फाईल संख्याः **51-1/GET/24-25/Pl.Phy./(12-197-B)/ General**　　　　दिनांक:: **07-02-2025**

GeM के माध्यम से ई—खरीद हेतु सूचना
NOTICE FOR E-PROCUREMENT THROUGH GeM

Online GeM e- bid are invited from reputed Manufacturere/Supplier/Authorized dealer in two bid system (Technical and Financial) for purchase of scientific equipment **Repairing /Upgradation of the windows based image processing Xeon server with GPU** on behalf of Director, ICAR-Indian Agricultural Reearch Institute, New Delhi. Please visit www.iari.res.in for details Rules and Regulation and log in www.gem.gov.in for online e-bidding.

जैम बिड का विवरण निम्लिलिखित है / Details of Gem Bid are as follows:

जैम बिड संख्या / GeM Bid No.	**GEM/2025/B/5895833**
बिड जमा करवाने की तिथि एवं समय / Bid Submission start date and time	31-01-2025
बिड बंद होने की तिथि एवं समय / Last Date & Time for submission of bid	22-02-2025 16.00
बिड खुलने की तिथि एवं समय / Date & Time for opening of Technical Bid	22-02-2025 16.30

Sd/-
सहायक प्रशासनिक अधिकारी
Asstt.Admn.Officer

Item	Description of Requirement	Compliance
Make and Model	**HPE ProLiant DL380 Gen11**	
Chassis	2U Rack Mountable	
CPU	Two numbers of 5th Generation Intel® Xeon® Scalable Processor 16 cores	
Chipset	Intel® C741 Chipset	
Memory	32DIMM slots. 512GB RAM ccalable upto 8.0 TB using DDR5 Registered DIMM (RDIMM) operating at 5600 MT/s	
Bus Slots	Server should support upto eight PCI-Express 5.0 x16 slots. Additional two x8 or higher PCIe 5.0 slots	
OS drives	2 x 960GB OS drives 10TB usable using SSD	
HDD Bays	Scalable Upto 30 SFF SAS/SATA/SSD/NVMe	
Controller	Server should support one of the below controllers, must support Mixed Mode which combines RAID and HBA mode operation simultaneously : Embedded / PCIe based x16 RAID controller with 8GB Flash backed write cache, supporting RAID 0, 1, 5, 6, 10, 50, 60. Must support mix-and-match SAS, SATA, and NVMe drives to the same controller. Controller must support 6G SATA, 12G SAS, 16G NVMe. Above mentioned controller must support following : 1. Hardware root of trust and secure encryption and decryption of critical drive data 2. Online Capacity Expansion (OCE) 3. Configurable stripe size up to 1 MB 4. Global and dedicated Hot Spare with Revertible Hot 5. Instant Secure Erase 6. Migrate RAID/Stripe Size 7. Modifying Cache Write Policy 8. Move Logical Drive 9. Re-enable Failed Logical Drive	
Networking features	Server should support below networking cards: 2 X 10Gb 2-port Ethernet adaptor	
GPU	Minimum 1 X 48GB GPU	
Interfaces	Serial - 1 (Optional) USB support with Up to 5 total: 1 front, 2 rear, 2 internal. 1GbE Dedicated management port	
Power Supply	Should support hot plug redundant low halogen power supplies with minimum 94% efficiency	
Fans	Redundant hot-plug system fans	

Industry Standard Compliance	ACPI 6.3 Compliant PCIe 5.0 Compliant WOL Support Microsoft® Logo certifications PXE Support Energy Star SMBIOS 3.2 UEFI 2.7 Redfish API IPMI 2.0 Secure Digital 4.0 Advanced Encryption Standard (AES) Triple Data Encryption Standard (3DES) SNMP v3 TLS 1.2 DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP) Active Directory v1.0 ASHRAE A3/A4	
System Security	UEFI Secure Boot and Secure Start support Tamper-free updates - components digitally signed and verified Immutable Silicon Root of Trust Ability to rollback firmware FIPS 140-2 validation Secure erase of NAND/User data Common Criteria certification TPM (Trusted Platform Module) 1.2 option Configurable for PCI DSS compliance TPM (Trusted Platform Module) 2.0 option Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser Bezel Locking Kit option Support for Commercial National Security Algorithms (CNSA) Chassis Intrusion detection option Secure Recovery - recover critical firmware to known good state on detection of compromised firmware	
Operating Systems and Virtualization Software Support	Windows Server. Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) VMware ESXi. Canonical Ubuntu Oracle Linux and Oracle VM Citrix	
Provisioning	1. Should support tool to provision server using RESTful API to discover and deploy servers at scale 2, Provision one to many servers using own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell	
Firmware security	1. For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable 2. Should maintain repository for firmware and drivers recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware	

