



**Performance Summary**

- › Reduce file access times by up to 99%
- › Allow remote employees to work with large data files as though they are in the central office

**Test Scenario**

These tests were conducted using 4MB AutoCAD 2009 files transferred over a simulated 1.544 Mbps (T1) WAN link with 100 ms latency. Both HTTP (representing typical intranet or Sharepoint distribution methods) and Common Internet File System (Microsoft file sharing) protocols were used to transfer the files.

- › First Pass, starting condition: No traffic has passed through the Blue Coat appliances.
- › Similar Object, starting condition: Similar traffic has already passed through the Blue Coat appliances. (downloading a file, modifying it, saving it back to the file server)
- › Same Object, starting condition: The same object has already passed through the Blue Coat appliances. (Access to the same file by multiple employees in the same office)

**Blue Coat Accelerates and Optimizes Autodesk AutoCAD Workflows**

AutoCAD software lets businesses design, visualize, and document ideas clearly and efficiently. From powerful 3D modeling through robust documentation and visualization tools, the Autodesk solution provides the power and flexibility to work more productively from concept through completion. It provides the tools to speed new products to market, helping customers stay ahead of intense global competition with innovative designs and streamlined product development. Collaboration in the global economy often results in the need to share design documents across great distances. While AutoCAD provides an outstanding tool for design purposes, the large size of drawing files can impact the ability of widely disbursed teams to operate effectively. Blue Coat Systems provides an end-to-end solution based on MACH5 technology to regain performance, minimize bandwidth usage, and significantly reduce the time to complete AutoCAD file operations so collaborators can get to work.

**Autodesk AutoCAD 2009 over the WAN**

Firms are increasingly utilizing widely distributed virtual teams to leverage the power and flexibility of AutoCAD to tackle design challenges. Organizations with distributed offices or far-reaching partnerships need to effectively make use of employees' expertise, no matter where they are. Wide Area Networks provide the connectivity required to share CAD documents, but because of the latency and limited bandwidth associated with most WANs, this process can be time consuming and bandwidth intensive. Complex projects can lead to large AutoCAD data files of hundreds of megabytes. These files must be accessed, modified, and shared among all contributors to a project. Significant delays in ordinary file operations, like opening or saving documents, can dramatically impact overall productivity.

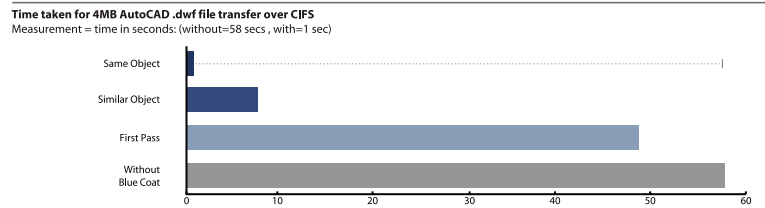
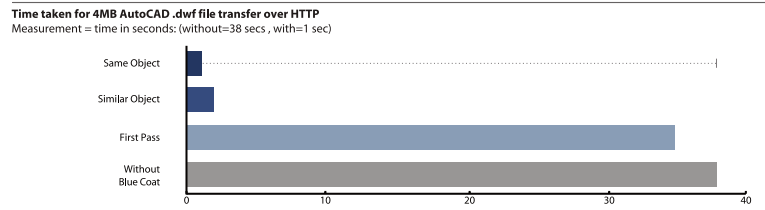
**How Blue Coat Accelerates and Optimizes Autodesk AutoCAD 2009**

Blue Coat's Application Delivery Solution with MACH5 technology improves the transfer times and reduces the bandwidth consumed for AutoCAD file operations. Object Caching allows repeated downloads of the file over HTTP or from Microsoft File Shares to be served from the local ProxySG, subject to a check for file availability. Byte Cache technology looks for repeating streams of data at the byte level and replaces them with small tokens, so that updates to existing CAD drawing files are uploaded or retrieved very quickly and with minimal usage of bandwidth. Protocol Optimisation negates the effect of latency, so that the first transfer of a file is not affected by the 'chattiness' of certain protocols over large distances or where bandwidth is heavily subscribed. Standard compression techniques are applied to all file transfers to reduce the size of the data being transmitted. In addition, Blue Coat offers industry leading Quality of Service, Bandwidth Management, Visibility and Security. This ensures that AutoCAD files are transferred with the right priority and sufficient bandwidth and not in competition with unwanted or unproductive traffic.

Blue Coat ProxyClient is also able to provide efficient and fast transfers of AutoCAD files for remote staff, users in very small remote offices and those on 3G connections. ProxyClient uses the same Wan Optimization techniques as ProxySG, and optionally offers URL Filtering and protection from Malware, Spyware and Phishing.

**Performance Results**

Using a simulated 1.544 Mbps (T1) WAN link with 100ms latency, ProxySG appliances improved Autodesk AutoCAD 2009 file transfers by more than 10x, reducing bandwidth utilization by 99%.



Blue Coat Benefits

QoS and bandwidth management

Deploy Blue Coat to intelligently prioritize and bandwidth shape Citrix traffic relative to other business critical traffic.

Optimize network traffic

Use Blue Coat's advanced TCP features, including selective ACK, congestion/packet loss recovery, TCP window scaling to optimize Citrix traffic.

Server offload

Deploy Blue Coat to compress and encrypt Citrix traffic, offloading Citrix Presentation servers.

Improve print performance

Deploy Blue Coat to reduce bandwidth utilization and shorten printing times with byte caching.

Stabilize client behavior

Insertion of Blue Coat MACH5 will stabilize and improve Citrix client behavior by decoupling Citrix clients from WAN connections – Citrix clients communicate to the Blue Coat appliance over the LAN, and Blue Coat handles the WAN side connections.

About Blue Coat MACH5 Acceleration Technology

Blue Coat MACH5 technology is a patent-pending combination of five separate application management and tuning technologies that provide unrivaled improvements in application performance and bandwidth utilization. Whether at the edge of your network, or right in the heart of it, MACH5 technology provides a powerful toolkit for meeting any application delivery challenge. These technologies include:

Bandwidth Management

Assign priority and network resources based not only on port or device, but on users, applications and content to more accurately reflect your corporate policies on the network. Works by itself, or integrates with your infrastructure QoS to provide application intelligence to the packet switching network.

Protocol Optimization

Improves the performance of protocols that are inefficient over the WAN through specific enhancements that make them more tolerant to the higher latencies typically found there. Blue Coat has been optimizing network protocols for over a decade, and offers multiple improvements for TCP, CIFS, HTTP, HTTPS, MAPI and most streaming video and IM protocols.

Byte Caching

Cache repetitive traffic found in the byte stream and serve it locally to reduce the amount of traffic that actually uses the WAN at all. Works like a customized compression algorithm for your network traffic, and leads to dramatic bandwidth savings.

Object Caching

Store files, videos and web content locally, providing LAN-like performance for WAN users, without the overhead and risk of traditional wide area file services. For content delivery, no technology does more to reduce latency and bandwidth to improve the end user experience.

Compression

Inline compression can reduce predictable patterns even on the first pass, making it an ideal complement to byte caching technology.

About the Blue Coat ProxyClient

ProxyClient builds on Blue Coat's secure web gateway and acceleration technologies to extend application delivery to the desktop. Using MACH5 technology, including caching, compression and protocol optimization, ProxyClient accelerates web and office applications for roaming and small branch users. ProxyClient delivers LAN-like user experience and Blue Coat web filtering with a simple and easy footprint for installation, configuration, deployment and ongoing maintenance.

