

CORRIGENDUM-1

Ref: CO/IT-DT/BACKUP_UPGRADE_RFP_Corrigendum_1

Date: 01.04.2025

Request for Proposal for the procurement of Backup solution for ODS project

Reference: LIC/CO/IT-DT/ODS/Backup solution/2025/01 dated: 21.03.2025.

1. Changes in Clauses/specifications/requirements

Sr No	Page No	Section	Sub-section	Existing Clause	Revised clause
1	66	Annexure-XII	1. Backup Appliance/Storage technical specifications a) General Features:- point-1	The proposed Storage Appliances for each site should be capable of being directly mounted (at each sites) as a partition on Exadata server by directly connecting Storage Appliance to Exadata Primary Database servers (Exadata X7-2servers) and Standby Database Servers(Exadata X9M-2 HC servers) through point-to-point fiber-channel network connection without connecting thru current Dell unified switch (Please see proposed network connection diagram under schedule-3)	The proposed Backup Appliance/Storage for each site should be capable of being directly mounted (at each sites) as a partition on Exadata server by directly connecting Backup Appliance/Storage to Exadata Primary Database servers (Exadata X7-2servers) and Standby Database Servers(Exadata X9M-2 HC servers) through point-to-point optical fiber network" Or "QSFP28 Copper cables without connecting thru current Dell unified switch (Please see proposed network connection diagram under schedule-3)
2	83	Section-F	A. Functional requirements-point-8	For Primary database servers at primary site on Oracle Exadata X7-2(PRODS), the Storage Appliance shall be directly mounted as a partition on database servers. Backups shall be made to the mounted partition directly through RMAN utility invoked from database servers (disk to disk). The connection shall be point-to-point direct Optical Fiber without connecting through Dell unified switch. Please see proposed connection diagram in schedule-3.	For Primary database servers at primary site on Oracle Exadata X7-2(PRODS), the Storage Appliance shall be directly mounted as a partition on database servers. Backups shall be made to the mounted partition directly through RMAN utility invoked from database servers (disk to disk). The connection shall be through point-to-point optical fiber network" Or "QSFP28 Copper cables without connecting through Dell unified switch. Please see proposed connection diagram in schedule-3.
3	83	Section-F	A. Functional requirements-point-9	Similarly, for Standby database servers at standby site, the Storage Appliance shall be directly mounted as a partition on VM	Similarly, for Standby database servers at standby site, the Storage Appliance shall be directly mounted as a partition on VM database servers (BGLDS,

				database servers (BGLODS, BGLSMS and BGLUAT). Backups shall be made to the mounted partition directly through RMAN utility invoked from database servers (disk to disk). The connection shall be point-to-point direct Optical Fiber without connecting through Dell unified switch. Please see proposed connection diagram in schedule-3.	BGLSMS and BGLUAT). Backups shall be made to the mounted partition directly through RMAN utility invoked from database servers (disk to disk). The connection shall be through point-to-point optical fiber network" Or "QSFP28 Copper cables without connecting through Dell unified switch. Please see proposed connection diagram in schedule-3.
4	72	Annexure-XII	2.Backup software specifications—(10) - Vendor support and compliance	The backup software vendor must have a back-to-back agreement with Oracle for configuring direct point-to-point connections from Exadata servers to the backup appliance.	The bidder shall have back-to-back arrangement with Oracle for configuring direct point-to-point connections from Exadata servers to the backup appliance.
5	67	Annexure-XII	1.Backup Appliance/Storage technical specifications. (C) Scalability and connectivity -point-5	The storage system must support 22 TB SAS-3 7.2K RPM hard disk drive.	The storage system must support 22 TB or higher capacity SAS-3 hard disk drive.
6	42 & 43	Section-D	6.5 SLAs for Backups from Database Servers to Backup Appliance (Disk to Disk) and Disk to tapes	Backup speed is 12 TB per hour (for uncompressed backups) is to be achieved.	Backup speed of 10 TB per hour (for uncompressed backups) is to be achieved.
7	67	Annexure-XII	1. Backup Appliance/Storage technical specifications- b) Reliability, Availability and Serviceability- point-4	The storage system should support simple software upgrade maintaining older copies of the operating system and can revert to them should newer versions present a problem.	This requirement is removed.
8	67	Annexure-XII	1. Backup Appliance/Storage technical specifications- c) Scalability and Connectivity – point-6	The storage system should support 7.68TB SSD.	The storage system should support 7.68 TB or higher SSD.
9	68	Annexure-XII	1. Backup Appliance/Storage technical specifications- d) Software Features	The storage system should support 10x to 50x compression of static Database data, resulting in a 3x to 5x reduction in storage footprint for data warehousing and long-	The storage system should support a minimum of 10x compression of static Database data, resulting in a minimum of 3x reduction in storage footprint for data warehousing and long-term storage of

			and Backup Services requirements -point 20	term storage of information in Oracle Database databases.	information in Oracle Database databases.
10	70	Annexure-XII	1. Backup Appliance/Storage technical specifications- f) Data Protection Features	The storage system should support ability to encrypt the replication data.	This requirement is removed.
11	67	Annexure-XII	1. Backup Appliance/Storage technical specifications- c) Scalability and Connectivity -point-7	The storage system should be mountable on existing Exadata X7-2 rack at Primary site and Exadata X9M-2-HC rack at DR site.	The storage system should be mountable on existing non-Exadata racks at Primary site and at DR site. The entire backup solution hardware including Backup Appliance, Media servers, Tape Library should fit in within available rack space of 24 U.
12	68	Annexure-XII	1. Backup Appliance/Storage technical specifications- d) Software Features and Backup Services requirements – point-11	The storage system must support file level protocols, like NFSv2, NFSv3, NFSv4, NFSv4.1, DNFS(Direct NFS), SMB1/2/2.1/3, HTTP, WebDAV, FTP, SFTP, FTPS.	The storage system must support file level protocols, like NFSv2, NFSv3, NFSv4, NFSv4.1, SMB1/2/2.1/3, HTTP, WebDAV, FTP, SFTP, FTPS.
13	68	Annexure-XII	1. Backup Appliance/Storage technical specifications- d) Software Features and Backup Services requirements– point-12	The storage system must support Object protocol, Open Stack Swift compatible object ingest over HTTP or HTTPS.	The storage system must support Object protocol, Open Stack Swift compatible object ingest over HTTP or HTTPS.
14	68	Annexure-XII	1. Backup Appliance/Storage technical specifications- d) Software Features and Backup Services requirements– point-13	The storage system must support block level protocol like iSCSI, FC, iSER, SRP.	The storage system must support block level protocol like iSCSI, FC.
15	69	Annexure-XII	1. Backup Appliance/Storage technical specifications- d) Software Features and Backup Services requirements-point-21	The storage should support object API for Oracle Cloud Infrastructure Object Storage that enables to use the same applications on both on-premises on the storage and in the cloud on Oracle Cloud Infrastructure Object Storage.	This requirement is deleted.

