



Performance Summary

- › Perform V2V (virtual machine to virtual machine) conversions up to 5x faster
- › Reduce bandwidth utilization up to 99%
- › Reduce the your overall project time (or schedule) for server consolidation

Test Scenario

These tests were performed using VMware Converter installed on a Windows 2003 server. On a simulated 1.544 Mbps (T1) WAN link with 100 ms latency, VMware Converter version 3.0.2u1 was used to convert a 3GB virtual disk onto a host server running ESX Server version 3.5.0. The 3GB virtual disk is typical for a server running Windows 2003 R2 with AD, DHCP, and DNS services enabled.

- › 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.



Blue Coat Accelerates and Optimizes VMware Applications

Business and technology trends, combined with strict compliance and security requirements, are changing the way enterprises deploy networking and server infrastructure. In order to reduce cost and minimize risks, servers in branch offices are being consolidated into corporate data centers. At the same time technology evolution is changing how server consolidation is managed – physical servers no longer need to be moved or shipped. With software applications from VMware, physical servers and applications can now be converted into a virtual disk file, and copied to a local machine or even to a remote machine over the WAN. Because of the latency and limited bandwidth associated with most WANs, this process can be time consuming and bandwidth intensive. 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 all VMware operations to expedite your server consolidation projects.

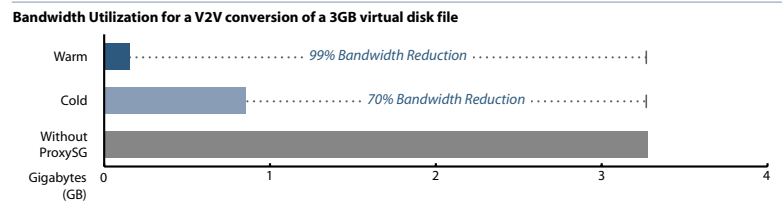
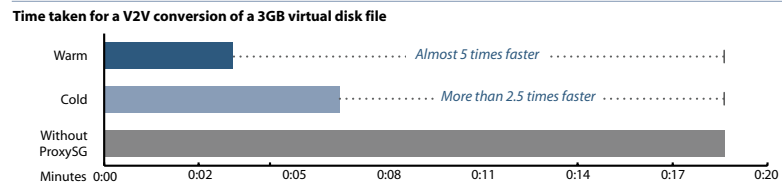
VMware Applications over the WAN

VMware provides software applications and solutions to help consolidate servers, optimize software development, and provide affordable business continuity. Physical servers can be virtualized by VMware Converter, which converts data on a physical machine into one or several virtual disk file(s) – this process is sometimes referred to as P2V, for physical to virtual. These virtual disk files can operate as a standalone virtual machine, or can be transferred onto a VMware ESX server, which can host multiple virtual machines.

The process of transferring a virtual machine to an ESX server, sometimes called V2V for virtual to virtual, works extremely well in LAN environments. But over the WAN, with reduced bandwidth and high latency, the conversion process can take considerably longer. As an example, performing a V2V conversion of a standalone virtual machine with just a 3GB virtual disk file can take over 19 minutes. Repeating the process for the same virtual machine or another machine will take the same amount of time, and use 3GB of bandwidth each time.

Performance Results

Using a simulated 1.544 Mbps (T1) WAN link with 100ms latency, ProxySG® appliances improved V2V operations up to 5 times, reducing bandwidth utilization by 99%. The test used VMware Converter to transfer a standalone machine with a 3GB virtual disk, representing a Windows 2003 R2 server with AD, DHCP, DNS services enabled.



How Blue Coat Accelerates and Optimizes VMware Applications

Blue Coat’s Application Delivery Solution with MACH5 technology, features protocol enhancements and caching optimizations to improve and accelerate VMware applications over the WAN, reducing the effects of latency and problems associated with limited bandwidth. Through the use of compression and byte caching, the bandwidth required to transfer virtual disk files over the WAN is minimized. When combined with protocol optimizations, the impact of WAN latency is mitigated, achieving LAN-like response time for VMware operations and server consolidation tasks. Additionally, the Blue Coat solution provides the ability to employ bandwidth management/QoS techniques; allowing for any class of traffic to be prioritized, ensuring that VMware traffic does not congest the WAN, and freeing the network for business critical usage.

Blue Coat Benefits

Reduce bandwidth usage

Compression and byte caching significantly improve VMware operations, reducing response times while conserving bandwidth.

Expedite your server consolidation projects

Deploy Blue Coat to complete server consolidation more rapidly, reducing risks and meeting compliance requirements.

QoS and Bandwidth Management

Intelligently prioritize and bandwidth-shape key application traffic, ensuring key business applications or users do not compete for bandwidth with non-critical traffic or users.

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 preposition 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.