WHITE PAPER

A Better Way to Globalize SharePoint

How to Provide Fast Access to Users Anywhere

Metalogix

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CONTENT SYNCHRONIZATION

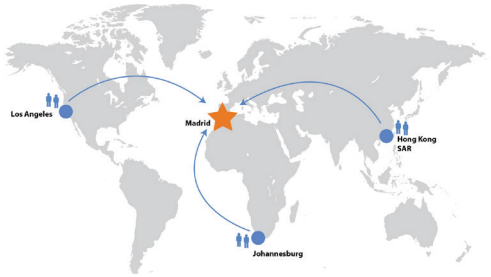
SharePoint is often implemented as the solution for ever-growing content. The hope is to better organize documents and end user critical data so that end users have easy access. With critical documents, ECM, and company IPs stored in SharePoint repositories, it is no wonder that reliable access is a must. You've made a substantial investment in your SharePoint environment with the hope that it would make life easier and more manageable for your employees. Unfortunately, those same employees begin to see SharePoint as a nuisance, and have stopped using it altogether.

Remote users are often faced with the issue of slow access, upload and download times when using SharePoint. With the aggravation of constantly waiting or no having access, remote end users might turn away from SharePoint altogether, flushing your substantial content management investment down the proverbial drain.

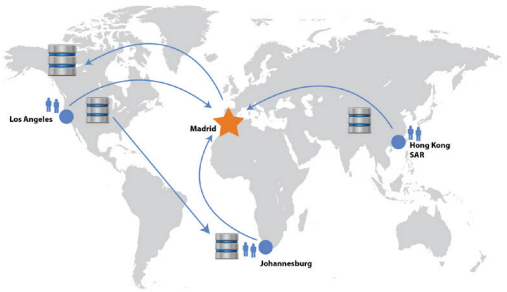
MICROSOFT'S SUGGESTIONS FOR HANDLING CONTENT GROWTH AND END USER ACCESSIBILITY

Microsoft has a few suggestions about dealing with content sprawl and a dispersed user base. They suggest the redesigning of SharePoint pages for faster downloads, using WAN accelerators, and optimizing your network. Unfortunately all of these solutions are both costly and ineffective as they merely mask the real problem rather than solve it. SharePoint has two main design models available for dealing with these issues – centralized and decentralized content hubs.

A centralized content hub preserves the 'single copy' concept, ensuring that you do not have duplicates on one farm, but the issue here is slow access across slow WAN links and across long distances. This is essentially the leading cause of accessibility issues. Additionally, centralized SharePoint content may not be reliably available in environments where remote users have challenged network connections, such as intermittent satellite links.

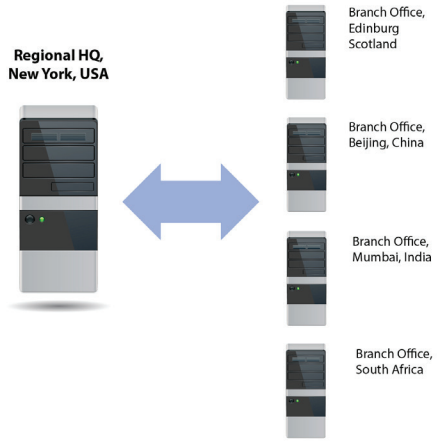


A decentralized content hub solves the issues of slow access for remote users, since you redirect them to their nearest server, but this model does not provide synchronization of content and can lead to data duplication. This becomes an issue when pointing end users to various decentralized hubs, as not all end users will have access to the same content.



With either structure, SharePoint usage will decrease, and SharePoint will not be used to its full potential and you lose the main collaboration features of SharePoint.

The solution is a rather simple one – a decentralized content hub, with a content synchronization solution implemented. By dispersing the end-user load amongst various decentralized farms you allow them to have faster access to content. By synchronizing the content among these dispersed farms you can ensure that these very end users all have local access to the same content.

