Metalogix Replicator for SharePoint

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Overview

From the beginning, replication is one of the first requests from customers who have multiple branch offices and look to provide fast local access and a high availability solution. It’s not unusual for a SharePoint deployment to need to serve multiple cities and, with concerns over performance, organizations quickly come to the agreement that a solution of replication is needed. While replication isn’t the only answer, it is common for the analysis to include replication as an option. The history of Metalogix Replicator spans multiple development lifecycles. The product is supported with SharePoint 2007, 2010, and 2013 and has been designed around the needs of customers.

When installing and configuring Metalogix Replicator for SharePoint, a replication network is created, which replicates SharePoint content between web applications in the SharePoint environment. Content can also be replicated between farms or within the same farm.

Live network bandwidth is often at a premium, and networks compensate for this by creating local copies of information on remote web applications. Managing content in this manner allows users local access to regularly updated copies of documents without taxing available bandwidth or network resources. Many replication applications allow users to view read-only copies of documents without permitting updates from remote sites. When they do permit this, the process requires complex caching servers to be established and maintained. However, Metalogix Replicator does not have this limitation.

Organizations turn to SharePoint for its ability to organize, manage and govern content as opposed to having it stored in a variety of places, such as emails or file shares. However, companies with distant or remote users who experience poor performance and reliability when accessing SharePoint put this investment at risk. Metalogix Replicator fills this gap and ensures that companies are maximizing their SharePoint investment. Replicator provides the ability to overcome distance, poor networks or weak bandwidth by synchronizing content in real-time across multiple farms and versions; bringing updated content closer to users, regardless of location.
Understanding Challenges Today

SharePoint by default is designed to be a single farm in a single data center. If you need more performance you add another server. If you need faster access you have to upgrade your link. When the servers are on the other side of the world, there’s only so much you can do out of the box to increase the performance of the pages and increase the performance of the network, server, and client. Ultimately, determining the cost for the best solution is a huge factor.

When looking at performance issues with global access, there are a lot of considerations in why performance is poor. Customers are often purchasing twice as much hardware to address availability issues.

Businesses often have to extend to meet the needs and elect to purchase a third-party solution, such as replication, WAN acceleration, faster hardware or other solutions to increase performance. People look at replication because these issues push them over the edge in their ROI justification, and it just makes sense to them to meet their performance, availability and reliability goals.

Why would you need a replication product like Metalogix Replicator for SharePoint?

- Performance – When the servers are closer to you, the performance is better because the pages can be served faster. Replication provides the ability to put the servers where you decide they should be. The logic of which sites or web apps to replicate is up to the business needs to meet your performance goals.
- Reliability – When you’ve got replicas you can switch between farms, since you’ve got more than one copy of the data.
Availability – With more than one instance you’re going to get better availability as well. You can decide how you implement either a split-brain DNS or simply have different URLs for different locations. Have F5? You can manage the intelligence in the hardware load balancer to guarantee the logic with sensing technology so the users are only sent to the farm that’s responding.

Examples of items that can be replicated are document libraries, picture libraries, slide libraries, announcements, links, contacts, tasks, issues, custom lists, surveys, Wiki page libraries, project tasks, discussion boards and permissions. Replicator also replicates many SharePoint events, including the addition or modification of web sites and site collections, templates, users, and groups.

*Figure 2: Power in the Rules and Can Be Configured to Provide Granularity*
So, how does Replicator do its work? Is there differencing going on across the wire? Yes, Replicator Packages are transferred using the Microsoft Background Intelligent Transfer Service (BITS). This technology is one that Microsoft designed and uses in DFS. In contrast to DFS, Replicator communicates solely using the HTTP or HTTPS protocols making it easy to configure port rules across firewalls or other network equipment, if necessary. Replicator can also be set to run in offline mode, which replicates Packages directly to a system drive so it can later be transferred when connected again. In this case, only local disk access is used and it is an administrator’s responsibility to transfer these packages to the target web application.

How It’s Installed

Replicator installs as a SharePoint server solution. The entire user interface is directly incorporated into SharePoint’s Central Administration page, making it easy to access and administer.

*Figure 4: Metalogix Replicator - Administrative User Interface in Application Management in Central Administration*
Reality Check and My Thoughts on Metalogix Replicator

Over time, one of the biggest requests I’ve seen from IT Pros is replication. It’s definitely a well-understood limitation of SharePoint that many have tried to work around. Most architects will try to convince their customers that they don’t need it. The reality is that many global customers will compromise their requirements for performance or they will end up with third-party solutions to address web site acceleration, WAN acceleration, or software-based solutions like replication. Clusters and mirroring do much to address availability, but while duplicating hardware in many areas, it does not add much to the multi-master requests of having good performance in a multi-office and global scenario. I’ve had customers get visibly upset when I’d tell them the second farm was simply for failover. They didn’t like that answer, but SharePoint itself does read only at best with mirroring, and that’s with some serious architecting.

