Scale-out global Deduplication Storage for Backup and Archive - HYDRAstor HS8-5000

At a Glance

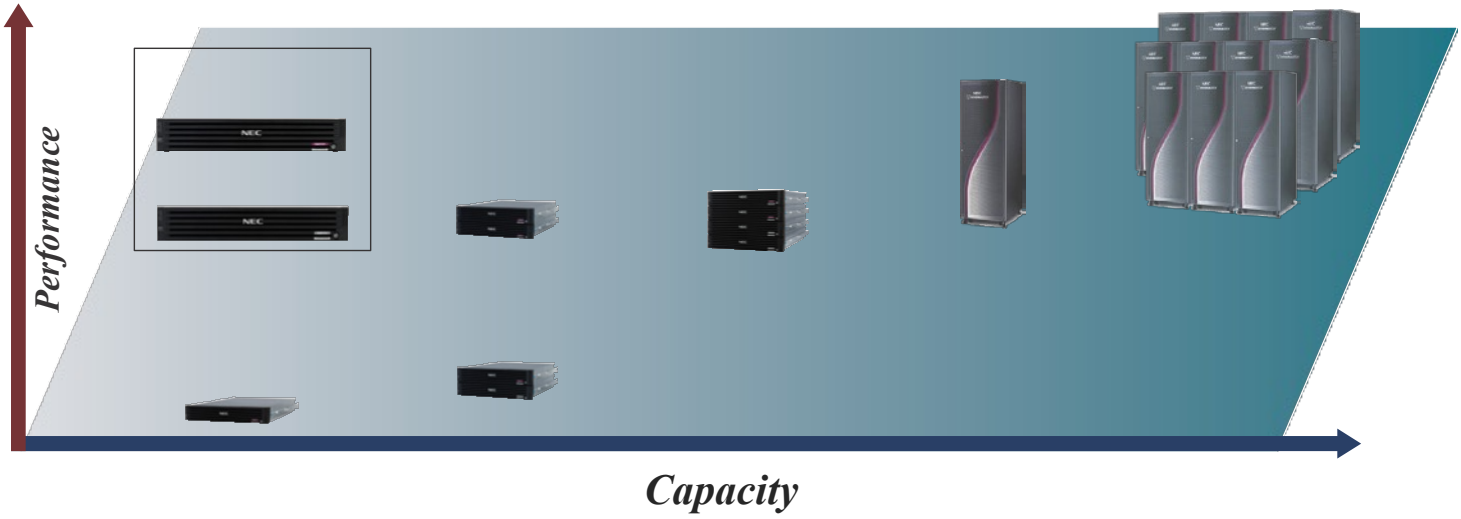
- High-performance inline global deduplication
- Massive linear scalability exceeding 5PB/hr & 158PB
- High availability and no single point of failure
- Advanced erasure-coded data resiliency
- Investment protection and in-place hardware refresh

Overview

NEC's HYDR Astor HS8-5000 is a scale-out grid storage system with high-performance global deduplication for backup and archive. It delivers enterprise long-term data retention, exceeding 5PB/hr backup throughput and 158PB effective capacity.

HYDRAstor consists of two nodes: Hybrid Node (HN) for expanding performance and capacity and Storage Node (SN) for expanding just capacity. Combining multiple HNs and SNs within the same grid system, enterprise customers can customise the configuration with high availability and no single point of failure. To ensure greater data protection than traditional RAID, HYDRAstor provides advanced erasure-coded data resiliency that can tolerate up to six concurrent hard drive failures.

HYDRAstor can be further expanded and refreshed with no data migration by incorporating an intermix of newer generation hardware into the same grid system. HYDRAstor maximises cost efficiency with DataRedux™ inline global deduplication and compression, as well as high-availability and node-level resiliency with erasure-coded data protection. HYDRAstor also provides investment protection with online upgrade/ expansion, as well as in-place technology refresh with an intermix of multi-generation nodes within the same grid system.



