

White Paper

Practical Advice for Streamlining Business Continuity/Disaster Recovery Solutions

By Bob Laliberte

January, 2011

This ESG White Paper was commissioned by Riverbed and is distributed under license from ESG.

Contents

Executive Summary	3
Global Businesses Demand Thorough Protection	3
IT Transformation has Implications for BC/DR Environments.....	4
New Technologies and Trends Create Challenges for Organizations of all Sizes	5
Technology Solutions to Overcome Issues	7
Practical Advice for Getting Started	9
Technologies to Enhance Application and File Performance	9
Riverbed Solutions for BC/DR	10
Riverbed Solutions in Action.....	10
The Bigger Truth	11

All trademark names are property of their respective companies. Information contained in this publication has been obtained by sources The Enterprise Strategy Group (ESG) considers to be reliable but is not warranted by ESG. This publication may contain opinions of ESG, which are subject to change from time to time. This publication is copyrighted by The Enterprise Strategy Group, Inc. Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of the Enterprise Strategy Group, Inc., is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact ESG Client Relations at (508) 482-0188.

Executive Summary

To remain competitive in a global marketplace, businesses need to adapt quickly to ever-changing requirements. The days of a 9 to 5 economy have been replaced by an on-demand 24x7 marketplace where both consumers and businesses expect to get the products and data where and when they want it. To deliver this level of service, organizations are extremely reliant on information technology to cope with this always on and dynamic environment.

These market conditions and strategic use of IT results in organizations creating robust business continuity/disaster recovery environments that will enable them to continue operations or recover in the shortest possible timeframes. Unfortunately, these solutions can become quite complex and costly. With data continuing to grow at a dizzying pace and new technologies like server and storage virtualization, orchestration, automation, and even cloud services more readily available and adopted, organizations can easily become overwhelmed when it comes to architecting an effective business continuity/disaster recovery (BC/DR) environment.

The goal of this paper is to highlight these challenges and provide some “practical advice” for streamlining a BC/DR environment. We will further explore how solutions from [Riverbed Technology](#) can help accelerate a more effective and optimized BC/DR environment and enable organizations to remain competitive in a highly dynamic, global market.

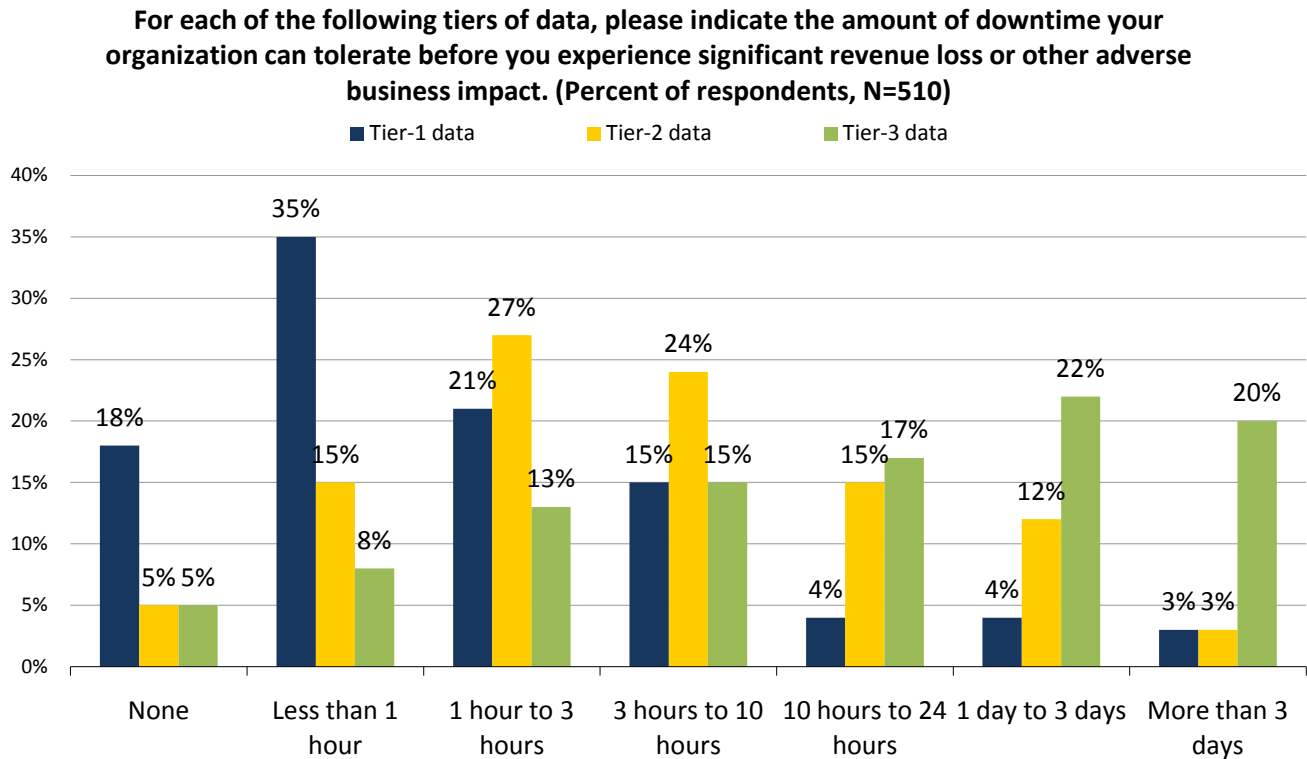
Global Businesses Demand Thorough Protection

