

Corrigendum I

**Request for Proposal (RFP) for
Supply, Installation, Testing and Commissioning (SITC) of
Enterprise Backup Solution with 5 Years Comprehensive
Onsite Warranty Support for Gujarat State Data Centre
(GSDC), Gandhinagar
(GeM Bid Number: GEM/2026/B/7959137)**

Dated 15.10.2026

Directorate of ICT & e-Governance
Block No. 2, 2nd Floor, C & D Wing, Karmayogi Bhavan,
Sector - 10 A, Gandhinagar - 382010

CORRIGENDUM / PRE-BID CLARIFICATION

The following amendments/clarifications are issued and shall be read as part of, and shall prevail over, the corresponding clauses of the RFP document. All other terms and conditions of the RFP remain unchanged.

I. Addition in Definition

Net Usable Capacity — the clean, formatted payload capacity of the target storage array available for backup data storage, computed after deducting RAID 6 (or higher) parity loss, hot spares, formatting overhead, system controller cache, and the SSD/NVMe metadata/caching tier specified at Technical Specification Sr. No. 20. This single figure governs hardware sizing, software licensing, and evaluation throughout this RFP — referred to interchangeably as "Net Usable Capacity," "Net Usable Target Storage Capacity," and "Net Usable Physical Target Storage Capacity." The mandatory minimum is 400 TB (300 TB at Primary DC + 100 TB at Far DR).

Front-End Terabyte (FETB) — the logical volume of source (client-side) data submitted for backup, measured before any deduplication or compression.

II. Governing Principle — Basis of Enterprise Backup Software Licensing

The Enterprise Backup Software licensing entitlement shall, in its commercial and functional effect, be governed solely by Net Usable Capacity (NUC). Irrespective of the OEM's native licensing metric, no additional cost, license purchase, or restriction on coverage shall ever be triggered by the volume of Front-End source data protected, or by the number of instances, VMs, hosts, sockets, or agents protected, provided the resultant physical footprint after deduplication/compression remains within the licensed Net Usable Capacity. This principle governs the interpretation of the entire Licensing section below and prevails over any conflicting clause language elsewhere in this RFP or any corrigendum.

III. Enterprise Backup Software Licensing & Target Storage Sizing Model Clarification

1. Licensing Basis — Applies Regardless of the OEM's Native Licensing Metric

The baseline software license shall cover a minimum of 400 TB Net Usable Capacity (300 TB DC / 100 TB DR). Where the Bidder's/OEM's software is natively licensed on any metric other than Net Usable Capacity — including per-Instance, per-VM, per-Host, per-Socket, per-Agent, or FETB-based licensing — the Bidder shall supply a sufficient quantity/tier of such licenses so that, in aggregate, they deliver unrestricted coverage of the full 400 TB Net Usable Capacity, consistent with the Governing Principle in Section I. This entitlement shall cover:

- a) All workloads presently required to be protected under the RFP's retention schedule, and
- b) The license shall be usable across the entire site (Primary DC and Far DR) without restriction on location.
- c) all future growth in protected instances/VMs/hosts over the 5-year tenure (and any exercised 6th/7th year extension) at no additional per-instance, per-VM, per-socket, per-agent, or per-FETB cost, for as long as the resultant physical footprint after deduplication/compression stays within the licensed Net Usable Capacity installed.

The Bidder/OEM shall state, in its Technical Bid and OEM Sizing Certificate, its native licensing metric, the exact quantity/tier supplied, and a certification that this quantity/tier imposes no instance-count, VM-count, host-count, socket-count, or agent-count ceiling on coverage within the licensed Net Usable Capacity — i.e., that no fixed threshold exists whose crossing would require additional license purchase, regardless of remaining Net Usable Capacity headroom. A bid that reserves any such fixed threshold, or that requires additional license purchase on crossing an instance/VM/socket/agent count while capacity headroom remains, is technically and commercially Non-Compliant and liable for rejection.

2. No Fee on Hardware Overhead

Licensing, subscription, or maintenance fees shall never be levied on raw physical drives, RAID parity drives, hot spares, formatting loss, controller cache, or the SSD/NVMe caching tier — pricing is on Net Usable Capacity alone.

3. Sizing Responsibility and Sufficiency for Retention

400 TB Net Usable Capacity is the minimum mandatory threshold, not a presumed-sufficient figure. The Bidder/OEM is solely responsible for sizing the solution — including its deduplication/compression engine — so this capacity actually holds the complete retention schedule specified in this RFP. This is certified upfront via the OEM Sizing Certificate and verified through the post-deployment audit and Storage Shortfall remedy provisions. Delivery of 400 TB alone is not conclusive proof of adequate sizing.

4. Additional Capacity at Bidder's Own Risk

Any physical target storage supplied beyond 400 TB Net Usable Capacity — proactively at bid time or later as a shortfall remedy — is at the Bidder's own discretion, and must come with matching software licenses covering 100% of the installed Net Usable Capacity at **zero additional cost**, throughout the base 5-year tenure and any exercised 6th/7th year extension, without lapse.

IV. Data Reduction Performance Benchmark & OEM Guarantee

1. Mandatory Minimum Data Reduction Ratio

The proposed Backup System (software engine + target physical storage) must natively achieve and sustain an overall average guaranteed Data Reduction Ratio of at least **15:1** across the combined GSDC workload (VMs, OS images, databases, application payloads).

The Data Reduction Ratio mentioned in the Data Reduction Performance Benchmark & OEM Guarantee section should be replaced as below.

- a. Mandatory Minimum Data Reduction Ratio: Instead of 5:1, it is replaced with 15:1 in the RFP.

2. OEM Sizing Certificate — Binding Representation

Every Bidder must submit a signed OEM Capacity & Sizing Certificate with its Technical Bid, certifying that the offered 400 TB Net Usable Capacity, at the OEM's guaranteed deduplication/compression performance, is sufficient to store 100% of the retention schedule. This is a binding technical

representation, not an estimate — non-performance triggers the Storage Shortfall remedy (mandatory free capacity augmentation) and associated financial penalties elsewhere in this RFP.

V. License Clauses 1–4 (Enterprise Backup Software Licensing & Target Storage Sizing Model) read with the Data Reduction Performance Benchmark & OEM Guarantee clauses (RFP Page No. 24 & 25)

Enterprise Backup Software Licensing & Target Storage Sizing Model: Compliance with this Clause is subject to, and does not supersede, waive, or substitute for, the Bidder's/OEM's obligations under the OEM Sizing Certificate Mandate and the Data Reduction Performance Benchmark & OEM Guarantee clauses of this RFP, including the post-deployment audit and Storage Shortfall remedy provisions. Delivery of 400 TB Net Usable Target Capacity, by itself, shall not be deemed conclusive evidence of adequate sizing to meet the retention schedules specified in this RFP.

VI. Please read the revised Eligibility Criteria regarding bidder's experience (Clause No. 7, Point No. 4) as follows:

The Bidder should have experience of SITC of Enterprise Backup Solution with the following capacity in the last three financial years in any Central / State Government Organization / PSU/ Public Listed as on last date of bid submission. 1. At least 1 order of minimum Rs. 4 Crore for SITC of Backup Solution or 2. At least 2 orders each of minimum Rs. 2.5 Crore for SITC of Backup Solution or 3. At least 3 orders each of minimum Rs. 2 Crore for SITC of Backup Solution. All work orders/contracts should be in the name of the bidder.	The bidder shall submit copies of Purchase Order/Work Order and Project Go-Live/FAT Certificate from the respective institutions.
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In place of

