# NAS/iSCSI Unified Storage

› **D-Link's NAS/iSCSI Unified Storage provide a flexible solution for businesses with increasing requirements for data consolidation, storage and sharing.**




| | Model | DNS-320 | DNS-320L/LW | DNS-327L | DNS-340L |
|---|---|---|---|---|---|
| Hardware | CPU | Marvell 88F6281 800MHz | Marvell 88F6702 1GHz | Marvell 88F6707 1.2GHz | Marvell 88F6707 1.2GHz |
| | FLASH | 128 MB | 128 MB | 128 MB | 128 MB |
| | SDRAM | 128 MB | 256 MB | 512 MB | 512 MB |
| | Number of drive bays | 2 | 2 | 2 | 4 |
| | Drive interface | SATA I/II | SATA I/II | SATA I/II | SATA I/II |
| | Drive form factor | 3.5 inch | 3.5 inch | 3.5 inch | 3.5 inch |
| | Maximum storage capacity | 12 TB | 12 TB | 12 TB | 24 TB |
| | Network interface | Gigabit Ethernet | Gigabit Ethernet | Gigabit Ethernet | 2 x Gigabit Ethernet |
| | Number of USB ports (for storage backup, printer sharing or UPS monitoring) | 1 x USB 2.0 | 1 x USB 2.0 | 1 x USB 3.0 | 1 x USB 3.0<br>2 x USB 2.0 |
| | D-Link Green, power saving mode, smart fan | • | • | • | • |
| | Max. Throughput | 62 MB/s (NASPT Read, F/W 1.00) | 66 MB/s (NASPT Read, F/W 1.02) | 81.8 MB/s (NASPT Write, F/W 1.00) | 84.7 MB/s (SAMBA, F/W 1.00) |
| Disk Management | Multiple drive configuration | RAID 0/1, JBOD, standard | RAID 0/1, JBOD, standard | RAID 0/1, JBOD, standard | RAID 0/1/5/10, JBOD, standard |
| | RAID migration | Standard to RAID 1 | Standard to RAID 1 | Standard to RAID 1 | Standard to RAID 1, Standard to RAID 5, RAID 1 to RAID 5 |
| | Drive format | ext3 | ext4 | ext4 | ext4 |
| | Scan disk | • | • | • | • |
| | SMART | • | • | • | • |
| | Volume encryption | | | • | • |
| | Disk/RAID roaming | • | • | • | • |
| iSCSI | Link aggregation group LAG support | | | | • |
| | CHAP | | | | • |
| | 802.1q VLAN | | | | • |
| Access Management | Windows Active Directory Service support | | | | • |
| | User account management (maximum) | • (256) | • (256) | • (256) | • (512 non-ADS, 800 ADS) |
| | Group account management (maximum) | • (32) | • (32) | • (32) | • (64 non-ADS, 200 ADS) |
| | User/group quota management | • | • | • | • |
| | Network share management (maximum shared folders) | • (128) | • (128) | • (128) | • (128) |
| | ISO mount management | | • | • | • |
| | Maximum concurrent connections via Samba/FTP | 64/10 | 64/10 | 64/10 | 64/10 |
| Backup Management | Schedule backup from PC to NAS | • | • | • | • |
| | Schedule local backups | • | • | • | • |
| | Schedule remote backups | • | • | • | • |
| | Apple Time Machine support | • | • | • | • |
| | Cloud storage backup (Amazon S3) | • | • | • | • |
| | USB backup | • | • | • | • |
| Applications and Add-ons | FTP/HTTP/P2P downloads | • | • | • | • |
| | File sharing protocol | CIFS/NFS/Web File Manager/AFP/ WebDAV | CIFS/NFS/Web File Manager/AFP/ WebDAV | CIFS/NFS/Web File Manager/AFP/ WebDAV | CIFS/NFS/ Web File Manager/AFP/ WebDAV |
| | Network streaming service | DLNA, iTunes Server, UPnP AV | DLNA, iTunes Server, UPnP AV | DLNA, iTunes Server, UPnP AV | DLNA, iTunes Server, UPnP AV |
| | mydlink Cloud Services (access and sync, mobile app support) | | • | • | • |
| | Photo Center | | • | • | • |
| | Surveillance Center | | | • | • |
| | Add-on support[1] | | | • | • |
| Management | Web interface through browser | • | • | • | • |
| | E-mail/SMS notification | • | • | • | • |
| | System/FTP log | • | • | • | • |
| | SNMP | | | | • |
| | Resource monitor | | | • | • |

