

Server – Total 3 Nos in 2U Rack Form Factor		Unit Price
Attribute	Specification HPE DL 380 G10 Server	
Form factor	2U rack-mount.	
Processor	Up to two Intel Xeon Bronze, Silver, Gold, or Platinum processors: Configured with two 5110 Gold Xeon Processors Up to 28 cores (2.8 GHz core speeds) Up to 3.6 GHz core speeds (4 cores) Two UPI links up to 10.4 GT/s each Up to 38.5 MB cache Up to 2666 MHz memory speed	
Chipset	Intel C624	
Memory	Populated with 64GB and scalable Up to 24 DIMM sockets (12 DIMMs per processor; six memory channels per processor with two DIMMs per channel). Support for RDIMMs, LRDIMMs, or 3DS RDIMMs. Memory types cannot be intermixed. Memory speed up to 2666 MHz.	
Memory capacity	With RDIMMs: Up to 768 GB with 24x 32 GB RDIMMs and two processors. With LRDIMMs: Up to 1.5 TB with 24x 64 GB LRDIMMs and two processors. With 3DS RDIMMs: Up to 3 TB with 128 GB 3DS RDIMMs and two processors (requires processors that support 1.5 TB of memory per socket).	
Memory protection	Error correction code (ECC), SDDC (for x4-based memory DIMMs), ADDDC (for x4-based memory DIMMs, requires Intel Xeon Gold or Platinum processors), memory mirroring, memory rank sparing, patrol scrubbing, and demand scrubbing.	
Drive bays	Scalable Up to 16 SFF and 2 LFF hot-swap drive bays: 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA (rear) 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA (rear) 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 2x 3.5" SAS/SATA (rear) Up to 24 SFF and 2 LFF hot-swap drive bays: 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA (rear) 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA (rear) 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA (rear) Up to 10 LFF SAS/SATA hot-swap drive bays: 8x 3.5" (front) + 2x 3.5" (rear) Up to 14 LFF hot-swap drive bays: 12x 3.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear) 8x 3.5" SAS/SATA & 4x 3.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	
Internal storage capacity	2.5-inch models: Up to 392 TB, 2x 600GB SAS HDDs . 3.5-inch models: Up to 168 TB with 14x 12 TB 3.5" HDDs.	
Storage controller	12 Gbps SAS/6 Gbps SATA RAID: RAID 0/1/10/5/50/6/60 with RAID card 2GB Flash NVMe PCIe non-RAID: Onboard NVMe, 1610-4P NVMe Switch Adapter.	
Optical drive bays	DVD RW or DVD R	
Network interfaces	Req. onboard 4x 1/10 Gb Ethernet ports: 1x RJ-45 10/100/1000 Mb Ethernet systems management port.	
I/O expansion slots	Up to seven slots. Slots 4 and 7 are the fixed slots on the system planar, and the remaining slots depend on the riser cards installed. The slots are as follows: Slot 1: PCIe 3.0 x16 or PCIe 3.0 x8; full-height, half-length (PCIe x16 slot is double-wide) Slot 2: PCIe 3.0 x8; full-height, half-length (not present if the slot 1 is PCIe x16) Slot 3: PCIe 3.0 x8 or ML2; full-height, half-length Slot 4: PCIe 3.0 x8; low profile (vertical slot on system planar) Slot 5: PCIe 3.0 x16; full-height, half-length Slot 6: PCIe 3.0 x16; full-height, half-length Slot 7: PCIe 3.0 x8 (dedicated to an internal RAID controller) Slots 5 and 6 require the second processor to be installed.	
Ports	Front: 1x USB 2.0 port with XClarity Controller access. 1x USB 3.0 port. 1x DB-15 VGA port (optional). Rear: 2x USB 3.0 ports and 1x DB-15 VGA port. Optional 1x DB-9 serial port.	

Cooling	Five (one processor) or six (two processors) hot-swap system fans with N+1 redundancy.
Power supply	Req. Two 750 W HS Power supplies & supported Up to two redundant hot-swap 550 W, 750 W, or 1100 W (100 - 240 V), or 1600 W (200 - 240 V) High Efficiency Platinum AC power supplies, or 750 W (200 - 240 V) High Efficiency Titanium AC power supplies
Video	Matrox G200 with 16 MB memory integrated into the XClarity Controller. Maximum resolution is 1920x1200 at 60 Hz with 16 bits per pixel.
Hot-swap parts	Drives, power supplies, and fans.
Systems management	Proactive platform alerts, light path diagnostics, Provisioning Manager, Energy Manager, Capacity Planner.
Security features	Power-on password, administrator's password, secure firmware updates, Trusted Platform Module (TPM) 1.2 or 2.0 (configurable UEFI setting). Optional lockable front bezel. Optional Trusted Cryptographic Module (TCM) (available only in China). Optional Lenovo Business Vantage security software (available only in China).
Operating systems	Microsoft Windows Server 2012 R2 and 2016; Red Hat Enterprise Linux 6 (x64) and 7; SUSE Linux Enterprise Server 11 (x64) and 12; VMware vSphere (ESXi) 6.0 and 6.5.
Warranty	One-year (7X05) or three-year (7X06) customer-replaceable unit (CRU) and onsite limited warranty with 9x5 Next Business Day Parts Delivered.
Service and support	4-hour response time, 24* 7 Support std warranty 3 year can extend up to 5 years, 1-year or 2-year post-warranty extensions, YourDrive YourData for 3 years, and Basic Hardware Installation Services.
One time implementation services	Creation of virtual machines with linux or windows server OS & migration of old App & data to new infrastructure

