

**IN THE HIGH COURT AT CALCUTTA  
APPELLATE SIDE**

**TENDER NOTICE**

No. 431 R(Listing)

The 27<sup>th</sup> January, 2017

On behalf of the High Court at Calcutta, Sealed Tenders/Quotations are invited from reputed OEMs/ Dealers/Suppliers for supply of two (2) Servers with storage for use in the Hon'ble Court having following configuration.

**TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT**

- ② Hyperlinked reference (Section/Page no.) by the bidder-must be hyperlinked in soft copy
- ② Bidder should submit all relevant data sheet/brochure of all quoted items and should also available in respective OEM's official website.
- ② Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing the serial no. as mentioned in minimum specification in the RFP.

**TABLE – A**

**MINIMUM SPECIFICATION OF SERVER**

<b>Quantity</b>		<b>2 (Two) : 1 (One) Application Servers in cluster, 1 (One) DB in cluster :</b>			
<b>Make:</b>					
<b>Model:</b>					
<b>Part No.</b>					
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Server</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>	<b>Remarks</b>
0	<b>Service</b>	1. On-site Installation 2. On-site Configuration for cluster, as applicable 3. Document with diagram, as installed and configured 4. On-site parameter tuning for (a) security aspects, (b) performance, (c) software services 5. Auxiliary Document – on re-tuning 6. On-site Vulnerability Assessment of configured (HW, System SW) system - Certificate			
1	<b>Processor</b>	1. Make & Model 2. 2 (two) Physical 64 Bit Processors (x86_64 with seamless binary execution of 32 bit) 3. Total Nos. of Processor / Cores / Threads i.e. in total <b><i>P / C / T</i></b>			

1.1	<b>Architecture</b>	64 Bit architecture for all cores (if any) and all processors			
1.2	<b>Processor Frequency</b>	Proc Freq. (in GHz)			
1.3	<b>Cache</b>	L3 cache in MB			
1.4	<b>Processor-Memory transport</b>	1. Byte / transfer 2. Transfer / Sec, 3. Bandwidth			
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Server</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>	<b>Remarks</b>
3	<b>Memory</b>	1. Memory >= 256 GB, 2. Max Memory support >=256GB 3. Memory Type DDR-4 4. DDR Freq.			
4	<b>VGA &amp; Others</b>	VGA Interface / Port with separate VGA Memory >= 1. 16MB 2. 2 (front/back) USB port			
5	<b>RAID</b>	Minimum 1 No. Hardware (SAS-3 , 12 Gbps) RAID Controller Supporting RAID Levels 0,1,10, 5, 50, 6 and 60 with minimum 512MB Flash cache			
6	<b>SAS Casing</b>	1. Min 2 , 2.5” 2. Hot-swap / Hot Plug 3. SAS-3 (12 Gbps) compatible casing			
7	<b>DVD-DL RW</b>	1 no. of individual / sharable DVD-RW drive.			
8	<b>FCoE</b>	2 Nos. of dual Port 10 Gbps Fiber Channel over Ethernet (FCoE) CNA for connecting Storage and Network with redundancy , with booting from storage capability, and with required modules & patch cords (Total 4 ports / interfaces on two separate / independent cards / controllers)			
9	<b>Ethernet</b>	1. Min. 2x2 nos. of Gigabit Ethernet Port on RJ-45 with patch cords 2. TCP/IP Offload Engine			
10	<b>Free Slot for adapters</b>	Min. 2 nos. Mention type & Parameter			
11	<b>Server Environment, Management</b>	1. Dedicated Management Port (RJ-45) with patch cord, and with Remote management functionalities. 2. Web based Management. Server should be able to generate impending failure alerts on processor, memory and hard disk drives.			

