

Corrigendum: Tender NIT NO CMC/BY/19-20/RB/SV/63 SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SAN SWITCH AND STORAGE		
Feature	RFP Sentence/Clause	BYPLClarification Responses & Amended Clause
Enterprise Class All Flash Storage		
Cache required	The unified system should have minimum 64GB data cache post protection overheads across supplied controllers with an ability to protect data on cache if there is a controller failure or power outage. Cache should be protected for Writes either through a battery backup or by destaging to flash/disk.	New feature added
High Availability	The unified storage system must be configured to continuously serve data in event of any controller failure. In addition to this, it must also be possible to withstand failure of any 2 disks & 3 disks. System should offer capability for 2 disks and 3 disks data parity protection. if the vendor doesn't support 3 disk data protection then they should provision a hot spare for every 10 disks.	Amended clause is as under- The unified storage system must be configured to continuously serve data in event of any controller failure. In addition to this, it must also be possible to withstand failure of any 2 disks or 3 disks and bidder should provision a hot spare for every 15 disks.
IOPS	The proposed storage should support 150K IOPS with 70:30 Read/Write ratio for 8KB Block size with response time avg 1ms and should scale upto 200K IOPS with in proposed solution. The vendor needs to submit undertaking from OEM to this effect . The proposed performance should be achieved with deduplication/compression turned on.	Amended clause is as under- The proposed storage should support 150K Front end (application) IOPS with 70:30 Read/Write ratio for 8KB Block size with response time avg 1ms and should scale upto 200K IOPS with in proposed solution. The vendor needs to submit undertaking from OEM to this effect . The proposed performance should be achieved with deduplication/ compression turned on.
DR and Backup - Cloud Connected	Proposed solution should support 3 way DR and D2D backup to cloud natively	Amended clause is as under- Proposed solution should support 3 way DR from day one without any additional. License or hardware if required to achevie 3 way DR shall be supplied from day one

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SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SAN SWITCH AND STORAGE

Feature	RFP Sentence/Clause	BYPLClarification Responses & Amended Clause
Encryption	Proposed storage should support data encryption at rest at volume level as well as should support data encryption in flight when replicating. License or hardware if required to enable encryption shall be supplied.	Amended clause is as under- Proposed storage should support data encryption at rest at controller/ volume level as well as should support data encryption in flight when replicating. License or hardware if required to enable encryption shall be supplied.
Disk to Disk Backup	The proposed solution should provide disk-based backup snapshots from primary storage to secondary storage system. In case of primary storage data corruption/any failure scenario, it should provide point in time recovery of the snapshots from secondary storage system to the primary system.	Amended clause is as under- The proposed solution should provide disk-based snapshots from primary storage to secondary storage system. In case of primary storage data corruption/any failure scenario, it should provide point in time recovery of the snapshots from secondary storage system to the primary system.
Licensing	Proposed array should include license for Sync and Async Replication, Thin provisioning, Snapshots, Clones. And also should include application aware backup for Oracle, SQL, SAP, Exchange, Share point, Vmware, Hyper-V etc. All the required or necessary licenses must be perpetual and provided for the usable capacity of the storage. This will also include license for management module.	Amended clause is as under- Proposed array should include license for Sync and Async Replication, Thin provisioning, Snapshots, Clones. And also should include license for application- consistent snapshots/data protection for Oracle, SQL, SAP, Exchange, Share point, Vmware, Hyper-V etc. All the required or necessary licenses must be perpetual during the lifecycle of the array and provided for the configured usable capacity of the storage. This will also include license for management module.
Warranty	The Hardware and software should have 5 years onsite warranty 24/7 with 4 hrs resolution	Amended clause is as under- The Hardware and software should have 5 years onsite warranty 24/7 with 6 hrs resolution with hardware part replacement

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Feature	RFP Sentence/Clause	BYPLClarification Responses & Amended Clause
Enterprise Class Hybrid Storage		
Cache required	<p>The unified system should have minimum 256GB data cache post protection overheads across supplied controllers with an ability to protect data on cache if there is a controller failure or power outage. Cache should be protected for Writes either through a battery backup or by destaging to flash/disk. The system should also have minimum 2TB Onboard Flash Cache (latest gen like based on NVMe technology). if vendor doesn't support latest NVMe flash cache technology then they should provide min 10TB of usable flash capacity for Cache.</p>	<p>Amended clause is as under- The unified system should have minimum 256GB data cache post protection overheads across supplied controllers with an ability to protect data on cache if there is a controller failure or power outage. Cache should be protected for Writes either through a battery backup or by destaging to flash/disk. The system should also have minimum 2TB Onboard Flash Cache (latest gen like based on NVMe technology). if vendor doesn't support latest NVMe flash cache technology then they should provide min 10TB of usable flash capacity for Cache/ data pool and should be additional to the usable capacity as defined under "Feature: Storage Capacity"</p>
Protocols	<p>The storage should a true unified storage configured with iSCSI, FC, NFS (NFSv3, NFSv4, NFSv4.1) SMB (SMB2 & SMB3) and pNFS protocols for use with different applications and should support the maximum capacity offered by the storage system. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode.</p>	<p>Amended clause is as under- The storage should a true unified storage with single managment console, configured with iSCSI, FC, NFS (NFSv3, NFSv4, NFSv4.1) SMB (SMB2 & SMB3) protocols for use with different applications and should support the maximum capacity offered by the storage system. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode.</p>

