NexentaStor and *Operational Scalability*

Legacy storage solutions were architected in a very different time. 10-15 years ago processors were approximately 60x less powerful than today's industry standard processors and the requirements for networked attached storage were just emerging. It is no wonder that algorithms completed in the 1990s do a poor job as compared to ZFS. Today storage administrators are struggling with the aging designs of legacy solutions, forced to 'work-around' limitations on the size of file systems, the numbers of file systems, the number of snapshots, and other architectural restrictions. NexentaStor dramatically improves upon the operational scalability of storage in part because it is built upon up to date foundations.

Customer Challenges

Legacy storage solutions are built upon a number of outdated foundations including 32bit addressing, volume based management, and proprietary hardware. This leads to several complexities such as:

- Adding capacity requires purchasing hardware from the legacy vendor at a large mark-up to market pricing for industry standard components.

- Capacity that is added then needs to be manually configured and added to various volumes, a process that can take days of manual effort.

- Performing snap-shots and adding file systems is only straightforward up the point that 255 have been added for systems based on 32bit addressing.   If your policy calls for hourly snapshots you run out of snapshots in 10 days.

- Increasing performance also requires purchasing a new, more expensive piece of hardware. Simply adding CPUs or systems to the implementation is not allowed.

These limitations mean that operating legacy systems as storage demands continue to increase exponentially will eventually be so difficult, costly, and risky that it will no longer be feasible. Legacy systems lack *operational scalability*.

What is the Solution?

NexentaStor Enterprise Edition is built upon a 128bit file system and is the leading OpenStorage solution. The underlying technologies, ZFS and OpenSolaris, provide the basis for very high scalability required for growing enterprises that do not want to worry about the costs and pains involved in adding storage or storage systems to their data centers.
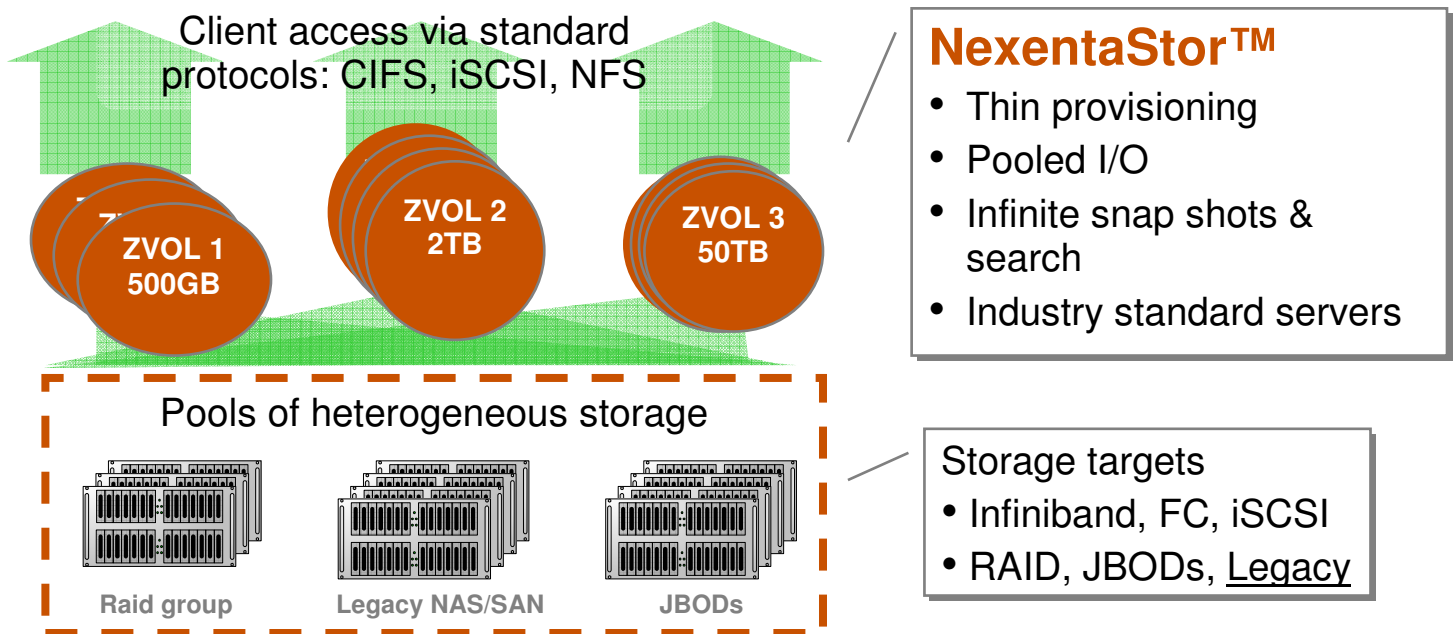
NexentaStor Solution Benefits

- Lowest-cost, open source-based, enterprise class storage system

- Inherent virtualization for maximum scalability, performance and manageability

- Fast, online storage with search capabilities

- Easy integration with ISV applications, and low ongoing maintenance

- Built-in data protection for maximum data integrity and longevity

OpenStorage technology ensures that the solution is not proprietary with vendor dependencies which hinder easy and low-cost usability over lengthy periods of time. It also obviates the unnecessary vendor mark-ups for industry standard hardware. Further, ZFS offers massively scalable storage environments with virtually unlimited number of snapshots thus providing free versioning and high granularity of data protection.

NexentaStor also offers built-in replication for disaster recovery purposes and encryption for advanced data security and thus, further cost reduction.

Adding capacity to NexentaStor managed environments is extremely straightforward. New capacity will be discovered by NexentaStor and will be utilized as appropriate. Also, because NexentaStor stripes data across devices, thereby pooling I/O operations, the performance of NexentaStor will increase as more capacity is added.

NexentaStor works seamlessly with legacy storage environments as a second tier solution, running behind these solutions and, as these solutions reach of end life, potentially repurposing those solutions into storage targets that can be managed and virtualized by NexentaStor.

Client access via standard protocols: CIFS, iSCSI, NFS

ZVOL 1
500GB

ZVOL 2
2TB

ZVOL 3
50TB

NexentaStor™

- Thin provisioning
- Pooled I/O
- Infinite snap shots & search
- Industry standard servers

Pools of heterogeneous storage

Raid group

Legacy NAS/SAN

JBODs

Storage targets
- Infiniband, FC, iSCSI
- RAID, JBODs, Legacy

NexentaStor abstracts the underlying storage, creating ZVOLs that are exposed to clients via standard protocols. These ZVOLs can be managed via infinite snap shots and block level replication with the assistance of integrated search. No special client software is required. The result is a breakthrough is ease of use, price / performance, and price / capacity.

About Nexenta

Founded in 2005 and privately held, Nexenta Systems, Inc., has developed NexentaStor™, the leading OpenStorage enterprise class storage solution and sponsors NexentaCore, an operating system that combines the high performance and reliability of OpenSolaris with the ease of use and breadth of applications of Linux. Both solutions leverage the revolutionary file system, ZFS. More information about Nexenta Systems, Inc., and about Certified partners that provide hardware, software and service solutions based on NexentaStor can be found at www.nexenta.com.