

# How Silver Peak accelerates AutoCad, Bentley ProjectWise, Civil3D, other CAD/CAM applications over distance.

**Whether designing a new building or creating a concept car, Computer Aided Design (CAD) / Computer Aided Manufacturing (CAM) programs — such as AutoCad, Bentley ProjectWise, Civil3D, Revit, and Solidworks — are essential to the creative process. The productivity of engineering, architecture and design professionals often suffers, though, when loading drawings from remote servers or transferring CAD/CAM files between offices.**

CAD/CAM files are too large for many wide area networks (WANs) and the dependence on Common Internet Filing System (CIFS) protocol makes them more sensitive to latency and loss. Trying to address the problem by increasing bandwidth is inefficient and ineffective. Even 100 times more bandwidth will not shorten file transfers and file opens, if the problems of congestion and latency are left unaddressed.

## Accelerated CAD/CAM

Silver Peak enables CAD/CAM applications to perform as well across the WAN as they do on the LAN. CAD/CAM files transfer faster because Silver Peak’s byte-level, real-time data deduplication engine eliminates redundant CAD/CAM data from the WAN. Latency problems are overcome

by accelerating CIFS and TCP, and selecting the shortest path with Dynamic Path Control. Network congestion problems are eliminated or reduced with Adaptive Forward Error Correction (FEC), Packet Order Correction (POC) and Dynamic Path Control. Application performance is made more consistent through traffic shaping and quality of service (QoS) mechanisms.

## Performance Results

Customer experience shows that Silver Peak improves a wide range of CAD/CAM tasks, reducing the time to complete some operations by over 90 percent, and eliminating as much as 95 percent of the CAD/CAM data from the WAN. All results were gathered with Silver Peak software “out-of-the box” without any protocol tweaking or special add-ons. Silver Peak strongly encourages organizations to test CAD/CAM performance themselves, as numerous factors may impact individual results.

Results were compiled from the experience of two Silver Peak customers – M3 Engineering and Faith Technologies. File opens improved 92 percent (Revit MAP 2014 ) at Faith Technologies. M3 Engineering saw model load times improve by 67 percent and AutoCad installation times improve by 75 percent.

## Summary

- Open files up to 92% faster.
- Load engineering models up to 67% faster.
- Install programs up to 67% faster.

## Performance Details

CAD/CAM results reflect real-world experience with numerous CAD/CAM packages including AutoCad and Revit 2014.

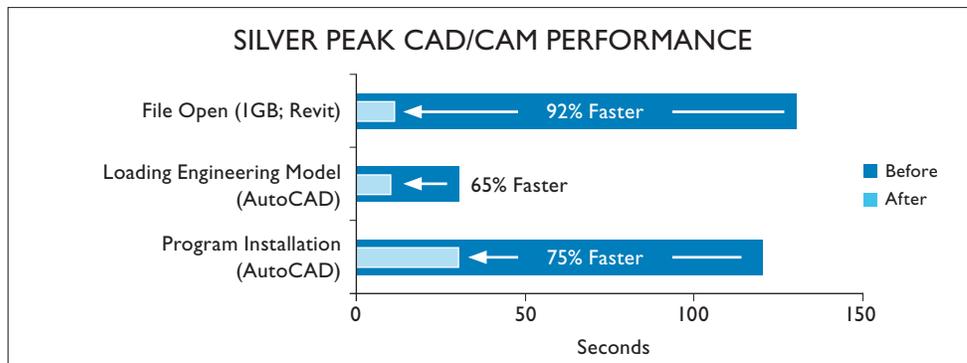
Application results examined the time to open files, and load and install applications. Network results included deduplication ratios and overall throughput improvement.

Several customers provided testing. M3 Engineering is an engineering contracting firm with a 100 Mbps connection between two locations. Packet loss was at 3 percent and latency at 5 milliseconds. Out-of-order packets were not measured.

Faith Technologies is a leader in electrical and specialty services. One Gigabyte files were opened across a 30 Mbps connection. Latency was 9.5 milliseconds. Packet loss and out-of-order packets were not measured.

## Architectural Benefits

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



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## Silver Peak Features

Silver Peak addresses CAD/CAM's major WAN performance challenges independent of the application. As such, Silver Peak customers continued to see significant performance improvement even with changes to the DWG format.

**Bandwidth** – Silver Peak data deduplication conserves bandwidth 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 protocol latency, making CAD/CAM more efficient over distance. CIFS Acceleration includes CIFS read-ahead and CIFS write-behind. TCP Acceleration includes windows scaling and HighSpeed TCP. Packet coalescing re-packages multiple smaller packets into a single larger one, and Dynamic Path Control selects the fastest path to a remote location.

**Congestion** – Silver Peak makes CAD/CAM performance more predictable over distance by identifying the optimum path to a remote location. Lost or out-of-order packets are recovered and resequenced in real time, avoiding retransmission delays. Traffic shaping and QoS mechanisms ensure CAD/CAM applications receive 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. Access to Silver Peak software is protected with TACACS+ and RADIUS.

Silver Peak does all of this to scale, improving application performance from small offices (8,000 concurrent, encrypted sessions and 4 Mbps of WAN bandwidth) to large ones (512,000 concurrent, encrypted sessions and 5 Gbps of WAN bandwidth), making Silver Peak VXOA software the most scalable data acceleration platform in the industry.

## Deployment Benefits

### Improve Collaboration

Faster file sharing improves the way distributed teams collaborate on large projects. Shift design documents to the right person or office regardless of location.

### Be More Productive

Accelerating basic CAD/CAM operations saves organization hours each week. Projects can be completed faster and proposals delivered in a fraction of the time.

### Get it Right the First Time

Centralizing CAD/CAM servers improves revision control and eliminates many errors and inconsistencies in the final design that end up costing organization.

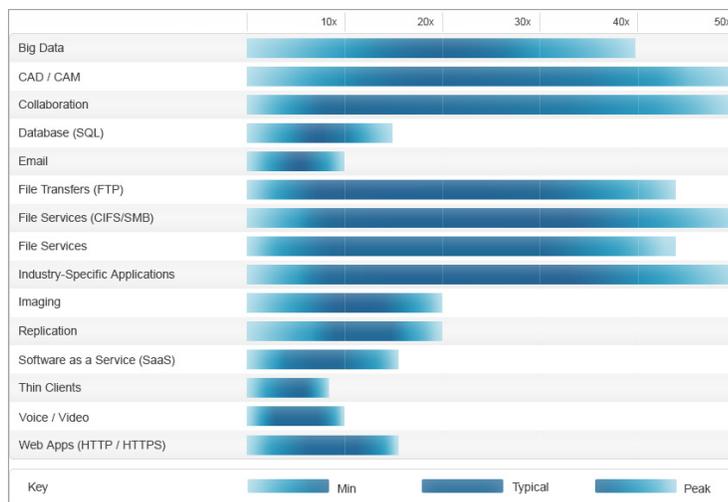
### Lower Costs

IT can lower costs by consolidating CAD/CAM servers without impacting the user experience, letting firms hire the best talent wherever it exists.

### Lower Bandwidth Charges

Eliminating redundant data from the WAN reduces reoccurring bandwidth charges.

## 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](http://www.Silver-Peak.com) and read why [AutoDesk](#) selected Silver Peak.

Watch the [IT director of DWP](#), an international design firm talk about WAN Optimization.

Learn why [Toshiba](#) selected Silver Peak.

Calculate your Silver Peak benefit using our [throughput calculator](#).

Test the Silver Peak software [for free](#). It takes under an hour to download and deploy.