

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



މިއަހަރުގެ
ދަޅު
ދިވެހިރާއްޖެ

ސަރުކާރު: 145-P/2026/48

އިއުމާ

މިއަހަރުގެ ހަޖަތު، ހުށަހަޅާނެ ބަހާ ސަވާދުތަކާއި ޖަހާނެ ސަވާދުތަކާ،

އިންޓަރެކްޓިވް، ޓެކްނިކަލޮޖީ ސަވާދުތަކާއި ފަންނީ ސަވާދުތަކާ ގުޅިގެން ހުށަހަޅާނެ ސަވާދުތަކާ.

ބަލާ ޖަހާ ސަވާދުތަކާ ހުށަހަޅާނެ ސަވާދުތަކާ 2026 ހަޖަތު 30 ވަނަ

ދުވަހު 11:00 ހ.މ. ހިފަ ބަލާ ސަވާދުތަކާ ހުށަހަޅާނެ 2026 ސަވާދުތަކާ 07 ވަނަ ދުވަހު 11:00 ހ.މ. ހިފަ ބަލާ ސަވާދުތަކާ

ހަޖަ ހިންގާނެ ހަޖަތު ހުށަހަޅާނެ (ހުށަހަޅާ) ހ.މ. ބަލާ ޖަހާ ސަވާދުތަކާ ހުށަހަޅާނެ ސަވާދުތަކާ ހުށަހަޅާނެ

ހ.މ. ހުށަހަޅާނެ ސަވާދުތަކާ ހުށަހަޅާނެ ސަވާދުތަކާ procurement@criminalcourt.gov.mv

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23 ހަޖަތު 2026



4. චෝදනා පත්‍රයේ දිනය

චෝදනා පත්‍රයේ දිනය 2026 අගෝස්තු 07 වන දින 11:00 ට
නඩු විචාරණ මහාධිකාරීවරයාගේ (නිකුත්) කළු. සාක්ෂි දන්වනු ලබනු ලබන දින අතර
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5. චෝදනා පත්‍රයේ

නිකුත් කළු සාක්ෂි දන්වනු ලබන දින 60 (වසර) තුළ චෝදනා පත්‍රයේ දිනය අතර

6. නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය

- චෝදනා පත්‍රයේ දිනය අතර නිකුත් කළු සාක්ෂි දන්වනු ලබන දින අතර
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- චෝදනා පත්‍රයේ දිනය අතර නිකුත් කළු සාක්ෂි දන්වනු ලබන දින 17 වන දින අතර
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1. නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය

2. නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය

3. නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය / නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය

4. නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය (නිකුත් කළු සාක්ෂි දන්වනු ලබන දිනය)



مَرْحُومٌ مَرَحَ لَمَّا وَوَسَّوْهُنَا فَو.

7. مَوْتُهُمْ فِي يَوْمٍ وَاحِدٍ (مَوْتُهُمْ فِي يَوْمٍ وَاحِدٍ)

STATEMENT OF REQUIREMENT
(IUL)145-P/2026/48 (23RD AUGUST 2026)

Specifications for 1x Enterprise Backup Solution

TERMS OF REFERENCE (TOR)

**Design, Supply, Installation & Commissioning of an
Enterprise Backup Solution**

Procurement Modality: Design & Build (D&B) | Configuration: 150 TB Usable (RAID 5)

1. Introduction & Background

The purpose of this Terms of Reference (TOR) is to define the technical and functional requirements for the design, supply, installation, configuration, testing and commissioning of an enterprise-grade Backup Solution. The solution is delivered on a Design & Build (D&B) basis, whereby the Bidder is fully responsible for the detailed design, integration and turnkey delivery of a working backup environment that meets or exceeds the minimum specifications stated herein.

The scope is organised into two distinct technical segments — (A) Backup Storage and (B) Backup Server — supported by common services (backup software, integration, training, installation and warranty). All inter-component data paths must be delivered over 10 Gigabit Ethernet (10G) as detailed in Section 5.

