

Minutes of Pre- Bid Meeting for ‘ Establishment of Data Centers at 2 Locations including Installations, System Integration , Commissioning , Maintenance , Training & Initial Operational Support ’

The pre-bid meeting for ‘Establishment of Data Center at 2 locations” held on the 21st February, 2018 at 1100 hrs. at the SICOM office, Conference Hall, First Floor, Deendayal Antyodaya Bhavan, CGO Complex, Lodhi Road, New Delhi.

Name of the Package/ Ref no

IT goods, Installation, System Integration, Commissioning, Maintenance, Training & Initial Operational Support of Data Centers (2 locations)/NPMU/G/36

Name of officials who participated

From Purchaser:

- i. Shri M. Dharma Raj, Sr. Scientific Advisor, NCSCM, Chennai
- ii. Shri Shailesh Kr. Sinha, Director- International Boundary, SoI, New Delhi
- iii. Shri Ramesh Chandra, IT Consultant, SICOM
- iv. Shri Mahesh Rana, Procurement Consultant, SICOM
- v. Shri Somnath Sen, Procurement Consultant, SICOM
- vi. Ms. Chetna Jain, Documentation Consultant, SICOM

From Prospective Bidders

- i. Shri Sandeep Durani, Business Manager, HPE
- ii. Shri Deepak Mishra, EA, HPE
- iii. Shri Dravin Singh, Technical Manager, SISLInfotech
- iv. Shri Sanjay Nagar, Director, Libra Solution Pvt. Ltd.
- v. Shri Subhash, Pre Sales Consultant, Libra Solution Pvt Ltd.

2. Opening Remarks

SICOM welcomed the prospective bidders on behalf of the Project and explained the background and context of the bid. Thereafter, the essential points pertaining to the present bid was explained in detail and then the meeting was opened for clarifications.

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Table No. 1

Sl. No.	Gist of Query from Bidders	Clarification by SICOM
1.	Architecture Unified Storage cluster based upon dedicated OS, purpose build for high performance file serving should be able to integrate with Anti Virus system for protection from Virus and root kits.	Incorporated vide Amendment No. 1 dated 14 Mar 2018
2.	Scalability 550 TB of usable capacity should be from the cluster instead of 500 TB	Incorporated vide Amendment No. 1 dated 14 Mar 2018
3.	Performance 1.5GB/sec for 70:30 Read: Write Ratio	Incorporated vide Amendment No. 1 dated 14 Mar 2018
4.	Disks 1. All disks should be Hot Swappable 2. 7.2K NL-SAS/SATA 4TB (SFF) drives using RAID-6 (8D+P+Q). For 120 TB usable capacity. 3. 10K SAS 1.2TB (SFF) Drive using RAID-6 (8D+P+Q) for 30 TB usable capacity. 4. Provision of supporting intermixing SAS & SATA / NL-SAS drives on the same SAS drives. 5. One hot spare for every 20 drives OR 10% additional usable capacity as hot spare area for products not supporting hot spare drives.	Incorporated vide Amendment No. 1 dated 14 Mar 2018
5.	Controllers c. Controller should support minimum of 192 disk drives	Incorporated vide Amendment No. 1 dated 14 Mar 2018
6.	Ports "Minimum Two 10 Gbps redundant ports per controller along with sufficient number of additional 10Gbps and 1 Gbps ports to achieve the desired throughput for file serving across the cluster. Minimum 4 nos. of 16 Gbps FC ports (including trans-receivers) across controller. Minimum 1 nos. of 12 Gbps SAS 3.0 ports per controller for drive connectivity & with SAS Expander".	Incorporated vide Amendment No. 1 dated 14 Mar 2018
7.	Cache Minimum 192GB cache must be configured across the cluster. Not more than 50% of Cache should be utilized by the OS. The storage must have complete cache- protection mechanism with battery back-up up-to 72 hours or de-staging cache data to disk.	Incorporated vide Amendment No. 1 dated 14 Mar 2018
8.	Protocols 1. License for SMB (2.0, 2.1, 3.0, 3.02), NFS (v2, v3, v4.1), WebDAV, HTTP/HTTPS, FTP/FTPS should be provided for entire capacity and must be perpetual- 2. Ability to share same data amongst CIFS & NFS clients. 3. Windows AD, LDAP and NIS support for authenticated data access. 4. All necessary licenses and hardware must be proposed.	Incorporated vide Amendment No. 1 dated 14 Mar 2018
9.	Features 1. Single name space/file system of 550 TB. 2. File system rollback from snapshots for quick restart and recovery. 3. Auto thin provisioning. 4. Auto-tiering between SSD, SAS and NLSAS / SATA 5. Minimum 128 Snapshots per file system. 6. Asynchronous replication to other clusters. Required Software licenses must be provided 7. Licenses for the above features should be supplied for the total capacity supported by the system. 8. De-duplication and compression support Windows (64 bit and 32 bit) , UNIX , Linux , HP Unix and AIX	Incorporated vide Amendment No. 1 dated 14 Mar 2018
10.	OS Support Windows (64 bit and 32 bit) , UNIX , Linux , HP Unix and AIX	Incorporated vide Amendment No. 1 dated 14 Mar 2018
11.	LAN L-3 Switch specification The switch should be Chassis based and flexible enough for deploying 1G Ethernet 1 G fiber and 10 Gigabit Fiber.	Incorporated vide Amendment No. 1 dated 14 Mar 2018
12.	The OEM of the switches shall be in the Leaders / Challengers Quadrant for Wired and Wireless LAN Infrastructure of Gartner report from 2016 onwards	No Change