The Bidder should have experience of SITC of Enterprise Backup Solution with the following capacity in the last three financial years in any Central / State Government Organization / PSU/ Public Listed as on last date of bid submission. 1. At least 1 order of minimum Rs. 4 Crore for SITC of Storage Solution or 2. At least 2 orders each of minimum Rs. 2.5 Crore for SITC of Storage Solution or 3. At least 3 orders each of minimum Rs. 2 Crore for SITC of Storage Solution. All work orders/contracts should be in the name of the bidder.	The bidder shall submit copies of Purchase Order/Work Order and Project Go-Live/FAT Certificate from the respective institutions.
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Responses to Pre-Bid Queries				
Tender Ref. No.:		GEM/2026/B/7959137 Dated: 01.09.2026		
Tender Subject		RFP for for Supply, Installation, Testing and Commissioning (SITC) of Enterprise Backup Solution with 5 Years Comprehensive Onsite Warranty Support for GSDC, Gandhinagar		
Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
1	Clause 12, Technical Specifications, Sub Clause 2, Page 22	Usable Storage Expandability Primary Data Centre: Expandable up to minimum 1 PB Usable Far Disaster Recovery Site: Expandable up to minimum 350 TB Usable	Usable Storage Expandability Primary Data Centre: Expandable up to minimum 500 TB Usable. Bidder is allowed to quote for multiple storage to derive 1 PB usable expansion capability. Far Disaster Recovery Site: Expandable up to minimum 350 TB Usable Justification: 1 PB single storage expansion criteria on backup storage appliance is restricting from participating. Hence, this request.	Revised Clause: Usable Storage Expandability Primary Data Centre: Expandable up to minimum 750 TB Usable. Far Disaster Recovery Site: Expandable up to minimum 250 TB Usable
2	Clause 12, Technical Specifications, Sub Clause 3, Page 22	Architecture / Controller Primary Data Centre: Minimum 2 Controllers/Engines configured in Active-Active or Active-Passive HA mode Far Disaster Recovery Site: Minimum 2 Controllers/Engines configured in Active-Active or Active-Passive HA mode	Architecture / Controller Primary Data Centre: Single Controller architecture Far Disaster Recovery Site: Single Controller architecture Justification: Controller architecture in backup should be Single Controller. Dual Controller Active-Active OR Active-Passive is for Production Storage or for Mission Critical Storage. This clause is vendor specific and is restricting from participating. Hence, this request.	Revised Clause: Architecture / Controller Primary Data Centre: Minimum 1 Controller or as per the respective OEM's standard architectural design and sizing guidelines, provided the solution meets all performance, throughput requirements defined in the RFP. Far Disaster Recovery Site: Minimum 1 Controller or as per the respective OEM's standard architectural design and sizing guidelines, provided the solution meets all performance, throughput requirements defined in the RFP.
3	Clause 12, Technical Specifications, Sub Clause 4, Page 22	Cache / RAM per Site Primary Data Centre: Minimum 256 GB RAM/Cache per Controller Far Disaster Recovery Site: Minimum 256 GB RAM/Cache per Controller	Clause to be deleted entirely Justification: This is vendor specific clause. Cache / Memory should not be defined since the sizing of storage appliance is done on backup performance and not on Controllers and Cache / Memory. This clause is vendor specific and is restricting from participating. Hence, this request.	Revised Clause: Minimum of 256 GB RAM/Cache/System memory (per Controller) or equivalent architecture-specific resources necessary to achieve the specified deduplication, replication, scalability and all other performance, throughput requirements defined in the RFP.
4	Clause 12, Technical Specifications, Sub Clause 5, Page 22	High-Performance SSD / NVMe Tier (In addition to specified net usable payload capacity) Primary Data Centre: Minimum 10% of Usable HDD Capacity (Minimum 30 TB SSD/NVMe) for metadata, deduplication index, and write acceleration Far Disaster Recovery Site: Minimum 10% of Usable HDD Capacity (Minimum 10 TB SSD/NVMe) for metadata, deduplication index, and write acceleration	Clause to be deleted entirely Justification: SSD drives are for metadata and they are predefined as per the usable capacity and appliance, as sizing of appliance are done on backup performance, so thos clause is not required. This clause is restricting from participating. Hence, this request.	SSD/NVMe capacity shall be provided for metadata, index, deduplication, cache, and system functions as per the respective OEM's standard architectural design and sizing guidelines, provided the solution meets all performance, throughput requirements defined in the RFP. Additionally, If any performance bottleneck or failure to meet the required throughput/SLA occurs due to insufficient cache or metadata storage capacity during the contract/SLA period, the successful Bidder shall upgrade/replace, or add the required SSD/NVMe components at their own cost.
5	Clause 12, Technical Specifications, Sub Clause 7, Page 22	Minimum Connectivity Ports Primary Data Centre: Minimum 4x10 GbE SFP+ & Minimum 8x16/32Gbps FC (Supports LACP/Port Aggregation) Far Disaster Recovery Site: Minimum 4x10 GbE SFP+ & Minimum 8x16/32Gbps FC (Supports LACP/Port Aggregation)	Minimum Connectivity Ports Primary Data Centre: Minimum 4 x 10 GbE SFP+ & Minimum 4 x 16/32Gbps FC (Supports LACP/Port Aggregation) Far Disaster Recovery Site: Minimum 4 x 10 GbE SFP+ & Minimum 4 x 16/32Gbps FC (Supports LACP/Port Aggregation) Justification: 4 x 10G SFP+ ports and 4 x 16/32Gb FC ports are sufficient for backup storage. This clause is restricting from participating. Hence, this request.	Revised Clause: Minimum Connectivity Ports Primary Data Centre: Minimum 4x10 GbE SFP+ & Minimum 8x16/32Gbps FC (Supports LACP/Port Aggregation) Far Disaster Recovery Site: Minimum 4x10 GbE SFP+ & Minimum 4x16/32Gbps FC (Supports LACP/Port Aggregation)
6	Clause 12, Technical Specifications, Sub Clause 13, Page 22	Backup & Replication: Should be Concurrent	Backup & Replication: Should not be Concurrent Justification: Backup and replication are not concurrent as replication may/might hamper the backup performance. This clause is restricting from participating. Hence, this request.	The proposed solution shall support simultaneous backup and replication operations as per the OEM's standard architecture. The solution shall be appropriately sized to meet all specifications RFP requirements while operations are running concurrently.
7	Clause 12, Technical Specifications, Sub Clause 14, Page 22	Encryption: The solution shall provide end-to-end encryption for data at rest and data in transit.	Encryption: The solution shall provide end-to-end encryption for data at rest. Justification: Data encryption is not on transit for backup storage. It's encryption for data at rest. This clause is restricting from participating. Hence, this request.	As per RFP.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
8	Clause 12, Technical Specifications, Sub Clause 20, Page 23	High-Performance SSD/NVMe Caching Tier: To achieve the required ingest throughput performance 20 TB/hr to 50 TB/hr and sustain low-latency inline deduplication indexing on SAS/NL-SAS primary storage tiers, the proposed backup appliance architecture must incorporate a dedicated SSD/NVMe storage tier equivalent to a minimum of 10% of the net usable physical HDD capacity (i.e., Min. 30 TB Flash/SSD/NVMe at DC and Min. 10 TB Flash/SSD/NVMe at DR). This tier must be dedicated to deduplication metadata, index trees, and write-path caching. The 10% SSD/NVMe caching tier (Min. 30 TB at DC and 10 TB at DR) must be provided over and above the required 400 TB Net Usable Physical Storage Capacity. The 400 TB net usable capacity (300 TB at DC / 100 TB at DR) shall be strictly dedicated to backup payload storage after RAID 6 or equivalent protection and formatting overhead. 10% cache must be added irrespective of disk type for deduplication metadata, index trees, and write-path caching and should match disk type in case SSD or NVME disk is used for Net Usable Physical Storage.	Clause to be deleted entirely Justification: SSD drives are for metadata and they are predefined as per the usable capacity and appliance, as sizing of appliance are done on backup performance, so thos clause is not required. This clause is restricting from participating. Hence, this request.	As per Sr. No. 4.
9	Clause 12, Technical Specifications, Sub Clause 26, Page 23	Solution should be offered with battery backed up RAM/SSD/NVRAM for protection against data loss in a power failure scenario and continuous automated file system check to ensure data integrity.	Clause to be deleted entirely Justification: These features are supported on Production Storage and not on Backup Storage Appliance. This clause is restricting from participating. Hence, this request.	Clause Deleted.
10	Clause 12, Technical Specifications, Sub Clause 27, Page 23	Solution should support Multi-Tenancy features providing logical isolation, access control, and dedicated storage quotas per tenant. Global deduplication across tenants shall be supported as a configurable option per tenant policy.	Clause to be deleted entirely Justification: These features are supported on Production Storage and not on Backup Storage Appliance. This clause is restricting from participating. Hence, this request.	As per RFP.
11	Clause 12, Technical Specifications, Sub Clause 40, Page 24	The backup solution shall support multi-drive and multi-library VTL emulation profiles over Fibre Channel (FC) and iSCSI, including standard LTO (LTO-3 through LTO-8/9). The bidder/OEM shall ensure compatibility with GSDC's existing host operating systems (Windows, Linux,) and enterprise backup applications without requiring changes to existing tape backup scripts or licensing.	Clause not clear, request you to please elaborate and refine the requirement. Justification: Current LTO generation is LTO-9. One/two versions prior versions are still supported but not before that. Hence, this request.	As per RFP.
12	Clause 12, Technical Specifications, Sub Clause 1, Page 22	Point No. 1 Usable Physical Storage (after RAID 6 or equivalent redundancy and formatting loss DC : Minimum 300 TB Net Usable, DR : Minimum 100 TB Net Usable	Requesting to change for DC "Minimum 300 TB Net Usable or as sized by the OEM based on Front-End TB (FeTB), backup policy, retention requirements, growth projections, and data reduction assumptions. OEM shall submit a detailed capacity sizing report, duly endorsed by the OEM, as evidence supporting the proposed capacity. The bidder/OEM shall guarantee that the proposed solution meets the required workload and retention requirements throughout the contract period." Request the change for DR "Minimum 100 TB Net Usable or as sized by the OEM based on Front-End TB (FeTB), replication policy, retention requirements, growth projections, and data reduction assumptions. OEM shall submit a detailed capacity sizing report, duly endorsed by the OEM, as evidence supporting the proposed capacity. The bidder/OEM shall guarantee that the proposed solution meets the required workload and retention requirements throughout the contract period." In the event that the proposed solution is unable to provide the required backup retention, replication, or usable capacity due to incorrect sizing assumptions, data reduction assumptions, metadata overhead, or forecasted growth considered by the bidder/OEM, the bidder/OEM shall provide additional capacity, licenses, and associated components necessary to meet the RFP requirements at no additional cost" Justification : Fixed capacity requirements may not accurately reflect actual backup workload, retention policies, future growth, and data reduction characteristics. OEM-backed sizing ensures the proposed solution is appropriately sized for the environment while holding the OEM accountable for the sizing assumptions used.	Revised Clause: Usable Physical Storage (after RAID 6 or equivalent redundancy, formatting loss, hot spares & any kind of overheads) DC : Minimum 300 TB, DR : Minimum 100 TB
13	Clause 12, Technical Specifications, Sub Clause 2, Page 22	Point 2 Usable Storage Expandability DC : Expandable up to minimum 1 PB Usable, DR : Expandable up to minimum 350 Usable	Requesting change for DC "Expandable up to minimum 750TB usable" Request change for DR "Expandable up to minimum 250TB Usable" Justification : With Data Efficiencies and higher Ratios of Deduplication and compression, we strongly recommend to amend the scalability and save of CAPEX/OPEX to benefit GIL.	As per Sr. No. 1.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