16	67	Annexure-XII	1. Backup Appliance/Storage technical specifications a) General Features: point-18	The proposed Storage system should be certified by Oracle to work with Oracle Exadata systems	The proposed Storage system should be compatible with Oracle Exadata systems
17	90	Schedule-2	B. Media Server Configuration and Components (One server each for Primary and DR site)		Media servers at both sites shall be loaded with required compatible latest version of operating system with support for 5 years.
18	73	Annexure-XII	2. Backup software specifications	The proposed Backup Software solution must support optimized secondary copy creation to a remote site via DASH copy, where only unique data blocks is sent over the network.	This requirement is removed.
19	69	Annexure-XII	1. Backup Appliance/Storage technical specifications - e) Monitoring, Notification and Management – point-6	The storage system should support discovery, management and configuration using the iSNS protocol.	The storage system should support iSNS or an equivalent capability, such as an integrated management interface and APIs designed for modern data protection workflows.
20	69	Annexure-XII	1. Backup Appliance/Storage technical specifications - e) Monitoring, Notification and Management – point-3	The storage system must support dynamic change configuration (no downtime). For example, segment/block size change, enable/disable SSD resource, enable/disable compression & de-duplication.	This requirement is removed.
21	73	Annexure-XII	2. Backup software specifications- 13. Backup Software- Other Specifications	The proposed Integrated solution (Backup Software and De-Dupe Appliance) must be provided by a single OEM to ensure ownership of design and support. It must be with the single OEM support and must be implemented by Single OEM.	The proposed Integrated solution (Backup Software and De-Dupe Appliance) must be provided by a single Bidder to ensure ownership of design and support. It must be with the respective OEM support and must be implemented by Single Bidder.
22	79	Annexure-XII	Tape Library specifications – Point-2	Shall be offered with Minimum of three LTO-9 FC tape drive. Drive shall support encryption	Shall be offered with Minimum of nine LTO-9 FC tape drive . Drive shall support encryption
23	79	Annexure-XII	Tape Library specifications – Connectivity-	Offered Tape Library shall provide native FC connectivity to SAN switches	Offered Tape Library shall provide native FC connectivity to SAN switches. Maximum FC speed per drive should be 16Gbps FC to SAN Switches

24	91	Schedule-2	Bill of Quantity	C. Tape Library(For both DC and DR sites) LTO-9 Tape library Model with at least 9 tape drives	C. Tape Library(For both DC and DR sites) LTO-9 Tape library Model with at least 9 FC channel tape drives
25	73	Annexure-XII	2. Backup software specifications-- 13. Backup Software- Other Specifications	Must be provided with perpetual licenses for unlimited number of hosts and must be configured with 75 TB of Front End capacity based license with 5 years AMC support.	Must be provided with perpetual licenses for unlimited number of hosts and must be configured with 75 TB of Front End capacity based license at both sites with 5 years AMC support.
26	74	Annexure-XII	2. Backup software specifications-- 13. Backup Software- Other Specifications	The proposed backup software should support data-masking strategies for Oracle database table columns to hide sensitive data in a non-production environment, such as a test or development system.	This requirement is removed.

2. Page :43 – Section-D- Terms & Conditions - Clause -7 – Project Schedule

Existing clause

7. Project schedule

The Bidder shall be responsible for delivery and installation of the ordered item(s) at both the sites and for making them fully operational at no extra charge within 6-10 weeks of the date of purchase order. The bidder shall take appropriate insurance to cover the ordered item(s) for the transit period and till the time of its acceptance by LIC at the respective site is to be taken by the Bidder. At the discretion of LIC , there will be an acceptance test conducted by the Bidder in presence of the LIC official(s) and/or its nominated consultant(s) after installation of complete item(s). In case of serious discrepancy in the offered equipments supplied, LIC may cancel the entire purchase order and return the item(s) back to the Bidder at Bidder's costs and risks. The Bidder shall give acceptance of the order within two days from the date of order. LIC has right to cancel the order, if the same is not accepted within the stipulated period from the date of order. LIC will arrange electrical points and LAN cabling required, if any, at the locations. As it is a time bound project no delay in the below schedule will be accepted by LIC.

S.No	Purchase Order for	Delivery Schedule (From date of acceptance of Order)
1	Delivery of hardware, software, licenses etc.	4 to 6 weeks
2	Project Completion period at DC, Mumbai. installation, commissioning, integration, testing of backup solution	6 to 10 weeks
3	Project Completion period at DR Site, Bangalore Colo i.e. installation, commissioning, integration, testing of	6 to 14 weeks

	backup and sync solution.	
--	---------------------------	--

Revised Clause:

7. Project schedule

The Bidder shall be responsible for delivery and installation of the ordered item(s) at both the sites and for making them fully operational at no extra charge within 8-18 weeks of the date of purchase order. The bidder shall take appropriate insurance to cover the ordered item(s) for the transit period and till the time of its acceptance by LIC at the respective site. At the discretion of LIC, there will be an acceptance test conducted by the Bidder in presence of the LIC official(s) and/or its nominated consultant(s) after installation of complete item(s). In case of serious discrepancy in the offered equipments supplied, LIC may cancel the entire purchase order and return the item(s) back to the Bidder at Bidder's costs and risks. The Bidder shall give acceptance of the order within two days from the date of order. LIC has right to cancel the order, if the same is not accepted within the stipulated period from the date of order. LIC will arrange electrical points and LAN cabling required, if any, at the locations. As it is a time bound project no delay in the below schedule will be accepted by LIC.

S.No	Purchase Order for	Delivery Schedule (From date of acceptance of Order)
1	Delivery of hardware, software, licenses etc.	8 to 10 weeks
2	Project Completion period at DC, Mumbai. installation, commissioning, integration, testing of backup solution	10 to 16 weeks
3	Project Completion period at DR Site, Bangalore Colo i.e. installation, commissioning, integration, testing of backup and sync solution.	10 to 18 weeks

Decommissioning of existing Backup system hardware components have to be carried out in the same delivery and installation timelines.

The Decommissioning has to be done prior to the start of installation as there is rack space and port constraints.

3. Page -10 Section-B: Minimum Eligibility Criteria

Existing clause:

Section-B: Minimum Eligibility Criteria

Minimum Eligibility Criteria (MEC) [Stage I Evaluation]

Eligibility Criteria for the Bidder to participate in the above RFP are as follows:

Sl. No.	Eligibility Conditions	Documentary Evidence Required
1.	The Bidder must be an Indian firm / Company/ Organization registered under applicable Act in India and in existence for 5 years.	a) Certificate of incorporation/registration b) GST Registration number c) Copy of PAN card
2	Bidder must have minimum turnover of Rs.100 Crores in each of the following three financial years i.e. 2021-2022, 2022-2023, 2023-2024. Bidder should have made profit (before tax) in each of the following three financial year's i.e. 2021-2022 and 2022-2023, 2023-2024.	Details to be submitted in Annexure-II and attested copies of Audited Balance Sheet and Profit and Loss account for the relevant years, duly signed by Authorized signatory of the Company along with Name and Seal.
3.	Bidder must have supplied and configured Backup solutions involving Backup Storage (Appliance), Backup software and LTO Tape libraries to at least 5 customers, In the last 5 financial years preceding the date of this RFP. At least three among these should be provided to Government Departments/PSU/BFSI sector companies.	Copy of the concerned Purchase to be submitted and details to be submitted as per Annexure-VII. Multiple PO will be considered of that same entity
4.	The bidder should not have been blacklisted by any Govt./PSU/reputed listed company for corrupt or fraudulent practices or non-delivery / nonperformance in the last three years.	The certificate in original from the Authorized signatory should be attached as compliance to this condition as per Annexure-III. (In case there is no black listing, a nil certificate to be submitted)

5.	Bidder must have experience in maintaining the backup solution for 3 different entities in the last three years. All should be from Govt Dept /PSU / BFSI Sector.	Copy of the concerned Purchase to be submitted.
6	Manufacturer's authorization letters (i.e. MAF) from all respective OEMs involved.	The bidder must submit the Manufacturer's authorization letter (i.e. MAF) from the respective OEMs as per Annexure-IV

