

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



Ministry of Economic Development and Trade
Male', Republic of Maldives

ދިވެހިސަރުކާރުގެ ގެޒެޓް ގައި ބަޔާންކޮށްފައިވާ ގޮތުގައި
މިއަހަރުގެ ފެބްރުއަރީ 2024 ވަނަ ބަޔާންކޮށްފައިވާ ގޮތުގައި

**Shopping for Supply, Install, Configure & Commission VMware
Virtualization Software in the Existing Data Center
Infrastructure & FortiGate Security Subscription in the Existing
FortiGate Network & Security Infrastructure System
for Tradenet Maldives Corporation Ltd.**

**ANNEX1-REQUEST FOR QUOTATION
(RFQ)**

Source of Funding: ADB Loan 3794 – MLD and ADB Grant 0646 – MLD

RFQ Ref: RFQ/2024/003

**South Asia Subregional Economic Cooperation
National Single Window Project**



-2-

SECTION A

SCOPE OF WORK

Under the National Single Window project, Tradenet has established a Data Centre. This RFQ invites experienced vendors to SUPPLY, INSTALL, CONFIGURE, AND COMMISSION VMWARE SERVER VIRTUALIZATION SOFTWARE IN THE EXISTING HPE DATA CENTRE INFRASTRUCTURE AND FORTIGATE SECURITY SUBSCRIPTION IN THE EXISTING FORTIGATE NETWORK AND SECURITY INFRASTRUCTURE, INCLUDING 8 X 7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING. The supplier should be an experienced systems integrator with a thorough knowledge and understanding of such systems and a background in installing, supplying, and maintaining such systems.

Suppliers should be perfectly positioned to deliver solutions for high-density IT deployments and support ongoing maintenance and management services. This will help reduce the threat of systems downtime, mitigate the risk of thermal shutdown, and keep facilities operating optimally.

By the time of delivery and installation, the VMWare Server Virtualization; FortiGate Network and Security Environment should work without any faults.



Section A – 1.0 Client Requirements

#	Description
1	SUPPLY, INSTALL, CONFIGURE, AND COMMISSION VMWARE SERVER VIRTUALIZATION SOFTWARE IN THE EXISTING HPE DATA CENTRE INFRASTRUCTURE AND FORTIGATE SECURITY SUBSCRIPTION IN THE EXISTING FORTIGATE NETWORK AND SECURITY INFRASTRUCTURE, INCLUDING 8 X 7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING
1.1	VMware vSphere Standard with vCenter Standard license including Production Support - Prepaid Commit - Per Core <ul style="list-style-type: none"> - vSphere Standard license - Production Support/Subscription for VMware vSphere Standard - vCenter Standard license - Production Support/Subscription for VMware vCenter Standard
1.2	HPE LTO-9 Ultrium 45TB RW Data Cartridge
1.3	HPE Ethernet 10Gb 2-Port SFP+ BCM57414 Adapter
1.4	HPE Aruba 10G SFP+ LC SR 300m MMF Transceiver
1.5	Duplex LC/LC Multi-mode OM4 2 Fiber 3m Cable
1.6	FortiGate-301E 1 Year Unified Threat Protection (UTP) (IPS, Advanced Malware Protection, Application Control, URL, DNS & Video Filtering, Antispam Service, and FortiCare Premium) Serial(s): FG3H1E5819903410; FG3H1E5819903443; FG3H1E5819903466; FG3H1E5819903498
1.7	FortiSwitch-248E-POE 1 Year FortiCare Premium Support Includes: - FortiCare Premium Ticket Handling, Advanced Hardware Replacement (NBD), Firmware and General Upgrades Serial(s): S248EPTF19005182; S248EPTF19005085
1.8	FortiAP-421E 1 Year FortiCare Premium Support



	<p>Includes: - FortiCare Premium Ticket Handling, Advanced Hardware Replacement (NBD), Firmware and General Upgrades</p> <p>Serial(s): FP421ETF1925018; FP421ETF1925029</p>
1.9	<p>Professional Services: Install, Configure and Commission VMware Virtualization; Network and Security Environment:</p> <p>a) Install, Configure and Commission VMware Server Virtualization Software in the existing HPE Data Centre Infrastructure</p> <p>b) Installation and Startup Service for Virtualization Hardware Environment:</p> <ul style="list-style-type: none"> - Installation and Startup Service for HPE DL380 Server - Installation and Startup Service for HPE DL20 Server - Installation and Startup Service for HPE DL Series OS SVC - Installation and Startup Service for HPE MSA 2052 Storage - Installation and Startup Service for HPE MSA 1050 Storage - Installation and Startup Service for Veeam Backup <p>c) Install, Configure and Commission FortiGate Security Subscription in the existing FortiGate Network and Security Infrastructure</p> <p>d) Installation and Startup Service for Network and Security Hardware Environment:</p> <ul style="list-style-type: none"> - Installation and Startup Service for FortiSwitch 248E-POE - Installation and Startup Service for FortiAP 421E - Installation Service for Cisco Catalyst 9300
1.10	On-the-job training in basic management and operation
1.11	Technical Support: 12 Months 8 X 7 Local Technical Support



