

❖ Servers Specifications:

1. **Number of Hosts:** 4 hosts for increased fault tolerance and load balancing
2. **Processor:** Minimum of 2x 4th Gen Intel Xeon Scalable Processors per host, with 16+ cores each, with a minimum of 2.0 GHz Processor Base Frequency.
3. **Installed Memory (RAM):** 256GB RAM DDR5 per host with ECC for error correction and stability, maintaining 2+ free slots for expansion
4. **OS Internal Storage:** Minimum of 240GB NVMe Gen3 in RAID 1 configuration for high-speed data redundancy.
5. **Internal Storage:** Minimum of 1.92TB SSD Gen3 in RAID 1 configuration for high-speed data redundancy.
6. **RAID Controller:** RAID 0, 1, 5 and 6 supported for improved data integrity.
7. **Cooling:** Hot-plug redundant cooling fans with Intelligent cooling management system
8. **Power Supply:** hot-plug 1+1 or 2+1 redundancy model with enough wattage to support the system in full utilization + 20% to support high-performance configurations
9. **USB Ports:** Minimum of 2x USB3 ports for OS and backup media
10. **Networking:** Minimum 2x 10GbE NICs with network bonding for redundancy, and optional support for 25GbE Ethernet
11. **Fiber Channel Card:** 2x Single Port with a minimum 16Gb FC card or 2x Dual-Port with a minimum 16Gb FC card for increased data throughput and redundancy
12. **Expansion Slots:** Minimum of 1x PCIe Gen 4 slots, enabling future upgrade flexibility for additional network interface card (NIC), GPUs, or storage controllers
13. **Remote Management:** Full remote management features and remote diagnostics
14. **Three (3) Years Tech and HW warranty**

***Note:** Recommended well-known brands for ease of maintenance and upgrade like Dell, HPE, Lenovo, or Fujitsu.

❖ **Shared storage specifications and details:**

1. **Storage Configuration:** Hot-swappable SSD array in a RAID 1 configuration or equivalent, providing no less than 20 TB of usable capacity after RAID configuration.
2. **Drive Bays:** Minimum of 12 drive bays supporting 2.5" Enterprise SSDs or Enterprise NVME.
3. **Drive TBW (Terabytes Written):** Minimum of 2000 TBW
4. **Memory:** Minimum of 16 GB ECC DDR4 RAM, expandable to 64 GB or more to accommodate high-concurrency workloads.
5. **Network:** At least 2x 10GbE network ports with support for link aggregation and automatic failover for high availability.
6. **System Management (included with the device):** Built-in system software must support unlimited snapshot capability, scheduled backups, system health monitoring, real-time alerts, and full browser-based administrative control panel **with no licensing renewal.**
7. **Backup:** Support for scheduled and manual backup to removable external storage (e.g., USB 3.0 or eSATA).
8. **Power Supply:** Redundant hot-swappable power supply units.
9. **Scalability:** Support for storage pool expansion using additional expansion units without system downtime.
10. **File System:** Advanced file system supporting data deduplication, compression, snapshots, and self-healing capabilities (ZFS or equivalent).
11. **Protocols:** Support for major file sharing protocols including SMB, NFS, FTP for cross-platform file access and virtualization environments.
12. **Storage hardware with 3 years warranty** (5 years warranty for drives is recommended).
13. **NAS is recommended but not mandatory**