

# Multi-farm Architectures for SharePoint Server 2013

## Design principles

### In SharePoint Server 2013, the features that support the social experience include dependencies that influence multi-farm architectures

**Microblogging and Feeds:** The What's New page in the My Site provides an aggregated view of activities related to users' interests, including microblogging functionality. Feeds for this page can come from multiple farms.

**Distributed Cache:** The distributed cache maintains the What's New feed. This feeds infrastructure supports the read and write operations generated by users' activities and participation in microblogging.

**User Profile:** User profile properties drive a broad set of SharePoint features from social collaboration to authorization. The User Profile service application is tied more closely to content than in previous versions.

### Design principles for scaling beyond a single farm:

Establish a primary farm with cross-farm services and My Sites and add one or more farms for collaboration sites (team sites and community sites). The primary farm can also host as many collaboration sites as scale guidance indicates. This first step in scaling out assumes, at a minimum, that the load for My Sites and cross-farm services can reside on the same farm. See the 1<sup>st</sup> architecture example in this model.

**Social features work best with one My Site farm:** If multiple content farms are necessary, keep all My Sites on one farm. Social features do not work across multiple My Site farms.

Scale to a dedicated services farm only if needed. If the volume of My Sites warrants a dedicated farm or combining the cross-farm services and My Sites creates too great a load for one farm, scale out to a dedicated services farm and a dedicated My Sites farm. See the 2<sup>nd</sup> architecture example in this model. Some organization might choose to deploy a dedicated search farm and leave all other cross-farm services with a primary farm that also includes My Sites.

## Applying software updates

In multi-farm environments, the order in which the farms are updated is important. When updating environments with multiple farms, update farms in the following order:

- Service farms
- My site farm
- Content farms

It's important to update service farms before updating farms that consume services. Service farms support connections with farms that are running an earlier version of the software. However, if a consuming farm is running a later version of the software, this can cause issues.

### Example 1 — Update farms in the following order

1. Farm A — Enterprise Services farm
2. Farm B — Content farm

The User Profile service must reside in the same datacenter as the content it supports. Many features require the User Profile service application to be located in the same datacenter as My Sites, team sites, and community sites.

Multiple My Site farms requires multiple User Profile service applications: A single instance of the User Profile service application can only be associated with one My Site host. If multiple My Site farms are necessary, multiple User Profile service applications are necessary as well.

The App Catalog cannot be shared across farms: Multiple App Catalog's will need to be setup and managed.

### Configuring server-to-server authentication between farms

Multi-farm environments involve communication between farms. Server-to-server authentication allows farms to access and request resources from one another on behalf of users. Server-to-server authentication uses the Open Authorization (OAuth) 2.0 protocol. Farms that provide service applications and the farms that consume these require a server-to-server authentication. In addition to the basic farm-level trust that is configured, additional configuration is necessary between farms for specific scenarios and features, such as eDiscovery and Business Intelligence.

In Example 1, the two farms require a server-to-server authentication relationship. In Example 2, below, Farm A (Enterprise Services) and Farm B (My Sites) require a server-to-server authentication relationship with every other farm in the environment. Content farms (Farms C-F) do not require server-to-server relationships with each other.

Office Web Apps does not require a server-to-server authentication relationship with SharePoint farms.

For more information, see the following articles in the TechNet library:

- Plan for server-to-server authentication in SharePoint 2013
- Configure server-to-server authentication in SharePoint 2013

For more information about the patching and update process for SharePoint farms, see the following model: [Enterprise-scale farms for SharePoint Server 2013](#).

