



प्रसार भारती/Prasar Bharati
(India's Public Service Broadcaster)
प्रसारभारती सचिवालय/Prasar Bharati Secretariat
आकाशवाणी भवन, संसदमार्ग, नईदिल्ली - 110001
Akashwani Bhawan, Parliament Street, New Delhi-110001
सूचनाप्रौद्योगिकी विभाग/IT Division



Dated:06-06-2025

Subject: Inviting Industry Feedback on draft technical specification for SITC of GPU Servers and associated equipment in Prasar Bharati

Prasar Bharati, India's Public service Broadcaster, intends to invite bids for SITC of GPU Servers and Associated Equipment to be set up at Datacenter, New Broadcasting House, Sansad Marg, New Delhi through GeM Portal.

Draft of technical specifications are hereby published to invite Industry feedback from prospective Bidders/OEMs or their authorized dealers/Sellers on the draft (attached to this) for the SITC.

Budgetary quote for the SITC of GPU Servers and Associated Equipment is mandatory to submit along with the feedback.

It is requested to submit the response along with the feedback/budgetary quote on technical specifications for the project by 14.06.2025 on following eMail ID

simmi@prasarbharati.gov.in

(Simmi Mittal)
Assistant Director (IT)

To
Director (PBNS) for publishing on Prasar Bharati Corporate Website.



TECHNICAL SPECIFICATION DOCUMENT

For

The Supply, Installation, Testing, and Commissioning (SITC) of GPU Servers & Associated Equipment at Datacenter, New Broadcasting House, Sansad Marg, New-Delhi.

Date: 02/06/2025

Prasar Bharati (India's Public service Broadcaster) invites bids through GeM Portal for **SITC of GPU Servers and Associated Equipment** to be set up at Datacenter, New Broadcasting House, Sansad Marg, New Delhi .

1. Scope of Work:

The selected bidder is required to complete supply, installation, testing and commissioning of the **GPU Servers and associated equipment**, as per this document. The scope also includes all associated hardware, software licenses, configuration, installation, training and a **three-year onsite warranty**.

2. Eligibility Criteria:

Sl No.	Criteria	Description	Required Documentary proof
1	All commercials of the bid such as Company Registration, Average Annual Turnover of the Bidder/OEM, work experience etc	As per the standard terms and conditions on GEM.	As per the standard terms and conditions on GEM.
2	Non – Blacklisting Certificate	The bidder should not have been blacklisted /debarred by any Governmental / Non – Governmental Organisation in India in last three years.	Self-Declaration certificate is to be attached as per Annexure 1
3.	Certification	The Bidder should have valid ISO 9001:2005 and ISO 27001.	Copies of the certificate to be attached.

3. Technical Evaluation

1. Only eligible bidders/offers shall be considered for technical evaluation.
2. Technical Evaluation shall be done on the basis of compliance statement, customer reference certificates, technical literature related to quoted products.
3. If required, bidder may be asked to arrange a demonstration of the offered items.
4. Documents required for Technical Evaluation:
 - a. A point by point compliance statement duly signed by the bidder in respect of all the points laid down in the specifications for all the equipment/ items shall be submitted along with the bid by the bidder.
 - b. One set of Maintenance/operational manuals of each hardware from OEM shall be provided by the bidder.
 - c. Detailed Literature giving complete details of features and performance data to facilitate the technical evaluation.
 - d. Back to Back Support commitment from OEM for Sr No. 1, 2 & 3 of BOM for the period of three years.
 - e. A copy of un-priced Bill of Material (BOM) indicating make, model no., and complete configuration details of offered item shall be quoted clearly.