14	Clause 12, Technical Specifications, Sub Clause 3, Page 22	Point 3 Architecture / Controller DC : Minimum 2 Controllers/Engines configured in Active-Active or Active-Passive HA mode DR : Minimum 2 Controllers/Engines configured in Active-Active or Active-Passive HA mode	Requesting change for DC & DR "The proposed backup target shall be a Purpose-Built Backup Appliance (PBBA) with native inline deduplication, compression, replication, immutable retention, and optimized backup protocols designed specifically for backup and recovery workloads." Justification : The requirement for Active-Active/Active-Passive controllers is applicable to primary storage architectures and does not necessarily reflect the design principles of modern Purpose-Built Backup Appliances. Compliance should be evaluated based on backup performance, resiliency, deduplication, replication, immutability, and recovery capabilities rather than a specific controller implementation. Purpose-built backup appliances are specifically designed to handle backup and recovery workloads efficiently, providing higher storage efficiency, faster backups, faster restores, reduced WAN bandwidth consumption, and enhanced cyber-resilience capabilities compared to general-purpose storage platforms.	As per Sr. No. 2.
15	Clause 12, Technical Specifications, Sub Clause 4, Page 22	Cache / RAM per Site DC : Minimum 256 GB RAM/Cache per Controller DR : Minimum 256 GB RAM/Cache per Controller	Requesting change for DC "The proposed Purpose-Built Backup Appliance (PBBA) shall provide a minimum of 512 GB system memory or equivalent architecture-specific resources necessary to achieve the specified performance, deduplication, replication, and scalability requirements." Requesting change for DR "The proposed Purpose-Built Backup Appliance (PBBA) shall provide a minimum of 256 GB system memory or equivalent architecture-specific resources necessary to achieve the specified performance, deduplication, replication, and scalability requirements." Justification : Purpose-built backup appliances are optimized for backup and recovery workloads, where overall platform performance depends on appliance architecture, metadata processing, deduplication efficiency, and system resources rather than memory allocated per controller.	As per Sr. No. 3.
16	Clause 12, Technical Specifications, Sub Clause 5, Page 22	High-Performance SSD / NVMe Tier (In addition to specified net usable payload Capacity) DC : Minimum 10% of Usable HDD Capacity (Minimum 30 TB SSD/NVMe) for metadata, deduplication index, and write acceleration DR : Minimum 10% of Usable HDD Capacity (Minimum 10 TB SSD/NVMe) for metadata, deduplication index, and write acceleration	Requesting change for DC "The proposed Purpose-Built Backup Appliance (PBBA) shall include a minimum of 15 TB of dedicated SSD/NVMe or equivalent high-performance storage resources for metadata management, deduplication indexing, system optimization, and backup/recovery performance acceleration" Requesting change for DC "The proposed Purpose-Built Backup Appliance (PBBA) shall include a minimum of 7.5 TB of dedicated SSD/NVMe or equivalent high-performance storage resources for metadata management, deduplication indexing, system optimization, and backup/recovery performance acceleration" Justification : Fixed SSD sizing based on a percentage of usable backup capacity does not necessarily improve backup performance or scalability. In purpose-built backup appliances, SSD/NVMe resources are primarily utilized for metadata acceleration and deduplication indexing rather than backup data storage. Recommended dedicated SSD/NVMe resources provides adequate capacity for metadata processing, deduplication operations, and performance optimization without imposing unnecessary flash capacity requirements that may not contribute to backup functionality.	As per Sr. No. 4.
17	Clause 12, Technical Specifications, Sub Clause 6, Page 22	Backend Disk Drives DC : Enterprise-grade High-Density Storage Media (SAS/NL-SAS/Enterprise NVMe/SSDs) (Minimum 8 TB) DR : Minimum 10% of Usable HDD Capacity (Minimum 10 TB SSD/NVMe) for metadata, deduplication index, and write acceleration	Requesting change for DC "The proposed Purpose-Built Backup Appliance (PBBA) shall include a minimum of 15 TB of dedicated SSD/NVMe or equivalent high-performance storage resources for metadata management, deduplication indexing, system optimization, and backup/recovery performance acceleration" Requesting change for DC "The proposed Purpose-Built Backup Appliance (PBBA) shall include a minimum of 7.5 TB of dedicated SSD/NVMe or equivalent high-performance storage resources for metadata management, deduplication indexing, system optimization, and backup/recovery performance acceleration" Justification : The required backup capacity and performance can be effectively achieved using 8 TB drives. Limiting drive size to a maximum of 8 TB reduces rebuild times, lowers recovery risk following disk failures, and improves overall storage resiliency while meeting the specified capacity and performance requirements.	As per Sr. No. 4.
18	Clause 12, Technical Specifications, Sub Clause 9, Page 22	Ingest Throughput (Optimized Protocol) DC & DR : Minimum 37.5 TB/hr	Request replacing the clause to "Minimum 70TB/hr for DC. Justification : Considering FeTB to be protected at DC is 3 times of DR, should atleast support 2x throughput than DR site appliance throughput.	As per RFP.
19	Clause 12, Technical Specifications, Sub Clause 15, Page 22	DB/APP MS SQL, PGSQL, MySQL, DB2, MariaDB, MongoDB, Oracle, Tiberio, SAP, containerized environment on different orchestration and hypervisors like Hyper-V, VMware, KVM, OpenShift, etc.	Clarification : Query: 1. Is there Database that will enable native encryption e.g. Transparent Data Encryption (TDE) in Oracle or SQL). 2. Please share total FeTB to be protected at DC , DR and Far DR? 3. Whats the percentage of Database out of total FeTB?	As per RFP.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
20	Clause 12, Technical Specifications, Sub Clause 10, Page 22	Throughput (using Optimized Source-Side / Client-Direct Deduplication Protocol): Minimum 50 TB/hr (combined aggregate across sites)	Remove this clause and evaluate throughput based on the Standard Ingest Throughput and Optimized Protocol Ingest Throughput requirements specified above.	As per RFP.
21	Clause 12, Technical Specifications, Sub Clause 11, Page 22	Overall Data Reduction Ratio (inclusive of deduplication and compression) Minimum 5:1	Request replacing the clause to "Overall Data Reduction Ratio (inclusive of deduplication and compression): Minimum 10:1 or higher. In addition, OEM shall submit a detailed sizing report clearly highlighting the data reduction ratio considered for sizing and the methodology used to arrive at the proposed usable capacity. In the event that the proposed solution fails to provide the required usable backup capacity due to lower-than-projected data reduction ratios, the OEM/Bidder shall supply the additional hardware, software licenses, and associated components required to meet the specified usable backup capacity at no additional cost during the contract period.	Revised Clause: Overall Data Reduction Ratio (inclusive of deduplication and compression) Specification: 15:1
22	Clause 12, Technical Specifications, Sub Clause 17, Page 23	The proposed backup solution shall provide a minimum Net Usable Physical Target Storage Capacity of 400 TB across both sites (300 TB at Primary DC and 100 TB at Far DR) after applying RAID 6 or equivalent protection, inclusive of VTL/PBBA/storage-based backup appliance, enterprise backup software with required licenses, and complete hardware, software, rack with iPDU, cables, and accessories with 24x7x365 OEM-supported onsite warranty for five (5) years from the date of successful completion of FAT.	Query: Will there backup required on local backup appliance at far DR site?	As per RFP.
23	Clause 12, Technical Specifications, Sub Clause 18, Page 23	Proposed solution should support any storage (any compatible)	Request replacing the clause to "The proposed backup software shall support the offered backup storage platform, including PBBA, VTL, and compatible storage-based appliance systems" Justification : This is necessary to maintain consistency with Clause 17 and allow participation of industry-standard PBBA solutions.	Revised Clause: The proposed backup software shall support the offered backup storage platform, including PBBA, VTL, and compatible storage-based appliance systems.
24	Clause 12, Technical Specifications, Sub Clause 20, Page 23	High-Performance SSD/NVMe Caching Tier: To achieve the required ingest throughput performance 20 TB/hr to 50 TB/hr and sustain low-latency inline deduplication indexing on SAS/NL-SAS primary storage tiers, the proposed backup appliance architecture must incorporate a dedicated SSD/NVMe storage tier equivalent to a minimum of 10% of the net usable physical HDD capacity (i.e., Min. 30 TB Flash/SSD/NVMe at DC and Min. 10 TB Flash/SSD/NVMe at DR).	Request replacing the clause to "The proposed Purpose-Built Backup Appliance (PBBA) shall include a minimum of 15 TB at DC and 7.5TB ar DR dedicated SSD/NVMe or equivalent high-performance storage resources, in addition to the specified net usable backup capacity, for metadata management, deduplication indexing, system optimization, and backup/recovery performance acceleration. The proposed solution shall meet the specified backup ingest, replication, and recovery performance requirements" Justification : Modern purpose-built backup appliances utilize flash resources for metadata and deduplication functions rather than maintaining a fixed SSD-to-capacity ratio. Compliance should therefore be evaluated based on the ability to meet the required backup throughput, recovery performance, and scalability objectives rather than a predefined percentage of SSD capacity.	As per Sr. No. 4.
25	Clause 12, Technical Specifications, Sub Clause 20, Page 23	10% cache must be added irrespective of disk type for deduplication metadata, index trees, and write-path caching and should match disk type in case SSD or NVME disk is used for Net Usable Physical Storage.	Request replacing the clause to "The proposed Purpose-Built Backup Appliance (PBBA) shall provide dedicated SSD/NVMe, NVRAM, or equivalent high-performance resources for deduplication metadata, indexing, system optimization, and write-path acceleration. Such resources shall be sized by the OEM to meet the specified ingest, deduplication, replication, and recovery performance requirements and shall be provided over and above the specified net usable backup storage capacity." Justification : Fixed cache sizing based on a percentage of storage capacity is implementation-specific and does not directly determine backup performance. Purpose-built backup appliances utilize architecture-specific mechanisms for metadata processing, deduplication indexing, and performance optimization. Therefore, compliance should be evaluated based on achieving the required throughput, scalability, and resiliency objectives rather than a predefined cache percentage.	As per Sr. No. 4.
26	Clause 12, Technical Specifications, Sub Clause 21, Page 23	a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB	As FeTB is 300TB data at DC & 100TB at Far DR, this should be changed to 300TB at DC and 100TB for far DR. Please correct our understanding. Additionally, Should we consider same for DC & Far DR.	As per RFP.
27		b) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB	Assuming Database are part of total FeTB and its for DC. Please confirm this. And also should we consider same DB size & retention at DR site to backup?	As per RFP.
28		c) 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB	Assuming Database are part of total FeTB and its for DC. Please confirm this. And also should we consider same DB size & retention at DR site to backup?	As per RFP.
29		d) 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB	Assuming Database are part of total FeTB and its for DC. Please confirm this. And also should we consider same log size & retention at DR site to backup?	As per RFP.
30		e) One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	Query : Is this VHD and static DB backup required only at DC? How frequently will this backup to be performed?	As per RFP.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
31	Clause 12, Technical Specifications, Sub Clause 4, Page 22	Minimum 256 GB RAM/Cache per Controller	Request to change -Minimum 256 128GB RAM/Cache per Controller Justification - Request to revise the requirement from Minimum 256 GB RAM/Cache per Controller to Minimum 128 GB RAM/Cache per Controller. Modern enterprise storage systems leverage high-performance NVMe media, intelligent caching, and optimized storage operating systems, making 128 GB cache per controller sufficient for the required performance and availability. The existing specification may unnecessarily limit vendor participation without providing proportional operational benefit. This change will encourage broader competition while fully meeting the project's functional requirements	As per Sr. No. 3.