Section A – 2.0 Professional Services, Technical Support, and on-the-job training

a) Install, Configure and Commission VMware Server Virtualization Software in the existing HPE Data Centre Infrastructure and on-the-job training:

- Perform site readiness assessment ensuring the environment is ready for project commencement.
- Shall provide planning and deployment details.
- Initialize all nodes per manufacturer best practice and upgrade to the latest stable firmware for all HPE Servers and Storage.
- Vendor Certified Engineers should carry out the installation.
- Planning and deployment details should be provided before the deployment.
- Check, verify and ensure hardware compatibility with the latest VMware software.
- Upgrade hardware firmware to ensure compatibility and stable operations.
- Install VMware vSphere Hypervisor (ESXi) on each host machine, following VMware's best practices and compatibility guidelines.
- Deploy VMware vCenter Server for centralized management, ensuring seamless integration with existing systems.
- Configure a high availability cluster using available nodes and enable necessary fault tolerance and automatic failover features.
- Design the VMware networking to be highly secure and segregated.
- Configure networking on the hosts:
 - Create all required port groups for production VMs.
 - Assign VLANs to the port groups.
 - Configure network uplink redundancy.
- Set up storage, including data stores and storage policies.
 - Create the relevant LUNs on the SAN to be presented to the VMware environment.
 - Establish Fibre Channel (FC) connectivity between VMware hosts and SAN, verifying connectivity and ensuring optimal performance.
 - Create/define the hosts on the SAN.
 - Map the LUNs to the hosts on SAN.



- Create the VMFS datastores on VMware for efficient storage management and provisioning.
- Configure security features such as role-based access control (RBAC) and vSphere encryption.
- As the new setup will impact the organization's Computing and Storage environment, the deployment should be planned with minimum downtime and impact.
- The production virtualization environment should be configured in a clustered, high-availability configuration and integrated into all related components, forming part of this implementation.
- Provide on-the-job training for administrators and IT personnel responsible for managing the VMware environment, ensuring proficiency in day-to-day operations.
- The supplier will have to provide the mobile number of a Single Point of Contact and a backup contact person to facilitate immediate contact by Tradenet's representative.
- The supplier shall replace defective equipment at his own cost, including the cost of transport, if applicable.



b) Installation and Startup Service for Virtualization Hardware Environment:

- Installation and Startup Service for HPE DL380 Server
 - Verify prerequisites have been met.
 - Physical connection of the product to a LAN, as appropriate

- Installation and Startup Service for HPE DL20 Server
 - Verify prerequisites have been met.
 - Physical connection of the product to a LAN, as appropriate

- Installation and Startup Service for HPE DL Series OS SVC
 - Verify prerequisites have been met.

- Installation and Startup Service for HPE MSA 2052 Storage
 - Verify prerequisites have been met.
 - Deposit and license activation of any optionally purchased licenses.
 - Physical connection of the Storage array.
 - Creation and demonstration of manual and/or scheduled snapshots.
 - Connection and setting up all hosts.
 - Configuration and zoning of the Storage and any associated hosts.

- Installation and Startup Service for HPE MSA 1050 Storage
 - Verify prerequisites have been met.
 - Deposit and license activation of any optionally purchased licenses.
 - Physical connection of the Storage array.
 - Creation and demonstration of manual and/or scheduled snapshots.
 - Connection and setting up all hosts.



