

PERFORMANCE BRIEF: XOSoft WANSync (CA)

TEST SUMMARY

- Create a WANSync replica up to 40x faster
- Reduces Continuous Data Protection (CDP) traffic by 11x
- Improve replica synchronization times by 50%
- Improves restore times by up to 36x

Riverbed Steelhead® Appliances Accelerate WANSync

WANSync Continuous Data Protection (CDP)

WANSync provides disaster recovery protection by synchronizing and continuously replicating files, databases and entire application servers over the LAN and WAN, in real time. The solution supports Microsoft Exchange, Microsoft SQL Server, Oracle, Microsoft IIS web servers, file servers, and other applications on AIX, Solaris, Red Hat and both 32- and 64-bit Windows. WANSync's asynchronous data replication from a production server to one or more local or geographically distant replica servers offers rapid data recovery and integrated continuous data protection (CDP) as a guard against data corruption. Completely non-disruptive automatic testing of disaster recovery gives enterprises full confidence in their DR scheme. WANSyncHA leverages the same replication capability for data synchronization, and provides automated application failover to ensure application availability in mission-critical environments.

Steelhead Appliances Improve WANSync Replication

Steelhead appliances enable faster creation of WANSync replicas and greatly reduce the amount of data traversing the WAN during CDP processes as well as replica restoration. The Riverbed Optimization System (RiOS) utilizes industry-leading Data Streamlining and Transport Streamlining to provide data reduction, compression and transport protocol optimization. By enhancing CDP operation transmission speeds, RiOS can help WANSync customers minimize their Recovery Point Objective (RPO) or data loss during outages or corruption. Recovery Time Objectives (RTO) can also be compressed due to improvements in replica restoration times.

Performance Improvements

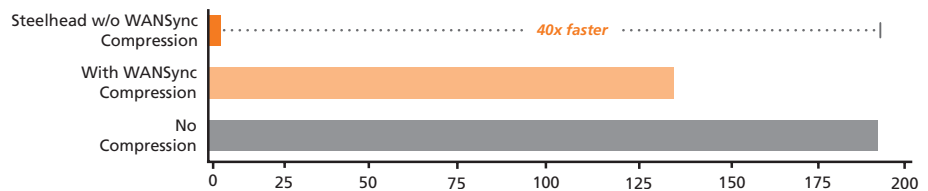
Test results show that Riverbed Steelhead appliances dramatically accelerate WANSync's CDP and restoration operations, and significantly reduce WAN bandwidth utilization. Creating an initial replica was 40x faster with Steelhead optimization and CDP traffic was reduced by 11x over the WAN. In addition, restoring a replica resulted in a 36x acceleration. Optimizing traffic while disabling WANSync compression also frees up approximately 30% of CPU overhead on replicating hosts.

TESTING SCENARIO

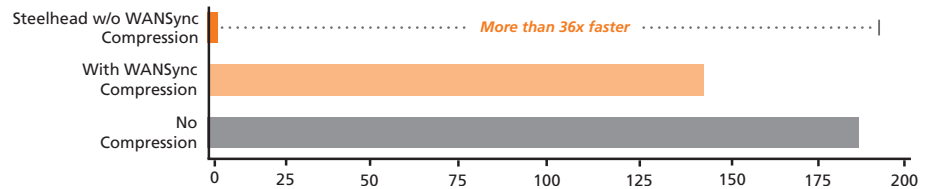
These tests were performed using XOSoft WANSync software version 4.0 running on servers with Windows Server 2003. WANSync compression was enabled for non-optimized Steelhead testing scenarios, and turned off for testing with Steelheads.

The performance tests were run on a T1 WAN link with latency of 100ms. The data sample used comprised randomly generated Microsoft Word, PowerPoint, and Excel files using an automated script. The variables tested included the size and number of files. Testing was performed for the following functions: initial replica creation, CDP synchronization of modified data, CDP synchronization of new data, and replica restoration.

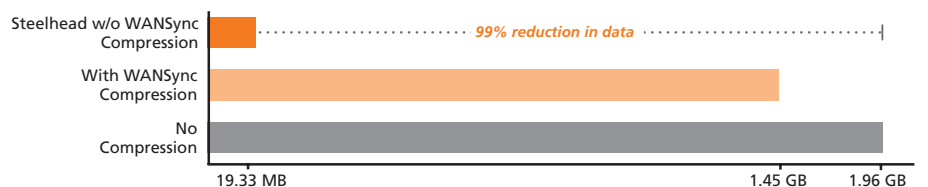
Create an Initial Replica : 1.87 GB over a T1 WAN – Time to Complete (in minutes)



Replica Restoration : 1.96 GB restored over a T1 WAN – Time to Complete (in minutes)



Replica Restoration: 1.96 GB restored over a T1 WAN – Bandwidth Utilization (in MB)



*These results are based on the testing scenario presented in this paper. Your results may vary based on the conditions of your own network and the specifics of your own use cases.

