Section 6: Schedule of Supply

**Table of Contents**

1. List of Goods and Related Service 3

2. Delivery and Completion Schedule 13

3. Technical Specification 14

a) Technical Requirements and Bill of Material 14

b) Scope of Works: Professional Services and Migration 21

c) On-the-Job Training 27

d) Comprehensive On-Site Technical and Maintenance Services 28

4. Related Services (Optional): Comprehensive Technical and Maintenance Services 29

a) Related Services: 2nd Year Comprehensive 24/7 Technical and Maintenance Services 29

b) Related Services: 3rd Year Comprehensive 24/7 Technical and Maintenance Services 31

5. Diagram 33

1. List of Goods and Related Service

| Item No. | Name of Goods or Related Services | Unit of Measurement | Quantity |
| --- | --- | --- | --- |
| **1** | **SUPPLY, UPGRADE, INSTALLATION, CONFIGURATION, MIGRATION, AND COMMISSION OF HPE DISAGGREGATED HYPER-CONVERGED INFRASTRUCTURE IN THE EXISTING PRODUCTION AND DISASTER RECOVERY DATACENTRE, INCLUDING 24/7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING** |  |  |
| **1.1** | **Supply of HPE Disaggregated Hyper-Converged Infrastructure for Production incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** | **Bundle** | **01** |
| 1.1.1 | HPE ProLiant DL38X Gen11 8SFF NC Configure-to-order Server | Nos | 03 |
| 1.1.2 | HPE DL38X Gen11 8SFF NC CTO Svr | Nos | 03 |
| 1.1.3 | HPE Intel Xeon-Gold 6542Y 2.9GHz 24-core 185W or AMD 9254 2.9GHz 24-core 200W Processor | Nos | 06 |
| 1.1.4 | Factory Integrated | Nos | 06 |
| 1.1.5 | HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit | Nos | 36 |
| 1.1.6 | Factory Integrated | Nos | 36 |
| 1.1.7 | HPE ProLiant DL38X Gen11 2U 8SFF x1 Tri-Mode U.3 Drive Cage Kit | Nos | 03 |
| 1.1.8 | Factory Integrated | Nos | 03 |
| 1.1.9 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | Nos | 03 |
| 1.1.10 | Factory Integrated | Nos | 03 |
| 1.1.11 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE | Nos | 03 |
| 1.1.12 | Factory Integrated | Nos | 03 |
| 1.1.13 | HPE 25Gb SFP28 SR 100m Transceiver | Nos | 12 |
| 1.1.14 | HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | Nos | 06 |
| 1.1.15 | Factory Integrated | Nos | 06 |
| 1.1.16 | HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features | Nos | 03 |
| 1.1.17 | Factory Integrated | Nos | 03 |
| 1.1.18 | HPE Compute Cloud Management Server FIO Enablement | Nos | 03 |
| 1.1.19 | HPE ProLiant DL38X Gen11 CPU1 to OCP2 x8 Enablement Kit | Nos | 03 |
| 1.1.20 | Factory Integrated | Nos | 03 |
| 1.1.21 | HPE DL38X/DL56X G11 2U High Perf Fan Kit | Nos | 06 |
| 1.1.22 | Factory Integrated | Nos | 06 |
| 1.1.23 | HPE Gen11 2U Bezel Kit | Nos | 03 |
| 1.1.24 | Factory Integrated | Nos | 03 |
| 1.1.25 | HPE DL38X Gen10 Plus 2U Cable Management Arm for Rail Kit | Nos | 03 |
| 1.1.26 | Factory Integrated | Nos | 03 |
| 1.1.27 | HPE CE Mark Removal FIO Enablement Kit | Nos | 03 |
| 1.1.28 | HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device | Nos | 03 |
| 1.1.29 | Factory Integrated | Nos | 03 |
| 1.1.30 | HPE DL38X/DL56X G11 High Perf 2U HS Kit | Nos | 03 |
| 1.1.31 | Factory Integrated | Nos | 03 |
| 1.1.32 | HPE ProLiant DL38X Gen11 NS204i-u Internal Cable Kit | Nos | 03 |
| 1.1.33 | Factory Integrated | Nos | 03 |
| 1.1.34 | HPE ProLiant DL38X Gen11 Easy Install Rail 3 Kit | Nos | 03 |
| 1.1.35 | Factory Integrated | Nos | 03 |
| 1.1.36 | HPE AL dHCI PL G11 w/ESXi 8.0 FIO SW | Nos | 03 |
| 1.1.37 | HPE 3Y Tech Care Essential Service | Nos | 03 |
| 1.1.38 | HPE DL38X Gen11 Support | Nos | 03 |
| 1.1.39 | HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS | Nos | 03 |
| 1.1.40 | HPE Technical Installation Startup SVC | Nos | 01 |
| 1.1.41 | HPE Startup RedHat OpenShift / VMware vSphere Enterprise SVC | Nos | 01 |
| 1.1.42 | HPE Nimble Storage dHCI Base Deploy SVC | Nos | 01 |
| 1.1.43 | HPE Nimble dHCI Srvr Add-on Startup SVC | Nos | 01 |
| 1.1.44 | HPE Storage VM Migration 50 VM SVC | Nos | 01 |
| 1.1.45 | HPE Deployment Services for Veeam SVC | Nos | 01 |
| 1.1.46 | HPE Deploy of Veeam Base SVC | Nos | 01 |
| 1.1.47 | Local 3-Year 24 x 7 On-site Technical Support Services and Labor | Svc | 03 |
| 1.1.48 | Local 3-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 03 |
| 1.1.49 | HPE Aruba 8360-32Y4C v2 Port to Power Airflow 3 Fans 2 Power Supply Units HPE Attached Bundle | Nos | 02 |
| 1.1.50 | HPE Aruba Networking 8360-32Y4C v2 PtP AF 3 F 2 PSU Attached Bundle PDU | Nos | 02 |
| 1.1.51 | HPE Aruba 10G SFP+ LC SR 300m OM3 MMF Module + 2M Cable | Nos | 08 |
| 1.1.52 | HPE Aruba 100G QSFP28 MPO SR4 MMF Module + 2M Cable | Nos | 04 |
| 1.1.53 | HPE Aruba 25G SFP28 LC SR 100m MMF Module + 2M Cable | Nos | 32 |
| 1.1.54 | HPE Aruba 25G SFP28 LC LR 10km SMF Transceiver | Nos | 08 |
| 1.1.55 | HPE Aruba 100G QSFP28 LC LR4 SMF Transceiver | Nos | 04 |
| 1.1.56 | HPE 3Y Tech Care Essential Service | Nos | 02 |
| 1.1.57 | HPE Aruba 8360 32Y4C Support | Nos | 02 |
| 1.1.58 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 02 |
| 1.1.59 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 02 |
| 1.1.60 | HPE Technical Installation Startup SVC | Nos | 01 |
| 1.1.61 | HPE Aruba ANCIS 5-day Onsite SVC | Nos | 01 |
| 1.1.62 | HPE Installation Comm Svrs Hourly SVC | Nos | 01 |
| 1.1.63 | HPE Onsite NW Conf and Int Bus Hrs SVC | Nos | 01 |
| 1.1.64 | HPE Nimble Storage dHCI with Alletra 6000 Base Configuration Tracking | Nos | 01 |
| 1.1.65 | HPE Nimble Storage dHCI with Alletra 6010 Configure-to-order Base Array | Nos | 01 |
| 1.1.66 | HPE Alletra 6000 2x10/25GbE 2-port FIO Adapter Kit | Nos | 01 |
| 1.1.67 | HPE Alletra 6000 2x25Gb SFP28 SR 100m FIO Transceiver | Nos | 02 |
| 1.1.68 | HPE Alletra 6000 23TB (12x1.92TB) NVMe Flash Carrier FIO Flash Bundle | Nos | 01 |
| 1.1.69 | HPE C13 - C14 250V 10Amp 2m WW PDU FIO Power Cord | Nos | 04 |
| 1.1.70 | HPE Alletra Tier 1 Storage Array Standard Tracking | Nos | 01 |
| 1.1.71 | HPE Alletra 6000 12SSD FIO Blank Panel | Nos | 01 |
| 1.1.72 | HPE Alletra 6000 4x 800W FIO AC Power Supply Kit | Nos | 01 |
| 1.1.73 | HPE Nimble Storage dHCI NOS PG FIO Software | Nos | 01 |
| 1.1.74 | HPE GreenLake for Private Cloud Business Edition w/Alletra Storage 6000 /TB 3yr SW/Sup SaaS | Nos | 23 |
