

**B.I.T.SINDRI
P.O. SINDRI INSTITUTE
DHANBAD-828123. (JHARKHAND)**

TENDER NOTICE NO. 12/2017-18

Scaled tenders are invited in duplicate from the Intended bidders/ Authorized dealers/reputed manufacturer for setting up new **Data Center in B.I.T. Sindri** on turnkey basis. The cost comparison will be on total cost and not on individual items. The specifications will be made available from the Purchase office of the institute or can be viewed on the Institute website, www.bitsindri.ac.in.

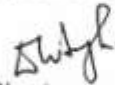
The intending eligible tenderers may obtain the requisite tender documents on any working day from **23.11.2017 to 16.12.2017** between **10.00 AM to 4.30 PM** against payment of non-refundable amount of **Rs.1000/- (Rs. One thousand only)** in the form of Demand draft / Banker's cheque in favour of the **Director, B.I.T.Sindri payable at Sindri** on SBI/BOI/Canara Bank, Sindri. The quotations will have to be submitted by the Bidders in duplicate.

Quotation must be submitted by speed post in two parts- Technical bid and Price bid. Price bid will be valid only when the technical bid is acceptable.

The bid paper/ quotations must be accompanied with required Earnest Money Deposit (EMD) in the form of a Demand draft / Banker's cheque in favour of the **Director, B.I.T.Sindri payable at Sindri** on SBI/BOI/Canara Bank, Sindri.

Conditions for the intending bidders to be eligible to participate in the tender process is available in institute website, www.bitsindri.ac.in

The last day of submission of quotation is **18.12.2017 till 4.00 PM**. The tenderers would be required to provide 5 years comprehensive OEM onsite NBD warranty with NBD resolution. The tenderers must enclose copy of registration certificate of LT/G.S.T. in the field of supply along with respective clearance certificates. The undersigned reserves the right to accept or reject any or all the tenders in whole or part without assigning any reason whatsoever. The conditional tender will be ignored summarily. The purchaser reserves the right to decrease or increase the quantity of the items.


Director
B.I.T., Sindri
27/11/17

B.I.T. SINDRI
P.O. SINDRI INSTITUTE
DHANBAD-828123 (JHARKHAND)

Tender Notice No. 12/2017-18 Due on. 18-12-2017

1. Performa for submitting the Tender:

S.NO | S.NO of the Tender items | Name and Specification | Price per Unit (fig.) | Price per unit in word | Remarks

2. Instruction for filling up the Tender their terms and condition: -

- (I) Properly sealed tenders in duplicate (Single copy will be rejected) should be submitted in the Office of the undersigned either in registered post & Speed post on or before **18-12-2017**. Tender received after due date and time, what so ever be the reason, will be rejected/not accepted.
- (II) On the envelope, Tender Notice no. and due date must be scribed /mentioned.
- (III) Photo copy of updated GST/T clearance and registration certificate in the field of supply must be submitted with the quotation, failing which the quotation will be liable to be rejected or will be rejected.
- (IV) Quotation must be submitted in two parts- Technical bid and Price bid. Price bid will be valid only when the technical bid is acceptable.
- (V) Price must be typed both in figures and words. Typing errors or cutting must be supported by due initial with date. Non-compliance or overwriting will lead to rejection of quotation.
- (VI) The Tender must enclose copy of the Income Tax return of the last three years.
- (VII) **Price must be quoted F.O.R. B.I.T.Sindri inclusive of all charges.**
- (VIII) Price must be valid for a period of 6 (Six) months from the date of opening the Tenders.
- (IX) **PAYMENT:** - The Institute will make full payment after the receipt of the goods in good condition and certificate by the I.O.
- (X) Please mention the completion time of the proposed execution of the installation / work, **which in no case should be 45 days from this date of Purchase Order.**
- (XI) Tender will be opened on 19.12.2017 at 10 A.M.
- (XII) The undersigned reserve the right to accept any tender in full or part or to reject any or all tenders without assigning any reasons what so ever.
- (XIII) **Earnest money of Rs.50,000/-** (Rs Fifty thousand only) is to be deposited in the form of demand draft (Valid for three months) drawn on **SBI / Bank of India/Canara Bank** at Sindri in favors of Director, B.I.T. Sindri along with the tender.
- (XIV) The rate quoted should be applicable to educational Institutions and any cost advantages received in lieu that of should be passed on to the Institute viz. B.I.T. Sindri.
- (XV) Incomplete tender or tender received after due date will be rejected.
- (XVI) Please also suggest the penalty clause, you think, should be applicable to your organization in case of unreasonable delay in completion of the work on your part.
- (XVII) At least 5 years comprehensive OEM onsite NBD warranty with NBD resolution must be provided. Please also quote for AMC for the next three years after the warranty period. Dedicated Manpower will have to be provided in institute for proper running of the installed facilities tenders will have to give an undertaking for it.
- (XVIII) In case of any legal dispute, the jurisdiction will be under the court of DHANBAD/RANCHI.