Revised Clause

Section-B: Minimum Eligibility Criteria

Minimum Eligibility Criteria (MEC) [Stage I Evaluation]

Eligibility Criteria for the Bidder to participate in the above RFP are as follows:

Sl. No.	Eligibility Conditions	Documentary Evidence Required
1.	The Bidder must be an Indian firm / Company/ Organization registered under applicable Act in India and in existence for 5 years.	a) Certificate of incorporation/registration b) GST Registration number c) Copy of PAN card
2	Bidder must have minimum turnover of Rs.100 Crores in each of the following three financial years i.e. 2021-2022, 2022-2023, 2023-2024. Bidder should have made profit (before tax) in each of the following three financial year's i.e. 2021-2022 and 2022-2023, 2023-2024. <u>For MSME bidders, the turnover requirement will be modified as follows: the bidder must have an average turnover of Rs. 40 Crores in the last three financial years (i.e., 2021-2022, 2022-2023, 2023-2024), instead of the minimum turnover of Rs. 100 Crores as stipulated for other bidders. Furthermore, MSME bidders must have made a profit (before tax) in each of</u>	Details to be submitted in Annexure-II and attested copies of Audited Balance Sheet and Profit and Loss account for the relevant years, duly signed by Authorized signatory of the Company along with Name and Seal.

	<p><u>the last three financial years (i.e., 2021-2022, 2022-2023, 2023-2024).</u></p> <p><u>The MSME bidder must submit a valid MSME registration certificate along with the necessary financial documents to support the above criteria.</u></p>	
3.	<p>Bidder must have supplied and configured Backup solutions involving Backup software, Storage/Backup Appliance/ or Tape Library to at least 5 customers, in the last 5 financial years preceding the date of this RFP. At least three among these should be provided to Government Departments/PSU/BFSI sector companies.</p>	<p>Copy of the concerned Purchase to be submitted and details to be submitted as per Annexure-VII.</p> <p>Multiple PO will be considered of that same entity.</p> <p>(While submission of a Purchase Order (PO) is preferred as proof of work executed, we acknowledge that there may be genuine difficulties in providing the POs in some cases. In such cases, a declaration from the client on their official letter-head signed by authorized signatory of client, detailing the purchased items or project completion certificate from client, shall be considered as an acceptable alternative. This declaration should clearly outline the scope of the work, items purchased, or project details, along with any other relevant information to substantiate the bidder's experience)</p>
4.	<p>The bidder should not have been blacklisted by any Govt./PSU/reputed listed company for corrupt or fraudulent practices or non-delivery / non-performance in the last three years.</p>	<p>The certificate in original from the Authorized signatory should be attached as compliance to this condition as per Annexure-III. (In case there is no black listing, a nil certificate to be submitted)</p>
5.	<p>Bidder must have experience in maintaining the backup solution for 3 different entities in the last three years. All should be from Govt Dept /PSU / BFSI Sector.</p>	<p>Copy of the concerned Purchase to be submitted.</p>
6	<p>Manufacturer's authorization letters (i.e. MAF) from all respective OEMs involved.</p>	<p>The bidder must submit the Manufacturer's authorization letter (i.e. MAF) from the respective OEMs as per Annexure-IV. LIC may consider accepting the OEM</p>

		Standard MAF format, provided that it includes all necessary undertakings and assurances required in alignment with the intent of the RFP
--	--	--

Note:

In case the bidding company/ firm is hived off from the demerged company, the experience, eligibility etc. as per the requirement of the RFP may be considered as of the demerged company, provided the demerged company doesn't apply in the same RFP process and Novation / Other Relevant Agreement is in place. In that case, Relevant Novation / Other Relevant Agreement need to be submitted.

4. Page : 38 – Section-D: Terms and Conditions- Payment Terms

Existing clause:

4. Payment Terms:

- 60% of the cost of Hardware items and 80% of Software items of the Commercial Bid Format at Annexure-VI shall be paid after delivery of entire solution (software, hardware, warranty & maintenance with OEM and peripherals as per scope) at the specified locations mentioned in the PO.
- 30% of the cost of Hardware items and 20% of the cost of software items in Annexure-VI-Commercial Bid shall be paid on Go-Live date.
- Go-Live will be reckoned as the production implementation date backup solution after successful Installation and integration, acceptance testing and documentation of entire solution at the locations specified as per the scope of work.
- 10% of the cost of Hardware items of the Commercial Bid Form at Annexure-VI shall be paid after 3 months of Go-Live date and after submitting documentation on any Configuration changes/ modifications done after Go-Live and after completion of training.

Revised Clause:

4. Payment Terms:

- 80% of the cost of Hardware items and 80% of Software items of the Commercial bid (as per ORA discovered prices) shall be paid after delivery of entire solution (software, hardware, warranty & maintenance with OEM and peripherals as per scope) at the specified locations mentioned in the PO.
- 10% of the cost of Hardware items and 10% of the cost of software items in Commercial bid (as per ORA discovered prices) shall be paid immediately after Go-Live.

- Go-Live will be reckoned as the production implementation date backup solution after successful Installation and integration, acceptance testing and documentation of entire solution at the locations specified as per the scope of work.
 - Balance 10% of the cost of Hardware and Software items of the Commercial bid (as per ORA discovered prices) shall be paid after 1 month of Go-Live date and after submitting documentation on any Configuration changes/ modifications done after Go-Live and after completion of training.
 - 100% of one-time implementation costs shall be paid after GO-LIVE
 - 100% of training cost shall be paid after completion of training.
-

5. Page -44 – Section- D: Terms and Conditions- Clause-8 . Liquidated damages.

Existing clause:

8. Liquidated damages

If Service Provider fails to deliver product and/or perform any or all the Services within the stipulated time, schedule as specified in this Agreement, LIC may, without prejudice to its other remedies under the Agreement, and unless otherwise extension of time is agreed upon without the application of liquidated damages, deduct from the Project Cost, as liquidated damages a sum equivalent to 12 % of total Project Cost for delay of each week or part thereof maximum up to 100 % of total Project Cost. Once the maximum deduction is reached, LIC may consider termination of the Agreement.

Revised Clause:

8. Liquidated damages

If Service Provider fails to deliver product and/or perform any or all the Services within the stipulated time, schedule as specified in this Agreement, LIC may, without prejudice to its other remedies under the Agreement, and unless otherwise extension of time is agreed upon without the application of liquidated damages, deduct from the Project Cost, as liquidated damages a sum equivalent to 0.5 % of total Project Cost for delay of each week or part thereof maximum up to 5% of total Project Cost. Once the maximum deduction is reached, LIC may consider termination of the Agreement.

6. Page – 41- Section-D: Terms and Conditions-Clause- 6.3 System Uptime required and its applicable penalties.

Existing clause:

6.3 System Uptime required and its applicable penalties

Site-uptimes to be provided by the vendor are tabulated in Table-2 below. If the desired uptimes are not achieved, penalty as given below will be applicable.

