# HPC Specifications

Call for quotations as per the following requirements:  Amount should of Inclusive of Taxes, Delivery at university, inclusive of Installation and training.

**Master Node with internal 25TB usable storage - 1 No**

| Sku Description | Quantity |
|---|---|
| PowerEdge R740 Server OR Equavalent model from any company | 1 |
| Chassis with up to 8 x 3.5" SAS/SATA Hard Drives for 2CPU Configuration | 1 |
| Intel Xeon Silver 4114 2.2G, 10C/20T, 9.6GT/s , 14M Cache, Turbo, HT (85W) DDR4-2400 | 2 |
| Standard 1U Heatsink | 1 |
| 2666MT/s RDIMMs | 1 |
| Performance Optimized | 1 |
| 32GB RDIMM 2666MT/s Dual Rank | 2 |
| RAID 5 | 1 |
| PERC H330 RAID Controller, Adapter, Low Profile | 1 |
| 8TB 7.2K RPM NLSAS 12Gbps 3.5in Hot-plug Hard Drive | 5 |
| iDRAC9,Enterprise | 1 |
| OME Server Configuration Management | 1 |
| Broadcom 5720 QP 1Gb Network Daughter Card | 1 |
| Riser Config 3, 2 x8, 3 x16 slots | 1 |
| Intel Omni-Path Host Fabric Adapter 100 Series 1 Port PCIe x16 | 1 |
| HPC BIOS Settings | 1 |
| 6 Standard Fans for R740/740XD | 1 |
| Dual, Hot-plug, Redundant Power Supply (1+1), 750W | 1 |
| Jumper Cord,10A,4M,C13/C14 (India BIS) | 2 |
| Red Hat Linux Registration Document, No Subscription | 1 |
| Enterprise Linux OS, Non Factory Installed, Requires Subscription Selection | 1 |
| Red Hat Enterprise Linux,2SKT,1 Physical OR 2Guest,3Yr PREMIUM SUB,No Media | 1 |
| 3Yr ProSupport: Next Business Day Onsite Service | 1 |
| 3Yr ProSupport:(7x24) Technical Support & Assistance | 1 |
| Basic Deployment Dell Server R Series 1U/2U | 1 |
| PowerEdge 2U Standard Bezel | 1 |
| ReadyRails Sliding Rails Without Cable Management Arm | 1 |
| DVD+/-RW,SATA,Int | 1 |
| iDRAC Group Manager, Enabled | 1 |
| iDRAC,Factory Generated Password | 1 |
| iDRAC,Factory Generated Password | 1 |

**Compute Node with GPU - 1 no**

| Sku Description | Quantity |
|---|---|
| PowerEdge R740 Server OR Equavalent model from any company | 1 |
| Chassis with up to 8 x 2.5" SAS/SATA Hard Drives for 2CPU Configuration | 1 |
| Intel Xeon Gold 5120 2.2G, 14C/28T, 10.4GT/s , 19.25M Cache, Turbo, HT (105W) DDR4-2400 | 2 |
| HS Install Kit,GPU Config, EPS12V Cable | 1 |
| 2666MT/s RDIMMs | 1 |
| Performance Optimized | 1 |
| 32GB RDIMM 2666MT/s Dual Rank | 8 |
| RAID 1 | 1 |
| PERC H330 RAID Controller, Adapter, Low Profile | 1 |

| | |
|---|---|
| 1TB 7.2K RPM SATA 6Gbps 512n 2.5in Hot-plug Hard Drive | 2 |
| iDRAC9,Enterprise | 1 |
| OME Server Configuration Management | 1 |
| Broadcom 5720 QP 1Gb Network Daughter Card | 1 |
| Riser Config 4, 3x8, 4 x16 slots | 1 |
| Intel Omni-Path Host Fabric Adapter 100 Series 1 Port PCIe x16 | 1 |
| **NVIDIA Tesla V100 16G Passive GPU** | 1 |
| HPC BIOS Settings | 1 |
| 6 Performance Fans forR740/740XD | 1 |
| Dual, Hot-plug, Redundant Power Supply (1+1), 1600W, 250 Volt Power Cord Required for Use | 1 |
| Jumper Cord,10A,4M,C13/C14 (India BIS) | 2 |
| Enterprise Linux OS, Non Factory Installed, Requires Subscription Selection | 1 |
| Red Hat Enterprise Linux for HPC, 1-2 Socket, 3yr Subscription and License | 1 |
| 3Yr ProSupport: Next Business Day Onsite Service | 1 |
| 3Yr ProSupport:(7x24) Technical Support & Assistance | 1 |
| Basic Deployment Dell Server R Series 1U/2U | 1 |
| PowerEdge 2U Standard Bezel | 1 |
| ReadyRails Sliding Rails Without Cable Management Arm | 1 |
| DVD+/-RW,SATA,Int | 1 |
| Technical Support | 1 |
| PowerEdge R740/R740XD Motherboard | 1 |

