide: **Upgrade to SharePoint 2013**

This is the part of the library that has all of the upgrade content we have for SharePoint 2013.

Feedback

Your feedback is valuable and welcome! Please rate this content by using the **Did you find this helpful** section at the bottom of the article, or send your comments and suggestions to [SharePoint IT Documentation Feedback](mailto:itspdocs@microsoft.com) (itspdocs@microsoft.com). The author will review your comments and use them to help improve this documentation. Your email address won't be saved or used for any other purposes.

Virtualize SharePoint 2013 learning roadmap

Applies to: *Windows Server, Windows Azure, SharePoint Server 2013*

Topic Last Modified: 2014-10-22

Summary: Use this learning roadmap to build expertise about how to install and configure SharePoint 2013 in a Microsoft virtual environment.

SharePoint 2013 makes it easy for people to work together. [SharePoint 2013](#) enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. You can deploy SharePoint products on any virtualization solution certified by the Microsoft Server Virtualization Validation Program (SVVP). This learning roadmap provides information about how to virtualize SharePoint 2013 in a Hyper-V environment or on Azure.

If you are new to virtualization in SharePoint 2013, this article can help you identify what you need to learn before you deploy a SharePoint farm in a virtual environment. It includes prerequisite articles that explain various Microsoft virtualization fundamentals. You must understand the prerequisite technologies first, because virtualization in SharePoint 2013 builds upon them and assumes an understanding of them. Afterwards, you can begin to learn about virtualization in SharePoint 2013 planning and deployment with the resources in the Level 100 (introductory), 200 (intermediate), and 300 (advanced) sections.



We recommend that you read the topics in the order listed.

- [Prerequisite information](#)
- [Level 100](#)
- [Level 200](#)
- [Level 300](#)

-
- [Additional Resources](#)

Prerequisite information

This section contains links to various resources that provide background about the virtualization technologies that SharePoint 2013 supports.

- **Step 1: Learn about virtualization.**

Virtualization technologies have been used in the computer industry for several years. However, if you haven't had direct contact with these technologies, we recommend viewing the following videos. These videos present the basic concepts and benefits of virtualization.

- [Virtually Speaking: What is Virtualization?](#)
- [What is Virtualization - An Introduction to Server Virtualization](#)

After you are familiar with the basic virtualization concepts, view the following Microsoft TechNet videos in the Virtualization Jump Start series.

- [Virtualization overview](#)
- [Differentiating Microsoft and VMWare](#)
- [Hyper-V Deployment Options & Architecture | Part 1](#)

- **Step 2: Learn about virtualization support and licensing.**

See **Virtualization support and licensing in SharePoint 2013** to see what virtualization technologies you can use for a SharePoint farm. If you plan to deploy SharePoint products in a hosted virtual environment that Microsoft provides as a service, see **Support and licensing for Microsoft Azure in SharePoint 2013**.

Your goal is to understand the hypervisor-based virtualization technologies that SharePoint 2013 supports.

- **Step 3: Learn about Hyper-V and what is required for SharePoint 2013.**

See [Getting to Know Hyper-V: A Walkthrough from Initial Setup to Common Scenarios](#) and [Hyper-V Overview](#). After you learn these Hyper-V fundamentals, see **Hyper-V virtualization requirements for SharePoint 2013**.

Your goal is to understand the hardware and operating system requirements for the server hardware that will host the virtual machines in your SharePoint farm.

Level 100

The following resources contain introductory information about how to deploy SharePoint 2013 in a virtual environment.

- **Step 1: Learn about SharePoint logical architecture and topologies.**

When you deploy SharePoint 2013 in a virtual environment, you first create architecture for the environment. You must be familiar with the supported logical components of a SharePoint farm, such as web applications, service applications, and site collections. You must also be familiar with physical components, such as web servers and database servers so that you can determine the appropriate architecture for your SharePoint environment. See **Plan logical architectures for SharePoint 2013**, the [Topologies for SharePoint Server 2013](#) model, the [Services](#) model, and the [Architecture design for SharePoint 2013 IT Pros](#) Resource Center.

Your goal is to understand the pieces of the logical and physical architecture of SharePoint 2013, so that you understand what level of the architecture you need to work in to deploy SharePoint 2013 in a virtual environment.

- **Step 2: Learn about farm virtualization and supported architectures.**

After you design the topology to support the farm, you have to understand farm virtualization and the supported virtual architectures. See **Overview of farm virtualization and architectures for SharePoint 2013**.

Your goal is to understand how a SharePoint 2013 logical and physical architecture maps to a virtual environment.

Level 200

The following resources contain intermediate information about how to deploy SharePoint 2013 in a virtual environment.

- **Step 1: Learn about planning for virtualization.**

See **Create a virtualization plan for SharePoint 2013**.

Your goal is to understand all the infrastructure requirements and the main phases to deploy a SharePoint farm in a virtual environment.

- **Step 2: Learn about virtual infrastructure design and virtualization host server specifications.**

See **Detailed design and system specification process for a virtual SharePoint 2013 farm.**

Your goal is to understand how to design a virtual infrastructure and develop system specifications for the Hyper-V environment.

- **Step 3: Learn about best practices to configure a Hyper-V environment for SharePoint 2013.**

See **Use best practice configurations for the SharePoint 2013 virtual machines and Hyper-V environment.**

Your goal is to learn about the best practice configurations for the virtualization infrastructure and the virtual machines that are used in a SharePoint farm.

Level 300

The following resources contain advanced information about how to deploy SharePoint 2013 in a virtual environment.

- **Step 1: Learn about best practice configurations for setting up a Hyper-V environment for SharePoint 2013.**

See **Use best practice configurations for the SharePoint 2013 virtual machines and Hyper-V environment.**

Your goal is to learn about the best practice configurations for the virtualization infrastructure and the virtual machines that are used in a SharePoint farm.

- **Step 2: Learn about Azure as a virtualization option for SharePoint Server 2013.**

[Deployment Considerations for SharePoint 2013 on Azure Virtual Machines](#) describes the things to consider if you intend to deploy a SharePoint farm on Azure.

- **Step 3: Learn about deploying SharePoint on Azure.**

[SharePoint Deployment on Azure Virtual Machines](http://www.microsoft.com/en-us/download/details.aspx?id=34598) (<http://www.microsoft.com/en-us/download/details.aspx?id=34598>) explains how to deploy SharePoint Server 2010 on Azure virtual machines.

Additional resources

- [Wiki: Virtualization Portal](#)
- [Hyper-V Portal](#)
- [Azure: Microsoft's Cloud Platform](#)
- [Server Virtualization Validation Program](#)

Feedback

Your feedback is valuable and welcome! Please rate this content by using the **Did you find this helpful** section at the bottom of the article, or send your comments and suggestions to [SharePoint IT Documentation Feedback](mailto:itspdocs@microsoft.com) (itspdocs@microsoft.com). The author will review your comments and use them to help improve this documentation. Your e-mail address won't be saved or used for any other purposes.

Windows PowerShell for SharePoint 2013 learning roadmap

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2014-10-22

Summary: Use this learning roadmap to understand Windows PowerShell for SharePoint 2013.

SharePoint 2013 makes it easy for people to work together. SharePoint 2013 enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. Windows PowerShell in SharePoint 2013 lets an administrator automate tasks with SharePoint web applications, site collections, sites, lists, and more and provides a command-line alternative to configuring SharePoint 2013 through Central Administration.

If you are new to Windows PowerShell in SharePoint 2013, this article can help you identify what you need to learn to understand how to build expertise for Windows PowerShell in SharePoint 2013. It includes prerequisite articles that explain Windows PowerShell fundamentals. You have to understand the prerequisite technologies first. Windows PowerShell in SharePoint 2013 assumes that you understand basic concepts. Afterwards, you can start to learn about Windows PowerShell in SharePoint 2013 with the resources in the Level 100 (introductory), 200 (intermediate), and 300 (advanced) sections.



We recommend that you read the articles in the order listed.

- [Prerequisite information](#)
- [Level 100](#)
- [Level 200](#)
- [Level 300](#)
- [Additional Resources](#)

Prerequisite information

This section contains links to articles and books that contain background information that will help you understand how Windows PowerShell in SharePoint 2013 works.

- **Step 1: Learn about the basics of Windows PowerShell.**

Before you start to use Windows PowerShell to automate tasks in SharePoint 2013, you have to understand the terms, concepts, and the use of objects to complete tasks. To understand why one would use Windows PowerShell and definition of terms, see [Getting Started with Windows PowerShell](#)

Your goal is to understand the use, concept, terms, and role of Windows PowerShell.

- **Step 2: Learn the permission requirements for Windows PowerShell in SharePoint 2013.**

See [Use Windows PowerShell to administer SharePoint 2013](#).

Before you run a Windows PowerShell for SharePoint cmdlet, you have to understand the minimum required permissions. Membership in the Farm administrators group or being the Farm Administrator to the SharePoint farm is not sufficient permission to run SharePoint cmdlets. If you don't have required permissions, you might receive the following error message: "The local farm is not accessible."

Your goal is to understand the permissions that are required to run a Windows PowerShell for SharePoint cmdlets.

Level 100

The following resources contain introductory information about Windows PowerShell in SharePoint 2013

- **Learn about the Get-Command cmdlet.**

See [Get-Command](#)

One of the first cmdlets (pronounced, command-lets) that you want to learn to use is the **Get-Command** cmdlet. Think of this cmdlet as the command inventory. It displays all the cmdlets that are available in the current Windows PowerShell session. The construct of a cmdlet is Verb-Noun object. Verbs are action-oriented words, such as Add, Get, Set, Update, for example. Nouns describe what command to act on, such as SPSite or SPUser. Notice that all nouns for SharePoint 2013 begin with "SP."

The following table shows examples of how verbs and nouns combine to create cmdlet names:

Verb	Noun	Cmdlet
Get	SPSite	Get-SPSite
Add	SPUser	Add-SPUser

To display a list of all available Windows PowerShell cmdlets, you can use the **Get-Command** cmdlet. The result will display Windows PowerShell core cmdlets and SharePoint 2013 cmdlets. To only display a list of all SharePoint 2013 cmdlets, from the Windows PowerShell Command Prompt window, use the **-Noun** parameter together with "SP" and the wildcard character (*). The resulting syntax would be displayed as follows:

```
Get-Command -noun SP*
```

Conversely, you can use the **-Verb** parameter to display cmdlets that begin with a specific verb, for example, "Get", the syntax would look like this:

```
Get-Command -Verb get
```

Your goal is to display a list of all available Windows PowerShell cmdlets for SharePoint 2013, by noun or by verb.

- **Step 2: Learn about the Get-Help cmdlet..**

See [Get-Help](#)

This cmdlet displays help information for any Windows PowerShell cmdlet. . It has three levels of display: Normal, Detailed, and Full.

For example, if you want to display complete help for the **Get-SPSite** cmdlet, from the Windows PowerShell Command Prompt, type the following syntax:

```
Get-Help Get-SPSite -Full
```

To show examples only for the **Get-SPSite** cmdlet, type the following syntax:

```
Get-Help Get-SPSite -Examples
```

For an interactive tool and guide that helps you learn Windows PowerShell syntax, see [Windows PowerShell Command Builder Tool](#)

Your goal is to understand how to obtain and use help for Windows PowerShell cmdlets for command syntax or for examples.

Level 200

The following resources contain intermediate information about Windows PowerShell in SharePoint 2013.