Embedded Remote Management and firmware security	1. System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication 2. Server should have dedicated 1Gbps remote management port 3. Server should have storage space earmarked to be used as a repository for firmware, drivers and software components. The components can be organized in to install sets and can be used to rollback/patch faulty firmware 4. Server should support agentless management using the out-of-band remote management port 5. The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur 6. Two factor Authentication 7. Local or Directory-based user accounts with Role based access control 8. Remote console sharing upto 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support.Should provide support for AES and 3DES on browser.Should provide remote firmware update functionality.Should provide support for Java free graphical remote console. 9. Should support managing multiple servers as one via Group Power Control Group Power Capping Group Firmware Update Group Configuration Group Virtual Media and Encrypted Virtual Media Group License Activation 10. Should support RESTful API integration 11. System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support 12. Server should have security dashboard : displaying the status of important security features, the Overall Security Status for the system, and the current configuration for the Security State and Server Configuration Lock features. 13. One-button Secure Erase designed to decommission/repurpose servers 14. NVMe wear level display 15. Workload Performance Advisor - Provides server tuning recommendations to improve server performance
Server Management	Software should support dashboard view to quickly scan the managed resources to assess the overall health of the data center. It should provide an at-a-glance visual health summary of the resources user is authorized to view.
	The Dashboard minimum should display a health summary of the following: • Server Profiles • Server Hardware • Appliance alerts
	The Systems Management software should provide Role-based access control
	Zero Touch Provisioning (ZTP) using SSDP with remote access
	Management software should support integration with popular virtualization platform management software like Vmware vCenter & vRealize Operations, and Microsoft System Center & Admin Center
	Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD.
	Should provide an online portal that can be accesible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contrats and status. The Portal should also provide a personalised dashboard to monitor device heath, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be available on premise (at our location - console based) or off premise (in the cloud).
	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.

	Should have dashboard for firmware baselines while performing minimum required firmware checks and highlighting out-of-compliance devices for updates with the selected firmware baseline	
	The Server Management Software should be of the same brand as of the server supplier.	

Sl No	Paramater	Functionality	Compliance
	Make and Model	**HPE MSA 2070**	
1	Operating System & Clustering Support	1. The storage array should support industry-leading Operating System platforms including: Windows 2016 / 2019 / 2022, VMware and Linux. 2. Offered Storage Shall support all above operating systems in Clustering.	
2	Capacity & Scalability	1. The Storage Array shall be offered with 30TB Usable Capacity. 2. For efective power saving, Storage subsystem shall be supplied with 2.5" Small form factor SFF drives however storage subsystem shall also support LFF drives with the addition of required disk enclosures. 3. Storage shall be scalable to minimum of 240 number of SAS SFF drives.	
3	Front-end Ports & Back-end Ports	1. Offered Storage system shall be supplied with 4 * 16Gbps FC ports per controller 2. Offered storage system shall support 12G SAS Back-end connectivity.	
4	Architecture	The storage array should support dual, redundant, hot-pluggable, active-active array controllers for high performance and reliability	
5	No Single point of Failure	Offered Storage Array shall be configurable in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc.	
6	Disk Drive Support	1. Storage system shall support Enterprise SAS spinning drives, SSD and and near line SAS / 7.2K RPM drives. 2. Offered storage array shall also have support for FIPS 140-2 validating self-encrypted drives.	
7	Cache	1. Offerd Storage Array shall be given with Minimum of 12GB cache per controller in a single unit. 2. Cache shall be backed up in case of power failure for indefinite time either using batteries or capacitors or any other equivalent technology. 3. Offered Storage shall also have optional support for Flash cache using SSD / Flash drives. Offered storage shall support at-least 8TB Flash Cache. 4. Offered Flash cache shall be tuned for random read operations and shall remain activated even at less than 70% of random average read workload.	
8	Raid Support	1. Offered Storage Subsystem shall support Raid 1 , 10, 5 and Raid 6 2. All Raid Sets shall support thin provisioning. Vendor shall offer the license of thin provisioning for complete supported capacity of the array. 3. Thin provisioning shall be supported with offered Flash Cache. 4. Raid processing shall be offloaded to a dedicated ASIC instead of CPU. In case vendor is not supporting it then vendor shall ensure that additional 12GB cache per controller is configured to offset the raid processing workload.	
9	Point in time and clone copy	1. Offered Storage array shall be configured with array based Snapshot and clone functionlity and shall be configured for minimum of 512 snapshot licenses. 2. Offered Storage array shall support at-least 512 point in time copies (Snapshots) and 128 volume / Clone copies	
10	Replication	1. Offered storage subsystem shall support storage based replication to DR location. License for maximum supported capacity of the array shall be offered. 2. Offered storage subsystem shall support replication to multiple storage array of the same family in fan-out mode. At least 1:4 mode shall be supported.	
11	Virtualization and Thin provisioning	1. Offered storage shall be offered and configured with virtualization capability so that a given volume can be striped across all spindles of given drive type within a given disk pool. Disk pool shall support all listed raid sets of Raid 1, Raid 10, Raid 5 and Raid 6. 2. Offered Storage shall be offered and configured with Thin Provisioning capability.	
12	Data Tiering	Offered Storage shall also be configured for Sub-Lun Data tiering in real time fashion across different type of drives within a given pool like SSD, SAS, NL-SAS etc. License shall be configured for maximum supported capacity of the array.	
13	Global and dedicated Hot Spare	1. Offered Storage Array shall support Global hot Spare for offered Disk drives. 2. Atleast 2 Global hot spare drive shall be configured for every 30 drives. 3. Offered storage array shall have the support for distributed hot spare	
14	Logical Volume & Performance	1. Storage Subsystem shall support minimum of 512 Logical Units. Storage Array shall also support creation of more than 120TB volume at controller level. 2. Offered Storage shall have inbuilt performance management software. Configuration Dashboard shall show overall IOPS and MB/sec performance.	
15	Load Balancing & Muti-path	1. Multi-path and load balancing software shall be provided, if vendor does not support MPIO functionlity of Operating system.	
16	Performance	Offered storage shall have listed benchmark for performance of more than 250,000 in Raid 5 using appropriate drives at 8k block size. Vendor shall provide documentary proof for it.	
17	Array Integration	Offered storage array shall have plug-in for VMware VCenter, Microsoft System center as well as vStorage APIs (VAAI) for array integration.	