

Colligo Contributor Offline SharePoint Synchronization

This White Paper is intended for SharePoint site administrators and IT personnel who are interested in reducing bandwidth consumption without compromising on features. It examines a typical Colligo Contributor offline SharePoint deployment and illustrates how Replify's Reptor Accelerator product can radically reduce bandwidth consumption when performing both 1-way and 2-way synchronization operations.

Colligo Contributor is the world's leading offline SharePoint provider. Colligo effectively insulates remote users from issues relating to offline SharePoint performance. Colligo Contributor unlocks the power of SharePoint by synchronizing content to a local encrypted data store - delivering instant access offline and online regardless of connectivity speed. Two-way sync, data encryption, document checking, and elegant conflict resolution enables authorized users to keep content safe and up-to-date.

Replify Reptor Accelerator is the only fully virtualized Application Acceleration and WAN Optimization product for VMware and Microsoft Windows. Reptor securely accelerates applications over wide area and mobile connections without the need for proprietary hardware, empowering branch offices and remote/mobile workers with greatly improved user experiences for collaborative web applications, remote file sharing and FTP.

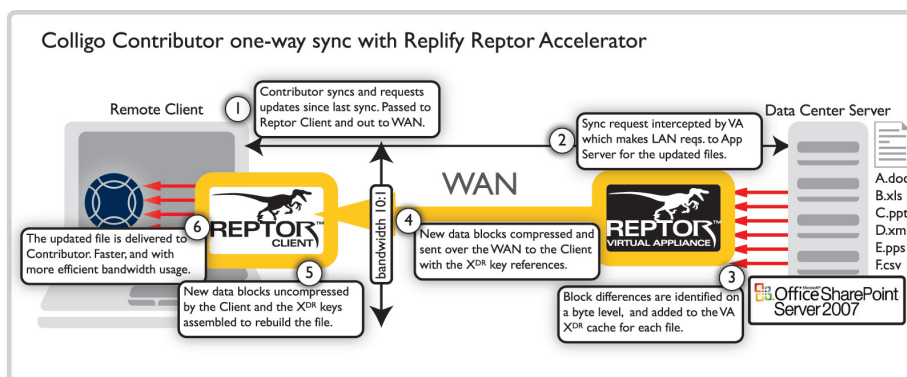
Replify have partnered with Colligo in an effort to reduce bandwidth consumption during SharePoint sync operations. The Replify & Colligo offering together performs live differential compression of data for the SharePoint content, alleviating the need to send costly redundant bytes over the wire. The upshot is that your users access documents faster and get more done. Your network is more efficient, saving bandwidth, especially over 3G, GPRS and satellite links, where bytes cost money!

Architecture

In a typical deployment the Colligo Contributor client speaks directly with the SharePoint server on a regular basis whenever a network is available in order to synchronize the updates on both the client and SharePoint server. This communication is performed using out of the box SharePoint web services and remote procedure calls. Since SharePoint does not have native differential compression, even a small change in a file will require the entire file to be transferred between SharePoint and Contributor. By deploying the Replify Reptor product in conjunction with Colligo Contributor, more efficient differential compression synchronization can be achieved. The Reptor product is deployed symmetrically and comprises a client running on the end user (alongside the Contributor client) and an appliance running in the data center on the LAN beside the SharePoint server.

The Reptor Client and Reptor Appliance intercept web service and Remote Procedure Call traffic between Contributor and SharePoint and apply differential compression to the files being transferred as shown in the figure below.

The Reptor's XDR differential compression technology intelligently detects the changes to a file, which it will learn and compress before sending across the WAN. Only the new content will be sent across the WAN after compression - all 'known' patterns will be referenced by XDR keys. This functionality is bi-directional and works for both downloads and uploads.



Test Results

Testing one-way synchronization on an updated site

This was tested for a common scenario where several (5) files on the SharePoint server were updated by other users. During the next Contributor synchronization, the 5 updated files were brought down onto the client from the SharePoint server.

File Size	File Type	Change Description
2.8M	Microsoft Word 2007	Minor content change at end of document
1.2M	Zip Archive	Renamed title
1.9M	Microsoft PowerPoint	Minor slide change at start
1.9M	Text	Minor change in middle of document
800K	Visio File	Minor graphical change

Summary

Total of File Sizes:	8.6M
Total Data Received (including control data):	8.94M
Actual Data Received over WAN (inc. control data):	0.85M
Times Improvement:	10.51 times

Testing a synchronization without updates

In addition to the differential synchronization for files, the Reptor accelerator will also reduce web service chatter required to determine which files have changed on the server. A similar test was run with NO CHANGES to the files. In this case Reptor was still able to offload over 70% of the traffic:

	Data Transferred	Total Data Transferred
Unoptimized Received	107.7 KB	151.6KB
Unoptimized Sent	43.9KB	
Optimized Received	30.8KB	44.1KB
Optimized Sent	13.3KB	

Summary

3.44 Times improvement $100/3.44 = 29.1\%$ of original traffic

70.9% WAN Offload

References

Reptor's Cross Protocol Data Reduction Technology XDR – http://www.replify.com/documentation/datasheets/REPTOR_XDR.pdf

Summary

While the scope of the updates on the file have a significant effect on the levels of WAN offload, it is reasonable to assume that most updates on shared files are frequent and minor. In this case the differential compression has a very positive effect, removing over 90% of data being sent over the WAN.

As each user in an enterprise could reasonably be syncing between 10-100MB/day of file changes this can result in many thousands of dollars being saved over the course of a year on those networks where bandwidth is metered, such as satellite and 3G.

About Colligo Networks Inc.

Colligo is a leader in client collaboration software, helping organizations drive SharePoint adoption by providing an intuitive user experience that better integrates SharePoint into the way users work on their desktops. Information workers can easily access, modify, and create SharePoint documents, forms, lists, and metadata through familiar desktop interfaces. Contributor Client delivers instant access, online and offline, for mobile and remote workers. Contributor Add-In integrates Outlook with SharePoint for better email and document management. Colligo is Microsoft Gold Certified. Learn more at www.colligo.com.

About Replify

Replify's Reptor Accelerator is the world's only 100% software Application Acceleration product comprising of a Client, Appliance and Enterprise Manager. Apart from accelerating all standard and secure web applications, the Reptor is suitable for removing redundant patterns in backup and recovery systems and traditional network file shares. With its unique seats based fully concurrent licensing model the Reptor can scale with your needs from the smallest business group within your organization to a corporate wide coverage with a simple license upgrade. Learn more at www.replify.com.

