HELIOS : HEN-9524

Enterprise 24 Bay Disk-less Rackmount NAS

Enterprise-ready performance packed in our 24 bay rackmount appliance, upgradable to Petabyte solution. Meet HEN-9524 the enterprise workhorse that simplifies storage needs at the push of a button. The simplicity of the web interface powers you to make most configuration changes with the click of a mouse. Our NAS solutions are powered by the world's #1 storage OS..

File sharing across platforms

File sharing across platforms empowers you to connect a variety of clients from different architectures. Clients running any enterprise operating system can connect with either SMB/CISF style Windows file shares, Network File System (Unix or Unix like shares) and Apple File Shares. If that wasn't enough why not also harness the power of FTP, iSCSI (block sharing) and WebDAV. Supporting various platforms is now easy, Windows, Mac OS X, and several Linux distributions can now connect with no additional software or configuration. There's also bundled in support for Time Machine backups for offices with clients that run Apple OS X.

Intuitive web interface

We understand our clients and their needs. We understand that simplifying complex administrative tasks is vital to streamlining workfiow for system administrators. Every day to day administrative task can be done from the convenience of your mouse and a web browser. The step by step setup process further simplifies configuration. Tasks such as volume creation or setting devolved permissions for specific shares or updating your system can be done with confidence. For folks who prefer hands-on control, there's also the option to log into the FreeBSD shell prompt. From the software design to feature selection and testing the storage OS is designed with one key goal - ease of use.

Enterprise-grade ZFS protection

Our storage OS is powered by ZFS which is designed for data integrity inside and out. RAID-Z, the software RAID that is part of ZFS offers single parity protection like RAID 5, but without the "write hole" vulnerability thanks to the copy-on-write architecture of ZFS. The additional levels RAID-Z2 and RAID-Z3 offer double and triple parity protection, respectively. A software mirror option is also available. When creating a new volume the setup wizard form updates with available parity options depending on number of disks you have selected, thus removing the guesswork from the process. Every ZFS filesystem is also verified with checksums from top to bottom to ensure data integrity. If inconsistencies are found, parity blocks can be used to repair corrupt data. A regular scrub is turned on by default and can be rescheduled or configured from the web interface.

On-demand, enterprise-level snapshots make data loss a thing of the past

Accidents can happen, which is why and thanks to ZFS, snapshots of the entire filesystem can be made and saved at any time. As long as a snapshot exists, administrators can access files as they were when the snapshot was made. Snapshots can be made on a one-off basis or scheduled as a cron job from the web interface. At any time, the entire filesystem can be rolled back to the most recent snapshot. Older snapshots can be cloned and accessed to recover data from that version of the filesystem. From the web interface, users can see how much space a particular snapshot is occupying on the volume and delete, clone, or roll back to individual snapshots as needed.

Local and remote replication

Snapshots aren't just local backups, in fact, they can be saved on remote locations as well. Replicating snapshots of the file system to a remote ZFS file system creates an exact duplicate. Backing up large amounts of data often can consume large bandwidth which is why ZFS snapshots can be sent incrementally, bringing down the size of each backup to just the changes that were made since the last snapshot. When disks fail or data on disk becomes inconsistent or corrupt it is straight forward to restore a remotely saved backup on to a fully functioning machine within minutes.

Encryption

We understand the value of data which is why encryption is at the forefront of our product design. Entire volumes can be encrypted during initialization, providing industry-standard AES-XTS encryption which can be hardware-accelerated (when the processor has AES-NI capability). Encrypted volumes can only be read by FreeNAS systems in possession of the master key for that volume. The user can optionally create a passphrase to add extra protection for their system against loss or theft. Encryption allows for confidence when retiring and recycling hard drives because the drives no longer need to be wiped provided the master keys are obliterated.

ZFS IS DESIGNED FOR BUSINESS

ZFS is an enterprise-ready file system and volume manager with unprecedented flexibility and an uncompromising commitment to data integrity. ZFS is a truly next-generation file system that eliminates most, if not all of the shortcomings found in legacy file systems and hardware RAID devices. Once you go ZFS, you will never want to go back.

Businesses can not afford data loss and creating snapshots ensures that your data is safe and never lost. ZFS creates a chain of trust for your data by checksumming data when it is written and verifying the checksums when it is read. It even checksums the metadata that describes the file system and allows you to periodically verify all checksums to determine if your infrequently-used data or backups are suffering silent data corruption. By taking these precautions, ZFS will never return you corrupt data from disk.
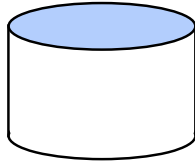
PROTECTION AND SECURITY FOR YOUR CRITICAL DATA