- **Step 1: Learn about the pipeline.**

See [about_Pipelines](#)

Simply put, the concept of the pipeline passes one object of a command to another. The result of the first command is an input for the next command. For more information, see [Piping and the Pipeline](#)

For example, you might want to display SharePoint services that are running on your computer. Use **Get-Service** cmdlet to display all available services. This result will serve as input for the second command, the **Where-Object** cmdlet, where you'll filter to show SharePoint services. The result is a sorted list of SharePoint services. From a Windows PowerShell Command Prompt, type the following syntax:

```
Get-Service | Where-Object {$_.DisplayName -like "Sharep*"}
```

The result should resemble the following:

Status	Name	DisplayName
Running	OSearch15	SharePoint Server Search 15
Stopped	SPAdminV4	SharePoint Administration
Running	SPSearchHostController	SharePoint Search Host Controller
Running	SPTimerV4	SharePoint Timer Service
Running	SPTraceV4	SharePoint Tracing Service
Running	SPUserCodeV4	SharePoint User Code Host
Stopped	SPWriterV4	SharePoint VSS Writer

Your goal is to understand the concept of a pipeline, why you use it, and when to use it.

- **Step 2: Learn about parameter sets.**

See [Parameter Sets Information](#)

Parameter sets provide multiple ways to use the same command. Parameter sets are mutually exclusive. You can't combine parameters from different parameter sets.

For example, the **Get-SPSite** cmdlet has four different ways that it can be used. The multiple lines of syntax make it a parameter set. Each takes a different parameter set.

Here is the syntax for the **Get-SPSite** cmdlet:

```
Get-SPSite [-AssignmentCollection <SPAssignmentCollection>] [-CompatibilityLevel <Int32>] [-Confirm [<SwitchParameter>]] [-Filter <ScriptBlock>] [-Limit <String>] [WebApplication <SPWebApplicationPipeBind>] [-WhatIf [<SwitchParameter>]]
```

```
Get-SPSite [-Identity] <SPSitePipeBind> [-AssignmentCollection <SPAssignmentCollection>] [-CompatibilityLevel <Int32>] [-Confirm [<SwitchParameter>]] [-Filter <ScriptBlock>] [-Limit <String>] [Regex <SwitchParameter>] [-WhatIf [<SwitchParameter>]]
```

```
Get-SPSite -ContentDatabase <SPContentDatabasePipeBind> [-AssignmentCollection <SPAssignmentCollection>] [-CompatibilityLevel <Int32>] [-Confirm [<SwitchParameter>]] [-Filter <ScriptBlock>] [-Limit <String>] [-WhatIf [<SwitchParameter>]]
```

```
Get-SPSite -SiteSubscription <SPSiteSubscriptionPipeBind> [-AssignmentCollection <SPAssignmentCollection>] [-CompatibilityLevel <Int32>] [-Confirm [<SwitchParameter>]] [-Filter <ScriptBlock>] [-Limit <String>] [-WhatIf [<SwitchParameter>]]
```

In this syntax, the parameter that makes each parameter set unique is bold. If you decide to use the **WebApplication** parameter, then you can only use the parameters from the first parameter set. You can't use the **Regex** parameter from the second parameter set. If you use parameters from different sets, you receive the following error message: "Parameter set cannot be resolved".

Your goal is to understand and use parameter sets correctly.

- **Step 3: Learn about the Get-Member cmdlet**

See [Get-Member](#)

To display a list of all the methods and properties that are associated with any cmdlet, use the **Get-Member** cmdlet.

For example, you might want to know the web application, zone, and owner information for each site collections in your farm. The default output of the **Get-SPSite** cmdlet displays none of these properties. To complete this task, you could go to the SharePoint Central Administration website and see the web application, zone and owner information that is defined for each site collection. If you have hundreds or thousands of site collections, this could take some time. The **Get-Member** cmdlet displays all of the properties and methods of a cmdlet. So, using piping and the following simple lines of syntax is more efficient than using the SharePoint Central Administration website.

First, determine whether web application, zone, and owner properties are available by typing this syntax:

```
Get-SPSite | Get-Member
```

You will see the owner, webapplication, and zone properties are available.

Next use the **Format-List** cmdlet and pipe the properties that you want to display by typing the following syntax:

```
Get-SPSite | Format-List owner, webapplication, zone
```

Another way to use the **Get-Member** cmdlet is to use variables that store values. The variable will be used to display quota level information for each site collection in the SharePoint farm. For more information about variables, see [about Variables](#).

We'll use a variable, \$a, to store the results of every site collection in the farm, and then we'll use the properties that **Get-Member** cmdlet returns. This example displays quota-level information for each site collection.

First, set a variable that will contain the result of each site collection.

```
$a=Get-SPSite
```

Next, use the variable and any property that the **Get-Member** cmdlet returned to perform an action. This example uses the Quota property to display the quota levels.

```
$a.quota
```

We could have easily used the Secondary Contact property to display the secondary contacts for each site collection in the farm or the Owner property to return the owner of each site collection. Hopefully you can see the power of the **Get-Member** cmdlet.

Your goal is to understand how to display and use the properties and methods of a cmdlet by using the **Get-Member**, **Format-List** cmdlets, and variables.

- **Step 4: Learn about aliasing**

See [about_Aliases](#).

Sometimes you use cmdlet names that are long or repeatedly use the same cmdlet. In these cases, you might want to use aliasing. Simply put, an alias is another name that is assigned to a cmdlet, function, or script. If a cmdlet does not have an alias, you can use the [Set-Alias](#) cmdlet to create or change an alias for an existing cmdlet, script or function. To display a list of default aliases within Windows PowerShell, use the [Get-Alias](#) cmdlet.

The **Get-Alias** cmdlet is a good start, but what if you want to find an alias that belongs to a specific cmdlet? You can use the **Get-Alias** cmdlet and the **Where-Object** cmdlet to filter a set of results to achieve this goal.

This example returns a list of aliases with the Add noun. From a Windows PowerShell Command Prompt, type the following syntax:

```
Get-Alias | Where-object {$_.Definition -like "add*"}
```

CommandType	Name	Definition
Alias	ac	Add-Content
Alias	asnp	Add-PSSnapin

If a certain SharePoint cmdlet does not have an alias, you can use the **Set-Alias** cmdlet to create an alias. The following example creates the "gsp" alias for the **Get-SPSite** cmdlet.

```
Set-Alias gsp Get-SPSite
```

Now when you type the following syntax from the Windows PowerShell command prompt, all of the site collections in your farm are displayed:

```
gsp
```

 **Important:**

By default, no aliases are defined for any SharePoint 2013 cmdlet. You must create an alias for each SharePoint cmdlet that you want to use. After you create a list of custom aliases, you must guarantee that they are saved. By default, custom aliases are stored in the current active Windows PowerShell session. After you close the session, **all custom aliases are lost**.

To save custom aliases, use of the following options:

1. Use the [Export-Alias](#) cmdlet to export the aliases to a file, and then use the [Import-Alias](#) cmdlet to import the file to your Windows PowerShell session.
2. Add the **Set-Alias** cmdlet to your Windows PowerShell profile.

For more information about how to save custom aliases to your Windows PowerShell session by using the **Export-Alias**, **Import-Alias**, or **Set-Alias** cmdlets, see the "Keeping Aliases Around" section in [Windows PowerShell Aliases](#).

Your goal is to understand when to use aliasing, how to create aliases, and how to save them across Windows PowerShell sessions.

Level 300

The following resources contain advanced information about Windows PowerShell in SharePoint 2013.

- **Step 1: Learn about scripting.**

See the "Scripts and execution policy" section of **Use Windows PowerShell to administer SharePoint 2013**.

Levels 100 and 200 demonstrate how to run a single command, a series of commands, and a series of commands that are piped to complete a task. But what if you want to update a certain property for several thousand site collections in a SharePoint farm or you want to create 10,000 users? Although you could use the SharePoint Central Administration website to complete this task, it would take you days if not weeks. Windows PowerShell scripting enables you to complete these tasks in minutes or even seconds.

Scripting is an automated way to complete a series of commands. A script is a text file that contains one or more Windows PowerShell commands. Windows PowerShell scripts have a

.ps1 file name extension. Before you can run a script, you must understand the concept of execution policies. For more information, see [about Execution Policies](#).

No one, not even the original owner of the script, can run a script until the execution policy level is changed from *Restricted* to another level. The Restricted policy is the default policy for Windows PowerShell. However, the minimum required execution policy for SharePoint 2013 is *RemoteSigned*.

To understand scripting concepts, see [Running Windows PowerShell scripts](#).

To view and download sample scripts for SharePoint 2010 and 2013, see [Script Gallery](#)

Your goal is to understand the permission that is required to run scripts and how to execute a script file.

Additional Resources

- [Windows PowerShell for SharePoint 2013 Resource Center](#)
- **Windows PowerShell for SharePoint 2013 reference**
- [Getting to know Windows PowerShell](#)
- [Scripting with Windows PowerShell](#)
- [Cmdlet Parameter Sets](#)

Feedback

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User profiles for SharePoint Server 2013 learning roadmap

Applies to: *SharePoint Server 2013 Standard, SharePoint Server 2013 Enterprise*

Topic Last Modified: 2013-12-18

Use this learning roadmap to gain expertise about user profiles and associated technologies in SharePoint Server 2013.

Microsoft SharePoint Server 2013 makes it easy for people to work together. [SharePoint 2013](#) enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. A user profile is a collection of properties that describes a single user. A user profile also includes the policies and other settings that are associated with each property. SharePoint Server 2013 uses these user profiles in a variety of ways, for example, to organize information about the relationships among multiple users.

If you have not worked with user profiles yet, this article can help you learn how to build expertise with user profiles in SharePoint Server 2013. This article includes prerequisite articles that explain many fundamental concepts that you have to understand. After you understand the basics, you can start to learn about how to work with user profiles in SharePoint Server 2013 with the resources in the Level 100 (introductory) and 200 (intermediate) sections.



We recommend that you read the articles in the order listed.

- [Prerequisite information](#)
- [Level 100](#)
- [Level 200](#)
- [Level 300](#)
- [Additional Resources](#)

Prerequisite information

This section contains links to resources that explain background information that you should understand before you work with user profiles in SharePoint Server 2013.

- **Step 1: Learn about SharePoint logical architecture and topologies**

You must be familiar with the logical components and physical components of a SharePoint environment so that you can use and manage user profiles in your SharePoint farm.

- Logical components
 - Web applications
 - Service applications
 - Site collections
- Physical components
 - Web servers
 - Application servers
 - Database servers

See **Plan logical architectures for SharePoint 2013**, the [Topologies](#) model, the [Services](#) model, and the [Architecture design for SharePoint 2013 IT Pros](#) Resource Center.

Your goal is to understand the pieces of the logical and physical architecture of SharePoint so that you understand what level of the architecture in which you have to work.

- **Step 2: Learn about SharePoint databases**

SharePoint Server 2013 has several database types. See the [Databases](#) model.

Your goal is to understand the types and names of the databases that SharePoint Server 2013 uses so that you know how to find and manage the databases that contain user profiles.

- **Step 3: Learn about service applications in SharePoint Server**

See **About service applications and services in SharePoint 2013** and **Manage service applications in SharePoint 2013**.

Your goal is to learn about how deployed services are used and shared across sites in a SharePoint farm and how to manage those services.

- **Step 4: Learn about new social computing features in SharePoint Server 2013 social computing**

The social computing and collaboration features in SharePoint Server 2013 enable you to administer social computing features and enable enterprise users to share and collaborate. Features such as Community Sites, the Community Portal, My Sites, and the microblog and feeds experience all involve user profiles. See [What's new in social computing in SharePoint Server 2013](#).

