

Server

Server Form Factor	Rack Form-factor; Max. 2U
Front Disk bays	16x SFF Disk Bay with NVMe PCIe SSD support
CPU	2x Intel Xeon Scalable Processors with min. 2.30 GHZ Base Frequency, 3.70 GHZ Turbo Frequency, 24.75 MB L3 Cache, 18 Cores.
DIMM Slots	Min 24 DDR4 slots
Memory	Min. 256GB DDR4 2666 MHz with up to 3TB RAM@2666 MHz The memory should be supported the following technology: Smart Memory; Online spare; Memory Error Detection; Demand and Patrol scrubbing; Failed DIMM isolation; Memory thermal control; DIMM address/control bus parity protection; Supporting NVDIMM
Power Supply	2x Hot Plug Power Supplies with min. 1500W each
Expansion Slots/Riser Cards	Min. 6x PCIe Gen3 Support expansion port for installing network cards and RAID controllers without using PCI-Express general-purpose ports.
Graphics	Possibility to install NVIDIA Quadro / NVIDIA Tesla graphics cards
Disks	5x min. 400GB SAS 12G Mixed Use SSD; 2x min. 1.8TB SAS 12G Read Intensive SSD. The "do not remove" indication functionality to prevent the destruction of the RAID when a disk fails; The server must support the ability to install M.2 disk drives and NVMe disks optionally
Media	1x Media Bay; 9.5mm SATA DVD-RW Optical Drive
Management	The technology for remote monitoring and control should be implemented at the hardware level on the basis of a specialized chip and control through a standard web browser. The control should minimally provide the following functionality: <ul style="list-style-type: none"> The ability to record a remote session to the server; The ability to share server console over IP for 6 users; Be able to mount a "virtual folder" to the server from the administrator's workstation. Supporting features for management, monitoring, OS installing and remote support: Cloud-based access to a personalized dashboard with Service and support tracking Warranty and contract management; Rapid phone-home support setup and configuration; Deploy and update without the need for CD/DVD or downloads; Base hardware health monitoring and alerting without operating system agents; Performs various in-depth system and component testing while the operating system is not running; Possibility to manage and diagnostic of Disk Enclosures and installed HDDs/SSDs to the Disk Enclosure by RAID controller. Online and Offline of updating drivers and server firmware. Support for integrating the server management system with centralized convergent management software for all servers, storage systems and network equipment available in the IT infrastructure and using software-defined templates. Management License with Advanced features with 5-year support.
Networking	Min. 8x 1GE ports with Wake-on-LAN 2x 16Gb Single Port Fibre Channel HBA 1x Transceivers/Modules and cable per HBA for connection with storage.
RAID Controller	12Gb/s SAS, 6Gb/s SATA per lane PCI Express 3.0 x16 internal lanes; Internal: 16 SAS lanes across 4x4 internal Mini-SAS ports 4 GB Flash-Backed Write Cache; Support for SAS tape drives; RAID levels: 0, 1, 5, 6, 10, 50, 60, 1 ADM, 10 ADM; Mixed Mode (RAID logic drives and HBA physical

	drives simultaneously); Up to 230 physical drives; Up to 64 logical drives; Secure Encryption (via optional license); Rapid rebuild and Drive Sanitize; Min. FIPS 140-2 Level 1; Flexible/Modular Controller Type (does not occupy a PCIe Expansion Slot); Read ahead caching ; Write-back caching
Accelerators	Support Intel Arria 10 GX FPGA Accelerator
USB and SD Options	Enterprise Mainstream Flash Media Kits for Memory Cards (up to 32GB flash cards)
Racking	Cable Management Arm and Rail kit
Ports and Indicators	Front Panel: Power On/Standby button and system power LED button; Health LED/Display; NIC status; UID button and Front Service Port; USB 3.0 Rear Panel: VGA port; Management port; 2x USB 3.0 Ports
Operating System and Virtualization SW	Windows Server 2019/2016/2012; VMware ESXi 6.0 U3/ ESXi 6.5 and U1 upon release; RHEL 6.9 and 7.3; SLES 11 SP4 and 12 SP2
Standards	Secure Digital 2.0; AES; 3DES; ACPI 6.1 Compliant; PXE Support; PCIe 3.0 Compliant; SMBIOS 3.1; SNMP v3; UEFI 2.6; Redfish API; SMASH CLP IPMI 2.0; TLS 1.2; Active Directory v1.0; ASHRAE A3/A4
Server UEFI/Legacy ROM	UEFI: USB 3.0 Stack; Secure Boot and Secure Start enable for enhanced security; Embedded UEFI Shell; Support for > 2.2 TB (using GPT) boot drives; Workload Profiles; PXE boot support for IPv6 networks. UEFI Boot Mode only: TPM 2.0 Support; iSCSI Software Initiator Support; HTTP/HTTPS Boot support as a PXE alternative; NVMe Boot Support; Platform Trust Technology support
Security	UEFI Secure Boot and Secure Start support; FIPS 140-2 validation; Smart card (PIV/CAC) and Kerberos based 2-factor Authentication; TPM 2.0; Chassis Intrusion detection; Ability to rollback firmware; Immutable Silicon Root of Trust; Common Criteria certification; Support for CNSA; Configurable for PCI DSS compliance; Granular control over management interfaces; Secure erase of NAND/User data; Secure Recovery (recover critical firmware to known good state on detection of compromised firmware)
Features	Solution that will automatically selects the best settings of the internal components of the server in accordance with the specific requirements of the working task; Solution that will equalizes and compensates for frequency fluctuations in Turbo Boost mode, reducing the delay time and making performance indicators more specific and predictable .
Options	Servers will be connected to the Storage via 16Gb links. All modules and cables for connection should be detailed and presented in the proposal.
Warranty	5 Years NBD onsite support for all hardware Power supplies should be covered at the same service level and for the same coverage period as the server

UPS

Form Factor	1U Rack-Mount
Outlets	Two load segments; min. 6 sockets (IEC C13 outlet Type, 3x programmable sockets and 3x for mission-critical systems)
Management	Network Module for remotely monitoring and rebooting network devices; SNMP functionality (power event alerts; network power

	diagnostics; remote UPS reboot and testing) Possibility to add the UPS to SNMP capable Network Management Software with servers.
Operating Voltage Settings	220, 230, 240
Power Out	Min. 1100 Watts
Input Voltage Range	± 20% of nominal voltage
Wave Form	Shine Wave
Online Efficiency	92%
Batteries Runtime	Min. 5 minutes with full load
Interfaces	USB port; Serial Port; Remote Power Off control module
Recharge Time	No more 3 hours to 80% power capacity
Audible Noise	No more 40db (in normal operation mode)
Warranty	3 Years NBD
Other:	All equipment (Server and UPS) must be the same manufacturer.