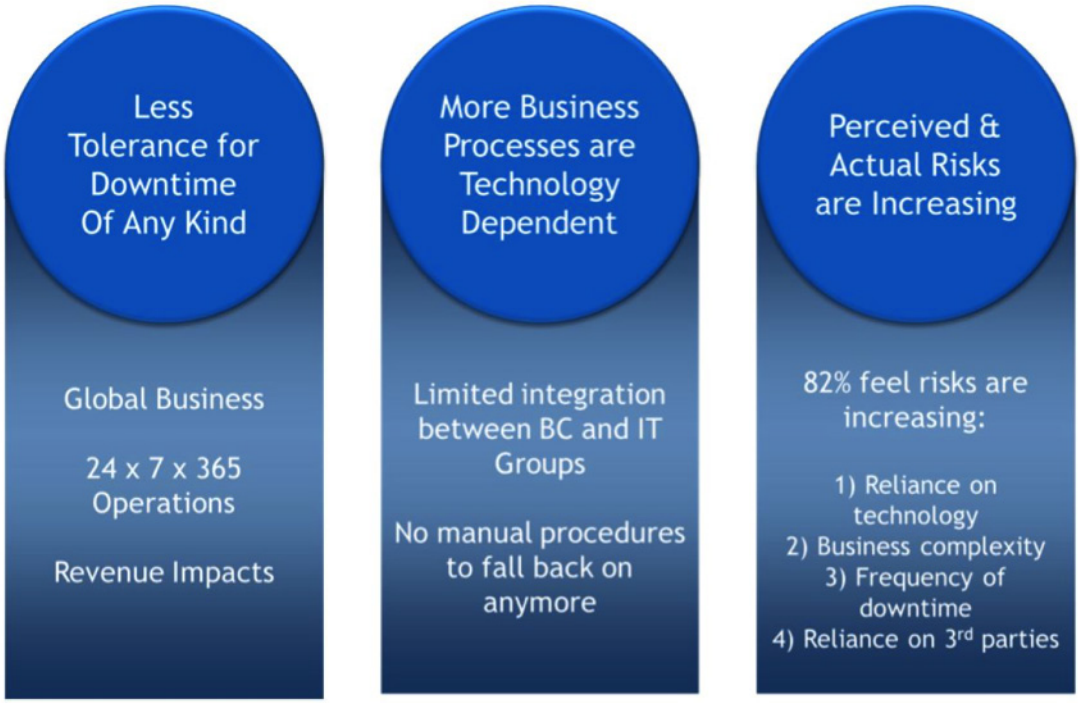


BUSINESS PROBLEMS THAT LEAD TO A CONTENT SYNCHRONIZATION PLAN

Many business problems can arise due to a lack of continuous content synchronization. The reality is that out-of-sync content causes errors and delays; it keeps end users from their goal of working efficiently. Key content is forever changing in today`s fast paced world and out-of-sync content can lead to costly and even regulatory violations, which in turn lead to fines and penalties, and in some cases jail time.

SharePoint adoption also suffers due to a lack of content synchronization. Disconnected or slow response times in remote sites can cause users to stop using SharePoint altogether. Users then begin to store documents on their own computers causing confusion, inaccuracy, and chaos when the business attempts to organize and access business critical information. Remote locations also suffer as a result, as they no longer have access to the latest information. Remote users also resort to using email to share documents and content, which leads to version control problems as well as clogging your email servers with large files.

Continuous content synchronization is a valuable commodity that can increase the business value of your SharePoint and decrease your connectivity problems. This is particularly true when you consider business requirements for continuity of operations and fast access - essentially the very reasons why content synchronization and high-availability solutions are vital.



Less tolerance for downtime of any kind

"Disaster recovery" historically focuses on events such as natural disasters, extreme weather, pandemics/epidemics, and other events that have a low probability of occurring. Now, with organizations running global 24x7x365 operations and facing intense competition, downtime, no matter what causes it, it is no longer tolerated. Business leaders don't care what caused the downtime, instead they demand SharePoint content be recovered as quickly as possible with minimal business impacts. With content synchronization in place you can implement a high availability solution that ensures your end users have access to the content they need, at all times. You also ensure that IT can focus on fixing the outage, rather than wasting valuable resources on regaining access to or recovering content.

