# Four Little-Known Ways WAN Optimization Can Benefit Your Organization

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# HIGH PERFORMANCE CONNECTIVITY PROVIDES COMPETITIVE ADVANTAGE

## How WAN optimization ROI is achievable in as little as six months

Over the past nine years, WAN optimization has transformed from a point-product that solved isolated problems into a strategic cornerstone for application delivery. New acceleration capabilities boost user productivity and satisfaction while reducing time to market. WAN optimization can now be more flexibly integrated into environments to accelerate diverse traffic types, and it includes functionality such as inbound QoS, network performance visibility, and application-intelligent control.

Historically, the value of WAN optimization was three-fold. First, it cut bandwidth use through intelligent deduplication so that, for example, where three or four T1s were once needed to support a branch office, one would simply suffice. Saving bandwidth also drove a defensible ROI – one small capital cost or regular managed service fee could eliminate significant increases in monthly and yearly bandwidth costs. Any CFO could sign up for that business case.

Second, WAN optimization helped businesses overcome the performance problems associated with the regionalization and globalization of their workforces and customer bases. Applied in tandem with data center consolidation, it helped to reduce cost, increase control, and drive efficiency. Users everywhere needed data and application access, but application performance, complex routing infrastructure, and WAN latency stifled the ability to deliver to them LAN-like performance, regardless of where in the world they happened to be. WAN optimization put that challenge to rest.

Third, businesses saw the value of WAN optimization for consolidating remote servers back to the data center. With the performance gains, end users were more productive and complained less, so IT could confidently consolidate and cut costs. Savings on server capex, support, and maintenance continued to allow the WAN optimization business case to be straightforward and defensible. Moreover, it also was used to consolidate data centers to drive efficiency, reduce both capex and opex, and scale the infrastructure in the data center without costly upgrades.

Now, tens of thousands of enterprises and SMBs deploy WAN optimization solutions. The use cases span branch offices, mobile workers, data centers, and private and public clouds. And solutions are available as a stand-alone product or as a managed offering from system integrators, service providers, and value-added resellers.

With such great results, many businesses determined that the ROI on WAN optimization solutions was in many cases six months or less. As a whole, enterprises have realized ROI in the billions of dollars from this powerful technology. But the truth is, only the surface has been scratched. WAN optimization has evolved into a model for complete enterprise IT performance.

## WAN optimization now drives strategic decisions

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

To fully appreciate this requires an understanding of how applications and networks perform today. Leading WAN optimization solutions have the ability to provide deep visibility into application performance. They allow IT to simultaneously spotlight performance pains and potential problem areas. Smart visibility tools can baseline what is "normal" performance and alert to any abnormal performance characteristics. In turn, IT can reduce the mean time to find problems and avoid digging through reams of information to find the culprit. Such visibility tools also provide high-level information for business managers and technical leaders looking to help them 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. Solutions that depend on file caching for part or all of their optimization have now mostly become irrelevant for businesses. WAN optimization solutions 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, and HTTPS: add in application prioritization to this formula and you get the perfect recipe for optimal performance. If optimization were simply about

Layer 4 tuning, WAN optimization would be features of other products instead of a complete category.

In addition to making remote server centralization possible without performance problems, the best WAN optimization solutions 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 cuts energy costs and contributes to any green initiatives. But WAN optimization solutions can go much further.

## Four ways WAN optimization can drive more value across top IT initiatives

Although the benefits of WAN optimization are well understood, choosing a technology implementation isn't just about what it can do today – it's also about where the technology provider plans to take their solutions tomorrow. Here are four considerations that should be discussed with providers before any purchase decision:

- Mobility – Does the provider deliver a fully integrated mobility solution? The same acceleration technology that connects mobile workers should be used in the data center and branch offices to drive the best possible performance and ROI across the integrated system.

- Cloud and 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. A WAN optimization provider should have a defensible plan and the right relationships to make this happen. They should also be able to talk about initial results with customers in specific use cases.

- Disaster recovery (DR) – Since consolidation has become so important for driving IT efficiency, it's important to consider DR ramifications. With fewer sites becoming more important to everyday operations, robust DR 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 in use, such as EMC, NetApp, HP, Hitachi, IBM, and other software providers. A decision to later switch storage providers shouldn't mean a switch of WAN optimization providers as well, so plan accordingly.

- Consider the "radical roadmap" – Savvy WAN optimization providers are now looking to take WAN optimization to entirely new places. Sure many will accelerate more protocols and make integration easier, but some 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. It 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 data acceleration and deduplication off premise to make storage faster and cheaper as well.

## Conclusion

WAN optimization has evolved into a complete system that optimizes traffic across a broad range of applications that enterprises use the most, while providing deep, actionable visibility into performance. And it serves as a great tool to consolidate data centers and branch services. WAN optimization providers are continually evolving solutions that help drive greater IT performance for any environment, and enable an unprecedented level of intelligence and control over IT assets.

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

## About Riverbed

Riverbed delivers performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at **www.riverbed.com**.

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