Dual Controller SAN Storage	
Component	Specification : PE MSA 2052 SAN :
Form factor	2U rack mount Expansion Unit: 2U rack mount
Controller configuration	Two types of controller modules: Dual SAS controller module with 8GB Cache Memory per controller
	Dual controller configuration only. Both controllers in the system must be of the same type.
RAID levels	RAID 1, 5, 6, and 10; Rapid Data Protection Technology (ADAPT).
Controller memory	16 GB per system (8 GB per controller module). Battery-free cache protection with flash memory and supercapacitors. Low latency cache mirroring protection for dual controller configurations.
Drive bays	Up to 240 SFF drive bays per storage system: 24 SFF drive bays in the SFF chassis 24 SFF drive bays in the SFF expansion unit; up to 9 expansion units
Drive technology	SAS and NL SAS HDDs and SEDs, SAS SSDs. Intermix of HDDs and SSDs is supported. Intermix of SEDs with HDDs or SSDs is not supported.
Drive connectivity	Dual-ported 12 Gb SAS drive attachment infrastructure. Controller unit with two controller modules (ports per one controller module): 24x 12 Gb SAS internal drive ports (SFF enclosure) 12x 12 Gb SAS internal drive ports (LFF enclosure) 1x 12 Gb SAS x4 (Mini-SAS HD SFF-8644) expansion port for the attachment of the expansion enclosures DS Series expansion unit with two expansion modules (ports per one expansion module): 24x 12 Gb SAS internal drive ports (SFF enclosure) 12x 12 Gb SAS internal drive ports (LFF enclosure) 3x 12 Gb SAS x4 (Mini-SAS HD SFF-8644) expansion ports; two of these ports (Ports A and C) are used for the daisy chained attachment of the expansion enclosures; Port B is not used.
Storage capacity	Up to 2 PB. Required 7*1.8TB SAS 10K Rpm
Host connectivity	SAS controller module: 4x 12 Gb SAS host ports (Mini-SAS HD, SFF-8644). FC/iSCSI controller module: 4x SFP/SFP+ host ports with two built-in dual-port CNCs (each port on the same CNC must have the same connectivity type; different CNCs might have different connectivity types). CNC host port options (per each CNC on the controller module): 2x 1 Gb iSCSI SFP (1 Gb speed, UTP, RJ-45) 2x 10 Gb iSCSI SFP+ (1/10 Gb speeds, SW fiber optics, LC) 2x 8 Gb FC SFP+ (4/8 Gb speeds, SW fiber optics, LC) 2x 16 Gb FC SFP+ (4/8/16 Gb speeds, SW fiber optics, LC) 2x 10 Gb iSCSI SFP+ DAC cables

Host operating systems	Microsoft Windows Server 2012 R2 and 2016; Red Hat Enterprise Linux (RHEL) 6 and 7; SUSE Linux Enterprise Server (SLES) 11 and 12; VMware vSphere 5.5, 6.0, and 6.5.
Standard software features	Intelligent Real-time Tiering for HDDs, Virtualized Storage Pools, Thin Provisioning, SSD Read Cache, Rapid RAID Rebuild, Snapshots (up to 128 targets), All Flash Array.
Optional software features	Intelligent Real-time Tiering for SSDs, Snapshots (up to 1024 targets), Asynchronous Replication.
Performance	Dual controller configuration
	Up to 325 000 random disk read IOPS
	Up to 7 GBps sequential disk read throughput
	Up to 5.5 GBps sequential disk write throughput
Cooling	Redundant cooling with two fans built into power and cooling modules (PCMs).
Power supply	Two redundant hot-swap 580 W AC power supplies built into PCMs.
Hot-swap parts	Controller modules, expansion modules, SFP/SFP+ transceivers, drives, PCMs.
Management interfaces	1 GbE port (UTP, RJ-45) and serial port (Mini-USB) on the controller modules.
	Web-based interface (WBI); Telnet, SSH, or Direct Connect USB CLI; SNMP and email notifications; optional Lenovo XClarity.
Security features	Secure Socket Layer (SSL), Secure Shell (SSH), Secure FTP (sFTP), Self-encrypting drives (SEDs).

Backup	
Component	Specification
Tape Backup	Ultrium 6 Half-High SAS Tape Drive (Includes Cleaning Cartridge) with 3 Year NBD support - external stand-alone or rack mountable unit with connecting SAS accessories - 2.5TB Native storage capacity
	Ultrium 6 Data Cartridges 5-Pack - 2 Nos
	On Line Backup software like Veritas Backup/IBM Tivoli

Software	
Component	Specification
Virtualisation	VS6-ESP-KIT-C - VMware vSphere 6 Essentials Plus Kit for 3 hosts (Max 2 processors per host)
	VS6-ESP-KIT-P-SSS-C - Production Support/Subscription VMware vSphere 6 Essentials Plus Kit for 3 years
OS	Red Hat Enterprise Linux 7.x – 2 Nos for Database
	Windows Server Standard 2016 – 3 Nos

Terms & Conditions for supply of above items:

1. Supplier must have authorized partner for sales & service for OEM Vendor. MAF must required.
2. Supplier should have supplied/installed at least 10 data center setups for similar requirement.
3. Supplier should have appropriate certified technical resources to install and maintain the setup.
4. Must have good knowledge of installation of Windows & Linux operating systems.
5. Supplier firm must be in profits for last three years.
6. Please attach a separate deviation sheet if differs from above required configuration.

For above terms, supplier should attach the documents as a proof with this quotation.