

CORRIGENDUM



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR KHARAGPUR – 721302

SUB: PROCUREMENT OF COMPUTING EQUIPMENT

Tender Notice No.IIT/EE/OTG/SM/EQ/2018-19/01 Date: 10.10.2018

With reference to the above mentioned tender, changes have been made which are described below in this corrigendum. The changes will be as follows:

Submission Date:

| Original Date | Extended Date |
|-----------------------|-----------------------|
| 09.11.2018 at 3.00 pm | 23.11.2018 at 3:00 pm |

Annexure I

1. Server A – 1 no.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|--|
| 1 | Processor | Single Intel Xeon Gold 5122 Processor, 4 core or more, 16.5MBL3 Cache or higher, 3.60 GHz (base frequency) or higher |
| 2 | Motherboard | OEM Motherboard with all necessary components |
| 3 | Chipset | Intel C620 Series |
| 4 | Memory | 128GB RDIMM 2666MHz Registered ECC or higher, expandable to 512GB |
| 5 | Memory slots | 12 DIMM slots to accommodate up to 512GB without removing the original RAM |
| 6 | Storage | 3 TB usable in RAID 5 with 10K RPM hot swap SAS Disk |
| 7 | HDD Bays | 8 or more x2.5" HDD bays supporting SAS, SATA, Near-line SAS, SSD drives |
| 8 | Optical Drive | Internal DVD RW drive |
| 9 | Network Interface | Dual-port 10 GbE Base-T with 2 x 1GbE (TOE and iSCSI offload available on 10 GbE ports) |
| 10 | RAID levels | Support for RAID 0,1,5,6; populated with 12Gbps SAS RAID controller with 2GB Cache |
| 11 | Ports | 3 USB ports (at least one USB3.0), 1 Serial, 1 Graphics |
| 12 | Bus Slots | 3x PCI3.0 slots for expansion |
| 13 | Power Supply | Redundant Platinum rated efficient Power Supply (at least 750 Watts each) to sustain above configuration |
| 14 | Fans | Redundant fans |
| 15 | OS Support | Must be compatible with latest versions of Ubuntu, CentOS, Red Hat Enterprise Linux, and Windows Server. Must be compatible with the latest versions of KVM, VMWARE & Hyper-V. |
| 16 | Form Factor | Max 2U Rack form factor with sliding rails and cable manager to |

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| | | fit into industry standard 19" Server Rack |
| 17 | Server Management | OEM embedded controller with IPMI2.0 compliance and Server Management Tool from same OEM. |
| 18 | Compliances | FCC,UL,ROHS |
| 19 | Operating System | Red Hat Enterprise Linux Server OS: Standard (Physical or Virtual Nodes) for 2 sockets and 1 guest, 1 year support subscription. |
| 20 | Industry Certifications | The quoted server model should have published benchmark on spec.erg website. |
| 21 | Industry Standard Support | User-selectable power cap (subsystems throttle to maintain the specified power cap), ACPI3.0 Compliant, PCI2.3 Support compliant, PXE and WOL Support, IPv4 and IPv6 support |

2. Server B – 1 no.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|--|
| 1 | Processor | Single Intel Xeon Gold 6144 Processor, 8 core or more, 24.75MBL3 Cache or higher, 3.50 GHz (base frequency) or higher |
| 2 | Motherboard | OEM Motherboard with all necessary components |
| 3 | Chipset | Intel C620 Series |
| 4 | Memory | 64GB RDIMM 2666MHz Registered ECC or higher, expandable to 256GB |
| 5 | Memory slots | 8 DIMM slots to accommodate up to 256GB without removing the original RAM |
| 6 | Storage | 3 TB usable in RAID 5 with 10K RPM hot swap SAS Disk |
| 7 | HDD Bays | 8 or more x2.5" HDD bays supporting SAS, SATA, Near-line SAS, SSD drives |
| 8 | Optical Drive | Internal DVD RW drive |
| 9 | Network Interface | Dual-port 10 GbE Base-T |
| 10 | RAID levels | Support for RAID 0,1,5,6; populated with 12Gbps SAS RAID controller with 2GB Cache |
| 11 | Ports | 3 USB ports (at least one USB3.0), 1 Serial, 1 Graphics |
| 12 | Bus Slots | 3x PCI3.0 slots for expansion |
| 13 | Power Supply | Redundant Platinum rated efficient Power Supply (at least 750 Watts each) to sustain above configuration |
| 14 | Fans | Redundant fans |
| 15 | OS Support | Must be compatible with latest versions of Ubuntu, CentOS, Red Hat Enterprise Linux, and Windows Server. Must be compatible with the latest versions of KVM, VMWARE & Hyper-V. |
| 16 | Form Factor | Max 2U Rack form factor with sliding rails and cable manager to fit into industry standard 19" Server Rack |
| 17 | Server Management | OEM embedded controller with IPMI2.0 compliance and Server Management Tool from same OEM. |
| 18 | Compliances | FCC,UL,ROHS |