21-11-17
DIRECTOR
B.I.T.SINDRI
21/11/17

Introduction

BIT SINDRI intends to upgrade its IT Infrastructure by installation of Data Centre and associated Hardware including building of a New Data Centre in the under construction IT Building (expected to be completed by Dec. 2017 itself, Data Centre Build is a separate Tender.).

The requirement of Servers and Storage planned is as follows:

- a. **High Performance Compute Cluster** consisting of 128 Cores, expandable to at least 512Cores or more with one Master node and redundant 100Gbps fabric connect in a single 42U rack.
- b. **Unified SAN Storage** (supporting both NAS & SAN functions) of 50TB of usable storage under RAID 6 expandable to 200TB.

Application			Planned utilisation
Working space per students	5GB	4000 students	20TB
Working space per faculty	20GB	400 faculty	4TB
Administrative Data			5TB
Email for students	1GB	4000 students	4TB
Email for Faculty	10GB	400 faculty	2TB
WEB/ Student Services/ Project Submission			10TB
eBooks			5TB
Total Capacity			50TB
Backup Partition for – Admin Data, Faculty Data + Email and Portal – Project Submissions + misc. config.			24TB
Total Capacity			74TB

- c. **Rack based servers**, totaling 192-Cores serving the following functions:

	Individual Servers	Redundant	Cluster/ Standby
A	IT Management Requirements		
i	Primary & Secondary DNS Server	Yes	Cluster
ii	NMS Server	Yes	Standby
iii	Network Analytics Server	Yes	Standby
iv	Primary & Secondary NAC	Yes	Cluster
v	Primary & Secondary WLAN Controller	Yes	Cluster
B	Administrative Requirements		
vi	SQL DataBase Server - ERP	Yes	Standby
vii	Application Server - ERP	Yes	Standby
viii	Internal WEB Server - Student Services e.g. Student Notifications, Project submissions, In-semester results etc.	Yes	Cluster
ix	Mail Server - Faculty & Students	Yes	Cluster
x	e-Book Server	Yes	Standby
xi	Antivirus Server	Yes	Standby
C	Academic Requirements		
xii	Licensing and information Database Server for scientific & Engg. Software (multiple sets)	Yes	Standby

- d. **Redundant Server Farm/ Top of Rack Switch** connecting all servers at 10Gbps and Core Switch at 40Gbps as per specification.

Scope of Work

The Bidders' scope of work is not limited to Supply and installation of the slated Hardware, but the Bidder is also required to provide and configure Operating System software and application software as listed below:

- a. Virtualization Software for installation of multiple instances of Operating System in Servers.
- b. Microsoft Windows Server (both Enterprise and Standard Edition) with required number of CAL licenses or Core based licenses.
- c. Microsoft SQL Server – Core based license for ERP.
- d. Linux as may be required.
- e. Email Server for 5000 users.
- f. Software for Internal WEB portal.
- g. Configuring adequate number of Servers for running various licensing servers for academic software.
- h. Implement Snap-shot Backup on the Backup Partition in SAN storage.

However, the installation and configuration of NMS, NAC, Network Analytics and WLAN controller will not be in the scope of the Bidder.

The Bidder will not be required to design or maintain WEB portal.