| 1.1.75 | HPE 3Y Tech Care Essential Service | Nos | 01 |
| 1.1.76 | HPE Alletra 6000 2x10/25GbE 2p Kit Supp | Nos | 01 |
| 1.1.77 | HPE Alletra 6010 Base Array Supp | Nos | 01 |
| 1.1.78 | HPE Alletra 6000 AF 23TB NVMe Bdl Supp | Nos | 01 |
| 1.1.79 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.1.80 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| 1.1.81 | APC by Schneider Electric Symmetra LX 4kVA Power Module 220/230/240V for UPS 1 and UPS 2 | Nos | 02 |
| 1.1.82 | APC by Schneider Custom Field Service Installation Service | Svc | 02 |
| 1.1.83 | APC by Schneider Electric Scheduled 5X8 Assembly and Power-Up Service | Svc | 02 |
| 1.1.84 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 02 |
| 1.1.85 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 02 |
| **1.2** | **Supply of VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium for Production incl. 3 Year Subscription & 1-Year Local Support and On-the-Job Training** |  |  |
| 1.2.1 | VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium – 3 Year (License include for new production node and existing production node) | Nos | 224 |
| 1.2.2 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.2.3 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | Svc | 01 |
| **1.3** | **Production: Supply of FortiGate Firewall NGFW Appliance for** **Production incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 1.3.1 | FortiGate-201G 10 x GE RJ45 (including 1 x MGMT port, 1 x HA port, 8 x switch ports), 4 x GE SFP slots, 8 x 5GE RJ45, 8 x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage | Nos | 02 |
| 1.3.2 | FortiGate-200G 3 Year Advanced Threat Protection (IPS, Advanced Malware Protection Service and Application Control) | Nos | 02 |
| 1.3.3 | Fortinet 3 Year FortiCare Premium | Nos | 02 |
| 1.3.4 | Fortinet 10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots | Nos | 08 |
| 1.3.5 | Fortinet 1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots | Nos | 04 |
| 1.3.6 | HPE Premier Flex LC/LC Multi‑mode OM4 2 Fiber 5m Cable | Nos | 12 |
| 1.3.7 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 02 |
| 1.3.8 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 02 |
| 1.3.9 | FortiManager-VM 3 Year Subscription License and Support for 10 devices/vdoms managed by FortiManager VM S-series | Nos | 01 |
| 1.3.10 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 1.3.11 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.3.12 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| 1.3.13 | FortiAnalyzer-VM 3 Year Subscription License and Support for 5 GB/Day Central Logging & Analytics. Include IOC, Security Automation Service and FortiGuard Outbreak Detection Service. | Nos | 01 |
| 1.3.14 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 1.3.15 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.3.16 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| **1.4** | **Supply of FortiMonitor/Elastic Platinum, 1-Year Subscription incl. 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 1.4.1 | FortiMonitor Enterprise/Elastic Platinum Subscription for 10 Devices/Servers 1 Year Subscription | Nos | 01 |
| 1.4.2 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.3 | FortiMonitor Digital Experience Monitoring (DEM)/Elastic Platinum APM Add-on for 10 instances 1 Year Subscription | Nos | 01 |
| 1.4.4 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.5 | FortiMonitor Enterprise/Elastic Platinum Subscription for 10 Fabric LAN Edge Devices 1 Year Subscription | Nos | 01 |
| 1.4.6 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.7 | FortiMonitor FortiCare Best Practice Service/Elastic Platinum Best Practice Service for up to 249 Endpoints 1 Year Subscription | Nos | 01 |
| 1.4.8 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.9 | FortiMonitor EndUser Agent/Elastic Platinum Agent for 10 Devices 1 Year Subscription | Nos | 01 |
| 1.4.10 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.11 | FortiMonitor Enterprise FortiGate Subscription/Elastic Enterprise Network Monitoring for 10 FortiGate Fabric Devices 1 Year Subscription | Nos | 01 |
| 1.4.12 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | Nos | 01 |
| 1.4.13 | Local 1-Year 24 x 7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.4.14 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | Svc | 01 |
| **1.5** | **Comprehensive On-Site Technical and Maintenance Services for existing and new HW & SW in Prod**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Application Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services 1 x HPE DL38X Database Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL20 Management Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 2052 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 1050 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Cisco Catalyst 9300-48T-E * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 4 x FortiGate 301 MGFW Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiSwitch 248-POE * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiAP 421E AP * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Windows Server * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: RedHat Enterprise Linux * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: SQL Database * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Veeam Backup & Replication * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 3 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtaulization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortiget 200G Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiMonitor; 1 x FortiManager and 1 x FortiAnalyzer / Elastic Platinum | Svc | 01 |
| **1.6** | **Supply of HPE Disaggregated Hyper-Converged Infrastructure for Disaster Recovery incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 1.6.1 | HPE ProLiant DL38X Gen11 8SFF NC Configure-to-order Server | Nos | 02 |
| 1.6.2 | HPE DL38X Gen11 8SFF NC CTO Svr | Nos | 02 |
| 1.6.3 | HPE Intel Xeon-Gold 6542Y 2.9GHz 24-core 185W or AMD 9254 2.9GHz 24-core 200W Processor | Nos | 04 |
| 1.6.4 | Factory Integrated | Nos | 04 |
| 1.6.5 | HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit | Nos | 24 |