Table-2:

Required System-Uptime and Penalties applicable - if the desired system uptimes are not met

Required Uptime of solution/service on Quarterly basis	99.50%
Percentage System-up time (rounded to nearest)	Penalty Applicable (on quarterly basis) (% on Quarterly AMC amount)
<99.50% up to 99%	3 % of Quarterly AMC amount
< 99% up to 98%	4 % of Quarterly AMC amount
< 98% up to 97%	5 % of Quarterly AMC amount
< 97%	5 % of Quarterly AMC bill + 0.10% of AMC amount, for every additional hour of downtime thereof

Please note that:

- a) Hardware uptime Reports etc. will be generated by the tools deployed by LIC.
- b) SLAs will be applicable based on the reports generated by the LIC's Service-Desk/ Module. (if applicable)
- c) Site uptime will be calculated on Quarterly basis.
- d) The QMC will be settled by the Central Office, Mumbai location only.
- e) Penalty cap for a quarter shall be a maximum of 15% of the Total AMC Bill for a quarter. Penalty will be deducted from any amount payable to the Vendor or invoking the performance Bank Guarantee.
- f) If the uptime falls below 97% twice during any quarter, contract /order may be cancelled and LIC may deduct liquidated damages of additional 5% of contract value from PBG

In rare cases where the penalties imposed require any reconsideration due to some genuine reasons which will be represented by the vendor, the matter will be decided by LIC of India, Central Office, Mumbai. LIC's decision will be final in this matter.

Revised clause :

6.3 System Uptime required and its applicable penalties

Site-uptimes to be provided by the vendor are tabulated in Table-2 below. If the desired uptimes are not achieved, penalty as given below will be applicable.

Table-2 :

Required System-Uptime and Penalties applicable - if the desired system uptimes are not met

Required Uptime of solution/service on Quarterly basis	99.50%
Percentage System-up time (rounded to nearest)	Penalty Applicable (on quarterly basis) (% on Quarterly AMC amount)
<99.50% up to 99%	1% of Quarterly AMC amount
< 99% up to 98%	2% of Quarterly AMC amount
< 98% up to 97%	3% of Quarterly AMC amount
< 97%	3% of Quarterly AMC bill + 0.20% of AMC amount, for every additional hour of downtime thereof

Please note that:

- a) Hardware uptime Reports etc. will be generated by the tools deployed by LIC.
- b) SLAs will be applicable based on the reports generated by the LIC's Service-Desk/ Module. (if applicable)
- c) Site uptime will be calculated on Quarterly basis.
- d) The QMC will be settled by the Central Office, Mumbai location only.
- e) **Penalty cap for a quarter shall be a maximum of 5% of the Total AMC Bill for a quarter. Penalty will be deducted from any amount payable to the Vendor or invoking the performance Bank Guarantee.**
- f) If the uptime falls below 97% twice during any quarter, contract /order may be cancelled and LIC may deduct liquidated damages of additional 5% of contract value from PBG.

In rare cases where the penalties imposed require any reconsideration due to some genuine reasons which will be represented by the vendor, the matter will be decided by LIC of India, Central Office, Mumbai. LIC's decision will be final in this matter.

7. Page-42 & 43- Section-D-Terms and Conditions-Clause-6.5- SLAs for Backups from Database Servers to Backup Appliance (Disk to Disk) and Disk to tapes

Existing clause:

6.5 SLAs for Backups from Database Servers to Backup Appliance (Disk to Disk) and Disk to tapes

Backup speed is 12 TB per hour for (for uncompressed backups) is to be achieved.

Table-3

Database Size Range (TB)	Expected Backup Time (Minutes)	Penalty (for every 15-minute delay)
1 to 5 TB	5 to 25 minutes	1% of Quarterly service charge for every 15-minute delay
Above 5 to 10 TB	25 to 50 minutes	1% of Quarterly service charge for every 15-minute delay
Above 10 to 15 TB	50 to 75 minutes	1% of Quarterly service charge for every 15-minute delay
Above 15 to 20 TB	75 to 100 minutes	1% of Quarterly service charge for every 15-minute delay
Above 20 to 25 TB	100 to 125 minutes	1% of Quarterly service charge for every 15-minute delay
Above 25 to 30 TB	125 to 150 minutes	1% of Quarterly service charge for every 15-minute delay
Above 30 to 35 TB	150 to 175 minutes	1% of Quarterly service charge for every 15-minute delay
Above 35 to 40 TB	175 to 200 minutes	1% of Quarterly service charge for every 15-minute delay
Above 40 to 45 TB	200 to 225 minutes	1% of Quarterly service charge for every 15-minute delay
Above 45 to 50 TB	225 to 250 minutes	1% of Quarterly service charge for every 15-minute delay
Above 50 to 55 TB	250 to 275 minutes	1% of Quarterly service charge for every 15-minute delay

Above 55 to 60 TB	275 to 300 minutes	1% of Quarterly service charge for every 15-minute delay
Above 60 to 65 TB	300 to 325 minutes	1% of Quarterly service charge for every 15-minute delay
Above 65 to 70 TB	325 to 350 minutes	1% of Quarterly service charge for every 15-minute delay
Above 70 to 75 TB	350 to 375 minutes	1% of Quarterly service charge for every 15-minute delay

- Backup speed of 12 TB per hour for (for uncompressed backups) is to be achieved.
- Penalty applies if actual backup duration exceeds the expected backup time provided in Table-3.
- Penalty is calculated at 1% of the Quarterly service charge for every 15-minute delay beyond the expected time limit.
- System Integrator shall further optimize backup operations configuring compression and deduplication at storage level/Tape library level or Backup software level.

Revised Clause:

6.5 SLAs for Backups from Database Servers to Backup Appliance (Disk to Disk) and (Disk to Tapes)

Backup speed of 10 TB per hour for (for uncompressed backups) is to be achieved.

Table-3

Database Size Range (TB)	Expected Backup Time (Minutes)	Penalty (for every 15-minute delay)
1 to 5 TB	6 to 30 minutes	1% of Quarterly service charge for every 15-minute delay
Above 5 to 10 TB	30 to 60 minutes	1% of Quarterly service charge for every 15-minute delay
Above 10 to 15 TB	60 to 90 minutes	1% of Quarterly service charge for every 15-minute delay
Above 15 to 20 TB	90 to 120 minutes	1% of Quarterly service charge for every 15-minute delay
Above 20 to 25 TB	120 to 150 minutes	1% of Quarterly service charge for every 15-minute delay

Above 25 to 30 TB	150 to 180 minutes	1% of Quarterly service charge for every 15-minute delay
Above 30 to 35 TB	180 to 210 minutes	1% of Quarterly service charge for every 15-minute delay
Above 35 to 40 TB	210 to 240 minutes	1% of Quarterly service charge for every 15-minute delay
Above 40 to 45 TB	240 to 270 minutes	1% of Quarterly service charge for every 15-minute delay
Above 45 to 50 TB	270 to 300 minutes	1% of Quarterly service charge for every 15-minute delay
Above 50 to 55 TB	300 to 330 minutes	1% of Quarterly service charge for every 15-minute delay
Above 55 to 60 TB	330 to 360 minutes	1% of Quarterly service charge for every 15-minute delay
Above 60 to 65 TB	360 to 390 minutes	1% of Quarterly service charge for every 15-minute delay
Above 65 to 70 TB	390 to 420 minutes	1% of Quarterly service charge for every 15-minute delay
Above 70 to 75 TB	420 to 450 minutes	1% of Quarterly service charge for every 15-minute delay

- Backup speed of 10 TB per hour for (for uncompressed backups) is to be achieved.
- Penalty applies if actual backup duration exceeds the expected backup time provided in Table-3.
- Penalty is calculated at 1% of the Quarterly service charge for every 15-minute delay beyond the expected time limit.
- System Integrator shall further optimize backup operations configuring compression and deduplication at storage level/Tape library level or Backup software level.

8. Addition of new clause on Training:

Training

Bidder shall provide functional training on operations of proposed Backup software to 5 to 6 officials of ODS section for 3 to 4 days after GO-LIVE.