4. Warranty & Maintenance

1. All items shall be warranted from OEM for trouble free operation for a minimum period of 3 years from the date of commissioning.
2. In case of failure of any equipment or its part/module, the tenderer will send a replacement. The faulty part shall be sent back to tenderer after rectification of fault.
3. If it is not possible to rectify the fault remotely or by replacement of part/module, onsite support for replacement/servicing/debugging of software/reinstallation /reconfiguring of software etc. shall be provided by tenderer free of cost.
4. No separate charges will be paid for the visit of engineers for attending to faults and repairs or supply of spare parts.

5. Delivery Period

All items listed in Bill of Material including installation shall be supplied within 60 days.

6. Inspection

The offered stores/equipment shall be put on inspection by Prasar Bharati official/committee towards acceptance of stores as per specifications.

7. Bill of Material

Details of Items:

S.No.	Item	Quantity & Unit of Measurement
1.	GPU SERVER-Type1	1 Nos
2.	GPU SERVER-Type2	1 Nos
3.	Data Center Grade Switches	2 Nos
4.	Fiber Patch Cords- SM(Single Mode)	10 Nos
5.	SFP Modules SM - 10G	48Nos
6.	Monitor, Keyboard, and Mouse(1 each)	1 Set

8. The Detailed Technical Specifications are as below:

Item wise detailed requirements and technical specifications as per BOM are given below:

Item No 1 : GPU SERVER -Type1 (1 Nos)

Item	Description
Processor(s)	Two no. x86 architecture-based processors. Each processor with 64 Cores, 2.45GHz Base frequency and 256MB cache or higher.
Chipset	Compatible Chipset
Memory	256GB Memory ECC Reg. DDR5 4800/5600 MHz or more. Minimum 24 DIMMs slots onboard. Memory scalability should be up to 6TB using higher capacity memory modules
Drives	2x 960GB NVMe SSD or higher 4x 3840GB NVMe SSD or higher
RAID Controller	12 Gbps SAS/SATA/NVMe Hardware RAID controller that supports RAID 0,1,5, 6, 10, 50 & 60 with dedicated 8G cache memory.
HDD Bays	12 front hot-swap 2.5"/3.5" NVMe/SAS/SATA drive bay(s) or more. Additional support for 2 x NVMe/M.2/U.2 drives and the necessary controller for the connectivity must be on board.
NIC	2x 10G RJ45 ports, 2x 25G SFP28 OCP 3.0 compliant ports including all necessary accessories.
Exp Slots(s)	6x PCIe 5.0 slots including x16 & x8 bandwidth-based slots
Ports	At least 2 USB 2.0/3.0 Ports, 1 x VGA.
Form Factor	2U Rack Mount
Power supplies	Redundant (1+1) with,80 Plus titanium certified efficient power supplies. Each power module must be 1500W or higher.
Accelerator/GPU Card	Populated with NVIDIA L40S GPU with 48GB memory, single computational Accelerator with 18,100 CUDA cores, 568 tensor cores, 91.1 FP32 TFLOPS and 860 GB/s of memory bandwidth or higher must be populated from day 1
OS & Virtualization Certifications	Windows, RHEL, SUSE and Ubuntu Operating Systems Certified System, certificate copy must be submitted along with technical bid. Server model should be certified for Vmware ESXi, Red Hat OpenShift Container Platform, Red Hat OpenStack Platform Certificate, and Citrix Hypervisor v8.2 or above. Documentary proof must be submitted along with technical bid.

