

ANNEX B
Specifications of NAS Device

Technical Specifications

Hardware

CPU: Intel Xeon D-1527 4-core 2.2GHz, Turbo Boost up to 2.7GHz

Hardware encryption engine: Yes (AES-NI)

Memory: 8 GB DDR4 ECC SODIMM (expandable up to 32 GB)

Compatible drive type: 6x 3.5" or 2.5" SATA HDD/SSD (drives not included) 2x M.2 2280 NVMe SSD (drives not included)

Hot swappable drive: Yes

External port: 3x USB 3.0 port, 2x eSATA port

Size (HxWxD): 166 x 282 x 243 mm

Weight: 5.3 kg

LAN: 2x 1GbE RJ-45, 1x 10GbE RJ-45

Wake on LAN/WAN: Yes

PCIe 3.0 slot: 1x 8-lane x8 slot, High-performance network interface card support

Scheduled power on/off: Yes

System fan: 2 (92 x 92 x 25 mm)

AC input power voltage: 100 V to 240 VAC

Power frequency: 50/60 Hz, single phase

Operating temperature: 0°C to 40°C (32°F to 104°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)

***General DSM specification:**

Networking protocol: SMB, AFP, NFS, FTP, WebDAV, CalDAV, iSCSI, Telnet, SSH, SNMP, VPN (PPTP, OpenVPN™, L2TP)

File system: Internal: Btrfs, ext4, External: Btrfs, ext4, ext3, FAT32, NTFS, HFS+, exFAT?

Supported RAID: type Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID F1

Storage management: Maximum single volume size: 108TB/200TB (at least 32 GB RAM required, for RAID 5 or RAID 6 groups only), Maximum system snapshots: 65,536, Maximum internal volume: 256

SSD cache: Read/write cache support, M.2 NVMe SSD support

File sharing capability: Maximum local user account: 16,000, Maximum local group: 512, Maximum shared folder: 512, Maximum concurrent SMB/NFS/AFP/FTP connection: 2,000

Privilege: Windows Access Control List (ACL), application privilege

Directory service: Windows AD integration: Domain users login via SMB/NFS/AFP/FTP/File Station, LDAP integration

Virtualization: VMware vSphere 6.5, Microsoft Hyper-V, Citrix, OpenStack

Security: Firewall, shared folder encryption, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, HTTPS (customizable cipher suite)

Supported client: Windows 7 onwards, macOS 10.12 onwards

Supported browser: Chrome®, Firefox®, Edge®, Internet Explorer® 10 onwards, Safari® 10 onwards, Safari (iOS 10 onwards), Chrome (Android™ 6.0 onwards) on tablets

Interface language: | English, Deutsch, Francais, Italiano, Espafol, Dansk, Norsk, Svensk, Nederlands, Pycckuu, Polski, Magyar, Portugués do Brasil, Portugués Europeu, Turkce, Cesky

***PACKAGES AND APPLICATIONS:**

File Server & Synchronization:

Drive: Provide a universal portal to synchronize your files across various platforms, including Windows, macOS, Linux, Android and iOS. The built-in universal portal allows you to access data anytime and anywhere.

* Maximum number of hosted files: 3,000,000

* Maximum number of concurrent connections for PC clients: 600

File Station: Virtual drives, remote folders, Windows® ACL editor, compressing/extracting archived files, bandwidth control for specific users/groups, creating sharing links, transfer logs

FTP Server: Bandwidth control for TCP connections, custom FTP passive port range, anonymous FTP, FTP SSL/TLS and SFTP protocol, boot over the network with TFTP and PXE support, transfer logs

Presto File Server: High-speed data transfer over WAN with exclusive SITA technology between NAS and desktop

Cloud Sync: One or two-way synchronization with public cloud storage providers including Alibaba Cloud OSS, Amazon S3-compatible storage, Backblaze B2, Baidu Cloud, Box, Dropbox, Google Cloud Storage, Google Drive, hubiC, MegaDisk, Microsoft OneDrive, OpenStack Swift-compatible storage, Tencent COS, WebDAV servers, Yandex Disk

Universal Search: Offer global search into applications and files

ISCSI Storage & Virtualization:

iSCSI Manager: Maximum iSCSI target: 256, Maximum iSCSI LUN: 512, iSCSI LUN clone/snapshot support

Virtual Machine Manager: Deploy and run various virtual machines on NAS, including Windows®, Linux®, or Virtual DSM

Data Protection & Backup Solution:

Hyper Backup: Support local backup, network backup, and data backup to public clouds

Backup tools: DSM configuration backup, macOS® Time Machine® support, Drive Client desktop application Shared folder sync - maximum task number: 32

Snapshot Replication: Maximum of shared folder snapshots: 1,024, Maximum of Replication: 64

High Availability: Reduce service downtime by setting up two identical NAS into one high-availability cluster

Active Backup for G Suite: Support G Suite My Drive and Team Drive backup and restoration

Active Backup for Office 365: Support Office 365 OneDrive for Business, mail, contacts, and calendar backup and restoration