### Example 2 — Update farms in the following order

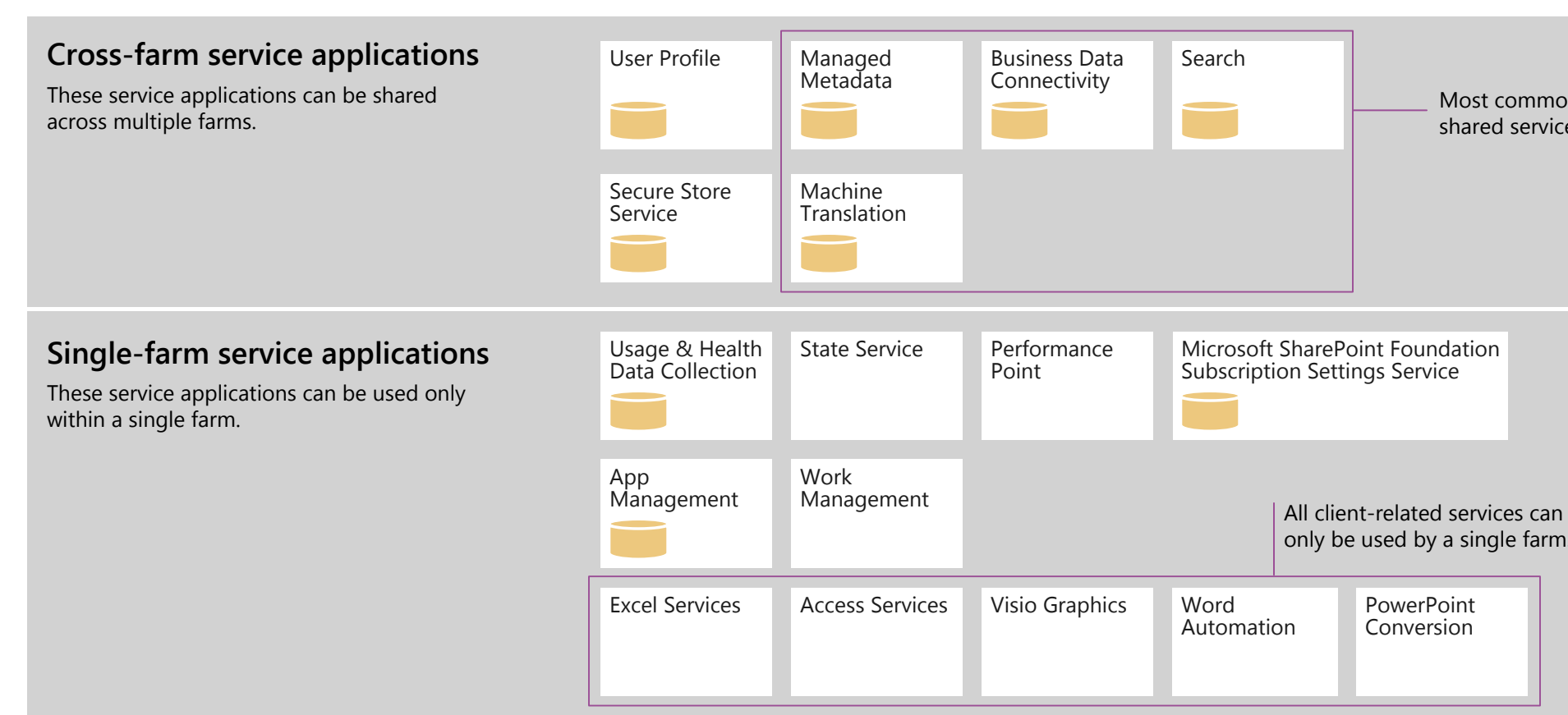
1. Farm A — Enterprise Services farm
2. Farm B — My Site farm
3. Farms C-E — Content farms (the order of these is not important unless one of these farms is hosting a service application that is shared with other farms)

The Office Web Apps farm can be updated independently of the SharePoint farms.

## Cross-farm services

### Sharing services across farms

- Some services can be shared across server farms. Other services can be shared only within a single server farm. Services that support sharing across farms can be run in a primary or central farm and consumed from multiple farms.
- In large environments, computing-intensive services can be run in a central farm to minimize administration overhead and to scale out easily and efficiently as requirements grow.
- While the User Profile service application can be shared across farms, this service must reside in the same datacenter as the farms that it supports.



### WAN-friendly services

The Search, Managed Metadata, and Machine Translation services can be shared across a wide area network (WAN). The Business Data Connectivity service application can be used across WAN links depending on how the Business Data Connectivity service is implemented

### Cross-farm services support for WAN environments

SERVICE APPLICATION	SUPPORTED OVER WAN CONNECTIONS?	NOTES
Search	Yes	Content can be crawled over WAN connections. Alternatively, search can be configured to retrieve results from remote result sources (indexes at remote farms).
Managed Metadata	Yes	User entry fields provided by the Managed Metadata service application might not be available if a WAN connection is not online (such as an intermittent satellite link). After the data model is cached on the Web server of the remote farm (the farm consuming the Business Data Connectivity service from a central farm), the remote farm queries the data by connecting directly to the data source over the WAN (instead of reconnecting to the farm that is hosting the Business Data Connectivity service).
Business Data Connectivity	Yes	Using the User Profile service application across WAN links is not supported. This service requires direct database access. For WAN environments, the User Profile Replication Engine is recommended instead.
User Profile	Not supported	The Secure Store Service works across WAN links but is not recommended because it might negatively affect the performance of other services over a WAN link.
Secure Store Service	Yes	
Machine Translation Service	Yes	

## Example 1: Scaling with additional content farms

### Description

- A primary farm hosts all cross-farm services and My Sites. The primary farm also hosts as many team sites that will fit, according to sizing guidance.
- One or more additional farms are added for team sites.
- Server-to-server authentication is configured between the two farms.
- Farms are in the same datacenters.

