BROCADE 7800 EXTENSION SWITCH AND SILVER PEAK REPLICATION ACCELERATION

The Brocade 7800 Extension Switch offers best-in-class throughput, highest reliability, and most cost-effective SAN extension solution for remote data replication, backup, and migration. Leveraging advanced Fibre Channel and FCIP technology, the Brocade 7800 provides a flexible and extensible platform to move more data faster and farther than ever before.

Silver Peak's replication acceleration software complements the Brocade 7800 to overcome common Wide Area Network (WAN) challenges that can adversely impact the strategic tasks associated with distance extension, including limited bandwidth and packet-loss.

The combined Silver Peak / Brocade solution address these challenges, ensuring fast and cost effective access to remote storage devices and maximum remote replication performance over limited bandwidth WAN connections that are susceptible to high packet loss ratios.

SILVER PEAK AND BROCADE 7800 EXTENSION SWITCH

The Brocade 7800 Extension Switch combines best-in-class Fibre Channel, FICON, and FCIP performance, "pay-as-you-grow" scalability, and flexible deployment options for remote replication, backup, and migration. Offering advanced compression and IPsec encryption, disk and tape protocol acceleration, and QoS-aware FCIP networking technology, the Brocade 7800 maximizes throughput, WAN link utilization, and resiliency for FCIP traffic.

The Silver Peak solution is built around the company's Virtual Acceleration Open Architecture (VXOA), which complements the Brocade 7800 with the following capabilities:

Network Integrity. Silver Peak uses real-time optimization techniques to "clean up" the WAN for further improved throughput on connections with packet loss. For example, Forward Error Correction (FEC) rebuilds lost packets on the far end of a WAN connection, and Packet Order Correction (POC) ensures that all packets are delivered in the order they were sent. This results in increased resiliency and maximum SAN performance across lossy WANs, including MPLS and the Internet.

Network Memory. Silver Peak uses byte level de-duplication to eliminate the transfer of repetitive information sent across the WAN during the replication process. For slower WAN connections where maximum deduplication can be performed, Silver Peak provides higher compression benefits, typically delivering an additional 60 to 90 percent more virtual WAN bandwidth for data replication and remote SAN access.

Seamless. Silver Peak's VXOA software is deployed as either a physical appliance or virtual machine. Deployment is seamless, with no special configuration required on the Brocade 7800 devices (see Figure 1).

BENEFITS OF DISTANCE EXTENSION AND REPLICATION ACCELERATION

When replicating storage across a Wide Area Network (WAN) with ample capacity and reasonable packet loss ratio, the industry leading optimization techniques available with the Brocade 7800 Extension Switch are all that is needed. Additional WAN optimization is typically not required, and can limit application throughput.

However, in situations where data is repetitive or where replication takes place over a shared slower WAN connection that is

The combined Silver Peak / Brocade solution address these challenges, ensuring fast and cost effective access to remote storage devices and maximum remote replication performance over limited bandwidth WAN connections that are susceptible to high packet loss ratios.
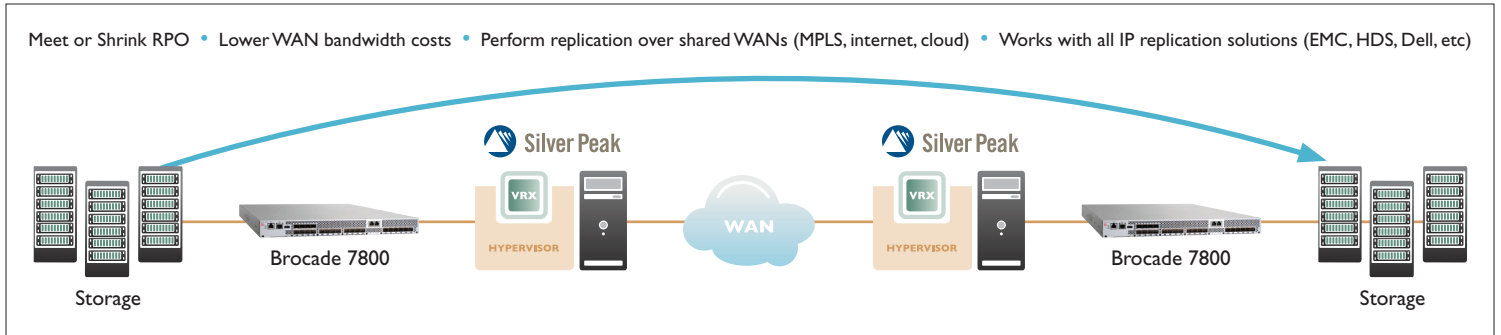
Meet or Shrink RPO • Lower WAN bandwidth costs • Perform replication over shared WANs (MPLS, internet, cloud) • Works with all IP replication solutions (EMC, HDS, Dell, etc)

Storage — Brocade 7800 — **Silver Peak** VRX HYPERVISOR — WAN — **Silver Peak** VRX HYPERVISOR — Brocade 7800 — Storage

Figure 1. Silver Peak deploys seamlessly with Brocade 7800 Extension Switches.

susceptible to packet loss or congestion, combining Silver Peak's WAN optimization with the Brocade distance extension solution maximizes replication performance and throughout, and lowers disaster recovery costs by leveraging a shared WANs.

As an example, a U.S.-based gas production company was frustrated with their ability to meet their Recovery Point Objective (RPO) for Hitachi Universal Replicator traffic between Oklahoma City, OK and Calgary, Canada. The company had an OC-3 (155 Mbps) WAN, but was suffering from poor replication performance due to various network conditions. By combining Silver Peak and Brocade 7800s, the company is now getting 1.2 Gbps of replication throughput over their WAN, a 7.7x improvement, enabling them to easily meet their RPO.

Because the Brocade 7800 FCIP extension switch seamlessly interoperates with Silver Peak replication acceleration software, enterprises can deploy the two solutions with confidence, minimizing RPO and lowering costs in the process.

Gas production company meets RPO with Silver Peak and Brocade

Before: <155 Mbps replication throughput

After: 1.2 Gbps replication throughput