More business processes are technology dependent

More and more business processes are technology dependent and many of them rely on multiple systems. SharePoint is no different, as web applications increasingly handle revenue generation or other critical processes. Many organizations are so reliant on their technology they no longer have manual procedures to fall back on in the event the systems go down. With content synchronization and high availability in place, you do not need a fail-over solution, as your content is synchronized globally and therefore accessible at all times from your other farms.

The perceived and actual risks are increasing.

According to a joint Forrester and Disaster Recovery Journal survey, 82% of business continuity decision-makers and influencers feel their organization's risk level is increasing. The four main reasons for this increase are: the reliance on technology, business complexity, frequency and intensity of natural disasters; and reliance on third

parties. These perceptions are not misguided, as in the past five years, more than 60% of companies invoked business continuity plans at least once, and more than a quarter invoked these plans three or more times. By synchronizing your content you are providing your organization with an automated business continuity plan, and all while ensuring all your end users have easy access to the same content, at all times.

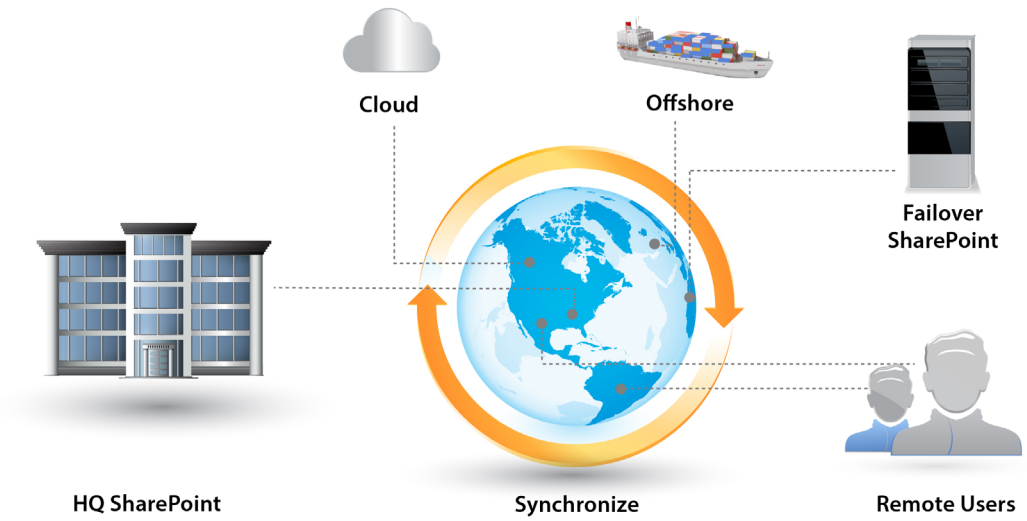
WHAT IS CONTENT SYNCHRONIZATION?

Synchronization of content is the process of ensuring that the content available in multiple places, such as various farms or web applications, is the same. By synchronizing your content across all of your farms you will ensure that not only do end users have the same connectivity to their various farms, but they also have access to the same content. It is essentially used to get around many of the architectural limitations of SharePoint by providing multiple read/write copies of data in disparate locations, all of which automatically synchronize to ensure all end users have the most up-to-date version of all documents.

Content Synchronization is made easy with the use of a third-party replication solution, such as Metalogix Replicator.

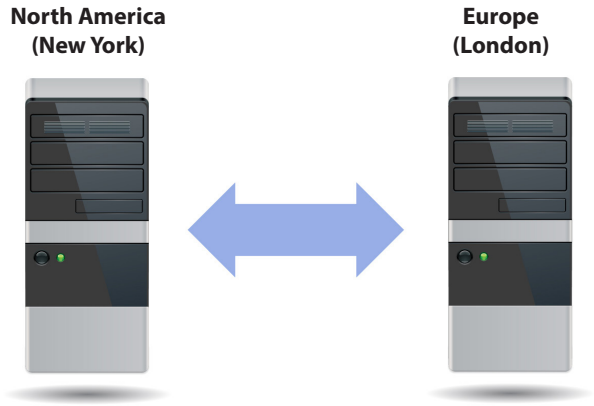
WHY CONTENT SYNCHRONIZATION?

