ASYCUDA World Project: Hardware and Software

**Phase III**

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### LOT 1.0 - Virtualization Solution

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| **Manufacturer** | **HP** |
| **LOT** | **1 – Half-Height Blade Servers for Existing Enclosure** |

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| **#** | **SKU** | **Description** | | **Quantity** |
| **LOT 1:** | **Half-Height Blade Servers for Existing Enclosure & Citrix XenServer License For Servers** | | |  |
| **1** | **Blade Servers – HP Graphics Expansion Blade Servers for Existing HP C7000 Enclosure** | | | |
| 1.1 | Form Factor | Half-Height Blade Servers | | 4 Nos |
| 1.2 | Processor | Two (2) x Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) | |
| 1.3 | Memory | 256GB Memory – Eight (8) x 32GB Dual Rank x4 DDR4-2133 Registered | |
| 1.4 | Storage Controller | HP Smart Array P244br/1GB FBWC 12Gb SAS Controller | |
| 1.5 | FlexibleLOM Adapters | HP FlexFabric 10Gb 2-port 536FLB FIO Adapter | |
| 1.6 | Mezzanine Cards | (2) x NVIDIA GRID K1 PCIe GPU FIO Adapter | |
| 1.7 | Network Card | HP FlexFabric 10Gb 2-port 536FLB Adapter | |
| 1.8 | Expansion Slot | HP WS460c Gen9 Expansion Blade Slot2 Enablement FIO Kit | |
| 1.9 | Hard Drive | (2) HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Hot Plug Hard Drive | |
| 1.10 | Management | HP iLO Management | |
| 1.11 | Warranty | Minimum 3-Year 24x7 Part Replacement and On-Site Support | |
| **2** | **Citrix XenServer Licensing** | | | |
| 2.1 | 3013029-EZ | XenServer-Enterprise Edition - Perpetual Per Socket | | 12 Nos |
| 2.2 | 4034042-EZ | XenServer-Enterprise Edition - Perpetual Per Socket Software Maintenance | | 12 Nos |
| **3** | **HP BladeSystem and Network Training** | | |  |
| 3.1 | Training | | **HP BladeSystem Administration Training (Certified)**   * HP BladeSystem and Servers GEN9 Training * HP BladeSystem Architecture * HP BladeSystem Portfolio and Features * HP Virtual Connect Concepts * HP BladeSystem Enclosures * HP BladeSystem Connectivity Modules and Architecture * HP BladeSystem Configuration and Management * HP BladeSystem Storages and Expansion Blades * HP iLO Management Interactions with Onboard Administrator * LAB Exercises for managing and configuring the VC * HP ExpertOne Certification * Travelling and Accommodation   **HP Virtual Connect Network Administration Training (Certified)**   * HP BladeSystem Virtual Connect modules * Managing HP BladeSystem VC through CLI/GUI * Virtual Connect Manager * Managing and Configuring Profiles * Concept of FlexNICs * HP VSAN Configuration * Configuring the vNets and VLANs * Active/Active and Active/Standby Network Designs * HP ExpertOne Certification * Travelling and Accommodation   **Citrix Certified Administrator Training (Certified)**   * Deploying Desktop Solutions with Citrix XenDesktop * Understanding the XenDesktop Architecture * Hypervisor Setup and Configuration * Infrastructure Components Configuration * Server OS machines, hosted applications, and Desktop OS machine Configuration * Configure profiles and policies * Set up Provisioning Services * Citrix Certified Administrator Exam * Travelling and Accommodation | 03 Staff |

**LOT 1 - Notes:**

1. Please quote per blade rate for item 1, since we might reduce the amount we purchase to fit into our budget. And please quote separately for item 2 and 3, since we might drop certain training if there are budget constraints.
2. **Experience:** The Proposer should provide approach and reference of successful implementation of similar system and should include descriptions of system implementations they have completed. The mentioned project references must include names and contact information of the respective clients so that MCS can contact and verify the project summaries.
3. Bidder that does not manufacture or produce the Goods it offers to supply must submit the **Manufacturer’s Authorization Letter**, to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Republic of Maldives. Manufacture authorization letter must be referred to the tender advertisement.
4. **Team Composition:** It is mandatory that the proposer maintain the required technical team as deemed as suited based on the requirements and milestones. Importantly it is expected that the Proposer will maintain necessary resources on-site during crucial stages of the Project that requires closer interaction with MCS during installation, configuration, integration, training, testing, etc. The proposer MUST have at least **two** full time solution professional under its payroll. The proposer shall submit the following documents.
   * + Certification copy of the relevant training
     + Letter from organization that the engineer is employed at that organization
     + ID card OR Passport Copy of the engineer
     + Contact information of the staff and his/her supervisor in that organization
5. 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 from the Date of Acceptance of the entire hardware.
6. Defective equipment shall be replaced by the Bidder at his own cost, including the cost of transport if any.
7. The Bidder shall provide all normal toolkit and test equipment needed for the maintenance of the hardware to the engineer.
8. System Maintenance & Support services will include the following activities.
   * + Issue resolution / Onsite Visits within 1 hrs. For hardware failures reported.
     + Phone/Email TAC and maintenance support must be provided locally
     + Local TAC support plan must be maintained by the Bidder for the warranty period.

