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Annexure II

1. TECHNICAL SPECIFICATIONS OF (NAS) – SYNOLOGY/HP/DELL

S.No	Feature description
1	Networking Protocol:- SMB, AFP, NFS, FTP, WebDAV, CalDAV, iSCSI, Telnet, SSH, SNMP, and VPN (PPTP, OpenVPN™, L2TP)
2	File Systems: -Internal: Btrfs, ext4, External: Btrfs, ext4, ext3, FAT32, NTFS, HFS+, exFAT
3	Supported RAID types: - Hybrid RAID (SHR), Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, and RAID 10
4	Storage Management: - Max. Single volume size: 108 TB, Max. Number of system snapshots: 65, 53611, Max. number of internal volumes: 64
5	SSD Cache: - Read/write cache support, 400GB*2 NVME 3.5 SATA HDD/SSD included
6	File Sharing: - Max. Number of local user accounts: 2,048, Max. Number of local groups: 256, Max. Number of shared folders: 512, Max. number of concurrent SMB/NFS/AFP/FTP connections: 1,00012
7	Privileges:- Windows Access Control List (ACL) and application privileges
8	Virtualization: -Connects with Windows AD/LDAP servers enabling domain users to login via SMB/NFS/AFP/FTP/File Station using their existing credentials.
9	VMware vSphere, Microsoft Hyper-V, Citrix, OpenStack, and Kubernetes
10	Security: - Firewall, shared folder encryption, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, and HTTPS (customizable cipher suite)
11	Supported browsers: - Google Chrome, Firefox, Microsoft Edge, Safari 13 and later, and Safari (iOS 13.0 and later) on iPad, Chrome (Android) 11.0 and later) on tablets.
12	Interface Language:- English, Deutsch, Français, Italiano, Español, Dansk
13	Drive: - Synchronizes files across Windows, macOS, Linux, Android™, and iOS. The built-in cross-platform portal allows access to data anytime and anywhere, Max. number of hosted files: 5,000,000/-
14	File Station:- Provides virtual drives, remote folders, Windows ACL editor, compression/extraction of archived files, bandwidth control for specific users/groups, creation of sharing links, and transfer logs
15	Hybrid Share: - Efficiently synchronizes files across sites by keeping shared data on C2 Storage and streaming files to NAS worldwide on request. Frequently requested files are cached at each site for low-latency access.
16	Presto File Server: -Enables high-speed data transfer over WAN between NAS and desktop

	platforms through the exclusive SITA.
17	FTP Server:- Supports bandwidth control for TCP connections, custom FTP passive port ranges, anonymous FTP, FTP over TLS/SSL and SFTP protocols, network booting with TFTP and PXE support, and transfer logs
18	Universal Search: - Search through files, metadata, and more on your NAS. Integration with Windows Search and macOS Spotlight makes it easy to find files.
19	Migration Assistant :- Migrates data, system setting, and applications seamlessly from one NAS to another to ensure maximum service
20	SAN Storage & Virtualization: - Max. Number of iSCSI targets: 128, Max. number of LUNs: 256
21	Virtual Machine Manager:- Supports running Windows, Linux, and Virtual DSM-based virtual machines on NAS
22	Hyper Backup :- Supports local backup, network backup, and data backup NAS servers, other devices, and public clouds, including C2 storage
23	Backup tools:- DSM configuration backup, macOS Time Machine support, Drive Client desktop application, Shared folder sync supports a maximum of 32 tasks
24	High Availability: -Reduces service downtime by combining two identical NAS into a high-availability cluster
25	Active Backup for Business: - An all-in-one backup solution designed for heterogeneous business IT environments. It enables IT admins to remotely manage and protect PCs, servers, NAS systems, and VMs from one centralized console
26	Note Station:- A note taking platform that supports rich text, note organization and versioning, encryption, sharing, media embedding, and attachments
27	NAS MailPlus Server: -A secure, reliable, and private mail solution featuring high-availability, load balancing, security, and filtering options
29	NAS photos: -An efficient photo management solution for professional and amateur photographers. Automated tools allow users to group, filter, organize, and share content while keeping their photos safe and secure, Video Station, Audio Station, and iTunes® Server
30	NAS Central Management System: -Provides a single interface to manage and monitor multiple NAS.
31	Directory Server: -Provides a flexible and cost-effective domain controller solution
32	Active Analyzer: -Monitor health statistics, login activity, and backup statuses for your NAS servers worldwide, and receive notifications and advice from our centralized cloud-hosted management platform
33	Storage Analyzer:- Displays 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, and least recently accessed files
34	Web Station:- Enables hosting for up to 30 websites with support for PHP/MariaDB and 3rd-party applications
35	iOS/Android Applications: -OEM Drive, OEM MailPlus, NAS Secure SignIn, Chat, NAS LiveCam, NAS Active Insight, DS cam, DS file, DS finder, and DS