The Bidder is required to provide adequate manpower for management of Data Centre, creation and maintenance of Email accounts, formatting/ reconfiguring Servers as and when required. There should be at least three persons available during main shift and one each during other two shifts.

Provide for five years warranty and services as mentioned above.

High Performance Compute Cluster – System Integration and Testing:

Bidder must setup the HPC System with latest version of CentOS and Cloudera Hadoop along with necessary compilers, job scheduler and other applications & tools as required. He will also have to ensure that the hardware and software components are compatible with each other and provide necessary cables and other accessories necessary for connecting supplied components. Any accessories needed must be clearly mentioned in the Bid.

It will be the responsibility of the Bidder to provide an integrated system including installation of complete Hardware (Compute and Master Nodes, Interconnect Fabric Switch)

Technical Specifications

1. High Performance Compute Cluster

Master Node: Qty. 1Nos.

Characteristic	Specification
Architecture	2-socket, 1U rack mount with rail kit for industry standard racks
CPU	2 x Intel® Xeon® Silver 4110 Processor (11M Cache, 2.10 GHz, 8 Cores/ 16 Threads) or higher
Chipset	Intel® C624 Chipset or higher
Memory	2 x 32GB DDR4 2666 MHz registered ECC memory or higher scalable to 3TB on 24 DIMM slots
Internal Storage	3 x 6TB 512e 12Gbps hot-plug SATA HDD
Storage Controller	12Gbps RAID controller with RAID levels 0, 1, 1E, 10, 5, 50
Network Ports	4x1Gbps, 2x1-port 100Gbps adapter
I/O slots	1) 1 x internal 8x DVD RW drive 2) 2 front USB 3.0 3) 2 rear USB 3.0 4) 1 rear VGA 5) 3 x PCIe 3.0 x16 (mechanical & electrical, without the use of riser cards) 6) 1 x PCIe 3.0 x8 (mechanical & electrical, without the use of riser cards)
Operating System	Open-source linux distribution based on Red Hat kernel
Middleware	Open-source cluster middleware including cluster deployment & management toolset, OpenPBS, SLURM, general HPC open-source software components like scientific libraries, parallel libraries & compilers, Ganglia with gateway functionality
Power Supply	2 x 450W (maximum) 80 PLUS Platinum hot-plug power supplies with redundant hot-plug fans
Management	Server must offer remote management (including remote/ virtual media & video redirection) like 1) Browser-based GUI for control of the system through a graphical interface, RESTful API integration 2) Event management, threshold management, asset management & performance management. 3) Fault management architecture including predictive self-healing. 4) Monitoring and power control consumption, with history for at least 1 year should be available. 5) Drivers & firmware should be available for free even after the warranty is over for the server
Compliance	BIS, CE, CSA, FCC Class A, ASHRAE Class A3, RoHS
Warranty	5 years comprehensive OEM ONSITE NBD warranty with NBD resolution

Compute Node: Qty. 4Nos.

Characteristic	Specification
Architecture	2-socket, 1U rack mount with rail kit for industry standard racks
CPU	2 x Intel® Xeon® Gold 6130 Processor (22M Cache, 2.10 GHz, 16 Cores/ 32 Threads) or higher
Chipset	Intel® C624 Chipset or higher
Memory	4 x 32GB DDR4 2666 MHz registered ECC memory or higher scalable to 3TB on 24 DIMM slots
Internal Storage	1 x 1.2TB 10K rpm 512e 12Gbps hot-plug SAS HDD
Storage Controller	12Gbps RAID controller with RAID levels 0 & 1
Network Ports	4 x 1Gbps, 2x1-port 100Gbps adapter
I/O slots	1) 1 x internal 8x DVD RW drive 2) 2 front USB 3.0 3) 2 rear USB 3.0 4) 1 rear VGA 5) 3 x PCIe 3.0 x16 (mechanical & electrical, without the use of riser cards) 6) 1 x PCIe 3.0 x8 (mechanical & electrical, without the use of riser cards)
Operating System	Open-source linux distribution based on Red Hat kernel
Power Supply	2 x 450W (maximum) 80 PLUS Platinum hot-plug power supplies with redundant hot-plug fans
Management	Server must offer remote management (including remote / virtual media & video redirection) like 1) Browser-based GUI for control of the system through a graphical interface, RESTful API integration 2) Event management, threshold management, asset management & performance management. 3) Fault management architecture including predictive self-healing 4) Monitoring and power control consumption, with history for at least 1 year should be available. 5) Drivers & firmware should be available for free even after the warranty is over for the server
Compliance	BIS, CE, CSA, FCC Class A, ASHRAE Class A3, RoHS
Warranty	5 years comprehensive OEM ONSITE NBD warranty with NBD resolution