Organizations face enormous competitive challenges in a global marketplace. Data is collected and distributed via the Internet at lightning speed and, because of this, windows of opportunity are dramatically smaller. In order to maintain competitive differentiations, organizations must be able to respond quickly to changing market dynamics. Most, if not all, enterprise organizations rely on IT to provide the requisite agility and understand that maintaining operations or recovering as quickly as possible in the event of an outage is critical to the business. As a result, organizations are building out robust BC/DR environments to support mission-critical services and data. This is no easy task, especially considering the fact that data continues to grow at an astronomical pace and the list of regulations for protecting, securing, and making data accessible gets longer every day. The organizations that can respond instantly to new challenges and maintain services and data availability while scaling to meet growth opportunities will survive—those that fall behind put their businesses at risk.

Indeed, organizations rely more on their data than ever before. In a recent ESG research survey, organizations were asked about the amount of downtime they could tolerate before experiencing significant revenue loss or other adverse business impact. As Figure 1 demonstrates, the results reflect the importance of keeping tier-1 mission-critical data available with 18% of organizations reporting that they can't tolerate any amount of downtime and the vast majority (74%) of organizations reporting they can only tolerate three hours or less.¹ It is also important to note the amount of tier-2 and tier-3 data that requires zero or less than three hours of downtime. As organizations deploy multi-tier applications, they need to fully understand the interdependencies of all applications and data in order to be completely protected. Keep in mind that, in many cases, these interdependencies could span not only an internal data center, but potentially extend to include a cloud service. With customers, partners, contractors, and remote employees all relying on access to that data, continuous availability is a “must have,” not a “nice to have.”

¹ Source: ESG Research Report, [2010 Data Protection Trends](#), April 2010.

Figure 1. Downtime Tolerance, by Business Value of Data



Source: Enterprise Strategy Group, 2010.

To meet those demands, organizations have to deploy BC/DR solutions that match their needs. These needs are typically expressed in terms of how quickly an organization needs to be able to resume operations, called Recovery Time Objectives (RTO), and how much data an organization can afford to lose, called Recovery Point Objectives (RPO). Creating a BC/DR environment is not new for most enterprise organizations—many have employed some form of BC/DR for quite some time. They have deployed robust solutions for replicating their mainframe, storage, and database systems for years and, prior to that, moved copies of paper documents to offsite locations to ensure recoverability.

So what’s changed with BC/DR? A lot: as business and information technology has proliferated over the past 10 to 15 years, BC/DR coverage has expanded from back office systems to all types and tiers of business data that need to be protected. Plus organizations need to understand how new or emerging technologies will impact BC/DR environments, for better and worse!