To ensure that all users have timely access to your SharePoint content, dispersal of users to different and closer farms may be the best solution. By setting up farms in various locations, you can direct distant users to content on their closest SharePoint farm. This takes care of any latency issues they may be experiencing. With the latency issues resolved, you now have to manage multiple farms worth of content; this is where content synchronization comes into play.



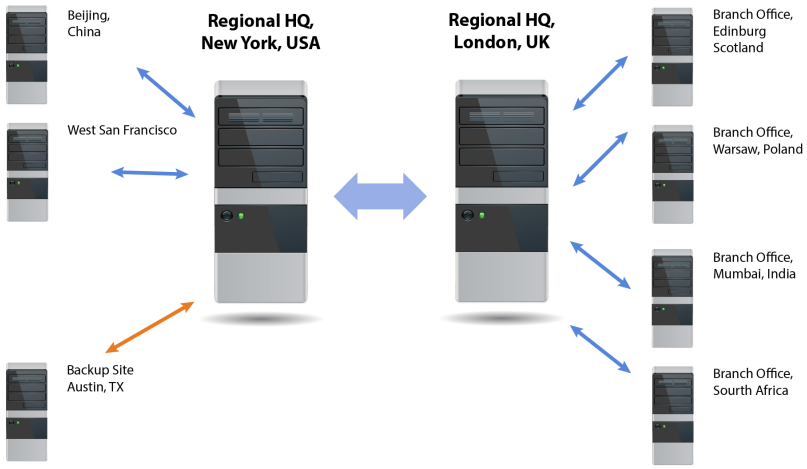
Bi-directional Replication as Basic Content Synchronization

Bi-directional replication is the simplest form of content synchronization. This set up ensures that content is synchronized between two farms, so that content at both locations is up to date. The site structure, permissions, and content are all factors that are set up bi-directionally. Bi-directional replication is also the first step towards high-availability. This is done by ensuring that changes made to your remote farms during planned or unplanned outages are synchronized back to the primary farm when the farm with the outage is restored.



WIDE AREA CONTENT SYNCH

The same principle of synchronization and data recovery can be applied to a multi-hop or multi-farm scenario. In a multi-hop environment the farms are interconnected in a mesh framework, allowing for the synchronization of content across all farms for all end-users, making the content highly available.



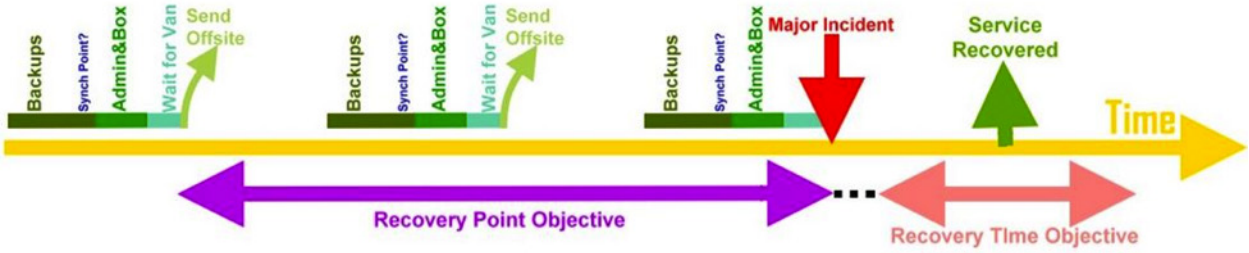
CONTENT HIGH AVAILABILITY

WHAT IS HIGH AVAILABILITY OF CONTENT?

In information technology, high availability refers to a system or component that is continuously operational for a desirably long length of time. SharePoint high availability refers to the systematic approach to ensuring that SharePoint and its content is continuously operational. SharePoint high availability ensures that a prearranged level of operational performance will be met during a contractual measurement period.

High availability is not disaster recovery, as many organizations the two, but they are very different scenarios. There are many causes for network downtime, not just what are traditionally called "disasters." Power failures and IT Hardware failures are the top two reasons for network downtime. Discussing high availability as a "disaster" recovery solution sells it short. Some executives, upon hearing "disaster," assume only a 2 to 3% likelihood scenario. However, based on recent research by Forrester, downtime happens a lot more than the word "disasters" would imply.

