UCO BANK

Department of Information Technology

RFP for Supply, Installation and Maintenance of SAN Storage with Backup Solution

RFP Ref No: UCO/DIT/472/2015-16 Dated 19/06/2015

Pre-Bid Replies / Clarifications to Queries raised by the Bidder(s) and Amendments

Sl No	Clause No / Page No	Terms & Conditions as per RFP	Queries by the Bidder (s)	Bank's Response
1	Pg. 26 Point Number – 5 Hard Disk Drives	The storage array shall be offered with 4 TB using 300/600/900 GB or higher, 15K, dual ported SAS hot swappable hard disk drives	We do not support 15K RPM SAS drives , as the industry is moving towards 10K RPM SAS drives due to better stability and minimal performance difference between 10K RPM and 15K RPM drives. Therefore, vendors should be allowed to quote with 6 Gbps 10K RPM dual ported drives for performance and availability.	The Subject clause stands modified as "The Bank's requirement is that out of total current requirement of 4 TB space, 2 TB space is required on RAID 1+0 support using 300 GB with 15 K RPM dual ported SAS hot swappable hard disk drives. Remaining 2 TB space using RAID 5 using 600 GB with 15 K RPM dual ported SAS hot swappable hard disk drives. In future upgrades, Bank would decide about the allocation of HDD to meet the requirements".
2	Pg 27 Point Number 14 – SAN switch	Minimum of 8 x 8 - Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps	The specification of storage has 8/16Gbps ports. Whereas the switch has been asked for 4/8Gbps. Vendors should be asked to propose with 8/16Gbps switch ports. Please clarify. The total number of servers to be connected is 24 servers. Even with 2 ports per server and 2 ports per storage controller, the required number of ports on the switch is 26 (per switch). However, the requirement is only 16. The vendors should quote for at least 2 numbers of	It is clarified that the SAN Storage is required to be supplied with capacity of 8/16Gbps ports. Accordingly, subject clause stands modified as : "Minimum of 8 x 8 - Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 16 Gbps with auto sensing support

			48 ports switches with 32 ports licensed on each switch, to meet the server connectivity requirements. Please clarify.	for 8 Gbps".
3	----------		What is the actual data size (compresses / uncompressed).	Requirement stands as per RFP
4	Bays	Offered storage should support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers.	Offered storage should support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 8 host ports for connectivity to servers. Eight nos. of ports are sufficient to connect to SAN Switches to support this environment.	The subject clause stands modified as "Offered storage should **include** support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers"
5	Data Protection	Storage should have Thin provisioning, snapshots, clone, Auto-Tiering & Replication.	Storage should have Thin provisioning, snapshots, clone, Auto-Tiering.	Requirement stands as per RFP
6	Gigabit Fiber Channel Switches with necessary cables (2 numbers)	Minimum of 8 x 8-Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps. must have in-built diagnostics, power on self-test, command level diagnostics, online and offline diagnostics capabilities, support online-firmware upgrades, must have redundant Control Units, Power supply, Fan Assembly and all the components shall be Hot Swappable, etc. Required no of FC Cable should be supplied.	Minimum of 8 x 8-Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps. must have in-built diagnostics, power on self-test, command level diagnostics, online and offline diagnostics capabilities support online- firmware upgrades etc. Required no of FC Cable should be supplied. Please remove redundant components in SAN switches as 2 switches have been asked in redundancy. SAN Switch with mentioned redundant components will be costlier.	Requirement stands as per RFP
8	----------	New Clause	The Storage OEM/Bidder must have supplied & integrated the proposed SAN storage with HP-UX 11iV3, HP Service Guard, HP Virtualization and Oracle Database in a 24x7 critical	It is clarified that bidder shall be responsible for integration of SAN and Backup solution with the bank's existing servers as per the

