riverbed

Solution Brief

Riverbed SRDF Optimization

EMC's Symmetrix Remote Data Facility/Asynchronous (SRDF/A) provides a long distance disaster recovery solution often used to protect the most vital informational assets in enterprises. In order to maintain the high end-to-end throughput requirements and stringent RPO/RTO targets necessary to protect such assets, the WAN infrastructure is a critical element of the solution.

There are a number of challenges when provisioning a WAN infrastructure suitable for SRDF/A. Should replication workloads reach increasingly high sustained and peak throughputs, chronic network congestion may prevent timely flushing of replication caches leading to increased cycle times and compromise your RPO/RTO objective. If network conditions become too severe, SRDF/A may determine the network to be unusable and suspend replication, which must be avoided at all costs. Furthermore, if WAN utilization is a concern today then it becomes impossible to set up new replications groups to protect additional data. Upgrading the WAN infrastructure to alleviate network congestion can be costly and time consuming and further preventing data protection.

Riverbed SteelHead a WAN optimization solution improves and protects the performance of SRDF/A replication across the WAN by overcoming the negative effects of the high latency, packet loss and limited bandwidth. Powered by the Riverbed Optimization System (RiOS), SteelHead WAN optimization solutions are capable of improving the performance of business applications by 5-50 times while also reducing WAN bandwidth requirements by up-to 95%.

Benefits

Riverbed WAN optimization solution ensures improved and consistent SRDF/A performance through features such as:

Transport Streamlining

- Improve application performance by reducing the number of packets traversing the WAN

Data Streamlining

- Expand the capacity of the WAN by eliminating redundant byte patterns using data-duplication and compression

Network QoS and MX-TCP

- Guarantee predictable SRDF performance and overcome the effects of WAN packet loss

Application Control and Visibility

- Further enhance SRDF/A performance through dynamic compression negotiation, protocol header isolation and Selective Optimization for SRDF/A replication

Management Streamlining and Reporting

- Automatically discover the optimal peer Riverbed SteelHead and easily monitor performance at an RDF Group granularity

By implementing an EMC and Riverbed qualified solution enables customer to:

- Reduce bandwidth requirements
- Improved and consistent SRDF/A performance over the WAN
- Reduce Total Cost of Ownership (TCO)
- Meet or exceed service level agreements

Transport Streamlining

Improves the performance of TCP-based applications by improving the way transport protocols behave on WANs, reducing the number of TCP packets required to transfer data by 65-98%. Transport Streamlining overcomes the limitations of TCP by adapting transmission characteristics such as window scale, packet-loss handling, congestion notification, and more.

