

2010 Application Delivery Networking Challenge

Accelerating, Securing, Optimizing & Monitoring
Applications



2010



Think fast:

The changing requirements of WAN Optimization

Apuva Davé
Vice President,
Product Marketing
Riverbed Technology



Selecting the best tools for your environment

Why WAN Optimization Became a Billion-Dollar Industry

Over the past 7 years, WAN optimization has transformed from an interesting point-product that solved isolated problems into a strategic cornerstone of enterprises' application delivery strategy. Not surprisingly, during this time WAN optimization evolved to meet a growing set of customer needs. These needs not only encompassed additional acceleration capabilities, but also changes in how the technology is integrated into environments, where it can accelerate traffic, and adjacent functionality such as visibility and application-intelligent control.

Historically, the value of WAN optimization was three-fold. First was the simple act of cutting bandwidth use through intelligent deduplication: where before three or four T1's were needed to support a branch office, now just one T1 will fulfill that office's needs. And that was without causing a riot from employees! Saving bandwidth also drove a highly defensible ROI – one small capital cost or regular managed service fee can eliminate significant increases in monthly and yearly bandwidth costs. Any CFO could sign on to that business case.

At the same time businesses needed to overcome the performance problems associated with the regionalization and globalization of their workforce and customer base. Users everywhere needed data and application access, but the performance of their existing applications, routing infrastructure, and WAN latency stifled the ability to deliver LAN-like performance of applications around the world.

As needs evolved, businesses also saw the value of WAN optimization in making the consolidation of remote servers back to the data center much more successful. End users were more productive and complained less, so IT could consolidate and cut costs while not sacrificing business performance. Again, the case to be made for saving on server CapEX, support, and maintenance continued to allow the WAN optimization business case to be straightforward and defensible.

All of these hard, quantifiable results led businesses to determine that the ROI on WAN optimization was in many cases six months or less. Now tens of thousands of enterprises and SMBs deploy WAN optimization. The use cases span branch offices, mobile workers, and data centers. WAN optimization is purchased as a stand-alone product or as a managed offering from system integrators, service

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providers, and value-added resellers. And so enterprises realized billions in ROI from a powerful new technology.

End of story, right? Not so fast – read on to learn how WAN optimization has evolved into a complete model of enterprise IT performance.

WAN Optimization Now Drives Strategic Decisions

Because WAN optimization sits at the intersection of applications, networking, and storage, its potential goes well beyond the perceived benefits that enterprises had in the past. In fact, WAN optimization has now evolved into an architectural design element that shapes the performance lifecycle of IT.

Such a lofty claim has to start with the ability to dynamically *understand* how applications and networks are performing today. The best WAN optimization solutions provide systems that give deep visibility into application performance. These tools allow you to simultaneously spotlight performance pains but also potential problem areas. Smart visibility tools can baseline what is ‘normal’ performance and alert you to any abnormal performance characteristics, allowing you to drastically reduce the mean time to find problems and avoid digging through reams of information to find the culprit. At the same time that it allows you to dig down, these types of visibility tools allow you to report up, providing the high-level information that enables business managers and technical leaders to understand performance and how it may be impacting the organization.

With a deep and more powerful understanding of how the business uses its networked resources, WAN optimization can more intelligently accelerate applications and storage throughout the business. This is where the core *optimization* value still comes into play. What has evolved over time is how and where optimization takes place. Systems that depend on file caching for part or all of their optimization have now mostly become irrelevant for businesses; moreover, WAN optimization systems that have just limited themselves to CIFS and MAPI protocol optimizations often look like basic toys compared to systems that have layered on optimizations for encrypted exchange, NFS, SharePoint, lotus notes, oracle, Citrix VDI, RDP, SSL, EMC SRDF, FCIP... you get the picture. If optimization were simply about Layer 4 tuning, WAN optimization would be features of other products instead of a full category on their own.

With the ability to drive deeper visibility into where servers are and how applications are performing, plus optimizing performance everywhere, a complete WAN optimization can drive new ways to effectively *consolidate* back to the data center and within the branch office. In addition to making remote server centralization possible without performance problems, the best WAN optimization devices deliver “branch office box” capabilities by using virtualization to allow flexible deployment of other services directly on the device. This allows items like print servers, active directory, DNS/DHCP, streaming media, firewalls, routers, and even custom applications to be deployed in the branch without any additional hardware. In addition to saving thousands per branch in CapEx costs, this drives your company to cut energy costs and become greener.

Four considerations to future-proof your WAN optimization Investments

Although the benefits of WAN optimization have certainly proven out for many thousands of enterprises, choosing a technology implementation isn’t just about what the technology can do today –

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it's also about where the technology provider is taking their solutions tomorrow. Here are four considerations to discuss with your WAN optimization provider as you look out two to five years:

- Mobility – Does the provider deliver a fully integrated mobility solution? Acceleration to the mobile worker must use the same technology and connect with the same data center appliances as the branch offices to drive the best possible performance and ROI across the integrated system.
- Cloud & Virtualization – As the cloud (in its many forms) becomes more important, it's essential that WAN optimization can extend to SaaS, PaaS, and IaaS vendors anywhere. Your WAN optimization provider should have a defensible plan and the right relationships to make this happen. At this point, they should also be able to talk to you about initial results with customers in specific use cases.
- Disaster Recovery – Since consolidation has become so important for driving IT efficiency, it's important to consider the DR ramifications. With fewer sites becoming more important to everyday operations, robust disaster recovery operations become essential. WAN optimization can make DR processes an order of magnitude more cost effective and reliable, but only if they are certified with the backup software developers and the storage vendors that you use. Look to make sure your WAN optimization vendor is certified with EMC, NetApp, HP, Hitachi, IBM, and other software providers as well. Look beyond what you have actually implemented today, as if you decide to switch storage providers you shouldn't have to switch WAN optimization providers.
- Consider the 'radical roadmap' Savvy WAN optimization providers are now looking to take WAN optimization to entirely new places. Along with expected developments to accelerate more protocols and integrate more easily, WAN optimization vendors are looking at building technology that optimizes virtual storage, virtual servers, and virtual desktops at the block layer. This has the potential to dramatically change the consolidation landscape by enabling greater branch office centralization of storage and even VDI infrastructure. These technologies will also help build a better branch office box solution to dramatically simplify the edge of the network. WAN optimization technology may also extend to cloud storage, enabling acceleration and deduplication of storage off premise to make storage faster and cheaper as well. Consider these future tools as part of any WAN optimization ecosystem that you invest in.

Conclusion

WAN optimization has evolved into a complete system that provides deep, actionable visibility; optimization across the broad range of applications that enterprises use the most; and the right tools to consolidate back to the data center and within the branch. Work with your WAN optimization provider to learn how all of these powerful tools can help drive greater IT performance within your environment today.

For more information about Riverbed's solutions described here, please visit:
www.riverbed.com or call Riverbed Technology at 415-247-8800