

**Foundation for Innovation and Technology Transfer
(FITT)**

REF: FT/05/299/2020
Date: 4th January, 2022

Notice Inviting Quotation

Workstation

Technical Specifications

Technical Specifications for Computational AI - System: Tyrone Camarero SS400TR-34		
	Specification	Description
	Processor(s)	One nos. x86 Architecture based Intel/AMD Latest Generation processor. Each processor with clock speed of 3.3GHz base frequency, processor with 14 Cores /28 threads. Supports DDR4 2900 or better memory, 1.3MB cache per core or higher, with AVX512 instruction set supported natively
	No of Processors	Minimum One or more per node (Total 14 Cores thru 1x processors)
<u>Node</u> <u>(Qty -1</u> <u>Unit)</u>	System utility with AI Frameworks Preloaded	1.CPU Optimised Tensor Flow 2..CPU Optimised Pytorch 3..CPU Optimised Theano 4..CPU Optimised Caffe 5.CPU Optimised Text2speech 6.CPU Optimised Mxnet 7.CPU Optimised CuDNN 8.Accelerator Optimised Tensor Flow 9.Accelerator Optimised Pytorch 10.Accelerator Optimised Theano 11.Accelerator Optimised Caffe 12.Accelerator Optimised Text2speech 13. Accelerator Optimised Mxnet 14. Accelerator Optimised CuDNN 15. Clara Deploy SDK 16.Deep vision AI 17. BIGDFT 18. Parabricks 19. R 20. Microsoft CNTK 21.Keras 22. Accord.NET 23.Spark Mlib 24. MLPack 25.Paddle Paddle 26. MKL 27. DNN System must be supplied with utility with an access to above mentioned AI/ general frameworks/suites. Details and Datasheet of the utility must be submitted for compliance.
	Licensed Node Management S/W and Scheduling Utility	Unified system management, monitoring toolset for configuration, diagnosis and management of the system, Node manager with provisioning, monitoring and reporting capabilities Support Package and Image based provisioning

	<p>Intuitive web interface to manage and customize the node</p> <p>Customizing networks and compute node profiles through GUI</p> <p>Customizing compute nodes (upto changing kernel parameter)</p> <p>Able to Push configuration changes and updates to the compute node without reinstalling and rebooting</p> <p>Offered solution must be a licensed s/w stack , issued in the name of Customer Organization, with no limitation based on count of users and no. of nodes which are attached by user with the system .</p> <p>Note : Offered Stack must have been deployed by OEM / Bidder earlier as well as part of such Solutions to govt organizations. Datasheet of the utility suite must be submitted with the bid.</p>
Memory	128 Memory or more, by using 64GB memory modules. Scalability after populating current set of DIMMs must be up to 768GB or higher .
RAID Controller	RAID Controller Supports RAID levels 0, 1 & 10
Accelerator	1 x Computational GPUs , each with on board GPU Memory : 2GB, 380 CUDA Cores , and 3 rd Gen Tensor cores. System must support three such accelerators from day one or at least 2 double width or lesser width based GPUs with required expansion slots and optimum power supplies
Interconnect features	<p>With Preboot Execution Environment (PXE) boot capability.</p> <p>SR-IOV Implementation</p> <p>Packet filtering with advanced support</p> <p>VXLAN supported wither thru S/W or H/W</p> <p>Counters available for Remote N/W Monitoring</p> <p>Remote boot supported with iSCSI</p> <p>Jumbo frames supported for minimum 9KB or more</p> <p>Preboot Execution Environment from day one</p> <p>Allowed to have load balancing among multiple processing cores / physical CPUs. OEM must confirm to provide features aforementioned.</p>
Solid State Drives	1 x 4000GB SATA Enterprise HDD, 1 x 256GB Enterprise NVMe/M.2/U.2/SATA SSD (>=1 DWPD endurance)
HDD bays	HDD - 4 or more SATA Hard drives/ SSDs , including support for 1 x NVMe/M.2/U.2 drives and necessary controller for the connectivity must be on board. A secondary storage enclosure is allowed to be offered to meet the storage requirement
ODD	Internal DVD Writer
I/O slots (Peripheral Component Interconnect Express,PCIe)	4 × PCIe 3.0 slots including x16 & x4 bandwidth based slots
Graphics controller	Integrated/Addon Graphics . A dedicated video port available
Ethernet ports	2 × 1 Gbps Ethernet port with (PXE) boot
Ports	4 USB ports , 1 COM Port/header
Chipset	Compatible CHIPSET
Power supplies	<p>with,80 Plus Certified efficient power supplies.</p> <p>Secondary enclosures , if offered any, must also have 80 Plus certified power supplies. Each power module must be of 500W or more</p>
Operating System	64-bit CentOS Preloaded.
Monitor	24" or higher LED Monitor,Height Adjustable, IPS (1920x1080) resolution
KBD+Mouse	Standard Keyboard + Optical Mouse (Wireless +USB)
BIS Registration	OEM must have Bureau of Indian Standards certification for Workstation product category and necessary document must be provide.
Regulatory Compliance	Windows, RHEL, SUSE Certified Workstation, and RHEL certificate copy must be attached with bid. OEM must be ISO 9001,14001,27001, Govt. of

		India E-Waste Regulation Compliance/Registered, all Certificate copy must be attached with Bid.
		Bidder must not be put on a holiday period or banned or debarred by any govt organization for >3 months during last 5 years.
	Security features	Automated BIOS/System level encryption to authenticate input and output data passing thru . System information including, keys, passwords and digital certificates stored/created must be secured from external software attacks. Cryptographic functions offered for system security. Details of utility must be submitted with bid.
	Warranty	3 years onsite warranty by OEM / Bidder. Physical on-site warranty services including visits by technical experts of Bidder or OEM for maintenance and technical support whenever needed.
	Form Factor	Rack Mount capabilities with up to 5U or lesser per node (including all units)

Terms & Conditions Details

Preparation of Bids: The offer/bid should be submitted in two bid systems (i.e.) Technical bid and financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. Financial bid should indicate item wise price for the items mentioned in the technical bid

Opening of the tender: The bid will be opened by a committee duly constituted for this purpose. The technical bid will be opened first and it will be examined by a technical committee (as per specification and requirement). The financial offer/bid will be opened only for the offer/bid which technically meets all requirements as per the specification.

Acceptance/ Rejection of bids: The Committee reserves the right to reject any or all offers without assigning any reason.

Two separate sealed envelopes to be submitted for technical and financial bid (clearly labelled as “technical bid” and “financial bid”) respectively.

Last date of submitting the bids will be 13th January, 2022 before 5:00 pm to :

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Please quote prices for FOB New Delhi, inclusive of all taxes and duties.

Quote should be in Indian Rupees for agents of Indian manufacturers, or in foreign currency, for agents of foreign manufacturers, and needs to be valid for at least three months.

Attach all the technical literature and a list of similar installations done in India.

If the quote is being submitted by a representative of the manufacturer, a valid agency-ship or dealership certificate authorizing the agent to quote to IIT Delhi on behalf of the manufacturers should be enclosed. The principal and the vendor, both, are not allowed to quote for the same product.

Complete set of manuals for the operation of the equipment should be given.

Please specify all of your terms and conditions clearly, including delivery period.

Mode of payment for purchases in foreign currency through wire transfer on delivery. All bank charges, outside India are the sole responsibility of the seller. For purchases in INR, payment is on delivery.