			environment. This is important that Bidder/ OEM to have necessary skill set to implement the solution.	technical specification given in the RFP. The proposed SAN storage is required to be integrated with HP Servers, HP-UX 11iV3, HP Service Guard, HP Virtualization and Oracle Database environment.
9	----------	New Clause	Bidder/OEM must have implemented the proposed backup software with HP-UXiV3 and clustered Oracle Database. This is important that Bidder/ OEM to have necessary skill set to implement the solution.	
10	SAN Storage - Cache Memory	1. Offered Storage Array shall be given with Minimum of 8GB usable cache in a single unit. 2. Shall have dynamic management of Cache block size. 3. Cache shall not have any overhead for the operating system.	Request to increase the cache from 8GB to Minimum 16 or 32GB. 16 Host ports will have minimum 8 nos. of servers getting connected to the storage in redundancy. 8 Servers will require higher cache for IO requirement; 8GB cache will lead to IO choking.	The Subject clause modified as "1. Offered Storage Array shall be given with Minimum of **16 GB usable cache in a single unit.** 2. Shall have dynamic management of Cache block size. 3. Cache shall not have any overhead for the operating system"
11	SAN Storage - Bays	Offered storage should support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers.		"Offered storage should **include** support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers"
12	SAN Storage - Hard disk drives	The storage array shall be offered with 4 TB using 300/600/900 GB or higher, 15K, dual ported SAS hot swappable hard disk drives, The Storage shall be scalable to minimum 96 number of drives using 300/600/900 GB or higher capacity disk drives.	Kindly mention the RAID type required for 4TB Space.	The Bank's requirement is that out of total current requirement of 4 TB space, 2 TB space is required on RAID 1+0 support using 300 GB with 15 RPM dual ported SAS hot swappable hard disk drives. Remaining 2 TB space using RAID 5 using 600 GB with 15 K RPM dual

				ported SAS hot swappable hard disk drives. In future upgrades, Bank would decide about the allocation of HDD to meet the requirements. Offered Storage Subsystem shall support Raid 1+0, 5 and Raid 6.
13	Backup Software - Clause No. 21	The backup software must allow network-efficient backup of remote users' data on WAN.	WAN based backups depend on a lot of factors like Bandwidth, latency etc and hence it's always suggested to perform backups over WAN with source based de-duplication to disk storage. We recommend to modify the given spec as below: The backup software must allow network-efficient backup of remote users' data on WAN with source based de-duplication to disk based storage/appliance.	Requirement stands as per RFP
14	Backup Software - Clause No. 38	The software should have inbuilt capability of De-duplication, no additional software's / appliances should be needed.	Different backup software approaches the de-duplication technology differently and de-duplication requires an additional software license in all solutions. It's also recommended that the backup software should be able to use de-duplication capability of a backup appliance to provide source & target based de-duplication. Hence we recommend to modify the specification as below, such that it provides flexibility to chose the de-duplication methodology: The proposed software should have capability to provide source/target based de-duplication by using a commodity storage / purpose built backup appliances.	Requirement stands as per RFP