System utility with AI Frameworks Preloaded	<p>Software utility should have GPU and CPU-accelerated container applications and images for deep learning software.</p> <p>Software utility must have bundled CUDA, and cuDNN libraries for model training and seamless integration with frameworks like TensorFlow and PyTorch with multi-GPU scaling across nodes for large models. It must also support integration with NVIDIA GPU drivers and data science frameworks like Apache Spark for large scale preprocessing and analysis.</p> <p>System should be certified to run the offered software utility and must be supplied with Perpetual licenses or in case of subscription, it should be provided with 3 years subscription</p>
Job Scheduling Utility License	<p>Unified system management/monitoring toolset for configuration, diagnosis and management of the system. Toolset/Manager must be capable of supporting package and image-based provisioning, intuitive web interface for managing and customizing the node, and tool set with provisioning, monitoring, and reporting capabilities. With JOB scheduling capabilities on single node for CLI and GUI based end user applications. S/W utility must be from the Server OEM and not from a third-party vendor. Product data sheet with demonstration details must be published and submitted along with technical bid.</p>
Security features	<ul style="list-style-type: none"> - Secure Boot (Firmware and Bios Level Security) - Hardware root of trust/Dual Root of Trust - Server should provide policy-based security - Provision for Cryptographic firmware updates / Signed firmware updates / secure firmware updates. - Secure /Automatic BIOS recovery - Network Card secure firmware boot - In case of any security breach system should provide Features for Prevention of security breaches or Lockdown on security breaches. - Support for TPM 2.0 - Instant Secure Erase - Encryption of the data (Data at rest) on internal storage using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment. - CC EAL4+, FIPS 140-2 Compliant Security Module - NIST SP 800-193 Compliant - Platform Resilient / NIST SP 800-147B Compliant
Management Features	<p>IPMI 2.0 / ILO / IDRAC or equivalent with below features –</p> <ul style="list-style-type: none"> - Remoter power On/Shutdown of server, Power management - Remote Management of Server over LAN & WAN with SSL encryption through gigabit management port - Virtual Media support with all required licenses, virtual media access - Remote KVM - Server Health Logging - Out of Band Management, Dedicate Ethernet port - Storage management including RAID configuration - Secure component verification and alerting / Platform Integrity Check - Secure management with configuration of https, AD/LDAP, NTP for time sync, - API based management support, along with support of Redfish, IPMI etc. - HTML 5 based virtual console - Remote Firmware, bios, update

	<ul style="list-style-type: none"> - browser-based and command-line interface for managing and monitoring the server hardware <p>Datasheet for the same must be submitted with technical bid.</p>
Regulatory Compliance	<ol style="list-style-type: none"> 1. ACPI 6.4 Compliant 2. PCIe 5.0 Compliant 3. WOL Support 4. Energy Star / BEESStar / 80 PLUS Complied PSU 5. SMBIOS 6. UEFI 7. Redfish Compliant 8. IPMI 2.0 9. Advanced Encryption Standard (AES) 10. SNMP 11. TLS 12. Active Directory 13. DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP) 14. OEM must be certified with/for ISO 9001, ISO 14001, ISO 27001, ISO 22301, BIS, EPR (for E-Waste Regulations)
Performance Benchmark	<p>Spec_fp_2017_rate_base- score>=800 or higher. Spec_Int_2017_rate_base- score>=1000 or higher. Server OEM must have listed SPEC benchmark score on www.spec.org at the time of bid submission date with the same server and CPU model as quoted in the bid.</p>
OEM Authorization	BID Specific OEM Authorization Certificate must be submitted along with technical bid.
BIS Registration	OEM must have Bureau of Indian Standards certification or its international equivalent for server product category and necessary document must be submitted along with technical bid.
Local Support	<p>OEM must have their own registered Service and support center in India. Details must be listed on OEM Website and OEM must provide documentary evidence issued by Govt department along with technical bid.</p> <p>Installation, Testing, Training, and Implementation must be included in the offer and Installation shall be done by OEM certified engineers only.</p> <p>OEM must have direct support office in India and have online portal for warranty status details of the same must be submitted along with technical bid.</p>
Warranty	<p>3 years comprehensive onsite support & warranty by OEM/bidder.</p> <p>Physical on-site warranty services including visits by technical experts of Bidder or OEM for maintenance and technical support whenever needed.</p>

Item No 2 : GPU SERVER -Type2 (1 Nos)