| 1.6.6 | Factory Integrated | Nos | 24 |
| 1.6.7 | HPE ProLiant DL38X Gen11 2U 8SFF x1 Tri-Mode U.3 Drive Cage Kit | Nos | 02 |
| 1.6.8 | Factory Integrated | Nos | 02 |
| 1.6.9 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | Nos | 02 |
| 1.6.10 | Factory Integrated | Nos | 02 |
| 1.6.11 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE | Nos | 02 |
| 1.6.12 | Factory Integrated | Nos | 03 |
| 1.6.13 | HPE 25Gb SFP28 SR 100m Transceiver | Nos | 08 |
| 1.6.14 | HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | Nos | 04 |
| 1.6.15 | Factory Integrated | Nos | 04 |
| 1.6.16 | HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features | Nos | 02 |
| 1.6.17 | Factory Integrated | Nos | 02 |
| 1.6.18 | HPE Compute Cloud Management Server FIO Enablement | Nos | 02 |
| 1.6.19 | HPE ProLiant DL38X Gen11 CPU1 to OCP2 x8 Enablement Kit | Nos | 02 |
| 1.6.20 | Factory Integrated | Nos | 02 |
| 1.6.21 | HPE DL38X/DL56X G11 2U High Perf Fan Kit | Nos | 04 |
| 1.6.22 | Factory Integrated | Nos | 04 |
| 1.6.23 | HPE Gen11 2U Bezel Kit | Nos | 02 |
| 1.6.24 | Factory Integrated | Nos | 02 |
| 1.6.25 | HPE DL38X Gen10 Plus 2U Cable Management Arm for Rail Kit | Nos | 02 |
| 1.6.26 | Factory Integrated | Nos | 02 |
| 1.6.27 | HPE CE Mark Removal FIO Enablement Kit | Nos | 02 |
| 1.6.28 | HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device | Nos | 02 |
| 1.6.29 | Factory Integrated | Nos | 02 |
| 1.6.30 | HPE DL38X/DL56X G11 High Perf 2U HS Kit | Nos | 02 |
| 1.6.31 | Factory Integrated | Nos | 02 |
| 1.6.32 | HPE ProLiant DL38X Gen11 NS204i-u Internal Cable Kit | Nos | 02 |
| 1.6.33 | Factory Integrated | Nos | 02 |
| 1.6.34 | HPE ProLiant DL38X Gen11 Easy Install Rail 3 Kit | Nos | 02 |
| 1.6.35 | Factory Integrated | Nos | 02 |
| 1.6.36 | HPE AL dHCI PL G11 w/ESXi 8.0 FIO SW | Nos | 02 |
| 1.6.37 | HPE 3Y Tech Care Essential Service | Nos | 02 |
| 1.6.38 | HPE DL38X Gen11 Support | Nos | 02 |
| 1.6.39 | HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS | Nos | 02 |
| 1.6.40 | HPE Technical Installation Startup SVC | Nos | 01 |
| 1.6.41 | HPE Startup RedHat OpenShift / VMware vSphere Enterprise SVC | Nos | 01 |
| 1.6.42 | HPE Nimble Storage dHCI Base Deploy SVC | Nos | 01 |
| 1.6.43 | HPE Nimble dHCI Srvr Add-on Startup SVC | Nos | 01 |
| 1.6.44 | HPE Storage VM Migration 50 VM SVC | Nos | 01 |
| 1.6.45 | HPE Deployment Services for Veeam SVC | Nos | 01 |
| 1.6.46 | HPE Deploy of Veeam Base SVC | Nos | 01 |
| 1.6.47 | Local 3-Year 24 x 7 On-site Technical Support Services and Labor | Svc | 02 |
| 1.6.48 | Local 3-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 02 |
| 1.6.49 | HPE Aruba 8360-32Y4C v2 Port to Power Airflow 3 Fans 2 Power Supply Units HPE Attached Bundle | Nos | 02 |
| 1.6.50 | HPE Aruba Networking 8360-32Y4C v2 PtP AF 3 F 2 PSU Attached Bundle PDU | Nos | 02 |
| 1.6.51 | HPE Aruba 10G SFP+ LC SR 300m OM3 MMF Module + 2M Cable | Nos | 08 |
| 1.6.52 | HPE Aruba 100G QSFP28 MPO SR4 MMF Module + 2M Cable | Nos | 04 |
| 1.6.53 | HPE Aruba 25G SFP28 LC SR 100m MMF Module + 2M Cable | Nos | 32 |
| 1.6.54 | HPE Aruba 25G SFP28 LC LR 10km SMF Transceiver | Nos | 08 |
| 1.6.55 | HPE  Aruba 100G QSFP28 LC LR4 SMF Transceiver | Nos | 04 |
| 1.6.56 | HPE 3Y Tech Care Essential Service | Nos | 02 |
| 1.6.57 | HPE Aruba 8360 32Y4C Support | Nos | 02 |
| 1.6.58 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 02 |
| 1.6.59 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 02 |
| 1.6.60 | HPE Technical Installation Startup SVC | Nos | 01 |
| 1.6.61 | HPE Aruba ANCIS 5-day Onsite SVC | Nos | 01 |
| 1.6.62 | HPE Installation Comm Svrs Hourly SVC | Nos | 01 |
| 1.6.63 | HPE Onsite NW Conf and Int Bus Hrs SVC | Nos | 01 |
| 1.6.64 | HPE Nimble Storage dHCI with Alletra 6000 Base Configuration Tracking | Nos | 01 |
| 1.6.65 | HPE Nimble Storage dHCI with Alletra 6010 Configure-to-order Base Array | Nos | 01 |
| 1.6.66 | HPE Alletra 6000 2x10/25GbE 2-port FIO Adapter Kit | Nos | 01 |
| 1.6.67 | HPE Alletra 6000 2x25Gb SFP28 SR 100m FIO Transceiver | Nos | 02 |
| 1.6.68 | HPE Alletra 6000 23TB (12x1.92TB) NVMe Flash Carrier FIO Flash Bundle | Nos | 01 |
| 1.6.69 | HPE C13 - C14 250V 10Amp 2m WW PDU FIO Power Cord | Nos | 04 |
| 1.6.70 | HPE Alletra Tier 1 Storage Array Standard Tracking | Nos | 01 |
| 1.6.71 | HPE Alletra 6000 12SSD FIO Blank Panel | Nos | 01 |
| 1.6.72 | HPE Alletra 6000 4x 800W FIO AC Power Supply Kit | Nos | 01 |
| 1.6.73 | HPE Nimble Storage dHCI NOS PG FIO Software | Nos | 01 |
| 1.6.74 | HPE GreenLake for Private Cloud Business Edition w/Alletra Storage 6000 /TB 3yr SW/Sup SaaS | Nos | 23 |
| 1.6.75 | HPE 3Y Tech Care Essential Service | Nos | 01 |
| 1.6.76 | HPE Alletra 6000 2x10/25GbE 2p Kit Supp | Nos | 01 |
| 1.6.77 | HPE Alletra 6010 Base Array Supp | Nos | 01 |
| 1.6.78 | HPE Alletra 6000 AF 23TB NVMe Bdl Supp | Nos | 01 |
| 1.6.79 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.6.80 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| **1.7** | **Supply of VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium for Disaster Recovery incl. 3 Year Subscription & 1-Year Local Support and Training** |  |  |
| 1.7.1 | VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium – 3 Year (License includes for new DR node and existing DR node) | Nos | 144 |
| 1.7.2 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.7.3 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | Svc | 01 |
| **1.8** | **DR: Supply of FortiGate Firewall NGFW Appliance for** **Disaster Recovery incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 1.8.1 | FortiGate-201G 10 x GE RJ45 (including 1 x MGMT port, 1 x HA port, 8 x switch ports), 4 x GE SFP slots, 8 x 5GE RJ45, 8 x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage | Nos | 01 |
| 1.8.2 | FortiGate-200G 3 Year Advanced Threat Protection (IPS, Advanced Malware Protection Service and Application Control) | Nos | 01 |
| 1.8.3 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 1.8.4 | Fortinet 10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots | Nos | 04 |
| 1.8.5 | Fortinet 1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots | Nos | 02 |