### User Profile Service

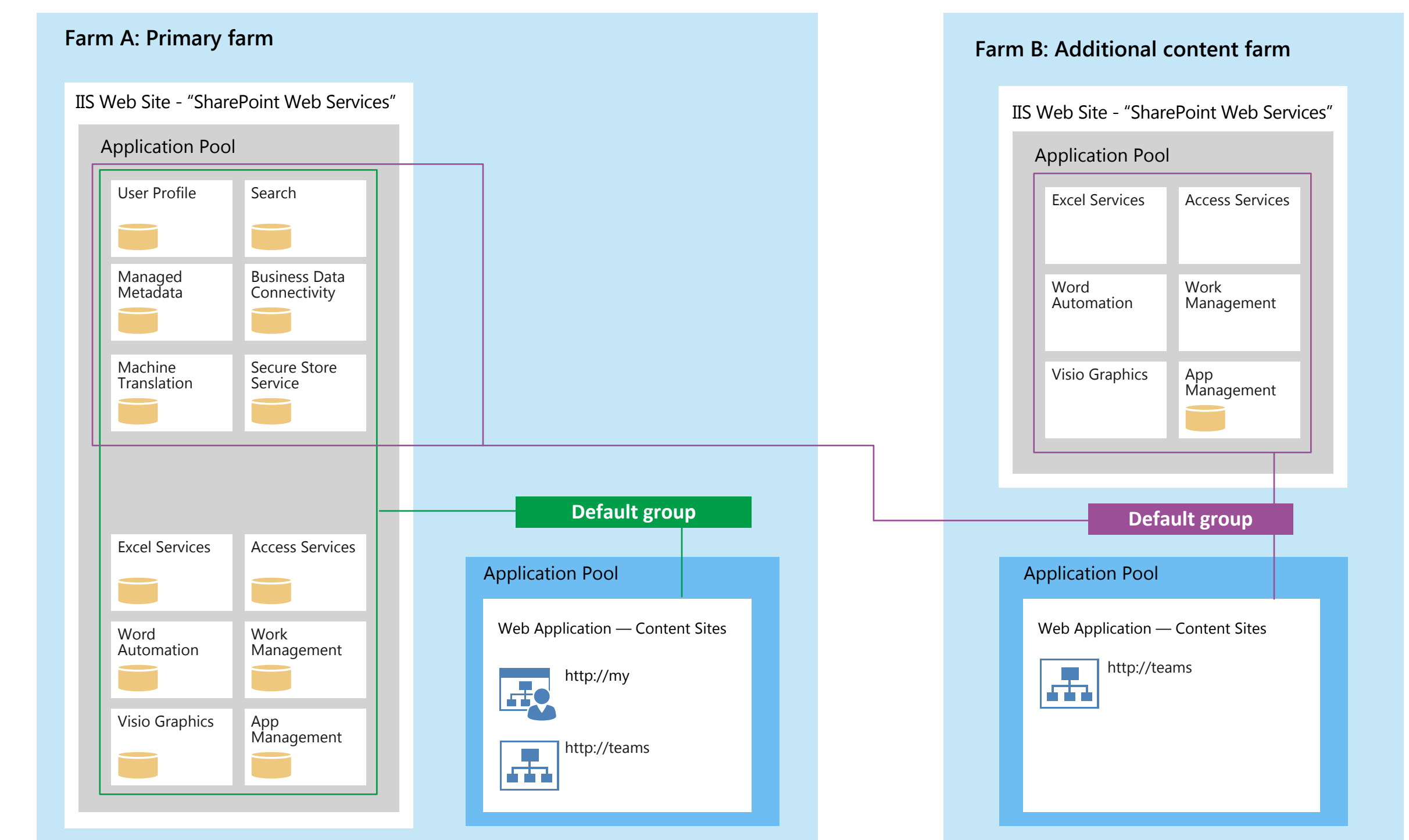
The User Profile Service application must be in the same datacenter as My Sites and other content sites.

### Advantages

- Keeping as many sites on the primary farm as possible provides the best possible social experience for those sites.
- Performance for social features is optimized when the User Profile service and My Sites are located on the same farm.

### Disadvantages

- Some social features do not work well across farms. For example, activities in Farm B might not appear in My Site newsfeeds in Farm A.



## Example 2: Scaling with a dedicated services farm and multiple content farms

### Description

- One enterprise services farm hosts all cross-farm services, including the User Profile service application.
- A dedicated My Site farm and one or more content farms.
- Trust certificates are exchanged between farms that share and consume service applications. The appropriate services are configured for sharing and consuming across farms.
- Server-to-server authentication is configured between the following farms:
  - Farm A and B
  - Farm A and C
  - Farm A and D
  - Farm A and F
  - Farm B and C
  - Farm B and D
  - Farm B and E
  - Farm B and F
- All farms reside in the same datacenter.

### Advantages

- Allows scaling beyond a single content farm.
- Allows failover of a farm without impacting other farms.

### Disadvantages

- Additional farms to manage.
- The environment is limited to a single My Site farm. If more than one My Site farm is required, multiple User Profile Service applications must be incorporated and social features will not work across these farms.