32	Clause 12, Technical Specifications, Sub Clause 5, Page 22	Minimum 10% SSD/NVMe capacity over and above usable HDD capacity	Kindly clarify whether an all-flash architecture using NVMe SSDs for primary storage shall be considered compliant without requiring an additional dedicated SSD caching tier.	As per Sr. No. 4.
33	Clause 12, Technical Specifications, Sub Clause 8, 9 &10, Page 22	Ingest Throughput Minimum 15 TB/hr and 37.5 TB/hr, Minimum 50 TB/hr (combined aggregate across sites)	We request the deletion of Clauses 9 and 10 and retention of only Clause 8 (Minimum 15 TB/hr Ingest Throughput). The throughput values specified under optimized protocols and source-side/client-direct deduplication are highly dependent on data characteristics, compression ratios, deduplication efficiency, and proprietary vendor technologies. These metrics are not uniformly measurable across vendors and may unnecessarily limit competition. A standard ingest throughput of 15 TB/hr provides a fair, realistic, and vendor-neutral performance benchmark for evaluation	As per RFP.
34	Clause 12, Technical Specifications, Sub Clause 11, Page 22	Minimum 5:1 Data Reduction Ratio	Data reduction ratios vary significantly based on workload characteristics. Request to amend to "Support data reduction technologies including compression and deduplication" instead of guaranteeing a specific reduction ratio.	As per Sr. No. 21.
35	Clause 12, Technical Specifications, Sub Clause 39, Page 24	NFS, SMB/CIFS, S3/Object API, OST and VTL support	We request the removal of mandatory support for OST/Client-Direct protocols and VTL emulation. OST is a proprietary vendor-specific protocol, while VTL is a legacy tape-emulation technology that is no longer required in modern disk and object-based backup architectures. Standard protocols such as NFS, SMB/CIFS, and S3/Object API adequately support enterprise backup, recovery, replication, and immutability requirements while ensuring broader vendor participation and a future-ready solution.	Revised Clause: The backup solution shall support standard disk-based target protocols including NFS, SMB/CIFS, S3/Object API, and OST/Client-Direct, optimized source/client-side deduplication protocol, as well as VTL (Virtual Tape Library) emulation.
36	Clause 12, Technical Specifications, Sub Clause 40, Page 24	Mandatory VTL emulation with LTO profiles	We request the removal of the mandatory VTL (Virtual Tape Library) emulation requirement. VTL is a legacy tape-emulation technology primarily intended for supporting older tape-based backup environments. Modern enterprise backup solutions utilize disk and object storage repositories directly through standard protocols, making VTL unnecessary for achieving backup, recovery, replication, and cyber-resilience objectives. Removing this requirement will encourage broader vendor participation while maintaining all required backup functionalities	As per RFP.
37	Clause 12, Technical Specifications, Sub Clause 5, Page 22	High-Performance SSD / NVMe Tier (In addition to specified net usable payload capacity) Primary Data Center Minimum 10% of Usable HDD Capacity (Minimum 30 TB SSD/NVMe) for metadata, deduplication index, and write acceleration Far Disaster Recovery Site Minimum 10% of Usable HDD Capacity (Minimum 10 TB SSD/NVMe) for metadata, deduplication index, and write acceleration	Clause 17 permits VTL/PBBA/Storage-Based Backup Appliance architecture. A fixed requirement of 10% SSD/NVMe may not be applicable to all OEM architectures. Different solutions use SSD/NVMe differently for metadata, index and deduplication processing. We request you to change this clause and read it as as this is OEM restrictive clause: Primary Data Center "SSD/NVMe shall be provided for metadata, index, deduplication and other system functions as per OEM architecture and sizing." Far Disaster Recovery Site "SSD/NVMe shall be provided for metadata, index, deduplication and other system functions as per OEM architecture and sizing."	As per Sr. No. 4.
38	Clause 12, Technical Specifications, Sub Clause 8, Page 22	Ingest Throughput (Standard) Primary Data Center Minimum 15 TB/hr For Disaster Recovery Site Minimum 15TB/hr	The RFP specifies minimum 15 TB/hr standard ingest throughput at each site, but the term "Standard" and the test method are not defined. This requires approximately 4.17 GB/sec end-to-end throughput from source, network and target during testing. Please clarify the following: 1. Will 15 TB/hr be measured for baseline full backup? 2. Will the same 15 TB/hr apply to subsequent full/incremental backups? 3. Will the throughput be measured as aggregate throughput across multiple backup jobs? 4. Will GSDC provide production/source storage and network capable of sustaining the required throughput during UAT? 5. Will the throughput requirement apply to all listed databases including Oracle, MSSQL, MySQL, PostgreSQL, MongoDB, DB2, MariaDB? 6. Will the same requirement apply to clustered databases and encrypted databases? We request you to define the workload, backup type, source infrastructure and UAT test methodology against which the 15 TB/hr throughput shall be measured.	15 TB/hr throughput requirement shall be measured during initial full backup, as aggregate throughput across all concurrent backup jobs/streams (covering all listed databases collectively, including clustered/encrypted instances on a best-effort basis) at each site during FAT — conducted over source storage and network infrastructure provided by GSDC. Incremental backups are excluded from this threshold. Detailed FAT test methodology shall be finalized by GSDC and will be conveyed to successful bidder prior to testing considering the Scope of Work and minimum Technical Specifications as specified in the RFP. Additionally, If any deviation in the required throughput found during the FAT, successful bidder will have to change/upgrade the solution to meet the requirements as specified in the RFP. The mentioned minimum Ingest Throughput (Standard) in the RFP, should be sustained throughout the contract period.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses																												
39	Clause 12, Technical Specifications, Sub Clause 9, Page 22	Ingest Throughput (Optimized) Primary Data Center Minimum 37.5 TB/hr For Disaster Recovery Site Minimum 37.5TB/hr	The RFP specifies minimum 37.5 TB/hr Ingest Throughput using Optimized Protocol at each site. The term “Optimized Protocol” and the test method are not defined. This throughput is approximately 10.42 GB/sec per site. Please clarify: 1. Does “Optimized Protocol” mean Source-Side / Client-Direct Deduplication Protocol? 2. Is 37.5 TB/hr the logical/pre-deduplication throughput? 3. Will this be measured as aggregate throughput across multiple backup jobs/clients? 4. Will this requirement apply to baseline full backup? 5. Will the same throughput apply to subsequent full/incremental backups? 6. Will GSDC provide source storage and network infrastructure capable of sustaining 10.42 GB/sec during UAT? 7. Will this throughput requirement also apply to databases, clustered databases and encrypted databases? 8. We request you to define the workload, backup type, source infrastructure and UAT methodology against which the 37.5 TB/hr throughput will be measured.	“Optimized Protocol” refers to source-side/client-direct deduplication protocols. The 37.5 TB/hr logical (pre-deduplication) throughput requirement shall be measured during the initial full backup, as aggregate throughput across all concurrent backup jobs/streams (covering all listed databases collectively, including clustered and encrypted instances on a best-effort basis) at each site during FAT — conducted over source storage and network infrastructure provided by GSDC. Subsequent full and incremental backups are excluded from this threshold. Detailed FAT test methodology shall be finalized by GSDC and will be conveyed to successful bidder prior to testing considering the Scope of Work and minimum Technical Specifications as specified in the RFP. Additionally, If any deviation in the required throughput found during the FAT, successful bidder will have to change/upgrade the solution to meet the requirements as specified in the RFP. The mentioned minimum Ingest Throughput (Optimized) in the RFP, should be sustained throughout the contract period.																												
40	Clause 12, Technical Specifications, Sub Clause 10, Page 22	Minimum 50 TB/hr (combined aggregate across sites)	The RFP specifies minimum 50 TB/hr throughput using Optimized Source-Side / Client-Direct Deduplication Protocol, combined aggregate across both sites. This is approximately 13.89 GB/sec aggregate throughput. Please clarify: 1. Does 50 TB/hr mean the combined total of DC and Far DR, or should each site individually support 50 TB/hr? 2. Is the 50 TB/hr measured as logical/pre-deduplication throughput? 3. Will the throughput be measured as an aggregate across multiple clients and backup jobs? 4. Is simultaneous backup activity at both sites required during UAT? 5. Will GSDC provide source storage and network infrastructure capable of sustaining the required aggregate throughput? 6. Will this requirement apply to baseline full backup, subsequent backup, database backup, clustered database backup and encrypted database backup? 7. We request you to define the site-wise throughput expectation, workload type and UAT methodology against which the 50 TB/hr combined aggregate throughput will be measured.	As per RFP.																												
41	Clause 12, Technical Specifications, Sub Clause 11, Page 22	Overall Data Reduction Ratio (inclusive of deduplication and compression) Specification: 5:1	The RFP requires a minimum 5:1 overall data reduction ratio, inclusive of deduplication and compression. Data reduction depends on the workload. Encrypted databases, pre-compressed data, media files and other non-compressible data may provide very low deduplication/compression. Therefore, a fixed 5:1 ratio cannot be guaranteed unless the workload mix is defined. We request you to provide the breakup of the 300 TB Primary DC data as below: <table><thead><tr><th>Data Type</th><th>Approx. Capacity (TB)</th></tr></thead><tbody><tr><td>Virtual Machines / OS Images</td><td></td></tr><tr><td>Oracle Database – Non-Encrypted</td><td></td></tr><tr><td>Oracle Database – TDE/Encrypted</td><td></td></tr><tr><td>MSSQL Database – Non-Encrypted</td><td></td></tr><tr><td>MSSQL Database – TDE/Encrypted</td><td></td></tr><tr><td>PostgreSQL / MySQL / Other Databases</td><td></td></tr><tr><td>Database Logs / Archive Logs</td><td></td></tr><tr><td>File System – General Office/Data Files</td><td></td></tr><tr><td>Pre-compressed Data – ZIP/GZIP/etc.</td><td></td></tr><tr><td>Non-compressible Data – Images/Video/Media</td><td></td></tr><tr><td>Application Data</td><td></td></tr><tr><td>Other Data</td><td></td></tr><tr><td>Total</td><td>300 TB</td></tr></tbody></table> We also request you to clarify whether the 5:1 data reduction requirement will exclude encrypted, pre-compressed and non-compressible workloads while calculating the achieved data reduction ratio	Data Type	Approx. Capacity (TB)	Virtual Machines / OS Images		Oracle Database – Non-Encrypted		Oracle Database – TDE/Encrypted		MSSQL Database – Non-Encrypted		MSSQL Database – TDE/Encrypted		PostgreSQL / MySQL / Other Databases		Database Logs / Archive Logs		File System – General Office/Data Files		Pre-compressed Data – ZIP/GZIP/etc.		Non-compressible Data – Images/Video/Media		Application Data		Other Data		Total	300 TB	As per Sr. No. 21.
Data Type	Approx. Capacity (TB)																															
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Other Data																																
Total	300 TB																															
42	Clause 12, Technical Specifications, Sub Clause 13, Page 22	Backup & Replication Should be Concurrent	The clause does not clarify if “concurrent” means backup and replication jobs run at the same time, or the same backup data must be replicated while the backup is in progress. Native replication shall not be supported for all workload types. For few workloads, the secondary copy at DR is created through Clone, Auxiliary Copy, Backup Copy or equivalent mechanism after a valid backup copy/restore point is created. We request you to change this clause and read it as: “The proposed solution should support backup and replication/secondary copy jobs running concurrently. For workloads where native replication is not supported, the solution should support Clone, Auxiliary Copy, Backup Copy or equivalent mechanism to create a secondary copy at the DR site.”	As per Sr. No. 6.																												