IT Transformation has Implications for BC/DR Environments

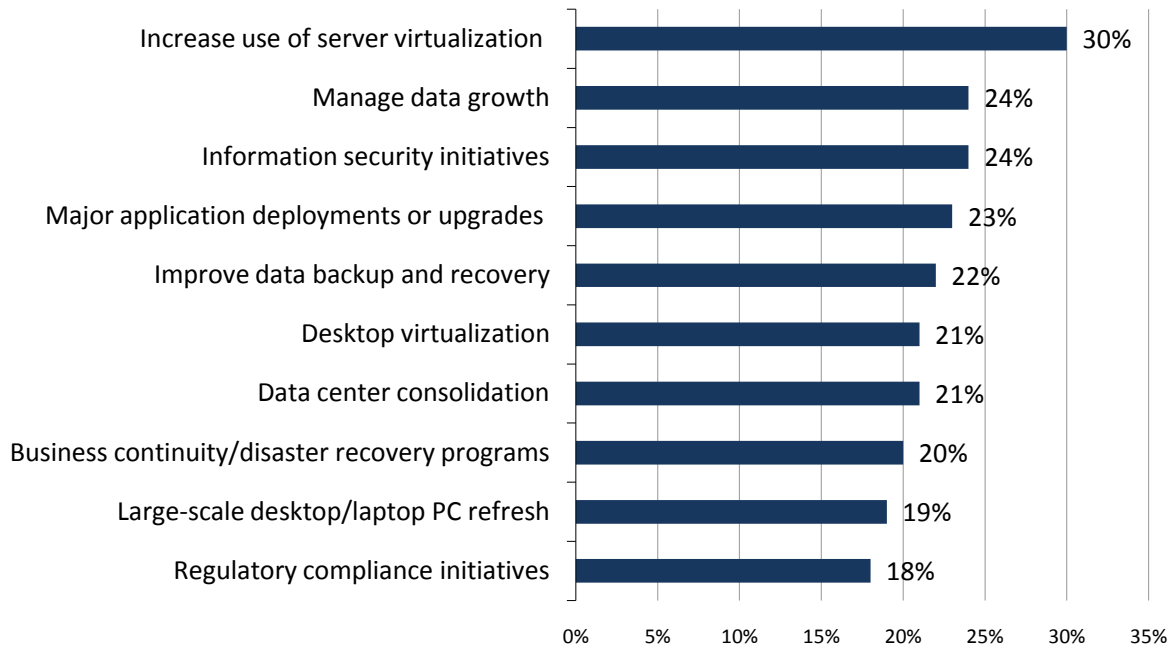
In addition to global market pressures and greater dependence on IT to power the business, the IT landscape itself is undergoing a dramatic transformation. Organizations are discarding the legacy monolithic stack (one app/one server/dedicated storage) of the past in favor of highly virtualized, dynamic resource pools. This has a direct impact on BC/DR environments and how they are architected. According to ESG’s 2011 IT spending intentions survey, among organizations’ top ten IT priorities are increasing their use of server virtualization, managing data growth, improving backup and recovery, consolidating data centers, and building out BC/DR programs (see Figure 2).² One could easily make the case that each and every one of these will have an impact on the BC/DR environment. Server virtualization is causing organizations to re-evaluate how they protect and back up virtual machines; increased data growth is driving the need for bigger pipes to move all the data within desired windows; information security initiatives are driving the need to encrypt data in flight and at rest so it is fully protected; and data center

² See: ESG Research Report, [2011 IT Spending Intentions Survey](#), January 2011.

consolidation drives efficiency and reduces cost, but increases risk, making it even more important to have a robust BC/DR environment in place.

Figure 2. Top IT Initiatives for 2011

Which of the following would you consider to be your organization's most important IT priorities over the next 12-18 months? (Percent of respondents, N=611, ten responses accepted)



Source: Enterprise Strategy Group, 2011.