-8-

- Configuration and zoning of the Storage and any associated hosts.
- Installation and Startup Service for Veeam Backup
 - Installation of backup server and integration to VMware Environment.
 - Backup storage configuration
 - Backup job(s) configuration for Fileservers, App, VMs and DB Server
 - Backup scheduling
 - Backup and restore testing.
- Component firmware will be upgraded to the latest Server and Storage array firmware as part of the installation.
- Customer orientation: On-the-job training in basic management and operation.



c) Install, Configure and Commission FortiGate Security Subscription in the existing FortiGate Network and Security Infrastructure and on-the-job training:

- Perform site readiness assessment ensuring the environment is ready for project commencement.
- Shall provide planning and deployment details.
- Initialize all Network and Security as per manufacturer best practice and upgrade to the latest stable firmware for all FortiGate.
- Vendor Certified Engineers should carry out the installation.
- Planning and deployment details should be provided before the deployment.
- Design and implementation of a tiered firewalling architecture with HA.
- All required networking, security and access configurations should be done to take advantage of the features available in the firewall clusters. This includes, but is not limited to:
 - Hardware and software health checks are performed before and after installation.
 - Creating VLANs and Networks and related configurations (configuring DHCP, NAT, Routing and security fabric configurations etc. per each network)
 - Creating Aggregate Links for redundancy
 - Creating Firewall Policies with Active Directory Integration
 - Creating Application Control and Other Security Policies
 - Creating Bandwidth Control Policies
 - Creating Load Balancing and Link Failover Redundancy Policies for Internet and Other External Connections
 - Creating Load Balancing and Publishing Policies for Applications Published
 - IPSec and SSL VPN Configurations - including client testing and planning for upgraded client deployments.
 - General and Advanced Routing Configurations
 - Implementing and hardening access controls for management and between internal and external networks.
 - Ensure all device registrations, licenses and notifications are configured and active.
 - Enable, configure, and refine licensed security features.
 - Function tests for:
 - Network Accesses
 - Firewall and Security Policies
 - VPNs
 - Internet and Application Accesses, Load Balancing and Failover
 - Cluster High Availability



- As the new setup will impact all core networking functions of the organization the deployment should be planned with minimum downtime and impact.
- The firewalls should be configured in a clustered high-availability configuration and integrated into the core switch cluster, which will form part of this implementation.
- As part of the implementation, the vendor should carry out all networking and clustering configurations required to integrate the firewall cluster into the switch cluster.
- Integration and configuration of related management, reporting and analytics tools.
- Provide on-the-job training for administrators and IT personnel responsible for managing the network environment, ensuring proficiency in day-to-day operations.
- The supplier will have to provide the mobile number of a Single Point of Contact and a backup contact person to facilitate immediate contact by Tradenet's representative.
- The supplier shall replace defective equipment at his own cost, including the cost of transport, if applicable.

d) Installation and Startup Service for Network and Security Environment:

- Installation and Startup Service for FortiSwitch 248E-POE
 - Provides and implements industry best practice configuration.
 - Provides a vendor-certified specialist onsite for the duration of the configuration and migration execution.
 - Based upon Customer input, design appropriate L2 LAN switching.
 - Configure network segmentation for optimal security.
- Installation and Startup Service for FortiAP 421E
 - Provides and implements industry best practice configuration.
 - Configure Wi-Fi authentication and security policies.
 - Configure up to 5 SSIDs with appropriate LAN segmentation.
 - Configure access control and monitoring policies.
 - Configure firewall policies.



- Installation Service for Cisco Catalyst 9300
 - Provides and implements industry best practice configuration.
 - Provides a vendor-certified specialist onsite for the duration of the configuration and migration execution.
 - Based upon Customer input, design appropriate L2 LAN switching.
 - Configure network segmentation for optimal security.

- As part of the installation, the component firmware will be upgraded to the latest Firewall, Switch, and Access Point firmware.

- Customer orientation: On-the-job training in basic management and operation

Section A – 3.0 Sign-off Documentation

Preparation of sign-off documentation relating to the provided services shall be presented to the Tradenet Data Centre Team. By the time of signing, the scope of work mentioned in this document shall be fully completed.

Technical Requirement specifications are listed below in SECTION B of this document.