Item	Description
Processor(s)	Two no. x86 architecture-based processors. Each processor with 64 Cores, 2.45GHz Base frequency and 256MB cache or higher.
Chipset	Compatible Chipset
Memory	256GB Memory ECC Reg. DDR5 4800/5600 MHz or more. Minimum 24 DIMMs slots onboard. Memory scalability should be up to 6TB using higher capacity memory modules
Drives	2x 960GB NVMe SSD or higher 4x 3840GB NVMe SSD or higher

RAID Controller	12 Gbps SAS/SATA/NVMe Hardware RAID controller that supports RAID 0,1,5, 6, 10, 50 & 60 with dedicated 8G cache memory.
HDD Bays	12 front hot-swap 2.5"/3.5" NVMe/SAS/SATA drive bay(s) or more. Additional support for 2 x NVMe/M.2/U.2 drives and the necessary controller for the connectivity must be on board.
NIC	2x 10G RJ45 ports, 2x 25G SFP28 OCP 3.0 compliant ports including all necessary accessories.
Exp Slots(s)	6x PCIe 5.0 slots including x16 & x8 bandwidth-based slots
Ports	At least 2 USB 2.0/3.0 Ports, 1 x VGA.
Form Factor	2U Rack Mount
Power supplies	Redundant (1+1) with,80 Plus titanium certified efficient power supplies. Each power module must be 1500W or higher.
Accelerator/GPU Card	Populated with NVIDIA H100 NVL GPU single computational Accelerator with 94GB GPU memory, TF32 Tensor Core performance of 835 teraFLOPS and GPU memory bandwidth of 3.9TB/s or higher must be populated from day 1
OS & Virtualization Certifications	Windows, RHEL, SUSE and Ubuntu Operating Systems Certified System, certificate copy must be submitted along with technical bid. Server model should be certified for Vmware ESXi, Red Hat OpenShift Container Platform, Red Hat OpenStack Platform Certificate, and Citrix Hypervisor v8.2 or above. Documentary proof must be submitted along with technical bid.
System utility with AI Frameworks Preloaded	Software utility should have GPU and CPU-accelerated container applications and images for deep learning software. Software utility must have bundled CUDA, and cuDNN libraries for model training and seamless integration with frameworks like TensorFlow and PyTorch with multi-GPU scaling across nodes for large models. It must also support integration with NVIDIA GPU drivers and data science frameworks like Apache Spark for large scale preprocessing and analysis. System should be certified to run the offered software utility and must be supplied with Perpetual licenses or in case of subscription, it should be provided with 3 years subscription
Job Scheduling Utility License	Unified system management/monitoring toolset for configuration, diagnosis and management of the system. Toolset/Manager must be capable of supporting package and image-based provisioning, intuitive web interface for managing and customizing the node, and tool set with provisioning, monitoring, and reporting capabilities. With JOB scheduling capabilities on single node for CLI and GUI based end user applications. S/W utility must be from the Server OEM and not from a third-party vendor. Product data sheet with demonstration details must be published and submitted along with technical bid.
Security features	<ul style="list-style-type: none"> - Secure Boot (Firmware and Bios Level Security) - Hardware root of trust/Dual Root of Trust - Server should provide policy-based security - Provision for Cryptographic firmware updates / Signed firmware updates / secure firmware updates. - Secure /Automatic BIOS recovery - Network Card secure firmware boot - In case of any security breach system should provide Features for Prevention of security breaches or Lockdown on security breaches. - Support for TPM 2.0 - Instant Secure Erase - Encryption of the data (Data at rest) on internal storage using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment. - CC EAL4+, FIPS 140-2 Compliant Security Module