High availability is significantly different from disaster recovery for other reasons. Disaster recovery is often measured in terms of "RTO" and "RPO." RTO, or the Recovery Time Objective, looks forward and is the duration of time and a service level standard within which a business process must be restored after a disaster/disruption in order to avoid unacceptable consequences associated with a break in business continuity.



Source: IT Service Continuity Management

Content synchronization is the first step to achieving high availability, allowing your organization to evolve and is complimentary to any disaster recovery solution strategy you have in place.

"Enterprises today must be always on and always available to an extended network of customer, employees, and partners... organizations must evolve beyond reactive business continuity and IT disaster recovery"

FORRESTER®

Rachel A. Dines
Senior Analyst
Serving Ingrastructure & Operations Professionals

Many organizations may be employing SQL server solutions for high availability and disaster recovery, but there are multiple limitations when using this methodology, especially if you are using RBS solutions.

High Availability options for SQL server

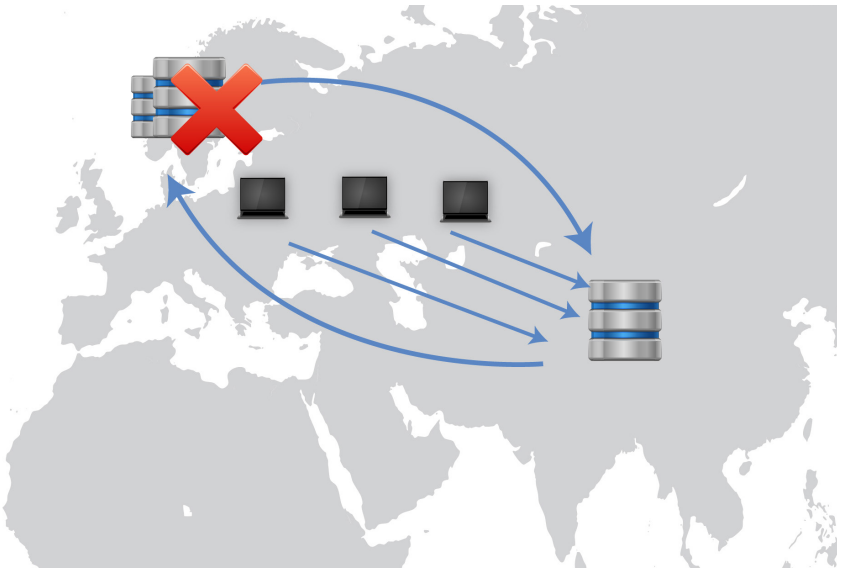
High Availability Options for SQL Server	Potential Data Loss (RPO)	Potential Recovery Time (RTO)	Auto-Failover	Additional Readable Copies	Limitations for SharePoint HA
AlwaysOn Availability Groups- Synchronous (Dual-phase commit, no data loss, can't operate across WAN	None	5-7 Seconds	Yes	0-2	Cannot work across low bandwidth/high latency networks
AlwaysOn Availability Groups- Asynchronous (Latency tolerant, cross WAN option, potential for data loss)	Seconds	Minutes	No	0-4	Cannot be used for SharePoint Service Application and/or Config databased
AlwaysOn Failover Cluster Instance (FCI) - Traditional shared storage clustering	N/A	30 Seconds to several minutes (depending on disk failover)	Yes	N/A	Cannot work across low bandwidth/high latency networks. Only one copy of database files.
Database Mirroring - High-safety (Synchronous)	None	5-10 Seconds	Yes	N/A	Cannot work across low bandwidth/high latency networks
Database Mirroring - High-performance (Asynchronous)	Seconds	Manually initiated, can be a few minutes if automated	No	N/A	Cannot be used for SharePoint Service Application and/or Config databases
SQL Log Shipping	Minutes	Manually imitated, can be a few minutes if automated, by typically hours	No	Not during a restore	Cannot be used for SharePoint Service Application and/or Config databases
Traditional Backup and restore	Hours to Days	Typically multiple hours, days or weeks	No	Not during a restore	Not a high Availability technology

HOW DOES CONTENT SYNCHRONIZATION ENSURE HIGH AVAILABILITY?