Rounding out the top ten, compliance and regulatory issues are also playing a bigger role in BC/DR plans. While not all regulations mandate a formal BC/DR plan, many, like HIPAA in the health care industry, specify that data must be kept available. The best way to ensure availability is to keep data protected and recoverable. The financial services industry is governed by the Gramm-Leach Bliley Act (GLBA), BASIL II, and SEC Rules that specify business continuity in the event of a man-made or natural disaster. State disclosure laws for data breaches and the EU data directive are playing more prominent roles as well. And with the cost of notification and monitoring between \$30 and \$120 per account, a data loss or breach that affects millions will cost an organization 30 to 120 times that number, not to mention the bad publicity the incident will create.

New Technologies and Trends Create Challenges for Organizations of all Sizes

Continuing to deploy new technology to create environments that better respond to market dynamics creates new challenges in terms of protecting and making resources available. Those technologies include:

- Server virtualization.** According to ESG research, organizations have greatly benefited from increasing their use of server virtualization, with most reporting reduced CAPEX and OPEX as well as faster provisioning times.³ And, with 93% of respondents indicating they have deployed server virtualization technology or plan to, it is fairly ubiquitous in organizations of all sizes. It has, however, also impacted environments: respondents report that it has generated more network traffic, changed the way backup and recovery is performed, and even changed the way BC/DR occurs. As organizations continue to achieve higher consolidation ratios of VMs to physical machines, consolidation will only serve to increase risk to the business—a robust BC/DR environment is required for a highly virtualized environment.

³ Source: ESG Research Report, [The Evolution of Server Virtualization](#), November 2010.

- **Cloud technology.** Organizations are also carefully evaluating the impact cloud services can have on their BC/DR plans. New offerings and price points enable new options. Cloud technology:
 - **Enables new paradigms for small and medium businesses.** The public cloud offers price points low enough that many organizations feel compelled to leverage some type of cloud compute and/or storage infrastructures as part of their BC/DR plans. But how this impacts current processes or existing investments and the ability to connect to the cloud are common challenges.
 - **Enterprises are exploring hybrid models.** A number of larger organizations are deploying their own internal cloud technologies to gain the benefits of a rapidly scalable, self-provisioning infrastructure. For certain applications like CRM and e-mail or for archived data, organizations are investigating and leveraging cloud services to fulfill particular needs. In these hybrid models, organizations need to ensure they can deliver equal or better application or data availability and performance. This results in BC/DR environments expanding to include strategic partners and cloud providers.

- **Data center consolidation.** Another popular IT trend has been to consolidate the number of data centers utilized. It is not uncommon to hear about organizations consolidating 100 or more data centers down to six or seven. The goal is to not only eliminate expensive real estate and reduce power and cooling bills, but also reduce the number of applications supported and drive types used across the enterprise. *However, the greater the consolidation, the more potential risk* as more applications and data are housed in one location—typically the consolidation has resulted in greater distances between those data centers and the people that use them. Remaining data centers must be fully protected and well connected to ensure that users have access to applications without impacting productivity. As the IT transformation occurs, organizations must also deal with:
 - **Rapid data growth.** As ESG research in Figure 2 outlined, the ability to manage data growth will be a primary concern. Not only will future applications and data growth impact the amount of bandwidth required, but business processes can also create instant traffic congestion. Certain tasks like data replication, nightly backups, and month- or year-end processes result in short term spikes that can dramatically impact network performance. This is even truer for companies leveraging server virtualization technologies that need to replicate not only data files, but also the operating systems and applications in those files. In these cases, the ability to move a lot of data in a very short time may be a major challenge. *Companies are forced to accept asynchronous data replication because of the increased data loads and inability (either cost or availability) to secure sufficient bandwidth to meet these transient needs.* Failure to accommodate these fluctuations could ultimately impact data availability and user productivity.
 - **Ensuring adequate application performance.** *The implementation of a BC/DR environment cannot negatively impact regular business processes.* Users expect applications to perform as they did prior to a DR site being added. In fact, ESG research indicates that performance issues rank among the top three challenges preventing more widespread use of server virtualization technologies. Users demand LAN-like performance even if the data needs to traverse the WAN and IT needs to be able to prioritize network traffic based on the criticality of the application to the business. Without this capability, productivity on mission-critical applications could suffer because employees are checking out YouTube or a scheduled backup window is extending into business hours.
 - **Delivering adequate BC/DR service level agreements (SLAs).** *The network can have a dramatic impact on DR service level agreements (SLAs),* typically measured by RPOs and RTOs. Traditionally, organizations ordered more bandwidth in order to improve SLAs. However, additional bandwidth will not improve the speed of light—the greater distances between users and data centers, the higher the latency and the greater the challenge to meet desired BC/DR SLAs becomes. These issues could result in data being lost and significantly longer recovery times in the event of a disaster. With most companies leveraging storage-based deduplication and incremental backups, many organizations forget that initial backup and full data restore times can be very long over the

