

**MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR**

**No.F5/St/MNIT/CC/2015**

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**NOTICE INVITING TENDER**

1. Combined quotations are invited for the **Supply & Installation of Blade Server & Storage Solution** for MNIT Jaipur and NIT Jalandhar as per list overleaf **by 18-09-2015 at 02:00 PM**. The quotations will be opened **at 03:00 PM on 18-09-2015**.
2. Quotations should be submitted in two separate sealed envelopes. First envelope indicating, "**Technical Bid**" should consist of only technical specification of the system offered along with literature, pamphlets, drawing etc. Price column in this technical bid should be kept blank. Second envelope indicating, "**Financial Bid**" should consist the same details of first envelope as well as price details also. Both the envelopes should first be sealed separately, and then should be kept in a single sealed bigger envelope marked "**QUOTATION FOR SUPPLY & INSTALLATION OF BLADE SERVER & STORAGE SOLUTION DUE ON 18-09-2015 AT 02.00 PM**" **along with** covering letter and **required EMD** and must be dropped in the tender box available in the Central Stores during office hours of all working days but not later than **02:00 PM of 18-09-2015**. Bids delivered to any other place or any individual shall not be considered as valid document. Quotations sent by e-mail will not be considered valid.
3. **The Rates Quoted should reflect F.O.R. MNIT, Jaipur and F.O.R. NIT, Jalandhar** inclusive of all taxes and charges (excluding customs duty) in the prescribe format (Annexure "C") with complete description. Name of the manufacturer, model number must be indicated clearly in the proforma invoice / quotation failing which the same shall be liable for rejection. The rates quoted should be applicable to educational Institutions and any cost advantage received in lieu thereof should be passed on to the Institute.

4. Cost of each item should be quoted separately giving the unalterable delivery period. Rates of imported goods must be quoted **excluding custom duty & excise duty** as these institutions are exempted from payment of custom & excise duty.
5. **EARNEST MONEY:** A Demand Draft for **Rs 5,00,000/- (Rupees Five Lac only)** in the name of **Registrar, M.N.I.T. Jaipur** shall be sent along with the tender as Earnest Money without which no tender shall be considered. Cheques are not accepted as earnest money amount. No interest will be paid on the amount of earnest money.
6. The leaflets catalogue, related to quoted equipment/model etc. are to be sent invariably so that a proper evaluation of the equipments offered is possible.
7. Pre-installation requirements for the equipment quoted, viz. ambient temperature, humidity, weather specifications, power specifications, civil works etc. must be mentioned. When the equipment is installed and commissioned, it should demonstrate full performance satisfaction.
8. Bidder should be either an Original Equipment Manufacturer (OEM) of IBM, Dell, Cisco, HP or EMC<sup>2</sup> brand or its authorized distributor/reseller of IT products. If bidder is not OEM, then it should have full service support from OEM for the quoted equipment. The bidders shall submit the Certificate of Authorization in original issued by the OEM for participation in this bid failing which the bid will be rejected.
9. The Indian/Foreign agents participating in the tender must have the average annual turnover not less than 15 crores for last three years with single order of similar equipment amounting more than 1 crore. As proofs for the same, balance sheet of last three years and copy of the order be provided
10. The bidder is expected to examine all instructions, and specifications in the bidding document. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidder's risk and may result in rejection of its bid.
11. At any time prior to the deadline for submission of bids, the institute may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment. Amendment, if any, will be notified on the institute website ([www.mnit.ac.in](http://www.mnit.ac.in)) and will be binding on the bidders. In case of an amendment/corrigendum, in order to provide prospective bidders reasonable time, the institute, at its discretion, may extend the deadline for the submission of bid. Hence bidders are advised to keep viewing the institute

website for corrigendum/amendments, if any. It will be ensured to provide at least **one weeks'** time after a corrigendum, to submit the bid.

