REQUEST FOR PROPOSAL

IT Server Infrastructure Upgrade

Executive Summary

Ministry of Fisheries, Marine Resources and Agriculture is in the process of upgrading its IT Infrastructure. This upgrade includes procuring of hardware, software licenses, training technical support and maintenance services.

This RFP is intended for competitive vendors who are interested to bid for IT Server Infrastructure Upgrade.

The vendor who is desirous to take up the role of solution provider is requested to give technical and commercial proposals in accordance with the terms and conditions mentioned in this document.

General Terms:

1. The bidder is expected to examine all instructions, forms, terms and technical specifications in the bidding documents. Failure to furnish all information or documentation required by the bidding documents may result in the rejection of the bid.
2. Any bidder requiring any clarification of the bidding documents shall contact the Ministry in writing or email. The Ministry will respond to any request for clarification, provided that such request is received no later than three (03) days prior to the deadline for submission of bids.
    - **Bidders are required to direct all the questions to:**
      Information Technology Unit
      Email: itu@fishagri.gov.mv

Proposal Requirements:

The Bid Document shall be rejected if it fails to meet the following minimum criteria and submit the required documents.

1. **Proposer and/or Partner(s) overview and background:** The Proposer must provide basic information on the Proposer and any partners or subcontractors participating in the tender. This information should include, but not limited to, the history of the organization, its experience and its experience in the IT field, technical capabilities, experience implementing similar architecture, the size of implementations and success stories. This section should also explain any partnering arrangements that have been made to respond to the proposal.
2. Unless otherwise specified, the Bidder shall quote entirely in Maldivian Rufiyaa.
3. The Ministry shall confirm that the following legal documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.
    - Company Registration
    - GST Registration
    - Tax Clearance Report
    - SME Registration Certificate (if required)

Price Schedule Form

#	Description	Qty	Rate (MVR)	Amount (MVR)
1	**Server Infra Upgrade** • 01 x Server Chassis • 02 x Servers • 01 x SAN Storage • 01 x NAS Backup Storage • 02 x Core Switch • 01 x Server Virtualization Software • 01 x Backup Software • 01 x UPS and Accessories • 04 x Windows Server 2019 Standard	01 LOT		
			Sub Total	
			6% GST	
			Grand Total (MVR) Including GST	

Delivery Period: _____

Warranty Period: _____

** Bidder shall provide cost information by completing the table above indicating the estimated amount of time and cost of completing the project:*

Technical Specification

1. Server Chassis				
#	Minimum Requirement	Qty	Proposed Spec including Part Numbers	CHECK MARK (IF MEET SPECS Yes or No)
1.10	Form Factor: 2U rack mountable	01 Unit		YES
1.11	Server Slots: • Should support minimum 04 server nodes (hot-swap) • Should include blank kit for empty slots			
1.12	Cooling: • Should be supplied with minimum 04 fans • Should be support additional fans for redundancy			
1.13	Power supply: Should be supplied with redundant power supplies.			
1.14	Management: • Should provide comprehensive management software for all modules on the enclosure • Should include dedicated management port			
1.15	Accessory: Should be supplied with bezel kit			
1.16	Installation and Configuration: • Should be installed by vendor certified engineers. • Rack mounting and cabling • Update all components to latest stable firmware • Alert and logging configuration • Creation of configuration documentation			

1.17	Warranty: Minimum 3-Years Warranty for Parts and Services for the Hardware including on-site support service.			
1.18	Training: On the job training for 2 technical staff			