Your goal is to understand how user profiles works with the new social computing features in SharePoint Server 2013.

- **Step 5: Learn about Managing Active Directory Domain Services (AD DS), including managing organizational units (OUs), groups and users, and working with domain controllers**

See [Active Directory Domain Services Overview](#).

Your goal is to understand, at a high-level, the AD DS server role in Windows Server and how administrators can use AD DS to organize elements of a network, such as users, computers, and other devices, into a hierarchical containment structure. The hierarchical containment structure includes the AD DS forest, domains in the forest, and organizational units (OUs) in each domain.

- **Step 6: Learn about Forefront Identity Manager (FIM)**

For an overview of FIM 2010 documentation and guidance for using it, see the [Documentation Roadmap](#). The SharePoint synchronization service includes a version of FIM that it uses to synchronize user properties between the directory store and the User Profile service application. Your goal is to gain a general understanding of how FIM works so that you can configure FIM for synchronization.

Level 100

The following resources contain introductory information about user profiles in SharePoint Server.

-
- **Step 1: Learn about user profiles**

See **Plan user profiles in SharePoint Server 2013**.

Your goals are to understand what makes up a user profile and the source of the properties in user profiles. You will also gain an understanding of the tools that are available for you to manage user profiles.

- **Step 2: Learn about the User Profile service application**

See **Overview of the User Profile service application in SharePoint Server 2013**.

Your goal is to understand how to set up and manage the User Profile service application in SharePoint Server 2013.

Level 200

The following resources contain intermediate information about user profiles in SharePoint Server.

- **Step 1: Learn about profile synchronization**

See **Overview of profile synchronization in SharePoint Server 2013** and **Plan profile synchronization for SharePoint Server 2013**.

Your goal is to understand the various methods that synchronize profiles from your directory source to SharePoint Server 2013.

- **Step 2: Learn about performing profile synchronization**

See **Synchronize user and group profiles in SharePoint Server 2013** and **Configure profile synchronization by using SharePoint Active Directory Import in SharePoint Server 2013**.

Your goals are to understand the steps that synchronize profiles from your directory source to SharePoint Server 2013. This includes directly from AD DS to SharePoint Server 2013 by using the Active Directory import method or by using the SharePoint Server synchronization tool.

- **Step 3: Learn about maintaining synchronized profiles**

See **Maintain user profile synchronization settings in SharePoint Server 2013**.

Your goal is to understand how to maintain profiles after you have synchronized them from the directory source to SharePoint Server 2013. This includes additional administrative tasks such as excluding users whose accounts are disabled, what to do when you need to change the profile schema, and more.

Level 300

The following resources contain advanced information about user profiles in SharePoint Server.

- **Step 1: Learn how to grant the appropriate permissions in AD DS that are used for profile synchronization**

See **Grant Active Directory Domain Services permissions for profile synchronization in SharePoint Server 2013**.

Your goal is to be able to configure the permissions that are required to synchronize profile information.

Additional Resources

- SharePoint 2013 training for IT pros – All presentations in [Module 7: SharePoint 2013 social features](#)
- Resource Center: [Identity management for SharePoint 2013 \(IT pros\)](#)
- [Scenario: Personal sites \(My Sites\) in SharePoint Server 2013](#)

Feedback

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Database management for SharePoint 2013 learning roadmap

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2013-12-18

Summary: Use this learning roadmap to build expertise about database management in SharePoint 2013.

SharePoint 2013 makes it easy for people to work together. [SharePoint 2013](#) enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. Database management in SharePoint 2013 depends on SQL Server. The capacity and feature requirements of your SharePoint environment determine the edition of SQL Server that you run and the size of the databases.

The following actions apply to management of SharePoint 2013 databases:

- Create
- Upgrade
- Move and rename
- Back up and restore

If you are new to database management, information in this article can help you learn about database management and the features that are available. Prerequisite articles explain the fundamentals of database management. You must understand the prerequisite information first. Subsequent articles assume that you understand the fundamentals. After you understand the basics, you can read articles in the Level 100, 200, and 300 sections.



We recommend that you read the articles in the order listed.

-
- [Prerequisite information](#)
 - [Level 100](#)
 - [Level 200](#)
 - [Level 300](#)
 - [Additional Resources](#)

Prerequisite information

This section contains links to many articles and books that contain background information that will help you fully understand how database management works.

- **Step 1: Learn about the databases that support SharePoint 2013.**

SharePoint 2013 is an application that is built on the SQL Server database engine. Most SharePoint content and settings are stored in SQL Server in relational databases. The SharePoint 2013 system databases include the Configuration, Content, and Central Administration Content databases.

SharePoint 2013 uses the following types of databases:

- Configuration
- Content
- Service application

See the [Databases that support SharePoint 2013](#) model. For comprehensive details about all SharePoint 2013 databases, see **Database types and descriptions (SharePoint 2013)**.

Your goal is to understand the different types of databases that support SharePoint 2013 and their requirements. It is important to understand database sizes and locations, plus any requirements that the database has so you can optimize the performance in a SharePoint 2013 farm.

- **Step 2: Learn about SQL Server in a SharePoint 2013 environment.**

SQL Server is a required part of SharePoint 2013 because it stores all of the relational databases. SharePoint 2013 supports SQL Server 2008 R2 with Service Pack 1 (SP1) and

SQL Server 2012. See **Overview of SQL Server in a SharePoint environment (SharePoint 2013)**. For configuration steps, see **Best practices for SQL Server in a SharePoint Server farm**.

Your goal is to understand how to interact with SharePoint 2013 databases that are stored in SQL Server. Also learn how to use SQL Server to plan and maintain databases in your SharePoint 2013 farm.

Level 100

The following articles contain introductory information about database management in SharePoint 2013.

- **Step 1: Learn about database management in the SharePoint 2013 upgrade process.**

See **Overview of the upgrade process to SharePoint 2013**.

Your goal is to learn about the three SharePoint 2013 upgrade stages that involve databases. Stages two, three, and four include; copy databases to the new farm, upgrade the service applications, and then upgrade the content databases.

- **Step 2: Learn about backup and recovery in SharePoint 2013.**

See **Overview of backup and recovery in SharePoint 2013**.

Your goal is to learn about the backup and restore processes that are available for SharePoint 2013. It is important to have a backup and recovery plan before you deploy SharePoint 2013 to protect your data. An effective backup and recovery strategy is a required process to make sure that your data is available. At any point in time, you may have to restore your SharePoint databases, sites, site collections, document libraries, and digital content. While this is considered disaster recovery, it is an absolute requirement as you manage the databases that contain the SharePoint 2013 data.

- **Step 3: Learn about how to use Remote BLOB Storage (RBS) in a SharePoint 2013 farm.**

See **Overview of RBS in SharePoint 2013**.

Your goal is to learn how and when to use Remote BLOB Storage (RBS) in a SharePoint 2013 farm.

Level 200

The following articles contain intermediate information about database management as it relates to backup and restore solutions in SharePoint 2013.

- **Step 1: Learn about how to prepare to back up and restore a SharePoint 2013 farm.**

See **Prepare to back up and restore farms in SharePoint 2013**.

Your goal is to learn about requirements and restrictions for backup and recovery in SharePoint 2013. Besides natural disasters and system failures, there are business reasons why you should back up your SharePoint 2013 farm.

- **Step 2: Learn about SharePoint 2013 backup solutions and how to restore them.**

See **Backup solutions in SharePoint 2013** and **Restore (SharePoint 2013)**.

Your goal is to understand how to implement the backup solutions and then restore these in SharePoint 2013. The backup and restore solutions and procedures include SharePoint system databases, service applications, farms, farm configurations, web applications, site collections, and apps for SharePoint. Basically anything that you can back up in SharePoint 2013, you can also restore.

- **Step 3: Learn about best practices for backup and restore and for SQL Server in a SharePoint 2013 farm.**

See **Backup and restore best practices in SharePoint 2013** and **Best practices for SQL Server in a SharePoint Server farm**.

Your goal is to become familiar with Microsoft recommendations for backup and restore procedures. Also, learn the recommended processes to deploy SQL Server in a SharePoint 2013 farm. Both of these areas are important aspects to deploy and maintain SharePoint 2013.

Level 300

The following articles contain advanced information about database management in SharePoint.

- **Step 1: Learn about the database management procedures for how to move and rename service application databases in SharePoint 2013.**

See **Move service application databases (SharePoint 2013)** and **Rename service application databases in SharePoint 2013**.

Your goal is learn how to move and rename service application databases in SharePoint 2013. Some service application databases share common steps. Others have specific tasks that you must complete in a specific order.

- **Step 2: Learn about complex areas of database management that involve adding, attaching, and detaching content databases. Also learn about how to move content databases and move SharePoint 2013 site collections between databases.**

See **Add content databases in SharePoint 2013**, **Attach or detach content databases in SharePoint 2013**, and **Move content databases in SharePoint 2013**. Also see **Move site collections between databases in SharePoint 2013**.

Your goal is to understand the complex procedures that manage content databases and site collections as they relate to databases in a SharePoint 2013 farm.

- **Step 3: Learn about the complex process to move all SharePoint databases and how to implement RBS in a SharePoint 2013 farm.**

See **Move all databases in SharePoint 2013** and **Install and configure RBS with FILESTREAM in a SharePoint 2013 farm**.

Your goal is to understand and become efficient when you have to move all SharePoint databases and deploy RBS in a SharePoint 2013 farm.

Additional Resources

- **Supported high availability and disaster recovery options for SharePoint databases (SharePoint 2013)**
- [SharePoint and Database Statistics: Why are they out-of-date and what to do about it.](#)

Feedback

Your feedback is valuable and welcome! Please rate this content by using the **Did you find this helpful** section at the bottom of the article, or send your comments and suggestions to [SharePoint IT Documentation Feedback](mailto:itspdocs@microsoft.com) (itspdocs@microsoft.com). The author will review your comments and use them to help improve this documentation. Your e-mail address won't be saved or used for any other purposes.

Permissions for SharePoint 2013 learning roadmap

Applies to: *SharePoint Server 2013, SharePoint Foundation 2013*

Topic Last Modified: 2013-12-18

Summary: Use this learning roadmap to build expertise in permissions and permissions management in SharePoint 2013.

SharePoint 2013 makes it easy for people to work together. SharePoint 2013 enables you and your employees to set up web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make informed decisions. Permissions in SharePoint 2013 define how users and apps obtain authorized access to protected SharePoint resources.

If you are new to permissions for SharePoint 2013, this topic can help you identify what you need to learn to understand how to plan and implement permissions and permissions management to control authorized access to resources in a SharePoint 2013 environment. These resources include SharePoint site collections, SharePoint subsites, team sites, site and subsite content (such as documents, lists, and calendars), and apps for SharePoint. This article includes prerequisite information that explains SharePoint and Active Directory Domain Services (AD DS) fundamentals. You must understand the prerequisite topics first. Subsequent articles for permissions in SharePoint 2013 assume that you understand the fundamentals. After you understand the basics, you can read articles in the Level 100, 200, and 300 sections.



We recommend that you read the articles in the order listed.

- [Prerequisite information](#)
- [Level 100](#)
- [Level 200](#)

-
- [Level 300](#)
 - [Additional Resources](#)

Prerequisite information

This section contains links to many articles and books that contain background information that will help you fully understand how permissions in SharePoint 2013 works.

- **Step 1: Learn about site structure in SharePoint 2013.**

See **Overview of sites and site collections in SharePoint 2013**.