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses																																	
43	Clause 12, Technical Specifications, Sub Clause 15, Page 22	DB/APP MS SQL, PGSQL, MySQL, DB2, MariaDB, MongoDB, Oracle, Tiberio, SAP, containerized environment on different orchestration and hypervisors like Hyper-V, VMware, KVM, OpenShift, etc.	The clause includes Tiberio as a mandatory supported database. Based on publicly available OEM compatibility documentation, only single OEM provides documented Tiberio integration through XBSA, while equivalent native Tiberio database integration is not published for other major enterprise backup products. Keeping Tiberio as a mandatory database requirement will restrict participation to a specific backup OEM. We request you to remove Tiberio from this clause and read it as: <u>"MS SQL, PostgreSQL, MySQL, DB2, MariaDB, MongoDB, Oracle, SAP, containerized environments on different orchestration platforms and hypervisors like Hyper-V, VMware, KVM, OpenShift, etc."</u>	As per RFP.																																	
44	Clause 12, Technical Specifications, Sub Clause 15, Page 22	DB/APP MS SQL, PGSQL, MySQL, DB2, MariaDB, MongoDB, Oracle, Tiberio, SAP, containerized environment on different orchestration and hypervisors like Hyper-V, VMware, KVM, OpenShift, etc.	The clause mentions OpenShift under supported containerized environments. Please clarify if OpenShift specifically means Red Hat OpenShift Container Platform (RHOC). Also, please confirm whether the requirement is for native protection of RHOC applications, namespaces, persistent volumes and application metadata, or only backup of workloads running on RHOC.	As per RFP.																																	
45	Clause 12, Technical Specifications, Sub Clause 19, Page 23	Backup Solution shall support an Optimized Source-Side / Client-Direct Deduplication Protocol (or equivalent vendor API integration/LAN-free backup technology) over SAN & LAN to eliminate network bottlenecks and offload inline deduplication processes from backup servers.	The clause combines requirement which are dependent on workload and architecture. For example, VM, database, container and file-system backups may use different data paths and may not support the same optimized protocol over both SAN and LAN. We request you to change this clause and read it as: <u>"The proposed backup solution should support source-side/client-direct deduplication, optimized data transfer and LAN-free/SAN-based backup, wherever supported for the respective workload and OEM architecture."</u>	As per RFP.																																	
46	Clause 12, Technical Specifications, Sub Clause 20, Page 23	High-Performance SSD/NVMe Caching Tier: To achieve the required ingest throughput performance 20 TB/hr to 50 TB/hr and sustain low-latency inline deduplication indexing on SAS/NL-SAS primary storage tiers, the proposed backup appliance architecture must incorporate a dedicated SSD/NVMe storage tier equivalent to a minimum of 10% of the net usable physical HDD capacity (i.e., Min. 30 TB Flash/SSD/NVMe at DC and Min. 10 TB Flash/SSD/NVMe at DR). This tier must be dedicated to deduplication metadata, index trees, and write-path caching. The 10% SSD/NVMe caching tier (Min. 30 TB at DC and 10 TB at DR) must be provided over and above the required 400 TB Net Usable Physical Storage Capacity. The 400 TB net usable capacity (300 TB at DC / 100 TB at DR) shall be strictly dedicated to backup payload storage after RAID 6 or equivalent protection and formatting overhead. 10% cache must be added irrespective of disk type for deduplication metadata, index trees, and write-path caching and should match disk type in case SSD or NVME disk is used for Net Usable Physical Storage.	This clause fixes 10% SSD/NVMe capacity and also prescribes its use for metadata, index and write-path caching. Backup appliance design is OEM specific. Some solutions use SSD/NVMe for metadata only, some use it differently, and some may not require a separate 10% tier to meet the stated throughput. A fixed 10% SSD/NVMe requirement may therefore restrict otherwise compliant PBBA or storage-based backup solutions. We request you to change this clause and read it as: <u>"SSD/NVMe shall be provided as per OEM architecture and sizing for metadata, index, deduplication and other system functions. The proposed solution shall meet the capacity and throughput requirements specified in the RFP."</u>	As per Sr. No. 4.																																	
47	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP does not provide the breakup of encrypted and non-encrypted databases at DC and DR. This impacts deduplication and compression. We request you to provide the capacity breakup as below: <table><tr><th>Database Type</th><th>DC – 300 TB</th><th>Far DR – 100 TB</th></tr><tr><td>Oracle – Non-Encrypted</td><td></td><td></td></tr><tr><td>Oracle – Encrypted/TDE</td><td></td><td></td></tr><tr><td>MSSQL – Non-Encrypted</td><td></td><td></td></tr><tr><td>MSSQL – Encrypted/TDE</td><td></td><td></td></tr><tr><td>PostgreSQL</td><td></td><td></td></tr><tr><td>MySQL</td><td></td><td></td></tr><tr><td>DB2</td><td></td><td></td></tr><tr><td>MariaDB</td><td></td><td></td></tr><tr><td>MongoDB</td><td></td><td></td></tr><tr><td>Other Databases</td><td></td><td></td></tr></table>	Database Type	DC – 300 TB	Far DR – 100 TB	Oracle – Non-Encrypted			Oracle – Encrypted/TDE			MSSQL – Non-Encrypted			MSSQL – Encrypted/TDE			PostgreSQL			MySQL			DB2			MariaDB			MongoDB			Other Databases			As per RFP.
Database Type	DC – 300 TB	Far DR – 100 TB																																			
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Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required			GSDC/GIL Responses
48	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP does not provide how much data is already compressed or non-compressible. We request you to provide the approximate capacity at DC and Far DR for: ZIP/GZIP and other compressed files Images Video/Audio Encrypted files Compressed database backups Other non-compressible data			As per RFP.
49	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP specifies approximately 20 TB daily incremental against approximately 400 TB full backup. Please confirm: Is 20 TB the combined daily change for DC and Far DR? What is the daily change at DC? What is the daily change at Far DR? Is this average daily change or peak daily change?			As per RFP.
50	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP does not specify the expected annual growth during the 5-year period, shall we consider 0 as growth for 5 year sizing as you have asked for undertaking of sizing, this information is important We request you to provide the annual growth percentage separately for: DC – 300 TB Far DR – 100 TB Please also confirm whether the stated 400 TB represents current capacity or capacity after considering future growth.			As per RFP.
51	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP specifies approximately 15 TB one-time backup of VHDs and static databases with forever retention. Please clarify: How much of this 15 TB is at DC and how much at Far DR? Shall forever retention remain on the proposed disk backup storage? Can this data be moved to tape/object/archive storage after backup?			As per RFP.
52	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP specifies: 61 Days – Monthly Full Backup – 4 TB 100 Days – Quarterly Full Backup – 8 TB Please provide the site-wise breakup:			As per RFP.
			Retention	DC	Far DR	
			Monthly Full – 4 TB			
			Quarterly Full – 8 TB			
			Please also confirm whether these backups are additional copies of data already included in the 300 TB/100 TB source capacity.			