The Helios range is designed keeping in mind business needs for maximum uptime. Downtime can reduce productivity and profitability and we wanted to design our NAS products keeping this in mind. The Helios range offers peace of mind to administrators in the form of all the standard RAID options
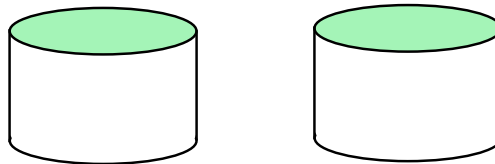
- Mirrored VDEV's (similar to RAID1)
- Striped Mirrored VDEV's (similar to RAID10)
- RAIDZ (one disk parity)
- RAIDZ2 (two disk parity)
- RAIDZ3 (third disk parity)
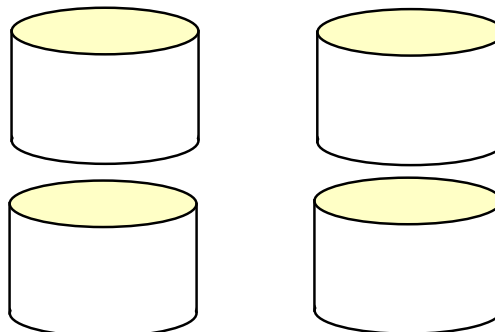- Nested RAIDZ (similar to RAID50 or RAID60)

ZFS POOL

Simple VDEV

Mirrored VDEV

RAIDZ VDEV

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SEAMLESS INTEGRATION WITH BUSINESS PROCESSES

Businesses today are multi-channel, cross-department, intra team arrangement of staff working at peak efficiency and this arrangement shouldn't have to change from the introduction of new hardware. The Helios

range is designed to adapt to your business processes and not the other way round.

We also take the guesswork out of configuring your NAS. ZFS helps you avoid most storage planning mistakes by pooling together the blocks provided by all of your disks and allowing you to divide the available space into highly-configurable file systems. ZFS includes the permissions and quotas of traditional file systems but also includes transparent compression levels, capacity reservations, and clonable snapshots. This allows administrators to seamlessly integrate their permissions structure in line with their team structure and organization work environment.

SPECIFICATIONS

Hardware specifications	
CPU	Intel Xeon E3 1230 (base frequency 3.2GHz, turbo frequency 3.6GHz)
Hardware encryption engine	Yes
Installed memory	64GB (Expandable up to 32GB x 4 = 128 GB)
Memory slots	4
Drive bays	24
3.5"	Yes
2.5"	Yes (addon bracket required)
SSD	Yes
HDD	Yes
Number of HDD slots	24
PHYSICAL INTERFACES	
USB	4 USB 2.0 ports (2 rear + 2 via headers) and 4 USB 3.1 Gen2 ports (2 rear, 2 via headers)
Expansion Port	1
1G RJ45 LAN	4 ports
10G RJ45 LAN	2 ports
PCIe slots	1 PCI-E 3.0 x16, and 1 PCI-E 3.0 x4 (in x8 slot)
Physical Specifications	
Size (HxWxD)	670mm x 444mm x 177mm
Weight	18 kg
System fan	3 (80 x 80 x 32 mm)
AC input power voltage	100V to 240V AC
Power frequency	50/60Hz, single phase
Redundant Power Supply	800W RPS
Operating temperature	5°C to 35°C (40°F to 95°F)
Storage temperature	-20°C to 60°C (-5°F to 140°F)
Relative humidity	5% to 95% RH
Maximum operating altitude	5,000 m (16,400 ft)

Software specifications	
SYSTEM	
Operating system	YES (Preloaded OS)
SHARING	
Apple Filing Protocol (AFP)	Yes
NFS	Yes
WebDAV	Yes
SMB	Yes
CIFS	Yes
Block (iSCSI)	Yes
REPORTING	
Email alerts	Nightly alerts containing information about health of disks
CPU usage reporting	Yes (NAS health reports)

Send alerts to	1. AWS-SNS 2. E-mail 3. InfiuxDB 4. Mattermost 5. OpsGenie 6. PagerDuty 7. Slack 8. SNMP Trap 9. VictorOps

REPORTS AVAILABLE FOR	
CPU	Yes
Disk	Yes
Memory	Yes
Network	Yes
Partition	Yes
System	Yes
Target	Yes
UPS	Yes
NFS	Yes
ZFS	Yes

WEB UI	
Built in themes	Yes
Custom themes	Yes

ADD ON FEATURES	
Plugins available for	1. Create real time local cloud backup 2. Media center 3. Antivirus 4. Bittorrent client 5. Minecraft server

DATA MANAGEMENT	
Snapshots	Yes
Replication	Yes
Rollback	Yes
Clones	Yes
Encryption	Yes
Mirroring	Yes
RAID	Yes

MANAGEMENT PROTOCOLS	
IPMI	Yes
WebUI	Yes
REST API	Yes
SSH	Yes
Telnet	Yes
SNMP	Yes
NIS	Yes
LDAP	Yes
Kerberos Realms	Yes
Kerberos Keytabs	Yes
Active Directory (ADS)	Yes