3. Server C – 1 no.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|--|
| 1 | Processor | Single Intel Xeon Gold 5122 Processor, 4 core or more, 16.5MB L3 Cache or higher, 3.60 GHz (base frequency) or higher |
| 2 | Motherboard | OEM Motherboard with all necessary components |
| 3 | Chipset | Intel C620 Series |
| 4 | Memory | 32GB RDIMM 2666MHz Registered ECC or higher, expandable to 256GB |
| 5 | Memory slots | 8 DIMM slots to accommodate up to 256GB without removing the original RAM |
| 6 | Storage | 3 TB usable in RAID 5 with 10K RPM hot swap SAS Disk |
| 7 | HDD Bays | 8 or more x2.5" HDD bays supporting SAS, SATA, Near-line SAS, SSD drives |
| 8 | Optical Drive | Internal DVD RW drive |
| 9 | Network Interface | Dual-port 10 GbE Base-T |
| 10 | RAID levels | Support for RAID 0,1,5,6; populated with 12Gbps SAS RAID controller with 2GB Cache |
| 11 | Ports | 3 USB ports (at least one USB3.0), 1 Serial, 1 Graphics |
| 12 | Bus Slots | 3x PCI 3.0 slots for expansion |
| 13 | Power Supply | Redundant Platinum rated efficient Power Supply (at least 750 Watts each) to sustain above configuration |
| 14 | Fans | Redundant fans |
| 15 | OS Support | Must be compatible with latest versions of Ubuntu, CentOS, Red Hat Enterprise Linux, and Windows Server. Must be compatible with the latest versions of KVM, VMWARE & Hyper-V. |
| 16 | Form Factor | Max 2U Rack form factor with sliding rails and cable manager to fit into industry standard 19" Server Rack |
| 17 | Server Management | OEM embedded controller with IPMI 2.0 compliance and Server Management Tool from same OEM. |
| 18 | Compliances | FCC, UL, ROHS |

4. Graphics Workstation A – 1 no.

| Sl. | Parameter | Minimum Specification |
|-----|-------------|--|
| 1 | Processor | Intel Xeon GOLD 6000 series, 20 core or more, 2.0 GHz (base frequency) or higher, Cache 27.5 MB L3 or higher |
| 2 | Chipset | Intel C620 Series |
| 3 | Motherboard | OEM Motherboard with all necessary components |
| 4 | Memory | 128GB DDR4 2666Mhz SDRAM or higher expandable to 256GB |
| 5 | Memory Slot | At least 8x DIMMs to accommodate up to 256GB without removing the original RAM |
| 6 | GPU | Single NVIDIA TITAN V, Volta architecture, At least 5120 CUDA Core or higher, 12288 MB HBM2 video memory, Base clock 1200 MHz, 3 x DisplayPort, 1 x HDMI connector |
| 7 | Hard Disk | Single 500 GB 2.5 inch internal SSD Single 2 TB SATA HDD, 7200 RPM or higher |
| 8 | Monitor | 27" or higher Wide Screen Full HD monitor, TCO certified (Same |

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| | | OEM make as workstation) |
| 9 | Network Interface | Integrated Gigabit (10/100/1000) |
| 10 | Wi-Fi Card | 802.11/b/g/n/ac wireless card, (Antenna should connect to the Wi-Fi card without any extension wire) |
| 11 | Mouse | 2 Button USB Optical Scroll Mouse (Same OEM make) |
| 12 | Keyboard | 104 Keys USB keyboard (Same OEM make) |
| 13 | Optical Drive | Internal SATA 8x or better DVD +/- R/W Drive |
| 14 | I/O Ports | At least 4 USB port of which at least 2 USB 3.0 At least1 (RJ45) Gigabit Ethernet10/100/1000 |
| 15 | Expansion Slots | Minimum 2 x PCIe 3.0 x16 slots, 1 x PCIe 3.0 x8 slots |
| 16 | PSU | 850W or higher PSU, 90% efficient (80PLUS Gold Certified) |
| 17 | OS Certifications | The hardware must be fully compatible with latest versions of Linux (Ubuntu, CentOS, RedHat, etc.) and Windows 10 Professional |
| 18 | PC cooling | High speed silent chassis fan |