Your goal is to understand the structure of sites in SharePoint 2013, such as web applications, site collections, and subsites.

- **Step 2: Learn about Active Directory Domain Services (AD DS) security groups.**

Your goal is to understand how to create and manage the membership of AD DS security groups, which you can use to configure SharePoint permissions.

- **Step 3: Learn about permissions in SharePoint 2013 identity management.**

See [Overview of identity management in SharePoint 2013](#).

Your goal is to understand the role of permissions in the authorization methods for identity management in SharePoint 2013.

Level 100

The following articles contain introductory information about permissions in SharePoint 2013.

- **Step 1: Learn the basic concepts of permissions in SharePoint 2013.**

See **Overview of site permissions in SharePoint 2013**.

View the following:

Understanding permissions in SharePoint video



Your goal is to understand the basic ideas of SharePoint permissions, including permission levels, SharePoint groups, securable objects, fine-grained permissions, and permission inheritance.

- **Step 2: Learn how to plan site permissions in SharePoint 2013.**

See **Plan site permissions in SharePoint 2013**.

Your goal is to understand the guidelines to plan permissions in a site, including when to use and break permission inheritance.

- **Step 3: Learn how to plan for managing app permissions in SharePoint 2013.**

See **Plan app permissions management in SharePoint 2013**.

Your goal is to understand the details of app permission request scopes, app permission requests, and app authorization policies when you deploy apps for SharePoint.

- **Step 4: Learn about the levels of administration for managing access in a SharePoint 2013 environment.**

See **Choose administrators and owners for the administration hierarchy in SharePoint 2013**.

Your goal is to understand the different groups and their level of administration at the server or farm, shared services, web application, and site levels.

- **Step 5: Learn about the permission levels and groups for managing access in a SharePoint 2013 environment.**

See **Determine permission levels and groups in SharePoint 2013, Overview of security groups in SharePoint 2013**, and **Overview of the Contribute permission level in SharePoint 2013**.

Your goal is to understand the default SharePoint groups and permission levels, when you have to have a custom permission level or group, and how to use AD DS groups when you assign permissions

Level 200

The following articles contain intermediate information about permissions in SharePoint 2013.

- **Step 1: Learn about administrative and service accounts in SharePoint 2013.**

See **Initial deployment administrative and service accounts in SharePoint 2013** and **Plan for administrative and service accounts in SharePoint 2013**.

Your goal is to understand the requirements for the administrative and service accounts that you might have to deploy on servers that are running SharePoint 2013 or SQL Server in a SharePoint 2013 environment.

- **Step 2: Learn about account permissions in SharePoint 2013.**

See **Account permissions and security settings in SharePoint 2013**.

Your goal is to understand the purpose and default settings for administrative accounts, service application accounts, database roles, and group permissions in a SharePoint 2013 environment.

- **Step 3: Learn about web application permissions management and permissions policy management for web applications and users.**

See **Manage permissions for a web application in SharePoint 2013** and **Manage permission policies for a web application in SharePoint 2013**.

Your goal is to understand how to manage user permission policies and permission policy levels for a web application in SharePoint 2013.

- **Step 4: Learn about how to manage passwords in SharePoint 2013.**

See **Plan automatic password change in SharePoint 2013**, **Configure automatic password change in SharePoint 2013**, and **Keep service and feature account passwords up-to-date in SharePoint 2013**.

Your goal is to understand how to plan and configure the initial deployment and automatic updating of passwords across multiple accounts, without having to perform multiple manual procedures, in a SharePoint 2013 environment.

- **Step 5: Learn about how to configure custom permissions in SharePoint 2013.**

See **Configure custom permissions in SharePoint 2013**.

Your goal is to understand how to customize an existing permission level or create a new permission level to configure custom permissions.

- **Step 6: Demonstrate SharePoint permissions in a test lab.**

See [Test Lab Guide: Demonstrate permissions with SharePoint Server 2013](#).

View the following:

Demonstrate permissions with SharePoint Server 2013 test lab guide overview video



Your goal is to configure and demonstrate SharePoint permissions for three user scenarios involving site collections and subsites in a test lab.

Level 300

The following articles contain advanced information about permissions in SharePoint 2013.

- **Step 1: Learn about fine-grained permissions in SharePoint 2013.**

See **Best practices for using fine-grained permissions in SharePoint Server 2013**, **Fine-grained permission reference for SharePoint Server 2013**, and **Troubleshoot common fine-grained permissions issues for SharePoint Server 2013**.

Your goal is to understand how to use, understand, and troubleshoot fine-grained permissions to enable a more precisely defined level of resource access in a SharePoint 2013 environment.

- **Step 2: Learn about the details of the default permission levels and user permissions in SharePoint 2013.**

See **User permissions and permission levels in SharePoint 2013**.

Your goal is to understand the specific set of permissions for each default permission level and the role of each list, site, and personal user permission in SharePoint 2013.

Additional Resources

- [Authentication in SharePoint 2013 learning roadmap](#)

Feedback

Your feedback is valuable and welcome! Please rate this content by using the **Did you find this helpful** section at the bottom of the article, or send your comments and suggestions to [SharePoint IT Documentation Feedback](mailto:itspdocs@microsoft.com) (itspdocs@microsoft.com). The author will review your comments and use them to help improve this documentation. Your e-mail address won't be saved or used for any other purposes.

See also

[Learning roadmaps for SharePoint 2013](#)

Case study: Cambridgeshire Constabulary

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-09-13

Summary: Learn how Cambridgeshire Constabulary deployed SharePoint Server 2013 to reduce operating costs and enhance policing service delivery.

This case study shows how Cambridgeshire Constabulary deployed SharePoint Server 2013 as an innovative solution to enhance police service delivery by improving collaboration and information sharing. The senior management also saw SharePoint Server 2013 as a strategic investment to reduce operating costs across the constabulary.

In this article:

- [About Cambridgeshire Constabulary](#)
- [Goals and objectives](#)
- [SharePoint 2013 applications](#)
- [Logical architecture](#)
- [Physical architecture for production farm](#)
- [Physical architecture for developer environment](#)
- [Conclusions and recommendations](#)

About Cambridgeshire Constabulary

Cambridgeshire Constabulary provides law enforcement and public safety services in Cambridgeshire, England. There are more than 800,000 people living in the metropolitan and rural areas, which cover a geographic area of 1,308 square miles. The constabulary has about 1,400 police officers and 500 Police Community Support Officers that provide neighborhood policing services to residents in Cambridgeshire. For more information, see Cambridgeshire Constabulary (<http://www.cambs.police.uk/>).

For more information about the constabulary's business goals and the anticipated benefits of the SharePoint Server 2013 solution, read the Cambridgeshire Constabulary Solution Case

Study

(http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=710000001618).

The project team

The core project team that designed, tested and deployed SharePoint Server 2013 at Cambridgeshire Constabulary consisted of the following people.

- Ian Bell. Head of Information and Communications Technology (ICT), Cambridgeshire Constabulary
- Phil Silvester. ICT Strategy and Program Manager, Cambridgeshire Constabulary
- Marek Samaj. Senior Consultant, Microsoft Consulting Services (MCS), MCS Solutions Development, UK

Goals and objectives

Cambridgeshire Constabulary's primary goal was to meet the budget reduction mandated by the UK national government. By 2016 the constabulary is required to trim £20 million (US\$32 million) from its budget. In addition to meeting this cost reduction goal, the Chief Constable and his management team wanted a solution that would enable them to maintain the level of public services they provide, and enhance the constabulary's ability to serve the public.

To meet this goal the senior management team started a multi-year process of transformative change in the constabulary and adopted new approaches to policing such as working collaboratively and sharing operational data with neighboring constabularies.

SharePoint Server 2013 was identified as a strategic and enabling technology for the constabulary.

Senior management identified the following areas where a SharePoint Server 2013 solution would enable them to meet their goals and objectives.

- Replace IBM Lotus Notes
- Reduce and manage costs
- Streamline and transform the organization
- Empower users

-
- Introduce new approaches to policing

Replace IBM Lotus Notes

Although the constabulary used IBM Lotus Notes for several years for internal applications and to manage databases that stored policing information, this product could no longer adequately meet Cambridgeshire's current and future needs. Other factors included IT management and support overhead, increasing maintenance costs, and integration cost and complexity. The integration issue became more apparent when the constabulary upgraded the IT environment to Office 2010, Exchange Server 2010, and Lync 2010. Finally, the IBM Lotus Notes environment lacked the search capabilities that staff required to do their jobs effectively. The search capability of SharePoint Server 2013 enabled constables and other employees to use a single query to get combined results from content across the Cambridgeshire environment. This includes SharePoint databases, file shares, and IBM Lotus Notes.

Reduce and manage costs

Implementing a solution to support policing activities and promote collaboration will reduce and manage costs if specific criteria are met. These criteria are flexibility and interoperability. The solution should be flexible—easily and quickly customizable to support changing constabulary requirements. The technology must also interoperate with other critical programs at Cambridgeshire and across organizational boundaries. Finally, devices should not constrain the solution, especially devices that police officers use in the field.

Streamline and transform the organization

The constabulary did an in-depth review of every process and every workflow to identify opportunities to increase efficiency by taking advantage of the features in SharePoint Server 2013. Cambridgeshire uses varying degrees of automation, but the management team wanted to make technology an integral and widespread part of daily operations. They wanted to use new technologies to replace computers that generate more paper.

Empower users

By empowering users the constabulary could reduce costs, foster a sense of ownership, and reduce user reliance on the Information and Communications Technology (ICT) team. The constabulary will use SharePoint Server 2013 to let business users improve and maintain their own portals and manage enterprise content without relying on the ICT team. Constabulary employees will be able to use OneDrive for Business in SharePoint Server 2013 to synchronize documents that are stored on their personal sites offline.

Introduce new approaches to policing

The strategy that introduces new approaches to policing focuses on collaboration and information sharing. SharePoint Server 2013 portals, collaboration environments, and social media tools enable the constabulary to deliver better access to information and intelligence, create efficiencies, avoid duplication of effort, and support more effective collaboration inside the constabulary and with other organizations and jurisdictions.

On the subject of information sharing, Ian Bell, the Head of ICT at Cambridgeshire Constabulary, says:

“With SharePoint 2013, we can input information in one place and then deliver that information to anyone in the organization, anytime, anywhere. People can work together to collect intelligence, complete investigations quickly, and provide effective public services.”

SharePoint applications

The Cambridgeshire team identified three custom applications that would be used to demonstrate and validate SharePoint Server 2013 capabilities, test new features, and enable staff to test improvements to support daily operations. The following applications were picked for the new farm:

- **Operation Orders.** This application will display information about current and historic Operation Orders performed by Cambridgeshire Constabulary. This data is stored in a IBM Lotus Notes database and the purpose of the application is to validate data access and migration from IBM Lotus Notes to SharePoint Server 2013.



Note:

The team decided that instead of undertaking a costly and time-consuming data migration, the best strategy was to only migrate IBM Lotus Notes data that police and support staff needed to do their job.