### LOT 2.0 - Storage Solution

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| **Manufacturer** | **-** |
| **LOT** | **2 - Storage Solution** |

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| **#** | **SKU** | **Description** | **Quantity** |
| **LOT 2:** | **SAN Solution** | |  |
| **1** | **Storage Area Network** | | |
| 1.1 | OS | The storage array should support industry-leading Operating System platforms including: Windows Server 2008, Windows 2012, Citrix XenServer, VMware and etc. | 1 Solution |
| 1.2 | Architecture | The storage array should support dual, redundant, hot-pluggable, active-active array controllers for high performance and reliability. |
| 1.3 | Capacity | The Storage Array must be offered with 9 x 400GB 12G Solid State Drives, 33 x 1.2TB 6G SAS 10K Drives and 8 x 1TB 6G SAS 7.2K Nearline Hard Drives.  Offered Storage must include free slots with drive cages to populate additional 24 drives considering any immediate requirement. |
| 1.4 | RAID level | Offered Storage Subsystem must support Raid 0, 1 , 1+0, 5, 5+0 and Raid 6 with Dual Parity Protection |
| 1.5 | Cache | Battery-free cache backup and should support SSD Read Cache for read performance.  Cache shall be backed up in case of power failure for indefinite time either using batteries or capacitors or any other equivalent technology. |
| 1.6 | Drives Support | Support for SSD Drives and must support mixing of SAS and SSD Drives.  For SFF drives, Offered Storage Array shall support minimum 300/600/900/1200GB hot-pluggable 10K Enterprise SFF SAS hard drives, 1TB hot-pluggable 7.2K Enterprise SFF SAS hard drives and 400/800GB SSD hard drives. |
| 1.7 | Data Tiring | Offered Storage must be able to automatically manage up to three tiers of storage: Performance tier (Fast Tire), Standard tier (Medium Tire) and Archive tier (Slow Tire). |
| 1.8 | Upgradable | Minimum 200 TB Upgradable option without adding controllers. |
| 1.9 | Licenses | If any licenses are needed for replication or thin provisioning, must include Replication and Thin Provisioning License.  Offered Storage should be capable of at-least 400 snapshots. |
| 1.10 | Replication | Offered storage subsystem must support storage based replication to DR location. If license is required it must be included.  DR site storage must be provided for replication. It must be included with the proposed Hardware and Software. |
| 1.11 | Hot Connectivity | Interface: Minimum 16Gb Fibre Channel (4) Host Ports Required  AND  Interface: Minimum 10GbE iSCSI (4) Host Ports Required |
| 1.12 | Accessories | Eight (8) x 10G SFP+ to SFP Direct Attach Copper Cable – 3 Meter  Eight (8) x 10Gb Short Range iSCSI SFP + Transceivers  Eight (8) x 16GB Fibre Channel SFP + Transceiver  Eight (8) x Multi-Mode Fibre 3 Meter Cable  Should provide the appropriate power cables.  Offered Storage should be provided with dual 16Gb Short Wave Fibre Channel SFP + Cables and dual 10Gb Short Range iSCSI SFP + cables. |
| 1.13 | Warranty | Minimum 3-Year 24x7 Part Replacement and On-Site Support |
| 1.14 | Training | **Implementation and Configuration Training for 3 Staff**   * Overview of the SAN (Features and Benefits) * Management Tools * Hardware Components and Capabilities * SSD best practices and RAID Configs and Benefits * Controller, Chassis and Cabling Configuration * Remote management and utilities * Data protection and Disk Configurations * Snapshots, volume coy and data management * Disaster Recovery and best practice considerations * Servicing of the hardware * Certification * Travel and Accommodation |