Features	Specifications
CPU	AMD Ryzen™ R1600 dual-core (4-thread), max. boost clock up to 3.1 GHz
Hardware encryption engine	AES-NI, Hardware encryption engine
Memory	4 GB DDR4 ECC SODIMM (expandable up to 32 GB)
Compatible drive types	4x 3.5" or 2.5" SATA HDD/SSD (drives not included)
	2 x M.2 2280 NVMe SSD (drives not included)
Hot swappable drives	Yes
External ports	2* USB 3.2 Gen 1 pots, 1 * Expansion port (eSATA)
Form factor	Desktop, Size- 166*199mm
	Weight 2.24kg
	LAN Ports 2*1GB RJ-45, Wake as LAN/WAN- Yes
	Temperature: 0°C to 40°C (32°F to 104°F, Relative humidity: 5% to 95% RH
Network expansion	Supports E10G22-T1-Mini 10GbE RJ-45 Network Upgrade Module2
AC input power/Power frequency	100V to 24V AC , / 50/60Hz, Single phase,
Optional accessories	DDR4 ECC SODIMM: D4ES02-4G / D4ES02-8G / D4ES01-16G Network Upgrade Module: E10G22-T1-Mini M.2 2280 NVMe SSD: SNV3400 series 2.5" SATA SSD: SAT5200 series 3.5" SATA HDD: HAT5300 series

2. Rack Server – DELL/HP/LENOVO

Sr.no	Technical Specifications
1.	8 Bay LFF 2x Intel® Xeon® Silver 4510 Processor 12C 4.1 GHz 2.40 GHz 30 MB 150 W16 DIMMS 4 x
2.	32GB RDIMM 3.5" Chassis with up to 12 Hard Drives (SAS/SATA) 3x8TB 7.2K RPM NLSAS 12Gbps.
3.	PERC H755 Adapter, Low Profile PERC H755 Adapter, Low Profile Dual,
4.	Hot-plug, PSU (1+1), 800, Mixed Mode iDRAC9, Enterprise 5 YR ProSupport 4Hr and Mission Critical/ Riser card + Dual Heat sink+ fan Kit 1
5.	Memory:- 16 DDR5 DIMM slots, supports RDIMM 1 TB max, speeds up to 4800 MT/s, supports registered ECC DDR5 DIMMs only
6.	Processor:- Up to two 4th Generation Intel Xeon Scalable processor with up to 32 cores per processor
7	Security:- Cryptographically signed firmware, Secure Boot, Data at Rest Encryption (SEDs with local or external key mgmt)
8	Drive Bays:- Up to 8 x 3.5-inch SAS/SATA (HDD) max 160 TB, Up to 12 x 3.5-inch SAS/SATA (HDD) max 240 TB
9	RAID Options: - (RAID 0, 1, 5, 10, 50, 6, 60, PERC H755 (for more advanced

	RAID features), Support for RAID 0, 1, 5, 6, 10, 50, 60 configurations
10	Networking: -Dual 1GbE network ports
11	Operating System and Hypervisors:- Microsoft Windows Server with Hyper-V, VMware ESXi
12	Power Supply: Power Supply Options Redundant, 200—240 VAC or 240 HVDC
13	Use Cases:- Virtualization, Software-defined storage, Database management, High-performance computing (HPC), Backup and disaster recovery

3. VMware standard 8/ Foundation:- (License)

Sr.no	License Model
1.	Per Processor Licensing: Each physical processor (CPU) in a server requires a license. A single license covers CPUs with up to 16 physical cores, additional licenses are necessary.
2.	<p>Included Features: -</p> <ul style="list-style-type: none"> • vCenter Server Standard: Comprehensive management of vSphere environments. • VSphere High Availability (HA): Minimizes downtime by restarting virtual machines on available hosts in the event of a failure. • vSphere vMotion: Enables live migration of virtual machines across hosts with no service disruption. • vSphere Storage vMotion: Allows live migration of virtual machine disk files across storage arrays without downtime. • vSphere Fault Tolerance: Provides continuous availability for applications by creating and maintaining a secondary virtual machine that is identical to the primary one. • vSphere Data Protection: Offers agentless, disk-based backup and recovery of virtual machines. • vSphere Replication: Facilitates efficient replication of virtual machine data over the network for data protection. • vSphere Distributed Resource Scheduler (DRS): Balances computing workloads with automated resource allocation and optimization. • vSphere Distributed Switch: Simplifies and enhances virtual networking in vSphere environments.

4. Windows Server 2022 standard :- (License)

Sr.no	Core Licensing Requirements
1.	Minimum Core Licenses per Server: Win Server 2022 STD Paper License 16 Core