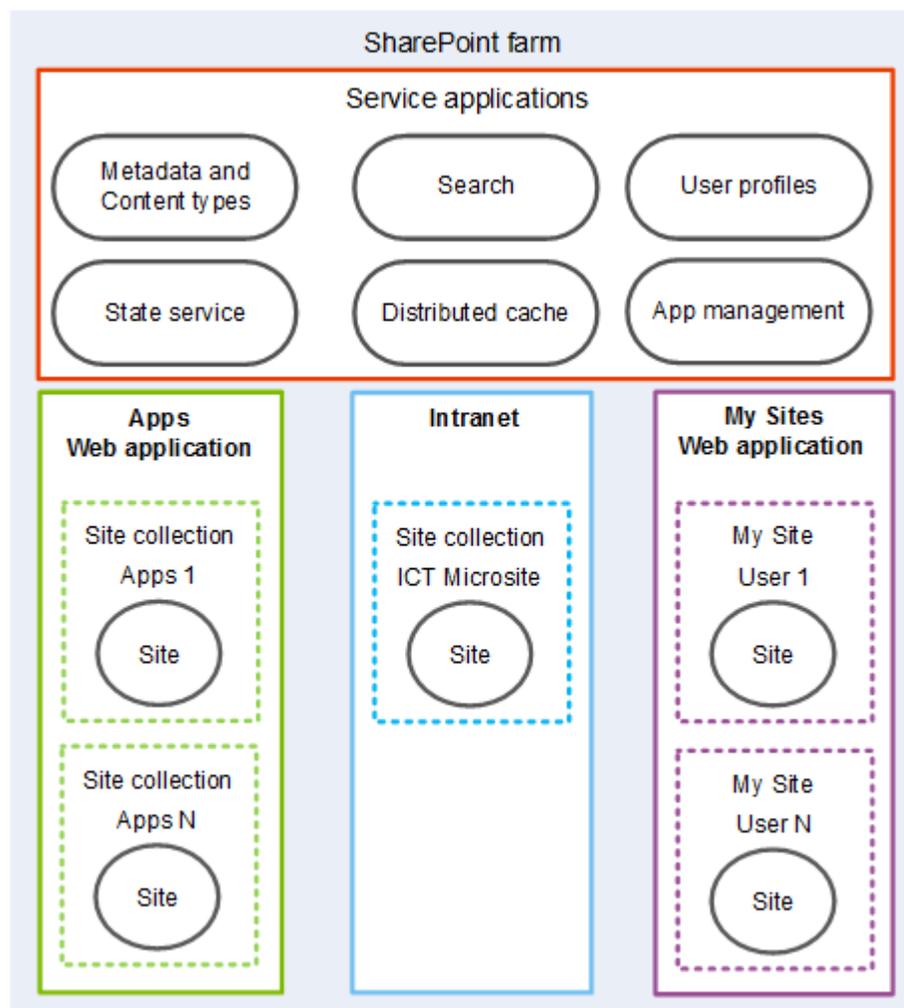
- **Health and Safety Risk Assessments.** This application will display information that is currently stored in a IBM Lotus Notes database. This data is about current and historic Risk Assessments performed by Cambridgeshire Constabulary and can be edited and read.
- **Policy Libraries.** This application will combine and present information that is contained in document libraries or on file shares. These policies are common to several constabularies and the application will show how information can be shared to reduce costs and promote effective collaboration.

In addition, the project team decided to create the ICT Microsite, as information site that would be used to showcase SharePoint Web Content Management capabilities to other departments at Cambridgeshire. This team site enables employees to add and edit case records to provide information such as contact name and case type, by using data that the site can provide from other data sources.

Logical architecture

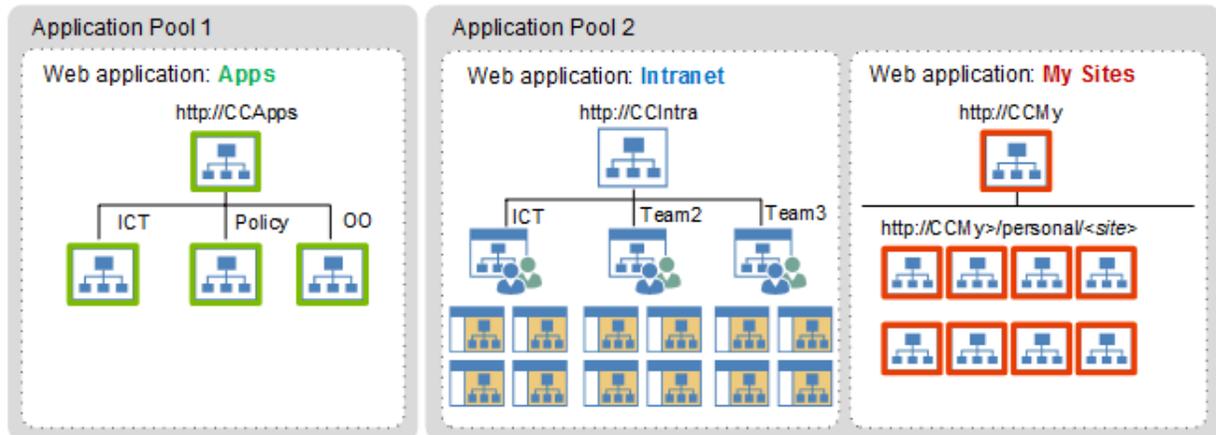
MCS worked with the Cambridgeshire Constabulary team and identified the SharePoint farm requirements to create a logical architecture.

The requirements enabled the project team to specify the number of web applications, the site architecture, the required service applications, and the zones for the farm. The next illustration shows the logical architecture for the SharePoint farm.



Site collection architecture

After the team created the high level conceptual view of the farm, it created the site collection architecture shown in the next illustration. This architecture identifies the site collections, web applications, and application pools that would be used.



The project team used the following worksheet to document their site collection requirements and configurations.

	MicroSites	My Sites	Policy Libraries	Operation Orders	Health and Safety
Site title					
Site URL	http://MicTemp	http://MyTemp	http://PolTemp/a	http://OpTemp/a	http://HSTemp/a
	mp	emp	pps/pl	pps/oo	pps/hs

Site title	MicroSites	My Sites	Policy Libraries	Operation Orders	Health and Safety
Purpose	Entry point for the published MicroSites content. Site collections below the top-level URL for each department.	Site that has a site collection per individual and provides a personal area for users to share information.	Site collection that hosts Policy Libraries Application migrated from IBM Lotus Notes platform.	Site collection that hosts Operation Orders Application migrated from IBM Lotus Notes platform.	Health and safety documents for Cambridgeshire Constabulary.
Primary audience	Employees	Employees	Employees	Employees	Employees
Internal access	Yes	Yes	Yes	Yes	Yes
External access	No	No	Yes (future with partner constabularies)	No	No
Anonymous access	No	No	No	No	No
Include in search results	Yes	Yes	Yes	Yes	Yes

Site title	MicroSites	My Sites	Policy Libraries	Operation Orders	Health and Safety
Self-service site creation	No	Yes	Yes	Yes	Yes
Site template	Publishing portal	My Site host	Document center	Document center	Document center
Parent site	None	None	None	None	None
Child sites	http://<TBD>/ict	None	None	None	None
Site owner	ICT	ICT	ICT	ICT	ICT
Include in Quick Launch	Yes	No	No	No	No
Include in top link bar navigation	Yes	No	No	No	No
Tree view	No	No	No	No	No
Language	English	English	English	English	English
Locale	English-UK	English-UK	English-UK	English-UK	English-UK
Site permissions		All authenticated users	All authenticated users	All authenticated users	All authenticated users

Site title	MicroSites	My Sites	Policy Libraries	Operation Orders	Health and Safety
Page inventory for this site		ICT Microsite	Not applicable	Not applicable	Not applicable
List inventory for this site	News, contact list	Not applicable	Not applicable	Not applicable	Not applicable
Number of users	12,000	5,000	12,000	5,000	5,000
Peak usage time	To be determined, requires shift review				
Low usage time	To be determined, requires shift review				

Physical architecture for production farm

The SharePoint Server 2013 production farm was designed to support immediate and future workloads at the constabulary. Based on historical data, the team determined that the following information:

- The farm would have to support up to 12,000 users (with 7% concurrency) under typical user load for daily operations.
- Farm content was not expected to exceed 500 GB.

The Cambridgeshire team did not expect to exceed the previous thresholds in the next two or three years. If required, server scale up or farm scale up were both acceptable scaling options.

For the purpose of the Rapid Deployment Program (RDP) engagement the team estimated that content database sizes would fall within the ranges shown in the following table. At the end of the engagement they would use benchmark data to update these estimates.

 **Note:**

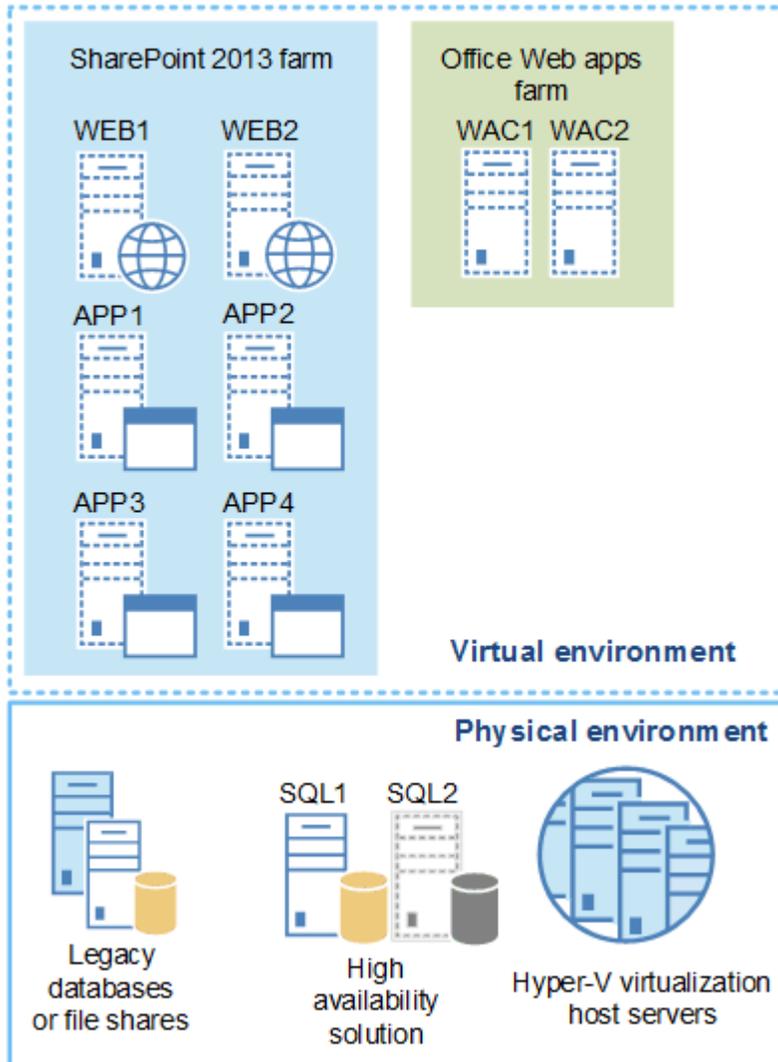
The purpose of Microsoft's Rapid Deployment Program (RDP) to get early feedback on new products and give customers a heads-up on what the company is doing in their areas of interest.

RDPs occur later in the product development cycle and are primarily meant to provide a set of reference customers and installations that will help Microsoft launch the product. These deployments may begin at the last beta or release candidate stage, and Microsoft's goal is to have RDP systems in full production when the product is released to manufacturing.

Web application	Content databases	Target size	Maximum number of sites	Site number warning
Apps	SharePoint_Content_Apps	200 GB	1,000	750
Intranet	SharePoint_Content_Intranet	200 GB	500	450
My Sites	SharePoint_Content_MySites	200 GB	1,500	1,250

The SharePoint Server 2013 environment, shown in the following diagram, consists of two farms deployed on an infrastructure that uses virtual machines and physical computers.