12	<b>Power Supply</b>	1. Min. 2 nos. of hot-swap power- supply, 2. Watt of each > fully configured and all components working requirements 3. Mention Efficiency Level			
13	<b>Server Certified for Operating System</b>	1. Windows Server Std. – 2012 2. Latest version of EAL-4 certified Ent. Linux			
14	<b>Form Factor</b>	Enclosing Form Factor: Max 1U Rack			
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Server</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>	<b>Remarks</b>
16	<b>Warranty</b>	5 years on-site, comprehensive (HW, Firmware, Antivirus SW – if any, system SW and utilities) from the date of installation certificate, signed by the user			
17.	<b>Operating System (Enterprise Category)</b>	1. LSB – 4.x or higher compatible 2. EAL4+ or higher certified (Publicly available certificate at <a href="https://www.commoncriteriaportal.org">https://www.commoncriteriaportal.org</a> ) OS with latest updates 3. Latest Linux Operating system (enterprise category) with all bundled utilities and application ( PostgreSQL, MariaDB / MySQL, Apache Http, PHP, Java, Tomcat, Xen / KVM, Docker, GUI etc.) on DVD media 4. 5 (five) years comprehensive support on bug-fixes, updates and upgrades from the date of installation certificate, signed by the user			

**TABLE – B**

**MINIMUM SPECIFICATION OF FCoE SWITCH**

- ② Hyperlinked reference (Section/Page no.) by the bidder-must be hyperlinked in soft copy
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- ② Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing the serial no. as mentioned in minimum specification in the RFP.

<b>Quantity</b>	<b>01 (One) No.</b>				
<b>Make</b>					
<b>Model</b>					
<b>Part No.</b>					
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Switch</b>	<b>Minimum Specification</b>	<b>Specification (Quoted/Applicable by the bidder)</b>	<b>Complied (Yes/No)</b>	<b>Remarks</b>
1	<b>Hardware &amp; Performance Requirements</b>				
1.1	Architecture	Modular architecture rackmountable Switch. Rackmount kit to be provided alongwith the switch			
1.2	Switch Redundancy	The Switch should have internal hotswappable Redundant Power Supplies			
1.3	Switching Fabric Capacity	The Switch should support a minimum of 512 Gbps of Switching Fabric Capacity.			
1.4	Switch Forwarding Rates (Layer 2)	The Switch should Support Minimum Switching (Layer 2) Performance of 320 Mpps.			
1.5	10G/Gigabit Ethernet and FC capability	The Switch should have a minimum 20 nos. of 10 Gigabit Ethernet FCoE ports including 4 nos of Ethernet 1000 base T configurable ports & 8 Nos. FC 8Gbps ports with all necessary interface modules & cables, licenses (if any)			

1.6	Ethernet fiber and copper ports	The switch should have support for fiber and copper gigabit ports also.			
1.7	10G Fiber Transceivers	Required multimode fiber Transceivers shall be proposed along with all the 10G ports.			
1.8	Capability	The Switch Should have capability for consolidating storage and traditional Ethernet protocols onto a single media			

Sl. No.	Component / Performance / Utility for each Switch	Minimum Specification	Specification (Quoted/Applicable by the bidder)	Complied (Yes/No)	Remarks
1.9	Performance	Switch shall have cut-through, non-blocking switch architecture with line-rate forwarding on all the ports.			
2	<b>Connectivity &amp; Filtering</b>				
2.1	802.3ad	Should support Industry Standard Port/Link Aggregation for All Ports			
2.2	Jumbo Frames	Jumbo Frames support on all ports			
2.3	Storm Control	Support for Unicast/broadcast/multicast storm control to prevent degradation of switch performance from faulty end stations			
3	<b>Layer 2 Functionality</b>				
3.1	STP	Should Support Spanning Tree Protocol, Rapid Spanning Tree Protocol, Multiple Spanning Tree Protocol			
3.2	Features	Switch shall support Datacenter bridging exchange, IEEE 802.1Qbb priority flow control and IEEE 802.1Qaz.			
3.3	DNS, TFTP, NTP	Should support DNS, TFTP and NTP protocols, applicable IPv4 and IPv6 protocols			
3.4	Port-channel / Port Aggregation	Should have trunking capability.			
4	<b>Security Features</b>				
4.1	Access Control Lists	Should support Standard ACLs			
4.2	Various type of ACLs	Should support various type of ACLs like port based, Vlan based and time based			
4.3	MAC Address Filtering	Should Support MAC Address Filtering based on source and destination address			
6	<b>Quality of Service</b>				
6.1	CoS	Should support QoS and port-based CoS assignment			
7	<b>Multicasting</b>				
7.1	IGMP	a). Should Support IGMP v1, v2, v3 snooping			
Sl. No.	Component / Performance / Utility for each Switch	Minimum Specification	Specification (Quoted/Applicable by the bidder)	Complied (Yes/No)	Remarks

