



The minutes of the prebid meeting, for the purchase of HPC system, held in the Discussion Room, INST on 22nd January, 2018 at 11:00 hrs

Members present: Prof. Deepa Ghosh (Chairman), Dr. Abir De Sarkar (I/O), Dr. Ehesan Ali, Dr. Chandan Bera, Dr. Suvankar Chakraverty, Dr. Sonalika Vaidya, Mr. Rajeev Kumar Sharma (Store & Purchase, INST), Ms. Vibha Mehta (Finance Officer, INST)

Bidders present: Mr. Harpreet Singh Gill (Spectra Computech Pvt. Ltd., Chandigarh), Mr. Hari Madhav Singh (Paramatrix Info Solution Pvt Ltd, Chandigarh), Mr. Kapil Kumar (Marg InfoTech Pvt. Ltd., Delhi), Mr. Lalit Saraswat & Mr. Pankaj Sharma (Fujitsu India Private Limited, Gurgaon), Mr. Hirdey Vikram (Netweb India)

Requested changes to be employed in the technical specifications by the Committee & I/O

Master node

1. 128 GB RAM has been changed to 192 GB RAM, which needs to be distributed over at least 12 DIMM slots in an optimized/balanced configuration
2. The suggestion to increase HDD(s)-SSD capacity from 400 GB to 2 TB has been considered. However, 400GB NVMe drives are already available in the market. HDD(s)-SSD capacity has been changed from 400 GB to 400 GB or more.

Compute node

3. 96 GB RAM needs to be distributed over at least 12 DIMM slots in an optimized/balanced configuration.
4. In response to the suggestion to increase the expansion slot(s) in the Compute node from 1 to 2 has been considered. The expansion slot(s) has been changed from 1 to 1 or more.
5. The suggestion to reduce the minimum number of GPU cards in the Accelerator node from 4 to 2 has not been accepted, as several software/applications run by Scientists at INST are GPU-enabled and therefore, it is ok to adhere to the current specs for 4 GPU cards.
6. Accelerator node RAM has been changed to 192 GB, which needs to be distributed over at least 12 DIMM slots in an optimized/balanced configuration.

Storage

7. Clarification was sought on the “no single point of failure in the Lustre based PFS”. In this context, the following points need to be ensured: (i) Disks must have redundant path to i/o server so that loss of one path doesn't lead to point of failure, (ii) i/o server must be configured in failover to enable storage to recover from failure of one IO server & (iii) servers and storage must have redundant power supplies

8. RAID type (i.e., h/w or s/w) needs to be specified. No restriction is imposed on the RAID type: vendor is free to use s/w or h/w; however, the vendor must demonstrate failover capability and the required performance, as mentioned in the tender.
9. As regards Metadata data target (MDT) storage size, 2% of object storage target (OST) size is mentioned in the tender. Therefore, 2TB or 4TB MDT size needs to be specified. As 2% was discussed in the meeting, the requirement for 4 TB MDT size has now been unambiguously stated.
10. From the perspective of optimal performance, the need to reduce the maximum 4 TB size for MDT storage size was discussed. It is not found to be fully justifiable. In order to minimize risks in case of a large size data retrieval time, 8+2 or 9+2 disk configuration schema may be considered as the upper limit.

Communication Network

11. Preference for Single Switch or Multi Switch Network Design was requested. As discussed, as long as requirements are met, vendors are free to choose the design
12. It is important to mention the 100% non-blocking architecture/configuration
13. RDMA term has been removed
14. 44 ports have been changed to 48 ports (or higher)

Cluster Management s/w

15. Cluster Management s/w needs to be h/w agnostic.
16. Diskless Cluster Deployment has to be removed.

Interconnect

17. No. of ports has been reduced to 48 as per the requirement.

Prequalification criteria

18. Listing in Top500.Org has been removed, as the same PQ criteria occurs in terms of experience in HPC installations.
19. Bidder/OEM experience will be considered.
20. Experience in installations of storage PFS of at least 30 TB size is a must.
21. The physical presence of OEM in India is not mandatory, as there are OEMs having large HPC installation base in India. However, they do not have a direct office in India and operate successfully through an authorized partner via MoU or some kind of authorization signed between them. Therefore, this point has been given a careful consideration.