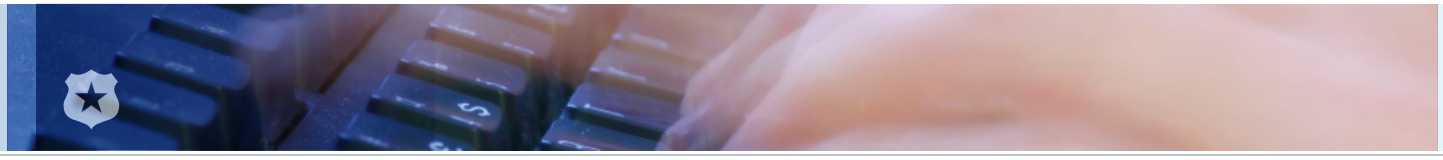


Performance Summary

- Enhance end-user experience by eliminating buffering pauses or choppiness, providing faster start times and smoother audio and video playback
- Eliminate WAN bandwidth utilization through content delivery and object caching – effectively a 99.99% improvement
- Offload servers and reduce the number of connections by serving multiple users with stream splitting

Test Scenario

These tests were performed using Windows Media Player 10.0 on a workstation running Windows XP SP2, and Windows Media Services 9.0 on a server running Windows 2003 SP2. The tests were run on a simulated 128 Kbps WAN link with 200ms latency as well as on a 1.544 Mbps link with 50 ms latency.

- On-demand test scenario: An 8 minute video is viewed. The time for the video to start is measured, as well as the WAN bandwidth utilization.
- Live test scenario: A 22 minute video is viewed by five concurrent users. The WAN bandwidth utilization is recorded with and without the Blue Coat appliances.
- Cold test starting condition: The video stream has never passed through the Blue Coat appliances.
- Warm test starting condition: The video stream has already passed through the Blue Coat appliances.

Blue Coat Accelerates and Optimizes Streaming Media

Streaming audio and video on the Internet has grown in popularity and accessibility, both for business and entertainment. This type of content, however, is very bandwidth intensive and latency sensitive, even if monitored and configured properly. Multiple users in a single branch office can quickly congest the WAN when trying to view the same content whether hosted in a datacenter or on the Internet. In addition, some streaming content can appear choppy and jittery when viewed over a WAN with high latency or low bandwidth. Blue Coat Systems provides an end-to-end solution based on MACH5 technology to improve the end user's listening and viewing experience. By reducing and prioritizing bandwidth usage, MACH5 enables administrators to overcome WAN limitations and improve streaming content delivery to remote sites or branch offices.

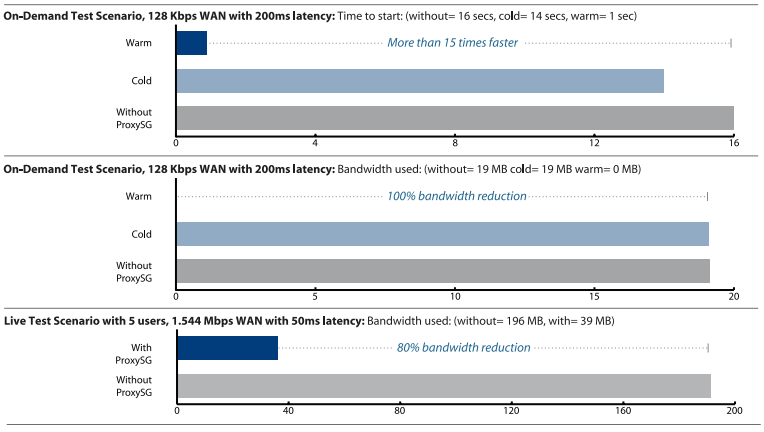
Streaming Media over the WAN

Streaming content includes audio and video and is classified into two categories. "Live" streams are only available at particular times, such as video streams of a live sporting event or Internet radio broadcasts. "On-demand" streams are stored on a server and are transmitted when requested by a user. Examples include e-learning classes or archived earnings calls. Audio and video can be embedded into web pages, or opened using audio and video players such as Windows Media Player or Real Media Player.