Table No. 2

Amendment No. 1 dated 14 Mar 2018

Sl. No.	Section/ Clause / Page / Para	Feature	Existing Clause	Amended Clause	Reference to Sl. No. of Response (Table 1) Wherever applicable
1.	1 Page 151	Architecture	Unified Storage cluster based upon dedicated OS, purpose build for high performance file serving protected from Virus and root kits, should not run binaries.	Unified Storage cluster based upon dedicated OS, purpose build for high performance file serving should be able to integrate with Anti Virus system for protection from virus and root kits	Sl. No. 1
2.	3 Page 151	Scalability	500 TB of usable capacity from the cluster	550 TB of usable capacity from the cluster	Sl. No. 2
3.	4 Page 151	Performance	1. 1.2GB/s sized for 80:20 Read: Write workload.	1. 1.5 GB/sec for 70:30 Read: Write ratio	Sl. No. 3
4	5 Page 151	Disks	1. All disks should be Hot Swappable 2. 7.2K NL-SAS/SATA 3TB (SFF) drives using RAID-6 (8D+P+Q). For 120 TB usable capacity. 3. 10K SAS 1TB (SFF) Drive using RAID-6 (8D+P+Q) for 30 TB usable capacity. 4. Provision of supporting intermixing SAS & SATA / NL-SAS drives on the same SAS drives. 5. One hot spare for every 20 drives OR 10% additional usable capacity as hot spare area for products not supporting hot spare drives.	1. All disk should be Hot Swappable. 2. 7.2K NL-SAS/SATA 2/4/6/8 TB (SFF) drive drives using RAID-6 (8D+P+Q) for 120 TB usable capacity. 3. 10K SAS 1.2/1.8 TB (SFF) drive using RAID-6 (8D+P+Q) for 30 TB usable capacity 4. Provision of supporting intermixing SAS & SATA/NL-SAS drives on the same SAS drives . 5. One hot spare for every 20 drives OR 10% additional usable capacity as hot spare area for products not supporting hot spare drives.	Sl. No. 4
5.	6 Page 152	Controllers	Controller should support minimum of 240 disk drives	Number of Drive depends on the RAID Controller Card. Based on the controller card, disk option may be selected .	Sl. No. 5
6.	7 Page 152	Ports	Minimum Two 10 Gbps redundant ports per controller along with sufficient number of additional 10Gbps and 1 Gbps ports to achieve the desired throughput for file serving across the cluster. Minimum 4 nos. of 8/16 Gbps FC ports (including trans-receivers) per controller. Minimum 2 nos. of 12 Gbps SAS 3.0 ports per controller for drive connectivity & with SAS Expander.	Minimum Two 10 Gbps redundant ports per controller along with sufficient number of additional 10Gbps and 1 Gbps ports to achieve the desired throughput for file serving across the cluster. Minimum 4nos. of 16 Gbps FC ports (including trans-receivers) across controller. Minimum 1 nos of 12 Gbps SAS 3.0 ports per controller for drive connectivity & with SAS Expander.	Sl. No. 6
7.	8 Page 152	Cache	Minimum 192GB cache must be configured across the cluster. The array configuration utility should allow cache to be portioned for effective utilization. Cache information replication across the controller should be in - built. Not more than 50% cache should be utilized by the OS. The storage must have complete cache-protection mechanism with battery back-up up-to 72 hours for de-staging cache data to disk.	Minimum 192GB cache must be configured across the cluster. Not more than 50% of Cache should be utilized by the OS. The storage must have complete cache-protection mechanism with battery back-up up-to 72 hours for de-staging cache data to disk.	Sl. No. 7
8.	10 Page 152	Protocols	1. Licence for CIFS, NFS, FTP and HTTP should be provide for entire capacity and must be perpetual . 2. Ability to share same data amounts CIFS and NFS clients. 3. Windows AD, LDAP and NIS	1. License for SMB (2.0, 2.1, 3.0, 3.02), NFS (v2, v3, v4.1), Web DAV, HTTP/HTTPS, FTP/FTPS should be provided for entire capacity and must be perpetual- 2. Ability to share same data amongst	Sl. No. 8

