

SOLUTION BRIEF

Network-Based Backup and Data Replication with Riverbed and EqualLogic

A Joint Solution by Riverbed and



One of the greatest challenges in IT is effectively backing up and protecting the vast and growing amounts of data stored throughout the distributed enterprise infrastructure.

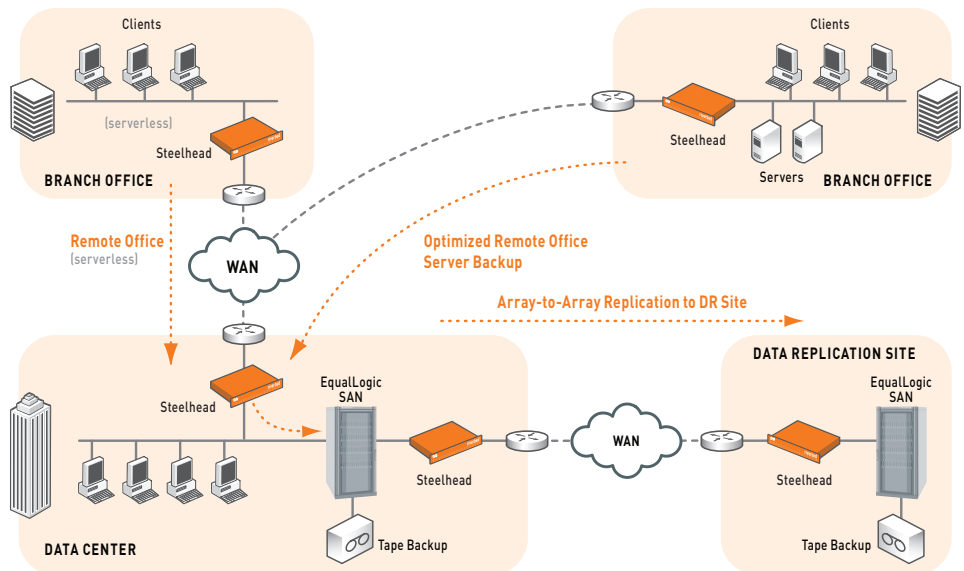
Riverbed Steelhead appliances and EqualLogic PS Series SAN Arrays can enable or facilitate network-based backup approaches that can fulfill the most difficult data protection challenges.

This joint solution addresses the key limitations that make network-based backup a windows too long and unreliable, as well require too much bandwidth. Simultaneously, this joint solution provides a high-performing, low cost SAN for consolidated data.

Wide area network-based approaches to data backup and disaster recovery are naturally limited by the performance of the WAN, and the storage infrastructure that resides at each site. Bandwidth limitations and network latency can make backup take much longer than desired, making such processes ineffective and costly. At the same time, legacy fibre channel storage solutions often cost too much for most businesses to deploy a comprehensive backup or disaster recovery strategy. These challenges can make WAN-based backup impossible without significant costly WAN and storage infrastructure upgrades.

By overcoming the combined challenges of bandwidth limitations and latency on the WAN as well as storage infrastructure challenges, Riverbed's Steelhead appliances and EqualLogic's PS Series Storage Arrays have successfully enabled and facilitated common network-based approaches for backing up large amounts of data in your distributed enterprise:

- Centralized backup and recovery of servers and desktop machines in remote offices
- Replication of centralized data repositories between data centers



Riverbed and EqualLogic products can interoperate in order to optimize both remote office backup and data center replication across the WAN. EqualLogic's Array-to-Array replication software simplifies and automates remote office data protection for both desktops and servers, but is often hampered by latency and bandwidth limitations – challenges which Riverbed overcomes. In addition, once the data is stored centrally on a SAN in the data center, it must be replicated to a separate disaster recovery site. Riverbed can facilitate the replication to the DR site minimizing redundant data and optimizing chatty protocols.

Centralized Backup and Recovery

Today's enterprises must support employees and computer resources that are distributed throughout the world to meet demands of the global marketplace. When critical data is no longer hosted at just one physical location, the challenge of backing up and securing data is magnified. Traditional approaches involve deploying tape backup equipment and processes to each location hosting data, and hiring or contracting local resources to manage these resources. This can be a tenuous – or even unrealistic proposition.