Training cost shall be mentioned in Commercials as separate line item. 100% of Training cost shall be paid after completion of Training.

9. Rack Space and Power consumption Requirement:

All proposed new backup solution hardware components must fit within the available 24U rack space in our data center at each site.

Power Consumption Requirement:

The PDU in the non-exadata rack supplies a total of 12 KVA power. The existing equipments in the rack includes the following components and their respective rated power consumption:

- 2 Dell Unified Switches (each rated at 550 Watts) = 1,100 Watts
- 1 Management Switch (rated at 720 Watts) = 720 Watts
- 1 Far-sync Server (rated at 1,400 Watts) = 1,400 Watts
- 1 Staging Server (rated at 750 Watts) = 750 Watts
- 1 Staging Server (rated at 856 Watts) = 856 Watts

The total power consumption of existing equipment in Watts is:

Total Power Consumption (Watts) = 1,100W + 720W + 1,400W + 750W + 856W = 4,826 Watts

To calculate the remaining power capacity available for the new proposed backup solution hardware, we will first convert the total 12 KVA of power to Watts, assuming a power factor of 0.95:

Total Available Power (Watts) = 12 KVA * 1000 * 0.95 = 11,400 Watts

Now, the remaining power available for the new backup solution is:

Remaining Power (Watts) = 11,400 Watts - 4,826 Watts = 6,574 Watts

Thus, the total power consumption of the new proposed backup solution must not exceed 6,574 Watts.

Summary for Bidders:

1. The new backup solution components should fit within the remaining 24U rack space.
 2. The total power consumption of the new hardware should not exceed 6,574 Watts.
-
-

7	Any other software components										
8	Training cost			1	x	x	x	x	x		
9	One-time Implementation cost			1	x	x	x	x	x		
	Total										

Grand Total Cost - Figures will be used for Comparison as per RFP point No _____: INSTRUCTIONS TO BIDDERS i.e. Price Variation Factor and H1 Elimination clause.

Note: Bidders are requested to note the following:

1. Bidders may include additional hardware or software components as needed to ensure a complete and comprehensive backup solution. These additions should be listed under rows 6 and 7.
2. Every cost quoted should be exclusive of GST.
3. LIC would reimburse GST to the vendor at the actual rate.
4. Online Reverse Auction will be on the basis of **NPV**.
5. All the payments will be made by LIC, Central Office Mumbai electronically through RTGS / NEFT by crediting the same in vendor's bank a/c as per details furnished in the Company Profile i.e. **Annexure II**.
6. TDS will be deducted as per rules applicable.
7. Change in Tax structure at the time of actual invoicing: While any increase in the rates of applicable taxes or impact of new taxes subsequent to the submission of the quotation/rates shall be borne by LIC, any subsequent decrease in the rates of applicable taxes or impact of new taxes shall be passed on to LIC in its favour.

11.Revised Annexure-XII (to be submitted along with Eligibility & Technical Bid)

Annexure – XII: Technical Requirements for RFP for procurement of Backup solution for ODS project of LIC of India

RFP Ref: LIC/CO/IT-DT/ODS/Backup solution/2025/01 dated: 21.03.2025

1. Backup Appliance/Storage technical specifications

a) General Features:

S. No.	Technical Specification	Whether complied (Y/N)
1	The proposed Backup Appliance/Storage for each site should be capable of being directly mounted (at each sites) as a partition on Exadata server by directly connecting Backup Appliance/Storage to Exadata Primary Database servers (Exadata X7-2servers) and Standby Database Servers(Exadata X9M-2 HC servers) through point-to-point optical fiber network" Or "QSFP28 Copper cables without connecting thru current Dell unified switch (Please see proposed network connection diagram under schedule-3)	
2	It should be possible for other Databases on Exadata server X5-2 server VMs at primary site (like UAT Database servers and SMS database) and other independent databases like catalog databases at both sites, to be backed up through RMAN interfaced with proposed Backup software to Backup/storage appliance(Please see proposed network connection diagram under schedule-3)	
3	Proposed backup appliance/storage should have redundant components/HA mechanism in place to avoid single point of failure .	
4	Proposed backup appliance/storage should have scalability with respect capacity expansion and proportional cache in future.	
5	It should be possible to configure and schedule backups of backup sets from Backup Appliance to LTO tapes	
6	It should be possible to configure and schedule flat file backups from Staging servers to Backup Appliance to LTO tapes as well as directly from Staging servers to LTO tapes	
7	The storage system should be based on industry standard components.	

8	The storage system must have an easy-to-use web-based graphical interface (GUI), command line interface (CLI) as well as Restful cloud API to simplify administration.	
9	The storage system should provide hybrid storage architecture - combining Read and/or Write Flash Accelerators (SSDs) with SAS-3 HDD.	
10	The storage system should provide auto-tiering to optimize workloads effectively and cost-efficiently.	
11	The storage system must be able to provide optimized storage caching hierarchy with hybrid storage pools containing DRAM, SSD and SAS-3 hard disk drives.	
12	The storage system should transparently execute writes to a pool of low latency SSD media so that writes can be quickly acknowledged and automatically flush the data to SAS-3 drives as a background task.	
13	The underlying disk storage manager should automatically recognize different I/O patterns and place data in the best storage media for optimal performance.	
14	The storage system can fully utilize the entire DRAM for IO activity by using technologies Adaptive I/O Staging.	
15	The storage system should have a hybrid storage capacity scaling capabilities to add SSD or combination of SSD and HDDs with 24 disk drive enclosures.	
16	The storage system should be available as both an on-premises appliance and a cloud image that can be installed on a compute instance to provide storage in cloud environment with up to 1PB of Automated capacity.	
17	The storage system should be able to provide read and write cache for I/O enhancement with the help of built in software, without any additional costs.	
18	The proposed Storage system should be compatible with Oracle Exadata systems	

b) Reliability, Availability and Serviceability

S. No.	Technical Specification	Whether complied (Y/N)
1	The storage system must provide predictive self-healing and diagnosis of all system FRUs: CPUs, DRAM, I/O cards, disks, fans and power supplies.	
2	The storage system should also support a two-node active-active cluster configuration, with no single point of failure.	
3	The storage systems clustering feature should have the ability to synchronize administrative configuration and also the ability to fail over storage and network resources.	
4	The storage system must help administrators to quickly diagnose and resolve performance issues in production systems, using revolutionary business analytics functionality that delivers real-time Visibility throughout the data path.	
5	The storage system should support Link Aggregation Control Protocol (LACP), to bundle multiple network devices to behave as one.	
6	The storage system must make provisioning and management, that is dramatically simplified for system installation, configuration and tuning.	
7	The storage system should possess self-healing capabilities to automatically and silently detect and diagnose underlying system problems and automatically respond by taking faulty components offline.	
8	The storage system must not have battery to reduce maintenance task and increase system reliability.	
9	The system should be able to upgrade important components firmware to maintain high reliability.	