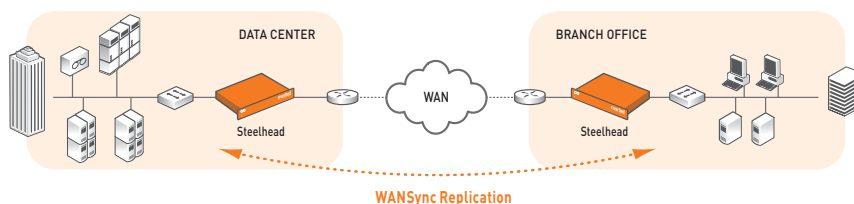
PERFORMANCE BRIEF: XOSoft WANSync (CA)

DEPLOYMENT BENEFITS

Deploying Riverbed for WANSync data replication produces significant benefits, including:

- Improved productivity.** Restoring WANSync replicas over the WAN can now be significantly accelerated. By reducing the time needed to complete restore operations, application uptime increases and users can return to work much faster following a server failure. Improving replication times shortens backup windows and Steelhead optimization eliminates CPU hits due to compression on WAN-Sync clients.
- RPO/RTO Compliance.** By enabling faster backup and recovery times for WANSync CDP replicas, risk of data loss decreases and more data can be restored in less time to meet recovery point and time objectives.
- Reduced bandwidth utilization.** Steelhead appliances significantly reduce bandwidth utilization for WANSync replication operations creating operational cost-savings while alleviating WAN congestion.

Typical Deployment Architecture



Riverbed Optimization System (RiOS) Features

RiOS software combines patent-pending data reduction, TCP optimization, application-level latency optimizations, and remote office file and management functionality. Together, these technologies provide a comprehensive solution for enterprise wide-area data services, scaling across a range of applications and network topologies to accelerate applications from 5 to 50 times, and sometimes up to 100x. RiOS consists of four key components:

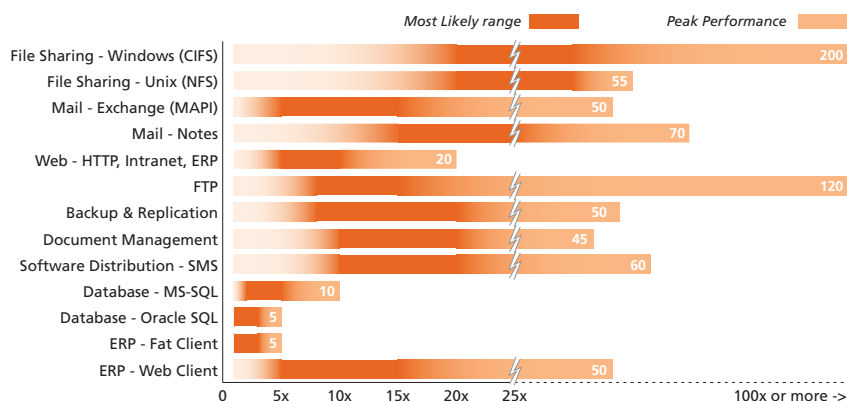
Data Streamlining – RiOS Data Streamlining works across all TCP applications to reduce bandwidth consumption by 60% to 95%. Data Streamlining works across Windows file sharing, Microsoft Office, Email (including MS Exchange and Lotus Notes), SSL-encrypted applications, CAD, ERP, databases, and all other applications that use TCP, to ensure the same data is never sent more than once over the WAN. Data Streamlining also supports rules-based policy administration of optimization classes and packet marking for QoS and route control.

Transport Streamlining – RiOS Transport Streamlining reduces the number of TCP packets required to transfer data by 65% to 98%. Transport Streamlining overcomes TCP limitations by adapting transmission characteristics such as window scale, loss handling, congestion notification, and more. Transport Streamlining also allows SSL-encrypted applications to be accelerated as well. RiOS Transport Streamlining also enables greater utilization of high bandwidth, high latency connections with High-Speed TCP and MX-TCP.

Application Streamlining – RiOS Application Streamlining provides additional order-of-magnitude application performance improvements by reducing application protocol chattiness up to 98% and minimizing application overhead. By minimizing application demands on the network such as application protocol round trips and required network connections, RiOS can provide massive throughput increases to applications including Windows file sharing (CIFS), Exchange (MAPI), Web (HTTP and HTTPS), and Database (MS-SQL). RiOS also includes important features for maximizing branch office productivity, such as file server capabilities and transparent pre-population of popular data.

Management Streamlining – RiOS simplifies the deployment and management of application acceleration infrastructure by employing a transparent approach to communications. RiOS enables easy deployment through auto-discovery of peers and auto-interception of traffic, with no reconfiguration of clients, servers, or routers necessary. RiOS simplifies ongoing management by providing simple but powerful Web-based and command line interfaces and reporting, as well as integrated, centralized management and configuration. RiOS also enables a host of additional management features including dozens of deployment configurations, capabilities for redundancy, optional IPsec encryption, RADIUS/TACACS+ authentication, and SNMP traps.

Steelhead Appliances Accelerate a Broad Range of Applications



Riverbed Technology, Inc.
 199 Fremont Street
 San Francisco, CA 94105
 Tel: +1 415 247 8800
 Fax: +1 415 247 8801
 www.riverbed.com

Riverbed Technology Ltd.
 1, The Courtyard, Eastern Road
 Bracknell
 Berkshire RG12 2XB
 United Kingdom
 Tel: +44 1344 354 910

Riverbed Technology Pte. Ltd.
 350 Orchard Road #21-01/03
 Shaw House
 Singapore 238868
 Tel: +65 68328082

Riverbed Technology K.K.
 Shiba-Koen Plaza Building 9F
 3-6-9, Shiba, Minato-ku
 Tokyo, Japan 105-0014
 Tel: +81 3 5419 1990