

SteelHead™ SaaS Optimization of Microsoft® OneDrive for Business

Microsoft OneDrive for Business

OneDrive for Business, a feature of Microsoft's Office 365 SharePoint Online service, is a personal document storage workspace available to SharePoint Online subscribers. Microsoft provides a OneDrive for Business synchronization tool that makes it easy for content stored in OneDrive for Business to be synced to a local computer. In addition, the OneDrive for Business synchronization tool allows users to synchronize any document library to a local PC enabling teams to synchronize shared content.

Steelhead SaaS Enhances Office 365

SteelHead SaaS addresses SaaS performance challenges by providing an easy-to-deploy optimization solution that meets specific customer needs. SteelHead SaaS optimizes Exchange and SharePoint Online traffic to the Office 365 multi-tenant service with the award-winning Riverbed® SteelHead Optimization System to accelerate data and application protocols.

This brief focuses on performance gains when using this solution with OneDrive for Business, a feature of SharePoint Online that is part of Office 365.

SteelHead SaaS Benefits

Improved productivity

By accelerating OneDrive for Business performance, users spend less time waiting for documents to sync. Collaboration is faster and bandwidth consumption is greatly reduced, resulting in increased network capacity and a better user experience overall.

Reduced WAN impact and costs

With less network traffic, bandwidth is available for other internet services including VoIP or video. Costs for deployment of Office 365 can be reduced by avoiding the need for bandwidth upgrades.

Test Results Summary

Single File Download from OneDrive Site	97% bandwidth reduction 33x faster download
OneDrive Synchronization	96% reduction in bandwidth 2x faster synchronization

Easy Deployment

SteelHead SaaS is an add-on service to an existing SteelHead. No changes are required in the way SteelHeads are deployed. Once SteelHead SaaS is enabled, the SteelHead deployed within the enterprise automatically communicates with a secured, dedicated SteelHead CX for Cloud hosted by Akamai®. The SteelHead CX is strategically placed close to your Microsoft data center. Akamai SureRoute™ technology identifies the fastest path from your location to the SteelHead CX. All of this happens transparently. No contract is required with Akamai and you do not deploy, configure, or maintain the SteelHead CX. The result is secure, end-to-end optimization for your Office 365 traffic. Improved routing provides better network performance, especially in geographies that experience routing latency.

Network Considerations

OneDrive for Business provides a document workspace of 1 TB per user. To get started using OneDrive for Business, users populate the OneDrive for Business workspace with local files. Users can then share this content with others or replicate large team document libraries with the OneDrive for Business synchronization tool. Moving these files around between users

and Office 365, OneDrive for Business can place significant workloads on the network.

In addition, when a user adds content to a shared library, synchronization proceeds to all users that synchronize with the library, increasing use of network bandwidth as the same file is replicated many times.

OneDrive for Business Document Library

These graphs demonstrate the significant productivity and user experience benefits made possible when using Steelhead SaaS with OneDrive for Business. A 20 MB file was downloaded directly from the SharePoint Online web interface for the OneDrive for Business document library. The first graph shows the file transfer occurs 33 times faster with optimization. The second graph shows an accompanying 97 percent bandwidth reduction.

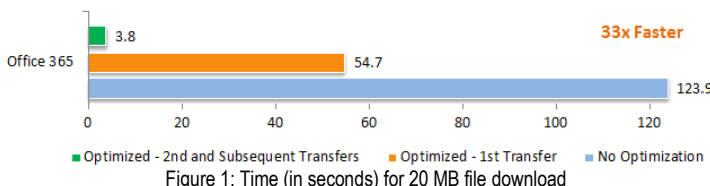


Figure 1: Time (in seconds) for 20 MB file download

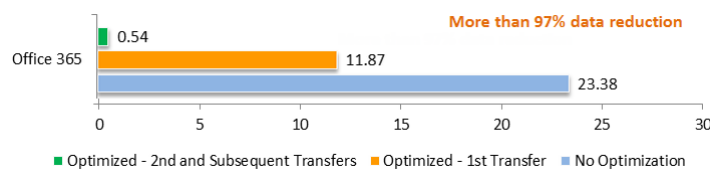


Figure 2: WAN MBs used for 20 MB file download

OneDrive for Business Synchronization Tool

Testing Parameters

- Windows 7 Professional Plus with 4 GB RAM as a client
- Microsoft Office E3 subscription was the target service
- WAN simulator placed inline, adding 100ms of latency
- Synchronization tests conducted at 4 Mbps
- Single file transfer test conducted at 1.44 Mbps
- SteelHead 1050 appliance was used with SteelHead 8.6 and SteelHead SaaS enabled
- WAN byte statistics from WAN simulator or SteelHead
- Office 365 testing used US Data centers from a US location

The OneDrive for Business synchronization tool replicates content from any SharePoint Online document library to a local folder on a user's system. Content added to the online document library is automatically replicated to the local folder. Likewise, content added to the local synchronized folder is replicated to the SharePoint Online document library. When team members synchronize to the same document library, content added by any team member is replicated to the entire team. When using SteelHead SaaS with Office 365, all of these transactions are highly optimized.

The first test used the synchronization tool to populate the document library with 741 files (500 MB). *In this test, SteelHead SaaS reduced bandwidth by 35% and improved performance by 32% (23 min vs 33.5 min).*

The next test studied replication to team members synchronizing with the same document library. The graph below shows the significant improvement in the end user experience, as well as dramatic network bandwidth reductions when using SteelHead SaaS with the OneDrive for Business synchronization tool.

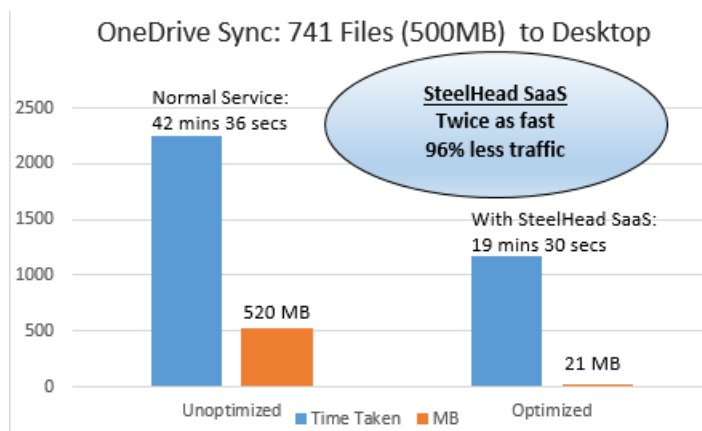


Figure 3: OneDrive for Business Synchronization Tool

Bandwidth was reduced by 96%, *eliminating all but 21 MB of traffic*. Synchronization occurred *twice as fast* under the testing conditions. These benefits are multiplied by the number of team members synchronizing the same shared content.

For more information about SteelHead SaaS and other Riverbed products and services, see www.riverbed.com.

About Riverbed

Riverbed delivers application performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com.