8	<b>Management</b>				
8.1	Network monitoring/management	Switch should be manageable through NMS on per port/switch basis with common interface for all manageable devices on the network. Should Support syslog, SNMP v2/v2c/v3, RMON/RMON-II, SSH, telnet, web management through network management software.			
8.2	Port Mirroring	Should support port mirroring feature for monitoring network traffic of a particular port/VLAN/group of ports/ fiber-channel ports.			
8.3	AAA	Should have support for Authentication, authorization, and accounting (AAA)			
8.4	Monitoring	The switch should have real-time performance monitoring capabilities built-in.			
9	<b>Software</b>				
9.1	Software Version	Version of software for supplied switch should be latest release to support all required features			
10	<b>IEEE Standards Compliance</b>				
10.1	IEEE Standards	Ethernet: IEEE 802.3, 10BASE-T			
		Gigabit Ethernet: IEEE 802.3z, 1000BASE-X (mini-GBIC/SFP), 1000BASE-SX, 1000BASE-LX/LH			
		10G Ethernet: IEEE 802.3ae, 10GBase-SR, 10GBase-LR			
		IEEE 802.1D Spanning-Tree Protocol			
		IEEE 802.1S & 1W for Rapid Spanning tree convergence			
		IEEE 802.1p CoS Prioritization			
		IEEE 802.3x Flow Control			
		IEEE 802.3ad Link Aggregation			

**TABLE – C**

**MINIMUM SPECIFICATION OF STORAGE DEVICE**

- Hyperlinked reference (Section/Page no.) by the bidder-must be hyperlinked in soft copy
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- Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing the serial no. as mentioned in minimum specification in the RFP

<b>Quantity :</b>	<b>01 (One) No.</b>				
<b>Make:</b>					
<b>Model:</b>					
<b>Part No.</b>					
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Storage</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>	<b>Remarks</b>
0	<b>Protocol</b>	1. FCoE, 2. FC, 3. iSCSI, 4. NAS-NFS ,SMB /CIFS etc. 5. NDMP			
1	<b>Interfaces</b>	Minimum 1. Configurable FCoE 10 Gbps or FC 8 Gbps higher ports >= 4 2. iSCSI 10 Gbps >= 4 4. Device lanes >= 8			
2	<b>Each Controller</b>	a) Active -Active configuration using min. two controllers b) Each controller With capability of RAID - 1, 5, 6 & 10			
3.	<b>Memory</b>	32 GB usable Read/Write DRAM cache in storage system with host servers having direct access to the total cache for Data.			
4	<b>Min nos. of Disks</b>	a) Min. 150 disks (SAS-2, NL-SAS or equiv. ) scalability with SLC / MLC SDD adaptability b) LUN / partition supported >= 256			



5	<b>Nos. of Disks and RPM</b>	<ul style="list-style-type: none"> <li>a) 400 GB usable after RAID-1 using 200GB SSDs for storage tiering purpose</li> <li>b) 10 TB useable capacity (sets of 5D + 1P disks in RADID-5 array) using maximum 600 GB, and minimum 15K rpm, dual ported SAS-2 disks.</li> <li>c) Any disks required for storage system OS etc should be provided additionally</li> </ul>			
6	<b>Additional Disks &amp; Capacity</b>	10 TB useable capacity (sets of 5D + 1P disks in RAID-5 array) using 2TB, 7.2K rpm, 6 Gbps SAS interface of dual ported NL-SAS/MDL-SAS / equiv. disk.			
<b>Sl. No.</b>	<b>Component / Performance / Utility for each Storage</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>	<b>Remarks</b>
8	<b>Mandatory features to be provided</b>	<ul style="list-style-type: none"> <li>a) No single point of failure architecture.</li> <li>b) Clone copy / Incremental clone copy</li> <li>c) Point-in-time pointer based copy</li> <li>d) Thin provisioning and Storage Management software to be offered for full scalable capacity of the storage</li> </ul>			
9		<ul style="list-style-type: none"> <li>a) Automated data tiering for both read &amp; write data to move sub-LUN data blocks between solid state disks &amp; spinning disks within Production disks based on activity level.</li> </ul>			
		<ul style="list-style-type: none"> <li>b) It should be possible to span a volume and stripe data across all controllers / nodes for the maximum scalability configuration</li> </ul>			
		<ul style="list-style-type: none"> <li>c) All features mentioned in points 7 &amp; 8 should be provided / supported (as specified above) for the proposed configuration and up to minimum scalability asked for</li> </ul>			

