



## Corrigendum -1 Request for Proposal for SUPPLY, INSTALLATION, CONFIGURATION AND INTEGRATION OF SAN STORAGE AT DC, BENGALURU

RFP no. AIC/InfoTech Dept./2021/SAN Storage

(This Amendment &amp; Clarifications provided herewith as an integral part of the RFP document issued)

SL.	Page No	Clause No/Name	Clause	Bidder Query	AIC RESPONSE
1	Page 11	3. Schedule of Events	Bid Validity Period (in Days) 210 days from the date of RFP submission	Kindly request you to consider the bid validity as 90 Days as due to frequent dollar fluctuation	As per RFP
2	Page 14	6. Scope of Work	The Bidder is required to configure and integrate the proposed storage with Oracle FS 1 (since the proposed storage is procured to enhance the capacity of Email Archival which is currently using Oracle FS1)	what is the current workload , what is the application which is to be Integrated, request you to provide us with existing LUN details. Server Details with OS required	Current application is Commvault Backup, Archival solution; Storage from Model : Oracle FS1-2 flash storage system, Commvault Server OS is Windows 8 enterprise edition. The Further details would be shared with successful Bidder
3	Page 15	7. Project Timelines	Supply and delivery of Hardware at DC - within 4 weeks from the date of issuance of Purchase Order	Kindly request you to consider the delivery period as 10 weeks from the date of issuance of the PO as there is a global shortage of semiconductor devices	Clause modified as "Supply and delivery of Hardware at DC - within 7 weeks from the date of issuance of Purchase Order"
4	Page 15	7. Project Timelines	2. Commission, Install, Test, Configure and Integration of the proposed storage with Oracle FS 1 - Within 2 Weeks from the delivery of Hardware at DC Bangalore	Kindly request you to consider the installation period as 3 weeks from the delivery of the hardware	As per RFP
5	Page 45	65. Payment Terms	Delivery and submission of invoice with Proof of Delivery and other documents (after due inspection)	Kindly request you to consider as 80%	As per RFP
6	Page 45	65. Payment Terms	Successful installation, Configuration, Integration and acceptance by AIC	Kindly request you to consider as 15%	As per RFP
7	Page 45	65. Payment Terms	Post 6 months of "Successful installation and acceptance by AIC"	Kindly request you to consider as " 5% after 6 months from the day of Acceptance by AIC or on submission Security Deposit in the form of Bank Guarantee valid for 6 months from the day of acceptance by AIC	As per RFP
8	Page 71	74.12 Annexure M: Required Specification	1. The all flash storage should have Symmetric Active-Active Controller architecture where a LUN should be accessible by all the controllers simultaneously. Bidders has to quote minimum of four controllers incase of asymmetric active-active controller architecture.	For capacity requirement of 30 TB asymmetric Active-Active architecture along with dual controller will be more than enough. Even if the capacity increases 10 times , dual controller architecture would be able to easily handle. Request you to change this to Asymmetric Active-Active dual controllers.	As per RFP
9	Page 71	74.12 Annexure M: Required Specification	2. Vendor should be able to provide 100% Data Availability Guarantee.	"5 nines uptime" means that a system is fully operational 99.999% of the time — an average of less than 6 minutes downtime per year.	Clause modified as "Vendor should be able to provide 99.9% Data Availability Guarantee."
10	Page 71	74.12 Annexure M: Required Specification	6. The Storage should be scalable to at least 5 PB on the same set of controllers.	Please help us understand the growth rate you are expecting year over year to understand the scalability required.	Clause Modified as "The Storage should be scalable to at least 500 TB on the same set of controllers"
11	Page 71	74.12 Annexure M: Required Specification	17. The storage should have Virtual/Thin provisioning and traditional raid group provisioning for Storage allocation to hosts.	In case of ALL FLASH models , Dynamic Raid Pools have more advantages over traditional RAID groups. The Rebuilding is faster and overall systems performance gets better. Please help in changing the Traditional RAID group point.	Clause Modified as "The storage should have Virtual/Thin provisioning / traditional raid group/Dynamic Raid Pool provisioning for Storage allocation to hosts."
12	Page 72	74.12 Annexure M: Required Specification	19. The proposed storage system should support more than 16000 LUNs or volumes	In the current project, the required usable capacity is 30TB. If the average size of each volume is 300GB then the max. volumes/LUNs which can be created are 100. Even if we consider 5 times the number of volumes to be created then also the max. volumes required is 500. Hence we request you to please change the clause as requested to increase bidders participation.	Clause Modified as "The proposed storage system should support upto 500 LUNs or volumes"