Active Backup for Business: All-in-one backup solution designed for heterogeneous business IT environment, enabling IT admins to remotely manage and monitor protection over PC, servers and VM on one centralized console

Productivity & Collaboration:

Collaboration tools: Collaborate with instant message service Chat, online editor Office, and scheduling assistant Calendar

* Chat maximum user: 4,000

* Office maximum user: 2,900

* Calendar: support CalDAV and access via mobile devices

Note Station: Rich-text note organization and versioning, encryption, sharing, media embedding and attachments

MailPlus Server: Secure, reliable, and private mail solution with high-availability, load balancing, security and filtering design (Includes 5 free email account licenses; additional accounts require the purchasing of additional licenses)

MailPlus: Intuitive webmail interface for MailPlus Server, customizable mail labels, filters, and user interface

Multimedia:

Moments: Support smart AI album with facial and subject recognition, photo editing and sharing features, similar photo detection, auto-editing functions such as color correction and angle adjustments, and AI selection of the best photos. Mobile applications are available on iOS and Android™ devices

Other packages: Video Station, Photo Station, Audio Station, iTunes® Server

Surveillance:

Surveillance Station: Maximum IP camera: 75 (total of 2,250 FPS at 720p, H.264) (Including two free camera licenses. Additional cameras require the purchasing of additional licenses)

All-in-one Server:

Directory Server: Provide a flexible and cost-effective domain controller solution

Central Management System: Provide a single interface to manage and monitor multiple NAS

VPN Server: Maximum connection: 40. Supported VPN protocol: PPTP, OpenVPN™, L2TP/IPSec

Mail Server: Supported Mail Server Protocols: POP3, SMTP, IMAP, Support LDAP/AD account

Mail Station: Webmail interface for Mail Server to receive emails from multiple POP3 mailboxes, customizable SMTP server

Web Station: Virtual host (up to 30 websites), PHP/MariaDB®, 3rd-party applications support

Other packages: DNS Server, RADIUS Server, Log Center

Others:

Storage Analyzer: Volume and quota usage, total size of files, volume usage and trends based on past usage, size of shared folders, large files, most recently modified files, least recently accessed files

Antivirus Essential: Full system scan, scheduled scan, white list customization, virus definition auto update

Security Advisor: Malware detection/removal, user account/password, network, system-related security scan

iOS/Android applications: Drive, MailPlus, Chat, LiveCam, Moments, DS audio, DS photo, DS video, DS cam, DS file, DS finder, DS note

Other packages: Additional 3rd-party packages available on Package Center

***ENVIRONMENT AND PACKAGING:**

Environment safety: ROHS compliant

Package content: DS1621xs+ main unit x 1, Quick Installation Guide x 1, Accessory pack x 1, AC power cord x 1, RJ-45 LAN cable x 2

Optional accessories: DDR4 ECC SODIMM: D4ES01-8G/D4ECSO-2666-16G, 10GbE Network Interface Card: E10G18-T2/E10G18-T1/E10G17-F2, 2.5" SATA SSD: SAT5200, M.2 2280 NVMe SSD: SNV3400, Expansion Unit: DX517, VisualStation: VS960HD/VS360HD, Surveillance Device License Pack, MailPlus License Pack, Virtual DSM License Pack

Warranty: 5 years

SPECIFICATIONS:

***STORAGE**

Configuration:

Interface: SATA 6Gb/s SAS 6Gb/s

Capacity (GB)² at 512 bytes/sector: 4TB

Form factor 3.5-inch

Sector size (bytes)³: 512e , 512n

Max. areal density (Gbits/sq. in): 446 (512e) , 475 (512n)

Performance:

Data buffer (MB)⁴: 64

Rotational speed (RPM): 7200

Interface transfer rate (MB/s, max): 600

Sustained transfer rate (MB/s, typical)⁵: 171 (512e), 181 (512n)

Seek time (read, ms, typical)⁵: 8.0

Reliability:

Error rate (non-recoverable, bits read): 1 in 10¹⁵

Load/Unload cycles (at 40° C): 600,000

Availability (hrs/day x days/wk): 24x7

MTBF¹ (M hours): 2.0

Annualized Failure Rate¹ (AFR): 0.44%

Warranty (yrs) 5

Acoustics:

Idle (Bels, typical): 2.9

Power:

Requirement: +5 VDC (+/-5%) +12VDC (+10%/-8%)

Startup current (A, max): 1.2 (+5V), 2.0 (+12V)

Read/write (W): 11.4

Idle (W, avg): 6.9

Unload idle (W): 5.7

Physical size:

z-height (mm, max): 26.1

Dimensions (width x depth, mm): 101.6 (+/-0.25) x 147

Weight (g, typical): 690

Environmental (operating):

Ambient temperature: 5 Degrees to 60 Degrees C

Shock (half-sine wave 2 ms, G): 70

Vibration (G RMS, 5 to 500 Hz): 0.67 (XYZ)

Environmental (non-operating):

Ambient temperature: -40 Degrees to 70 Degrees C

Shock (half-sine wave, 1ms, G): 300

Vibration (G RMS, 5 to 500 Hz): 1.04 (XYZ)