Interconnect Fabric Switch: Qty. 2nos.

24x100Gbps Switch of following specification:

Characterstics	Specifications
Form factor	Rack-mountable
No. of Ports	24 x 100Gbps ports
No. of Interconnect Cables	At least 15nos. of 3Mtr. passive interconnect cables must be provided.
Total Bi-directional System Bandwidth	0.6 Terabytes per second
Compliance	BIS, FCC Class A, RoHS
Warranty	5 years comprehensive ONSITE NBD warranty with NBD resolution

Unified Storage Solution

Characteristic	Specification
Storage Controller	The offered storage system must have a dual controller configuration running in an active-active mode with automatic failover capabilities in case of one controller failure. It should support NAS and SAN simultaneously without NAS Gateway. Only the model manufactured by the server OEM can be offered.
Controller Cache Requirements	The offered storage system must have 64 GB cache across the two controllers (32 GB per controller). It should have the ability to protect data on cache. Cache should be mirrored and battery / super capacitors backed. Cache backup should be at least 72 hours or more.
Raid Level Support	The offered storage system must support RAID levels 0, 1, 5, 50, 6, 10.
Host Interface Protocols	The offered storage system must support FC, SAS, iSCSI, NFS, CIFS protocols
Host Interface Ports	The offered storage system must be provided with 4 x 10G SFP+ ports for NFS and 4 x 16 Gbps ports for block access across the controllers.
Drive Technology Support	The offered storage system must support 2.5" & 3.5" SAS, SATA HDD & SSD. The storage system should have support for 12Gbps SAS drives.
Storage Scalability	The offered storage system must be scalable to 250 drives or higher with at least 2 nos. of 12 Gbps backend ports for attaching disk expansion enclosures. No data migration shall be required when upgrading to next model.
Storage Capacity	The offered storage system must be offered with 34 x 900 GB 15K rpm SAS drives & 20 x 2 TB 7.2K rpm NL-SAS drives, 4x8TB 7.2K rpm NL-SAS drives
Storage Features	The offered storage system must support creation logical volumes without physical capacity being available or the system should allow over-provisioning of the capacity. Licenses, if required should be provided for the maximum supported capacity.
	The offered storage system must support creation of instantaneous or Point-In-Time snapshot copies of volumes. Licenses, if required should be provided for the maximum supported capacity.
	The offered storage system must support multiple full copies of production data for recovery, testing, backup, or report generation.
	The offered storage system must support automated quality of service feature for SAN where admin can specify the response of each LUN and storage will automatically adjust the parameters to achieve the response.
	The offered storage system must support host multi-pathing drivers. Licenses, if required should be provided for the maximum supported capacity.
NAS Features	The offered storage system must support integration with domain controller and LDAP.
	The offered storage system must support quota management based on users.
Management	The offered storage system must have an easy to use GUI based and web enabled administration interface for configuration, storage management. Storage management software must be intuitive with a browser-based user interface that configures and manages SAN and NAS environment using single GUI. System management tools like Web GUI, CLI, SNMP, SMI-S, IPV6, Email notification, wake on LAN etc. must be provided. Storage management software must be able to manage access controls, user accounts and permission roles.
Performance Benchmark	Offered storage must have a published SPC benchmark with minimum 300000 SPC-1 IOPS™. The same must be submitted along with the bid.
OS Support	The offered storage system must support industry-leading operating system platforms including: HP-UX, IBM-AIX, Microsoft Windows, LINUX, SUN Solaris, VMware.