| 1.8.6 | HPE Premier Flex LC/LC Multi‑mode OM4 2 Fiber 5m Cable | Nos | 06 |
| 1.8.7 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 1.8.8 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| **1.9** | **Comprehensive On-Site Technical and Maintenance Services for existing and new HW & SW in DR**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiGate 200G Firewall | Svc | 01 |
| **2** | **Professional Services and Training: Upgrade, Installation, Configuration, Migration, and Commission of HPE Disaggregated Hyper-Converged Infrastructure in the existing Production and Disaster Recovery Data Centre Infrastructure, incl. 24/7 Local Technical Support and On-the-Job Training – Detail Refer 3.0** |  |  |
| 2.1 | Upgrade, Install, Configure, Migrate and Commission of HPE DHC-Infra in Production and DR | Svc | 02 |
| 2.2 | Install, Configure, Migrate and Commission of HPE Aruba Core Network for Upgrade Infra in Production and DR | Svc | 02 |
| 2.3 | Install, Configure, Migrate and Commission of FortiGate NGFW Firewall for Hosting Infra in Production and DR | Svc | 01 |
| 2.4 | Install, Configure, Migrate and Commission of FortiGate NGFW Firewall for Edge Infra in Production and DR | Svc | 01 |
| 2.5 | Install, Configure and Commission the FortiMonitor and the existing GSLB Environment in Production | Svc | 01 |
| 2.6 | Upgrade, Install, Configure and Commission the Virtualization Stack for Production and DR | Svc | 01 |
| 2.7 | Migrating all existing MNSW APPs and Services Infrastructure to the Upgrade Infra in Production & DR | Svc | 01 |
| 2.8 | Migrating all existing MNSW Database and Services Infrastructure to the Upgrade Infra in Production & DR | Svc | 01 |
| 2.9 | Migrating all existing MNSW Infrastructure Services to the Upgrade Infra in Production & DR | Svc | 01 |
| **2.10** | **On-the-job training in Managing and Operating of Existing and Upgraded HW / SW** |  |  |
| 2.10.1 | On-the-job training for Managing and Operating of HPE Alletra 6000 Storage at Bidder’s Location/Tradenet | PAX | 02 |
| 2.10.2 | On-the-job training for Managing and Operating of HPE DL3XX DHCI Node at Bidder’s Location/Tradenet | PAX | 02 |
| 2.10.3 | On-the-job training for Managing and Operating of HPE MSA2052 Storage | PAX | 02 |
| 2.10.4 | On-the-job training for Managing and Operating of HPE MSA1040 Storage | PAX | 02 |
| 2.10.5 | On-the-job training for Managing and Operating of HPE StoreEver MSL 1/8 | PAX | 02 |
| 2.10.6 | On-the-job training for Managing and Operating of HPE Aruba 8360 Switch at Bidder’s Location/Tradenet | PAX | 02 |
| 2.10.7 | On-the-job training for Managing and Operating of FortiGate NGFW Firewall at Bidder’s Location/Tradenet | PAX | 02 |
| 2.10.8 | On-the-job training for Managing and Operating of Virtualization Stack at Bidder’s Location/Tradenet | PAX | 02 |
| 2.10.9 | On-the-job training for Managing and Operating of Veeam Backup at Bidder’s Location/Tradenet | PAX | 02 |
| **2.11** | **Warranty and Technical Support:**  The successful vendor must provide a hardware replacement warranty and technical support for the hardware and software, etc., supplied under the contract will comply strictly with this project, shall be genuine in every particular case and shall be free from defects. The successful bidder further warrants to the Client that all materials, equipment, and supplies furnished by the bidder will be new, merchantable of the most suitable grade and fit for their intended purposes.  HPE Hardware: **Three (3) Year 24 x 7 Hardware Replacement and Support Services**  Virtualization Software: **Three (3) Year 24/7 Subscription and Support Services**  Fortinet Hardware: **Three (3) Year 24 x 7 Hardware Replacement and Support Services**  FortiManager: **Three (3) Year 24/7 Subscription and Support Services**  FortiAnalyzer: **Three (3) Year 24/7 Subscription and Support Services**  FortiMonitor: **One (1) Year 24/7 Subscription and Support Services**  Firmware Support: **HPE and Fortinet 3 Year 24 x 7 Firmware Update and Support**  Local Support: **One (1) Year 24/7 Local On-Site Technical Support Services and Change Request**  Local Support: **One (1) Year 24/7 Local On-Site Technical Support for All H/W and S/W.**  **HPE, Fortinet; APC by Schneider Professional Engineers should perform all services**  The warranty and support services should be performed by a service delivery engineer who is certified by the original equipment manufacturer (OEM). Refer to Section 3\_Evaluation and Qualification Criteria. | Svc | 01 |
| **2.12** | **Service Level Expectation**  The Bidder shall offer a 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.   1. The Bidder will have to provide the mobile number of a single point of contact to facilitate immediate contact by TMCL’s representative and he or she shall be responsible for liaising with the bidder for rectification of faults within the Next Business Day. 2. Defective equipment shall be replaced by the Bidder at his own cost, including the cost of transport if any. 3. The Bidder shall provide all normal toolkits and test equipment needed for the maintenance of the hardware to the engineer. 4. System Maintenance & Support services will include the following activities. 5. 24 x 7 online support 6. Patch updating and significant/minor software version upgrading support. 7. Issue resolution/On-site visits within 1 hrs; hardware failures were reported. 8. Phone/Email TAC and RMA support must be provided during the support period. 9. All Comprehensive local on-site technical support and maintenance services for existing and upgraded Infra in Production & DR should be performed by a service delivery engineer who is certified by the original equipment manufacturer (OEM). Refer to Section 3\_Evaluation and Qualification Criteria. | Svc | 01 |
| **2.13** | **Sign-Off Documentation**  Preparation of sign-off documentation relating to the provided services shall be presented to the MED/TRADENE. By the time of signing, the scope of work mentioned in this document shall be fully completed. |  |  |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In the capacity of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Delivery and Completion Schedule

