

Optimizing and protecting applications with HP StorageWorks Storage Mirroring and Citrix white paper



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Introduction

Slow application response over a wide area network (WAN) can be a problem for branch office backups. Combining HP StorageWorks Storage Mirroring and Citrix WANScaler ensures that continuous real-time backup and automatic failover for remote offices is fast, effective, and foolproof, even over the WAN.

Continuous, real-time protection

HP StorageWorks Storage Mirroring goes beyond periodic backup to provide accessible and affordable data protection, ensure minimal data loss, and enable immediate recovery from any disaster or system outage.

- Storage Mirroring provides patented replication and failover technology that continuously captures byte-level changes as they happen and replicates those changes to one or more target servers at any location, locally or at a recovery site miles away. In the event of a disaster, Storage Mirroring lets you recover from your target servers in minutes, if not seconds.
- The Application Manager feature provided by Storage Mirroring is designed specifically for the configuration and management of protection for Microsoft® Exchange, SQL Server, and Windows® File Services. It automates the setup and configuration of real-time protection and availability management for these business-critical applications.

Accelerated, optimized branch office application delivery from Citrix

Citrix WANScaler accelerates application performance for branch office users, delivering LAN-like performance over any WAN.

By improving the performance of enterprise applications such as Windows file sharing by up to 30x or more, WANScaler enhances user productivity, defers expensive bandwidth upgrades, and enables the consolidation of application resources into datacenters.

- Extend collaborative workflows and improve productivity on a global scale—Citrix WANScaler accelerates files and application data over the WAN between dispersed branch offices. Users spend time using the application instead of waiting for it.
- Capitalize on cost savings with IT resource consolidation—Citrix WANScaler enables consolidation of applications and data storage into a few datacenters. Cost savings can be achieved by reducing datacenters and simplifying the application infrastructure.
- Protect data centrally—Citrix WANScaler speeds data delivery to branches, allowing data to be stored and replicated in a protected facility to meet regulatory or corporate mandates for data security and disaster recovery.

Enhance the usability of applications over the WAN

HP StorageWorks Storage Mirroring and Citrix are innovators in their fields, providing streamlined and advanced solutions you can rely on. Using Storage Mirroring with Citrix WANScaler allows you to enhance IT productivity by accelerating data-protection:

- CitrixWANScaler accelerates Storage Mirroring without requiring changes to Storage Mirroring or network configurations.
- WANScaler accelerates any size Storage Mirroring operation, even gigabytes, over any sizeWAN link. Best-in-class WANScaler optimization features can reduce gigabyte transfers from a long weekend to under an hour.
- WANScaler and Storage Mirroring allow you to replicate or mirror anytime of the day, and WANScaler Quality of Service allows Storage Mirroring to run anytime without taking bandwidth from critical applications.

Test results

HP StorageWorks Storage Mirroring and WANScaler were tested on a simulated T1 connection configured with 25ms of latency and 1% packet loss each direction for a total round trip latency of 50ms and 2% packet loss.

In the following table, approximately 3.15 GB of file data was used to represent a variety of file types and sizes contained in a typical file server.

Table 1. File data mirror test

	HP StorageWorks Storage Mirroring (No acceleration)	HP StorageWorks Storage Mirroring WANScaler first pass	HP StorageWorks Storage Mirroring WANScaler second pass
Total seconds	29197	3374 (765% improvement)	1578 (1750% improvement)

In the following table, approximately 2.72 GB of Microsoft Exchange data was used, containing both database and log files.

Table 2. Exchange data mirror test

	HP StorageWorks Storage Mirroring (No acceleration)	HP StorageWorks Storage Mirroring WANScaler first pass	HP StorageWorks Storage Mirroring WANScaler second pass
Total seconds	25086	964 (2502% improvement)	637 (3838% improvement)

In the following table, replication testing was performed using Exchange LoadSim 2003 on Exchange 2003 Enterprise edition. Replication was measured for a 60-minute period.

Table 3. Exchange replication test

	HP StorageWorks Storage Mirroring (No acceleration)	HP StorageWorks Storage Mirroring WANScaler
Bytes received by target server	403083518	7376330537 (1729% improvement)

For more information

www.hp.com/go/StorageWorks

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4AA1-5284ENW, September 2007