2. Objectives

- Provide a reliable, high-capacity, scalable backup target offering 150 TB usable capacity after RAID 5 plus hot-spare protection.
- Deploy a dedicated backup application server to host the backup software and orchestrate backup, cloning and recovery jobs.
- Ensure resilient, high-throughput 10G connectivity between the backup storage, the backup server and the existing infrastructure.
- Optimise storage efficiency through NVMe SSD performance caching and data deduplication.
- Deliver a fully integrated, tested and documented turnkey solution with knowledge transfer to the in-house IT team.

3. Scope of Work (Design & Build)

- Detailed solution design, including capacity, RAID layout, network/connectivity design and rack elevation.
- Supply of all hardware, software, licenses, cables (including 10G transceivers/DACs/fibre) and accessories required for a complete solution.
- Physical installation, racking, cabling and configuration of the backup storage and backup server.
- Configuration of RAID 5 + hot-spare, NVMe SSD cache, deduplication, storage pools, shares/LUNs and backup policies.
- **Integration with the existing network infrastructure over 10G uplinks.**
- End-to-end functional testing, performance validation and acceptance testing (UAT).
- On-the-job training/knowledge transfer for the IT team and handover of as-built documentation.



4. Technical Requirements

4.A Segment A — Backup Storage Requirement

Sl.	Parameter	Minimum Required Specification
1	Storage Type	Unified Storage (File & Block) appliance with 150 TB usable capacity after RAID 5 + hot-spare configuration.
2	Storage Server / Roles	Should support NAS application server (10GbE NIC), iSCSI storage (10GbE NIC) and Fibre Channel storage (16Gb).
3	Form Factor / Mounting	2U–4U, 19” rack mounted.
4	Processor	64-bit multi-core enterprise-grade processor per controller, sized to deliver the required NAS/iSCSI/FC throughput with deduplication and NVMe caching enabled.
5	Controllers per Appliance	2 (dual active controllers) for high availability.
6	Network Connectivity per Controller	Minimum 4 x 10G Ethernet (SFP+) ports and 2 x 16G FC ports per controller. The 10G ports are mandatory for host/server connectivity (see Section 5).
7	Scalability	Solution must be scalable — capacity must be expandable well beyond the initial 150 TB by adding drives and expansion enclosures (JBODs) without forklift replacement of the controllers. Must support a minimum of 400+ HDDs in a single stack.
8	NVMe SSD Performance Cache	Must provide a minimum of 4 x NVMe SSD slots dedicated to performance caching (read/write cache acceleration / auto-tiering).
9	Data Deduplication	Solution must support and have data deduplication (and compression) enabled to maximise effective backup capacity and storage efficiency.
10	Storage Expansion Port per Controller	2 x 12Gb SAS Mini-SAS (SFF-8644).
11	Supported Network Protocols	SMB/CIFS, NFS, FTP, WebDAV, iSCSI, etc.
12	Drive Support & Type	3.5" drives, 18 TB recommended (16 TB minimum) per drive; Enterprise-Class NL-SAS HDD, 7200 RPM or higher; supports mix of SAS and SATA drives in the same enclosure. Indicative sizing to achieve 150 TB usable (RAID 5 + hot-spare): 12 x 18 TB drives installed (10 data + 1 parity + 1 hot-spare), yielding approximately 163 TiB / 180 TB raw data capacity before filesystem overhead, plus 2 cold maintenance spares — 14 x 18 TB drives supplied in total.
13	Cache / Memory	32 GB per controller, upgradable to 64 GB per controller.
14	Proposed Storage Capacity	150 TB usable capacity after RAID 5 + hot-spare configuration. For clarity, capacity figures are expressed in decimal terabytes (TB, 10 ¹² bytes); usable capacity shall be measured after RAID, hot-spare and filesystem overhead.
15	Management Port per Controller	1 x RJ-45 1GbE Ethernet and 1 x Serial port.
16	RAID Configuration	Support for RAID 0, 1, 5, 6, 10, 50, 60. Production



Sl.	Parameter	Minimum Required Specification
1	Backup Server ↔ Backup Storage	Dedicated 10G connectivity between the Backup Server and the Backup Storage for the backup data path. Minimum 2 x 10G links (redundant) using iSCSI/NFS/SMB over 10GbE.
2	Backup Server ↔ Infrastructure (LAN)	The Backup Server must connect to the existing infrastructure / production LAN over 10G. Minimum 2 x 10G uplinks (redundant) to the core/distribution switch.
3	Backup Storage ↔ Infrastructure	Backup Storage controllers must each provide 10G host ports to allow direct 10G access from infrastructure hosts where required (in addition to the server data path).
4	Redundancy	All 10G connections shall be provisioned in redundant pairs (link aggregation / MPIO) to eliminate single points of failure.
5	Cabling & Optics	Bidder to supply all 10G SFP+ transceivers, DAC and/or OM3/OM4 fibre patch cables of appropriate length for a complete, working 10G fabric — minimum ten (10) x 10G SFP+ transceivers/DAC across the solution, with additional units as required.