Note:

1. The Bidder must complete the Delivery and Completion Schedule on its letterhead clearly showing the Bidder’s complete name and address.
2. The bidder is required to provide a **comprehensive preliminary project delivery and implementation schedule**. This schedule should encompass key milestones, including but not limited to installation, migration, training, and sign-off. The schedule details are outlined in Section 6 (Schedule of Supply). This plan is essential for allowing stakeholders to closely monitor progress and ensure that the project is completed in a timely manner.

The delivery period shall start as of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item No. | Description of Goods or Related Services | Delivery Schule (Duration) | Location | Required Arrival Date of Goods or  Completion Date for Related Services |
| 1 | **SUPPLY, UPGRADE, INSTALLATION, CONFIGURATION, MIGRATION, AND COMMISSION OF HPE DISAGGREGATED HYPER-CONVERGED INFRASTRUCTURE IN THE EXISTING PRODUCTION AND DISASTER RECOVERY DATACENTRE, INCLUDING 24/7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING** | *insert* | **Tradenet Maldives** | **Delivery and final installation within 95 Days of Signing the Contract Agreement** |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In the capacity of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Technical Specification
2. Technical Requirements and Bill of Material

**1.0 INTRODUCTION**

The Maldives National Single Window (MNSW) Project is an innovative centralized digital platform. Its primary objective is to enhance the efficiency of international trade processes by providing a single entry point for trade and transport parties to submit standard information and documents. This digital platform aims to streamline and simplify the exchange of information, ultimately contributing to a more seamless international trade experience.

TradeNet Maldives is currently in the process of upgrading its data center infrastructure to enhance performance and reliability. This upgrade initiative involves implementing state-of-the-art technologies and systems to modernize our datacenter capabilities. The primary goal of this upgrade is to ensure that we have the most efficient and effective infrastructure in place to support our MNSW digital platform operations, thereby providing our clients with a seamless and reliable experience.

The purpose of this bid is to seek experienced and reputable vendors, as well as support service providers/system integrators, who have a proven track record in the **SUPPLY, UPGRADE, INSTALLATION, CONFIGURATION, MIGRATION, AND COMMISSION OF HPE DISAGGREGATED HYPER-CONVERGED INFRASTRUCTURE IN THE EXISTING PRODUCTION AND DISASTER RECOVERY DATA CENTRE INCLUDING 24/7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING**. This RFP includes a detailed bill of materials, technical compliance requirements, and scope of work to guide bidders in preparing comprehensive and successful responses.

The bidders interested in taking on the role of a solution provider is invited to submit comprehensive technical and commercial proposals that align with the terms and conditions specified in this bid document. It is essential for the bidder to thoroughly review and understand all instructions, forms, terms, and technical specifications outlined in the bidding documents. Any failure to provide the required information or documentation as stipulated in the bidding documents may lead to the rejection of the bid.