[1] Please refer to the product support section at www.dlink.com for all available add-ons


| | Model | DNS-1550-04 | DNS-1560-04 |
|---|---|---|---|
| Hardware | CPU | Intel Atom Dual Core 1.8Ghz | Intel Atom Dual Core D2550 |
| | FLASH | 256 MB | 512 MB |
| | SDRAM | 2 GB | 4 GB |
| | Number of drive bays | 4 | 4 |
| | Drive interface | SATA I/II | SATA I/II |
| | Drive form factor | 3.5 / 2.5 inch | 3.5 / 2.5 inch |
| | Maximum storage capacity | 12 TB | 16 TB |
| | Network interface | 2 x Gigabit Ethernet | 2 x Gigabit Ethernet |
| | Number of USB ports (for storage backup, printer sharing or UPS monitoring) | 5 | 2 |
| | Enclosure form factor | 1U rack-mountable | 1U rack-mountable |
| iSCSI | Link aggregation group LAG support | • | • |
| | CHAP | • | • |
| | 802.1q VLAN | • | • |
| Disk Management | Multiple drive configuration | RAID 0/1/5/6/10, JBOD | RAID 0/1/5/6/10, JBOD |
| | SMART | • | • |
| | Volume encryption | • | • |
| | Disk/RAID roaming | • | • |
| | Thin provisioning | | • |
| | Compression | | • |
| Access Management | Windows Active Directory service support | • | • |
| | User account management (maximum) | • (4096 non-ADS, 10000 ADS) | • (4096 non-ADS, 10000 ADS) |
| | Group account management (maximum) | • (512 non-ADS, 10000 ADS) | • (512 non-ADS, 10000 ADS) |
| | Network share management (maximum shared folders) | • (512) | • (256) |
| | Maximum concurrent connections via Samba | 256 | 512 |
| Backup Management | Schedule backup from PC to NAS | • | • |
| | Schedule local backups | • | • |
| | Schedule remote backups | • | • |
| | Cloud storage backup | • | • |
| | USB backup | • | • |
| Applications and Software | File sharing protocol | CIFS/NFS/NTP/ DFS/ Web File Manager/AFP/ WebDAV | CIFS/NFS/NTP/ DFS/ Web File Manager/AFP/ WebDAV |
| | Network streaming service | DLNA, iTunes Server, Firefly, UPnP AV | DLNA, iTunes Server, Firefly, UPnP AV |
| | Built-in snapshot | • | • |
| | Replication | • | • |
| | Windows MPIO | • | • |
| Management | Web interface through browser | • | • |
| | Windows Hyper-V certified | | • |
| | Citrix certified | • | • |
| | VMWare | • | • |
| | E-mail notification | • | • |
| | SNMP | • | • |
| | Resource monitor | • | • |

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# Jargon Buster

› Can't tell your SATA from your iSCSI? Not sure what RAID is all about? This short section will help you get to grips some common storage terminology

### FTP
Short for File Transfer Protocol, FTP is a platform-independent technology used to upload and download files over a LAN or Internet connection.

### Hot-plug/hot-swap
The ability to install and replace hard disks and other components without powering down the system or affecting its availability.

### Hot-spare
A spare disk in a storage array which is automatically brought online if one of the data disks fails.

### iSCSI
An implementation of the block-level SCSI disk protocol for use on IP networks, iSCSI enables a Storage Area Network (SAN) to be implemented using ordinary Ethernet cabling and switches rather than more complex and expensive Fibre Channel hardware. An iSCSI target is a volume on a storage array. An iSCSI initiator is the hardware/software that connects an iSCSI target to a host server.

### JBOD
Short for "Just a bunch of disks", where each disk is accessible separately rather than through a collective RAID interface. It offers no redundancy or performance advantages.

### Mirroring
A RAID technology where data written to one set of disks is automatically copied to another identical set. Provides 100% redundancy because, if one set of disks fails the data is still available on the other.

### SMB/CIFS
The network file sharing protocol used by Windows, also supported on other platforms such as Mac OS and Linux to allow for data sharing.

### RAID
A Redundant Array of Independent Disks (RAID) is where data is spread across multiple hard disks, optionally together with error correction data to enable the array to continue working in the event of one or, in some cases, two disk failures. RAID protection can be implemented in software or, for better performance, hardware using a RAID disk controller. Different levels of RAID are available, popular options being simple mirroring of disks, RAID 1, and RAID 5 where data and error correction information is striped across all the disks in an array.

### SATA
The most affordable of modern disk technologies, Serial ATA (SATA) disks are deployed in desktop PCs and entry-level servers/storage appliances, offering a good mix of capacity and performance. For maximum availability, enterprise-quality SATA disks should be specified and configured as an array using software or hardware based RAID.

### Storage consolidation
Storage consolidation, also called storage convergence is a method of centralising data storage among multiple servers. The objective is to facilitate data backup and archiving for all subscribers in an enterprise, while minimising the time required to access and store data. Other desirable features include simplification of the storage infrastructure, centralised and efficient management, optimised resource utilisation, and low operating cost.

Consolidating storage makes good business sense. The logic is straightforward. IT systems have an increasingly direct impact on basic business indicators, such as top-line revenue and customer satisfaction, and depend on reliable and flexible storage systems.

### Virtualisation
Initially only of benefit to large enterprises, server virtualisation is now common place in smaller organisations with only a handful of servers. The benefits of server virtualisation are well documented – simplifying management, increasing data availability and reducing operational costs through better hardware utilisation and lower energy costs.

With a D-Link SAN, D-Link switch and virtualised servers, it is also possible to unlock advanced virtualisation features, like VMware's VMotion, XenServer's XenMotion or Microsoft Hyper-V's Live Migration. These technologies enable movement of a running virtual machine (VM) from one server to another, a function not possible without centralized storage and a reliable, high performance network. This offers companies zero-downtime for server maintenance since VMs can be moved from server to server without service interruption. It is also possible to move running application workloads to take advantage of available computing power. That's unprecedented flexibility; delivered by the leading virtualisation providers but enabled by the technology provided by D-Link.