c) Scalability and Connectivity

S. No.	Technical Specification	Whether complied
--------	-------------------------	------------------

		(Y/N)
1	The storage system must be highly scalable to support rapid growth in storage capacity.	
2	The storage system must support scalability in multiple dimensions with ability to scale I/O throughput with multiple network type support, read and write optimization and total storage capacity to meet Application needs.	
3	The storage system should provide at least 24 CPU cores and 1 TB DRAM per controller	
4	The storage system should be able to support scaling by adding enclosures or disk trays.	
5	The storage system must support 22 TB or higher capacity SAS-3 hard disk drive.	
6	The storage system should support 7.68 TB or higher SSD.	
7	The storage system should be mountable on existing non-Exadata racks at Primary site and at DR site. The entire backup solution hardware including Backup Appliance, Media servers, Tape Library should fit in within available rack space of 24 U.	
8	The storage system should support at least 20 10Gb/25Gb/40Gb/100Gb Ethernet (twinax/optical) ports	
9	The storage system should be able to seamlessly connect to Exadata X5 and X7 with 10Gb/40Gb Ethernet (twinax/optical) ports.	
10	The storage system should be able to seamlessly connect to Exadata X9 with 25Gb/100Gb Ethernet (twinax/optical) ports.	
11	The storage system must have redundant HBA cards for tape backup (each 16Gb/32Gb dual-port FC HBA).	

d) Software Features and Backup Services requirements

S. No.	Technical Specification	Whether complied(Y/N)
1	The storage system should be able to backup Transparent Data Encrypted enabled database's backup of Oracle Databases using Oracle RMAN backup.	
2	The storage system should be able to fully restore backup without any corruption or inconvenience.	
3	The storage system should be able send TDE enabled and Hybrid Columnar compressed database backups to tape library.	
4	All required backup software's required for backup to storage system and sending it to tape library to be included. Tape library with at least 9 disk drives to be considered.	
5	All basic software features, for example file / block protocols and data services such as thin provisioning, de-duplication, compression, snapshot should be included free of charge.	
6	The storage system should support metadata device or DDT SSD to store the data de-duplication table for maximum de-duplication performance.	
7	The storage system must support Hybrid Columnar Compression technology which enables end-to-end data reduction for Oracle Database.	
8	The storage system must support data reduction technology with minimal performance impact at storage level such as data compression and inline data de-duplication.	
9	The storage system must support Oracle Intelligent Storage Protocol which enables better integration to Oracle DB (automatic tuning).	
10	Must provide seamless multi-protocol integration and secure data sharing between Microsoft Windows and UNIX/LINUX clients.	
11	The storage system must support file level protocols, like NFSv2, NFSv3, NFSv4, NFSv4.1, SMB1/2/2.1/3, HTTP, WebDAV, FTP, SFTP, FTPS.	

12	The storage system must support Object protocol, Open Stack Swift-compatible object ingest over HTTP or HTTPS.	
13	The storage system must support block level protocol like iSCSI, FC .	
14	The storage system must support directory services like NIS, AD and LDAP.	
15	The storage system must support network services NTP, DHCP and SMTP.	
16	The storage system support replication on-disk compressed data as is over the wire, node compression/recompression when doing replication.	
17	The storage system must have QOS feature such as File System & LUN I/O throttling.	
18	The storage system should support mix of resource pool such as flash pool, disk pool.	
19	The storage system should support direct communication between storage system and Oracle database by reducing latency and improves I/O performance for Oracle workload.	
20	The storage system should support a minimum of 10x compression of static Database data, resulting in a minimum of 3x reduction in storage footprint for data warehousing and long-term storage of information in Oracle Database.	
21	The storage should support data retention policy on Oracle Cloud Infrastructure object, snapshot, and share/file retention policies for legal hold, data governance, or regulatory compliance.	

e) Monitoring, Notification and Management

S. No.	Technical Specification	Whether complied (Y/N)
--------	-------------------------	------------------------

1	The storage system must provide real-time analysis and monitoring functionality, at almost no performance impact to the running production applications.	
2	The storage system must provide monitoring storage analytics and dashboard monitoring for key system performance metrics	
3	The storage system should provide automated serviceability using Call Home feature.	
4	The storage system should support front-accessible and hot-swappable disk drives.	
5	The storage system should support iSNS or an equivalent capability, such as an integrated management interface and APIs designed for modern data protection workflows.	
6	The storage system must support remote management via HTTPS, SSH, SNMP v1/v2c/v3, IPMI, S3, RESTful API, Open Stack Cinder.	
7	The storage system should support Role-Based Access Control (RBAC) and end-to-end integrity measures to enforces granular control over access privileges.	
8	The storage system must provide or support a single management console to manage both cloud and on-prem environments that allows administrators to manage their Storage resources in the cloud along with their on-premises resources, providing a unified management platform for distributed cloud environments.	

f) Data Protection Features

S. No.	Technical Specification	Whether complied (Y/N)
1	The storage system must provide data security through checksum data and metadata.	
2	The storage system must support RAID0 (Striping), RAID1 (2 and 3 ways	

	mirroring), Single parity RAID, Double parity RAID and Triple parity RAID.	
3	The storage system must support mix RAID level/pools in the same system.	
4	The storage system should support multi-pathing - IP multi-pathing (IPMP) and I/O multi-pathing to Disk arrays.	
5	The storage system should support all the types of replication of data for disaster recovery,1-to-1, 1 to many, many to 1 and bi-directional.	
6	The storage system should support duplicated replication, to only send unique data blocks over in order to reduce the data sent over the wire.	
7	The storage system should support resumable replication. In case of network or other failure, replication should resume at the point it left off, when failure happened.	
8	The storage system should support independent retention policies for auto-generated snapshots on Source and target.	
9	The storage system should support ability to control the replication bandwidth.	
10	The storage system must support to track and monitor individual-file level activities, ensuring compliance with data security and privacy regulations.	
11	The storage system must support provide a point-in-time view of the file system. These snapshots cannot be modified.	
12	The storage system must support and enables seamless integration between the on-premises storage and cloud object storage. It allows users to interact with and manage objects stored in cloud object storage directly from the on-premises storage environment, facilitating data movement and synchronization between on-premises and cloud storage.	

g) Other Features

S. No.	Technical Specification	Whether complied (Y/N)
1	The storage system should support virus scanning and quarantine capabilities. At least should support popular anti-virus software like Symantec, McAfee, CA etc.	
2	The storage system should support backup software integration, like Veritas Net Backup, Commvault.	
3	Storage Capacity 340 TB Usable RAID(1/0) Or Mirror	

2. Backup software specifications

Generic Mandatory Specifications	Compliance (Yes/No)
1.Analyst Rating	
The Backup software proposed should be in Gartner's leader quadrant of Magic Quadrant report of any last 5 years for Data protection/Backup software.	
2. Backup and Recovery for Oracle Database and Flat Files:	
Backup software should support disk to disk and disk to tape backups at the same time	
Proposed appliance should have the ability to perform different backups, restore simultaneously	
The backup software must support Oracle RMAN for all Oracle database backups.(disk to appliance). Backup Software should be interfaced with oracle RMAN to take backups of UAT, PRSMS, Catalog database, OEM database at each sites	
The backup software should be capable of performing the backup of backup sets from Disk/Appliance to LTO tapes backups.	