12. Notwithstanding anything specified in the tender document, the Institutes, MNIT Jaipur and NIT Jalandhar at its sole discretion, unconditionally and without assigning any reasons to the bidders, reserve the rights:
  - A. To accept or reject lowest tender or any other tender.
  - B. To accept any tender in full or in part.
  - C. To reject the tender offer not confirming to the tender terms or faulting to replying to any certification sought during the period of evaluation of bids.
13. Losses or damages in transit will be taken into the account of the supplier. The supplier may, if he so desires, get the goods insured at his own cost.
14. The payment for the ordered items would be made after delivery, installation, testing, commissioning and acceptance of the equipment as well as receipt of pre-receipted bill in duplicate. Normally payment shall be made through an RTGS.
15. **Warranty:** Supplied goods should be **warranted for three years** from the date of successful Installation.
16. Successful BIDDER shall depute concerned specialist, for supervision of installation & commissioning of the equipment to be carried out as and when necessary. The successful BIDDER shall make necessary arrangements at their own expenses for stay, transport and other expenses of their specialist during their stay in institute.
17. The supplier has to impart onsite training to the institute's technical staff at the time of installation and commissioning of equipment.
18. The bidder must have experience of installing such solution for at least 3 years. A proof thereof is to be submitted (order copy or work completion).
19. All the equipment must be compatible with relevant Indian electrical standards and codes. The bidder must provide letters from respective OEM that the offered solution is certified and compatible and service support will be available with spare parts and accessories for minimum of 5 years from the date of installation. Supplied blade server and storage solution should be compatible to be installed in Emerson Smart Row SR-320RC rack in case of MNIT Jaipur and in Sun Rack 900-38 in case of NIT Jalandhar.

20. OEM of Proposed Solution must have a Service & Support Centre for configuration, Installation and maintenance support on 24 x 7 basis in India.
21. Details of service centres and information of service support facilities (including maximum time of response) that would be provided during and after the warranty period must be spelt in clear terms.
22. Bidder should also furnish the details for three year warranty and related services being hired from the OEM.
23. MNIT Jaipur and NIT Jalandhar will have the right to reject the components / equipment supplied if it does not comply with the specifications at any point of installation.
24. Bidder shall sign all pages of quotation and drawings forwarded with the quotation.
25. Notwithstanding anything stated above, the purchaser reserves the right to assess that the bidder has the financial, technical and production capability necessary to perform the contract, should circumstances warrant such assessment.
26. The rates should be valid at least for three months from the last date of receipt of quotations.
27. All legal proceedings, if any required, shall have to be lodged in the courts situated at Jaipur (for goods supplied to MNIT Jaipur) and at Jalandhar (for goods supplied to NIT Jalandhar), not elsewhere.
28. **Performance Bank Guarantee @ 10% of the equipment cost, valid for 3 Year + 2 months** in the form of Bank's Guarantee from a commercialised bank must be deposited within 10 (TEN) days after issue of purchase order, without which the Purchase Order will be deemed to be cancelled and the EMD will be forfeited.
29. **Delivery and Installation:-**All the ordered Blade Server & Storage Solution should be delivered & operationalise within 8 weeks from the date of issuing of the purchase order. All the aspects of safe delivery and installation shall be the exclusive responsibility of the supplier
30. **The Penalty Clause are as under:-**
  - (a) If the tenderer fails to deliver the goods within the period specified in the tender documents the Institute may, at its discretion, allow an extension in time subject to recovery from the tenderer as agreed liquidated damages, and not by way of

penalty, a sum equal to the percentage of the value equipment which the tenderer has failed to operationalise for period of delay as stated below: -

(i)	Delay up to one month	1%
(ii)	Delay exceeding one month but not exceeding two month	2%
(iii)	Delay exceeding two month but not exceeding three month	5%
(iv)	Delay exceeding three month	5% for each month and part there of subject to maximum 10%

(b) In case of failure to supply the equipment within the prescribed time and in accordance with the specifications given in the Quotations, the institute shall be free to cancel the order and make purchases from the next higher tenderer or from the open market as the case may be. In that case the losses sustained by the institute shall be recovered from the defaulting supplier. The institute will be at liberty to recover the losses from the earnest money/performance bank guarantee of the supplier without prejudice to its general right to effect recovery from the supplier.

