FalconStor® Software

SOLUTION BRIEF

Advanced Disaster Recovery (DR) for Microsoft Windows Clusters

High availability with FalconStor and Microsoft Windows clusters

Highlights

The FalconStor Multi-site Cluster Adapter for Microsoft Windows Server delivers the following benefits:

- Automates Microsoft application availability, failover, and failback
- Preserves remote data protection, stretch clusters
- WAN-optimized replication for bandwidth savings
- Works with existing backup software and processes
- Provides file-level backup and restore of data
- Supports Microsoft Windows Server 2008 R2 Failover Cluster
- DR for heterogeneous storage environments

Server clusters ensure high availability by removing the potential for single server failure. Microsoft Windows Server 2008 Failover Clustering depends on shared network storage for local clusters and replicated storage for multi-site clusters. The storage partner is responsible for ensuring the smooth transition and availability of associated data volumes. Of particular importance is the ability to dynamically transition continuous data access and protection while server operational modes switch from active to passive, and back to active.

Furthermore, as planned outages, such as patches or upgrades are more common than unplanned ones, storage replication becomes increasingly critical in order to maintain continuous data integrity and protection.

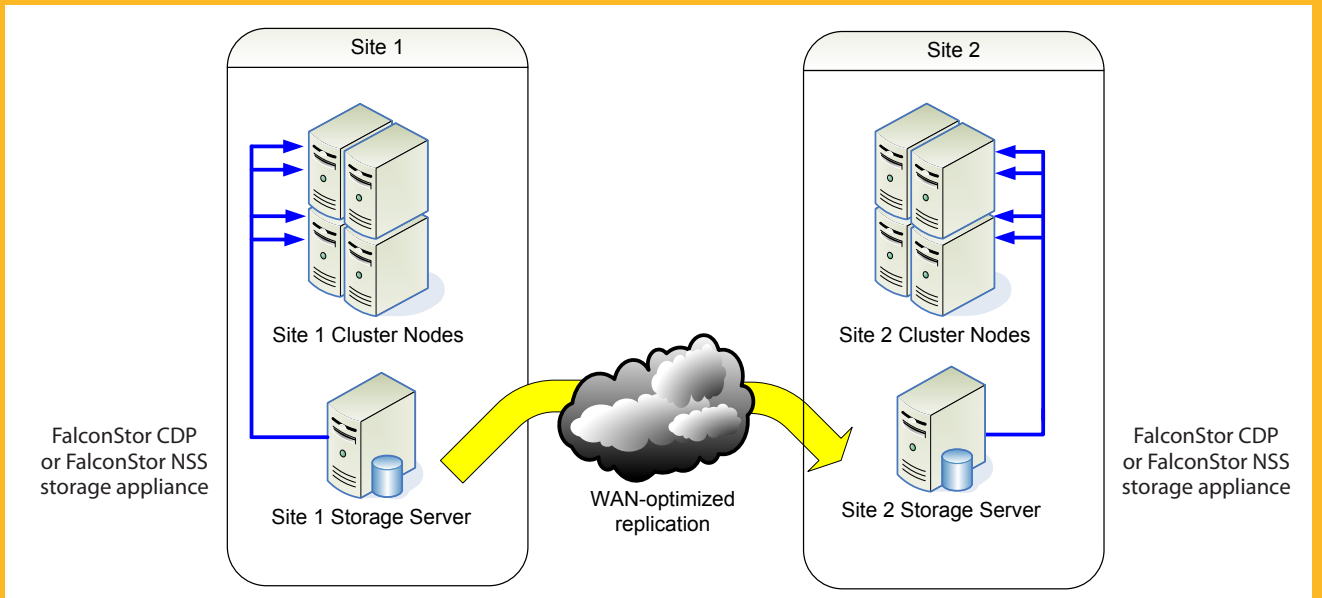
The FalconStor® Multi-site Cluster Adapter for Microsoft Windows Server allows customers to create geographically dispersed clusters, while implementing and maintaining continuous data protection in any cluster configuration. The FalconStor Multi-Site Cluster Adapter is a standard feature of the FalconStor® Continuous Data Protector (CDP) and FalconStor® Network Storage Server (NSS) solutions.

Microsoft multi-site failover clusters

Microsoft Windows Server introduced the concept of multi-site or stretched clusters. This implementation leverages the inter-node cluster networking, delegated shared storage, and replication capabilities of solutions provided by storage partners. Storage replication maintains duplicate data volumes with READ-only access at the remote site. Similar to local cluster operation, when an active or primary node experiences a failure, a secondary or passive node will resume application operation and assume primary node status.

For example, in the following diagram, a cluster node at Site 1 owns the group. A FalconStor CDP or FalconStor NSS appliance at Site 1 replicates LUNs to a corresponding FalconStor CDP or FalconStor NSS appliance at Site 2. The cluster nodes at Site 2 see TimeView® images of the replica LUNs. These TimeView images can be assigned to multiple application servers with read/write access for concurrent, independent processing, while the original data set is actively accessed and updated by the primary application server. This makes the FalconStor Multi-site Cluster Adapter ideal for instant recovery, patch and upgrade testing, development, and other related functions.

Example of clusters between sites



HA and remote replication

The concept of geographically separated stretch clusters changes some perception of availability and DR, particularly high availability (HA) and remote replication. These two functions are commonly considered separate; the distance barrier effectively creating this technical separation. The separation also stems from the operational aspects of each function: HA provides seamless application failover between nodes of a cluster, while replication simply transports copies of data from one location to a remote location. Clustering is associated with HA, while remote replication is associated with data transport or DR. The complexity of combining these two functions can be understood when the entire data space or data center is considered. Often there are many applications running on multiple physical or virtual servers, each with their respective data volumes.

WAN-optimized, heterogeneous replication

Remote replication is a critical component of multi-site cluster operations. The monthly cost of remote bandwidth is an often overlooked yet significant component of the overall cost of multi-site cluster solutions. FalconStor provides WAN-optimized replication as a standard feature of its products, via patented MicroScan™ technology to greatly reduce the volume of replicated data traffic. MicroScan technology prevents the re-transmission of duplicate data on the disk sector level (512 bytes), ensuring that only new and unique data is physically transmitted to the remote data center. This significantly lowers bandwidth requirements and associated monthly costs.

Furthermore, the open architecture of FalconStor technology enables heterogeneous storage replication. This provides both flexibility and cost savings for tight IT budgets by allowing organizations to leverage the storage of their choice for DR, avoiding vendor lock-in.

Simplicity

FalconStor enables Microsoft customers to easily install applications onto the multiple nodes of a failover cluster, and instead focus their attention on application performance and HA optimization. All associated data storage and remote data protection operations can be confidently delegated to the FalconStor Multi-site Cluster Adapter, which manages the storage systems. Customers do not have to learn vendor-specific products or create complex scripts for each application and platform. HA and DR are effectively combined, and critical business applications and operations can run without disruption.

For more information, visit www.falconstor.com/Healthcare or contact your local FalconStor representative.

Corporate Headquarters
USA
+1 631 777 5188
salesinfo@falconstor.com

European Headquarters
France
+33 1 39 23 95 50
salesemea@falconstor.com

Asia-Pacific Headquarters
Taiwan
+886 4 2259 1868
salesasia@falconstor.com

FalconStor® Software