- network without sufficient bandwidth and that these technologies create a tremendous amount of overhead on the storage itself.
- **The cost of bandwidth.** Pricing for bandwidth continues to drop, but not proportionally to the rate of storage growth and it is still expensive to maintain large pipes. ESG's annual IT spending survey shows that over the last three years, the number one justification for new IT expenditures is the ability to lower OPEX. However, signing multiyear contracts for large bandwidth networks runs directly in contradiction to this trend. *Instead, organizations need to drive as much efficiency as possible into network connections to lower those monthly fees.* As organizations continue to deploy data-intensive web applications, rich media, VoIP, and, increasingly, virtual desktops, they will demand more bandwidth and ubiquitous connectivity. Depending on the size and distances required, costs can become prohibitively expensive. Even harder, accurately sizing the connectivity needed for day one versus day 1,000 can be extremely difficult in a rapidly changing environment.
 - **Security priorities.** In addition to playing a major role in a company's BC/DR plan, *the network must also provide ample defenses against malicious code exploits and hacker attacks, control access, and ensure data is securely transferred.* Finally, BC/DR networks must include the ability to report and audit for governance and compliance. Another security consideration is the elimination of an existing process, like backing up to tapes and physically transporting them vs. backing up online. This reduces the number of places data resides, which increases the security and reduces the burden of the audit process (fewer locations to audit).

Technology Solutions to Overcome Issues

While new technologies and trends like virtualization, cloud, and consolidation are creating new challenges related to BC/DR, other technologies are evolving to provide solutions. These solutions include WAN optimization and cloud storage accelerators or gateways which enable organizations to develop more cost-effective and efficient BC/DR solutions.

- **Cloud storage accelerators and gateways.** Organizations that want to take advantage of cloud services now have technology that enables them to opt for a flexible, pay-as-you-go service while minimizing disruption to the business and delivering optimized throughput and performance. These devices are important as they provide some critical services including:
 - The ability to integrate with existing storage environments, which will enable organizations to seamlessly transfer data to cloud targets with minimal disruption and optimal efficiency (i.e., you don't need new storage or have to re-write applications).
 - Built in deduplication, allowing all cloud traffic to be managed centrally.
 - The ability to accelerate and optimize traffic to and from the cloud over the internet.
 - Secure data transfer by encrypting data in flight as well as at rest (in the cloud).

These cloud enablers should help:

- **SMBs leverage the cloud more effectively.** Cloud enablers are plug and play appliances that will allow SMBs to connect to the cloud quickly and easily to take advantage of a remote data repository for backup and recovery data. The key to this technology will be the ability to integrate with existing solutions, eliminating the need to recreate processes and retrain employees.
- **Remote locations connect to cloud.** In some cases, it may not make economic or business sense to replicate data back to a centralized data center for recovery and archival purposes. In other cases, specific regulations may mandate that data be held within the confines of a particular country. In these situations, organizations can leverage cloud environments built within those particular countries rather than build out their own regional data centers.