Media players are designed to work in both low and high bandwidth networks by throttling the bit rate of the stream. They can also minimize the effects of slow, jittery or high latency networks by buffering the data, but this is not always effective; choppiness and pauses can still occur. Some media players also require a minimum bandwidth of 128kb/sec for smooth viewing, meaning even a handful of concurrent branch office users can quickly congest the WAN, causing other applications to suffer.

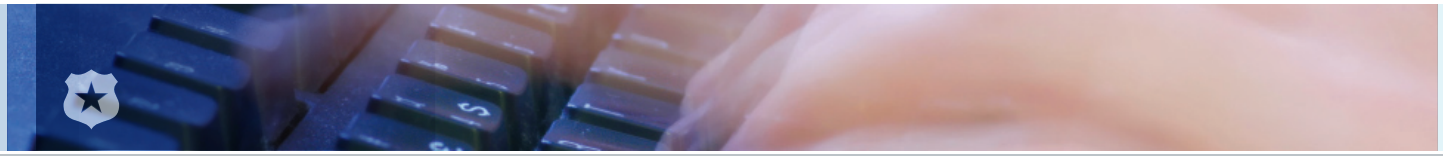
Performance Results

In a test using Windows Media Player viewing on-demand content, Blue Coat ProxySG appliances reduced the start time by over 16 times, and eliminated WAN bandwidth usage entirely. In another test viewing live content by multiple users, bandwidth utilization was reduced to only one video stream.



How Blue Coat Accelerates and Optimizes Streaming Media

Blue Coat's MACH5 streaming protocol enhancements and optimizations improve and accelerate streaming media over the WAN, reducing the effects of latency and problems associated with limited bandwidth. Through the use of object caching and content delivery, "on-demand" audio or video is stored on an appliance near the users (in the branch office), providing a smooth and optimum viewing experience without choppiness or buffering. Stream splitting serves a single "live" stream to multiple users, maintaining a single connection to the media server and minimizing bandwidth utilization. Additionally, the Blue Coat solution also provides the ability to employ bandwidth management/QoS techniques, allowing for any class of traffic to be prioritized, ensuring that streaming content does not congest the WAN and interfere with business-critical applications.



Blue Coat Benefits

Improve the listening and viewing experience

Serving on-demand content locally eliminates the choppiness caused by buffering and limited bandwidth, providing a smoother viewing experience.

Reduce bandwidth usage

Object caching and stream splitting reduce the amount of streaming traffic over the WAN.

Offload the media servers

Content delivery keeps the number of connections to the media server to the minimum, freeing up valuable resources.

QoS and Bandwidth Management

Intelligently prioritize and bandwidth-shape streaming traffic, ensuring streaming traffic and business applications do not compete for bandwidth.

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

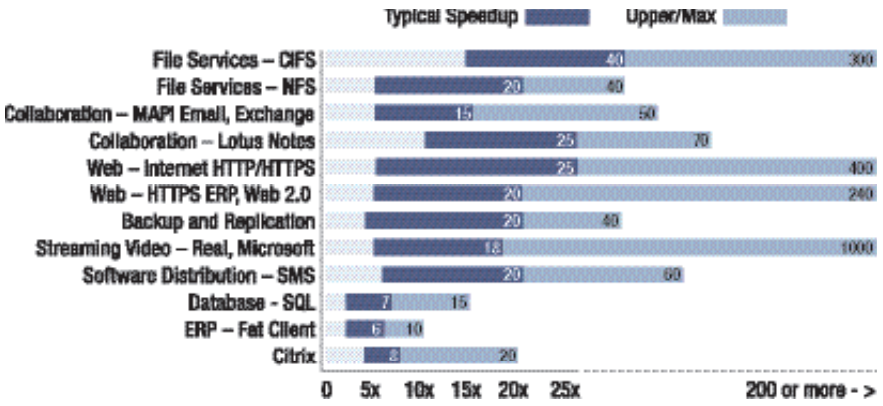
Store files, videos and web content locally, providing LAN-like performance for WAN users, without the overhead and risk of traditional wide area file services. For content delivery, no technology does more to reduce latency and bandwidth to improve the end user experience.

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.



Blue Coat Systems, Inc. 1.866.30.BCOAT // 408.220.2200 *Direct* // 408.220.2250 *Fax* // **www.bluecoat.com**