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13	Page 72	74.12 Annexure M: Required Specification	27. The Proposed storage system should support Active-Active Storage configuration across two sites replicating to each other for same LUN/volume for zero RPO/zero RTO configuration.	Please elaborate where the other site is to calculate the RPO / RTO. The distance between both the site and the bandwidth.	Storage is required at one site i.e. DC, Bengaluru
14	Page 72	74.12 Annexure M: Required Specification	28. The Proposed storage system must support partitioning of resource in logical and physical level that is covering Front end ports, Cache and logical volume	Please elaborate the use	Clause Modified as "The Proposed storage system must support partitioning of resource in logical or physical level that is covering Front end ports, Cache and logical volume"
15	Page 72	74.12 Annexure M: Required Specification	29. Offered Storage array shall support heterogeneous storage virtualization (native/external) for vendors like, but not limited to, EMC, HP, IBM, Hitachi, Netapp etc. Storage should be supplied with Unlimited capacity of virtualization license for existing storage. In case of non-native/external component used, it should be supplied in redundant mode with no single point of failure.	Please elaborate the use	Clause modified as "Offered Storage array shall support heterogeneous storage virtualization (native/external) for vendors like, but not limited to, EMC, HP, IBM, Hitachi, Netapp etc."
16	Page 73	74.12 Annexure M: Required Specification	f. Storage management software should show end to end topological view of the infrastructure from virtual host to storage device including SAN interconnect	Primary role of any Storage management software is to showcase the performance and overview of the underlying storage system.	As per RFP
17	Page 73	74.12 Annexure M: Required Specification	Storage management software should be able to send notifications for alerts generated in the end to end infrastructure i.e. virtual machines, Host OS, hypervisors, SAN devices, Storage devices	Primary role of any Storage management software is to showcase the performance and overview of the underlying storage system.	As per RFP
18	71	74.12 Annexure M: Required Specification, Point 6	The Storage should be scalable to at least 5 PB on the same set of controllers.	The Storage should be scalable to at least 5x of the asked capacity on the storage system; Current asked capacity is 30TB. Scalability of 5x (500%) should be considered.	Clause Modified as "The Storage should be scalable to at least 500 TB on the same set of controllers"
19	Page 71	74.12 Annexure M: Required Specification, Point 8	The Storage should support RAID 5, RAID 6, RAID10 etc.	The Storage should support RAID 6 or better Raid6 provides best of availability/protection and performance as Raid6 provides two drive failure protection. Raid6 is the Standard raid level across industry now.	As per RFP
20	Page 71	74.12 Annexure M: Required Specification, Point 9	Storage System should have multiple Global Hot Spares.One Hot spare SSD should be provided for every 30 SSDs	Suggest to ask for 2 drive hot spare capacity for every 30 drives.	As per RFP
21	Page 71	74.12 Annexure M: Required Specification, Point 12	The storage system should have minimum 128 GB global cache. The complete cache should be accessible by all the controllers in the storage system. Only write cache must be mirrored. Cache memory should be delivered on DRAM, any other device or SSD should not be considered as cache.	The storage system should have minimum 128 GB global cache <b>Per Controller</b> . The complete cache should be accessible by all the controllers in the storage system. Only write cache must be mirrored. Cache memory should be delivered on DRAM, any other device or SSD should not be considered as cache. Cache asked for such enterprise storage and features suggest to ask for 128GB Cache Per Controller to provide level field for the OEM.	As per RFP
22	Page 71	74.12 Annexure M: Required Specification, Point 17	The storage should have Virtual/Thin provisioning <b>and</b> traditional raid group provisioning for Storage allocation to hosts.	The storage should have Virtual/Thin provisioning / traditional raid group provisioning for Storage allocation to hosts. Most modern storage systems today have thin provisioning at core and traditional provisioning is legacy technology hence request to change.	Clause Modified as "The storage should have Virtual/Thin provisioning / traditional raid group/Dynamic Raid Pool provisioning for Storage allocation to hosts."
23	Page 72	74.12 Annexure M: Required Specification, Point 25	The storage should be able to provide Quality or Service (QOS) to ensure bandwidth is allocated to desired servers or ports, storage should be capable of restricting IOs or throughput to LUNs or Volumes.	Suggest to ask for not only Bandwidth and IOPS but also the response time which is crucial for application performance hence suggest to change to "The storage should be able to provide Quality of Service (QOS) to ensure bandwidth is allocated to desired servers or ports, storage should be capable of restricting IOPS, Throughput <b>and Sub-ms Response time</b> to LUNs or Volumes."	Clause Modified as "The storage should be able to provide Quality of Service (QOS) to ensure bandwidth is allocated to desired servers or ports, storage should be capable of restricting IOPS or Throughput to LUNs or Volumes."