Logical connectivity summary: Infrastructure / LAN —(10G)— Backup Server —(10G)— Backup Storage. All segments interconnected at 10 Gigabit Ethernet with redundant links.

6. Software, Training & Services

Sl.	Parameter	Minimum Required Specification
1	Backup Software	No separate backup software license is required under this procurement. The client will use its existing enterprise backup software. The Bidder shall ensure the supplied storage and server are fully compatible with the client's existing backup software and shall perform its configuration/integration for the in-scope workloads.
2	Training	On-the-job training / knowledge transfer for the in-house IT team covering operation, monitoring, backup/restore and basic troubleshooting.
3	Installation & Setup	Complete installation, configuration, integration, testing and commissioning of the full solution.
4	Documentation	As-built documentation, network/connectivity diagrams, configuration sheets and operational runbook.

7. Deliverables

- Detailed design document and Bill of Materials (BoM).
- Fully installed, configured and commissioned Backup Storage (Segment A) with NVMe cache and deduplication enabled.
- Fully installed, configured and commissioned Backup Server (Segment B).
- Configured 10G connectivity fabric between storage, server and infrastructure.
- Existing backup software configured and integrated, with operational backup policies (no new backup software license is procured under this TOR).



- Acceptance test report (UAT) signed off by the client.
- Training completion and as-built documentation handover.

8. Warranty & Support

All hardware components (Backup Storage and Backup Server) shall carry a minimum 3 Years Parts & Service Warranty with 24/7 On-Site support. No backup software license is procured under this TOR as the client will use its existing backup software. The Bidder shall provide a single point of contact for warranty and support escalation.

9. Bidder Compliance & Notes

- The Bidder must provide a clause-by-clause compliance statement against every requirement in Sections 4, 5 and 6.
- All specifications are minimum requirements; higher specifications are acceptable.
- The Bidder is responsible for sizing the number of drives to achieve 150 TB usable after RAID 5 + hot-spare, with headroom for future scalability.
- Make, model and datasheets of all proposed equipment must be submitted with the bid.

10. Backup Scope & Capacity Feasibility

Backup workload (in scope): The solution is required to back up three (3) virtual machines (VMs) using the client's existing backup software. One (1) of these VMs holds approximately 60 TB of data; the remaining two (2) VMs are comparatively small.

Capacity feasibility: The proposed 150 TB usable backup repository (RAID 5 + hot-spare) is sufficient for this workload. Indicative sizing:

- Largest VM source data: ~60 TB; two additional VMs: assumed modest (e.g. up to ~10–20 TB combined).
- A first full backup of ~60–80 TB source typically compresses to ~30–48 TB on disk (backup software compression/deduplication, ~40–50% reduction, workload-dependent).
- 150 TB usable therefore comfortably accommodates a full backup plus multiple restore points / retention using forever-forward or synthetic-full incremental backup chains.
- Recommended: the Bidder shall propose the optimal combination of storage-level deduplication/compression and backup software compression settings (enabling both concurrently may yield limited additional savings); retention and restore-point count to be confirmed with the client during design.

Conclusion: Backing up the three VMs (including the single 60 TB VM) on a 150 TB usable repository is feasible. The Bidder shall confirm final retention/restore-point sizing with the client during design.

11. Existing Server Network Upgrade (10G NIC)

The client's existing production server shall be upgraded with 10 Gigabit Ethernet connectivity to integrate with the backup solution. The Bidder shall supply and install one (1) dual-port 10G network interface card (providing 2 x 10G interfaces) with virtualization support, and shall provide all required 10G patch cords and transceivers for a complete installation.

