FalconStor Software

SOLUTION BRIEF

Disaster Recovery (DR) Automation for VMware Infrastructure

Application-aware FalconStor solutions for VMware environments provide full data protection across the enterprise, to maximize operational efficiency and ensure business continuity.

Highlights

Designed to drive IT DR budgets down by leveraging the following advanced features:

- Instant application data availability enables immediate recovery without hours of integrity checking
- Unmatched application support, including Microsoft Exchange, SQL Server, Oracle, SAP, DB2, Sybase, Lotus Notes, Informix and more.
- Thin Replication technology reduces costs by minimizing WAN bandwidth usage
- DR site replication with multi-protocol support: Fibre Channel (FC), iSCSI, and iSER/InfiniBand
- Reverse-replication for site failback operations
- Qualified for VMware Site Recovery Manager (SRM)

Virtualization is no longer a trend; it is a requirement for organizations that are looking to reduce infrastructure footprint and management costs, improve data availability, and streamline data management processes. As such, VMware server virtualization technology is changing the nature of today's data centers. This change brings with it new opportunities for operational consolidation and system availability, but it also brings new challenges in terms of data recovery and application protection.

When it comes to disaster recovery (DR), the challenge is to bring systems back online as quickly as possible. In the event of a primary site failure, restoring business operations from a remote site can be a lengthy, complex, and costly manual process. VMware Site Recovery Manager (SRM) accelerates and simplifies this process by automating site failover. When it is combined with application-aware storage replication solutions from FalconStor Software, VMware SRM empowers organizations with quick and seamless recovery when it is most needed.

Application-aware storage solutions for instant recovery

The most important element needed for fast restoration of business processes is transactionally intact data. If the VMware file system and the virtualized applications running within it are not properly quiesced before being replicated, the applications may balk at startup while undergoing lengthy data integrity checking. In the worst case, data may be corrupted and unrecoverable.

To ensure applications are ready to go as soon as the server boot process completes, FalconStor provides a unique FalconStor® Application Snapshot Director (ASD) for VMware. Running at the VMware ESX Server level, FalconStor ASD coordinates snapshot functions between the virtualized application and the virtual machine itself, putting both elements into a transactionally complete state before a snapshot image is captured and used for replication. During recovery, VMware SRM automatically correlates these transactionally intact data images with the associated virtual machines, starts them, and brings your business processes back online in minutes.

Flexible and low-cost DR

Perhaps the largest single cost associated with DR is the ongoing cost of bandwidth. Keeping multi-terabyte data centers in synch can consume huge amounts of WAN capacity, often resulting in limited DR plans that leave many applications behind because the budget cannot cover all of them.

FalconStor believes that no application should be left behind—your applications are your business. Therefore, Thin Replication with patented FalconStor MicroScan™ technology is designed to use the least possible amount of bandwidth when shipping data bits over the wire. By tracking data changes at the smallest possible disk sector level, FalconStor MicroScan minimizes data transfer bandwidth requirements, resulting in WAN utilization rates that are 8 to

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64 times more efficient than major array-based replication models. This means you can keep all your applications intact at your recovery site, so that your business can be restored from top to bottom.

The FalconStor solution uses a TOTALLY Open™ approach to physical disk storage and SAN protocols, allowing data to be replicated between any two disk systems and across connectivity types (Fibre Channel [FC] and iSCSI). This allows you to build out a recovery site using lower-cost disk and storage networking as appropriate, further keeping your DR plans under budget. The FalconStor Storage Replication Adapter (SRA) for VMware SRM integrates FalconStor Network Storage Server (NSS) with SRM, allowing any disk array to be used in an SRM environment, even if that disk array is not directly certified for use by VMware.

Non-disruptive recovery testing

Historically, one of the most difficult IT tasks has been testing DR plans. It is complex, time consuming, and expensive, yet it is among the most critical IT operations. VMware SRM coordinates with the FalconStor SRA to allow automated, non-disruptive testing of systems at the recovery site. Temporary snapshot disk images are used to boot virtual machines, allowing FalconStor SRM to validate that applications start successfully. When testing is complete, the snapshots are deleted. Specific DR plans can be created in FalconStor SRM and run at any time to validate that successful recovery operations are in place.

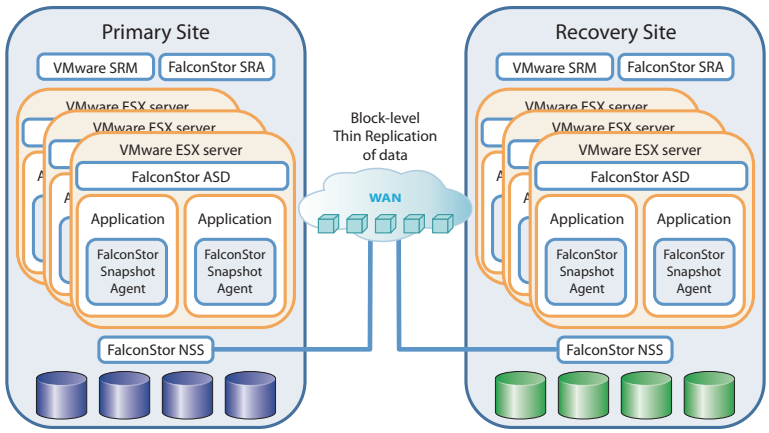
Recovery site failback

No DR plan is complete without considering failback operations. In the event that a recovery site is used for production, there must be an easy and reliable way to restore data to the production site when it is returned to operation. The FalconStor solution includes reverse-replication to send updated data back to the production site, either as full disk copies or as a set of accumulated changes.

Peace of mind

The combination of VMware SRM and unique FalconStor data protection solutions means you can rest easy knowing that your business is protected, and that in the event of a site failure, your systems will be back online in minutes, instead of hours or even days. Furthermore, with the cost-saving Thin Replication and TOTALLY Open storage model that FalconStor software provides, you can keep within your budget while making sure no applications are left behind.

FalconStor data protection solutions in a VMware environment



About FalconStor

FalconStor Software, Inc. (NASDAQ: FALC), the premier 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 Single Instance Repository (SIR) for deduplication, Continuous Data Protector™ (CDP), Network Storage Server (NSS), and Replication option 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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