**2.0 BILL OF MATERIAL**

| **#** | **Name of Goods and Related Services** | **Qty** | |
| --- | --- | --- | --- |
| **2** | **SUPPLY, UPGRADE, INSTALLATION, CONFIGURATION, MIGRATION, AND COMMISSION OF HPE DISAGGREGATED HYPER-CONVERGED INFRASTRUCTURE IN THE EXISTING PRODUCTION AND DISASTER RECOVERY DATACENTRE, INCLUDING 24/7 LOCAL TECHNICAL SUPPORT AND ON-THE-JOB TRAINING** | **1** | **Bun** |
| **2.1** | **Supply of HPE Disaggregated Hyper-Converged Infrastructure for Production incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 2.1.1 | HPE ProLiant DL38X Gen11 8SFF NC Configure-to-order Server | 03 | Nos |
| 2.1.2 | HPE DL38X Gen11 8SFF NC CTO Svr | 03 | Nos |
| 2.1.3 | HPE Intel Xeon-Gold 6542Y 2.9GHz 24-core 185W or AMD 9254 2.9GHz 24-core 200W Processor | 06 | Nos |
| 2.1.4 | Factory Integrated | 06 | Nos |
| 2.1.5 | HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit | 36 | Nos |
| 2.1.6 | Factory Integrated | 36 | Nos |
| 2.1.7 | HPE ProLiant DL38X Gen11 2U 8SFF x1 Tri-Mode U.3 Drive Cage Kit | 03 | Nos |
| 2.1.8 | Factory Integrated | 03 | Nos |
| 2.1.9 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | 03 | Nos |
| 2.1.10 | Factory Integrated | 03 | Nos |
| 2.1.11 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE | 03 | Nos |
| 2.1.12 | Factory Integrated | 03 | Nos |
| 2.1.13 | HPE 25Gb SFP28 SR 100m Transceiver | 12 | Nos |
| 2.1.14 | HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | 06 | Nos |
| 2.1.15 | Factory Integrated | 06 | Nos |
| 2.1.16 | HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features | 03 | Nos |
| 2.1.17 | Factory Integrated | 03 | Nos |
| 2.1.18 | HPE Compute Cloud Management Server FIO Enablement | 03 | Nos |
| 2.1.19 | HPE ProLiant DL38X Gen11 CPU1 to OCP2 x8 Enablement Kit | 03 | Nos |
| 2.1.20 | Factory Integrated | 03 | Nos |
| 2.1.21 | HPE DL38X/DL56X G11 2U High Perf Fan Kit | 06 | Nos |
| 2.1.22 | Factory Integrated | 06 | Nos |
| 2.1.23 | HPE Gen11 2U Bezel Kit | 03 | Nos |
| 2.1.24 | Factory Integrated | 03 | Nos |
| 2.1.25 | HPE DL38X Gen10 Plus 2U Cable Management Arm for Rail Kit | 03 | Nos |
| 2.1.26 | Factory Integrated | 03 | Nos |
| 2.1.27 | HPE CE Mark Removal FIO Enablement Kit | 03 | Nos |
| 2.1.28 | HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device | 03 | Nos |
| 2.1.29 | Factory Integrated | 03 | Nos |
| 2.1.30 | HPE DL38X/DL56X G11 High Perf 2U HS Kit | 03 | Nos |
| 2.1.31 | Factory Integrated | 03 | Nos |
| 2.1.32 | HPE ProLiant DL38X Gen11 NS204i-u Internal Cable Kit | 03 | Nos |
| 2.1.33 | Factory Integrated | 03 | Nos |
| 2.1.34 | HPE ProLiant DL38X Gen11 Easy Install Rail 3 Kit | 03 | Nos |
| 2.1.35 | Factory Integrated | 03 | Nos |
| 2.1.36 | HPE AL dHCI PL G11 w/ESXi 8.0 FIO SW | 03 | Nos |
| 2.1.37 | HPE 3Y Tech Care Essential Service | 03 | Nos |
| 2.1.38 | HPE DL38X Gen11 Support | 03 | Nos |
| 2.1.39 | HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS | 03 | Nos |
| 2.1.40 | HPE Technical Installation Startup SVC | 01 | Nos |
| 2.1.41 | HPE Startup RedHat OpenShift / VMware vSphere Enterprise SVC | 01 | Nos |
| 2.1.42 | HPE Nimble Storage dHCI Base Deploy SVC | 01 | Nos |
| 2.1.43 | HPE Nimble dHCI Srvr Add-on Startup SVC | 01 | Nos |
| 2.1.44 | HPE Storage VM Migration 50 VM SVC | 01 | Nos |
| 2.1.45 | HPE Deployment Services for Veeam SVC | 01 | Nos |
| 2.1.46 | HPE Deploy of Veeam Base SVC | 01 | Nos |
| 2.1.47 | Local 3-Year 24 x 7 On-site Technical Support Services and Labor | 03 | Svc |
| 2.1.48 | Local 3-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 03 | Svc |
| 2.1.49 | HPE Aruba 8360-32Y4C v2 Port to Power Airflow 3 Fans 2 Power Supply Units HPE Attached Bundle | 02 | Nos |
| 2.1.50 | HPE Aruba Networking 8360-32Y4C v2 PtP AF 3 F 2 PSU Attached Bundle PDU | 02 | Nos |
| 2.1.51 | HPE Aruba 10G SFP+ LC SR 300m OM3 MMF Module + 2M Cable | 08 | Nos |
| 2.1.52 | HPE Aruba 100G QSFP28 MPO SR4 MMF Module + 2M Cable | 04 | Nos |
| 2.1.53 | HPE Aruba 25G SFP28 LC SR 100m MMF Module + 2M Cable | 32 | Nos |
| 2.1.54 | HPE Aruba 25G SFP28 LC LR 10km SMF Transceiver | 08 | Nos |
| 2.1.55 | HPE  Aruba 100G QSFP28 LC LR4 SMF Transceiver | 04 | Nos |
| 2.1.56 | HPE 3Y Tech Care Essential Service | 02 | Nos |
| 2.1.57 | HPE Aruba 8360 32Y4C Support | 02 | Nos |
| 2.1.58 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 02 | Svc |
| 2.1.59 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 02 | Svc |
| 2.1.60 | HPE Technical Installation Startup SVC | 01 | Nos |
| 2.1.61 | HPE Aruba ANCIS 5-day Onsite SVC | 01 | Nos |
| 2.1.62 | HPE Installation Comm Svrs Hourly SVC | 01 | Nos |
| 2.1.63 | HPE Onsite NW Conf and Int Bus Hrs SVC | 01 | Nos |
| 2.1.64 | HPE Nimble Storage dHCI with Alletra 6000 Base Configuration Tracking | 01 | Nos |
| 2.1.65 | HPE Nimble Storage dHCI with Alletra 6010 Configure-to-order Base Array | 01 | Nos |
| 2.1.66 | HPE Alletra 6000 2x10/25GbE 2-port FIO Adapter Kit | 01 | Nos |
| 2.1.67 | HPE Alletra 6000 2x25Gb SFP28 SR 100m FIO Transceiver | 02 | Nos |
| 2.1.68 | HPE Alletra 6000 23TB (12x1.92TB) NVMe Flash Carrier FIO Flash Bundle | 01 | Nos |
| 2.1.69 | HPE C13 - C14 250V 10Amp 2m WW PDU FIO Power Cord | 04 | Nos |
| 2.1.70 | HPE Alletra Tier 1 Storage Array Standard Tracking | 01 | Nos |
| 2.1.71 | HPE Alletra 6000 12SSD FIO Blank Panel | 01 | Nos |
| 2.1.72 | HPE Alletra 6000 4x 800W FIO AC Power Supply Kit | 01 | Nos |
| 2.1.73 | HPE Nimble Storage dHCI NOS PG FIO Software | 01 | Nos |
| 2.1.74 | HPE GreenLake for Private Cloud Business Edition w/Alletra Storage 6000 /TB 3yr SW/Sup SaaS | 23 | Nos |
| 2.1.75 | HPE 3Y Tech Care Essential Service | 01 | Nos |
| 2.1.76 | HPE Alletra 6000 2x10/25GbE 2p Kit Supp | 01 | Nos |
| 2.1.77 | HPE Alletra 6010 Base Array Supp | 01 | Nos |
| 2.1.78 | HPE Alletra 6000 AF 23TB NVMe Bdl Supp | 01 | Nos |
| 2.1.79 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.1.80 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 01 | Svc |
| 2.1.81 | APC by Schneider Electric Symmetra LX 4kVA Power Module 220/230/240V for UPS 1 and UPS 2 | 02 | Nos |
| 2.1.82 | APC by Schneider Custom Field Service Installation Service | 02 | Svc |
| 2.1.83 | APC by Schneider Electric Scheduled 5X8 Assembly and Power-Up Service | 02 | Svc |
| 2.1.84 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 02 | Svc |
| 2.1.85 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 02 | Svc |
| **2.2** | **Supply of VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium for Production incl. 3 Year Subscription & 1-Year Local Support and On-the-Job Training** |  |  |
| 2.2.1 | VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium – 3 Year (License include for new production node and existing production node) | Nos | 224 |
