FalconStor Software®

SOLUTION BRIEF

Backup Acceleration

Eliminating the final barrier to impact-free, high-speed system backup

Highlights

The FalconStor® VTL Backup Accelerator solution delivers the following benefits:

> Dramatically increases backup speeds by as much as eight times

> Host-free backup with no impact on production servers

> Works with existing backup software and processes

> Provides file-level backup and restore of data

> Supports Microsoft Windows and Linux application servers

> Works with third party backup software, including Symantec NetBackup, Symantec Backup Exec, EMC Networker, Commvault, CA ARCserve, IBM TSM, etc.

> Application integration with key enterprise database and email systems, including Microsoft Exchange, Microsoft SQL Server, Oracle, DB2, Sybase, and Lotus Notes

Despite decades of product development and user experience, standard server backup remains a significant IT challenge. Surveys show that nearly 70% of users still have difficulty meeting backup windows in the face of constant data growth.

The FalconStor® Virtual Tape Library (VTL) Backup Accelerator option provides an innovative solution that breaks away from decades-old backup methods to deliver backup speeds ranging from four to eight times faster than standard models.

Why does backup remain such a challenge?

Backup continues to challenge IT personnel because the model is fundamentally flawed. Busy application servers are tasked with pushing their data to a backup target while providing 24x7 services to end users. Storage resources are attached to servers using 4Gb or 8Gb Fibre Channel (FC) technology, yet backup data is most often pushed across a narrow 1Gb LAN. Tape library technology has made significant speed advances, but enterprise-class tape drives are very expensive (as much as $30,000 each), and many users simply cannot afford enough drives to meet their backup needs. Others use older systems that are slow and subject to frequent mechanical failures. On top of all this, massive growth in the amount of data that businesses must maintain has stressed the traditional backup network to the breaking point.

VTL technology solves the target-side issues of backup, providing high-performance, reliable backup that efficiently scales to any size environment. (It costs nothing to add more virtual tape drives to the system.) It also provides capabilities such as replication, physical tape integration, and in some cases, data deduplication. However, VTL alone does not resolve the major performance issue of backup, which is the need to quickly feed data to the backup target impacting production systems.

A targeted solution

Recognizing that host-side performance is the final barrier to fast, effective backup, FalconStor Software created the FalconStor VTL Backup Accelerator specifically to solve this problem. The FalconStor VTL Backup Accelerator does this by combining a low-impact client agent with a secondary protection pool of data storage. The client agent moves data into the protection pool, which is then used as the source for backup to the FalconStor VTL solution. The end result is backup that has no impact on servers or storage, traveling over a high-speed SAN infrastructure with as much as eight times more data carrying capacity than the LAN.

Low-impact agent eliminates server stress

Traditional backup agents impart significant stress on server resources because of the way they are designed. The backup agent does nothing all day until the backup starts, at which point it takes either the accumulated data (incremental) or all of the data (full backup) and pushes it to the backup target. This significantly impacts server and network resources and is a key cause of the long-understood and much-maligned concept of the backup window. The problem is magnified even further when using server virtualization, wherein multiple applications reside on a single physical machine.

The FalconStor VTL Backup Accelerator takes a different approach. It continuously copies newly written data to the protection pool. By doing this, the impact on production systems is kept to a minimum because the server is never asked to carry a heavy load. A FalconStor VTL Backup Accelerator Agent works over the LAN or the SAN, over FC or iSCSI, and can support SAN-based servers or those with DAS. The FalconStor VTL Backup Accelerator Agent also uses smart disk scanning technology to avoid sending unnecessary data blocks. This further limits impact on the server and the network.

The protection pool and FalconStor HyperTrac Backup Accelerator

Data sent by the FalconStor Backup Accelerator Agent is kept on a separate disk resource referred to as the protection pool, which is managed by a FalconStor Backup Accelerator Server. The protection pool can use any disk array, allowing you to make the most cost-effective disk choices. (It does not have to be the same as the production storage.) For example, the protection pool can share the same disk array that the VTL uses.

With a full copy of production data residing in the protection pool, it becomes the source for data backup. This solution leverages the FalconStor HyperTrac™ Backup Accelerator Agent, which integrates with third-party backup software to automatically mount images of the volumes in the protection pool each time a backup job runs. Mounted images are frozen in time, with application-specific technology ensuring that the data image is complete and not in a crash-consistent state.

Data travels directly from the protection pool to the backup server, without ever touching production systems. The backup software formats the data into a standard tape format and moves it to the FalconStor VTL. From there, data can be deduplicated, replicated, and/or moved to tape.

Dramatic speed gains for the entire backup process

The various components of the FalconStor VTL Backup Accelerator solution work together to improve the backup process from end to end. The FalconStor VTL Backup Accelerator Agent eliminates server and storage impact, the FalconStor VTL Backup Accelerator Server stores and maintains the protection pool, the FalconStor HyperTrac Backup Accelerator Agent integrates operations with backup software, and the FalconStor VTL provides a high-performance target for data.

Once deployed, the system is entirely automated. Backup operations are largely unchanged in terms of backup jobs, schedules, etc., but backups can complete in a fraction of the time with no production impact. The notion of the "backup window" disappears as backups can be run at any time, even during the busiest production hours.

As such, the FalconStor VTL Backup Accelerator solution ends the decades-long battle with backup.

About FalconStor

FalconStor Software, Inc. (NASDAQ: FALC), the provider of TOTALLY Open™ Data Protection solutions, delivers the most comprehensive suite of products for data protection and storage virtualization. Based on the award-winning IPStor® platform, products include the industry-leading Virtual Tape Library (VTL) with deduplication, Continuous Data Protector (CDP), File-interface Deduplication System (FDS), and Network Storage Server (NSS), each enabled with WAN-optimized replication for disaster recovery and remote office protection. Our solutions are available from major OEMs and solution providers and are deployed by thousands of customers worldwide, from small businesses to Fortune 1000 enterprises.

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