Technical Specifications of Compute Nodes with UPS for HPC Cluster
RFx No. 6100001136 (Reference No. 1000026687)

I. Compute Nodes (Quantity 8 Nodes)

Compute Nodes with the following specifications:

1. Processor: 2x Intel Xeon G-6226R
2. (16C/32T, 2.9GHz, 22M, 150W) (Total 32 Cores)
3. Chipset: Intel® C621 chipset
4. RAM :12x 32 GB (Total 384 GB) DDR4-2933 ECC RDIMM (Max 16 DIMM Slots)
5. SSD: 1x 960 GB 2.5" SSD (Total 3x3.5" HDD bays per hot-swap node)
6. RAID: Onboard SATA Controller for RAID 0,1 and 10
7. NIC: 2x 1G Ethernet LAN ports (via SIOM)
8. Management: IPMI 2.0 with virtual media over LAN and KVM-over-LAN Support
9. Exp. Slots: 2x PCI-E 3.0 x16 (LP)
10. VGA: ASPEED AST 2500 BMC (onboard)
11. Interconnect: 1x Infiniband (IB-EDR) 100 Gbps HBA + Cable of suitable length
12. Ports: 2x USB 3.0 (rear), 1x VGA, 1x RJ-45 Management
13. Chassis: 2U Rack mountable
14. P. Supply: 2200W Redundant Titanium Level 80 PLUS Certified Power Supplies
15. OS: Open Source Linux
16. Warranty: 3 Years Comprehensive On-site Warranty

1. Please describe the software packages and compilers provided with the system.

2. Vendor should provide sufficient IB-EDB cables and Ethernet cables.

3. Bidder has to integrate these nodes with existing HPC Cluster master node which has following Specification.

- *Processor: 2x Intel Xeon S-4210R (10C/20T, 2.4GHz, 13.75M, 100W) (Total 20 Cores)*
- *Chipset: Intel® C621 chipset*
- *RAM : 4x 16 GB (Total 64 GB) DDR4-2933 ECC RDIMM (Max 12 DIMM Slots)*
- *HDDs: 4x 8 TB (Total RAW 32 TB) SATA Ent. 7200 RPM 3.5" HDD*
- *SSD: 1x 480 GB SSD 2.5"*
- *RAID: SAS Gen-3 (12 Gbps) H/W Controller for RAID 0, 1, 5, 6, 10, 50 and 60*
- *NIC: 2x 1G Ethernet LAN ports (1x Port shared with IPMI)*
- *Management: IPMI 2.0 with virtual media over LAN and KVM-over-LAN Support*
- *Exp. Slots: 4x PCI-E 3.0 x16, 3x PCI-E 3.0 x8*
- *VGA: ASPEED AST 2500 BMC (onboard)*
- *Ports: 4x USB 3.0 (rear), 1x VGA*

- *Interconnect: 1x InfiniBand (IB-EDR) 100 Gbps HBA + Cable of suitable length*
- *Chassis: 2U Rackmount able (8x 3.5" Hot-Swap SAS3/SATA3 drive bays)*
- *P. Supply: 740W High-Efficiency Platinum Level 80 PLUS Certified Power Supplies*
- *OS: Open Source Linux*

II. UPS

1. Please quote for UPS and batteries pack (rack mountable battery pack in a 2U or 3U or 4U) necessary for 60 minutes backup at full load.
2. Please specify calculations of power consumption. Battery pack should be of same brand OEM as that of UPS and should be certified by OEM that is compatible with offered UPS.
3. Please ensure that it can back up of 8 compute nodes for 60 minutes at fully loaded.
4. Warranty: 2 years