Existing server details:

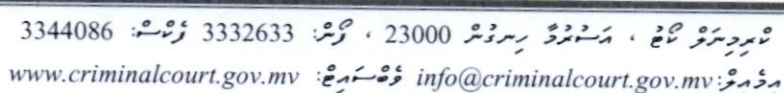
- Machine name: CRC-SERVER-NEW
- Manufacturer / Model: HPE ProLiant DL380 Gen11
- Processor: Intel® Xeon® Silver 4510 (48 CPUs), ~2.4 GHz
- Memory: 64 GB RAM



- | Sl. | Parameter | Minimum Required Specification |
|-----|-------------------------------|---|
| 1 | Network Card Quantity | One (1) add-in 10G Network Interface Card (NIC) to be installed in the existing HPE ProLiant DL380 Gen11 server. |
| 2 | Ports / Interfaces | Dual-port — 2 x 10G Ethernet (SFP+) interfaces on the single card. |
| 3 | Virtualization Support | The existing server runs Microsoft Hyper-V. The NIC must support hardware virtualization offload — SR-IOV, VMQ/VMMQ and NIC partitioning — and be fully compatible with the Hyper-V virtual switch for use by the hosted VMs. |
| 4 | Transceivers | 10G SFP+ transceivers (or DAC) to be provided as required for each 10G port. |
| 5 | Patch Cords | All 10G patch cords (OM3/OM4 fibre and/or DAC/Cat6A as applicable) to be provided as required for a complete installation. |
| 6 | Installation | Bidder to physically install the NIC, install drivers, configure 10G connectivity to the backup storage/server and infrastructure, and validate link/throughput. |
| 7 | Offload Features | Support for TCP/IP offload, RSS, jumbo frames (9K MTU) and iSCSI for optimal backup throughput. |

12. Hardware Equipment List (Bill of Materials)

Sl.	Hardware Item	Specification	Qty	Make / Model Offered
1	Backup Storage Appliance	Unified (File & Block) dual-controller appliance, 150 TB usable after RAID 5 + hot-spare, 2U-4U rack-mount, NVMe SSD cache, deduplication enabled.	1	
2	Storage Controllers	Dual active-active	2	



		controllers (HA), 32 GB cache per controller (upgradable to 64 GB).		
3	NL-SAS Hard Drives	Enterprise-class 3.5" NL-SAS, 18 TB recommended (16 TB minimum), 7200 RPM; sized to achieve 150 TB usable after RAID 5 + hot-spare. Recommended: 11 primary drives (10 data + 1 parity); with the hot-spare and cold spares below this totals 14 x 18 TB.	As required	
4	Hot-Spare Drive	Online hot-spare disk for the storage array.	1	
5	Cold-Spare Drives	Spare drives (same type/capacity) for maintenance.	2	
6	NVMe SSD Cache Modules	NVMe SSDs for read/write performance caching / auto-tiering (min. 4 slots).	Min. 4	
7	Backup Server	Rack-mount server (1U/2U), single Intel Xeon 8-core or higher, 32 GB RAM (expandable), dual redundant PSU.	1	
8	Server OS	2 x 480 GB	2	



	Cables	8644) cables for future JBOD expansion readiness.		
14	Mounting & Rack Accessories	Rail kits, cable management and rack mounting hardware for all rack-mounted equipment.	As required	

13. Technical Compliance Checklist (Vendor Form)

The Bidder shall complete the following technical compliance form on a clause-by-clause basis. For each requirement, indicate "Comply" (Yes / No), state the actual specification of the offered product, and provide any remarks or cross-reference to the supporting datasheet page. Non-compliance or deviations must be clearly stated. Incomplete forms may render the bid non-responsive.

Sl.	Requirement	Comply (Yes/No)	Offered Specification	Remarks / Datasheet Ref.
A. Backup Storage (Segment A)				
1	Unified Storage (File & Block) appliance, 150 TB usable after RAID 5 + hot-spare.			
2	Supports NAS (10GbE), iSCSI (10GbE) and Fibre Channel (16Gb) roles.			
3	2U-4U, 19" rack-mountable form factor.			
4	Dual active controllers (2) for high availability.			
5	Min. 4 x 10G (SFP+) + 2 x 16G FC ports per controller.			
6	Scalable to 400+ HDDs via expansion enclosures (JBOD) without controller replacement.			
7	Min. 4 x NVMe SSD slots for performance cache / auto-tiering.			
8	Data deduplication and compression supported and enabled.			
9	2 x 12Gb SAS Mini-SAS (SFF-8644) expansion ports per controller.			
10	Protocols: SMB/CIFS, NFS, FTP, WebDAV, iSCSI, etc.			
11	3.5" drives, 16 TB+ Enterprise NL-SAS, 7200 RPM; mixed SAS/SATA support.			



