Hewlett Packard - NexentaStor Reference Architecture Datasheet

HP and Nexenta Deliver Highly Available, Full-featured, Unified Storage

NexentaStor is Nexenta's flagship Software-Defined Storage (SDS) platform, allowing thousands of customers all around the world to transform their storage infrastructure, increase flexibility and agility, simplify management and dramatically reduce costs without compromising on availability, reliability, or functionality.

Running on HP hardware, NexentaStor delivers unified file and block storage services, scales from tens of terabyte to petabyte configurations, and includes all data management functionality. NexentaStor is Software Defined Storage with SMARTS: Security, Manageability, Availability, Reliability, (lower) TCO, and Scalability.

Leveraging ZFS hybrid storage pools and other value-added enhancements, HP and Nexenta reference architectures are flash-ready. Write-intensive SSDs are used as ZFS intent-log (ZIL) to reduce write latency and read-intensive SSDs are used as a cache to reduce read latency and improve performance. This hybrid flash system was designed to achieve the right balance of cost and performance for any given workload.

HP and Nexenta reference architectures are ideally suited to support demanding enterprise applications in physical or virtual infrastructure, virtual desktop infrastructure, high performance digital media applications, and large-scale archive repositories. HP and Nexenta reference architecture configurations scale up to 560TB or more of storage raw capacity.

There are three main reference architecture building blocks: storage controller (DL380e G8 and DL380p G8), storage enclosures (D2600, D2700, or D6000), and NexentaStor 4.0 software.

Features

Unified File and Block Services
- 10GbE NFSv3, NFSv4,
- 10GbE CIFS, SMB 2.1
- 10GbE iSCSI
- 8Gbps Fibre Channel

Data Availability and Integrity
- Active/Active controllers
- ZFS 256-bit block level checksums
- RAID 10 and multi-parity software RAID (n+1, n+2, n+3)
- Asynchronous replication

Data Services and Optimization
- Flash and HDD hybrid pools
- ZFS Copy On Write
- Unlimited writable snapshots
- Thin provisioning
- Inline data compression

Scalability and Management
- 18TB to 560TB raw capacity
- CLI and Web UI
- SNMP and REST API

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Reference Architecture Configurations

	Entry Level NH-18	Midrange NH-24	Midrange Expanded ND-41	Large NH-48	Large Expanded NH-96	Backup and Archive NH-560
Raw Capacity	18TB	88TB	176TB	224TB	456TB	960TB
Data Drive #	21	44	88	112	228	240
Form Factor (total system)	6U	12U	20U	12U	20U	20U
Memory (total system)	192GB	192GB	192GB	512GB	512GB	512GB
Read Cache	400GB	N/A	400GB	N/A	N/A	N/A
10GbE port	2	2	2	2	2	2
Software	NexentaStor 4.0					
Protocol	NFS v3, v4, CIFS, SMB 2.1, FC, iSCSI					
Client OS	RHEL, Windows, VMware, Hyper-V, OpenStack, CloudStack					

	Entry Level NH-18	Midrange NH-24	Midrange Expanded NH-41	Large NH-48	Large Expanded NH-96	Backup and Archive NH-560
Controller	2x DL380e G8		2x DL380p G8			
CPU	E5-2420, 1.9GHz, 6-core, 2-socket		E5-2643, 3.3GHz, 4-core, 2-socket			
DRAM	96GB (12x 8GB)		256GB (16x 16GB)			
Boot Drive	2TB (2x 1TB NL SAS 7.2k 3.5)					
SAS HBA	HP H221 (external) HP H220 (internal)					
NIC	HP 560SFP+					
Storage Enclosure	1x D2700 (2U-25 2.5)	1x D2600 (2U-12 3.5)	2x D2700 (2U-25 2.5)	2x D2600 (2U-12 3.5)	4x D2600 (2U-12 3.5)	2x D6000 (5U-70 3.5)
Data HDD	900GB SAS 10k 2.5	2TB SAS 7.2k 3.5	900GB SAS 10k 2.5	2TB SAS 7.2k 3.5	2TB SAS 7.2k 3.5	4TB SAS 7.2k 3.5
Data Drive #	21	12	46	24	48	140
L2ARC	2x 200GB MLC 2.5	N/A	2x 200GB MLC 2.5	N/A	N/A	N/A
ZIL/SLOG	2x 200GB SLC 2.5	N/A	2x 200GB SLC 2.5	N/A	N/A	N/A

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