The backup software should allow seamless integration with RMAN scripts. Proposed backup software should support seamless interfacing with Oracle RMAN utility backup features for RMAN Backups and backup restoration	
The backup software must support backup for flat files from staging servers at both locations.	
3. Primary and Standby Database Architecture:	
The backup software must support Oracle Data Guard replication for primary and standby databases.	
Backup should be executed through direct Optical Fiber connections between Exadata servers and storage appliances (disk-to-disk).	
4. Backup Server and Storage Architecture:	
Backup software must support backup from staging servers (disk-to-disk) and server-to-tape backup.	
The backup software should be able to move backup data from backup appliance to tape storage devices.	
5. Retention Policies and Backup Management:	
RMAN retention policies should take precedence over backup software policies.	
The backup software should support configuration for RMAN retention policies (e.g., recovery window, redundancy) to override the retention policies of backup software	
RMAN maintenance commands such as cross-check and delete obsolete must work seamlessly with the backup software.	
Maintenance tasks like cross-check and delete obsolete should be scheduled and configured within the backup software.	
6. System Compatibility and Resource Efficiency:	

<p>The backup software must be compatible with Oracle Exadata (X5-2, X7-2, X9M-2). Proposed Backup software shall be compatible and certified to work on Exadata X5-2, X9-2 and X9M-2 systems.</p> <p>The software should be certified by respective Backup software OEMs to work on Oracle Exadata systems</p>	
<p>The backup software must not introduce performance issues (e.g., excessive CPU or memory usage) on Exadata systems.</p>	
<p>The backup software must be compatible with Oracle Enterprise Linux 8 and above</p>	
<p>The backup software must support Oracle Exadata RAC configurations and ensure RMAN backups are distributed across RAC nodes.</p>	
<p>The Backup software /agents/plugins should be compatible with latest version of Operating system Oracle Enterprise Linux.</p>	
<p>The Backup software /agents/plugins should be compatible with Oracle database version 19C and above.</p>	
<p>7. Performance and Efficiency:</p>	
<p>A backup speed of 10 TB / hour should be achieved.</p> <p>(Please refer to Section B, Clause 6 – SLA requirements on Backup performance requirements</p>	
<p>The Media Management Layer (MML) of the backup software should be optimized to minimize CPU and memory usage, avoiding database waits/MML waits.</p>	
<p>Proposed backup software should be able to de-duplicate data across backup and backup data sets to reduce storage footprint (using software based de-duplication)</p>	
<p>The backup software must provide efficient deduplication and compression to optimize storage and minimize backup window.</p>	

8. Data Encryption and Security:	
The backup software must support Transparent Data Encryption (TDE) for Oracle databases.	
The backup software must support Hybrid Columnar Compression (HCC) technology for Exadata, ensuring high deduplication and compression ratios.	
The backup software should support role-based access control (RBAC) with audit logging to track all administrative activities.	
The solution must support integration with multi-factor authentication (MFA) for administrator access.	
The backup software should support secure API integrations with existing security monitoring solutions (SIEM, SOC).	
9. Backup to Virtual Tape Library (VTL):	
The backup software must support Virtual Tape Libraries (VTL) for both disk-to-disk backups and restorations.	
Proposed Backup software shall support Virtual Tape Library for backups to disk as well as for restorations.	
10. Vendor Support and Compliance:	
The bidder shall have back-to-back arrangement with Oracle for configuring direct point-to-point connections from Exadata servers to the backup appliance.	
11. Ease of Use and Management:	

The backup software must provide a centralized management interface to schedule, monitor, and report on backup activities.	
The software should allow scheduling of backups using RMAN scripts and provide detailed reports on backup success/failure.	
12. Scalability and Future Proofing:	
The backup software should be scalable to accommodate future data growth and additional Exadata hardware.	
The solution should be flexible enough to accommodate future versions of Exadata hardware and features.	
13. Backup Software- Other Specifications	
24x7 OEM support should be included. This should include upgrades, updates, patches, bug-fixes etc.	
The proposed Integrated solution (Backup Software and De-Dupe Appliance) must be provided by a single Bidder to ensure ownership of design and support. It must be with the respective OEM support and must be implemented by Single Bidder.	
The bidder must include all the necessary hardware including servers, backup software, De-Dupe Storage etc as a part of the proposed solution. The Hardware must be sized to be able to handle the backup/restore operations mentioned in the RFP.	
Must be provided with perpetual licenses for unlimited number of hosts and must be configured with 75 TB of Front End capacity based license at both sites with 5 years AMC support.	

<p>Proposed backup software must have backup server compatible to run on both Windows and Linux OS platforms. It should offer a single Console to manage entire backup operations across the platforms from single window across sites (DC and DR)</p>	
<p>Must have Agent/Modules for online backup of applications and databases such as Oracle Exadata DB. It should support online backup of databases such MSSQL, Exchange, DB2, Informix, Sybase, SharePoint, and SAP, SAP HANA etc.</p>	
<p>Proposed Backup Software should use the Auto discover applications option to automatically find Oracle databases in the environment and install software to back up the Oracle database.</p>	
<p>The Proposed Backup Software should protect Oracle Data Guard instances. Role-based backups are executed on the primary and standby sites for data and log files.</p>	
<p>The Proposed backup software should protect databases that have Hybrid Columnar Compression (HCC) enabled.</p>	
<p>The proposed backup software should backup and restore Oracle databases that uses Transparent Data Encryption (TDE) or Tablespace Encryption (TSE)</p>	
<p>The backup solution must support online LAN free (SAN based) backup of all physical servers and databases through appropriate agents. The backup data must flow directly from client to backup appliance for both LAN & SAN connected clients</p>	
<p>Proposed Backup Software must support Data based Backup and restore including the parameters which are supported on the RMAN command line to back up or restore files such as control files, parameter files (SP files), and individual data files.</p>	

The Proposed backup software must support backup and restore operations in an Oracle Data Guard environment, for both single-instance Oracle databases and Oracle RAC databases.	
The proposed software should support block-level and flat-file backup with incremental/synthetic full backup cycles, full VM recovery, bare metal recovery for Windows/Linux, granular file-level restore, DB restore, and Instant VM recovery.	
The proposed backup solution should provide a mechanism to validate the consistency of the backup image before restoring the data to ensure only consistent data is getting restored.	
The proposed software should have a security dashboard with cyber security solution that includes: (a) Machine-learning-based prevention mechanism to prevent against cyber threats. (b) Behaviour analysis for ransomware detection and protection with encryption rollback. (c) Ransomware protection and Malware detection functionality (d) Alert mechanism in the event of detection of any anomaly	
Proposed solution should have Cyber Resilience capabilities to protect data from ransomware, malware or any other threat discovered from time to time. Solution should provide capability to scan backup data for any file anomalies or malware infection.	

<p>Proposed Integrated Solution must support backup and restore of physical as well as virtual environments such as HyperV, VMware, AHV, Citrix XEN, KVM, Oracle VM, Kubernetes etc. with agentless / image backup</p>	
<p>The proposed integrated solution must protect Oracle Linux virtual machines at the image level and support CBT (Change Block Tracking) based backups and CBT restores. The solution must not require dedicated physical proxy servers to perform image level backup.</p>	
<p>Must provide support to restore a single VM, single file from a virtualized environment. It must provide restore from the backup server management console for ease of use and centralized administration</p>	
<p>Must not need a physical proxy to perform backup and recovery of VMware virtual environment. A single proxy must be able to perform minimum 20 concurrent streams with source deduplication</p>	
<p>The Proposed backup solution must support the Client side data de-duplication for the File System, Applications and Databases.</p>	
<p>Must be able to dynamically break up large backup sets to be backed up in parallel to allow backups to complete faster for Windows, Unix and Linux clients.</p>	
<p>Proposed disk based backup appliance should be able to interface with various industry leading server platforms operating systems and Must support LAN/SAN based D2D backup simultaneously via NFS v3, CIFS, FC, OST and NDMP protocols.</p>	