Characteristic	Specification
Built in Redundancy	The offered storage system must support fully redundant & hot swappable fans & power supplies. There shall be support for non-disruptive microcode update & non-disruptive parts replacement.
Rack Mountable	Rack-mount with rail kits
Compliance	BIS, CE, CSA, FCC Class A, RoHS
Warranty	5 years comprehensive OEM ONSITE NBD warranty

16Gbps SAN Fabric Switch: Qty. 2nos.

Characteristic	Specification
Form Factor	1U Rack mountable with rail kits
Switch Ports	24x16Gbit/s Fibre Channel ports. The flexible "Ports On Demand" (POD) concept allows a scalability of a maximum of 24 ports. The supported Fibre Channel speeds are 2, 4, 8 and 16Gbit/s.
No. of active ports	12x16Gbps
Power Supply	Redundant Power Supply
Warranty	5 years comprehensive ONSITE NBD warranty

Server Farm

Physical Servers: Qty. 6nos.

Characteristic	Specification
Architecture	2-socket, 1U rack mount with rail kit for industry standard racks
CPU	2 x Intel® Xeon® Gold 6130 Processor (22M Cache, 2.10 GHz, 16 Cores/ 32 Threads) or higher
Chipset	Intel® C624 Chipset or higher
Memory	4 x 32GB DDR4 2666 MHz registered ECC memory or higher scalable to 3TB on 24 DIMM slots
Internal Storage	1 x 150GB SSD
Network Ports	2 x 1GBASE-T, 2 x 10Gbps SFP+, 2 x 16Gbps FC
I/O slots	1) 1 x internal 8x DVD RW drive 2) 2 front USB 3.0 3) 2 rear USB 3.0 4) 1 rear VGA 5) 3 x PCIe 3.0 x16 (mechanical & electrical, without the use of riser cards) 6) 1 x PCIe 3.0 x8 (mechanical & electrical, without the use of riser cards)
Power Supply	2 x 450W (maximum) 80 PLUS Platinum hot-plug power supplies with redundant hot-plug fans
Management	Server must offer remote management (including remote / virtual media & video redirection) like 1) Browser-based GUI for control of the system through a graphical interface, RESTful API integration 2) Event management, threshold management, asset management & performance management. 3) Fault management architecture including predictive self-healing 4) Monitoring and power control consumption, with history for at least 1 year should be available. 5) Drivers & firmware should be available for free even after the warranty is over for the server
Compliance	BIS, CE, CSA, FCC Class A, ASHRAE Class A3, RoHS
Warranty	5 years comprehensive OEM ONSITE NBD warranty with NBD resolution

Server Farm Switch

Layer 3 managed Switch: Qty. 2nos.

Characteristic	Specification
Form Factor	Rack-mountable
Manageability	Switch should be managed layer-3 type
Port Density	48 x SFP+ ports, 4 x QSFP+ ports. Populated with 7 x 5mtr. twin-ax Cable for connecting to Servers within the Rack 3 x 10Gbase SR optics for connecting to Servers in other racks 2 x 40Gbps SR4 optics with MPO connector for connecting to Core Switches. All SFP+, QSFP+ modules should be from same OEM only.
Stacking Support	Should support min 160Gbps stacking Bandwidth for connecting other member switches.
Architecture	Non-Blocking Architecture
Backplane Bandwidth	At least 1.2TBps switching bandwidth
Packet Throughput	950Mpps or more for each member switch
MAC Address support	280K or more
Internal Memory	2GB RAM, 4GB Flash
No. of VLANs	At least 4000 concurrent.
Port Status display	Each port must have a dedicated LED for status display
IPv6 Compliance	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.
OS Version	The Switch must be supplied with latest version of the OS
L2 Loop Protection	IEEE 802.1d Spanning Tree protocol
	802.1s MSTP (Multiple instances of STP)
	802.1w RSTP (Rapid Spanning Tree), Should support Audio-Video Bridge to ensure set of standards that provide the means for highly reliable delivery of low-latency, time-synchronized AV streaming services through Layer 2 Ethernet networks.
Link Aggregation	802.3ad Link Aggregation.
QoS Support	8 nos. 802.1p priority Queues per port.
IP Multicast	IGMP Snooping.
Port Mirroring/ Span Port	Must be Supported
Routing Protocols	The switch must support hardware based forwarding for IPv4 & IPv6. RIP, RIPng from day 1. The following protocols shall be supported with: IPv4: Static Routing, PBR, RIPv2 & OSPFv2. IPv6: Static Routing, PBR, RIPng, OSPFv3 The switch shall have Dual stack mode for running both IPv4 and IPv6 simultaneously. It must support MPLS, SyncE
Router Redundancy	Shall support VRRP for IPv4 and IPv6
Network Login	MAC and 802.1X based Login must be available
Port Security	MAC Address based lockdown and limited Learning feature should be available.
Access Control	L2/ L3/ L4 IP based, Source port, destination port, MAC based and Time based
AAA (authentication, authorisation and accounting)	AAA using RADIUS must be available. Should support Kerberos snooping to integrate with Microsoft AD.