2. Servers				
#	Minimum Requirement	Qty	Proposed Technical Specification	
2.10	Form Factor: Half-width two socket servers	02 Unit		
2.11	Processor: Two (02) x Intel Xeon-Silver 2.2GHz/10-core			
2.12	Memory: • Required Four (04) x 16GB Dual Rank x8 DDR4-2933 Registered Memory • Minimum 16 DIMM Slots • Should scalable to 1.5TB memory			
2.13	LOM: Quad-port 10GBASE-T Ethernet network adapter • Operates at 1/10 Gbps, auto-negotiation, on both ports • Up to 80Gb/s bi-directional near line rate throughput • Hardware acceleration TCP/IP/UDP stateless offloads, as well as for TOE • Support for Tunnel Offload (NVGRE, VxLAN) • Jumbo Frame supported • Checksum & Segmentation Offload • Network Partitioning (NPAR) and Single-Root I/O Virtualization (SR-IOV) • Supports accelerated iSCSI or iSCSI boot and FCoE for storage connectivity • Supports 802.1Q VLANs			
2.14	Drive Support: Two (2) hot-plug small form factor (SFF) SAS drive bays			
2.15	Storage: Required Minimum Two (2) hot-plug 300GB SAS 12G 10K SFF disks			
2.16	Raid Controller: • Supports SAS/SATA • 2GB Flash-backed cache • Supports RAID 0,1,5,6,10,50			
2.17	I/O Slots: Minimum 2 x PCI Express x16			
2.18	Management: • Should include comprehensive remote management software and necessary licenses • Should include dedicated management port			

	• Should include onboard dedicated management chip			
2.19	Supported OS: Windows Server 2012 or later, VMware ESXi 6.0 or later			
2.20	Installation and Configuration: Installation and configuration of the Blade Servers • Should be installed by vendor certified engineers. • Installation and configuration of one VMware vCenter Server • Installation of latest VMware ESXi Server • VMware cluster and high availability configuration and failover testing • Existing server VM migration for up to 10 VMs • VM storage migration to new SAN storage assistance for up to 10 VMs • Traffic segregation configuration at VMware vswitch level • Server traffic should be configured for active active multiple paths • Server storage traffic should be configured as per best practice for multi-pathing • Creation of configuration documentation			
2.21	Warranty: Minimum 3-Years Warranty for Parts and Services for the Hardware including on-site support service.			
2.22	Training: On the job for 2 technical staff			

3. SAN Storage				
#	Minimum Requirement	Qty	Proposed Technical Specification	
3.10	Controller Type: • Active/Active Storage Controller supporting redundant configuration • Dual Hot-pluggable controller • No Single Point of failure including Array Controller card, Cache memory, FAN, Power supply etc. • Storage type: block	01 Unit		

3.11	Controller Cache: • Offered Storage Array shall be given with minimum of 6GB cache per controller in a single array. • Shall have support for SSD/Flash based Cache • Cache shall be backed up in case of power failure for indefinite time either using batteries or capacitors or any other equivalent technology.			
3.12	Storage: • The Storage Array shall be offered with the following configuration: 12 x 1.2TB 12G SAS 10K SFF (2.5in) Enterprise Hard Drive. • Should support 6Gb/12Gb SAS connectivity • Should support minimum 1TB Flash read cache • Should support virtual disk grouping			
3.13	Front-end Ports: • Shall be supplied with minimum of 04 front end host ports per array with 1/10Gb iSCSI connectivity. • Should provide minimum four (04) nos of 5m compatible transceivers or cables to connect the array to core switch • The array should be connected to support 10Gb iSCSI			
3.14	Disk Drive Support: • SFF HDD - shall support minimum 600GB, 900GB, 1.2TB, 1.8TB, 2.4TB • SFF SDD - shall support minimum 400GB, 800GB, 960GB, 1.6GB, 1.92GB • LFF SDD - shall support minimum 400GB, 800GB, 960GB, 1.92GB • LFF drives - shall support minimum 4TB, 6TB, 8TB, 10TB, 12TB • Shall support enterprise 10K SAS, 15K SAS and near line 7.2K drives			
3.15	Scalability: • Shall support SFF and LFF drives with the addition of required disk enclosures. • Shall be scalable to 600TB.			

