

Scale-out Global Deduplication Storage for Backup and Archive

# HYDRAsstor<sup>®</sup> HS8-5000



## At a Glance

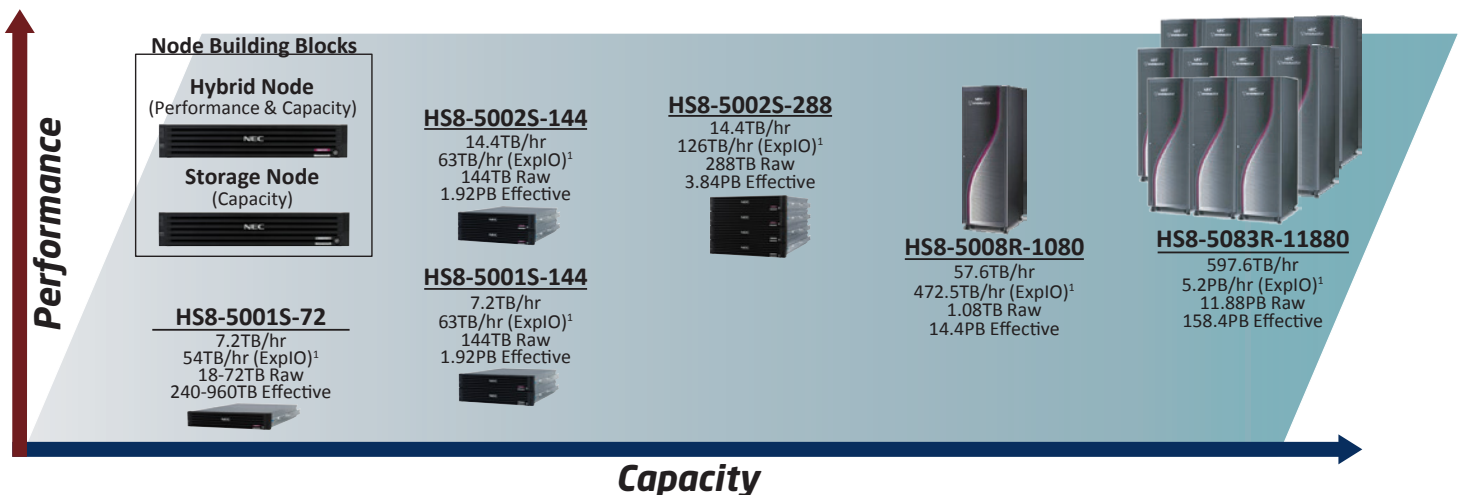
- High performance inline global deduplication
- Massive linear scalability exceeding 5PB/hr & 158PB
- High availability and no single point of failure
- Advanced erasure-coded data resiliency
- Investment protection and in-place hardware refresh

## Overview

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

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

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



## HYDRAsstor HS8-5000 Configurations

|                                    | HS8-5001S-72<br>(1HN)                          | HS8-5001S-144<br>(1HN+1SN) | HS8-5002S-144<br>(2HN) | HS8-5002S-288<br>(2HN+2SN) | HS8-5008R-1080<br>(8HN+7SN) | HS8-5083R-11880<br>(83HN+82SN) |
|------------------------------------|--|----------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|
| Capacity, Raw <sup>2</sup>         | 18/36/54/72TB                                  | 144TB                      | 144TB                  | 288TB                      | 1.08PB                      | 11.88PB                        |
| Capacity, Effective <sup>2,3</sup> | 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 +/- 10%            |                                |
| Protocols                          | CIFS, NFS, OpenStorage, Express I/O            |                            |                        |                            |                             |                                |
| Management                         | GUI, CLI, E-mail alerts and notification, SNMP |                            |                        |                            |                             |                                |

## HYDRAsstor HS8-5000 Hybrid Node Specifications

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

## HYDRAsstor 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), HYDRAsstor Advanced Data Services, Encryption at Rest, Global Name Space (GNS)  |

## HYDRAsstor HS8-5000 Storage Node Specifications

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

## HYDRAsstor HS8-5000 Environmental Specifications

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

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