- **Enterprises archive data.** For enterprise organizations looking to develop a hybrid cloud strategy, especially for tertiary or archive data, cloud enablers will provide the requisite performance, protection, and ease of use to accelerate adoption of cloud storage for many large enterprise organizations.
- **Traditional WAN optimization applications.** WAN optimization solutions have grown to encompass high bandwidth data center traffic as well as remote sites and mobile workers. Each environment has its own unique DR requirements.
 - **Data center to data center.** One of the challenges in selecting a second site for BC/DR is obtaining suitable connectivity at the desired location. Depending on the amount of data and the distance between locations, traditional carriers may not be able to provision sufficient bandwidth. The result is that organizations are challenged with bandwidth congestion and potentially packet loss. However, WAN optimization technologies with multi-Gbps throughput that offer deduplication, compression, and high availability configurations can create efficiencies that enable companies to use standard service provider networks. This could potentially save millions in capital and operating costs if an organization has to relocate a data center due to insufficient network connectivity. At the very least, there is the potential to save tens to hundreds of thousands of dollars in reduced network costs between sites.
 - **Remote office to data center.** As more services are consolidated in the data center, IT will try to limit not only the number of applications, but also the amount of hardware and software required at each location. This includes removing the challenge and burden of performing tape backups at each site and then shipping the tapes to an offsite location. Eliminating tape backups reduces management overhead at each site, minimizes the IT support required, and dramatically reduces software licenses at each remote site. Although many remote sites are even more bandwidth-challenged, WAN optimization provides the requisite services to optimize connectivity and enable backup of any remote site to a centralized data center.
 - **Remote worker to data center.** Remote access is a much higher priority as more workers are mobile or working remotely. Severe weather conditions have driven many organizations to re-evaluate their capabilities in this regard and now ensure that workers can access key applications remotely with LAN-like performance. In the case of a disaster that forces failover to a secondary data center (located out of region perhaps), workers can quickly access applications and information from designated temporary locations or from home—without any impact to productivity. Also, because remote users may be accessing or working with sensitive business information, this technology can be leveraged to back up all remote laptops and desktops.
- **Network and application analyzers.** As organizations roll out more highly virtualized cloud environments, one of the biggest challenges becomes delivering adequate application performance. In fact, ESG research indicated that performance is ranked third among issues holding back further adoption. Users need to have the same level or better of application performance or IT will hear about it—loudly. These solutions should have the capability to discover all critical systems and their interdependencies to other applications and even users. As discussed earlier, for BC/DR purposes, it is imperative that organizations have this holistic knowledge so comprehensive solutions can be put in place. The ability to monitor and report on DR-specific applications like backup or snapshots is also imperative so organizations will know that the environment has successfully completed a backup and is protected or, conversely, alerted to the fact that the backup was not completed. Along similar lines, these devices should provide information about the network to aid the determination of a root cause of a problem and the steps to take to remediate—for example, the case of a temporary network outage versus losing access to a data center and needing to invoke a BC/DR plan.

Practical Advice for Getting Started

Though cautiously raising IT budgets, organizations still have to justify new purchases based on their ability to reduce spending or improve business processes. The technologies described above have the capability to both reduce operational (network) and capital (new data center) costs while also serving to improve business recovery times. This can be accomplished for:

- **Existing BC/DR solutions.** For companies with existing BC/DR environments that leverage network connectivity, *it is worth taking the time to investigate WAN optimization*. In a best case scenario, these technologies may be able to reduce existing network bandwidth requirements or at least eliminate the need to order additional capacity. WAN optimization solutions can improve network traffic management and efficiency. This could reduce total consumption needs and enable network costs to remain flat or even decrease. In addition to lowering costs, organizations could substantially improve the time it takes to replicate data, perform backups, or recover data. *In turn, these improvements result in lower RPOs and RTOs and help to guarantee better SLAs to the business*. Plus, as organizations continue to deal with rapid data growth and deploy more production applications into virtualized server environments, they will have even more data traffic to contend with. Network analyzers will play an increasingly important role as IT will have to prove equal or superior application performance once the new BC/DR solution is in place.
- **New DR solutions.** In many cases, implementing a robust BC/DR plan is thwarted by high costs. The network is typically the limiting factor as many organizations can't afford the amount of bandwidth required. This is especially true for SMB environments. *By leveraging WAN optimization and cloud enablement technologies, companies can dramatically reduce network and backup costs and achieve even better SLAs for their BC/DR environments*. Even more important, these technologies can also help overcome latency (via protocol optimization including FCIP, SRDF, etc.) and throughput limitations that couldn't be solved by any amount of additional bandwidth.