	<ul style="list-style-type: none"> - NIST SP 800-193 Compliant - Platform Resilient / NIST SP 800-147B Compliant
Management Features	<p>IPMI 2.0 / ILO / IDRAC or equivalent with below features –</p> <ul style="list-style-type: none"> - Remoter power On/Shutdown of server, Power management - Remote Management of Server over LAN & WAN with SSL encryption through gigabit management port - Virtual Media support with all required licenses, virtual media access - Remote KVM - Server Health Logging - Out of Band Management, Dedicate Ethernet port - Storage management including RAID configuration - Secure component verification and alerting / Platform Integrity Check - Secure management with configuration of https, AD/LDAP, NTP for time sync, - API based management support, along with support of Redfish, IPMI etc. - HTML 5 based virtual console - Remote Firmware, bios, update - browser-based and command-line interface for managing and monitoring the server hardware <p>Datasheet for the same must be submitted with technical bid.</p>
Regulatory Compliance	<ol style="list-style-type: none"> 15. ACPI 6.4 Compliant 16. PCIe 5.0 Compliant 17. WOL Support 18. Energy Star / BEESStar / 80 PLUS Complied PSU 19. SMBIOS 20. UEFI 21. Redfish Compliant 22. IPMI 2.0 23. Advanced Encryption Standard (AES) 24. SNMP 25. TLS 26. Active Directory 27. DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP) 28. OEM must be certified with/for ISO 9001, ISO 14001, ISO 27001, ISO 22301, BIS, EPR (for E-Waste Regulations)
Performance Benchmark	<p>Spec_fp_2017_rate_base- score>=800 or higher. Spec_Int_2017_rate_base- score>=1000 or higher. Server OEM must have listed SPEC benchmark score on www.spec.org at the time of bid submission date with the same server and CPU model as quoted in the bid.</p>
OEM Authorization	BID Specific OEM Authorization Certificate must be submitted along with technical bid.
BIS Registration	OEM must have Bureau of Indian Standards certification or its international equivalent for server product category and necessary document must be submitted along with technical bid.
	OEM must have their own registered Service and support center in India. Details must be listed on OEM Website and OEM must provide documentary evidence issued by Govt department along with technical bid.

Local Support	Installation, Testing, Training, and Implementation must be included in the offer and Installation shall be done by OEM certified engineers only. OEM must have direct support office in India and have online portal for warranty status details of the same must be submitted along with technical bid.
Warranty	3 years comprehensive onsite support & 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.

Item No. 3 : DataCenter Grade Switches

Architecture & Port Density	<ol style="list-style-type: none"> 1. The Switch shall have 24x 1G/10G SFP+ Ports and 4x 40G/100G QSFP+ Port from Day 1. All ports shall be fully populated with 24x10G SM SFP+ and 2x40G transceivers. Also each switch should be supplied with a 40G DAC cable. Transceivers and DAC cable should be from the same OEM as switch. 2. The Switch shall support VSS/McLAG/vPC/MLAG or equivalent Switch Clustering feature.
Performance	<ol style="list-style-type: none"> 1. Switching Bandwidth: The Switch shall provide Switch Fabric Bandwidth Capacity of 2 Tbps or more.
Layer 2 features: it shall support from day 1	<ol style="list-style-type: none"> 1. Shall support 4K VLAN 2. Shall support 100K MAC addresses or more. 3. IP multicast snooping IGMP v1, v2, v3. 4. Jumbo Frames (up to 9216 bytes)
Layer 3 features: it shall support from day 1	<ol style="list-style-type: none"> 1. Basic IPv4 and IPv6 Static Routing, ECMP, Host Routes, Routed Interfaces, Routing between directly connected subnets from Day 1. 2. IPv4 & IPv6 Routing protocols & multicast routing available from day 1. such as RIP v1 or v2, OSPFv3, BGP, MP-BGP, VRF, VRRP for both IPV4 and IPV6 protocol , 3. PIM-SSM/PIM-SM 4. Switch must support symmetric VXLAN integrated routing and bridging with EVPN active- active multihoming support.
Security features	<ol style="list-style-type: none"> 1. RADIUS, TACACS/TACACS+ and username/password for Authentication, Authorization and Accounting (AAA) with Local User Accounts and Local User Passwords. 2. Secure communications to the management interface and system through SSL, Secure Shell (SSHv2), Secure Copy and SNMPv3. 3. IPv4 and IPv6 ACLs: with up to 3K ACL per system. 4. Flexible Authentication with 802.1x Authentication 5. It shall support Integrated Standard based Command Line Interface (CLI), Telnet access to switch for management/monitoring. 6. It shall also support NetFlow or sFlow or equivalent. 7. The Switch shall support Redundant power supply. 8. The switch shall have 16Gb DRAM and 16Gb FLASH with 32Mb Packet buffer.
Manageability	<ol style="list-style-type: none"> 1. Shall support manageability using CLI and web/GUI based management.

