Performance Summary

> Achieve 300 times or more improvement for HTTP downloads

> Reduce bandwidth utilization by 99 percent or more for HTTP

> Improve user productivity, offload servers, create granular policy to control and protect users

Test Scenario

These tests were performed using a Windows XP client retrieving files from an Apache web server hosted on Windows 2003 server. The tests were run on a simulated WAN of 256Kbps with 40ms latency, and a T1 link with 100ms latency.

> For the cold test, the starting condition is no traffic has passed through the Blue Coat yet.

> For the warm test, the starting condition is same or similar traffic has already passed through the Blue Coat once.

Blue Coat Accelerates and Optimizes HTTP

Enterprises face mounting challenges as the adoption of web based HTTP applications grow, many of them mission critical. Although easy to use and simpler to manage, the current generation of Web 2.0 applications are more bandwidth hungry and latency sensitive than the more static applications they replace. Worse, as organizations rely more on HTTP web applications, it becomes harder to separate mission critical HTTP traffic from casual web surfing. Blue Coat appliances intelligently optimize HTTP traffic, accelerating applications, reducing latency, increasing WAN throughput, and controlling unnecessary web traffic.
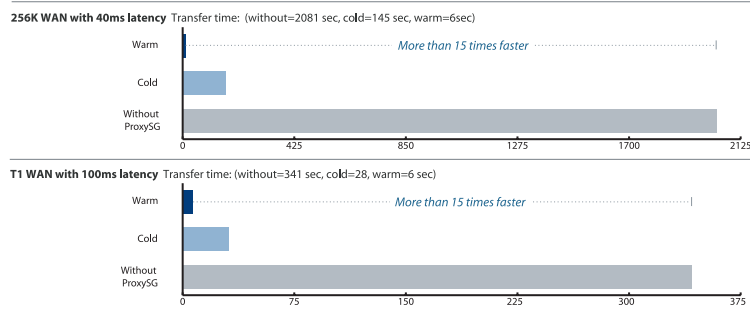
HTTP over the WAN

The immense growth and popularity of HTTP is due to the rich and diverse set of content and applications hosted on the Internet. Organizations have embraced this model, "webifying" internal applications and services within an enterprise's private network (Intranet). This is all made possible because of HTTP, or Hyper Text Transfer Protocol, which is the underlying protocol used by the Web. Today, modern web applications provide a rich user experience, at the cost of consuming bandwidth and creating additional latency.

HTTP consists of simple commands or "methods", and relies on a simple request/response mechanism to define how content is transferred between clients (typically browsers) and web servers. While HTTP is a stateless protocol, modern web applications may use cookies or other techniques to preserve state or "session" to return dynamic content customized for each user session.

Performance Results

In a test of transferring a file via HTTP, ProxySG appliances reduced the transfer time by over 99% to LAN wire speed, and decreased bandwidth usage by up to 100%. The test was transferring a 50MB file over a 256Kb WAN with 40 ms latency, and over a T1 with 100ms latency.

256K WAN with 40ms latency Transfer time: (without=2081 sec, cold=145 sec, warm=6sec)

Warm	*More than 15 times faster*
Cold	
Without ProxySG	

0   425   850   1275   1700   2125

T1 WAN with 100ms latency Transfer time: (without=341 sec, cold=28, warm=6 sec)

Warm	*More than 15 times faster*
Cold	
Without ProxySG	

0   75   150   225   300   375

How Blue Coat Accelerates and Optimizes HTTP

Blue Coat appliances have been accelerating and optimizing HTTP traffic since 1996. Blue Coat is the industry leader in web acceleration, pioneering object caching and protocol optimization techniques such as pipelining (parse and simultaneously retrieve multiple embedded objects in parallel) and adaptive refresh (refresh based on internal model of how actual web content changes). Blue Coat also provides HTTP level compression, and provides a rich and granular policy framework to control or rewrite specific classes of HTTP requests and responses.

In addition to protocol optimization and object caching, Blue Coat's MACH5 byte caching and compression technologies, in combination with TCP enhancements and bandwidth management, further improve and accelerate any web application. Many dynamic web applications contain compressible and repetitive elements which respond extremely well to MACH5 byte caching and compression technologies. Finally, the Blue Coat solution also provides the ability to employ bandwidth management/QoS for any class of HTTP traffic to be appropriately prioritized in alignment with the needs of the organization.

Blue Coat Benefits

Improve user productivity, reduce bandwidth usage

Object and Byte caching significantly improve HTTP response times while conserving bandwidth.

Direct to Net Acceleration

Continue to accelerate web HTTP applications even with a single Blue Coat appliance. Other vendors need a symmetric or paired installation to accelerate HTTP over the Internet. Only Blue Coat provides a complete solution that can still accelerate web traffic with a single appliance.

Server Offload

Deploying Blue Coat for HTTP acceleration offloads web servers, unlike competing products which operate at the transport layer and may create server overload.

Remove Unwanted Traffic

Deploy Blue Coat to unclog your networks by removing business irrelevant and malicious web traffic.

Secure the Web

Blue Coat provides granular and flexible policy to enforce your company's security requirements and protect your users.

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.

	Typical Speedup ■	Upper/Max ■
File Services – CIFS	40	300
File Services – NFS	20	40
Collaboration – MAPI Email, Exchange	15	50
Collaboration – Lotus Notes	25	70
Web – Internet HTTP/HTTPS	25	400
Web – HTTPS ERP, Web 2.0	20	240
Backup and Replication	20	40
Streaming Video – Real, Microsoft	18	1000
Software Distribution – SMS	20	60
Database - SQL	7	15
ERP – Fat Client	6	10
Citrix	8	20

0   5x   10x   15x   20x   25x   200 or more - >