Improve Microsoft Exchange with Silver Peak Acceleration

Microsoft Exchange Server has long been a corporate favorite for e-mail and calendaring, but Exchange 2013 comes with its own set of challenges. Replicating Exchange databases between locations consumes significant bandwidth. Sending e-mails with even one megabyte attachments to a large team can create spikes in network utilization. This may disrupt improperly engineered networks, causing "brown-outs," and undermining other applications, particularly real-time applications such as VoIP and streaming media.

Adding bandwidth to the wide area network (WAN) fails to address the challenges of network congestion and latency. Exchange-specific optimizations are also problematic. Exchange 2013 requires Remote Procedure Call (RPC)-over-HTTP (Outlook Anywhere) for client-server communications not the previously used RPC-over-TCP. As such, Exchange-specific optimizations must be upgraded to support Exchange 2013, which increases management costs and investment.

Silver Peak Accelerates Microsoft Exchange

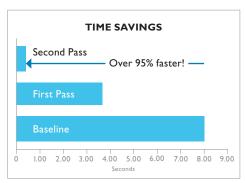Silver Peak allows any version of Micro-soft Exchange to perform as well across the WAN as it does on the LAN without special application plug-ins for Outlook Anywhere. Exchange e-mail and database replication consume less bandwidth because of Silver Peak's byte-level deduplication and compression. Latency problems are overcome through TCP and CIFS acceleration techniques; Dynamic Path Control automatically identifies the path with the lowest latency or lowest loss.

Network congestion problems, such as packet loss and out-of-order packets, are eliminated or reduced using Adaptive Forward Error Correction (FEC), Packet Order Correction (POC) and Dynamic Path Control. Silver Peak's SSL acceleration offloads Exchange servers from having to process encrypted MAPI, improving their performance.

Performance Results

Customer testing shows that Silver Peak software can shorten Exchange e-mail delivery by 95x (see Figure 1) and reduce bandwidth consumption by 50x (see Figure 2). These results were obtained out-of-the-box with no tuning or tweaking of Exchange optimization. Silver Peak strongly encourages organizations to conduct their own Exchange performance tests as numerous factors will impact individual results.
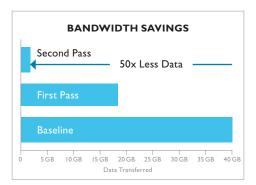
Summary

- Transfer files 95 percent faster
- Eliminate 50x Exchange data from the WAN

Testing Details

Encrypted Microsoft Exchange testing was conducted by a Silver Peak customer across a 10 Mbps MPLS connection with 25 milliseconds of latency and .1 percent packet loss.

Timed testing involved sending a 10 megabyte PowerPoint three times across an SSL-encrypted connection and then averaging the results. Bandwidth savings were measured by synchronizing a 40 GByte mailbox over the MPLS network.

The "Baseline" refers to transfers without Silver Peak software enabled. "First Pass" refers to initial transfers not seen by the Silver Peak software. "Second Pass" refers to subsequent transfers seen by Silver Peak software.

Architectural Benefits

- 50 percent lower TCO.
- 20 minutes to download and deploy.
- No forced upgrades.
- Improve every application.
- Minimize support charges.
- Eliminate import duties.
- Minimum purchase costs.
- Go virtual when ready.

Figure 1: Sending a 10 MB PowerPoint via Exchange was 95 percent faster with Silver Peak.

Figure 2: With Silver Peak, Exchange consumed 50x less bandwidth.

Silver Peak Features

Silver Peak software addresses Microsoft Exchange's major performance challenges on the WAN, requiring no additional hardware, software tuning, or application-specific plug-ins:

Bandwidth – Silver Peak data deduplication conserves bandwidth consumed by Exchange by eliminating redundant data from the WAN. The first time data is sent from the WAN, it is fingerprinted and compressed by Silver Peak. Subsequent requests are fulfilled from the local Silver Peak instance.

Latency – Silver Peak mitigates latency enabling Exchange to operate more efficiently over distance. TCP Acceleration includes windows scaling, selective acknowledgements, and HighSpeed TCP. CIFS Acceleration includes CIFS read-ahead, CIFS write-behind, and CIFS metadata optimizations. Packet coalescing re-packages small packets into a large one and Dynamic Path Control selects the fastest path to a remote location.

Congestion – Silver Peak makes Exchange performance more predictable across congested WANs. Applications can be directed down the least-congested path. Lost or out-of-order packets are recovered and resequenced in real time, avoiding retransmission delays. Traffic shaping and QoS mechanisms ensure Exchange receives the necessary bandwidth.

Secure – Silver Peak establishes an IPSec virtual private network (VPN) between locations, securing all data with AES-256, the enterprise standard for data encryption. Data-at-rest is also encrypted with AES. Silver Peak also supports SSL/TLS end-to-end encryption. Access to Silver Peak software is protected with TACACS+ and RADIUS.

Silver Peak does all of this to any scale, improving application performance from small offices to large data centers, making Silver Peak the most scalable data acceleration platform in the industry.

Deployment Benefits

Consolidate Exchange Servers

Improved Exchange performance allows IT to consolidate servers without degrading the user experience.

Improve Collaboration

Users can share files and collaborate on them more easily, spending less time sending e-mail and more time working.

Secure Data

Secure Exchange data with SSL, IPsec, and AES disk encryption without impacting optimization performance.

Lower Bandwidth Charges

Eliminating redundant data from the WAN dramatically reduces the reoccurring bandwidth charges to the organization.

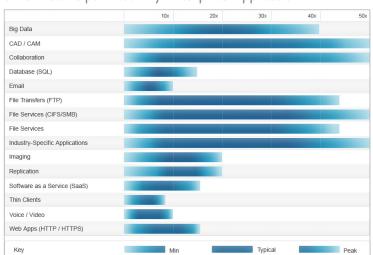## For More Information

Visit www.Silver-Peak.com

Read why AutoDesk selected Silver Peak WAN optimization.

Watch the IT director of DWP, an international design firm, explain how Silver Peak has helped his company.

Calculate your theoretical benefit with Silver Peak software using our throughput calculator.

Test the Silver Peak software for free. It takes under an hour to download and deploy.

Silver Peak Optimizes Any Enterprise Application

Application	10x	20x	30x	40x	50x
Big Data					
CAD / CAM					
Collaboration					
Database (SQL)					
Email					
File Transfers (FTP)					
File Services (CIFS/SMB)					
File Services					
Industry-Specific Applications					
Imaging					
Replication					
Software as a Service (SaaS)					
Thin Clients					
Voice / Video					
Web Apps (HTTP / HTTPS)					
Key	Min		Typical		Peak

Silver Peak optimizes every application. Actual performance will vary based on many factors.