**Compute Node - 2 No**

| Sku Description | Quantity |
|---|---|
| PowerEdge R440 Server OR Equavalent model from any company | 1 |
| 3.5" Chassis with up to 4 Hot Plug Hard Drives | 1 |
| Internal PERC | 1 |
| Intel Xeon Gold 5120 2.2G, 14C/28T, 10.4GT/s , 19.25M Cache, Turbo, HT (105W) DDR4-2400 | 2 |
| Standard Heat Sink | 1 |
| Standard Heat Sink for 2nd CPU | 1 |
| 2666MT/s RDIMMs | 1 |
| Performance Optimized | 1 |
| 32GB RDIMM 2666MT/s Dual Rank | 8 |
| RAID 1 | 1 |
| PERC H330 RAID Controller, Adapter, Low Profile | 1 |
| 1TB 7.2K RPM SATA 6Gbps 512n 3.5in Hot-plug Hard Drive | 2 |
| iDRAC9,Enterprise | 1 |
| OME Server Configuration Management | 1 |
| Riser Config 3, 2 x 16 LP | 1 |
| Broadcom 5720 DP 1Gb Network Interface Card, Low Profile | 1 |
| Intel Omni-Path Host Fabric Adapter 100 Series 1 Port PCIe x16, Low Profile | 1 |
| Dual-Port 1GbE On-Board LOM | 1 |
| Performance BIOS Settings | 1 |
| Dual, Hot Plug, Redundant Power Supply (1+1), 550W | 1 |
| Jumper Cord,10A,4M,C13/C14 (India BIS) | 2 |
| Enterprise Linux OS, Non Factory Installed, Requires Subscription Selection | 1 |
| Red Hat Enterprise Linux for HPC, 1-2 Socket, 3yr Subscription and License | 1 |
| 3Yr ProSupport: Next Business Day Onsite Service | 1 |
| 3Yr ProSupport:(7x24) Technical Support & Assistance | 1 |

| | |
|---|---|
| Basic Deployment Dell Server R Series 1U/2U | 1 |
| Standard Bezel | 1 |
| ReadyRails Sliding Rails Without Cable Management Arm | 1 |
| DVD +/-RW, SATA, Internal | 1 |
| iDRAC Group Manager, Enabled | 1 |
| iDRAC,Factory Generated Password | 1 |
| Technical Support | 1 |
| Motherboard | 1 |

**Primary Interconnect Switch - 1 No**

| Sku Description | Quantity |
|---|---|
| Dell Networking H1024-OPF, 24 port unmanaged Edge Switch, 1U, (2) 110/220VAC PSU, PSU to I/O air flow | 1 |
| Dell Networking OmniPath Cable, QSFP28 to QSFP28, Passive Copper Direct Attach Cable, 3 Meter, UL1581 | 5 |
| Deskside Power Cord, GType, 230V,2M (Nepal, Sri Lanka, India) | 2 |
| 2M Rack Power Cord C13/C14 12A | 2 |
| 3Yr ProSupport: Next Business Day Onsite Service | 1 |
| 3Yr ProSupport: 7x24 Tech Support & Assistance | 1 |
| 3Yr Technical Support | 1 |

**Management Switch - 1 No**

| Sku Description | Quantity |
|---|---|
| Dell Networking N1524, 24x 1GbE + 4x 10GbE SFP+ fixed ports, Stacking, IO to PSU airflow, AC | 1 |
| Jumper Cord,10A,2M,C13/C14 (India BIS) | 1 |
| Dell Networking, N1500, User Documentation | 1 |
| Lifetime Limited Hardware Warranty (POW) | 1 |
| Basic Deployment Dell Networking N Series 1XXX/2XXX Switch | 1 |
| Lifetime Limited Dell Standard Technical Support | 1 |

**Rack, KVM, Sliding Display etc**

| Sku Description | Quantity |
|---|---|
| DellEMC Rack 42U, 600W, 1000mmD #ARW9UXQ-QCKA5855-00 | 1 |
| Dell DMPU108e 8-port remote KVM switch with one remote, one local user, single power supply | 1 |
| Dell LED KMM, 18.5", 1U, International English Keyboard - DKMMLED185 - 001 | 1 |
| DMPUIQ-VMCHS for Dell SIM for VGA interface. For Dell DMPU Console PE KVMs, VM, CAC & USB2.0 | 6 |
| DELL DRMK-77 for Dell only oneU KVM mounting braket for Dell 185FPM and DKMMLED185 LED KMM Console | 1 |
| PDU Vertical IEC C13 12x10 Amp, C19 4x16 Amp with 32 Amp MCB and Indicator with 3mtr Cable and Industrial Plug | 2 |
| Total | |

**Software & Installation**

| HPC Software Stack | Qty |
|---|---|
| Installation and Configuration of following - | |
| ROCKS or xCAT Open Source Cluster Management Software | |
| Job Scheduler Software (Open Grid Engine Scheduler) | Set |
| C/C++, Fortran Compilers and Parallel Libraries | |
| Overall HPC Cluster setup and configuration | |