**TABLE – D**

**SYSTEMS INTEGRATION WORK  
For the Core ICT Infrastructure at the Calcutta High Court, Kolkata**

Sl. No.	Component / Performance / Utility	Minimum Specification	Complied (Yes/ No)
		<b>Bidder should undertake the following and related activities :</b>	
1.	Policies & Guidelines	Policies & Guideline and implementations there from in the department for (1) Application Service, (2) DB service, (3) Backup service ( as applicable), (4) Storage Service (5) Security Service, (6) OS security, (7) Application Server security, (8) RDBMS security, (9) System Admin, (10) AS Admin, (11) DB Admin, (12) DC-DR synchronization (13) and other related components/ work	
2.	Integration plan & design for service provisioning	(1) DB servers, (2) AS servers, (3) FCoE Switch, (4) Ethernet Switch (as applicable), (5) Storage device component (6) Security devices (7) LAN integration (8) Load Balance & Fail-over Plan for Design, Tests & Acceptance with Test Application, & Test DB (9) Other related components/work	
3.	Installation & Implementation of, DB Server HW, AS Server HW , FCoE Switch , Storage component , Security Device, Ethernet Switch (as applicable), OS with Database	HW, SW & Services with all operational sub-components with OS, Web Service Software, AS, DB, SMS, Backup , Security Device as per design & policy doc on EAL-4+ , LSB-4.x, certified OS and other related components / job.	
4.	LAN supply & works with integration to existing network	All passive components, test & certification for 10 years as per design & policy doc and EIA/TIA-942 & EIA/TIA-568-B.1 & B.2 etc and other related components / job	
5.	Integration test & Certification	(1) DB servers, (2) AS servers, (3) FCoE Switch, (4) FCoE & Ethernet (as applicable) Switch, (6) Storage component (7) Security devices, (8) LAN integration (9) Load Balance & Fail-over Plan for Design, Tests & Acceptance with Test Web Services, Application, & Test DB and other related components /job.	
6.	AS, DB, & all HW & System Software Services installation, implementation with go-live certification	(1) DB Server, (2) Application Server (3) backup service – as applicable, (4) Storage component, (5) client accessibility with all operations on (i) Load Balance & (ii) Fail-over mode with implementation all security feature and other related components/job	

### Terms & Conditions

1. Quotations should be submitted in the office of the Deputy Registrar(Computer), High Court, Calcutta, at the 2<sup>nd</sup> floor of the High Court Main Building on or before 24.02.2017 between 11.30 am and 3.30 pm on any working day and should be properly signed and stamped. The Hon'ble Court will not take any responsibility for delay, loss or non-receipt of quotations sent by post. The sealed tender will be opened on 27.02.2017 at 3.30 pm in presence of the intending bidders or their authorized representatives in the above mentioned place.
2. Quotations should be submitted in sealed envelope with 431 R(Listing) superscribed in it.
3. Rates should be quoted indicating price / unit and should be inclusive of all additional charges.
4. Suppliers are instructed to mention PAN no. in the quotation and copies of trade license and / or PAN etc. is to be submitted as and when to be asked.
5. Conditional quotations will not be considered.

6. Willing suppliers submitting quotations should specify the address of its office and its Phone / Mobile no. for the purpose of quick communication in the event of urgency.
7. The reputed firms who are engaged in the supply of desktop and its accessories and who have executed such commercial orders are eligible to participate in the tender. Documentary evidence in support of the said eligibility criteria must be furnished along with the tender.
8. The rate quoted by the bidders shall remain fixed for entire duration of the contract and will not be changed/enhanced on any account. All duties, taxes and other levies payable under the contract shall be included in the total price.
9. This Hon'ble Court may award the contract to the supplier whose Quotations has been determined to be substantially responsive and who has quoted the lowest evaluated price. **However, the Hon'ble Court is not bound to accept the lowest bid.**
10. The High court reserves the right to accept or reject any quotation and to cancel the bidding process and reject all quotations at any time.
11. Canvassing on the part of a supplier submitting quotation will render its quotation liable to cancellation summarily.
12. Bidders should have Tender Specific Authorisation from OEM.

Registrar (Listing)