SECTION B

TECHNICAL REQUIREMENTS

#	Description	Qty
1	SUPPLY, INSTALL, CONFIGURE, AND COMMISSION VMWARE SERVER VIRTUALIZATION SOFTWARE IN THE EXISTING HPE DATA CENTRE INFRASTRUCTURE AND FORTIGATE SECURITY SUBSCRIPTION IN THE EXISTING FORTIGATE NETWORK AND SECURITY INFRASTRUCTURE, INCLUDING 8 X 7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING	1 Bundle
1.1	VMware vSphere Standard with vCenter Standard license including Production Support - Prepaid Commit - Per Core <ul style="list-style-type: none"> - vSphere Standard license - Production Support/Subsription for VMware vSphere Standard - vCenter Standard license - Production Support/Subsription for VMware vCenter Standard 	128 Nos
1.2	HPE LTO-9 Ultrium 45TB RW Data Cartridge	51 Nos
1.3	HPE Ethernet 10Gb 2-Port SFP+ BCM57414 Adapter	2 Nos
1.4	HPE Aruba 10G SFP+ LC SR 300m MMF Transceiver	4 Nos
1.5	Duplex LC/LC Multi-mode OM4 2 Fiber 3m Cable	4 Nos
1.6	FortiGate-301E 1-Year Unified Threat Protection (UTP) Includes: IPS, Advanced Malware Protection, Application Control, URL, DNS & Video Filtering, Antispam Service, and FortiCare Premium S/N: FG3H1E5819903410; FG3H1E5819903443; FG3H1E5819903466; FG3H1E5819903498	4 Nos
1.7	FortiSwitch-248E-POE 1-Year FortiCare Premium Support Includes: FortiCare Premium Ticket Handling, Advanced Hardware Replacement (NBD), Firmware and General Upgrades Serial(s): S248EPTF19005182; S248EPTF19005085	2 Nos
1.8	FortiAP-421E 1-Year FortiCare Premium Support Includes: - FortiCare Premium Ticket Handling, Advanced Hardware Replacement (NBD), Firmware and General Upgrades Serial(s): FP421ETF1925018; FP421ETF1925029	2 Nos
1.9	Professional Services: Install, Configure and Commission VMware Virtualization; Network and Security Environment: a) Install, Configure and Commission VMware Server Virtualization Software in the existing HPE Data Centre Infrastructure b) Installation and Startup Service for Virtualization Hardware Environment: <ul style="list-style-type: none"> - Installation and Startup Service for HPE DL380 Server - Installation and Startup Service for HPE DL20 Server - Installation and Startup Service for HPE DL Series OS SVC - Installation and Startup Service for HPE MSA 2052 Storage 	1 Lot



	<ul style="list-style-type: none">- Installation and Startup Service for HPE MSA 1050 Storage- Installation and Startup Service for Veeam Backup <p>c) Install, Configure and Commission FortiGate Security Subscription in the existing FortiGate Network and Security Infrastructure</p> <p>d) Installation and Startup Service for Network and Security Hardware Environment:</p> <ul style="list-style-type: none">- Installation and Startup Service for FortiSwitch 248E-POE- Installation and Startup Service for FortiAP 421E- Installation Service for Cisco Catalyst 9300	
1.10	On-the-job training in basic management and operation	1 Lot
1.11	Technical Support: 12 Months 8 X 7 Local Technical Support	1 Lot



SECTION C

PRE-QUALIFICATION

Parties interested in delivering the scope of work outlined in Annex I must meet the Section C Pre-Qualification requirement below:

a) Experience.

Proof of supply of similar items to other organizations within the last 5 years. (Bidders should submit purchase orders or letters from organizations mentioning successful delivery and implementation.)

b) Mandatory Documents:

- Company Registration Certificate
- GST Registration Certificate
- Tax Clearance Certificate (last 30 days from the date of bid submission)
- Last 2 Year Financial Statements
- All the other relevant documents required/mentioned to submit in this bid document.

c) Manufacture Authorization / Accreditation:

A firm that does not manufacture or produce the goods it offers to supply shall submit the Manufacturer's Authorization Letter to demonstrate that it has been duly authorized by the manufacturer or producer of the goods to supply and install the goods and service in the Republic of Maldives.

d) Delivery and Installation Duration

Delivery and installation should be completed within 30 days of receiving the purchase order.

e) Compatibility

The Data Centre has an HPE Server, Storage, Cisco Switch, Fortinet Firewall, and F5 Load balancer. The proposed equipment, hardware exterior, and software must be fully compatible with the existing hardware and software. The proposed solution must also work with current hardware. In any case, if the items do not appear to complement the existing infrastructure, the proposals may be disqualified.

f) Resources

The vendor MUST have the following full-time OEM Certified Professional/Engineer under its payroll to provide all professional services. All relevant engineer(s) certificates and supporting documents shall be included with the proposal. Required certificates of the engineer(s):

- Fortinet Certified – NSE1, NSE2, NSE3 and NSE4
- Cisco CCNA Certified for Routing and Switching Certified



-15-

- VMware Certified
- HPE Certified Engineer – HPE Storage Solution
- HPE Certified Engineer – HPE Server Solution
- HPE Certified Engineer – HPE MSA Service and Solution

It is mandatory that the supplier attach a professional certificate of the engineer and other related reference documents. The supplier shall submit the following documents:

- a) Certification copies of the relevant training.
- b) Letter from the organization that the engineer is employed at that organization.
- c) ID card OR passport copy of the engineer.
- d) Contact information of the staff and his/her supervisor in that organization.

-- END --