			support for authenticated data access. 4. NDMP support. All necessary license and hardware must be proposed.	CIFS & NFS clients. 3. Windows AD, LDAP and NIS support for authenticated data access. 4. All necessary licenses and hardware must be proposed.	
9	11 Page 152	Features	1. Single name space/file system of 500TB. 2. File system rollback from snapshots for quick restart and recovery. 3. Auto thin provisioning. 4. Auto-tiering 5. Minimum 128 Snapshots per file system. 6. Asynchronous and synchronous replication to other clusters. Required Software licenses must be provided 7. Licenses for the above features should be supplied for the above capacity. 8. De-duplication and compression support	1. Single name space/file system of 550TB. 2. File system rollback from snapshots for quick restart and recovery. 3. Auto thin provisioning. 4. Auto-tiering between SSD, SAS and NLSAS / SATA 5. Minimum 128 Snapshots per file system. 6. Asynchronous replication to other clusters. Required Software licenses must be provided. Based on the future requirement (In case of DR setup), Sync Replication is required and for this , license is also required 7. Licenses for the above features should be supplied for the total capacity supported by the system. 8. De-duplication and compression support	Sl. No. 9
10.	12 Page 153	OS Support	Windows, UNIX and Linux	Windows (64 bit and 32 bit) , UNIX , Linux , HP Unix and AIX	Sl. No. 10
11.	13 Page 153	Management	1. GUI & CLI based remote management. 2. Management host must be provided with the solution. 3. Periodical online firmware upgrades. 4. Any maintenance activity on the storage, controller OS up-gradation, file system expansion should be performed online without downtime. 5. Any maintenance activity like Code / firmware upgrade, disk upgrade / replacement should be non-disruptive. 6. Redundant management port.	1. GUI & CLI based remote management. 2. Management host must be provided with the solution. 3. Periodical online firmware upgrades. 4. Any maintenance activity on the storage, controller OS up-gradation, file system expansion should be performed online without downtime. Controller OS up-gradation takes reboot one time. But in the case of dual controller, our data transmission will not be affected 5. Any maintenance activity like Code / firmware upgrade, disk upgrade / replacement should be non-disruptive. 6. Redundant management port.	-
12.	B: LAN -L3 Switch Specification / Page 160	B; LAN- L3 Switch specification / Sl. No. 1 Line No. 2	The switch should be modular and flexible enough for deploying 1G Ethernet & 10G Ethernet , 1 G fiber and 10 Gigabit Fiber, all in a small 1 R U form factor (Rack mount switch maximum height 2 RU)	The switch should be Chasis based and flexible enough for deploying 1G Ethernet 1 G fiber and 10 Gigabit Fiber.	Sl. No. 11