31. The vendors should give clause-by-clause compliance for the technical specification of the equipment in their technical bids. Compliance with the terms and conditions should be indicated item-wise in a separate sheet with the page number of the supporting document (in the format given at annexure "B"). Only those financial bids shall be opened for which the supplier has successfully met the points put in the compliance sheet.

32. Purchase Order (PO) to the successful bidder will be issued separately by the respective institute.

33. **Technical Specifications for Blade Server & Storage Solution (One set for each location, Total two sets)** required for MNIT Jaipur and NIT Jalandhar is enclosed as annexure "A".

Yours Faithfully

Assistant Registrar (S & P)

**Technical Specifications Compliance sheet:-Blade Server & Storage Solution****Blade Chassis: Quantity: – One**

Item	Description of Requirement	Compliance/ Deviation
Blade Chassis	<p>Solution to house the required number of blade servers in smallest number of enclosures. Should have support for full/half height blades in the same enclosure, occupying a max of 10U rack height</p> <p>Should be able to accommodate the blade servers mentioned in the sections below in the proposed blade enclosures. The proposals must offer the densest packaging possible for the blade servers in the enclosure and maximum headroom for future expansion in the offered enclosures.</p>	
Interconnect	Should support simultaneous housing of Ethernet, FC, and SAS interconnect fabrics offering Hot Pluggable & Redundancy as a feature.	
Blade Server Interconnect to LAN/ Network	The chassis should be supplied with two Number of 10 Gb redundant network switches/module with at least eight number (4 x 10 GB SR SFP & 4 x 10GB Ethernet) of 10 Gbps uplink ports per switch, up-linkable to the data centre switch. It should have 2 x 10GbE Network Adaptor for all Blade Servers and upgradeable to 4 x10 GB network adapter for each blade server.	
Blade Server Interconnect to FC SAN	Two redundant Fiber Channel SAN switches with at least 8x16 Gb auto-negotiating FC uplinks and also at least 16 Gb auto-negotiating downlinks to all server bays. Switch should be provided with Full Fabric & Inter switch Link Licenses.	
Network Switch	Chassis should be supplied with redundant internal/external I/O connectivity which supports 1G, 10G Ethernet, 16Gbps Fibre Channel and 10G FCOE uplink ports.	
Power Supply	<p>The enclosure should be populated fully with power supplies of the highest capacity available with the vendor. Power supplies should support N+N redundancy configuration.</p> <p>Should offer choice of a single phase or 3 phase power subsystem for flexibility in connecting to data centre power enabled with technologies for lower power consumption</p>	

Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics	
System Software	Management/controlling software's have to be from the OEM itself.	
Deployment	Must have the capability of deploying multiple Operating Systems on the servers simultaneously and also be able to schedule deployment as and when needed.	
	Must have the capability of capturing and deploying OS images.	
	Must have the capability of configuring the hardware and changing system settings such as RAID level before the deployment of the Operating System. Must also have the capability of capturing the hardware settings and replicating it across servers.	
Remote Management	Must have a real time Virtual KVM functionality and be able to perform a remote Power sequence. Must provide both Java & Java-free browsing options.	
	Must have the ability to map the remote media to the server. Also must have the ability to transfer files from the user's desktop/laptop folders to the remote server with only the network connectivity.	
Performance Management & Alerting	Must have the ability to perform a hardware level (32 bit & 64 bit) measurement. Must also monitor CPU, I/O, Memory, and Storage & Network.	
	Must have the ability to automatically trigger events and alerts based on performance issues or thresholds set	
Integration with Enterprise Management software	Must have the ability to get event and traps from the Data Centre equipment. Also must integrate with the higher level management such as Open View, Tivoli & UniCenter. Must also have the ability to send the alerts directly to the vendor via a secure connection for a quick fix.	
Power Management	Must be able to show the actual power usage and actual thermal measurements data of the servers. Must also show a historical trend of power and temperature and generate comprehensive power reports.	
	Must be able to automatically shut down the servers if required, based on user policies and schedules.	
	Must provide a fully Automated Vulnerability assessment for Microsoft & Redhat Operating Systems. Must be able to generate comprehensive Vulnerability reports.	