| 2.2.2 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.2.3 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | 01 | Svc |
| **2.3** | **Production: Supply of FortiGate Firewall NGFW Appliance for** **Production incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 2.3.1 | FortiGate-201G 10 x GE RJ45 (including 1 x MGMT port, 1 x HA port, 8 x switch ports), 4 x GE SFP slots, 8 x 5GE RJ45, 8 x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage | 02 | Nos |
| 2.3.2 | FortiGate-200G 3 Year Advanced Threat Protection (IPS, Advanced Malware Protection Service and Application Control) | Nos | 02 |
| 2.3.3 | Fortinet 3 Year FortiCare Premium | Nos | 02 |
| 2.3.4 | Fortinet 10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots | 08 | Nos |
| 2.3.5 | Fortinet 1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots | 04 | Nos |
| 2.3.6 | HPE Premier Flex LC/LC Multi‑mode OM4 2 Fiber 5m Cable | 12 | Nos |
| 2.3.7 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 02 | Svc |
| 2.3.8 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 02 | Svc |
| 2.3.9 | FortiManager-VM 3 Year Subscription License and Support for 10 devices/vdoms managed by FortiManager VM S-series | Nos | 01 |
| 2.3.10 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 2.3.11 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 2.3.12 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| 2.3.13 | FortiAnalyzer-VM 3 Year Subscription License and Support for 5 GB/Day Central Logging & Analytics. Include IOC, Security Automation Service and FortiGuard Outbreak Detection Service. | Nos | 01 |
| 2.3.14 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 2.3.15 | Local 1-Year 24/7 On-site Technical Support Services and Labor | Svc | 01 |
| 2.3.16 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | Svc | 01 |
| **2.4** | **Supply of FortiMonitor/Elastic Platinum, 1-Year Subscription incl. 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 2.4.1 | FortiMonitor Enterprise/Elastic Platinum Subscription for 10 Devices/Servers 1 Year Subscription | 01 | Nos |
| 2.4.2 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.3 | FortiMonitor Digital Experience Monitoring (DEM)/Elastic Platinum APM Add-on for 10 instances 1 Year Subscription | 01 | Nos |
| 2.4.4 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.5 | FortiMonitor Enterprise/Elastic Platinum Subscription for 10 Fabric LAN Edge Devices 1 Year Subscription | 01 | Nos |
| 2.4.6 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.7 | FortiMonitor FortiCare Best Practice Service/Elastic Platinum Best Practice Service for up to 249 Endpoints 1 Year Subscription | 01 | Nos |
| 2.4.8 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.9 | FortiMonitor EndUser Agent/Elastic Platinum Agent for 10 Devices 1 Year Subscription | 01 | Nos |
| 2.4.10 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.11 | FortiMonitor Enterprise FortiGate Subscription/Elastic Enterprise Network Monitoring for 10 FortiGate Fabric Devices 1 Year Subscription | 01 | Nos |
| 2.4.12 | Fortinet 1 Year FortiCare Premium/Elastic Platinum 1 Year Support | 01 | Nos |
| 2.4.13 | Local 1-Year 24 x 7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.4.14 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | 01 | Svc |
| **2.5** | **Comprehensive On-Site Technical and Maintenance Services for existing and new HW & SW in Prod**   * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE DL38X Application Node * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services 1 x HPE DL38X Database Node * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE DL20 Management Node * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE MSA 2052 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE MSA 1050 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 2 x Cisco Catalyst 9300-48T-E * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 4 x FortiGate 301 MGFW Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 2 x Fortinet FortiSwitch 248-POE * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 2 x Fortinet FortiAP 421E AP * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: Windows Server * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: RedHat Enterprise Linux * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: SQL Database * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: Veeam Backup & Replication * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 3 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 2 x Fortiget 200G Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical & Maintenance Services: 1 x FortiMonitor; 1 x FortiManager and 1 x FortiAnalyzer | 1 | Svc |
| **2.6** | **Supply of HPE Disaggregated Hyper-Converged Infrastructure for Disaster Recovery incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 2.6.1 | HPE ProLiant DL38X Gen11 8SFF NC Configure-to-order Server | 02 | Nos |
| 2.6.2 | HPE DL38X Gen11 8SFF NC CTO Svr | 02 | Nos |
| 2.6.3 | HPE Intel Xeon-Gold 6542Y 2.9GHz 24-core 185W or AMD 9254 2.9GHz 24-core 200W Processor | 04 | Nos |
| 2.6.4 | Factory Integrated | 04 | Nos |
| 2.6.5 | HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit | 24 | Nos |
| 2.6.6 | Factory Integrated | 24 | Nos |
| 2.6.7 | HPE ProLiant DL38X Gen11 2U 8SFF x1 Tri-Mode U.3 Drive Cage Kit | 02 | Nos |
| 2.6.8 | Factory Integrated | 02 | Nos |
| 2.6.9 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | 02 | Nos |
| 2.6.10 | Factory Integrated | 02 | Nos |
| 2.6.11 | HPE Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE | 02 | Nos |
| 2.6.12 | Factory Integrated | 03 | Nos |
| 2.6.13 | HPE 25Gb SFP28 SR 100m Transceiver | 08 | Nos |
| 2.6.14 | HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | 04 | Nos |
| 2.6.15 | Factory Integrated | 04 | Nos |
| 2.6.16 | HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features | 02 | Nos |
| 2.6.17 | Factory Integrated | 02 | Nos |
| 2.6.18 | HPE Compute Cloud Management Server FIO Enablement | 02 | Nos |
| 2.6.19 | HPE ProLiant DL38X Gen11 CPU1 to OCP2 x8 Enablement Kit | 02 | Nos |
| 2.6.20 | Factory Integrated | 02 | Nos |
| 2.6.21 | HPE DL38X/DL56X G11 2U High Perf Fan Kit | 04 | Nos |
| 2.6.22 | Factory Integrated | 04 | Nos |
| 2.6.23 | HPE Gen11 2U Bezel Kit | 02 | Nos |
| 2.6.24 | Factory Integrated | 02 | Nos |
| 2.6.25 | HPE DL38X Gen10 Plus 2U Cable Management Arm for Rail Kit | 02 | Nos |
| 2.6.26 | Factory Integrated | 02 | Nos |
| 2.6.27 | HPE CE Mark Removal FIO Enablement Kit | 02 | Nos |
| 2.6.28 | HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device | 02 | Nos |