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses																																				
53	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP specifies approximately 40 TB log data with weekly full and 2 TB daily incremental for 2 years. Please provide: Log data capacity at DC Log data capacity at Far DR Daily incremental at DC Daily incremental at Far DR Please also confirm whether the same 2-year retention applies at both sites.	As per RFP.																																				
54	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	The RFP specifies 37 days retention with weekly full and daily incremental backups. Please clarify the exact number of: Weekly Full copies to be retained at DC Daily Incremental copies to be retained at DC Weekly Full copies to be retained at Far DR Daily Incremental copies to be retained at Far DR This will provide a common sizing basis for all bidders.	As per RFP.																																				
55	Clause 12, Technical Specifications, Sub Clause 21, Page 23	Successful Bidder will have to follow the Existing Retention Policy as per below details: a) 37 Days Retention - Full backup on weekend - Approximately 400 TB of data and daily incremental - Approximately 20 TB b) c) d) e) 61 Days Retention - Monthly Full Backup of few DBs - Approximately 4 TB 100 Days Retention - Quarterly Full backup of few DBs - Approximately 8 TB 2 Years Retention - Log files – Weekly Full - Approximately 40 TB and Daily Incremental - 2 TB One-time backup of VHDs and few static DBs – Approximately 15 TB forever retention	We request you to provide the complete workload breakup as below: <table><thead><tr><th>Data Type</th><th>DC Capacity</th><th>Far DR Capacity</th></tr></thead><tbody><tr><td>Virtual Machines / OS</td><td></td><td></td></tr><tr><td>Databases – Non-Encrypted</td><td></td><td></td></tr><tr><td>Databases – Encrypted</td><td></td><td></td></tr><tr><td>File System Data</td><td></td><td></td></tr><tr><td>Application Data</td><td></td><td></td></tr><tr><td>Log Data</td><td></td><td></td></tr><tr><td>Pre-Compressed Data</td><td></td><td></td></tr><tr><td>Media / Non-Compressible Data</td><td></td><td></td></tr><tr><td>VHD / Static DB</td><td></td><td></td></tr><tr><td>Other Data</td><td></td><td></td></tr><tr><td>Total</td><td>300 TB</td><td>100 TB</td></tr></tbody></table> This is the most important query because retention sizing and the 5:1 data reduction assumption depend on this workload mix.	Data Type	DC Capacity	Far DR Capacity	Virtual Machines / OS			Databases – Non-Encrypted			Databases – Encrypted			File System Data			Application Data			Log Data			Pre-Compressed Data			Media / Non-Compressible Data			VHD / Static DB			Other Data			Total	300 TB	100 TB	As per RFP.
Data Type	DC Capacity	Far DR Capacity																																						
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Other Data																																								
Total	300 TB	100 TB																																						
56	Clause 12, Technical Specifications, Sub Clause 28, Page 23	Solution should be able to dynamically break up large save sets into smaller save sets to be backed up in parallel to allow backups to complete faster for Windows, Unix, Ubuntu and Linux clients.	The term “Save Set” is OEM-specific terminology and may not be used by all enterprise backup software. Other solutions provide the same function through multi-streaming, parallel streams or workload partitioning. We request you to change this clause and read it as: <u>“The proposed backup software should support multi-streaming or parallel backup of large file-system workloads on Windows, Unix, Ubuntu and Linux clients to reduce the backup window.”</u>	Revised Clause: The proposed backup solution should support multi-streaming, or parallel data streams, or workload partitioning to dynamically break up large file systems or volumes into smaller segments. These segments must be backed up in parallel across Windows, Unix, Ubuntu, and Linux clients to optimize throughput and reduce the backup window.																																				
57	Clause 12, Technical Specifications, Sub Clause 36, Page 24	The proposed backup solution shall support both hardware-based and software-based compression mechanisms to optimize storage utilization and ensure predictable performance at scale, as well as both hardware and software compression must be simultaneously available.	The clause mandates simultaneous hardware and software compression. Once data is compressed at one layer, further compression may not provide additional reduction and can add processing overhead. Compression method should depend on OEM architecture. We request you to change this clause and read it as: <u>“The proposed backup solution should support hardware-based and/or software-based compression as per OEM architecture to optimize storage utilization without impacting backup performance.”</u>	As per RFP.																																				

