ICTS | INTERNATIONAL CENTRE *for* THEORETICAL SCIENCES

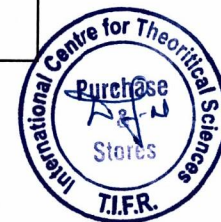TATA INSTITUTE OF FUNDAMENTAL RESEARCH

TENDER FOR SUPPLY AND INSTALLATION OF NETWORK ATTACHED STORAGE
PREBID CLARIFICATIONS - PREBID MEETING HELD ON 01.03.2017

Current Technical Specifications in Tender	Vendor Remarks/Queries	ICTS Response
Mandatory Clause		
Specifications for ICTS Network Attached Storage (NAS).		
The storage nodes should be dense form factor designed for cluster solution and should be in the lowest foot print and the lowest power consumption	To meet the PCIe slots requirement, it is not possible to configure storage node in dense form factor. Please allow us to quote with standard rack based server as per the detailed specs mentioned below.	Vendors are requested to quote as dense as possible.
All the server components should be verified and recommended by the mother board manufacturer	Please modify this clause to; All server components must be from the same OEM and the server should be tested for CentOS. Objective of this cange: Even if the server component is verified by the motherboard manufacturer, It only implies that the individual component works well with the Motherboard. It does not imply that different components will correctly interoperate or will correctly interoperate under CentOS. e.g. A particular RAID controller and a 10G adapter will work with the motherboard correctly but it does not imply that when these two cards are used together in a single server and with CentOS, the entire combination will work.	The requirements remain unchanged
All the software deployment will be in ICTS's scope of work and vendors are requested not to include any software deployment charges in their proposal	Based on this, kindly modify the clause 1	Please refer Addendum-1
Storage server		
Minimum 256GB (16x16) ECC DDR4-2400Mhz or better RAM in balanced configuration for optimizing the memory bandwidth	Requesting to change to 8x32GB. This is a balanced configuration with lower power consumption.	The requirements remain unchanged

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2 x 900 GB SAS Hot Swappable HDD 10000rpm with RAID-1 for OS (Hard disk: Hitachi Ultrastar, Western Digital or equivalent)	Please remove the reference to make of harddisk. As a system OEM, we identify the harddisk based on unique internal part-code rather than make-n-model. Without unique partcode, there is every probability that a vendor can supply different model from same make at the time of replacement of parts is called for.	The requirements remain unchanged
Attached hard drive should be Hot Swappable NL SAS or Enterprise SATA3, 7200 RPM or higher, RAID5 with minimum 2 hot spare or RAID 6 minimum 1 hot spare. (Hard disk: Hitachi Ultrastar, Western Digital or equivalent)	Please remove the reference to make of harddisk. As a system OEM, we identify the harddisk based on unique internal part-code rather than make-n-model. Without unique partcode, there is every probability that a vendor can supply different model from same make at the time of replacement of parts is called for.	The requirements remain unchanged
RAID controller with support for Hardware RAID 0, 1, 5 (should have a built in option to disable the RAID controller to use with OpenZFS)	We can provide option of RAID controller with RAID 0,1,5 or SAS controller for OpenZFS. For RAID controller to be used under OpenZFS, RAID 0 can be used.	Please refer Addendum-1
6 x 10 Gbps Ethernet ports	Shall we consider this to be Copper ports?	Please refer Addendum-1
All required cables	Pls confirm if we could consider Power Cords and Cat6 mounting cords	Yes
Storage of 250TB capacity usable after RAID 5 with minimum 2 hot spare disk or RAID 6 with MINIMUM 1 Hot spare (should have built in option to disable RAID controller to use with open ZFS) .	Are you planning to deploy PFS over storage server in that case you will use ZFS capability of PFS	OpenZFS will be used to build the storage
In case of multiple storage boxes, the min bandwidth between the storage boxes should be 12Gb/s	Does min bandwidth between storage boxes mean backend port connectivity between storage boxes - this point is not clear	Yes, the bandwidth between storage boxes. ex: the bandwidth between JBOD and storage box
Archival		
Network Attached Storage of 300 TB capacity usable after RAID 5 with minimum 2 hot spare disk or RAID 6 with minimum 1 hot spare. All the equired accessories also to be quoted (should have a built in option to disable the RAID controller to use with OpenZFS)	We can provide option of RAID controller with RAID 0,1,5 or SAS controller for OpenZFS. For RAID controller to be used under OpenZFS, RAID 0 can be used.	Please refer Addendum-1

Current Technical Specifications in Tender	Vendor Remarks/Queries	ICTS Response
Attached hard drive should be Hot Swappable NL SAS or Enterprise SATA3, 7200 RPM or higher, RAID5 with minimum 2 hot spare or RAID 6 minimum 1 hot spare. (Hard disk: Hitachi Ultrastar, Western Digital or equivalent)	Please remove the reference to make of harddisk. As a system OEM, we identify the harddisk based on unique internal part-code rather than make-n-model. Without unique partcode, there is every probability that a vendor can supply different model from same make at the time of replacement of parts is called for.	The requirements remain unchanged
2 x 300 GB SAS Hot Swappable HDD 10000rpm with RAID-1 for OS (Hard disk: Hitachi Ultrastar, Western Digital or equivalent)	Please remove the reference to make of harddisk. As a system OEM, we identify the harddisk based on unique internal part-code rather than make-n-model. Without unique partcode, there is every probability that a vendor can supply different model from same make at the time of replacement of parts is called for.	The requirements remain unchanged
RAID controller with support for Hardware RAID 0, 1, 10, 5 (should have a built in option to disable the RAID controller to use with OpenZFS)	We can provide option of RAID controller with RAID 0,1,5 or SAS controller for OpenZFS. For RAID controller to be used under OpenZFS, RAID 0 can be used.	Please refer Addendum-1
2 x 10 Gbps Ethernet ports	Shall we consider this to be Copper ports?	Please refer Addendum-1
Preferred OS: Scientific Linux (latest version), CentOS (latest version) 64bit OS and Debian (latest version)	Linux flavors supported : CentOS,RHEL,SUSE	The requirements remain unchanged