Network-based backup becomes feasible with Riverbed and EqualLogic, in many cases through use of existing WAN links without any bandwidth upgrades. Network-based backup onto an EqualLogic PS Series Array allows for consolidation of data into the data center, where it can be placed onto a high performing, low cost iSCSI SAN. Backup data is then more secure, and easily accessible in the event of a restoration event. Riverbed optimizes the regular transfer of backup data over the WAN, accelerating backup onto an EqualLogic SAN by 5 to 50 times, and up to 100 times faster. Riverbed's approach eliminates data redundancy across applications or servers – typically by 60 to 95%, going well beyond other data reduction mechanisms found in other storage replication products. Riverbed's Transport Streamlining and Application Streamlining mechanisms also reduce the chatty protocols associated with long backup windows.



Network-Based Backup and Data Replication with Riverbed and EqualLogic

Riverbed and EqualLogic simplify and optimize the transfer of data over the WAN for backup and data migration purposes, all at an affordable price point. These revolutionary technologies have been tested and proven in numerous customer implementations for out-of-the-box compatibility that delivers the following benefits:

- Affordable CDP (continuous data protection) for mid-sized enterprises
- Low cost consolidation of data onto a high performing iSCSI SAN
- Centralized, disk-to-disk backup strategies that simplify backup replication.
- Reduced backup windows and transfer times to maximize application availability
- Increased WAN capacity or deferral of WAN upgrades
- Accelerated TCP performance to hundreds of Mbps to fully-utilize high-speed WAN links
- Simplified deployment and management: appliances can each be set up with minimal effort, typically in 20 minutes or less

Replication of Centralized Data Repositories

An effective disaster recovery strategy requires that all data be stored redundantly at multiple physical locations. In the event of a disaster that destroys primary data, there will be a second copy of the lost data at a different physical location. Such a strategy ensures that a single cataclysmic event, such as hurricane, flood, or terrorist act, will never destroy all of your corporation's data.

Implementation of an effective disaster recovery solution requires a data replication solution capable of transporting large amounts of data over the long distances required for geographical diversity in the data storage sites, and a cost-effective storage infrastructure. EqualLogic and Riverbed's joint solution minimizes cost and dramatically accelerates the complete disaster recovery process.

The Riverbed and EqualLogic Joint Solution

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Riverbed also provides technology for replicating data hosted on remote Windows servers. This feature is also compatible with EqualLogic's PS Series array, which was the first storage system to be recognized by Microsoft's Simple SAN program for Windows server integration. For those environments requiring more sophisticated backup management and monitoring functionality, Riverbed optimizes data transfers over any backup product used to perform the data replication, providing unlimited ease and flexibility for enterprises.

About Riverbed

Riverbed Technology is the pioneer in wide area data services (WDS), a fast-growing product category that solves the problems of high latency and limited bandwidth that plague a wide variety of applications over distributed networks. Riverbed's Steelhead appliances provide the highest level of performance across the broadest range of applications over WANs, accelerating applications by up to 100 times, and reducing WAN traffic by up to 95%. By providing optimizations that are orders of magnitude greater than what users experience today, Riverbed is changing the way people work – and enabling, for the first time, a distributed workforce that connects as if they were local.

The Wall Street Journal named Riverbed the winner of its 2005 Technology Innovation Award in the Network/Broadband/Internet category. In addition, *InfoWorld* has named Steelhead a "Technology of the Year" in both 2005 and 2006, as the "Best WAN Accelerator". Riverbed's award-winning solutions are available worldwide from resellers who are members of the Riverbed Partner Network, from Riverbed OEM partners, or directly from Riverbed.

About EqualLogic

EqualLogic is the leading provider of iSCSI-based, all-inclusive storage area network (SAN) solutions that enable businesses – from Fortune 500 to small and mid-size organizations – to realize the economic benefits of consolidated, self-managing storage.

Based on a vision of "simplifying networked storage," EqualLogic's peer storage architecture combines advanced software features with fully-redundant, hot-swappable hardware, integrated in a modular chassis design. This architecture delivers an affordable, enterprise-class storage system that is easy to manage and always available.

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