5. Graphics Workstation B – 2 nos.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|--|
| 1 | Processor | Dual Intel Xeon GOLD6000 series, 12 core or more, 3.2 GHz (base frequency) or higher, Cache 24.75 MB L3 or higher |
| 2 | Chipset | Intel C620 Series |
| 3 | Motherboard | Dual Processor OEM Motherboard with all necessary components |
| 4 | Memory | 128GB DDR4 2666Mhz SDRAM or higher expandable to 256GB |
| 5 | Memory Slot | At least 8x DIMMs to accommodate up to 256GB without removing the original RAM |
| 6 | GPU | Single NVIDIA GTX 2080TI, At least 4352 CUDA Core, 11 GB of GDDR6 Memory or better, Boost Clock 1635 MHz |
| 7 | Hard Disk | Single 500 GB 2.5 inch internal SSD Single 2 TB SATA HDD, 7200 RPM or higher |
| 8 | Monitor | 27" or higher Wide Screen Full HD monitor |
| 9 | Network Interface | Integrated Gigabit (10/100/1000) |
| 10 | Wi-Fi Card | 802.11/b/g/n/ac wireless card, (Antenna should connect to the Wi-Fi card without any extension wire) |
| 11 | Mouse | 2 Button USB Optical Scroll Mouse (Same OEM make) |
| 12 | Keyboard | 104 Keys USB keyboard (Same OEM make) |
| 13 | Optical Drive | Internal SATA 8x or better DVD +/- R/W Drive |
| 14 | I/O Ports | At least 4 USB port of which at least 2 USB 3.0 At least1 (RJ45) Gigabit Ethernet10/100/1000 |
| 15 | Expansion Slots | Minimum 2 x PCIe 3.0 x16 slots, 1 x PCIe 3.0 x8 slots |
| 16 | PSU | 850W or higher PSU, 90% efficient (80PLUS Gold Certified) |
| 17 | OS Certifications | The hardware must be fully compatible with latest versions of Linux (Ubuntu, CentOS, RedHat, etc.) and Windows 10 Professional |
| 18 | PC cooling | High speed silent chassis fan |

6. Graphics Workstation C – 5 nos.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|---|
| 1 | Processor | Single Intel Xeon GOLD, 20 core or more, 2.0 GHz (base frequency) or higher |
| 2 | Chipset | Intel C620 Series |
| 3 | Motherboard | Dual Processor OEM Motherboard (LGA 3647 socket) with all necessary components |
| 4 | Memory | 8x16 GB DDR4 2666Mhz SDRAM or higher |
| 5 | Memory Slot | At least 12x DIMMs DDR4 2666 RDIMM/LRDIMM |
| 6 | GPU | Pascal architecture, At least 3840 CUDA Core or higher, 12 GB of GDDR5X Memory, Boost Clock 1582 MHz, and PCIe slot |
| 7 | Hard Disk | Single 500 GB 2.5 inch internal SSD Single 2 TB SATA HDD, 7200 RPM or higher |
| 8 | Monitor | 27" or higher Wide Screen Full HD monitor |
| 9 | Network Interface | Integrated Gigabit (10/100/1000) |
| 10 | Wi-Fi Card | 802.11/b/g/n/ac wireless card, (Antenna should connect to the Wi-Fi card without any extension wire) |
| 11 | Mouse | 2 Button USB Optical Scroll Mouse (Same OEM make) |
| 12 | Keyboard | 104 Keys USB keyboard (Same OEM make) |
| 13 | Optical Drive | Internal SATA 16x or better DVD +/- R/W Drive |
| 14 | I/O Ports | At least 4 USB port of which at least 2 USB 3.0 At least 1 (RJ45) Gigabit Ethernet10/100/1000 |
| 15 | Expansion Slots | 1 or more PCIe 3.0 x16 Slot, 2 or more PCI/PCIe Slot |
| 16 | PSU | 750W or higher PSU with gold certification |
| 17 | OS Certifications | The hardware must be fully compatible with latest versions of Linux (Ubuntu, CentOS, RedHat, etc.) and Windows 7 Professional, Windows 10 Professional (certification to be included) |
| 18 | Certification | For OEM: ISO 9001and 14001. For Quoted Model: UL/FCC/ERTL (STQC) for safety, EPEAT GOLD/RoHS. |