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
58	Clause 12, Technical Specifications, Sub Clause 38, Page 24	Solution must handle ≥ 2 PB front-end input data.	The licensing requirement is not clear. Page 24 refers to 400 TB Net Usable Target Storage Capacity licensing, while the same section states that Front-End Terabyte (FETB) processing shall be unrestricted and unconstrained. Please clarify which licensing model is required: Front-End Terabyte (FET/FETB) – based on protected source data, or Back-End/Target Capacity (BET) – based on backup target capacity. If BET/Target Capacity licensing is required, please confirm whether the 400 TB license is based only on installed Net Usable Target Capacity, irrespective of the number of backup copies, retention copies, replication copies or secondary copies created. This clarification is required so that all bidders quote on the same licensing basis and additional backup copies do not result in different license calculations across OEMs.	Clause Deleted.
59	Clause 12, Technical Specifications, Sub Clause 39, Page 24	The backup solution shall support standard disk-based target protocols including NFS, SMB/CIFS, S3/Object API, and OST / Client-Direct protocols, as well as VTL (Virtual Tape Library) emulation.	OST is an OEM-specific integration and is not supported by all major storage vendors. Comparable OEM-specific integrations include DD Boost and Catalyst. If OST/Client-Direct or equivalent proprietary integration is made mandatory, storage OEMs using generic/open storage architecture such as NetApp, Hitachi and others may not qualify. This may restrict participation only to OEMs offering PBBA with such proprietary integration. This is also not aligned with Clause 17 and Clause 18, where PBBA/Storage-Based Backup Appliance and compatible storage are allowed. We request you to change this clause and read it as: <u>"The backup solution shall support standard storage protocols such as NFS, SMB/CIFS/S3/Object API. The proposed solution may use PBBA, storage-based backup appliance or compatible generic storage as per OEM architecture."</u>	As per Sr. No. 35.
60	Clause 12, Technical Specifications, Sub Clause 40, Page 24	The backup solution shall support multi-drive and multi-library VTL emulation profiles over Fibre Channel (FC) and iSCSI, including standard LTO (LTO-3 through LTO-8/9). The bidder/OEM shall ensure compatibility with GSDC's existing host operating systems (Windows, Linux,) and enterprise backup applications without requiring changes to existing tape backup scripts or licensing.	VTL emulation is a feature of specific PBBA/storage platforms and is not available with all generic/open storage architectures. Making FC/iSCSI VTL emulation mandatory may therefore exclude otherwise compliant storage OEMs that support backup over standard storage protocols but do not provide VTL. This is also not aligned with Clause 17 and Clause 18, where PBBA/Storage-Based Backup Appliance and compatible storage are allowed. We request you to change this clause and read it as: <u>"The proposed backup solution should support integration with GSDC's existing Windows and Linux environments and enterprise backup applications. VTL emulation over FC/iSCSI may be provided where supported by the proposed OEM architecture and shall not be mandatory for generic/open storage solutions."</u>	As per RFP.
61	Clause 12, Technical Specifications, Sub Clause "Enterprise Backup Software Licensing & Target Storage Sizing Model", Clause 1, Page 24	Mandatory Net Usable Target Licensing Model: o Enterprise Backup Software licenses shall be provided strictly on a Net Usable Target Storage Capacity Basis, defined as the clean, formatted payload capacity available for backup storage after deducting RAID 6 (or higher) parity loss, hot spares, formatting overhead, and system controller cache.	Backup software OEMs follow different capacity licensing models. Mandating software licensing strictly on Net Usable Target Storage Capacity may exclude OEMs that license on Front-End/Protected Data Capacity, even though the complete 400 TB workload can be protected. We request you to change this clause and read it as: <u>"Enterprise Backup Software shall be licensed for minimum 400 TB Front-End/Protected Data Capacity. Licensing may be based on Front-End Capacity, Protected Capacity or equivalent OEM standard capacity licensing metric and shall not be linked to the physical or net usable capacity of the backup target storage."</u>	As per Corrigendum Document.
62	Clause 12, Technical Specifications, Sub Clause "Enterprise Backup Software Licensing & Target Storage Sizing Model", Clause 2, Page 24	Unconstrained Front-End Source Data Ingest & Retainability: - o The supplied enterprise backup software licenses shall allow unrestricted, unconstrained, and unthrottled Front-End Terabyte (FETB) source data processing. - o There shall be no software-enforced capacity caps, job blockages, licensing alerts, or per-gigabyte/per-source penalties as logical front-end source data grows through compression and inline/post-process deduplication up to the physical storage limits of the target hardware array.	The clause requires unrestricted and unconstrained FETB processing up to the physical limit of the target storage. This is not aligned with standard Front-End/Protected Capacity licensing, where backup software is licensed for a defined amount of protected source data. It is also not clear how a software license sized for 400 TB can remain unlimited if the protected source data grows beyond 400 TB. We request you to change this clause and read it as: <u>"The proposed backup software shall be licensed for minimum 400 TB Front-End/Protected Data Capacity. The software shall support backup and retention of the licensed protected capacity irrespective of the number of backup copies, replication copies or secondary copies created within the proposed backup storage."</u>	As per Corrigendum Document.
63	Clause 12, Technical Specifications, Sub Clause "Enterprise Backup Software Licensing & Target Storage Sizing Model", Clause 3, Page 24	Exclusion of Hardware Overhead from Software Royalties: o Bidders and Original Equipment Manufacturers (OEMs) are strictly prohibited from charging software licensing, subscription, or maintenance fees on raw physical storage drives, RAID parity drives, dedicated hot spares, formatting loss, or hardware controller cache. Software licensing fees shall be evaluated and priced solely on the actual Net Usable Payload Capacity.	This clause assumes that backup software licensing is based on backend/target storage capacity. OEMs using Front-End/Protected Capacity licensing do not calculate software licenses on raw disks, RAID parity, hot spares, formatting loss or cache. The clause should therefore allow the OEM's standard licensing model instead of linking software licensing to Net Usable Target Capacity. We request you to change this clause and read it as: <u>"Enterprise Backup Software licensing shall be based on the OEM's standard licensing metric such as Front-End/Protected Data Capacity or equivalent. Raw storage capacity, RAID parity, hot spares, formatting overhead and system cache shall not be considered for calculating Front-End/Protected Data Capacity."</u>	As per Corrigendum Document.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
64	Clause 12, Technical Specifications, Sub Clause "Enterprise Backup Software Licensing & Target Storage Sizing Model", Clause 4, Page 24	Bidder Sizing Discretion, Additional Hardware & Commercial Risk: - o The 400 TB Net Usable Capacity represents the minimum mandatory procurement threshold. - Bidders/OEMs are solely responsible for accurately sizing the physical storage target to satisfy all performance parameters, throughput rates (50TB/hr boost ingest), and retention schedules as specified in the technical specifications in this RFP. - o If a Bidder/OEM, at its own technical discretion or internal sizing assessment, supplies physical target storage exceeding 400 TB Net Usable Capacity to meet the RFP's SLA, retention, or deduplication requirements, such extra capacity shall be provided entirely at the Bidder's own commercial choice and risk. - o In such cases, the Bidder/OEM must supply matching, fully functional software licenses covering 100% of the installed physical net usable target storage at ZERO additional software licensing, maintenance, or support cost to GSDC throughout the entire 5-year contract tenure from the date of successful FAT.	The clause requires the bidder/OEM to guarantee sizing and throughput. However, the RFP does not define how 15 TB/hr, 37.5 TB/hr and 50 TB/hr will be measured during UAT and during the project period. Datasheet throughput figures alone should not be considered for acceptance. The same test scope and methodology should apply to all bidders. We request you to provide the performance test scope covering: Workload and data type to be used for testing Full, incremental, differential and subsequent backup test Encrypted and non-encrypted databases Compressible and non-compressible data Source storage throughput available during testing Network bandwidth available during testing Number of clients, streams and concurrent jobs Whether throughput is logical/pre-deduplication or actual data written to target Site-wise measurement for DC and Far DR Method for testing the 50 TB/hr combined throughput Backup and replication concurrency during the test Test duration and minimum sustained throughput required UAT acceptance criteria Method and frequency for measuring throughput during the 5-year project period Treatment of performance limitations caused by source storage, application or network infrastructure Without a defined and common test methodology, bidder/OEM performance cannot be measured on the same basis and the required sizing undertaking cannot be provided.	As per RFP.
65	Clause 12, Technical Specifications, Sub Clause "Data Reduction Performance Benchmark & OEM Guarantee", Clause 1, Page 25	Mandatory Minimum Data Reduction Ratio: o The proposed Backup System (Software Engine + Target Physical Storage) must natively achieve and maintain an overall average Data Reduction Ratio (Deduplication + Compression) of at least 5:1 across the combined GSDC enterprise workload (comprising Virtual Machines, Operating System images, Relational Databases, and Application payloads).	The clause requires the solution to achieve and maintain a minimum 5:1 overall data reduction ratio across the combined workload. A fixed data reduction ratio cannot be guaranteed without defining the workload mix. Encrypted databases, pre-compressed data, media files and other non-compressible data may provide little or no deduplication/compression. We request you to provide the workload breakup already asked in the related pre-bid queries, including: Encrypted and non-encrypted database capacity Compressible and non-compressible data VM, file system, database, application and log data breakup DC and Far DR capacity breakup Daily change rate Annual growth rate Please also clarify whether encrypted, pre-compressed and non-compressible workloads will be excluded while measuring the 5:1 data reduction ratio during UAT and throughout the project period.	As per Corrigendum Document.
66	Clause 12, Technical Specifications, Sub Clause "Data Reduction Performance Benchmark & OEM Guarantee", Clause 2, Page 25	OEM Sizing Certificate Mandate: - o Every Bidder must submit an official, signed OEM Capacity & Sizing Certificate along with their Technical Bid. - o This certificate must explicitly validate that the offered Net Usable Target Capacity (minimum 400 TB across DC and DR), when operating with the OEM's guaranteed deduplication and compression engine, is mathematically and technically sufficient to store 100% of the retention schedules specified in Technical Specifications without exceeding 80% of the usable storage pool capacity.	The clause requires the OEM to certify that the proposed 400 TB Net Usable Target Capacity is sufficient to meet the complete retention, data reduction and performance requirements. This undertaking cannot be provided unless the workload, retention and performance inputs are clearly defined and common for all bidders. We request you to provide the following details: DC and Far DR workload breakup Database-wise capacity and Encrypted and non-encrypted database capacity Compressible and non-compressible data Daily change rate and Annual growth rate Final retention policy and number of copies Site-wise retention requirement Method for measuring 15 TB/hr, 37.5 TB/hr and 50 TB/hr throughput Whether throughput will be measured as logical/pre-deduplication or actual data written to target UAT workload, number of clients, streams and concurrent jobs Test duration and minimum sustained throughput required Method for measuring the 5:1 data reduction ratio during UAT and throughout the project period Method and frequency for measuring performance during the 5-year project period The required backup throughput also depends on the existing production storage and network infrastructure. Please provide: Available read throughput from production storage Available FC/Ethernet bandwidth between production, backup infrastructure and target storage Usable network bandwidth available for backup during UAT Whether the same bandwidth and source-storage performance will be available throughout the project period Please confirm whether the existing production storage and network infrastructure can sustain the required 15 TB/hr, 37.5 TB/hr and 50 TB/hr throughput. Without these details, the OEM cannot provide a sizing and performance undertaking, as backup performance cannot be	As per RFP.