15	Backup Software - Clause No. 8	Should have built-in Alert support. This feature should support e-mail, SMS broadcast messages etc.	Should have built-in Alert support. Software should support generation of SNMP traps for onward integration to e-mail, SMS broadcast messaging etc. Suggested change in language for clarification (otherwise it may be misunderstood that the backup software should have e-mail / SMS broadcast features etc.)	The Subject clause stands modified as under: "Should have built-in Alert support. Software should support generation of SNMP traps for onward integration to e-mail, SMS broadcast messaging etc".
16	Backup Software - Clause No. 10	Software should have true Disk Staging, wherein the backup continues to take place even when the disk space allocated is full. The backup software must be intelligent enough to flush out the data from the disk and migrate the same to the tape automatically.	Software should have true Disk Staging, wherein the backup continues to take place even when the disk space allocated is full. Preset policies for automatic data flushing (without administrator's awareness) is potent for disaster as data retention needs can change over time & flushing out data from disk to tape automatically without user awareness can lead to data loss.	Software should have true Disk Staging, wherein the backup continues to take place even when the disk space allocated is full. The backup software must be intelligent enough to flush out the data from the disk and migrate the same to the tape with the authorisation / intervention of the administrator.
17	Backup Software - Clause No. 23	The Backup software must include open API to enable integration with home grown applications.	The Backup software must include open API / CLI based access to enable integration with home grown applications. Different OEMs use different approaches. Suggested change will allow open participation.	Requirement stands as per RFP
18	Backup Software - Clause No. 31	Should have the ability to configure retries for backups of a client in case the client is not available on the network due to reboot or network failures. The backup software must have the ability to continue from where the backup/restore failed, and not start the activity from scratch.	Request deletion of this point. Typically failure of backup & restore jobs can happen if the required activity was not happening correctly (e.g. due to bad tape media). Automatically continuing backup / restore from the point of failure will not alert the administrator to check if the final backup / restore was correctly done and data quality issues will occur.	Requirement stands as per RFP
19	Backup Software - Clause No. 37	The software must have the feature to backup on to the Disk pool and later migrate to the	The software must have the feature to backup on to the Disk pool and later migrate to the Tape. The Disk pool space should not be	The subject clause stands modified as

		Tape without intervention. The Disk pool space should not be limited to a physical Disk drive capacity.	limited to a physical Disk drive capacity. Request deletion of the words without "intervention" since a recommended practice for backup is that when data is being migrated across devices, the administrator should be aware of data quality before & after the migration.	"The software must have the feature to backup on to the Disk pool and later migrate to the Tape with the authorisation / intervention of the administrator. The Disk pool space should not be limited to a physical Disk drive capacity"
20	SAN Storage - Bays	Offered storage should support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers.	Offered storage should support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 8 host ports for connectivity to servers. Eight number of ports are sufficient to connect to SAN Switches to support this environment	"Offered storage should **include** support SAS hot swappable hard disk bays upgradable to 96 HDDs supporting 300/600/900 GB or higher hot swappable hard disk drives at 15K or higher. Offered storage shall have minimum of 16 host ports for connectivity to servers"
21	SAN Storage - Hard Disc Drive	The storage array shall be offered with 4 TB using 300/600/900 GB or higher,15K, dual ported SAS hot swappable hard disk drives,	Request to change to 10K/15K RPM HDD. As the industry is moving towards 10K RPM SAS drives due to better stability and minimal performance difference between 10K RPM and 15K RPM drives. Therefore, vendors should be allowed to quote with 6 Gbps 10K RPM dual ported drives for performance and availability.	The Bank's requirement is that out of total current requirement of 4 TB space, 2 TB space is required on RAID 1+0 support using 300 GB with 15K RPM dual ported SAS hot swappable hard disk drives. Remaining 2 TB space using RAID 5 using 600 GB with 15K RPM dual ported SAS hot swappable hard disk drives. In future upgrades, Bank would decide about the allocation of HDD to meet the requirements. Offered Storage Subsystem shall also support Raid 1+0, 5 and Raid 6.
22	SAN Storage - Data Protection	Storage should have Thin provisioning, snapshots, clone, Auto-Tiering & Replication.	Storage should have Thin provisioning, snapshots, clone, Auto-Tiering.	Requirement stands as per RFP

