Disaster Recovery Automation

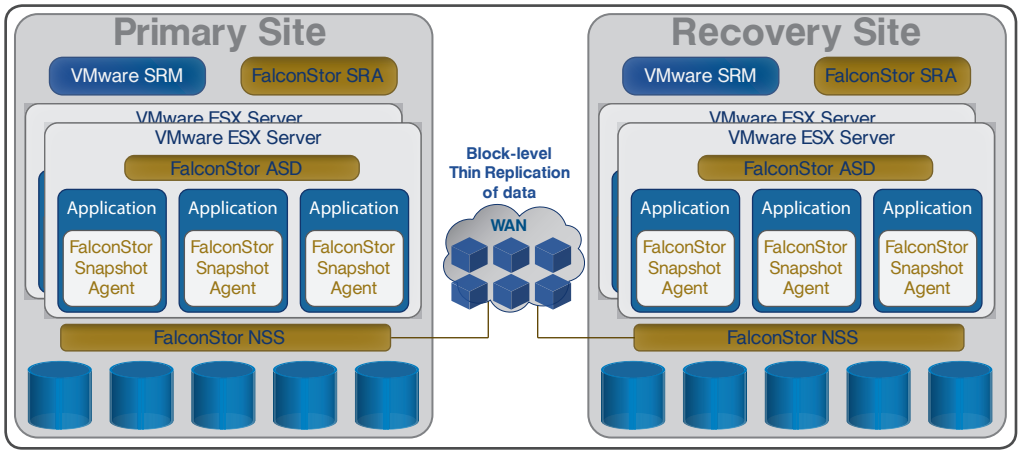
Eliminate complexity and ensure successful recovery

Current DR and HA Issues

Although most businesses realize the value of disaster recovery and/or high availability, many have failed to fully implement it, choosing to provide failover or availability capabilities for select parts of their IT infrastructure. Others depend on ad-hoc processes like shipping backup tapes offsite to protect data, which come with their own set of security and reliability concerns.

Companies oftentimes struggle with the following other problems when it comes to disaster recovery:

- **Need for Identical Hardware** - for fast and reliable recovery, it is necessary to duplicate the primary infrastructure at the recovery site, which requires a lot of ongoing management, and doubles the cost of any hardware investment.
- **An Idle Investment** - its hard to justify the cost of an investment that will most likely never be used. ROI tracking is nearly impossible.
- **Requirements Reach Beyond Initial Capital Investments** - creating, managing. testing, and planning recovery plans require a lot of IT time and resources.
- **Failure is not 100% preventable** - even the best recovery plans require flawless execution of multiple manual processes, leaving much room for human error.



DR Automation Solutions

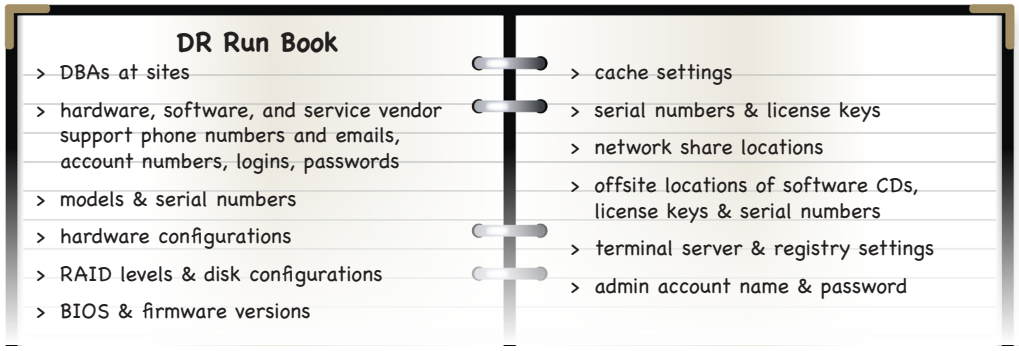
North American Systems offers a DR automation solution that is designed to deliver some of the following benefits:

- **Non-disruptive DR testing**
- **Seamless failback**
- **Use of recovery site for testing and development**
- **Automation of the "run book"**
- **Application-awareness**
- **Hardware-independent**
- **WAN optimization**

Automating the Run Book

A run book is a key component of any DR plan. It contains the information needed to respond to emergency situations, and all necessary information to enable a staff member to perrform any process, including performing a backup or failing over to a remote site. Our DR automation solutions help automate these processes to reduce human error.

By enabling the automated failover and failback of entire sites, your DR processes can be used for planned downtime in addition to unplanned site failures.



DR Automation

North American Systems offers a cost-effective disaster recovery automation solution built on best-of-breed technologies that don't sacrifice enterprise-class protection for cost-effectiveness.

» **Non-disruptive DR testing** - enable automated recovery testing by creating temporary snapshot images to boot virtual machines at the recovery site

» **Seamless Failback** - restoring data to the production site is easy, as the solution sends update data back to the production site

» **Application-Awareness** - this solution supports a wide range of applications, and is mindful of transactions and protects against other application-level data integrity issues that may occur

Solution Components

» **VMware SRM** - Site Recovery Manager (SRM) enables the management of disaster recovery plans, and allows for non-disruptive testing and automated failover

» **FalconStor SRA** - Storage Replication Adapter (SRA) integrates FalconStor NSS with VMware SRM, allowing any 3rd-party storage to be used at the recovery site

» **VMware ESX** - VMware bare-metal hypervisor creates maps virtual machines to hardware, creating a disaster recovery solution that is hardware- independent

» **FalconStor ASD** - Application Snpashot Director (ASD) coordinates the snapshot functionalities, building application-awareness into your disaster recovery solution maintaining data integrity and transactionally-intact images

» **FalconStor NSS** - Network Storage Server (NSS) enables the block-level Thin Replication of data across sites, optimizing WAN utilization to minimize recovery and failback times

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