Technologies to Enhance Application and File Performance

Many of these technologies will not only enhance BC/DR environments, they can also bolster performance to dramatically increase productivity at many different levels across IT. Specifically, WAN optimization and cloud storage accelerator technologies provide:

- **More efficient access of large files.** Less data needs to be sent over the network when technologies like deduplication, compression, and caching are employed. This means that only changed data is sent between sites or to the cloud, which results in higher productivity as frequently requested information is stored locally to dramatically shorten access times.
- **The ability to benchmark, test, and accelerate application performance.** Leveraging technologies like load balancing and policy-based quality of service (QoS), critical applications can receive priority bandwidth allocation. Additionally, protocol optimization is used to reduce the impact of chatty protocols, streamlining communication between sites. While this applies to applications that enable BC/DR, it also applies to critical day-to-day applications like Exchange, SQL, and SharePoint that are accessed over the network by remote locations and mobile workers. The benefits extend beyond the data center and remote offices and down to mobile or home workers.
- **Enhanced security.** WAN optimization and cloud storage accelerator technologies provide secure communications by encrypting data in flight and at rest. It also authenticates users accessing applications and data. WAN optimization and cloud storage accelerators can also help reduce the load on back-end servers by offloading processor-intensive security operations for SSL/TLS and network encryption. If organizations leverage WAN optimization to consolidate backups from remote sites, it would also dramatically reduce the potential for lost or stolen tapes from all those sites.

Riverbed Solutions for BC/DR

Riverbed is a pioneer and the leading provider in the field of WAN optimization technologies. Since its inception in 2002, it has been focused on delivering solutions to help accelerate applications, improve file sharing, and optimize WAN traffic. It has expanded its portfolio of offerings to include solutions that accelerate the adoption of cloud services and analyze application performance. More specifically, Riverbed solutions include:

- **WAN optimization solutions.** Riverbed offers Steelhead appliances that scale from remote offices with just a few workers to enterprise data centers supporting thousands of employees and bandwidth-hungry data-center-to-data-center data replication environments. Riverbed also has a range of software-only options, including Steelhead Mobile which is suitable for remote or mobile workers interfacing with Steelhead appliances located at any company facility and Virtual Steelhead, a version of its traditional Steelhead appliance that can be deployed on a virtual machine. It has recently announced a version that can be deployed in a cloud environment to optimize data transfer from a company data center to public clouds. To ensure ease of use and deployment across a global enterprise, Riverbed leverages the same operating system, the Riverbed Optimization System (RiOS), for the entire product line, including Steelhead Mobile, Virtual Steelhead, and cloud versions. The solutions scale from laptops with internet connections to data center level connectivity with 4 Gbps throughput.
- **Cloud storage accelerators.** The Riverbed Whitewater appliance enables organizations to utilize a variety of cloud storage providers as backup targets. The Whitewater appliance is already integrated with many popular backup software solutions like IBM TSM, Symantec NetBackup and Backup Exec; it can connect to EMC Atmos, ATT and Amazon S3; and it will support many others so that customers do not need to develop new processes or learn new tools. More than just gateways, Whitewater appliances securely deduplicate and accelerate data to and from cloud storage, improving backup windows, recovery times, and data migration, too.
- **Network optimization and analysis.** The Cascade solution from Riverbed provides the insight and analysis required to optimize networks, manage application performance, and ensure success for data center consolidation projects. The technology allows organizations to properly plan for, provide detailed reporting of, and validate application performance in critical networks. The solution leverages agentless technology and can be integrated with the Riverbed Services Platform (RSP) at remote sites.

With over 8,700 customers and proven performance across leading data protection/storage vendors such as EMC, NetApp, Dell, and IBM, it was pretty easy to find a customer willing to talk about and validate Riverbed's technology in a BC/DR environment. The results of implementing Riverbed's Steelhead appliances were pretty dramatic.

