

Autodesk Deploys Silver Peak to Streamline Software Development Process



Autodesk's Challenges

Autodesk, Inc. is a world leader in 2D and 3D design and engineering software for the manufacturing, building and construction, and media and entertainment markets. Since its introduction of AutoCAD® software in 1982, Autodesk has developed the broadest portfolio of state-of-the-art software applications to help customers experience their ideas digitally before they are built. Fortune 1000 companies rely on Autodesk for the tools to design, visualize and simulate their ideas to save time and money, enhance quality and foster innovation for competitive advantage.

“We knew that adding more bandwidth was not the answer to our problems.”

— Scott Walker, Manager Of It Infrastructure Architecture At Autodesk

The San Rafael, California-based company has more than 100 locations worldwide, including 40 development centers in the United States, Europe and Asia. By distributing engineering resources around the globe, the company fosters innovation and maximizes employee productivity. However, global collaboration can present unique IT challenges, particularly during “build season” when all of the company’s functional groups come together to work on the newest version of the company’s software (using Perforce and other software configuration management tools).

“The sheer volume of data being transferred across the WAN during build season was causing Autodesk problems,” said Scott Walker, manager of IT Infrastructure Architecture at Autodesk.

The business goal was to transfer 4.5GB of software build within an hour, between international sites. This is representative of the type of build transfer happening across dozens of products day in and day out. These transfers were consuming all of the WAN bandwidth at the company’s headquarters and engineering locations. At the same time, international transfers to the California HQ were crippled by high latency and packet loss across the WAN. (Autodesk’s WAN is primarily made up of MPLS and IP VPN connections, with hundreds of milliseconds of latency in some instances). This was preventing some build transfers from completing in a timely manner, stalled product development and constrained the pace at which Autodesk could innovate.

In addition to Aspera and Perforce, there are more than 70 “critical” applications that Autodesk employees actively use across the WAN, including file, email, Intranet, Internet, and Sharepoint, as well as Autodesk’s core design applications — including AutoCAD®, the Autodesk Revit® platform for Building Information Modeling (BIM), Autodesk Inventor® and the over 100 other 2D and 3D design applications the company develops for their customers. Many of these applications were adversely affected by WAN performance challenges — especially during peak periods of WAN usage.

Customer: Autodesk

Autodesk®

Network Background

- 100+ sites worldwide; 250 applications (70 mission-critical)
- Packet loss on MPLS and IP VPNS
High latency to international offices
Bandwidth saturated every “build season”

Business Challenges

- Poor WAN performance constrained product development and endangered release dates
- Internal network a “proving ground” for performance of company’s own applications
- High cost of WAN bandwidth

Silver Peak Results

- Streamlined product development process
- Deployed Silver Peak at 29 most critical engineering sites of 100+ total locations
- Reduced WAN bandwidth by an aggregate of 46 percent among top 10 applications at deployed sites, resulting in 10–20 percent reduction in overall WAN traffic
- Eliminated packet loss
- Optimized all desired applications, including file, email, web, Aspera, and AutoCAD

“We knew that adding more bandwidth was not the answer to our problems,” proclaimed Walker. “Furthermore, the executive team made it clear that they were not happy about growing bandwidth expenditures. It was time to take a serious look at alternative solutions.”

Silver Peak Solution

Autodesk first implemented Aspera, a file transfer application, as a way of accelerating build transfers across the WAN. This application accelerated the build replication process, but didn't provide the overall WAN performance or bandwidth reduction that Autodesk desired. In addition, it did not address Autodesk's ability to deliver dozens of other applications across the company's WAN, and the company's growing WAN bandwidth expenditures.

Autodesk turned to WAN acceleration as a way of solving these challenges. The company initially looked at and trialed products from a range of vendors with a single goal in mind—see which vendor can deliver the best performance across the widest range of applications.

In the end, Autodesk chose Silver Peak. The company felt Silver Peak's network approach to WAN optimization was the best fit for their robust environment, which involved over a hundred offices and hundreds of applications.

There were three specific areas where the Silver Peak solution stood out in the testing (and stands out today in Autodesk's live deployment). These include:

- **Optimize all applications.** Silver Peak showed performance gains on all 70 critical Autodesk applications. The other WAN optimization vendors tested only optimized a fraction of that, because the applications did not run over TCP or were too sensitive to latency. According to Walker, “Silver Peak's network approach to WAN optimization proved more robust than alternative vendors' application-layer approaches.”

As described above, Autodesk became heavily reliant on Aspera for build replication. This is one of their business critical applications that happened to run over UDP (not TCP). While other vendors bypass Aspera traffic, Silver Peak is delivering a 50 percent average performance improvement in the Autodesk environment.

In addition, Silver Peak demonstrated excellent optimization of AutoCAD®, Revit® and other applications developed by Autodesk.

“As a software manufacturer, it is important for us to select a solution which performs well when accelerating our products,” said Walker. “With Silver Peak, we have consistently seen excellent performance when using Autodesk's own design applications across the WAN. This is incredibly important to the company as a whole because it demonstrates that our own software, regardless of version, can operate with LAN-like performance across the WAN.”

“Silver Peak's network approach to WAN optimization proved more robust than alternative vendors' application-layer approaches.”

- WAN connections with high loss.** Autodesk operates in many global locations with poor performing networks. These WANs experience 1 percent packet loss on average, which Silver Peak corrects using the company's Network Integrity features. Silver Peak delivers the best performance on Autodesk's "lossy" WAN environments.
- Visibility and Control.** Silver Peak provides comprehensive visibility into application and network behavior, as well as advanced traffic shaping and Quality of Service (QoS) capabilities. This obviates the need for separate point products to deliver this same functionality.

Today, Silver Peak is reducing 80 percent of Autodesk's traffic across the WAN at its most critical sites, while improving the performance for all of the company's critical applications. Most importantly, Silver Peak has eliminated the WAN performance problems that used to disrupt Autodesk's productivity every "build season," while avoiding the company over a million dollars per year in comparable WAN bandwidth expenditures. By delivering an enterprise-wide solution that addresses all of Autodesk's critical needs, Silver Peak is a strategic platform for WAN acceleration.

"With Silver Peak, we have consistently seen excellent performance when using Autodesk's own design applications across the WAN."