SharePoint Server 2013 production environment



The Cambridgeshire SharePoint farm has eight servers. The front-end web servers (WEB1 and WEB2) and the application servers (APP1-APP4) are virtual machines. The two database servers (SQL1 and SQL2) are physical computers.

The database servers run SQL Server 2012 and are configured as an active-passive failover cluster to provide high availability. Hardware fault tolerance and redundant SharePoint Server 2013 roles are also used to provide high availability. The two Office Web Apps servers (WAC1 and WAC2) are virtual machines running on a dedicated virtualization host server.

The following table summarizes the roles of the farm servers in the previous illustration.

Server name	Server role and SharePoint components
WEB1	Web content server, Managed Metadata, Search Index component, Search Query component
WEB2	Web content server, Managed Metadata, Search Index component, Search Query component
APP1	Central Administration, Search (Administration, Crawl, Content, Analytics), User Profile Service, User Profile Synchronization Service
APP2	Central Administration, Search (Administration, Crawl, Content, Analytics), User Profiles
APP3	Distributed Cache
APP4	Distributed Cache
WAC1	Office Web Apps Server –Word, Excel, PowerPoint, OneNote
WAC2	Office Web Apps Server –Word, Excel, PowerPoint, OneNote
SQL1	Database server - all SharePoint databases, (Active role in failover cluster)
SQL2	Database server – Passive role in failover cluster (warm standby)

Farm server configurations

The following table summarizes the hardware and software configurations for the server roles deployed on virtual machines.

Server role	Component	Specification
Web content server	CPU	8 processors
	RAM	8 GB
	Storage architecture and disk capacity	C:\120 GB, E:\200 GB
	Network adapter (quantity and speed)	1 X 1 Gbps
	Operating system	Windows Server 2012 Standard Edition
Application server	CPU	8 processors
	RAM	12 GB
	Storage architecture and disk capacity	C:\120 GB, E:\200 GB
	Network adapter (quantity and speed)	1 X 1 Gbps
	Operating system	Windows Server 2012 Standard Edition
Office Web Apps server	CPU	8 processors
	RAM	12 GB
	Storage architecture and capacity	C:\120 GB, E:\200 GB
	Network adapter (quantity and speed)	1 X 1 Gbps
	Operating system	Windows Server 2012 Standard Edition

**Note:**

System Center Virtual Machine Manager 2012 SP1 was deployed to manage the virtual environment.

Hyper-V virtualization host server configurations

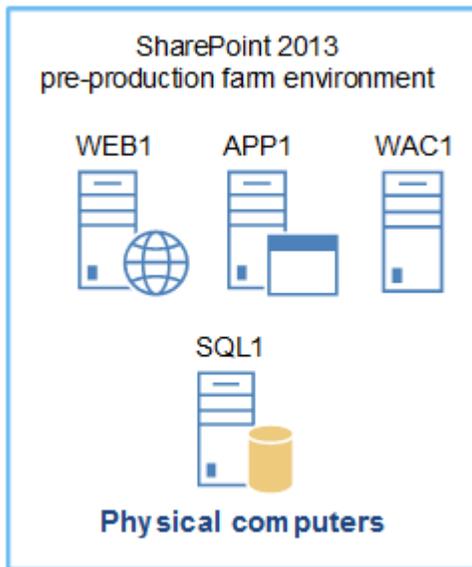
The Hyper-V host servers for the production environment were configured as shown in the following table.

Component	Specification
CPU	2 X 16 core
RAM	192 GB
Storage architecture and disk capacity	4 X 146 GB SAS disk, 4 X 1 TB SAS disk
Network adapter (quantity and speed)	2 X 10 Gbps
Operating system	Windows Server 2012 Datacenter Edition

After they identified the server roles that were needed for the production farm, the Cambridgeshire team deployed a scaled-down, pre-production farm for quality assurance testing.

Pre-production test farm

A SharePoint Server 2013 pre-production farm was provisioned for testing and quality assurance. Although similar to the production farm, all the roles are hosted on a single server because performance and high availability are not the goals of this farm. This pre-production farm was used primarily for quality assurance. The pre-production environment shown in the next illustration was installed on physical computers.

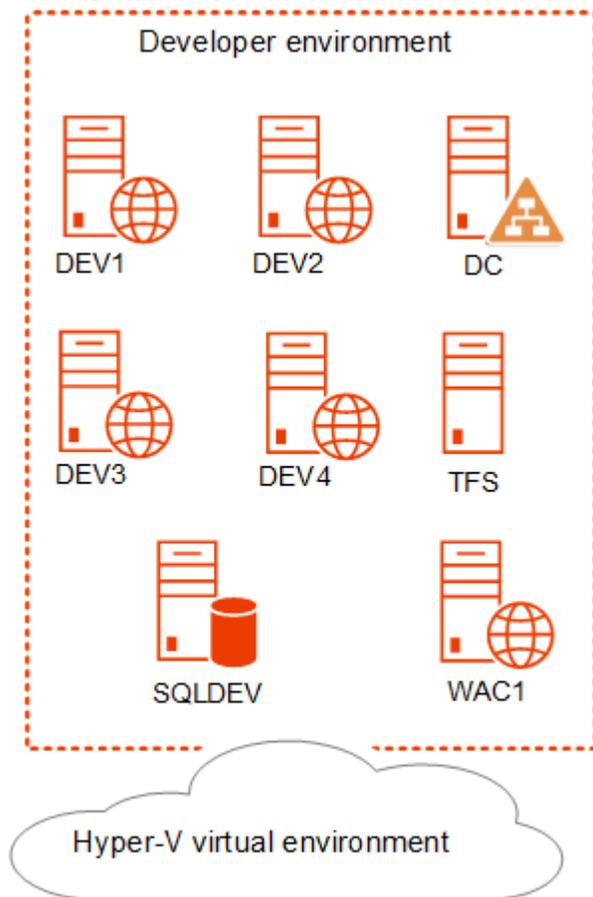


Physical architecture for developer environment

The developer environment consists of four workstations that have the tools that developers must have to plan, develop, deploy and debug SharePoint solutions and applications.

SharePoint Server 2013 and Visual Studio 2012 are installed on each workstation and the developers share a development infrastructure that consists of Active Directory Server, Team Foundation Server 2012, Office Web Apps Server, and SQL Server 2008 R2. Each developer workstation has a dedicated SQL Server instance on the SQL Server database server.

The developer environment shown in the next illustration does not expose the on-premises SharePoint farm to third-party developers. Currently running in a Hyper-V virtual environment, the developer environment will also be able to take advantage of Azure and an Office 365 Developer tenant to develop and test cloud-hosted apps and SharePoint-hosted apps. For more information, see **Overview of apps for SharePoint 2013** (<http://technet.microsoft.com/en-us/library/fp161230.aspx>).



Conclusions and recommendations

The Cambridgeshire team evaluated the SharePoint farm and their test applications during all the deployment phases to determine how well SharePoint Server 2013 met the constabulary's goals and objectives.

The result of their assessment before putting the farm into production is summed up by Phil Silvester, Information and Communications Technology (ICT) Strategy and Program Manager at Cambridgeshire Constabulary. He said:

"In the next 12 months, we will create dramatic change for the Cambridgeshire Constabulary. Our Chief Constable, Simon Parr, sees SharePoint 2013 as a key element of everything we do internally to work with other agencies, increase public engagement, and enhance public safety."

See also

Plan for on-premises or hosted virtualization in SharePoint 2013

Plan document management in SharePoint 2013

Plan for social computing and collaboration in SharePoint Server 2013

Case study: Teck corporate intranet (SharePoint Server 2013)

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-04-14

Summary: Learn how Teck used SharePoint Server 2013 to build a multilingual, multiple-location intranet for corporate users around the globe.

Teck is a Canadian resource company responsible for mining and mineral development focused on copper, steelmaking coal, zinc, and energy. Teck is also a significant producer of specialty metals, like germanium and indium. The company is headquartered in Vancouver, Canada and has offices all over the world.

Teck's previous corporate intranet was based on SharePoint Server 2010. Over the years, Teck created multiple intranet sites across the company, many of which were stand-alone sites. Other offices, like the one in Santiago, Chile, were not connected to the corporate intranet at all. These factors combined to create a scenario in which content was out-of-date, of poor quality, and difficult to find. It also meant that employees around the globe couldn't view multilingual or location-specific news or content.

Teck decided to use SharePoint Server 2013 to build a new, centralized intranet that is multilingual and that supports global locations. According to Microsoft Consultants Mike Taghizadeh (SharePoint Architect at Microsoft Consulting Services (MCS)), JP Poissant (Senior Consultant from MCS), and Mark Massad (Senior Consultant from MCS), "The requirements were complex and challenging. We knew this would take careful planning and design and a real commitment from Teck to complete this project. The migration aspect alone to SharePoint Server 2013 was significant."

In this article:

- [Project mission and goals](#)
- [Solution](#)
- [Server and network infrastructure](#)
- [Solution rollout and results](#)

Project mission and goals

Teck defined the following mission statement for the project:

Develop a new, bilingual, global intranet site that will be a simple, intuitive, and relevant central source for corporate communications, managing and promoting the sharing of information, and a foundation for fostering culture and community at Teck. The new SharePoint Server 2013 corporate intranet at Teck is a global hub that lets Teck employees find relevant content quickly, and view and publish both multilingual content and personalized content based on location. The following list highlights goals of the project:

- Streamline content authoring from multiple locations
- Centralize content from multiple locations
- Enable multilingual and language-neutral content authoring and viewing
- Enable location and language preference switching
- Build personalized, location-based site navigation

Streamline content authoring from multiple locations

By using SharePoint Server 2013, content authors in different locations can create content in different languages. Content authors use SharePoint Server 2013 to enter content and tag it with metadata that shows it in different areas of the site.

Centralize content from multiple locations

The new design uses variations together with cross-site publishing to reuse content from one variation site in the context of another variation site. This content reuse is done by using the Content Search Web Part, not the usual functionality of the variations feature. For more information about the variations feature, see **Variations overview in SharePoint Server 2013**.

For the initial rollout, Teck provided English and Spanish content with Vancouver and Santiago corporate location personalization. The corporate intranet was designed so that other languages and locations could easily be added in the future.

Enable multilingual and language-neutral content authoring and viewing

Content is authored in place and translated, and Content Search Web Parts are used to publish content across site collection boundaries. Variations are used to enable the translation of multilingual content, whereas language-neutral content is created in subsites below the variation sites.

Multilingual content authoring

Multilingual content (list items and pages that will be translated) uses the following authoring workflow:

1. Content is created in the language of the Content Authoring group. For example, if the Content Authoring group is in Santiago, content is created in Spanish. Relevant metadata is attached to the content, a location is added from a controlled list, and a language tag of **All (Neutral)**, **EN**, or **ES** is added. These items are used later to help filter the results in the Content Search Web Parts to show appropriate content to users.
2. After the content is finished, the approval process starts. If the content is approved, its status is changed to **Published**, and a copy is propagated to the target variation site.
3. The content author approves the content as is so that Content Viewers see the untranslated content in the original language while they wait for it to be translated.
4. The content is translated, and the translated version is sent for approval.
5. After the translated content is approved, it is published. Content viewers now see the content in the target language.

Content Owners and Approvers see all the versions of the pages. Content Viewers see only the latest published version of the page.

Language-neutral content authoring

Language-neutral content (list items and pages that won't be translated) uses a simplified authoring workflow:

1. Content is created on a language-neutral site for the location where it belongs.

-
2. When the content is finished, the approval process is started. For some content, the Content Owner might decide that no approval is required.
 3. If the list item or page is approved, its status is changed to **Published**, and the list item or page is visible to Content Viewers.