12	32 GB cache per controller, upgradable to 64 GB.			
13	RAID 0,1,5,6,10,50,60 supported; production RAID 5.			
14	1 hot-spare + 2 cold-spare disks included.			
15	Self-Encrypting Drive (SED) pool-level protection.			
16	Virtualization: Hyper-V, Storage Spaces, VMware vSphere 7.0/8.0/VAAI/SRM/VASA/vVols, Citrix Ready.			
17	Redundant, hot-swappable, 80 PLUS PSUs.			
18	3 Years Parts & Service Warranty, 24/7 On-Site.			
19	1 x RJ-45 1GbE management port and 1 x serial port per controller.			
20	General features: proactive data migration on predicted drive failure, bad-sector remapping/SMART handling, scheduled backup/cloning of shares, WORM, cloud backup support, battery/flash-backed cache.			
21	Supported client/host OS: Windows Server 2016+, macOS, Linux (RHEL 7+ / SLES 12+).			

B. Backup Server (Segment B)

1	Rack-mount server (1U/2U), 19" rack-mountable.			
2	Single Intel Xeon 8-core processor or higher.			
3	32 GB RAM (expandable).			
4	2 x 480 GB Enterprise-class SSD (PLP, RAID 1) for OS.			
5	Min. 2 x 10G (SFP+) + 1 x 1GbE management port.			
6	Dual / redundant hot-swappable PSU.			
7	Windows Server 2022 Standard (licensed; per Microsoft per-core licensing rules, minimum 16-core license per server).			
8	3 Years Parts & Service Warranty, 24/7 On-Site.			

C. Connectivity & Integration (10G)

1	Min. 2 x 10G redundant links between Backup Server and Backup Storage.			
2	Min. 2 x 10G redundant uplinks			



	between Backup Server and infrastructure/LAN.			
3	Storage controllers each provide 10G host ports for infrastructure access.			
4	All 10G links provisioned in redundant pairs (LACP / MPIO).			
5	All SFP+ transceivers, DAC and/or OM3/OM4 fibre supplied for a complete fabric (minimum 10 x 10G SFP+ transceivers/DAC).			
D. Existing Server 10G NIC Upgrade				
1	One (1) dual-port 10G (SFP+) add-in NIC for HPE ProLiant DL380 Gen11.			
2	SR-IOV, VMQ/VMMQ and NIC partitioning; Hyper-V virtual switch compatible.			
3	10G SFP+ transceivers / DAC provided for each port.			
4	All 10G patch cords (OM3/OM4 fibre and/or DAC/Cat6A) provided.			
5	Bidder installs NIC, drivers, configures and validates link/throughput.			
6	TCP/IP offload, RSS, jumbo frames (9K MTU) and iSCSI supported.			
E. Software, Services & Documentation				
1	Full compatibility and integration with the client's existing backup software.			
2	On-the-job training / knowledge transfer for the IT team.			
3	Complete installation, configuration, testing and commissioning.			
4	As-built documentation, diagrams, configuration sheets and runbook.			

Bidder Declaration: We confirm that the information provided in this technical compliance form is accurate and that the offered equipment meets or exceeds the stated minimum requirements except where a deviation is explicitly noted above.

Authorised Signatory: _____

Name & Designation: _____

Company / Bidder Name: _____

Date & Official Stamp: _____



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



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އިސްތިޢުނާފު ރިއާޔަތުގެ ޖުމްހޫރިއްޔާ

އިދާރާތުގެ ސަރަޙައްދު: 145-P/2026/48 (23 ޖުލައި 2026)

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- ޖަހަ ހަދަ: ތަޢާރު (ޖުލައި ޖުލައި ޖުލައި)
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