	<ol style="list-style-type: none"> It shall support Integrated Standard based Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch for management/monitoring. It shall also support NetFlow or sFlow or equivalent. The Switch shall support Redundant power supply. The switch shall have 16Gb DRAM and 16Gb FLASH with 32Mb Packet buffer.
Physical Attributes, Memory, Power Supply and Fans	<ol style="list-style-type: none"> The Switch shall be compatible with 19" Universal rack. The Switch shall support redundant power supply. The switch shall have 16Gb DRAM and 16Gb FLASH with 32Mb Packet buffer.
Mandatory Compliance	<ol style="list-style-type: none"> All switches and Transceivers shall be from the same OEM for better interoperability, management and support. Switch / Switch's Operating System should be EAL 3/NDPP/NDcPP certified under Common Criteria Common Criteria Certification The Switching System shall come with 3 years Hardware warranty with advance hardware replacement and 3 years OEM TAC support.

Item No.4 : Fiber Patch Cords- SM(Single Mode)

1	Cable Type 0.9mm buffer
2	Corning Single-Mode OS2 with LSZH Sheath
3	Connector: Zirconia ceramic ferrule
4	Pre-radiuses and pre-polished ferrule
5	Type—LC-LC SM Duplex
6	Length -- 1 Mtr

Item No. 5 : SFP Modules(Transceivers) Single Mode(SM) - 10G

1	SFP should support Single-Mode Fiber 1310nm.
2	SFP should support Single-Mode Fiber Cable
3	SFP should be 802.3ae compliant and shall support a distance up to 10 Kilometers
4	SFP should have LC Connector
5	SFP should be protocol independent & Hot-Swappable
6	SFP should support Digital Optical Monitoring
7	SFP should support operating temperature from (0° C to 70°C)

Item No.6: Monitor, Keyboard, and Mouse

Monitor	Display Size (Diagonal)	60.45 cm (23.8)
	Aspect Ratio	16:9
	Resolution	FHD (1920 x 1080)
	Resolutions Supported	1024 x 768; 1280 x 1024; 1280 x 720; 1280 x 800; 1440 x 900; 1600 x 900; 1680 x 1050; 1920 x 1080; 640 x 480; 720 x 400; 800 x 600
	Display Scan Frequency (Vertical)	50-60 Hz
	Input voltage	100 to 240 VAC
Keyboard	Connectivity	Wired (USB-A) or Wireless (USB receiver or Bluetooth)
	Form Factor	Full-size keyboard (includes a number pad) for general office use
Mouse	Connectivity	Wired (USB-A) or Wireless (USB receiver, Bluetooth).
	Sensor Type	Optical or Laser
	Buttons	3 buttons (left-click, right-click, and scroll wheel).

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SELF-DECLARATION ON NON-BLACKLISTING

Date:

To

PRASAR BHARATI
(India's Public Service Broadcaster)

Dear Sir,

RFP No. (GEM BID No.) :

RFP Title : The Supply, Installation, Testing, and Commissioning (SITC) of GPU Servers and its Associated Equipment at Datacenter, New Broadcasting House, Sansad Marg, New Delhi

We, _____, hereby declare that we have not been blacklisted/debarred by any Governmental / Non –Governmental Organisation in India as on the bid submission date.

Yours faithfully,