3.16	RAID Support: Support Raid 1 , 1+0 , 5 and Raid 6			
3.17	Software: Comprehensive software License should be supplied for array based snapshot and array based thin provisioning.			
3.18	Data Tiering: Should support automated Data tiering in real time fashion across different type of drives within a given pool like SSD, SAS, NL-SAS etc.			
3.19	Multi-path: Multi-path and load balancing software shall be provided, if vendor does not support MPIO functionality of Operating system.			
3.19	OS and Clustering Support: Should support industry-leading Operating System platforms including: Windows 2016 / 2019, VMware and Linux. Offered Storage Shall support all above operating systems in Clustering.			
3.20	Warranty: Minimum 3-Years Warranty for Parts and Services for the Hardware including on-site support service.			
3.21	Installation and Configuration: • Should be installed by vendor certified engineers. • Installation of the array into the rack • Confirmation of appropriate OS patch levels and firmware versions • Verification and update (as needed) of prerequisite array and host bus adapter (HBA) firmware versions • Install and activate any included software license • Deployment of the array as per industry best practice • Configuration of multipath software instances for each installed physical host • Creation of configuration documentation			
3.22	Training: On the job training for 2 technical staff			

3. NAS Storage Server				
#	Minimum Requirement	Qty	Proposed Technical Specification	
1.1	NAS Storage Server	1		

	• 8-Slot LFF NAS with Redundant Power Supply • Memory: 4 GB DDR4 (Expandable to 16GB) • Drive Slot(s): 08 x 3.5' SATA 6 Gbps • Supported Drives: 3.5' HDD, 2.5' HDD, 2.5' SSD • Ports: 2x10GbE SFP+, 2x1GbE RJ45, 3xUSB 3.1 • Form factor: rackmount • Supported OS: Mac OS, Linux, Win Svr 2012, 2012R2, 2016, 2019 • Management: Web based • Network: NIC teaming, TCP/IP, Jumbo frame supported • Storage: thin provisioning and space reclamation, RAID 5,6,10 • iSCSI: iSCSI target, online LUN expand, LUN mapping • Should provide rack mounting kits • Should be supplied with Five (05) x 6TB SATA III 3.5" Internal Surveillance/NAS Hard Drive compatible with NAS • Should provide minimum two (02) nos of 3m compatible connectivity accessories including any transceiver or cables for 10Gb connectivity to core switch			
1.2	Installation and Configuration: • iSCSI LUN Configuration on NAS storage • iSCSI Storage configuration for backup server • Configuration and documentation			

4. Core Switch				
#	Minimum Requirement	Qty	Proposed Technical Specification	
4.10	Ports: • 12 RJ-45 autosensing 1/10GBase-T ports • 4 SFP+ 1/10GbE ports • 1 dual-personality (RJ-45 or mini USB) serial console port • 1 RJ-45 out-of-band management port	01 Unit		
4.11	Power Supply: • 2 power supply slots • Single Power Supply required			
4.12	Air flow: Front to Back			
4.13	Packet buffer size: 4 MB, 512 MB flash			
4.14	Mounts in an EIA standard 19-inch rack, mounting accessories should be provided			
4.15	Performance: • Throughput Up to 200 Mpps • Routing/Switching capacity 320 Gbps • MAC address table: 16k entries			
4.16	Features: • Secure Web browser-based management • SNMPv1, v2 and v3 • Dual flash image • Port mirroring • NTP • IEEE 802.1AB • QoS • IEEE 802.3X • ACL, IEEE 802.1X, ARP Protection, STP BPDU, STP root guard			

	• L2 Switching, IEEE 802.1Q, STP • L2 Static routing • Link aggregation: LACP			
4.17	Installation and Configuration: • Should be installed by vendor certified engineers. • Rack mounting and cabling • Redundant uplink cabling for server host(s) • Redundant SAN cabling from SAN storage • Server host management and storage management cabling • Redundant uplink cabling to existing distribution switches • SAN traffic, Server traffic and Management network traffic segregation • Update to latest stable firmware • Link failover and redundancy testing for SAN and Server traffic • Creation of configuration documentation			
4.18	Warranty: Minimum 3-Years Warranty for Parts and Services for the Hardware including on-site support service.			
4.19	Training: On the job training for 2 technical staff			