Sr. No.	RFP Reference (Clause/Page)	RFP Clause	Points of Clarification Required	GSDC/GIL Responses
67	Clause 7, ELIGIBILITY CRITERIA, Sub Clause 4, Page 11	The Bidder should have experience of SITC of Enterprise Backup Solution with the following capacity in the last three financial years in any Central / State Government Organization /PSU/ Public Listed as on last date of bid submission. 1. At least 1 order of minimum Rs. 4 Crore for SITC of Storage Solution or 2. At least 2 orders each of minimum Rs. 2.5 Crore for SITC of Storage Solution or 3. At least 3 orders each of minimum Rs. 2 Crore for SITC of Storage Solution. ~~All work orders/contracts should be in the name of the bidder.~~	The Bidder has the requisite experience and qualifying orders as per the prescribed eligibility criteria. However, due to strict confidentiality obligations under NDAs executed with the respective customers, we are unable to disclose the customer's identity, PO/Contract details, or copies of the Work Orders. We request the Authority to kindly confirm whether a Bidder's undertaking/ certificate and/or a Statutory Auditor/Chartered Accountant certificate confirming the relevant order value, scope of work, and execution status may be accepted as supporting evidence for establishing compliance with the stipulated experience criteria. OR Alternatively, we request the Authority to kindly allow the required experience criteria to be fulfilled through either the Bidder's or the OEM's experience, subject to submission of appropriate supporting certification/undertaking.	As per RFP.
68	Clause 7, ELIGIBILITY CRITERIA, Sub Clause 4, Page 11	The Bidder should have experience of SITC of Enterprise Backup Solution with the following capacity in the last three financial years in any Central / State Government Organization /PSU/ Public Listed as on last date of bid submission.	We request you to kindly consider the experience of Corporates along with Central/State Government organisation/PSU/public Listed as well.	As per RFP.