### Blade Servers: Quantity - 12

Item	Description of Requirement	Compliance/ Deviation
CPU	Two numbers of latest generation Intel 18 Core E5-2699v3 (2.3 GHz, 18 Core & 45MB Cache) processors	
Motherboard	Intel® C610 Series Chipset	
Memory	512 GB Memory using DDR4 Load Reduced DIMM (LRDIMM) memory modules. Each LRDIMM should work at 2133MHz, 1.2V even after populating all the DIMMs in the channel.	
Hard disk drive with carrier	The server should support SAS, SATA and SSD hard disk drives (Equipped with 2 * 1 TB hot plug SFF SATA drives per blade) Must have an internal slot for SD card / Flash which supports booting hypervisors The Blade should have support for Boot from SAN.	
Storage Controller	Integrated PCIe 3.0 based 12G SAS Raid Controller with RAID 0, 1 with 1GB of Flash backed write cache on board.	
Networking features	2 x 10GbE or higher Network Adaptor which supports partitioning up to 3* Ethernet and 1* FC/iSCSI HBA ports per 2x10Gbps port.	
Interfaces	Minimum of 1* internal USB 3.0 port and 1* internal SDHC card slot	
Blade Connectivity to SAN	Should be capable of supporting 16 Gbps Dual port Fiber Channel HBA internal to the Server Blade.	
Bus Slots	Minimum of 2 Nos of 3.0 PCIe x16 based mezzanine slots supporting Converged Ethernet, Ethernet, FC adapters, SAS and IB adapters	
Graphics	Integrated G200eh video controller	
Embedded system management	Should support monitoring ongoing management, service alerting, reporting and remote management with embedded Gigabit out of band management port.	
OS Support	Microsoft Windows Server, RHEL, Ubuntu, Oracle Solaris, VMware and Citrix XenServer.	
Remote Management	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.	
Server Management	Software should support dashboard view to quickly scan the managed resources to assess the overall health of the data centre. It should provide an at a glance visual health summary of the resources.	
	Management software should support integration with popular virtualization platform management software	

	like vCenter, SCVMM and RedHat RHEV	
	Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD.	
	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.	
	The Server Management Software should be of the same brand as of the server supplier.	
Warranty	3 years comprehensive warranty, 24 x 7 x365 technical support.	
Additional Networking items	Four Blades will have additional 2 x 10GbE or higher Network Adaptor (i.e. total 4 x 10G Ethernet ports).Additional number of Ethernet port on network switch/module should be plan accordingly and included in the quote.	
Contract & Warranty Management	Must be able to track warranty information of servers and also send alerts when the warranty is about to expire. Must also be able to keep track of all hardware, firmware and basic software and generate comprehensive reports for the same. It must also provide the ability to automatically mail the report as scheduled.	

**20TB SAN Storage: - Quantity – 01**

Item	Description	Compliance/ Deviation
Converge / Unified Storage	Offered Storage array shall be a true converge / unified storage with a single Microcode / operating system instead of running different Microcode / Operating system / Controllers for File, block and object services respectively.	
Operating System & Clustering Support	The storage array should support industry-leading Operating System platforms including: Windows Server 2008, Windows 2012, VMware, Sun Solaris, HP-UX, IBM-AIX, OpenVMS and Linux.	
Capacity & Scalability	1. The Storage Array shall be offered with 20TB Usable Capacity using 900GB SAS 10k RPM drives on RAID 5. 2. Storage shall be scalable to minimum of 200TB using 900GB drives.	

