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whitepaper

Distributed SharePoint:

One Farm, Two Farms, Three Farms or More

If you use SharePoint, you most likely have more than one SharePoint farm and possibly several server farms depending on your organizations business needs. Are you getting the most efficiency out of your SharePoint environment and your Wide Area Network (WAN)? Your business can be more agile and cost effective by utilizing Distributed SharePoint.

Distributed SharePoint refers to Microsoft SharePoint deployments that span multiple SharePoint farms – located in either a single location or spanning multiple locations. This article describes the common application scenarios where a Distributed SharePoint solution is warranted and why a Distributed SharePoint solution is the answer.

The easiest way to understand where a Distributed SharePoint solution is the best answer is to consider the following application scenarios.

Application Scenario	Description
Geo-Replication	Local, national or global deployments of multiple SharePoint farms with a single server or multiple load-balanced servers in each farm.
Extranet with same Domain or Cross-Domain Synchronization	Multiple SharePoint farms deployed in the same location to support extranet or other application-specific scenarios.
Real-Time Active-Active Disaster Recovery	Secondary SharePoint farms deployed to support disaster recovery and COOP (Continuity of Operation) scenarios.
Content Aggregation and Syndication	Collection and/or distribution of SharePoint content between two or more web application (including SharePoint workflows and distributed web content management).

It is common for most SharePoint customers to have a need for one or more of these scenarios in their organization. Let's look at each of these in turn.

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Geo-replication

Why is geo-replication an important application scenario? The business driver for implementing a geo- replication solution is the need for organizations with multiple SharePoint farms to synchronize all or part of their SharePoint content across some or all of their SharePoint farms. This turns out to be a common requirement. The requirement for multiple local SharePoint farms can result from several scenarios:

- a merger or acquisition and the need to consolidate or synchronize SharePoint content
- a requirement to address WAN bandwidth, latency and reliability issues by deploying additional local or regional SharePoint farms
- SUDs (server under desk) deployments of SharePoint that need to be synchronized with or migrated to a company's overall SharePoint strategy

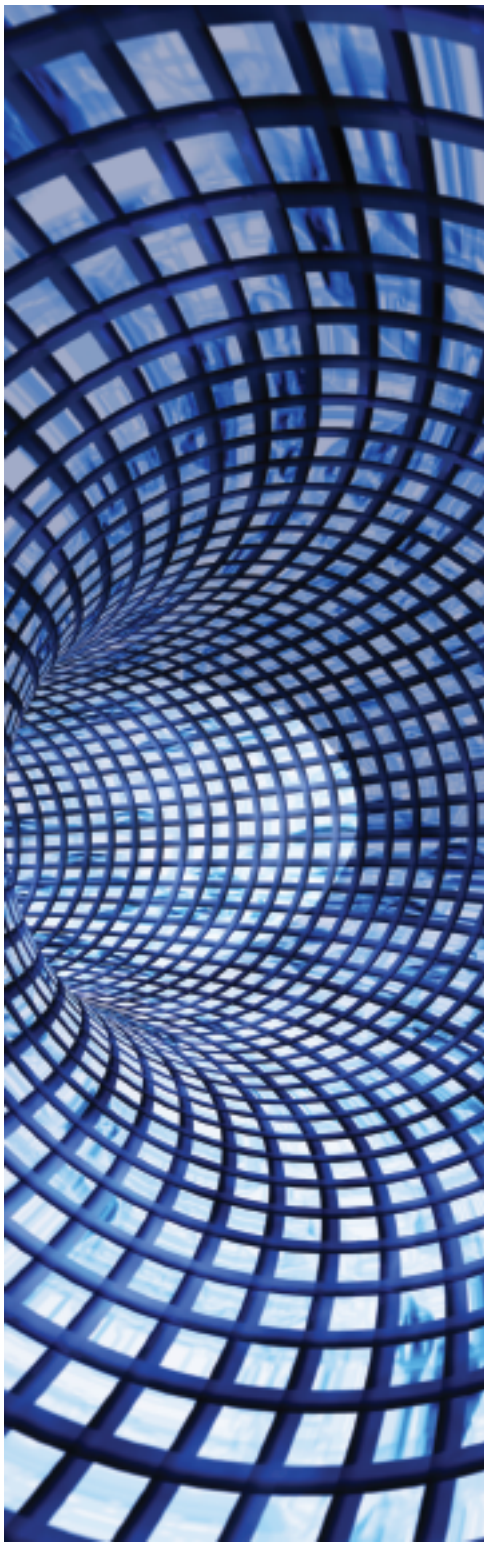
The need to address WAN bandwidth, latency and reliability issues deserves special mention. This is the most frequent driver for a Distributed SharePoint environment. Here are some examples:

- Lawyers in a global firm will want immediate access to case files
- An engineering team at a remote construction site needs fast access to a large variety of business process documents and potentially very large drawing files
- The crew of a cruise ship with slow or unreliable network connections needs fast, reliable access to up-to-date procedures and information needed to run the ship
- A battlefield scenario where communications between command headquarters and remote SharePoint deployment farms may be limited by slow or unreliable WAN connections

For this Distributed SharePoint scenario to be effective, it needs to efficiently support near-real-time (NRT) document-level replication, and software or hardware compression including remote differential compression (RDC) as key requirements.

SharePoint Extranet

For SharePoint Extranet scenarios, a common requirement is the ability to publish content authored internally using the corporate intranet to a SharePoint extranet that is isolated from the internal network using separate web applications, Forms Based Authentication (FBA) and/or different Active Directory domains. For this scenario, the ability to replicate SharePoint content across different authentication protocols (Windows NTLM and FBA) or multiple Active Directory domains are the key requirements.



Real-Time Active-Active Disaster Recovery

There are numerous SharePoint disaster recovery strategies and technology solutions, but one of the simplest to deploy and support is near-real-time (NRT) replication of a Distributed SharePoint environment to an online, active disaster recovery farm. This is easily enabled using a NRT replication of document or item-level changes, new web sites, and site collections to a disaster recovery farm that can act as a full or partial replica of the source environment. The replication requirements are similar to the previous application scenarios:

- NRT replication and hardware and software compression.
- A Distributed SharePoint replication solution is ideal when the hit disaster recovery farm is located in a different city or a different part of the world where WAN efficiency is an important factor.

Content Aggregation and Syndication

Content aggregation in a SharePoint context refers the collection and replication of SharePoint content (list items, or documents and their associated workflows) from one or more SharePoint farms to another farm. A common example is the replication of work products produced in a remote office or regional SharePoint environment to a central headquarters farm. Content syndication refers to the distribution or broadcasting of content from a central SharePoint farm to one or more remote farms. In addition, there are hybrid scenarios where multiple source farms broadcast content to one or more target farms. The key replication requirements for these scenarios include the above (NRT document-level replication, cross-domain user mapping) plus the ability to replicate lists and document libraries to locations in a target environment that is structured differently from the first.

Syntergy Replicator for SharePoint

Syntergy Replicator for SharePoint is an enterprise SharePoint replication solution that supports NRT, cross-domain, document-level synchronization of any network of Distributed SharePoint farms. Replicator installs and is managed in the same way that SharePoint is installed and managed. Replicator detects changes in the SharePoint environment as they occur and batches these changes into replication packages. Windows Background Intelligent Transfer Service (BITS) is employed by Replicator as the highly-reliable, re-startable transport for downloading replication packages over fast, slow and unreliable network connections. BITS is the same content downloading technology used by Microsoft's Windows Update service. Replicator optionally uses Remote Differential Compression (RDC) as well as 3rd party hardware or software network compression solutions to make efficient use of the WAN bandwidth.

About the Author: Michael Herman is a SharePoint architect, trainer, author and speaker, has more than 10 years of SharePoint experience and is a principal consultant at Syntergy, Inc., a global provider of enterprise data replication, and operations management solutions for Microsoft SharePoint Products and Technologies including Office SharePoint Server 2007 and SharePoint Server 2010.