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Feature	RFP Sentence/Clause	BYPLClarification Responses & Amended Clause
High Availability	The unified storage system must be configured to continuously serve data in event of any controller failure. In addition to this, it must also be possible to withstand failure of any 2 disks or 3 disks per RAID-Group of size not more than 20 disks. System should offer capability for 2 disks and 3 disks data parity protection. if the vendor doesn't support 3 disk data protection then they should provision a hot spare for every 10 disks.	Amended clause is as under- The unified storage system must be configured to continuously serve data in event of any controller failure. In addition to this, it must also be possible to withstand failure of any 2 disks or 3 disks per RAID-Group of size not more than 20 disks, and bidder should provision a hot spare for every 15 disks.
IOPS	The proposed storage should support 60K IOPS with 70:30 Read/Write ratio for 8KB Block size.	Amended clause is as under- The proposed storage should support 60K front end (application end) IOPS with 70:30 Read/Write ratio for 8KB Block size.
Storage functionality	The license required for the same shall be supplied for the maximum supported capacity of the offered storage model.	Amended clause is as under- The license required for the same shall be supplied for the configured capacity of the offered storage model.
	The unified storage shall support logical partitioning of controllers in future such that each partition appears as a separate Virtual storage in itself for both block and file.	Amended clause is as under- Clause deleted
	The proposed unified storage system should be configured to provide data protection against two and three simultaneous drive failures.	Amended clause is as under- The proposed unified storage system should be configured to provide data protection against two or three simultaneous drive failures.
	Storage should have capability for instant virtual copies with file and volume granularity	Amended clause is as under- Storage should have capability for instant virtual copies / Snapshots with file and volume granularity
	Storage should have capability for integrated data replication technology for simple, efficient, flexible disaster recovery and backup purpose	Amended clause is as under- Storage should have capability for integrated data replication technology for simple, efficient, flexible disaster recovery

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	Storage should have capability to restore entire Snapshot copies in seconds	Amended clause is as under- Storage should have capability to restore entire Snapshot copies seamlessly
Backup Solution and Support	Unified storage system should support integrated D2D backup solution with capabilities to de- duplication and remote replication.	Amended clause is as under- Clause deleted
	1. The backup solution should offer management software to manage backup or should be able to integrate with backup software from major OEMs.	Amended clause is as under- Clause deleted
	2. Unified storage system should support integration with application such as MS-Exchange, SharePoint, SQL Server, Oracle, SAP and Virtual Infrastructure for consistent backup.	Amended clause is as under- Clause deleted
	3. Storage system should support LAN free backup and configured as per OEM best practices.	Amended clause is as under- Clause deleted
Disk to Disk Backup	The proposed solution should provide disk-based backup snapshots from primary storage to secondary storage system. In case of primary storage data corruption/any failure scenario, it should provide point in time recovery of the snapshots from secondary storage system to the primary system.	Amended clause is as under- The proposed solution should provide disk-based snapshots from primary storage to secondary storage system. In case of primary storage data corruption/any failure scenario, it should provide point in time recovery of the snapshots from secondary storage system to the primary system.
Encryption	Proposed storage should support data encryption at rest at volume level as well as should support data encryption in flight when replicating. License or hardware if required to enable encryption shall be supplied.	Amended clause is as under- Proposed storage should support data encryption at rest at controller/ volume level as well as should support data encryption in flight when replicating. License or hardware if required to enable encryption shall be supplied.

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Warranty & SLA	The Hardware and software should have 5 years onsite warranty 24/7 with 4 hrs resolution	Amended clause is as under- The Hardware and software should have 5 years onsite warranty 24/7 with 6 hrs resolution with hardware part replacement
Enterprise Class SAN Switch		
Warranty & SLA	5 years OEM warranty and support 24x7, 4hrs resolution.	Amended clause is as under- The Hardware and software should have 5 years onsite warranty 24/7 with 6 hrs resolution with hardware part replacement