7. Graphics Workstation D – 1 no.

| Sl. | Parameter | Minimum Specification |
|-----|-------------|--|
| 1 | Processor | Single Intel Xeon GOLD6000 series, 20 core or more, 2.0 GHz (base frequency) or higher, Cache 27.5 MB L3 or higher |
| 2 | Chipset | Intel C620 Series |
| 3 | Motherboard | Dual Processor OEM Motherboard (FCLGA3647 socket) with all necessary components |
| 4 | Memory | 128GB DDR4 2666Mhz SDRAM or higher expandable to 256GB |
| 5 | Memory Slot | At least 8x DIMMs to accommodate up to 256GB without removing the original RAM |
| 6 | GPU | Single NVIDIA GTX 2080TI, At least 4352 CUDA Core, 11 GB of GDDR6 Memory or better, Boost Clock 1635 MHz |
| 7 | Hard Disk | Single 500 GB 2.5 inch internal SSD Single 2 TB SATA HDD, 7200 RPM or higher |
| 8 | Monitor | 27" or higher Wide Screen Full HD monitor |

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| 9 | Network Interface | Integrated Gigabit (10/100/1000) |
| 10 | Wi-Fi Card | 802.11/b/g/n/ac wireless card, (Antenna should connect to the Wi-Fi card without any extension wire) |
| 11 | Mouse | 2 Button USB Optical Scroll Mouse (Same OEM make) |
| 12 | Keyboard | 104 Keys USB keyboard (Same OEM make) |
| 13 | Optical Drive | Internal SATA 8x or better DVD +/- R/W Drive |
| 14 | I/O Ports | At least 4 USB port of which at least 2 USB 3.0 At least 1 (RJ45) Gigabit Ethernet10/100/1000 |
| 15 | Expansion Slots | Minimum 2 x PCIe 3.0 x16 slots, 1 x PCIe 3.0 x8 slots |
| 16 | PSU | 750W or higher PSU, 90% efficient (80PLUS Gold Certified) |
| 17 | OS Certifications | The hardware must be fully compatible with latest versions of Linux (Ubuntu, CentOS, RedHat, etc.) and Windows 10 Professional |
| 18 | PC cooling | High speed silent chassis fan |

8. Computing Workstation – 3 nos.

| Sl. | Parameter | Minimum Specification |
|-----|-------------------|--|
| 1 | Processor | Dual Intel Xeon GOLD 6000 series, 12 core or more, 3.2 GHz (base frequency) or higher, Cache 24.75 MB L3 or higher |
| 2 | Chipset | Intel C620 Series |
| 3 | Motherboard | Dual Processor OEM Motherboard with all necessary components |
| 4 | Memory | 128GB DDR4 2666Mhz SDRAM or higher expandable to 256GB |
| 5 | Memory Slot | At least 8x DIMMs to accommodate up to 256GB without removing the original RAM |
| 6 | Hard Disk | Single 500 GB 2.5 inch internal SSD Single 2 TB SATA HDD, 7200 RPM or higher |
| 7 | Monitor | 27" or higher Wide Screen Full HD monitor |
| 8 | Network Interface | Integrated Gigabit (10/100/1000) |
| 9 | Wi-Fi Card | 802.11/b/g/n/ac wireless card, (Antenna should connect to the Wi-Fi card without any extension wire) |
| 10 | Mouse | 2 Button USB Optical Scroll Mouse (Same OEM make) |
| 11 | Keyboard | 104 Keys USB keyboard (Same OEM make) |
| 12 | Optical Drive | Internal SATA 8x or better DVD +/- R/W Drive |
| 13 | Graphics | NVidia NVS 310, 1GB or better |
| 14 | Audio | Internal audio Speaker |
| 15 | I/O Ports | At least 4 USB port of which at least 2 USB 3.0 At least1 (RJ45) Gigabit Ethernet10/100/1000 |
| 16 | Expansion Slots | Minimum 2 x PCIe 3.0 x16 slots, 1 x PCIe 3.0 x8 slots |
| 17 | PSU | 850W or higher PSU, 90% efficient (80PLUS Gold Certified) |
| 18 | OS Certifications | The hardware must be fully compatible with latest versions of Linux (Ubuntu, CentOS, RedHat, etc.) and Windows 10 Professional |
| 19 | PC cooling | High speed silent chassis fan |