

Accelerate Web Applications with Silver Peak

Although the Hypertext Transfer Protocol (HTTP) underlies the global Web, Web-based initiatives often leave users complaining about protracted HTTP downloads and sluggish page-load times. The combination of rich web design, large data types, and poor coding practices prove challenging for high-latency, congested wide area networks (WANs).

The obvious answer, increasing WAN bandwidth, fails to address many HTTP performance problems that stem from latency and network congestion. Conventional application acceleration solutions are also unable to accommodate the growing number of concurrent connections; today's web browsers allow triple the number of concurrent connections per host than they did with HTTP 1.1. Organizations must upgrade their application acceleration equipment before they can realize their return on investment (ROI).

Silver Peak Accelerates HTTP

Silver Peak enables HTTP to perform across the WAN as well as it does on the LAN. Silver Peak's byte-level deduplication and compression sends less HTTP data across the WAN. Latency problems are overcome by optimizing TCP and selecting the shortest

path, improving cloud applications and file transfers. Network congestion problems are eliminated or reduced with Adaptive Forward Error Correction (FEC), Packet Order Correction (POC) and selecting the least congested path. Application performance is made more consistent through traffic shaping and quality of service (QoS) mechanisms. SSL and IPSec secure data in transit.

Performance Results

Lab tests and customer experiences show that Silver Peak software accelerates HTTP performance by up to 100x. These results were obtained "out-of-the box" with no tuning or tweaking of HTTP optimization. Silver Peak strongly encourages organizations to test HTTP performance themselves, as numerous factors will impact results.

Customers have seen similar results. A supplier of wafer fabrication equipment reduced HTTP file transfer times by more than half and eliminated 93 percent of the HTTP traffic on its 8 Mbps connection (250 ms latency, 2 percent out-of-order packets). A beauty care provider reduced HTTP traffic by 87 percent across its 10 Mbps connection (63 ms of latency). A manufacturer increased throughput by 405x and reduced HTTP traffic by 75 percent on its 2 Mbps connection.

Summary

- 99% faster file transfers
- Over 100x improvement in throughput

Testing Details

Lab testing simulated a coast-to-coast MPLS connection. Those results were then validated against customer data.

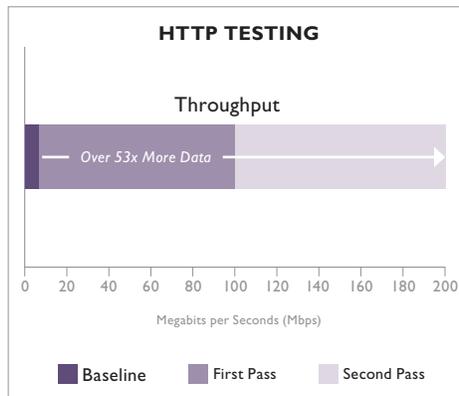
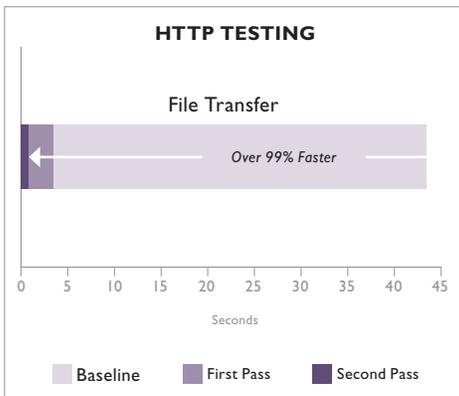
Testing was conducted across a 20 Mbps connection with 100 ms of latency and 1 percent packet loss, typical of an MPLS connection between New York and San Francisco.

File transfers involved retrieving a 20 MB file from Windows Server 2012 using a general purpose HTTP client. The client machine ran Windows 8. Throughput was measured and reported by the Silver Peak management console.

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.
- Download and deploy in under an hour.
- No forced upgrades.
- Improve every application.
- Minimize support costs.
- Eliminate import costs.
- Minimum purchase costs.
- Go virtual when ready.



Silver Peak Features

Silver Peak addresses the major performance challenges of running HTTP across the WAN, requiring no additional hardware, software tuning, or application-specific plug-ins:

Bandwidth – Silver Peak data deduplication conserves bandwidth consumed by HTTP 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 making applications more efficient over distance. CIFS Acceleration includes CIFS read-ahead, CIFS write-behind, and CIFS metadata optimizations. TCP Acceleration includes window scaling, selective acknowledgements, and HighSpeed TCP. Packet coalescing re-packages multiple smaller packets into a larger one, and Dynamic Path Control selects the fastest path to a remote location.

Congestion – Silver Peak makes HTTP performance more predictable across congested WANs. Applications can be directed down the least-congested path through Dynamic Path Control, minimizing the impact of packet loss. Lost or out-of-order packets are recovered and resequenced in real time, avoiding retransmission delays. Traffic shaping and QoS mechanisms ensure receive the necessary bandwidth.

Secure – Silver Peak protects data end-to-end with SSL/TLS and site-to-site with its IPsec virtual private network (VPN). All data, whether at rest or in-flight, is encrypted with AES-256, the enterprise standard for data 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 software the most scalable data acceleration platform in the industry.

Deployment Benefits

Centralize Applications

Improved HTTP/HTTPS performance allows IT to consolidate applications without degrading the user experience.

Accelerate the Corporate Web

File transfers complete in a fraction of the time with Silver Peak. Users can share and collaborate on files regardless of location.

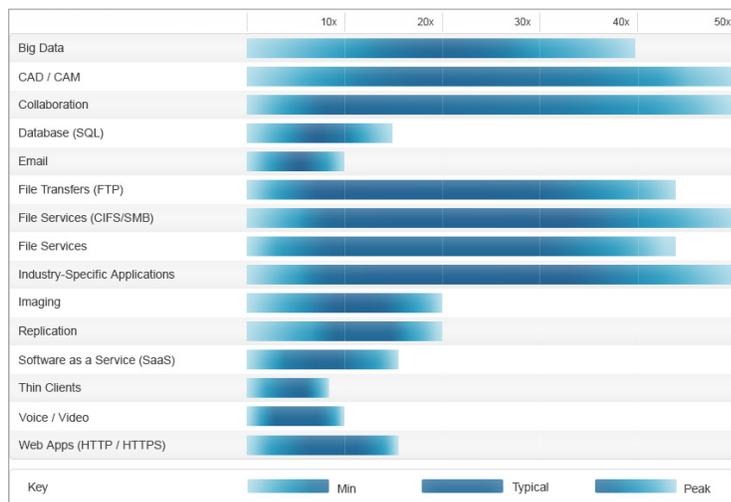
Lower Bandwidth Charges

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

Reduce Risk

Web server consolidation reduces risk to attack. Silver Peak delivers real-time encryption to protect data in transit and at rest.

Silver Peak Optimizes Any Enterprise Application



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

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.