

Technical Specification for high end WORKSTATION

	Specification	Description
Node (Qty -1 Unit)	Performance Benchmark	Spec_fp_2017_rate_base- score>=160. Spec_Int_2017_rate_base- score>=190. System OEM must have listed SPEC benchmark score as afore mentioned in www.spec.org with the same System model or a model from the similar series, with same CPU configuration as quoted in the bid. High Performance Linpack peak performance score per socket must be >=1.4TFlops
	Processor(s)	Two nos. x86 Architecture based Intel/AMD Latest Generation processor. Each processor with clock speed of 2.9GHz base frequency, processor with 16 Cores /32 threads. Supports DDR4 2900 or better memory, 1.3MB cache per core or higher, with AVX512 instruction set supported natively 2 x Intel® Xeon® Gold 6226R Processor, 2.90 GHz, 22MB, Core 16 (Total 32 Cores)
	No of Processors	Minimum two or more per node (Total 32Cores thru 2x processors)
	System utility with AI Frameworks Preloaded	System should be preloaded with Precompiled frameworks (CPU & GPU optimized MxNet, CuDNN, Caffe and Pytorch) to be supplied with the system, license must be in named of Customer organization, Data sheet of utility must be submitted with bid.
	Licensed Node Management S/W and Scheduling Utility	Unified system management, monitoring toolset for configuration, diagnosis and management of the system, Node manager with provisioning, monitoring and reporting capabilities Support Package and Image based provisioning Intuitive web interface to manage and customize the node Customizing networks and compute node profiles through GUI Customizing compute nodes (upto changing kernel parameter) Able to Push configuration changes and updates to the compute node without reinstalling and rebooting Offered solution must be a licensed s/w stack , issued in the name of Customer Organization, with no limitation based on count of users and no. of nodes which are attached by user with the system . Note : Offered Stack must have been deployed by OEM / Bidder earlier as well as part of such Solutions to govt organizations. Datasheet of the utility suite must be submitted with the bid.
	Memory	(4 X 32 GB) Total 128GB Memory or more, by using 32GB memory modules. Scalability after populating higher capacity of DIMMs must be up to 768GB or higher .
	RAID Controller	RAID Controller Supports RAID levels 0, 1 & 10
	Accelerator	1 X Nvidia RTX A 4000 (16 GB)

Solid State Drives	1 x 4 TB SATA Enterprise HDD, 1 x 1TB Enterprise NVMe/M.2/U.2/SATA SSD (>=1 DWPD endurance)
HDD bays	HDD - 4 or more SATA Hard drives/ SSDs , including support for 1 x NVMe/M.2/U.2 drives and necessary controller for the connectivity must be on board.A secondary storage enclosure is allowed to be offered to meet the storage requirement
ODD	Internal DVD Writer
I/O slots (Peripheral Component Interconnect Express,PCIe)	6 × PCIe 3.0 slots including x16 & x8 bandwidth based slots
Graphics controller	Integrated/Addon Graphics . A dedicated video port available
Ethernet ports	2 × 1 Gbps Ethernet port with (PXE) boot
Ports	4 USB ports , 1 VGA/ graphics port, 1 COM Port/header
Chipset	Compatible CHIPSET
Power supplies	Redundant (N+1) with,80 Plus Platinum Certified efficient power supplies. Secondary enclosures , if offered any, must also have 80 Plus certified power supplies. Each power module must be of 1200W or more
Operating System	64-bit Window 10 Prof. Preloaded.
BIS Registration	The OEM for the proposed in Workstation category must be in Bureau of Indian Standards list of registered OEMs/Brands since last three years or more.
Regulatory Compliance	Windows, RHEL, SUSE Certified Workstation, certificate copy must be attached with bid. OEM must be ISO 9001,14001,27001, Govt. of India E-Waste Regulation Compliance/Registered, all Certificate copy must be attached with Bid.
	Bidder must not be put on a holiday period or banned or debarred by any govt organization for >3 months during last 5 years.
Security features	Automated BIOS/System level encryption to authenticate input and output data passing thru . System information including, keys, passwords and digital certificates stored/created must be secured from external software attacks. Cryptographic functions offered for system security. Details of utility must be submitted with bid.
Warranty	3 years onsite warranty by OEM / Bidder. Physical on-site warranty services including visits by technical experts of Bidder or OEM for maintenance and technical support whenever needed.
Form Factor	Rack Mount capabilities with up to 5U or lesser per node (including all units)