Data Streamlining

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Network QoS and MX-TCP

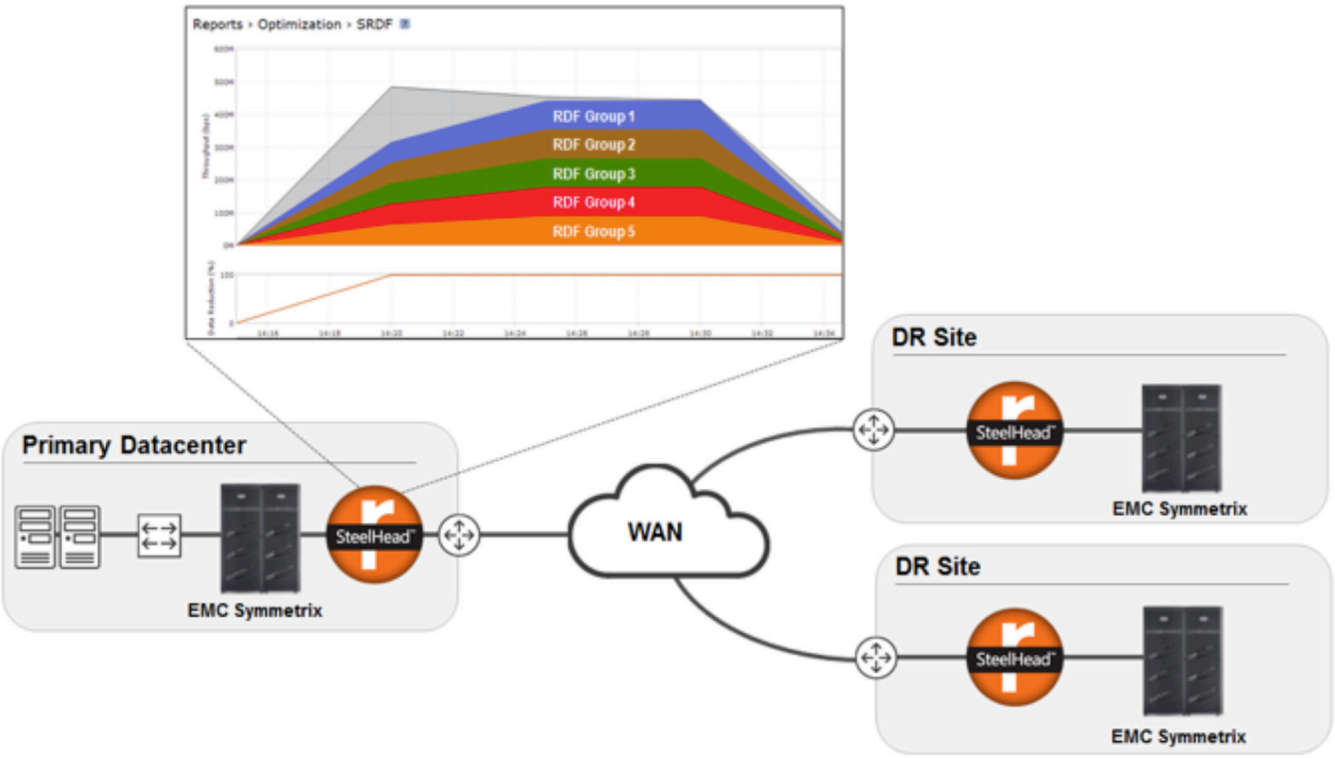
Overcomes the negative effects of WAN packet loss, achieves maximum WAN throughput, and provides a simple way to manage shared WAN infrastructure. With Riverbed Network QoS you can guarantee network bandwidth is always available for EMC SRDF/A ensuring that your RPO/RTO objectives are met or exceeded. Riverbed MX-TCP acceleration enables Riverbed SteelHead appliances to achieve maximum throughput in environments where it is a challenge to “fill the pipe” regardless of WAN latency and loss.

Application Control and Visibility

Riverbed further enhances EMC SRDF/A performance by optimizing the SRDF/A at the protocol level. This enables the Riverbed SRDF Optimization blade to dynamically and automatically disables SRDF compression and isolate the SRDF protocol header allowing Riverbed Data Streamlining optimization to operate more effectively. Riverbed Selective Optimization for SRDF/A provides even greater performance gains by applying specific optimization policies to specific SRDF replication groups and avoid “learning” unwanted byte patterns, increasing Riverbed Data Streamlining efficiency and increasing overall application throughput.

Management Streamlining and Reporting

Riverbed Enhanced Auto-Discovery (EAD) enables Riverbed SteelHead appliances to automatically peer and optimize with the most optimal remote SteelHead regardless of the network topology with minimal configuration, maximizing application performance. Riverbed EAD removes the headaches associated with creating and managing network tunnels and avoids sub-optimal peering that can reduce application performance. The SRDF/A replication protocol allows multiple RDF groups to be interleaved within a single replication connection making it impossible for administrators to measure replication performance at the RDF group level and can lead to RPO’s being exceeded. Riverbed Reporting for SRDF/A enables administrators to monitor SRDF/A performance, at an RDF-group basis, enabling them to monitor, isolate and troubleshoot RDF performance problems faster.



About Riverbed

Riverbed, at more than $1 billion in annual revenue, is the leader in application performance infrastructure, delivering the most complete platform for the hybrid enterprise to ensure applications perform as expected, data is always available when needed, and performance issues can be proactively detected and resolved before impacting business performance. Riverbed enables hybrid enterprises to transform application performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. Riverbed's 26,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at riverbed.com.

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