Content synchronization, as mentioned previously, allows organizations to have multiple farms, in multiple locations, for the purpose of equal access for all end users. With content synchronization, end users are able to access the same content, regardless of the farm they are accessing, in a timely fashion.

Simultaneously, by synchronizing the content in all of your environments for the ease of your end users, you are also ensuring the continuity of your operations. In the event of a planned or unplanned outage having content synchronized across farms ensures that you do not lose up-time. This is made possible by simply redirecting the users that are affected by a farm that is down to a farm that is functional. Thanks to the synchronization of your content, all end users will still have access to the same materials globally.

Let's say you have your headquarters in London with remote users across Europe. Your users access content from the London server to do their job and keep the business going. But something happens, say a power outage which shuts down power to the server room. With content synchronization, you would have another redundant server set up in a different location, say Romania. You can redirect your users to this unaffected server, and due to content synchronization, users will still have access to the same content, and business can go on as per usual. They keep working and might not even realize that a server has gone down.



With the proper replication solution, once the farm that experienced an outage is back up, it can be automatically updated with whatever changes were made to the other farms while it was down. With continuous content synchronization, there is no need to worry about your farms ever being out-of-synch, or the affects that a planned or unplanned outage can have on the continuity of your operations.

THE CONTENT SYNCHRONIZATION SOLUTION

For continuous data redundancy, high availability or expedited disaster recovery, a SharePoint replication solution should immediately improve business continuity and minimize downtime based on recovery objectives. The solution should provide instant, real-time replication with both high availability and disaster recovery services to provide a complete data protection service to ensure business operations are not disrupted.

Here are some of the main benefits of a SharePoint replication solution:

- Information is continually updated, ensuring that all users have access to the most current versions at all times.
- If disaster strikes or outage occurs, you can quickly redirect your users to the latest content on the remote farm. Servers can be replaced quickly, and the process remains transparent to users.
- Strategic partners can securely access current content.
- Enhanced availability of documents.
- Improved productivity in remote locations.
- Increase collaboration and better version control
- Timely distribution of documents to remote locations.
- Selective movement of information, based on business rules.
- Increase use of SharePoint, increasing ROI of investment

WHO NEEDS IT?

Enterprise customers, who buy replication solutions for content synchronization and high-availability purposes, have the following goals:

1. Need very high up-times for SharePoint – it's so business-critical it can never go down.

2. Have deployed or are willing to deploy SharePoint farms in multiple locations to increase resiliency.

3. Have locations that are more than 300 miles apart and hence cannot use SQL Server mirroring or other technologies due to technical limitation.

METALOGIX REPLICATOR

Metalogix Replicator is a fully integrated, third-party replication solution. It allows you to synchronize SharePoint content across geographically dispersed farms so that all parts of an organization can work from the most current information. It is a solution that keeps operations running smoothly and also avoids costly/embarrassing regulatory violations. Seamless continuity of operations is a reality with Metalogix Replicator, as it provides all users with uninterrupted, fully synchronized, and fast local access to SharePoint content on land, sea, and in the air.

A few more reasons why Metalogix Replicator is the ultimate in replication solutions:

- Replicates widest range of SharePoint content, including documents, list items, sites, site collections, libraries, permissions, workflows, web parts and social data.
- Replicates either entire farms or just a selection.
- Replicates intelligently, around network outages and restarts automatically.
- Replicates according to business rules such as "only replicate last month of documents within the HR site".
- Prioritizes SharePoint replication and replicates on a predefined schedule.
- Compresses data to replicate for minimal bandwidth usage.
- Supports complex, multi-level replication scenarios.
- It is fully integrated into your SharePoint Central Administration.

ABOUT METALOGIX

Metalogix provides content infrastructure software to improve the use and performance of enterprise content. For over a decade, Metalogix has transformed the way commercial and government organizations manage terabytes of content to improve knowledge sharing and collaboration.

Today, more than 14,000 customers rely on the company's products to upgrade, migrate, organize, store, archive and replicate content on Microsoft SharePoint, Exchange and Cloud platforms. Metalogix is a privately held company backed by Insight Venture Partners and Bessemer Venture Partners.

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