The backup software must have in-built calendar based scheduling system and must support the ability to configure retries of client in case of backup failure	
It must support various level of backups including full, incremental, differential, synthetic and virtual synthetic backup methodology.	
Must support NAS and storage array based snapshot backup for off host zero downtime and zero load on the primary backup client.	
The integrated solution must allow setting up of different retention policies for backed up data at primary site and the replicated site.	
The integrated solution must provide single Graphical User Interface for backup, restore and management. The single GUI interface must provide management of backup software, disk based backup appliance	
Must have inbuilt feature for extensive alerting and reporting with pre-configured and customizable formats. The proposed solution must have capability to do trend analysis for capacity planning of backup environment not limiting to Integrated Backup Solution /Clients, Virtual Environment, Replication etc.	
The solution must be able to recreate backup catalog from data on existing volumes. Additionally in case of disaster or server crash, the backup solution must be able to restore the complete backup server configuration and catalog in timely manner	
Must be capable of integration with active directory infrastructure for ease of user rights management along with role based access control to regulate the level of management	

--	--

3. Media Server specifications

Description of Requirement	Compliance (Yes/No)
Chassis	
2U Rack Mountable	
CPU	
2 x Intel Xeon 4th or 5th Generation Silver/Gold/Platinum processor with 16 core, 2.5Ghz, 37.5Mb cache	
Chipset	
Latest Chipset	
Memory	
1TB RAM and expandable up to 2TB	
HDD Bay	
4 x 7.68TB NVMe drive	
Controller	
Embedded / PCIe based RAID controller with 8GB Flash backed write cache supporting RAID 0, 1, 5, 6, 10, 50, 60 Must support mix-and-match SAS, SATA, and NVMe drives to the same controller.	
PCIe Ports	
Supporting 8xPCIe5.0 slots	
Network Ports	

2 x Dual Port 10Gig Network Adapter with 10Gig Transceivers 2 x Dual Port 32Gig FC HBA Card	
Interfaces	
USB support with Up to 5 total: 1 front, 2 rear, 2 internal. 1GbE Dedicated management port	
Power Supply	
Hot plug redundant Power Supply with minimum 1600W	
Fans	
Redundant hot-plug system fans	
Industry Standard Compliance	
ACPI 6.3 Compliant	
PCIe 5.0 Compliant	
WOL Support	
Microsoft® Logo certifications	
PXE Support	
Energy Star	
SMBIOS 3.2	
UEFI 2.7	
Redfish API	
IPMI 2.0	
Secure Digital 4.0	
Advanced Encryption Standard (AES)	
Triple Data Encryption Standard (3DES)	

SNMP v3	
TLS 1.2	
DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)	
Active Directory v1.0	
ASHRAE A3/A4	
System Security	
UEFI Secure Boot and Secure Start support	
Tamper-free updates - components digitally signed and verified	
Immutable Silicon Root of Trust	
Ability to rollback firmware	
FIPS 140-2 validation	
Secure erase of NAND/User data	
Configurable for PCI DSS compliance	
TPM (Trusted Platform Module) 2.0 option	
Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser	
Bezel	
Bezel Locking Kit option	
Support for Commercial National Security Algorithms (CNSA)	
Chassis Intrusion detection kit	
Secure Recovery - recover critical firmware to known good state on detection of compromised firmware	
Operating Systems and Virtualization Software Support	

Windows Server. Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) VMware ESXi. Canonical Ubuntu Oracle Linux and Oracle VM	
Provisioning	
1. Should support tool to provision server using RESTful API to discover and deploy servers at scale	
2. Provision one to many servers using own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell	
Firmware security	
For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable	
Should maintain repository for firmware and drivers recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware	
Embedded Remote Management and firmware security	
System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication	
Server should have dedicated 1Gbps remote management port	
Server should have storage space earmarked to be used as a repository for firmware, drivers and software components. The components can be organized in to install sets and can be used to rollback/patch faulty firmware	

Server should support agentless management using the out-of-band remote management port	
The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur	
Two factor Authentication	
Local or Directory-based user accounts with Role based access control	
Remote console sharing up to 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality. Should provide support for Java free graphical remote console.	
Should support managing multiple servers as one via <ul style="list-style-type: none"> • Group Firmware Update • Group Configuration • Group Virtual Media and Encrypted Virtual Media 	
Should support RESTful API integration	
Server should have security dashboard, displaying the status of important security features, the Overall Security Status for the system, and the current configuration for the Security State and Server Configuration Lock features.	
Server Management	
Software should support dashboard view to quickly scan the managed resources to assess the overall health of the data center. It should provide an at-a-glance visual health summary of the resources user is authorized to view.	
The Dashboard minimum should display a health summary of the following: <ul style="list-style-type: none"> • Server Profiles • Server Hardware • Appliance alerts 	

The Systems Management software should provide Role-based access control	
Zero Touch Provisioning (ZTP) using SSDP with remote access	
Management software should support integration with popular virtualization platform management software like VMware vCenter & vRealize Operations, and Microsoft System Center & Admin Center	
Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD and auto-creation of case ID	
Should provide an online portal that can be accessible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contracts and status. The Portal should also provide a personalised dashboard to monitor device health, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be available on premise (at our location - console based) or off premise (in the cloud).	
Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.	
Should have dashboard for firmware baselines while performing minimum required firmware checks and highlighting out-of-compliance devices for updates with the selected firmware baseline	
The Server Management Software should be of the same brand as of the server supplier.	
Warranty	
5 Years 4 hr CTR 24x7 Support	

4. Tape Library specifications

Functionality	
Capacity	Complied (Yes/No)
1. Offered Tape Library shall support Native data capacity of 11PB (uncompressed) using LTO-9 Technology.	
2. Shall be offered with Minimum of nine LTO-9 FC tape drive. Drive shall support encryption	
3. Shall be offered with 40 Cartridge slots and shall be scalable to 640 slots.	
Tape Drive Architecture	
1. Offered LTO-9 drives in the Library shall conform to the Data rate matching technique for higher reliability.	
2. Tape Drive Architecture in the Library shall conform to the INCITS T10 standard ADI Protocol or newer standards.	
Scalability	
Tape Library shall be scalable to minimum of 48 number of LTO-9 drives	
Speed	
Offered LTO-9 drive shall support 400MB/sec in Native mode.	
Connectivity	
Offered Tape Library shall provide native FC connectivity to SAN switches. Maximum FC speed per drive should be 16Gbps FC to SAN Switches	
Partitioning	
Offered tape library shall have flexibility to configure each offered drive into a separate partition. Offered tape library shall have support for 21 partitions when fully populated. Vendor shall provide the license for same.	
Encryption device	
Offered Library shall be provided with a hardware device like USB key, separate	

appliance etc. to keep all the encrypted keys in a redundant fashion.	
Management	
Tape Library shall provide web based remote management.	
Barcode Reader and Mail slots	
Tape library shall support Barcode reader and mail slot.	
Tape Library shall be offered with 5 mail slots within the 40 cartridge slots.	
Every additional 40 Cartridge slots shall provide the flexibility to use 5 slots as mail slots.	
Other Features	
Tape Library shall have GUI Panel	
Shall be rack mountable.	
Shall have option for redundant power supply	
Tape Library shall be supplied with software which can predict and prevent failures through early warning and shall also suggest the required service action.	
Offered drives in the tape library shall optionally support both data path and control path failover.	
Offered Software shall also have the capability to determine when to retire the tape cartridges and what compression ratio is being achieved.	

I hereby certify that the Backup solution proposed fulfills all Technical requirements

Dated at _____ this day of _____ 2025

Authorized Signatory

(Name: Contact Person, Phone No., Fax, E-mail)

(This letter should be on the letterhead of the of the company by the Bidder and OEM duly signed by an authorized signatory)

These Corrigendum/Modifications/Additions to Request for Proposal for the procurement of Backup solution for ODS project of Life Insurance Corporation of India are issued with the approval of Secretary (IT/DT).

Secretary (IT/DT)