

AMITY UNIVERSITY RAJASTHAN

Technical Specification of HPC Server

RISC Server Specification - Master Node

S. No	ITEM	Technical Specification
1	Processor Type	64 Bit, RISC/Intel xenon gold Processor
2	No of Processor	2 x 10 Cores
3	Processor Speed	The offered processor should be the latest offering and must have at least 2.9GHz or more clock speed.
4	Threads	System should be able to provide 160 threads
5	Memory (RAM)	System should be equipped with at least 256 GB DDR4 memory with Expandability to 1024GB DDR4 RAM.
6	L3 Cache Memory	Minimum Cache should be 8MB per core
7	L4 Cache Memory	Support upto 128MB cache
8	Internal Hard Disk Capacity	8x 8 TB or Higher SATA Disks in RAID
9	Bus technology	PCIe Gen3 or higher
10	I/O Slots	Total 5 PCIe Gen3 slots
11	Ethernet Port	10 Gbps Ethernet with 6 ports
12	GPU support	System should support Nvidia GPU for computing
13	Power supply	Redundant power supply and Cooling fan/subsystems
14	Operating System	RHEL / CentOS
15	Form factor/Node Type	2U 19- inch wide Rack Mountable with rail kit
16	Warranty	At least 3 years on site support.

RISC Server Specification - Compute Node

S. No	Item	Technical Specification
1	Processor Type	64 Bit, RISC Intel xenon gold Processor
2	No of Processor	2 x 10 Cores
3	Processor Speed	The offered processor should be the latest offering and must have at least 2.9GHz or more clock speed.
4	Threads	System should be able to provide 160 threads
5	Memory (RAM)	System should be equipped with at least 256 GB DDR4 memory with Expandability to 1024GB DDR4 RAM.
6	L3 Cache Memory	Minimum Cache should be 8MB per core
7	L4 Cache Memory	Support upto 128MB cache
8	Internal Hard Disk Capacity	8 TB or Higher SATA Disks
9	Bus technology	PCIe Gen3 or higher
10	I/O Slots	Total 5 PCIe Gen3 slots
11	Ethernet Port	10 Gbps Ethernet with 4 ports
12	GPU support	System should support Nvidia GPU for computing
13	Power supply	Redundant power supply and Cooling fan/subsystems
14	Operating System	RHEL/CentOS
15	Form factor/Node Type	2U 19- inch wide Rack Mountable with rail kit
16	Warranty	At least 3 years on site support.

Miscellaneous

S.No	Item	Technical Specification
1	Monitor	21.5 inch Monitor along with Keyboard and mouse for Master node
2	Rack	42U Server Rack to house the Servers. Door should be around 80% perforated (front and back) for heat dissipation
3	UPS	10KVA Single Phase 230V UPS, 50Hz +/- 0.1Hz, 90% efficiency, 30 min backup with 3 year battery warranty, Graphical LCD display, Audible alarm,
4	10G Network Switch	High speed network - 12 ports 10G network switch with RJ45 ports and necessary 10G cables for solution
5	1G network Switch	2 x 12 port 1G network Switch Required cables to setup separate management network and node provisioning network

S. No	Technical Parameter	Technical Specification Required for Power
1	HPC Library	Engineering Scientific subroutine Library
2	Cluster Manager	Spectrum Cluster Foundation
3	Job Scheduler	LSF/SLURM/Moab job scheduler
4	Compilers	GNU and C, FORTRAN
5	OpenMPI	Latest stable OpenMPI, MPI to be installed on the system
6	Libraries	MKL,MVAPICH2, Python

Required Services:-

1. Vendor/bidder is required to install the HPC system at Centre for Ocean Atmospheric Science & Technology (COAST) Amity University Jaipur Campus.
2. Installation of HPC solution, cluster management solution, job schedulers, compilers, programming environment. Only commercially licensed software should be provided.
3. Training on the software's and Hardware offered for minimum 3 day, onsite covering the basic server feature, functionalities, operational capability and basic operation, configuration processes and tools.
4. The Server should expandable in Nodes.