Cache	<ol style="list-style-type: none"> <li>1. Offered Storage Array shall be given with greater than 32GB cache in a single unit.</li> <li>2. Cache shall be used only for Data and Control information. OS overhead shall not be done inside cache.</li> <li>3. Offered Storage array shall also have additional support for Flash Cache using SSD / Flash drives. Both File services as well as Block operations shall be able to utilize flash cache. Minimum of 500GB Flash cache shall be supported.</li> <li>4. If Flash cache is not supported inside the storage array then vendor shall ensure that offered storage array shall be scalable to minimum of 128GB DRAM cache without any replacement or upgrade of controllers.</li> </ol>	
Processing Power	<ol style="list-style-type: none"> <li>1. Offered Storage architecture shall be based on purpose built ASIC, XOR engine so that there shall be no load on the storage CPU during Raid Parity calculations.</li> <li>2. In case vendor doesn't have above ASIC functionality then additional 16GB read and write cache shall be provided per controller pair to balance the performance.</li> </ol>	
Architecture & Processing Power	<p>Controllers shall be true active-active so that a single logical unit can be shared across all offered controllers in symmetrical fashion, while supporting all the major functionalities like Thin Provisioning, Data Tiering etc.</p>	
No Single point of Failure	<p>Offered Storage Array shall be configured in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc.</p>	
Disk Drive Support	<p>Offered Storage Array shall support 6Gbps dual-ported 300 / 600 / 900 / 1200GB hot-pluggable Enterprise SAS hard drives, Minimum of 400GB SSD Drives along with SAS MDL 1TB / 2TB / 3TB / 4TB drives.</p>	
Raid Support & Virtualization	<ol style="list-style-type: none"> <li>1. Offered Storage Subsystem shall support Raid 0, 1, 1+0, 5 and Raid 6.</li> <li>2. Offered storage array shall have native virtualization support so that Raid 1, Raid 5, Raid 1+0, Raid 6 can be carved out from a logical space instead of dedicating separate physical disks for each application.</li> <li>3. Every supplied disk shall be able to participate into multiple and different raid sets simultaneously.</li> <li>4. In case vendor does not have above functionality, then 20% additional raw capacity shall be provided for each type of disk to balance out the capacity</li> </ol>	

	utilization.	
Data Protection	Incase of Power failure, Storage array shall have de-stage feature to avoid any data loss.	
Protocols	Offered Storage array shall support all well-known protocols like FC, ISCSI, FCOE, SMB 3.0, NFS V4, NDMP etc.	
Host Ports and Back-end Ports	<ol style="list-style-type: none"> <li>1. Offered Storage shall have minimum of 4 host ports for connectivity to servers running at 8Gbps speed.</li> <li>2. Offered storage shall also support additional Quad 10Gbps IP ports or 8 x 1Gbps IP ports for file services operations.</li> <li>3. Offered storage shall have two additional IP ports for the storage based replication.</li> <li>4. Offered storage shall have 16 number of SAS Back-end lanes running at 6Gbps speed.</li> </ol>	
Global Hot Spare	<ol style="list-style-type: none"> <li>1. Offered Storage Array shall support distributed Global hot Spare for offered Disk drives.</li> <li>2. Global hot spare shall be configure as per industry practice.</li> </ol>	
Performance and Quality of service	<ol style="list-style-type: none"> <li>1. Shall have capability to use more than 30 drives per array group or raid group for better performance.</li> <li>2. Storage shall be provided with Performance Management Software.</li> <li>3. Offered storage array shall support quality of service for critical applications so that appropriate and required response time can be defined for application logical units at storage. It shall be possible to define different service / response time for different application logical units.</li> <li>4. Quality of service engine shall allow to define minimum and maximum cap for required IOPS / bandwidth for a given logical units of application running at storage array.</li> <li>5. It shall be possible to change the quality of service Response time, IOPS, bandwidth specification on basis of real time.</li> </ol>	
Thin Provisioning and Space Reclaim	<ol style="list-style-type: none"> <li>1. Offered storage array shall be supplied with Thin provisioning and Thin Re-claim to make the volume thin for an extended period of time for complete array supported raw capacity.</li> <li>2. Thin Re-claim (Zero Page reclaim) inside storage subsystem shall be automatic in nature and there shall be no need to run any utility inside storage for same.</li> <li>3. Thin Re-claim inside storage shall not cause any overloading of Storage CPU and shall be able to claim the Zero pages even during peak load without</li> </ol>	