HYDRAstor HS8-5000 Configurations

	HS8-5001S-72 (1HN)	HS8-5001S-144 (1HN+1SN)	HS8-5002S-144 (2HN)	HS8-5002S-288 (2HN+2SN)	HS8-5008R-1080 (8HN+7SN)	HS8-5083R-11880 (83HN+82SN)
Capacity, Raw[2]	18/36/54/72TB	144TB	144TB	288TB	1.08PB	11.88PB
Capacity, Effective[2,3]	240/480/720/960 TB	1.92PB	1.92PB	3.84PB	14.4PB	158.4PB
Performance (Standard)	7.2TB/hr	7.2TB/hr	14.4TB/hr	14.4TB/hr	57.6TB/hr	597.6TB/hr
Performance (Deduped Standard)	54TB/hr	63TB/hr	63TB/hr	126TB/hr	472.5TB/hr	5.2PB/hr
Number of Hybrid Nodes	1	1	2	2	8	83
Number of Storages	0	1	0	2	7	82
Number of Racks	Customer-supplied				1	11
Input Voltage	AC 100-240V 50/60Hz				208V 3PH +/1 10%	
Protocols	CIFS, NFS, OpenStorage, Express I/O					
Management	GUI, CLI, E-mail alerts and notification, SNMP					

HYDRAstor HS8-5000 Hybrid Node Specifications

Model	HS8-5000HN
Capacity, Raw [2]	72TB
Capacity, Effective [2,3]	960TB
Performance (Standard)	7.2TB/hr
Performance (Deduped Transfer)	63TB/hr
NIC Ports	6x 1GbE, 4 x 1GbE + 2x 10GbE, or 2x 1GbE + 4x 10GbE
Disk Drives	12x 3.5" 6TB SATA drives 7,200rpm (user data) or 2x 2.5" 900GB SAS drives 10,000rpm (system)
Weight	70.5lbs (32kg)
Dimensions (WxDxH)	17.6" x 26.9" x 3.4" (448mm x 684mm x 87mm), 2U
Power Consumption[4] (maximum/typical)	665W/573W (671VA/579VA)
Thermal Dissipation	2,268BTU/hr

HYDRAstor HS8-5000 Storage Node Specifications

Model	HS8-5000SN
Capacity, Raw [2]	72TB
Capacity, Effective [2,3]	960TB
Disk Drives	12x 3.5" 6TB SATA drives 7,200rpm (user data) or 2x 2.5" 600GB SAS drives 10,000rpm (system)
Weight	70.5lbs (32kg)
Dimensions (WxDxH)	17.6" x 26.9" x 3.4" (448mm x 684mm x 87mm), 2U
Power Consumption[4] (maximum/typical)	540W/405W (545VA/409VA)
Thermal Dissipation	1,842BTU/hr

HYDRAstor HS8-5000 Software

Standard Software Features	DynamicStor™, DataRedux™, Distributed Resilient Data™ (DRD), Application-aware Deduplication, Filesystem Quotas, Filesystem Clones/Snapshots, Dynamic Data Shredding, Instant File Copy
Optional Software Features	RepliGrid™ WAN-Optimized Replication with In-flight Encryption, HYDRAlock™ Write-Once Read Many (WORM), HYDRAstor Advanced Data Services, Encryption at Rest, Global Name Space (GNS)

HYDRAstor HS8-5000 Environmental Specifications

System Thermal Rating	50°F (10°C)/hr
Operating Acoustic Noise[5]	58dB
Regulatory Approvals	Safety: UL 60950-1,CAN/CSA-C22.2 No.60950-1-03,EN60950-1 Electromagnetic Compatibility:FCC 15:109(g) Class A,ICES-003:2012 Class A,EN55022,CISPR22 EN61000-3-2,EN61000-3-3,EN55024,CISPR24,AS/ NZS CISPR 22 Others: RoHS, WEEE

1 - Performance with Express I/O Deduped Transfer option
2 - One (1) Terabyte (TB) = 1,000,000,000,000 bytes.
3 - Assumption: full backup weekly and incremental backup daily, and 3 months retention period to achieve 20:1 data reduction ratio; 9+3 resiliency level.
4 - Specifications of the 1GbE Model
5 - Typical value per node under 77°F (25°C)

About Kaizen Technologies Kaizen Technologies, rooted in the Japanese philosophy of continuous improvement, embodies its mission, "***In Pursuit of Perfection***," in every facet of its operations. This guiding principle shapes our approach to distributing the cutting-edge NEC HYDRAstor product range globally and underpins our vision for the future of technology distribution and support.
For more information, visit Kaizen Technologies at: https://www.kaizentechnologies.online/about-us/