Metalogix Replicator is priced based on the number of servers running the SharePoint web application service. While for availability it can be installed across the front-end web servers, it is often installed only on an index server to optimize resources. Licensing, as well, is divided across basic, standard and enterprise solutions, based on workflow replication needs and frequency and API access. Metalogix would be happy to better understand your needs and guide you to the right solution.

The biggest wake-up call is in the customizations. What are you doing in what you need to replicate? Lists and even check-in and check-out are the easy part. For what might be considered the simplest scenarios, one would still need to look at the web parts that are being used and what custom web parts might be introduced and what customizations would be expected to be configured multiple times or be replicated. Test, test, test… I’ve been surprised on both sides of things that did replicate and others I would have expected to. There’s a list of what is able to replicate in Metalogix product guide.

Synchronizing SharePoint farms in remote offices or offshore locations can be tricky. Spotty network bandwidth and slow connections pose huge hurdles. Replicator overcomes these hurdles by automatically adapting to changing network conditions and rerouting content where it needs to go. Replicator identifies and uses the most efficient route so your SharePoint farms remain available and in sync. To minimize bandwidth demands, Replicator compresses your content and syncs just the relevant changes on both ends.
So, What Are the Challenges?

Now, getting down to it... Replication is not the answer to all problems. Replicator provides content replication, and even then, you need to dig into your deployment. Not all webparts are replicated. While workflows are replicated, it's important to do some rigorous testing on anything custom. Any additional third-party solutions or server solutions that are added to the farm will need to be validated with your Replicator set-up and configuration. Settings in IIS are not replicated, end of story.

SharePoint has a mixed story around distributed farms that will take some redesign to address, other than user profiles, for which there is a Microsoft tool you can download and use. For some SharePoint components, there is no global story at all.

For the most part, Microsoft has been planning its own answers to service apps over time and has decent answers for search, profiles, and some answers for managed metadata. Others will simply need to be addressed in each farm, having separate instances to support the services.

I do believe that Metalogix has been working very close with Microsoft for years to get to the bottom of what is possible and continues to try to improve the product with each release. Replicator has made it through many releases and with many very high-profile clients and deployments and, ultimately, in some of the largest SharePoint farms and deployments on the planet. That being said, it is also true that disconnected deployments are another key scenario for off-line replication. These aren't without their challenges. Each of the configurations you'll hear are ones the customers have asked Metalogix to support and each one has its limitations.

Replication isn’t perfect. If it was it would be in the product. Microsoft has found it to be challenging enough they likely couldn’t solve it in a single release. Metalogix Replicator has been trying to address the needs around replication while trying to be honest about what does and
does not replicate. Ultimately, Replicator will reveal your SharePoint sins. If you don’t set up something on one farm that you do on another, it will quickly be revealed to the users.

Replicator will only replicate SharePoint data. It will not replicate most third-party solutions or even MS solutions like Project Server, SQL Reporting Services, or many of your customizations built on top of SharePoint. You need to handle the copying or replication of the solutions and understand how it may impact your configuration.

**Figure 3: Metalogix Replicator Configured in a One Way Through the Firewall to the Extranet Configuration**

![Image of Manage Map Families](image)

**Conclusion**

Replication has been on the top of the top 10 list of requests from customers for SharePoint needs since the first version of the product. Metalogix Replicator for SharePoint was designed to address this need and tops the market as the best content replication product on the market. It can deliver content replication bi-directional, multi-master, and at that be configured down to the events as to what should be replicated. Simply administered in Central Administration, the rules and understanding of replication may be easy to set up, but customization and third party customizations need to be tested and validated. Most server solutions will need to be manually installed on both or all farms as the case may be.

Performance, reliability, and availability are why people find that the end justifies the means. While many SharePoint architects simply avoid recommending replication as a solution, the mirroring and clusters they build may be costing you nearly as much as you’d need to implement your replication solution. Knowing this be sure to ask the questions. Replication with Metalogix Replicator for SharePoint should be part of any on premise distributed performance and global high availability considerations based on my most recent analysis. Those who have looked at it in the past should look again, the work done with workflows and document management capabilities really does make it worth a second look.