	<p>any performance impact</p> <p>4. For effective capacity utilization, thin reclaim maximum unit shall be 16KB. Vendor shall provide the documentary proof for same.</p> <p>5. Offered storage array shall be tightly integrated with VMware so that Eager zero disks layout can be used with thin provisioning and thin re-claim.</p>	
Maintenance	Offered storage shall support online non-disruptive firmware upgrade for both Controller and disk drives.	
Snapshot / Point in time copy / Clone	<p>1. Offered Storage shall have support to make the snapshot and full copy (Clone) on the thin volumes if original volume is created on thick or vice-versa.</p> <p>2. The storage array should have support for both controller-based as well as file system based snapshots functionality (At-least 1024 copies for a given volume or a file store).</p> <p>3. Storage array shall have functionality to re-claim the space from Thin Provisioned Deleted snapshot automatically. Vendors shall provision at-least 20% additional space over and above the actual requirements, if space re-claim from thin provisioned deleted snapshot is not possible automatically.</p>	
Quota Management and Antivirus Scanning	<p>1. For file services operations, offered storage shall support both user level as well as file level hard and soft quota.</p> <p>2. For file services operations, offered storage shall support integration with industry leading antivirus vendors like Symantec and MacAfee.</p>	
Storage Array Configuration & Management Software	<p>1. Vendor shall provide Storage Array configuration and Management software.</p> <p>2. Software shall be able to manage more than one array of same family.</p>	
Storage Tiering	<p>1. Offered storage shall support dynamic migration of Volume from one Raid set to another set while keeping the application online.</p> <p>2. For effective data tiering, Storage subsystem shall support automatically Policy based Sub-LUN Data Migration from one Set of drive Tier to another set of drive tier.</p>	

Remote Replication	<ol style="list-style-type: none"><li>1. The storage array should support hardware based data replication at the array controller level across all models of the offered family.</li><li>2. The Storage array shall also support three ways (3 Data Centres) replication to ensure zero RPO in native fashion without using any additional replication appliance.</li><li>3. Replication shall support incremental replication after resumption from Link Failure or failback situations.</li></ol>	
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Assistant Registrar  
(S&P)

**COMPLIANCE SHEET**

S No	Eligibility Criteria	Compliance (Yes/ No)	Reference Enclosed proof (Pg. No)
1.	The Firm is Original Equipment Manufacturer (OEM)/authorized representative /partner.		
2.	Registration number of firm & Year of Registration		
3.	Technical specification compliance sheet		
4.	EMD: - Demand Draft for Rs 5, 00,000 only in the name of the Registrar, M.N.I.T. Jaipur.		
5.	The average annual turnover not less than 15 crores for last three years with single order of similar equipment amounting more than 1 crore. As proofs for the same, Balance sheet of last three years (2012-13, 2013-14, and 2014-15) and copy of the order be provided.		
6.	The firm should submit its valid documentary proof of sales Tax/ VAT Number, Service Tax registration number and details of income tax registration/ PAN number.		
7	The firm has presence in INDIA and shall provide 24*7 service support to monitor/ manage/ maintain efficiently the intended services at MNIT Jaipur and NIT Jalandhar as per the requirements/tender terms & conditions.		

**Price Bid Format**

Table A

S No	Item(s) Description	Price for MNIT Jaipur in INR	Price for NIT Jalandhar in INR
1	Blade Chassis as per tender specification		
2	Blade server as per tender specification		
3	Taxes		
4	Total amount including Tax		

Table B

S No	Item(s) Description	Price for MNIT Jaipur in INR	Price for NIT Jalandhar in INR
1	20TB SAN Storage, as per tender specification		
2	Taxes		
3	Total amount including Tax		

**DECLARATION**

(a) I / We have gone through the terms & conditions stipulated in the tender document and confirm to abide by the same.

(b) No other charges would be payable by the Institute.

SIGNATURE OF AUTHORIZED PERSON WITH SEAL