Riverbed Solutions in Action

Florida-based Company with an Existing DR Environment

Environment: This organization implemented a more robust DR environment after its primary data center was impacted during Hurricane Wilma. The company established a secondary site located out of the region to support its SAN-to-SAN data replication environment. The data centers are connected via a 10 Mbps link and data is replicated asynchronously (not in real time) due to the distances involved. It provides the business with a recovery point objective of 2.5 hours, meaning that in the event of a disaster, they will lose only 2.5 hours of data. Prior to the second site being implemented, the RPO would have been at least 24 hours. As part of the company's best practices, IT fails over to the secondary site during hurricane season and replicates back to the primary.

Challenge: Facing significant data growth, the company needed to increase bandwidth between sites. Based on network traffic, bandwidth would have to be doubled to a 20 Mbps connection, a move that would have increased its network spend by \$4-5 K per month—an extra \$48K to \$60K per year. Given the pressure to keep budgets flat or down, the IT department researched alternatives.

Solution: While investigating their options, they discovered Riverbed and decided to meet with the sales team. After the first meeting, the company decided to conduct a proof-of-concept test between their facilities to validate Riverbed's claims. Not only was the test successful, but the company never removed the test equipment—instead they purchased the appliances already in place. They found that with a small upfront investment in Riverbed, they could keep their network bandwidth and costs flat, enabling them to achieve a return on investment (ROI) in less than one year.

The Results: In addition to keeping their network budget flat, they were able to dramatically improve their RPO from 2.5 hours down to 30 minutes, an 80% reduction. Based on their testing, IT also feels confident that with the current solution, they can increase their throughput to around 200-300 Mbps before they need an upgrade—but not to the network, just to a bigger Riverbed appliance. Most importantly, the IT staff doesn't have to worry about spending a lot of time maintaining the Steelhead appliance as they don't even know the appliance is there. It doesn't require any attention—it just does its job.

The Bigger Truth

In order to remain competitive in a global environment, organizations need to be able to react quickly to changing market dynamics. A big part of that is operating 24 hours a day, every day, which translates to zero, or as little as possible, downtime, so organizations have to adapt their BC/DR environments. This is easier said than done, however, as web/network-based business applications, services, and files can demand low latency connectivity, large amounts of bandwidth, and unforgiving SLAs. If the BC/DR architecture can't deliver the goods, user productivity, employee morale, and corporate revenue are bound to suffer the consequences—not to mention the potential for data loss, failed recovery attempts, and business outages. Organizations need to mitigate the risk created by consolidation data by ensuring a proper BC/DR environment.

Network and cloud optimization and monitoring solutions can have a dramatic impact on existing BC/DR environments and may be the key technologies that enable an organization's first BC/DR environment. End-users are rapidly adopting server virtualization technologies and incorporating them into best practices for consolidating and optimizing the server environment. WAN optimization has the ability to do the same for the network. Making a modest investment (especially when compared to the costs of outage) in WAN optimization can dramatically reduce or at least defer ongoing network costs, typically providing an ROI in less than one year. For those organizations looking to leverage cloud storage seamlessly, cloud enablers and accelerators provide a clear solution.

Organizations that currently have a BC/DR solution that leverages a network should consider the improvement that WAN optimization technologies and cloud storage accelerators could make in their environments. This is especially true for those organizations at an inflection point—needing to upgrade bandwidth or improve RPOs. While solutions engineered seven or eight years ago have worked fine, there is now an opportunity to dramatically reduce costs and improve performance. For other organizations, new cloud computing and storage options provide opportunities to provide higher levels of protection and enable remote locations to better protect data.

If your organization has delayed implementing a solution because of high network costs and the inability to achieve desired RPOs, WAN optimization and cloud acceleration technologies, like those from an industry leader like Riverbed, could be the solutions that finally allow you to streamline the BC/DR environment and reach the level of protection your company needs.



Enterprise Strategy Group | **Getting to the bigger truth.**