**LOT 2 - Notes:**

1. When asked to provide licenses if required, It does not mean workgroup license or free licenses is an option if the vendor provides Enterprise class licensing. If the vendor provides Enterprise class licensing at a fee, please include those fees and include all Enterprise class licenses
2. For replication, we have mentioned that DR site storage must be provided for replication and it must be included with the proposed Hardware and Software. This must be an exact replica of the SAN storage that you are proposing. Please provide separate quotes for primary site SAN and DR SAN. Since we might drop the DR SAN if there are budget constraints.
3. Please quote separately for 1.14 (Training) since we might drop the training if there are budget constraints.
4. **Experience:** The Proposer should provide approach and reference of successful implementation of similar system and should include descriptions of system implementations they have completed. The mentioned project references must include names and contact information of the respective clients so that MCS can contact and verify the project summaries.
5. Bidder that does not manufacture or produce the Goods it offers to supply must submit the **Manufacturer’s Authorization Letter**, to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Republic of Maldives. Manufacture authorization letter must be referred to the tender advertisement.
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   * + Certification copy of the relevant training
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8. Defective equipment shall be replaced by the Bidder at his own cost, including the cost of transport if any.
9. The Bidder shall provide all normal toolkit and test equipment needed for the maintenance of the hardware to the engineer.
10. System Maintenance & Support services will include the following activities.
    * + Issue resolution / Onsite Visits within 1 hrs. For hardware failures reported.
      + Phone/Email TAC and maintenance support must be provided locally
      + Local TAC support plan must be maintained by the Bidder for the warranty period.

### LOT 3.0 – Cisco Network Equipment

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| **Manufacturer** | **-** |
| **LOT** | **3 – Cisco Network Equipment** |

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| **#** | **SKU** | **Description** | **Quantity** |
| **LOT 3** | **Cisco Network Equipment** | |  |
| **1** | **Cisco Firewall + Switch** | | |
| 1.1 | ASA5505-50-BUN-K8 | ASA 5505 Appliance with SW 50 Users 8 ports DES | 2 |
| 1.2 | ASA-ANYCONN-CSD-K9 | ASA 5500 AnyConnect Client + Cisco Security Desktop Software |
| 1.3 | SF-ASA5505-8.3-K8 | ASA 5505 Series Software v8.3 |
| 1.4 | CAB-AC-C5-UK | AC Power Cord Type C5 UK |
| 1.5 | ASA5505-PWR-AC | ASA 5505 AC Power Supply Adapter |
| 1.6 | ASA5505-SW-50 | ASA 5505 50 User software license |
| 1.7 | ASA5500-ENCR-K8 | ASA 5500 Base Encryption Level (DES) |
| 1.8 | ASA-AC-E-5505 | AnyConnect Essentials VPN License - ASA 5505 (25 Users) |
| 1.9 | SG300-52MP-K9-CN | SG 300-52MP 52-port Gigabit Max-PoE Managed Switch |
| 1.10 | MGBSX1 | Gigabit Ethernet SX Mini-GBIC SFP Transceiver |
| **2** | **Branch Office Equipment** | | |
| 2.1 | Wall Frames | 6U Wall Mount Cabinet   * 6U/450mm (Depth) Network Rack * Good ventilation and heat dispersal * Framework of high strength steel * Fan Kit * Mounting Kit and Accessories | 2 |
| 2.2 | PDU | APC (P/N: AP9565) Basic Rack PDU, Basic, 1U, 16A, 208/230V, (12)C13 | 2 |
| 2.3 | UPS | APC (P/N: C450RMI1U) APC Smart-UPS SC 450VA 230V - 1U RM/Tower | 2 |
| **3** | **Server Room Network Equipment Rack** | | |
| 3.1 | RACK-UCS2 | Cisco R42610 standard rack w/side panels | 1 |
| 3.2 | RP230-32-1P-U-2 | Cisco RP230-32-U-2 Single Phase PDU 20x C13 4x C19 | 2 |
| 3.3 | RACK-BLANK-001 | Filler panels (qty 12) 1U plastic toolless | 2 |
| 3.4 | RACK-CBLMGT-001 | Cable mgt D rings (qty 10) metal | 1 |
| 3.5 | RACK-CBLMGT-011 | Cable mgt straps (qty 10) Velcro | 1 |
| 3.6 | RACK-FASTEN-001 | Mounting screws (qty 100) M6 | 1 |
| 3.7 | RACK-FASTEN-002 | Cage nuts (qty 50) M6 | 1 |
| **4** | **Existing Rack Filler Panels** | | |
| 4.1 | AR8136BLK | APC 1U Black Modular Toolless Airflow Management Blanking Panel (Qty 10) | 2 |
| 4.2 | BW928A | HP 1U 10-pack Black Universal Filler Panel | 2 |

**LOT 5 - Notes:**

1. **Experience:** The Proposer should provide approach and reference of successful implementation of similar system and should include descriptions of system implementations they have completed. The mentioned project references must include names and contact information of the respective clients so that MCS can contact and verify the project summaries.
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