Enable location and language preference switching

The core concept of multiple-location and multilingual targeting is based on the user's preference of location and language:

- **Location preference** A user's location preference is stored in his or her SharePoint User Profile. A custom property, **TeckUserLocation**, was added to the User Profile store. The first time that a user accesses the intranet, he or she is asked for the preferred location, which updates the User Profile. This lets the user's preference persist across all devices used to access the intranet. At any time, the user can change the preferred location by choosing another location on the **Change Location** menu in the intranet header, which updates the User Profile. After a user chooses a new location, he or she is redirected to the home page, which then shows content and navigation targeted to the new location.
- **Language preference** Language targeting is based on the user's chosen browser language. By default, the multilingual user interface and multilingual experience in SharePoint Server 2013 are based on the browser language. Intranet language targeting for content and navigation also uses the same mechanism. To view the intranet in a different language than the default browser language, the user has to change the language in the browser settings and then browse back to the home page for the new language to take effect.

Build personalized, location-based site navigation

Because of the requirement to support multilingual and multiple-location content, Teck built a custom navigation solution to deliver personalized navigation based on location when a user views content. They used the same custom navigation providers for both global (primary) navigation and current (secondary) navigation.

In both cases, the navigation provider detects whether the current context is the /Global/ or /Search/ site collection. If it is, the provider switches the context to the site collection of the appropriate location, based on the user's preferred location stored in the User Profile, and uses that site collection's navigation term set to show the navigation links. The user sees his or her location's navigation, even though that user is on a /Global/ page or item or in the Search

Centre site collection. Both navigation providers also use a set number of first-level navigation term nodes and ignore any first-level terms more than the maximum number permitted.

For the current navigation provider, Teck implemented custom logic to override the standard behavior of showing Parent, Current, and Child nodes. Instead, it shows Grandparent, Parent, Current, and Sibling nodes. Thus, the user always sees three levels of navigation nodes. They also implemented custom URL pattern matching for Item Details pages and List Library views, where a URL match isn't found in the navigation term set. In these cases, recursive logic is applied to find a matching term by trimming the current item's URL up to the previous "/." Basically, the logic keeps trimming the URL until it reaches the base URL and finds the best possible match. This was needed because the site structure doesn't always match the navigation term hierarchy. For example, they used a custom display form for Announcements so that it resembles a branded page to the user, even though it's a DispForm.aspx page and not a publishing page.

Solution

Teck created a corporate intranet site where employees can view both corporate (global) content and location-specific (local) content on a single site, in their preferred language, based on their location. This multilingual and multiple-location approach was enabled by using personalization features based on role, permissions, and localization. The site presents only content that is relevant and available to a particular user. Users see relevant global and local content and, to a limited degree, role-based content. This reduced the number of pages shown to users and eliminated the need to dig through pages of meaningless content to find relevant content.

Global content is intended for all Teck employees, authored in English, and translated into Spanish. Local content is intended for Teck employees based on location (Vancouver or Santiago) and is specific to the locale. Local content is language-neutral and is not translated into other languages.

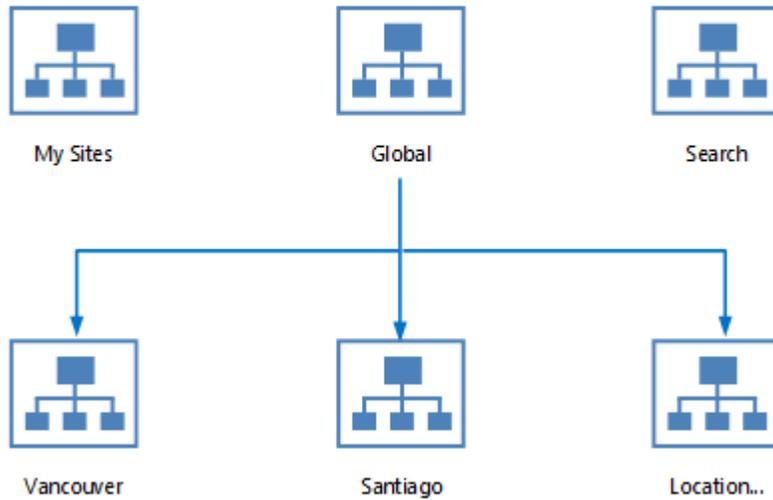
The old intranet site was organized based on the organizational structure of the company. For example, "Departments and Groups" was a major section on the site. To find a certain type of content, a user had to know which department or group provided that content.

The new site is organized based on the informational structure of the content. Content is grouped by type—for example, "News" and "Policies and Procedures"—not by the department or group that supplies it. In the new structure, content is grouped in new categories that cross various providers.

Site collections

To combine all the existing sites into a centralized intranet, each major entity was given its own site collection. The following figure shows all the site collections and the logical relationships between them.

Teck site collection hierarchy

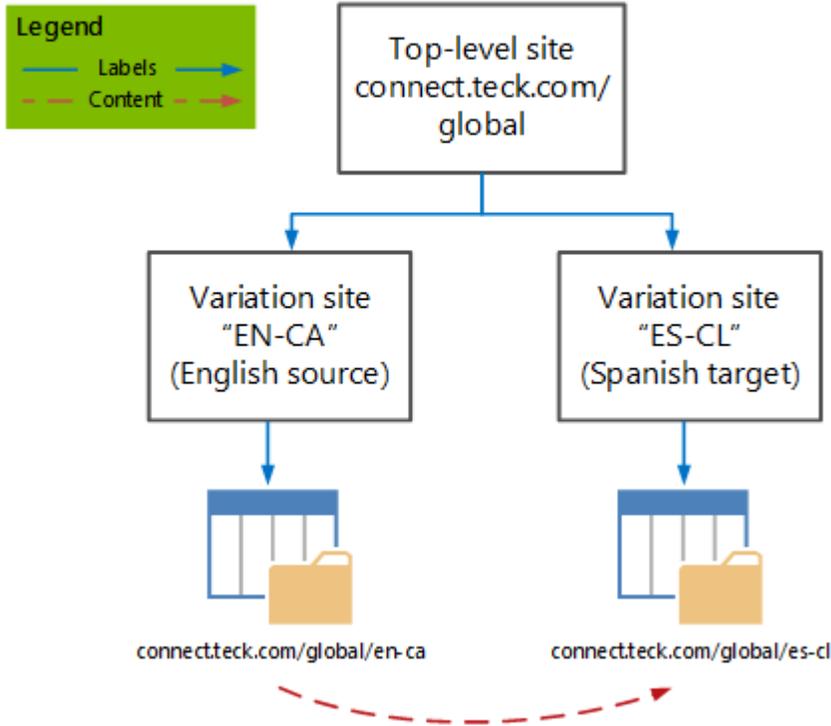


This design helps to make sure that the architecture will scale as content grows. It handles many language requirements and locations, provides central and localized control of content management, and helps to make sure additional locations can be brought on board quickly and with minimal dependency on setup and configuration. This approach also lets site collections be hosted where they are needed. For example, the authoring site collection for Santiago is hosted in the Santiago data center. But, the instances of the Global and Vancouver site collections in Santiago are read-only.

Variations

To meet the multilingual content requirement, Teck used the variations feature to author content in a primary language and then translate it to another language, as needed. The following figure shows the variation site hierarchy Teck used and how content from the English source is copied and linked to Spanish target sites.

Teck variation site hierarchy

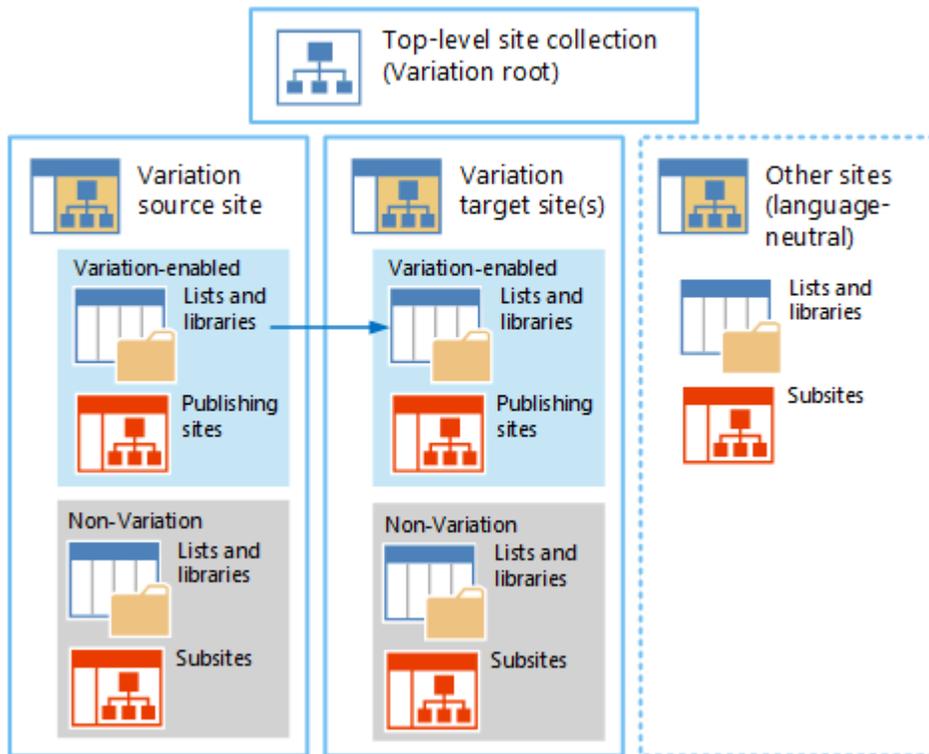


Each site collection on the intranet is set up for content authoring and publishing with variation labels for each language that content will be translated into. Each site collection can host sites that do not use variations. Content created on these sites is considered language-neutral and is not translated.

Design patterns

Teck used a generic design pattern as the base pattern for global and location-specific content. Each site collection includes core resources like Master pages, Style Libraries, Assets Libraries, Settings, and other features. They enabled the variations feature, and created labels for "en-ca" and "es-cl" to enable content publishing in English and Spanish. Each site collection also contains the managed metadata and navigation term sets for all locations in the required languages.

Teck generic design pattern



The variation source site is used to create structure and author content in a primary language for multilingual content. This includes lists, libraries, and other content on publishing sites, as needed. Additional lists, libraries, and other sites that do not participate in the variations process are also included.

The variation target sites include one or more sites that receive linked content from the variation source site translated into the appropriate language. These sites can also contain content like lists, libraries, and other sites that do not participate in the variations process.

Each site collection can also host additional sites that do not participate in the variations process. This lets the model be flexible to support other non-variation content scenarios. For example, a location can use an additional site in this structure to manage another aspect of the location.

Each site collection and site has properties that are used with the Content Search Web Part queries to show content on pages based on location and language. The property **site.Locale** is an existing property automatically set by SharePoint Server 2013 that returns the locale of the local site or language template (for example, "en-ca" or "es-cl"). The property

SiteCollection.TeckLocation is a custom property that was added to the site collection, and it returns the name of the location (for example, "Vancouver" or "Santiago").

The **SiteCollection.TeckLocation** property is also used to check which URL the user is directed to (http://connect.teck.com/Vancouver or http://connect.teck.com/Santiago). This property is set when the user goes to **Set Preferences** or chooses **Change Location** in the site header.