Virtualization	Yes
SECURITY	
Firewall	Yes
Encrypted shared folder	Yes
SMB encryption	Yes
FTP over SSL/TLS	Yes
SFTP	Yes
Rsync over SSH	Yes
Login auto block	Yes
Let's Encrypt support	Yes
HTTPS	Yes
FTP SERVER	
Bandwidth control for TCP connections	Yes
Custom FTP passive port range	Yes
Anonymous FTP	Yes
FTP SSL/TLS and SFTP protocol	Yes
BACKUP TOOLS	
Windows Backup support	Yes
Apple Time Machine support	Yes
Support for rsync	Yes
TrueOS Life Preserver	Yes
Asigra Backup (Plugin)	Yes
Tarsnap (Plugin)	Yes
BRU Server (Plugin)	Yes
Syncthing (Plugin)	Yes
BackupPC (Plugin)	Yes
CLOUD SYNC	
One or two-way synchronization	Yes
Amazon Drive	Yes
Amazon S3-compatible storage	Yes
Box	Yes
Dropbox	Yes
Google Cloud Storage	Yes
Google Drive	Yes
Microsoft OneDrive	Yes
OpenStack Swift-compatible storage	Yes
WebDAV servers	Yes
ACCESS	
Supports creating user accounts	Yes
Supports creating user groups	Yes
Supports assigning permissions to groups	Yes
Supports assigning permissions to users (User access rights)	Yes
User/Folder Quota	Yes

Manageability through remote access	Yes

CLOUD SYNC	
Compatible cloud services	1. Amazon S3 2. Backblaze B2 3. Box 4. Dropbox 5. FTP 6. Google Cloud Storage 7. Google Drive 8. HTTP 9. hubiC 10. Mega 11. Microsoft Azure Blob Storage 12. Microsoft OneDrive 13. pCloud 14. SFTP 15. WebDAV 16. Yandex
Supports SSH connections	Yes

AUTOMATION	
Supports CRON jobs	Yes
Init and shutdown scripts	Yes
Rsync scheduled tasks	Yes
Rsync Module mode	Yes
Rsyc over SSH	Yes
Scheduling S.M.A.R.T tests	Yes
Periodic snapshots	Yes
Snapshot autoremoval	Yes
Periodic replication	Yes
Scrub tasks	Yes
Cloud sync task	Yes
Setting Resilver priority	Yes
Background services	Yes
AFP configuration service	Yes
Dynamic DNS service	Yes
FTP access (incoming connections)	Yes
Anonymous FTP	Yes
iSCSI service	Yes
LLDP service	Yes
NFS service	Yes
Rsync service	Yes
S3 configuration service	Yes
S.M.A.R.T monitoring service	Yes
SMB service	Yes
SNMP service	Yes
SSH (incoming connections)	Yes
TFTP service	Yes
Network UPS service	Yes
WebDAV access service	Yes

RAID LEVELS / VOLUME LAYOUTS	
Stripe	Supported with at least one disk
Mirror	Supported with at least two disk
Z1	Supported with at least three disk, allows for one disk to fail
Z2	Supported with at least four disk, allows for two disks to fail
Z3	Supported with at least five disk, allows for three disks to fail
Log device	Supported with at least one dedicated device
Cache device	Supported with at least one dedicated device
DATA REDUCTION	
Thin Provisioning	Yes
Compression	Yes
Clones	Yes
Deduplication	Yes
STORAGE MANAGEMENT	
Maximum internal volumes	1024
Maximum iSCSI targets	512
Maximum iSCSI LUNs	1024
iSCSI LUN	Clone/snapshot support
FILE SHARING CAPABILITY	
Recommended local user accounts:	4096 (Can be increased without additional license)
Recommended local groups:	1024
Recommended shared folders:	1024
Recommended concurrent SMB/NFS/AFP/FTP connections:	3000
COMPATIBLE OS AND BROWSER	
UNIX	Yes
Linux	Yes
Windows 7 Desktop and above	Yes
Windows Server 2008 and above	Yes
FreeBSD	Yes
MacOS	Yes
Supported browser	Mozilla Firefox, Google Chrome, Microsoft Internet Explorer, Apple Safari
SURVEILLANCE STATION	
Maximum IP cameras:	No Limit. Maximum depends on hardware configuration, camera resolution, number of streams, and stream bandwidth.
VIRTUAL MACHINE MANAGER	
Run various virtual machines on NAS, including Windows, Linux, or Virtual DSM	Yes
HIGH AVAILABILITY MANAGER	
Support for snapshots	Yes
HIGH PERFORMANCE	
Intelligent read and write caches	Yes, (HDD supported, recommended SSD)

* Specifications above are subject to change without notice. Actual product specifications may vary. Raw capacity estimated when used with 16TB disks.

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GOING BEYOND VISION

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