Virtualization	Switch should support Virtualization of the Switch to segment one single switch into minimum 64 or more isolated Virtual Routers/ device context. Each Virtual Router/ Device Context should be isolated from each other and there should not be any traffic leakage between them. Each Virtual Router/ Device Context should run independent instances of routing and switching protocols. Protocol Crash on one Virtual Router/ Device context should not affect the performance/ traffic of the other Virtual Router/ device Context. This feature should be available from day 1 via any of the technologies like MDC / VDC / LSYS / VR.
Management	Following in-band management methods shall be available: - Secure WEB based Management (on https). - SSH based management (SSHv2)
Out-of Band Management	Following out-of-Band management methods shall be available - Serial Console Port - Management Ethernet port
Role based Administration	The Switch shall support multiple administrator accounts. Each Administrator account shall be configurable with the desired level of management privileges.
Remote monitoring	RMON support: RFC 5357 for measuring Round-trip performance between two devices.
Network Management	The switch should support SNMPv2c and v3, XML API and SDN with openflow.
Log Management	Syslog shall be supported with multiple syslog destinations.
Flow export	Shall support Netflow/ IPFIX/ sflow for flow exports.
Time Synchronization	Network Time protocol based Time synchronization should be available.
Configuration backup & Restore	The switch shall have feature of backing up the configuration & restoring a backed-up configuration. Multiple configuration files must be supported.
TFTP/ FTP upload and download	Config/ image upload and download from TFTP/ FTP server shall be available.
Feature availability	All the specified features/ parameters/ certifications must be available on the Technical Bid opening date. Features/ parameters/ certifications proposed to be available in near future/ on roadmap shall not be considered.
Modular OS	The operating system of the switch should mandatorily support individual process, (e.g. SSH, SNMP, Telnet, DHCP etc.) restart to prevent reboot in case of Software process crash by running processes on top of kernel
Redundant Power Supply & Fan	Each Switch should be populated with redundant hot-swappable power supply and Front-back Airflow module. It should also have option to be powered up from DC PSU as well. The switch should have option to be powered up by AC and DC power source simultaneously for the power source resiliency.
Certification	The switch shall conform to IEC-60950/CSA-60950/ EN-60950/ UL-60950 standard for safety requirements of information technology equipment, Electromagnetic interference and other certifications – FCC, RoHS, CISPR, VCCI
Operating Temperature	0°C to 45°C
Humidity	10% to 95% Non-condensing
Warranty	5 years comprehensive OEM ONSITE NBD warranty with NBD resolution