Global and local design patterns

The global and local design patterns use the same generic design pattern, with several changes. The global design pattern has the following differences:

- The global site doesn't use other language-neutral sites.
- Language-neutral content is authored the same as content authored for translation.
- There is no location personalization.

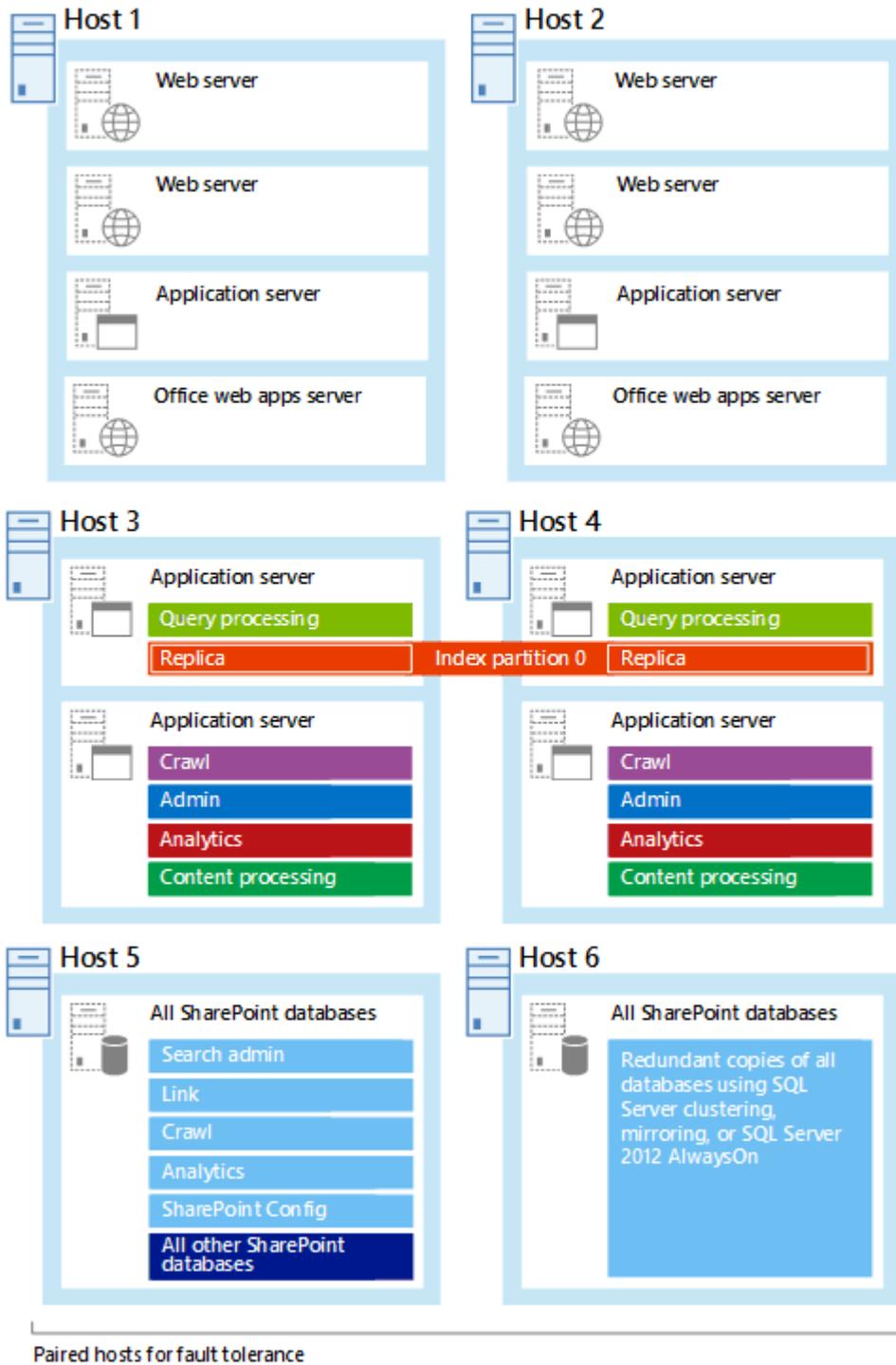
The local design pattern has the following differences:

- Content is created by location (Vancouver or Santiago) and is specific to the locale.
- Authored content is language-neutral and isn't translated. This content is authored on other sites outside the variation sites.
- The location can be personalized.
- Global content is translated and shown in the appropriate language.

Server and network infrastructure

Teck uses an environment made up mostly of virtual machines. Only host machines and the storage area network (SAN) use physical computers. All other servers, both computers that are running SharePoint Server 2013 and computers that are running SQL Server, are virtual machines. The following diagram shows the physical server architecture.

Teck physical server architecture



In this architecture, each host is paired for fault tolerance. Any server or host computer can be removed, and the solution should continue to run. There is also a disaster recovery mirror of

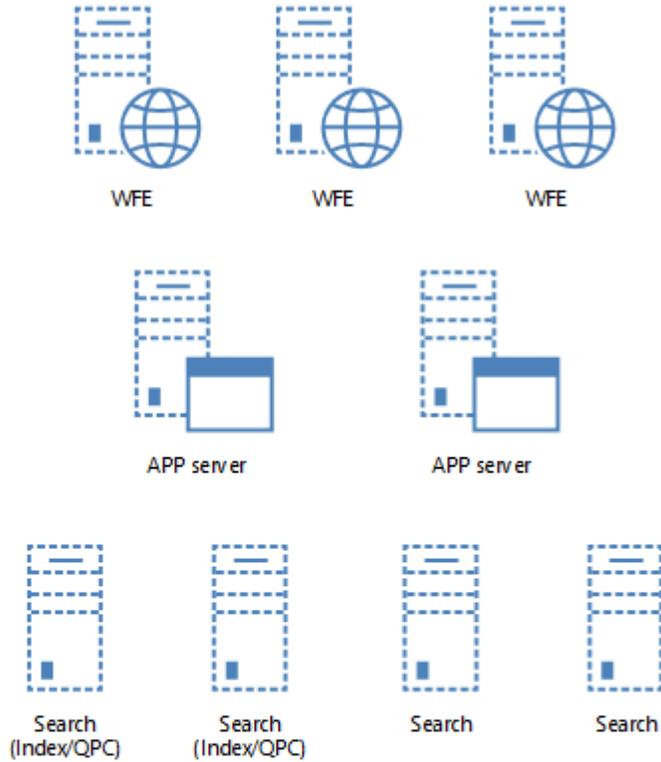
the whole environment that includes component redundancy, to cover the possibility of a total blackout of the data center.

Production architecture

Teck used the SharePoint 2013 product line architecture from Microsoft as guidance to drive consistency across each deployment. It's aligned with the SharePoint Online service description and service levels to maximize performance and resource usage while simplifying operational support. The production farm architecture consists of three WFEs, two application servers, four search servers, and two database servers. The production architecture is duplicated in data centers in both North America and South America.

Teck production farm

Virtualized computers running SharePoint Server



Virtualized computers running SQL Server

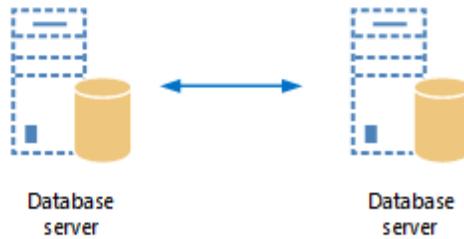


Table: production farm server specifications

Farm role	Physical or virtual	Processor	RAM	Disk size
WFE #1	Virtual	Four cores	32 GB	200 GB

Farm role	Physical or virtual	Processor	RAM	Disk size
WFE #2	Virtual	Four cores	32 GB	200 GB
WFE #3	Virtual	Four cores	32 GB	200 GB
Application server #1	Virtual	Four cores	32 GB	200 GB
Application server #2	Virtual	Four cores	32 GB	200 GB
Search server #1 (index/QPC)	Virtual	Eight cores	32 GB	800 GB
Search server #2 (index/QPC)	Virtual	Eight cores	32 GB	800 GB
Search server #3 (crawl, admin, analytics, CP)	Virtual	Eight cores	32 GB	500 GB
Search server #4 (crawl, admin, analytics, CP)	Virtual	Eight cores	32 GB	500 GB
SQL Server #1	Virtual	Eight cores	32 GB	1,024 GB
SQL Server #2	Virtual	Eight cores	32 GB	1,024 GB

Other architectures

Teck uses a virtualized environment for staging and user acceptance testing (UAT) that emulates the setup of its production site. The staging and UAT architecture is identical to the one used for production, whereas the test and integration environments use scaled-down architectures. Teck also uses the UAT environment for scheduled performance testing. By using an environment that is identical to the production environment, they can understand the expected behavior of the production environment under stress.

Solution rollout and results

As a result of replacing their corporate intranet with SharePoint Server 2013, Teck was able to simplify how they manage their intranet and reduce the duplication of content. It let them create the first-ever intranet available in both English and Spanish for their employees. And, it lets users access one central source for information and news from across the company by seamlessly integrating both global and local information into a single view.

SharePoint Products for the technical decision maker

Applies to: *SharePoint*

Topic Last Modified: 2013-12-18

Summary: This group of articles specifically for technical decision makers discusses SharePoint Products.

In this section:

- [Understanding the Microsoft Cloud \(white paper\)](#) Using SharePoint Products as an example, this paper discusses the kinds of cloud-based software and their benefits for organizations of varying sizes.
- [Benefits of Web Platform Consolidation \(white paper\)](#) Using SharePoint Products as an example, this paper discusses the benefits of web platform consolidation for organizations of varying sizes.

Understanding the Microsoft Cloud (white paper)

Applies to: *Windows Azure, SharePoint Online, BPOS (Deskless Worker suite)*

Topic Last Modified: 2014-09-13

Summary: Using SharePoint Products as an example, this paper discusses the kinds of cloud-based software and their benefits for organizations of varying sizes.

Understanding the Microsoft Cloud (white paper)

Trying to understand what a company means by a 'cloud' offering can seem like trying to understand fog. The term 'cloud' has come to mean different things to different people. Much of the confusion can be chalked up to marketing teams embracing the momentum of the 'cloud' buzzword. In the end, the benefit of the 'cloud' is that you offload the burden of server infrastructure and maintenance, and you are left with a simple, straightforward cost structure.

The white paper can be downloaded from the Microsoft Download Center, here: [Understanding the Microsoft Cloud](http://go.microsoft.com/fwlink/p/?LinkId=301966) (http://go.microsoft.com/fwlink/p/?LinkId=301966)

See also

[Azure](#)

[Office 365](#)

[Dynamics CRM](#)

Benefits of Web Platform Consolidation (white paper)

Applies to: *SharePoint Server 2013*

Topic Last Modified: 2014-09-13

Summary: Using SharePoint Products as an example, this paper discusses the benefits of web platform consolidation for organizations of varying sizes.

Benefits of Web Platform Consolidation (white paper)

It would be wonderful if an organization could just appear out of the dark ages (before the Internet) and adopt the latest technology. If such a scenario were to occur, the newly awakened organization could avail itself of the latest standards. The result would be a tightly integrated ecosystem of computer technology all working together in harmony. Unfortunately, such a scenario almost never happens. This white paper explores the benefits of consolidating disparate and incompatible web platforms into a single environment.

The white paper can be downloaded from the Microsoft Download Center, here: [Benefits of Web Platform Consolidation](http://go.microsoft.com/fwlink/p/?LinkId=309029) (http://go.microsoft.com/fwlink/p/?LinkId=309029)

See also

[Azure](#)

[Office 365](#)

[SharePoint 2013 For IT Pros](#)