

# ACCELERATING FLASH-OPTIMIZED HYBRID STORAGE

**Nimble Storage is a flash-optimized hybrid storage solution that includes highly-efficient, data replication software for off-site data. Nimble stores all data compressed on disk, and replicates only changed data to the remote site.**

**While Nimble is efficient in data replication, customers replicating over longer distances see lower rates of data transfer, and find it difficult to meet their recovery point objective (RPO). That's because as distance increases between the data center and the remote site, round-trip latency also increases. A combination of this increased latency and the amount of packet loss found on shared networks can cause replication to slow down or even stop. That's where Silver Peak can help.**

## SILVER PEAK ACCELERATES NIMBLE REPLICATION

Silver Peak software fixes the underlying issues of the WAN so that Nimble customers

can protect more data and easily meet their RPO. Distance limitations between source and target Nimble arrays are overcome by accelerating replication traffic and efficiently using all of the available bandwidth. More data can be protected with Silver Peak's deduplication and compression capabilities, while network quality problems are repaired in real-time. Finally, all accelerated traffic can be further protected with real-time, AES-256 bit encryption if desired.

## PERFORMANCE RESULTS

Customer testing shows that the combination of Silver Peak and Nimble can triple data replication throughput (see Figure 1 and Figure 2). These results were gathered with Silver Peak software "out-of-the box." An IT solutions provider found in independent testing that Silver Peak was able to reduce the amount of traffic sent over the WAN, freeing up more bandwidth for replication. Silver Peak strongly encourages organizations to test Nimble and Silver Peak performance on their own networks, as numerous factors may impact results.

## Summary

- Silver Peak compression and data deduplication protected 5x more data using the same bandwidth.

## Testing Details

Results for Nimble were compiled from production environments at three customer sites – a leading architecture and design firm, a leading e-commerce provider, and an IT service provider.

The architecture firm examined Nimble performance across a 10 Mbps MPLS connection with 60ms of latency. Packet loss was nominal.

The e-commerce provider examined Nimble performance across a 100 Mbps IPVPN from Seattle to Boston. Latency was approximately 50ms and packet loss was on average .01 percent.

The IT service provider examined Nimble performance across a 100 Mbps WAN with 10-15 ms of latency with nominal packet loss.

Results were reported for the data sent to Silver Peak (LAN) and the amount actually sent after Silver Peak optimized the traffic (WAN).

## Architectural Benefits

- Protect more data in the same bandwidth.
- Replicate data faster over distance.
- No network knowledge required
- Deploy in minutes -not weeks.
- Storage-friendly management
- No proprietary hardware
- Minimum purchase cost

LAN Traffic(%)	WAN Traffic(%)	Reduction(%)	Inbound			Outbound	
			Bytes	Bytes	Reduction(%)	Bytes	Reduction(%)
50.42	50.01	69.02	799G	248G	1.8G	15.37	
49.58	49.99	53.61		512M	249G	787G	68.41

Figure 1: An e-commerce company met its RPO with Nimble and Silver Peak by replicating nearly 70 percent less data across the WAN.

Reduction %	Inbound		Outbound		Reduction %	Up Time	Protocol
	Bytes	Bytes	Bytes	Bytes			
83.50	11G	189G	1.2T	84.60	11d 20h 58m 45s	tcp	

Figure 2: An architecture firm can now protect more data in the same amount of bandwidth with Silver Peak software.

## SILVER PEAK FEATURES

Silver Peak software addresses the major network challenges constraining Nimble performance over distance:

Achieve more aggressive RPOs with faster replication across unreliable wide area networks.

Maximize available bandwidth for replication through byte-level deduplication and compression.

Replicate over longer distances by overcoming transport latency.

Move applications off of a failing or poorly-performing WAN before problems occur—and get improved replication performance and reliable service delivery.

Secure replication traffic with AES-256 IPsec VPNs.

Silver Peak software offers the most scalable data acceleration platform in the industry, improving replication performance for small branch offices and large enterprise data centers alike.

## SILVER PEAK SOFTWARE DEPLOYMENT AND MANAGEMENT

Fixing the problems undermining replication would normally require extensive networking expertise and weeks, if not months, of effort. Adding bandwidth incurs both additional cost and time as service providers provision more bandwidth or install a new line. Compare that to Silver Peak's software marketplace and deployed in about 20 minutes with six simple mouse clicks. Silver Peak software starts optimizing replication traffic right away.

Once deployed, Silver Peak software enables any storage administrator to manage the Silver Peak implementation. Reports are in storage-friendly terms showing the data sent across the WAN in bytes, and replication throughput. Storage traffic is segmented by application, such as replication and or backup. Reporting includes minute, hour, and daily intervals, and includes a 10 day chart to reflect performance data before and after any changes made during the weekend.

## Deployment Benefits

### Meet Recovery Point Objectives (RPOs)

Replicate more data in less time to remote locations.

### Protect all of the organization's data

Replicate data that isn't being replicated today, and maintain existing RPOs.

### Replicate over longer distances

Eliminate distance limitations between source and target arrays.

### Lower Disaster Recovery Costs

Avoid the costs and hassles of bandwidth upgrades.

### Improve Business Continuity

Better protection of critical data for rapid recovery.

## For More Information

Visit [www.Silver-Peak.com](http://www.Silver-Peak.com) and

Read why [Colonial Savings](#) selected Silver Peak software for replication acceleration.

[Watch](#) Everett Dolgner of Silver Peak explain how to get faster offsite replication in minutes with Silver Peak VRX Software.

How easily can you meet your RPO? Calculate your theoretical benefit with Silver Peak software using our [RPO calculator](#).

Take 20 minutes and see how much Silver Peak will improve your Nimble replication performance. [Download](#) a free, fully supported 30 day trial of Silver Peak VRX software.

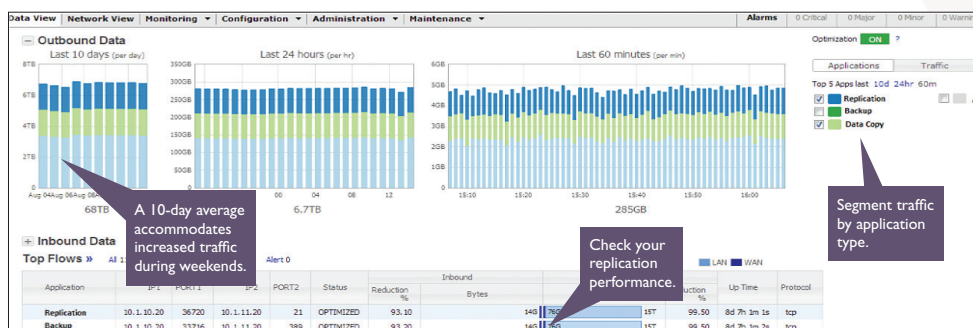


Figure 3: Storage managers can evaluate their replication performance with Silver Peak's storage-specific view.