

Date: 30/04/2021

CORRIGENDUM /ADDENDUM – 01

1. It is notified to all concerned parties that with reference to our **Tender No. IITH/CHE/KIRTI SAHU/2021/T004** dated: 22/04/2021 **for supply, installation and commissioning of HPC Cluster (250 cores Min)** the specifications are updated/revised as follows: -

HPC Cluster		
1	Master Node	1
	Form Factor	2U Rack Mountable
	Mother Board/Chipset	Intel C620 series chipset or equivalent or better
	RAM	Minimum 192GB RAM DDR4 2933MHz Dual Rank or more in balanced distribution
	Processors	Dual CPU Based Server With Below Spec: a. Latest generation processor b. Each CPU with min. 16 cores or higher c. Min clock frequency of 2.9 GHz d. Support for AVX512 instructions
	Network Controller	Dual 1G Base T ports with 2M patch Cable
	High Speed Primary Interconnects	Single Port 100GBps EDR 100 Infiniband with required cables (3 meters) or better
	Optical Drive	One number DVD-RM/slim combo drive (Internal/External)
	HDDs	2x480 GB SSD for OS read intensive
	Storage	20TB useable or Higher using SAS HDD.
	SAS HBA	Hardware raid support RAID 0,1,10,5,6 with min 2GB NVCache
	Operating systems Support	The system should support latest version of CentOS, SUSE, UBUNTU and RHEL.
	USB Ports	3 USB 3.0 Ports.
	Video Output	1 VGA Port
	Expansion Slots	3 PCI-e 3.0x16 or more

	Remote Management	<p>IPMI 2.0 or equivalent support with KVM over media over LAN features with additional licenses if any. Should have Redfish API or equivalent for Server management with the below security feature. It should be able to automate mgmt. tasks and automated firmware updates.</p> <p>System Management Security Features:</p> <ul style="list-style-type: none"> i. System shall support immutable hardware silicon root of trust to authenticate firmware booting and updates and protect hardware from malicious code ii. System shall support digitally signed secure firmware updates iii. System shall support Automatic BIOS and Firmware Recovery from malicious changes iv. System should support instant secure erasure of drives. v. Key Management (Drives) 	
	Power Supply	Redudant and Hot Pluggable, 80 plus platinum or better certified power supply along with IEC 14 type power cables	
	System Fans	Redudant System	
	GPU Support	Capable in include latest GPU Cards (slot in mother board and power)	
2	Compute Node		
	HPC Cluster	250 Cores min GOLD or higher series with minimum 2.9 GHz or more	
	Form Factor	Dense Form (4 nodes in 2U or better)	
	Mother Board/Chipset	Intel C620 series chipset or equivalent or better	
	RAM	Minimum 192GB RAM DDR4 2933MHz Dual Rank or more in balanced distribution	
	Processors	<p>Dual CPU Based Server With Below Spec:</p> <ul style="list-style-type: none"> a. Latest generation processor b. Each CPU with min. 16 cores or higher c. Min clock frequency of 2.9 GHz d. Support for AVX512 instructions 	
	Network Controller	Dual 1G Base T ports with 2M patch Cable	
	High Speed Primary Interconnects	Single Port 100GBps EDR 100 Infiniband with required cable (3 meters) or better	
	HDDs	2 x 480 GB SSD for OS	
	Operating systems Support	The system should support latest version of CentOS, SUSE, UBUNTU and RHEL.	

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	Power Supply	Redudant and Hot Pluggable, 80 plus platinum or better certified power supply along with IEC 14 type power cables	
	System Fans	Redudant System	
3	GPU Nodes		1
	Form Factor	2U / 4U Rack Mountable	
	Mother Board/Chipset	Intel C620 series chipset or equivalent or better	
	RAM	Minimum 192GB RAM DDR4 2933MHz Dual Rank or more in balanced distribution	
	Processors	<p>Dual CPU Based Server With Below Spec:</p> <p>a. Latest generation processor</p> <p>b. Each CPU with min. 16 cores or higher</p> <p>c. Min clock frequency of 2.9 GHz</p> <p>d. Support for AVX512 instructions</p>	
	Network Controller	Dual 10G Base T ports	
	High Speed Primary Interconnects	Single Port 100GBps EDR 100 Infiniband with required Cables (3 meters) or better	
	Drive Bays	4x3.5" or 8X2.5"hot swap SAS3/SATA drive bay	
	HDDs	2 x 480 GB SSD for OS	
	GPU	1 x nVIDIA A100 40GB Card	
	Operating systems Support	The system should support latest version of CentOS, SUSE, UBUNTU and RHEL.	

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	Power Supply	Redundant and Hot Pluggable, 80 plus platinum or better certified power supply along with IEC 14 type power cables	
	System Fans	Redundant System	
4	Primary Communication Network		1
	Primary interconnect switch: 36 port Externally managed switch EDR or better, all ports should be 100% non-blocking 100 Gbps (point to point interconnect). Necessary cables and adapters for all the components must be provided.		
5	HPC Cluster Management Network		1
	Managed 48-port Gigabit Ethernet switch with 1 Gbps/port to accommodate all compute, master, submit nodes and other components in the solution. The switches should be configured with internal Redundant Power Supplies.		
6	Software/Support: CentOS, Open Job Scheduler and Cluster Manager with cluster support of 3 Years		1-Set

2. All other terms and conditions of the tender remain unchanged. Bidders, who have already submitted their bids prior to issue of this corrigendum need to submit again.