

# Network Storage Server (NSS)

## HETEROGENEOUS STORAGE VIRTUALIZATION FOR BUSINESS CONTINUITY

FalconStor<sup>®</sup> Network Storage Server (NSS) enables primary data storage virtualization, providing fast and easy data provisioning, storage tiering, mirroring, migration, snapshots, and replication. With integrated support for Fibre Channel (FC), iSCSI, and FCoE protocols, FalconStor NSS offers flexible and high-performance deployment options to address any environment or budget, eliminating data boundaries and vendor lock-in. FalconStor NSS 7.0 extends the functionality of FalconStor NSS through improved performance, efficiency, and enterprise management, as well as VMware vSphere 5 integration. FalconStor NSS 7.0 is the solution of choice for any customer wishing to implement Tier 1 storage virtualization while assuring data growth management and performance, business continuity, and cost containment.

Data Growth Management & Performance	
<b>Maximum LUN size increased to 64TB</b>	As application data grows, so too must corresponding storage volumes. Additionally, as disk drive densities increase to 3TB, LUN sizes must increase to support performance-based RAID configurations to achieve optimal I/O performance. With FalconStor NSS 7.0, the LUN size has increased from 16TB to 64TB. This is a key competitive differentiator, as most vendors only support 16TB LUNs.  This is beneficial in VMware vSphere 5 environments, as 64TB LUN support translates to higher VM density per VMware ESX host (512 per host) and in turn on VMware vSphere 5 hosts.
<b>Block size allocation</b>	Allows different block size across storage pools, locking corresponding, contiguous free space for each resource and reducing fragmentation, especially for thinly provisioned resources.
<b>Performance enhancements</b>	Performance enhancements include software optimization, improved multithreaded efficiency, and enhanced utilization of multi-core CPUs. This improves replication, encryption, and compression performance by 300% or more.
<b>Alternative READ-mirror</b>	FalconStor NSS 7.0 eliminates READ contention for mission-critical application data volumes, improving data access performance. Alternate-READ-Mirror is a duplicate mirror that reduces I/O bottlenecks associated with single target READ volumes, while providing simultaneous READ access to two identical volumes. These may be implemented within a single FalconStor NSS server or high-availability (HA) storage server cluster pair.



[www.falconstor.com/demos](http://www.falconstor.com/demos)

# What's New in Version 7.0: FalconStor NSS

Business Continuity	
<b>HA failover enhancements</b>	A dedicated Storage Cluster Interlink (SCI) provides continuous synchronized I/O of mirror, snapshot, HotZone®, and SafeCache™ metadata between HA storage controller pairs. This enables rapid failover and reduces the time required to load the data from disk, reducing HA failover to mere seconds versus 30-60 seconds in most other HA configurations.
<b>VMware support enhancements, including VAAI support, certification for Site Recovery Manager</b>	<p>VMware VAAI storage-based hardware acceleration lowers CPU and memory consumption and enables faster deployment, storage vMotion tasks, and disk creation, as well as higher VM consolidation ratios. However, it only works with VAAI-compliant storage arrays, typically tier-1 storage. FalconStor NSS 7.0 extends VAAI hardware acceleration across any heterogeneous SAN or group of storage arrays, regardless of whether those arrays have native VAAI support, and regardless of whether the VMFS volumes span the same brand of array enclosure.</p> <p>In addition, FalconStor NSS 7.0 is certified for VMware vCenter Site Recovery Manager 5, providing functionality such as heterogeneous physical and virtual failover/failback. While VMware vSphere Replication provides heterogeneous support for VMware vCenter Site Recovery Manager 5, it only supports tier 2 and smaller environments. It does not support application consistency or failback. FalconStor NSS 7.0 provides supports for both physical and virtual environments, ensuring application consistency. The RecoverTrac® tool from FalconStor automates disaster recovery (DR) processes, enabling physical server site failover.</p>
<b>Bundled service-oriented disaster recovery (DR)</b>	<p>By providing automated DR, RecoverTrac allows users to create jobs that manage the recovery process for multiple host machines in a group or "farm". In the event of an emergency, RecoverTrac can quickly recover hosts, bringing them back online simultaneously or sequentially to the best recovery point.</p> <p>Performance enhancements to RecoverTrac in FalconStor NSS 7.0 include automatic recovery management of up to 50 hosts and 200 devices per RecoverTrac server across multiple sites. Additionally, RecoverTrac supports up to 60 disks per VMware virtual machine for physical-to-virtual (P2V) recovery, offering automated DR for physical-to-physical (P2P), virtual-to-virtual (V2V), and P2V.</p>
<b>Replication improvements</b>	A replication throttle can be configured on the target to limit the maximum replication speed, minimizing any potential impact on network traffic. In addition, Continuous Data Replication (CDR) has been optimized for improved usability and performance.
Cost Containment	
<b>Support for FCoE</b>	FCoE support has been added to FalconStor NSS 7.0, including support for QLogic QLE8152 and QLAE8142 Converged Network Adapters (CNAs), and for the CISCO MDS 5010 FCoE switch. FalconStor NSS servers can automatically detect these specific CNAs.
<b>Improved SNMP management</b>	SNMP enables remote and global management of network resources for improved utilization, identification and mitigation of bottlenecks, and centralized management. FalconStor NSS 7.0 provides improved MIB and SNMP support with over 700 new data elements and alert enhancements for optimized service level agreement (SLA) reporting. Popular tested environments include: Microsoft System Center Operations Manager (SCOM), HP OpenView NNM, HP Network Node Manager (NNM), CA Unicenter, IBM Tivoli NetView, and BMC Patrol. Data elements and alerts include: Accounting, statistics, performance, and fault management (disk failures, threshold violations, and alerts generated) according to availability, performance, configuration, and security.

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