23	Gigabit Fiber Channel Switches with necessary cables (2 numbers)	Minimum of 8 x 8-Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps. must have in-built diagnostics, power on self-test, command level diagnostics, online and offline diagnostics capabilities, support online-firmware upgrades, must have redundant Control Units, Power supply, Fan Assembly and all the components shall be Hot Swappable, etc. Required no of FC Cable should be supplied.	Minimum of 8 x 8-Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps. must have in-built diagnostics, power on self-test, command level diagnostics, online and offline diagnostics capabilities support online- firmware upgrades, etc. Required no of FC Cable should be supplied. Please remove redundant components in SAN switches as 2 switches have been asked in redundancy. SAN Switch with mentioned redundant components will be costlier.	Requirement stands as per RFP
24	SAN Storage - SAN Switch	"Minimum of 8 x 8-Gbit ports per trunk, Minimum 16 ports scalable up to 24 ports. Each port should be 8 Gbps with auto sensing support for 4 Gbps."	The specification of storage has 8/16Gbps ports. Whereas the switch has been asked for 4/8Gbps. Vendors should be asked to propose with 8/16Gbps switch ports. Please clarify. The total number of servers to be connected is 24 servers. Even with 2 ports per server and 2 ports per storage controller, the required number of ports on the switch is 26 (per switch). However, the requirement is only 16. The vendors should quote for at least 2 numbers of 48 ports switches with 32 ports licensed on each switch, to meet the server connectivity requirements. Please clarify	Requirement stands as per RFP
25	Backup Solution	New Clause to be added	The backup target device shall be configured with minimum 8 * Media Slots	Query not admissible.

27	Backup Solution	Should be available on various OS platforms which are supported by OEM's such as different variant of Windows, Linux and UNIX platforms and be capable of supporting backup / restores from various platforms including Windows, Unix and Linux. Both Server and Client software should be capable of running on all these platforms.	Kindly revise this to "backup software to support all platforms" instead of "Both Server and Client software should be capable of running on all these platforms ". Backup software has the lowest cost of ownership on Windows platform. All the mentioned platforms are supported as clients & Windows only supported on Server Software can serve the purpose & minimise cost.	Requirement stands as per RFP
28	Backup Solution	Ability to create DR plans in a scheduled and automated manner.	Kindly revise this to "backup server to support High availability, so that failure of one server does not affect recovery operations in case of a disaster". In case one server goes down the "warm" backup server from the other site takes over. This eliminated the need for Disaster recovery plan generation from the backup server and each of the protected hosts can be built from scratch using the CV software.	Requirement stands as per RFP
29	Backup Solution	Backup software to be able to create multiple copies simultaneously	Requesting Revision to "Backup software should be able to create multiple copies of the backup data for offsite vaulting". Requesting change in this clause, as backup software would have an extra overhead while trying to create the backup copies simultaneously with production backup jobs. This slows down the process and leads to elongated backup window for production servers.	Requirement stands as per RFP
30	Backup Solution	Backup server software must have capability to run on Unix/Linux Platform	Requesting change to "Backup software to support Unix / Linux Platform"	Requirement stands as per RFP
31	RFP page no	Bidder should be Original	Request to change:	Requirement stands as per RFP

	7, Part-I, 4. ELIGIBILITY CRITERIA FOR THE BIDDER , Sl No 4:	Equipment Manufacturer (OEM) of SAN Storage and Backup solution OR their authorized representative / distributor in India. The bidder should have executed minimum two orders from PSU Banks / Co-operative Banks /Renowned Corporate for supply, implementation and maintenance of Storage and Backup solution.	Bidder should be Original Equipment Manufacturer (OEM) of SAN Storage and Backup solution OR their authorized representative / distributor in India. The bidder should have executed minimum two orders from PSU Banks / Co-operative Banks /Renowned Corporate or Government for supply, implementation and maintenance of Storage and Backup solution. Organisation like NISCAIR, State Data Centres comes under Government.	

Note:

1. The existing core switches have CISCO SFP 10 G LRM module for network connectivity. Bidder to supply necessary cables / accessories for connecting SFP – 10 G LRM Module for Network connectivity. The proposed / supplied SAN storage to be interfaced / connected with the core switch by the selected vendor.

2. The selected vendor will be required to sign an Integrity Pact (IP) with the Bank as per recent CVC guidelines, for which format would be shared on a later date with the selected vendor. All other terms and conditions given in the RFP will remain unchanged.

Place: Kolkata
Date: 02.07.2015

---------- END OF THE DOCUMENT ----------