Performance Summary

› Reduce bandwidth usage by 100 times or more for SAP

› Improve user productivity by increasing overall responsiveness, reducing login, download and transaction times

› Securely accelerate SAP applications

› Reduce SAP server utilization by 50% or more

Test Scenario

These tests were performed using a Windows XP client retrieving files from a SAP ERP cluster. The tests were run on two simulated WANs: one with 768Kbps with 30-50ms latency, and a T3 link with 150ms latency with 0.1% packet loss.

› Cold test, starting condition: no traffic has passed through the Blue Coat appliances.

› Warm test starting condition: the same or similar traffic has already passed through the Blue Coat appliances once.

Blue Coat Accelerates and Optimizes SAP Applications

Users of business critical applications require fast response times when performing task based operations. More specifically, users of the earlier generation SAP suite of business and enterprise applications have grown accustomed to the performance and responsiveness of the SAPGUI, a thick client. As SAP and other business applications migrate to application delivery via web protocols, users are now required to use a browser to access the same functionality via HTTP and HTTPs. To maintain the look and feel of a thick client, these browser based applications are usually rich in graphics and images. When accessed from a local area network, users do not notice any degradation in response times. However, for users in branch offices, the expectation may be for "LAN-like" performance, but when combined with WAN latency and limited bandwidth, users are now seeing extremely poor performance and response times, even for simple tasks and operations. Due to the content included in these applications (such as graphics, style sheets, and Java Scripts) Blue Coat's Mach5 technologies - including object caching, byte caching and compression – are especially well suited to improving response times and reducing bandwidth consumption.

SAP Applications over the WAN

SAP business and enterprise applications are usually deployed in a multi-tiered architecture with back end datastores and server farms hosting application servers/portals. While SAP can be deployed in various methods, the client entry point to the SAP application server/portals are typically hosted either internally or at an external hosting site. Users are normally required to authenticate via an HTTPS or HTTP forms page. Once the user is logged in, the user is tracked through a cookie and then redirected to the portal page. From the portal page, users can then access other types of applications and resources.

Using a browser to access SAP applications over the LAN versus a WAN can lead to completely different user experiences. For example, while login times over a LAN may take only 2 seconds to complete, the same login from a branch office across the WAN may take 25 seconds or more depending on the bandwidth, latency, and packet loss.

Performance Results

In a test of SAP login over an ADSL 768 Kbps link with 30ms latency, ProxySG appliances improved login times by 12 times or more, while also reducing bandwidth usage by up to 99%.

In a test of SAP file retrieval over a T3 45 Mbps link with 150ms latency and 0.1% packet loss, ProxySG appliances improved file retrieval times by 97 times or more, reducing bandwidth usage by more than 99%.

ADLS 768Kbps WAN link with 30ms latency HTTPS Login time: (no device=45 sec, cold=12.4 sec, warm=3.8sec)

More than 12 times faster

Warm / Cold / Without ProxySG — 0, 10, 20, 30, 40, 50
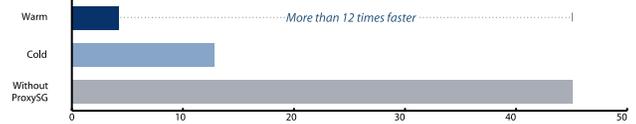
T3 45Mbps WAN link with 150ms latency, 0.1 % packet loss Transfer time: (no device=136.3 sec, cold=4.7, warm=1.4 sec)

More than 97 times faster

Warm / Cold / Without ProxySG — 0, 30, 60, 90, 120, 150
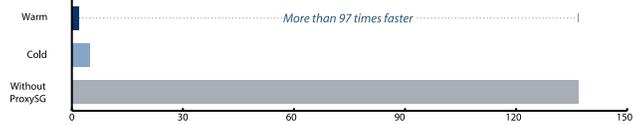
How Blue Coat Accelerates and Optimizes SAP Applications

Since SAP's business and enterprise applications are rich in graphics and other cacheable content, Blue Coat's object caching algorithms and heuristics are extremely effective. Objects that are cached are served immediately to users from the branch SG appliance, recreating the "LAN like" user experience.

HTTP and HTTPS protocol optimizations are also effective in reducing the number of round trips, while TCP optimizations maximize overall transfer and link utilization. Since SAP recommends that traffic over the WAN be encrypted, Blue Coat's SSL hardware accelerators decrease the time required for SSL handshakes and bulk encryption, minimizing response times, while offloading SAP servers.

Finally, Blue Coat's byte caching and compression techniques also reduce the amount of traffic that needs to be sent over the WAN, freeing up bandwidth for other applications.

About Blue Coat Acceleration Technology

Blue Coat acceleration technology is a patent-pending combination of data reduction and application acceleration techniques that provide measurable improvements in performance and reduction of bandwidth. Whether at the edge of your network, or right in the heart of it, Blue Coat acceleration technology provides a powerful toolkit to optimize performance for distributed applications.

These technologies include:

Protocol Optimization

Improves the performance of protocols that are inefficient over the WAN by eliminating the impact of latency native to their design. Blue Coat has been optimizing network protocols for over a decade, and offers multiple improvements for TCP, CIFS, HTTP, HTTPS, MAPI and streaming video and IM protocols.

Byte Caching and Compression

Dictionary-based gigabyte caching combines high performance disk storage for large byte patterns with innovative indexing and referencing techniques to drastically reduce bandwidth from large, repetitive data transmission. Inline compression reduces predictable patterns even on the first pass, making it an ideal complement to byte caching technology.

Asymmetric Pipelining and Object Caching for Web and SSL

Blue Coat's pipelining parallelizes multiple connections within compound web pages, moving data and objects much more quickly to the user. Object caching, with patented adaptive refresh, assures that the freshest content is served immediately to the users – without the network wait. Blue Coat delivers this acceleration in an asymmetric architecture, requiring only a single box at the branch to accelerate internal and external HTTP and SSL traffic – with no appliance required on the other side of the transaction.

Video Split Streaming, Object Caching & CDN

Large video files – whether static or streamed live – are difficult to deliver in distributed environments due to large bandwidth requirements. Blue Coat's live split streaming takes a single stream from the WAN and splits it into multiple streams at the remote site, enabling all employees to view live streams at the bandwidth cost of just one stream. Video caching makes on-demand video instantly available to employees, while CDN capabilities enable you to pre-position content at non-peak times.

Recreational traffic control & SaaS Acceleration

Classify each external website access with Blue Coat WebFilter and our real time WebPulse service in order to prioritize business, minimize recreation and prevent malware infections. Unique internet caching capabilities let you reduce bandwidth for allowed Web sites – and accelerates Software as a Service (SaaS) applications important to your business. Note, Web filtering and WebPulse are only available with the ProxySG Proxy Edition.

Bandwidth Management

Prioritize 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.

About Blue Coat ProxyClient

ProxyClient builds on Blue Coat's Secure Web Gateway and WAN Optimization technologies to secure and accelerate application delivery for roaming and small branch users. Combining Blue Coat's acceleration technologies with Blue Coat WebFilter and WebPulse service, ProxyClient delivers LAN-like user experience, policy enforcement and malware protection at the PC-level.