Bill of Materials

Sl.	Particulars	Unit.	Qty.
	High Performance Compute Cluster		
1.	Master Node – As per Specification	Nos.	1
2.	Compute Node – As per Specification	Nos.	4
3.	Interconnect Fabric Switch	Nos.	2
4.	Accessories required for Installation, Installation, Commissioning & Training	Lot	1
	Unified Storage Solution		
1.	Unified Storage – As per specification	Nos.	1
2.	SAN Switch – As per specification	Nos.	2
3.	Accessories required for Installation, Installation, Commissioning & Training	Lot	1
	Server Farm		
1.	Servers – As per Specification	Nos.	6
2.	Software Licenses -		
2(a)	MS WINDOWS 2016 Server – Data Centre Edition	Core	16
2(b)	MS WINDOWS 2016 Server – Standard Edition	Core	64
2(c)	MS SQL 2016 Server – Standard Edition	Core	8
3.	Accessories required for Installation, Installation, Commissioning & Training	Lot	1
	Server Farm Switch & Accessories		
1.	Server Farm Switch – As per specification	Nos.	2
2.	LC-LC (OM3) Duplex OF Cord – 10Mtr.	Nos.	10
3.	Cat 6 Patch Cord – 10Mtr.	Nos.	10
	Support Services		
1.	Manpower Services for manning Data Centre – as per scope of work	Annum	5

Special Conditions for Procurement

Makes/ OEM:

High performance Compute Cluster, SAN Storage, Servers:

Master Node, Compute Node, Unified Storage and Servers in Server Farm should be from single OEM meeting the following criteria:

- Manufacturer should have their direct sales & support in India for the last 10 years.
- Manufacturer should have minimum 4 installations within the top 50 or at least 20 installations within the top 500 published by **Top500.org in their June 2017 list**.
- Manufacturer should have at least 2 entries in Indian Institute Science July 2017 list of top Super Computers of India.

Server Farm Switch:

Server farm Switch and SFP+/QSFP+ modules should be from a single OEM meeting the following criteria:

- The OEM should be present in the country for at least 10years.
- The OEM should have a local Technical Assistance Centre in India through toll-free number listed on their WEBSITE.
- The OEM should have Returned Material Authorisation (RMA) depot in India.
- The OEM must certify that the products offered by them will be supported for a period of at least seven years from the date of supply, i.e. RMA and TAC will be provided for a period of seven years from date of supply, provided necessary payments towards services have been made.

Documents/ WEBSITE listing as evidence of meeting the above criteria must be submitted along with the Bid.

Authorisation:

The Bidder must submit Tender specific authorisation from the both the OEMs along with documentary confirmation of the points mentioned above.

Price Bid Format

Sl.	Particulars	Unit	Qty	Rate	Amount	GST %	GST Amount
Supplies (A)							
	High Performance Compute Cluster						
1.	Master Node – As per Specification	Nos.	1				
2.	Compute Node – As per Specification	Nos.	4				
3.	Interconnect Fabric Switch	Nos.	2				
	Unified Storage Solution						
4.	Unified Storage – As per specification	Nos.	1				
5.	SAN Switch – As per specification	Nos.	2				
	Server Farm						
6.	Servers – As per Specification	Nos.	6				
7.	Software Licenses -						
7(a)	MS WINDOWS 2016 Server – Data Centre Edition	Core	16				
7(b)	MS WINDOWS 2016 Server – Standard Edition	Core	64				
7(c)	MS SQL 2016 Server – Standard Edition	Core	8				
	Server Farm Switch & Accessories						
8.	Server Farm Switch – As per specification	Nos.	2				
9.	LC-LC (OM3) Duplex OF Cord – 10Mtr.	Nos.	10				
10.	Cat 6 Patch Cord – 10Mtr.	Nos.	20				
	Total (A)						
Installation & Commissioning Services (B)							
11.	Accessories required for Installation, Installation, Commissioning & Training – High performance Compute Cluster	Lot	1				
12.	Accessories required for Installation, Installation, Commissioning & Training – Unified Storage Solution	Lot	1				
13.	Accessories required for Installation, Installation, Commissioning & Training – Server Farm	Lot	1				
	Total (B)						

Manpower Services for manning Data Centre – as per scope of work (C)							
1.	1 st year	Year	1				
2.	2 nd year	Year	1				
3.	3 rd year	Year	1				
4.	4 th year	Year	1				
5.	5 th year	Year	1				
	Total (C)						

(Note: Payment for Support services will be made quarterly after completion of the Quarter).

Total including Taxes (A+B): _____

In Words: Rupees

Total including Taxes (A+B+C): _____

In Words: Rupees