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24	74.12 Annexure M: Required Specification, Point 28 Page 72	The Proposed storage system must support partitioning of resource in logical <b>and</b> physical level that is covering Front end ports, Cache and logical volume	The Proposed storage system must support partitioning of resource in logical <b>or</b> physical level that is covering Front end ports, Cache and logical volume; Most modern storage systems today are having virtualization technologies built-in. Partitioning of the resources is not restricted by allocating physical resources but by utilizing virtualization shared resources capability.	Clause Modified as "The Proposed storage system must support partitioning of resource in logical <b>or</b> physical level that is covering Front end ports, Cache and logical volume"
25	74.12 Annexure M: Required Specification, Point 29 Page 72	Offered Storage array shall support <b>heterogeneous storage virtualization</b> (native/external) for <b>vendors like, but not limited to, EMC, HP, IBM, Hitachi, Netapp etc.</b> Storage should be supplied with Unlimited capacity of virtualization license for existing storage. In case of non-native/external component used, it should be supplied in <b>redundant mode</b> with no single point of failure.	This is vendor specific clause and restricts the participation. Hence request to delete the clause	Clause modified as "Offered Storage array shall support heterogeneous storage virtualization (native/external) for vendors like, but not limited to, EMC, HP, IBM, Hitachi, Netapp etc."
26	74.12 Annexure M: Required Specification, Point 31 Page 72	The storage should be configured with Hardware Controller based Encryption for data security.	The storage should be configured with Hardware Controller/Disk based Encryption for data security. Different vendor provides Encryption in different way. We provide Hardware Encryption at Disk level which provides better performance and doesn't require heavy cpu resources on the storage controller.	Clause modified as "The storage should be configured with Hardware Controller/Disk based Encryption for data security."
27	74.12 Annexure M: Required Specification, Point J Page 73	Storage management software should be able to Orchestrate and Automate storage configuration operations	Storage management software should be able to provide configuration and monitoring of the storage system.	As per RFP
28		Genral Query	Please confirm if 30TB New Storage is required at DC only or at DR as well?	Storage is required at one site i.e. DC, Bengaluru
29		Genral Query	currently, Is there any Storage Block based replication is in place between Existing DC Storage and DR Storage ?	Storage is required at one site i.e. DC, Bengaluru