

Riverbed optimizes the transfer of data over the WAN for backup and datamigration purposes. Through its revolutionary technology, Riverbed delivers the following capabilities:

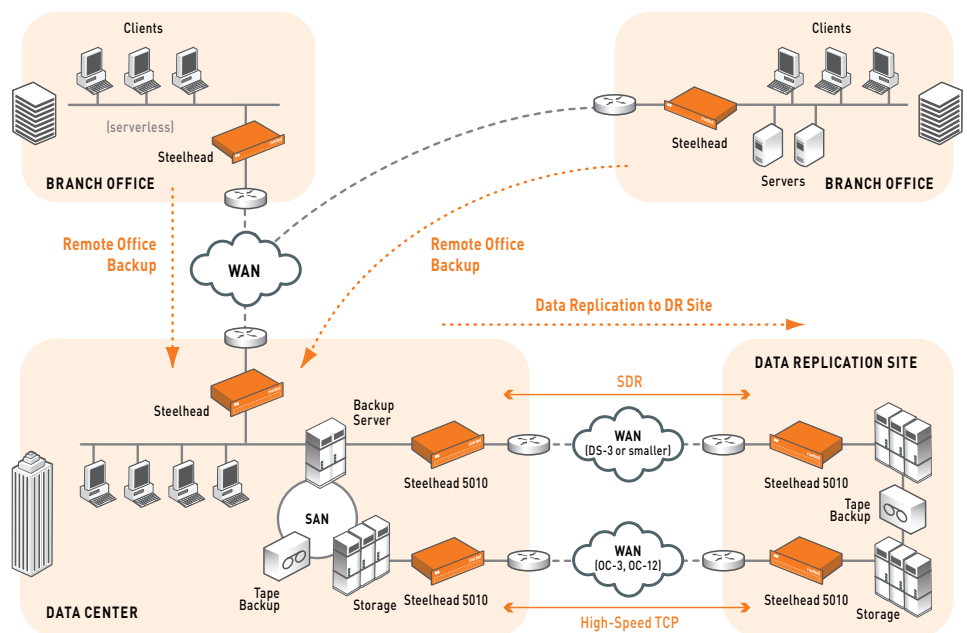
- » Enables centralized, disk-to-disk backup strategies that simplify remote office backup and data center replication
- » Reduces backup windows and transfer times to maximize application availability
- » Effectively increases WAN capacity by detecting and avoiding the transfer of repetitive data patterns over the WAN
- » Boosts TCP performance to hundreds of Mbps to fully-utilize high-speed WAN links

Network-Based Backup and Data Replication with Riverbed®

Wide area network-based approaches to data backup are naturally limited by the performance of the WAN. Bandwidth limitations and network latency can make backup take much longer than desired. For large remote offices with significant datastores, this can make WAN-based backup impossible without significant costly WAN bandwidth upgrades.

By overcoming bandwidth limitations and optimizing transfers to overcome network latency, Riverbed Steelhead appliances have successfully enabled and facilitated network-based backup approaches in the most demanding customer environments. Riverbed technology dramatically optimizes 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 optimizes both remote office backup and data center replication across the WAN. Disk-to-Disk backup software simplifies and automates remote office data protection for both desktops and servers, but is often hampered by latency and bandwidth limitations. In addition, once the data is stored centrally on backup servers in the data center, it may be replicated to a separate disaster recovery site. Riverbed can facilitate the replication to the DR site through either Scalable Data Referencing (SDR) technology when using existing WAN links, or through Riverbed's High-Speed TCP capability when using "Long Fat Networks (LFN's)".

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 proposition at best, while for some enterprises it is a completely unrealistic option.

Network-based backup is the general solution that becomes feasible through Riverbed, in many cases through use of existing WAN links without any bandwidth upgrades. Network-based backup allows for consolidation of data into the data center, where it can be placed onto tape or other secondary storage media. 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 into the data center, and accelerates commercial backup software packages by eliminating the transfer of redundant data and minimizing the effects of latency on data transfer. Riverbed's approach eliminates data redundancy across applications or servers as well, going well beyond other data reduction mechanisms found in other storage replication products.

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 data stored at one location, there will always be a second, redundant 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. Riverbed speeds data replication solutions to transfer significant amounts of data over the WAN to the disaster recovery site. Riverbed supports software server-based data replication solutions as well as those using Fibre Channel SANs with FCIP or iFCP.

The Riverbed Solution

Riverbed optimizes the transfer of data over the WAN for backup and data migration purposes. Through its revolutionary technology, Riverbed delivers the following capabilities:

- Enables centralized, disk-to-disk backup strategies that simplify remote office backup and data center replication
- Reduces backup windows and transfer times to maximize application availability
- Effectively increases WAN capacity by detecting and avoiding the transfer of repetitive data patterns over the WAN
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Riverbed also provides an optional data replication agent called "Riverbed Copy Utility (RCU)" for replicating data hosted on Windows servers. This agent is made available to Riverbed customers free of charge, and it provides a simple WAN-efficient data transfer tool. 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.

Riverbed is compatible with enterprise-class backup and data protection products from vendors such as:

- Veritas
- IBM/Tivoli
- EMC/Legato
- Network Appliance
- Commvault
- Microsoft

Riverbed's unique combination of technologies can facilitate your current network-based backup and data replication strategy or ease your transition to a more centralized data protection strategy.

Riverbed solutions optimize and accelerate all types of TCP traffic, regardless of the specific backup application or type of data being protected. Whether you are considering ways to optimize your current backup and data replication strategy, or looking for a more effective strategy, Riverbed Steelhead products are a critical tool for simplifying, consolidating, and accelerating WAN-based backup.

SUMMARY

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 can enable or facilitate network-based backup approaches that can fulfill your most difficult data protection challenges.

By overcoming bandwidth limitations and optimizing transfers to overcome network latency, Steelhead appliances have successfully enabled and facilitated network-based backup approaches in the most demanding customer environments.



Think fast.™

About Riverbed

Riverbed Technology is the IT infrastructure performance company. The Riverbed family of wide area network (WAN) optimization solutions liberates businesses from common IT constraints by increasing application performance, enabling consolidation, and providing enterprise-wide network and application visibility – all while eliminating the need to increase bandwidth, storage or servers. Thousands of companies with distributed operations use Riverbed to make their IT infrastructure faster, less expensive and more responsive. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com



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