5. Server Virtualization Software & Windows Server Licenses				
#	Minimum Requirement	Qty	Proposed Technical Specification	
5.10	VMware vSphere 6 Essentials Plus Kit for 3 hosts (Max 2 processors per host) Basic Support/Subscription VMware vSphere 6 Essentials Plus Kit for 1 year	1		
5.11	Installation and Configuration: • Installation and configuration of one VMware vCenter Server • Installation of latest VMware ESXi Server on all hosts(s) • VMware cluster and high availability configuration and failover testing • Existing server VM migration			

	• Traffic segregation configuration at VMware vswitch level • Server traffic should be configured for active active multiple paths • Server storage traffic should be configured as per best practice for multi-pathing • Configuration and documentation			
5.13	4x Windows Server 2019 Standard Licenses • Installation and migration of existing windows servers			
5.12	Training: On the job training on Administration for 2 technical staff			

6. Backup Software				
#	**Minimum Requirement**	**Qty**	**Proposed Technical Specification**	
6.10	Backup Software • Supports Virtual and Physical server backup • Licensed for four (04) sockets with 1-year basic technical support and software updates • Recover failed VM in less than five minutes • Granular recovery for Microsoft Active Directory, Micosoft SQL, Microsoft Exchange • VM replication for disaster recovery • Supported OS: vSphere 6.x, vCenter Server 6.x, Windows Server 2012 and later • Real-time monitoring, reporting and alerting • Capacity planning and forecasting • Resource optimization and configuration tracking	1		

6.11	Installation and Configuration: • Installation of backup server • Backup storage configuration • Backup job(s) configuration for Fileservers • Backup job(s) configuration for Application Servers • Backup job(s) configuration for Domain Controllers • Backup job(s) configuration for Supported Mail Servers • Backup job(s) configuration for VMs • Backup scheduling • Backup and restore testing • Configuration and documentation			
6.12	Training: On the job training on Administration for 2 technical staff			

7. UPS and Rack Accessories				
#	Minimum Requirement	Qty	Proposed Technical Specification	
7.10	02 x APC Smart-UPS SRT 5000VA Rack mount 230V with rail kit	01 Unit		
7.11	10 x 1U 19" Black Modular Toolless Airflow Management Blanking Panel			
7.12	1 x 1U Cable management panel			
7.13	Installation and Configuration			

Service Level Expectations for Equipment

The Bidder will offer warranty for the hardware against defects arising out of faulty design, materials and workmanship for a period of: **Three (3) years** for **all** hardware from the date of acceptance of the entire hardware.

- Defective equipment shall be replaced by the Bidder at his own cost, including the cost of transport if any.
- Bidder shall provide all normal toolkit and test equipment needed for the maintenance of the hardware.
- System Maintenance & Support services will include the following activities.
    - ✓ Issue resolution / Onsite Visits within 2 hours for hardware failures reported.
    - ✓ Local TAC support plan must be maintained by the Bidder

Evaluation Criteria

Criteria	Marks
Price with GST	70%
Delivery	20%
Experience	10%

Price:

1. Each bidder's price is used to identify their relative position on a 0 – 70 price scale. This is done by allocating the lowest priced bid 70 points and calculating the remaining bidder's score in relation to this scale.

Delivery:

1. Each bidder's number of days for delivery is used to identify their relative position on a 1– 10 scale. [Delivery of Hardware and Licenses]
2. Maximum delivery period shall be within 45 days from the date of confirmation

Others:

1. The bidder must provide proof of **Manufacture Authorization Letter** for proposed products. Proposal shall be rejected if Manufacturer Authorization Letter is not submitted.
2. 3-Years hardware warranty and on-site support service.
3. Training should be provided to minimum 2 staffs.
    a. Installation and warranty support should be provided by certified person.
    b. Should submit related vendor certification(s).