| 2.6.29 | Factory Integrated | 02 | Nos |
| 2.6.30 | HPE DL38X/DL56X G11 High Perf 2U HS Kit | 02 | Nos |
| 2.6.31 | Factory Integrated | 02 | Nos |
| 2.6.32 | HPE ProLiant DL38X Gen11 NS204i-u Internal Cable Kit | 02 | Nos |
| 2.6.33 | Factory Integrated | 02 | Nos |
| 2.6.34 | HPE ProLiant DL38X Gen11 Easy Install Rail 3 Kit | 02 | Nos |
| 2.6.35 | Factory Integrated | 02 | Nos |
| 2.6.36 | HPE AL dHCI PL G11 w/ESXi 8.0 FIO SW | 02 | Nos |
| 2.6.37 | HPE 3Y Tech Care Essential Service | 02 | Nos |
| 2.6.38 | HPE DL38X Gen11 Support | 02 | Nos |
| 2.6.39 | HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS | 02 | Nos |
| 2.6.40 | HPE Technical Installation Startup SVC | 01 | Nos |
| 2.6.41 | HPE Startup RedHat OpenShift / VMware vSphere Enterprise SVC | 01 | Nos |
| 2.6.42 | HPE Nimble Storage dHCI Base Deploy SVC | 01 | Nos |
| 2.6.43 | HPE Nimble dHCI Srvr Add-on Startup SVC | 01 | Nos |
| 2.6.44 | HPE Storage VM Migration 50 VM SVC | 01 | Nos |
| 2.6.45 | HPE Deployment Services for Veeam SVC | 01 | Nos |
| 2.6.46 | HPE Deploy of Veeam Base SVC | 01 | Nos |
| 2.6.47 | Local 3-Year 24 x 7 On-site Technical Support Services and Labor | 02 | Svc |
| 2.6.48 | Local 3-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 02 | Svc |
| 2.6.49 | HPE Aruba 8360-32Y4C v2 Port to Power Airflow 3 Fans 2 Power Supply Units HPE Attached Bundle | 02 | Nos |
| 2.6.50 | HPE Aruba Networking 8360-32Y4C v2 PtP AF 3 F 2 PSU Attached Bundle PDU | 02 | Nos |
| 2.6.51 | HPE Aruba 10G SFP+ LC SR 300m OM3 MMF Module + 2M Cable | 08 | Nos |
| 2.6.52 | HPE Aruba 100G QSFP28 MPO SR4 MMF Module + 2M Cable | 04 | Nos |
| 2.6.53 | HPE Aruba 25G SFP28 LC SR 100m MMF Module + 2M Cable | 32 | Nos |
| 2.6.54 | HPE Aruba 25G SFP28 LC LR 10km SMF Transceiver | 08 | Nos |
| 2.6.55 | HPE  Aruba 100G QSFP28 LC LR4 SMF Transceiver | 04 | Nos |
| 2.6.56 | HPE 3Y Tech Care Essential Service | 02 | Nos |
| 2.6.57 | HPE Aruba 8360 32Y4C Support | 02 | Nos |
| 2.6.58 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 02 | Svc |
| 2.6.59 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 02 | Svc |
| 2.6.60 | HPE Technical Installation Startup SVC | 01 | Nos |
| 2.6.61 | HPE Aruba ANCIS 5-day Onsite SVC | 01 | Nos |
| 2.6.62 | HPE Installation Comm Svrs Hourly SVC | 01 | Nos |
| 2.6.63 | HPE Onsite NW Conf and Int Bus Hrs SVC | 01 | Nos |
| 2.6.64 | HPE Nimble Storage dHCI with Alletra 6000 Base Configuration Tracking | 01 | Nos |
| 2.6.65 | HPE Nimble Storage dHCI with Alletra 6010 Configure-to-order Base Array | 01 | Nos |
| 2.6.66 | HPE Alletra 6000 2x10/25GbE 2-port FIO Adapter Kit | 01 | Nos |
| 2.6.67 | HPE Alletra 6000 2x25Gb SFP28 SR 100m FIO Transceiver | 02 | Nos |
| 2.6.68 | HPE Alletra 6000 23TB (12x1.92TB) NVMe Flash Carrier FIO Flash Bundle | 01 | Nos |
| 2.6.69 | HPE C13 - C14 250V 10Amp 2m WW PDU FIO Power Cord | 04 | Nos |
| 2.6.70 | HPE Alletra Tier 1 Storage Array Standard Tracking | 01 | Nos |
| 2.6.71 | HPE Alletra 6000 12SSD FIO Blank Panel | 01 | Nos |
| 2.6.72 | HPE Alletra 6000 4x 800W FIO AC Power Supply Kit | 01 | Nos |
| 2.6.73 | HPE Nimble Storage dHCI NOS PG FIO Software | 01 | Nos |
| 2.6.74 | HPE GreenLake for Private Cloud Business Edition w/Alletra Storage 6000 /TB 3yr SW/Sup SaaS | 23 | Nos |
| 2.6.75 | HPE 3Y Tech Care Essential Service | 01 | Nos |
| 2.6.76 | HPE Alletra 6000 2x10/25GbE 2p Kit Supp | 01 | Nos |
| 2.6.77 | HPE Alletra 6010 Base Array Supp | 01 | Nos |
| 2.6.78 | HPE Alletra 6000 AF 23TB NVMe Bdl Supp | 01 | Nos |
| 2.6.79 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.6.80 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 01 | Svc |
| **2.7** | **Supply of VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium for Disaster Recovery incl. 3 Year Subscription & 1-Year Local Support and Training** |  |  |
| 2.7.1 | VMware vSphere Enterprise Plus with vCenter Std. license incl. Production Support / OpenShift Virtualization Engine with Advanced Cluster Management, Premium – 3 Year (License includes for new DR node and existing DR node) | 144 | Nos |
| 2.7.2 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.7.3 | Local 1-Year Software Configuration; Migration Services and Change Request for Replacement S/W | 01 | Svc |
| **2.8** | **DR: Supply of FortiGate Firewall NGFW Appliance for** **Disaster Recovery incl. 3 Subscription, 1 Year 24/7 Local Support and On-the-Job Training** |  |  |
| 2.8.1 | FortiGate-201G 10 x GE RJ45 (including 1 x MGMT port, 1 x HA port, 8 x switch ports), 4 x GE SFP slots, 8 x 5GE RJ45, 8 x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage | 01 | Nos |
| 2.8.2 | FortiGate-200G 3 Year Advanced Threat Protection (IPS, Advanced Malware Protection Service and Application Control) | Nos | 01 |
| 2.8.3 | Fortinet 3 Year FortiCare Premium | Nos | 01 |
| 2.8.4 | Fortinet 10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots | 04 | Nos |
| 2.8.5 | Fortinet 1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots | 02 | Nos |
| 2.8.6 | HPE Premier Flex LC/LC Multi‑mode OM4 2 Fiber 5m Cable | 06 | Nos |
| 2.8.7 | Local 1-Year 24/7 On-site Technical Support Services and Labor | 01 | Svc |
| 2.8.8 | Local 1-Year Hardware Configuration; Migration Services and Change Request for Replacement H/W | 01 | Svc |
| **2.9** | **Comprehensive On-Site Technical and Maintenance Services for existing and new HW & SW in DR**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiGate 200G Firewall | 01 | Svc |
| **3** | **Professional Services and Training: Upgrade, Installation, Configuration, Migration, and Commission of HPE Disaggregated Hyper-Converged Infrastructure in the existing Production and DR Data Centre Infrastructure, incl. 24/7 Local Technical Support and On-the-Job Training – Detail Refer 3.0** |  |  |
| 3.1 | Upgrade, Install, Configure, Migrate and Commission of HPE DHC-Infra in Production and DR | 02 | Svc |
| 3.2 | Install, Configure, Migrate and Commission of HPE Aruba Core Network for Upgrade Infra in Production & DR | 02 | Svc |
| 3.3 | Install, Configure, Migrate and Commission of FortiGate NGFW Firewall for Hosting Infra in Production & DR | 01 | Svc |
| 3.4 | Install, Configure, Migrate and Commission of FortiGate NGFW Firewall for Edge Infra in Production and DR | 01 | Svc |
| 3.5 | Install, Configure and Commission the FortiMonitor and existing GSLB Environment in Production | 01 | Svc |
| 3.6 | Upgrade, Install, Configure and Commission the Virtualization Stack in Production and DR | 01 | Svc |
| 3.7 | Migrating all existing MNSW APPs and Services Infrastructure to the Upgrade Infra in Production & DR | 01 | Svc |
| 3.8 | Migrating all existing MNSW Database and Services Infrastructure to the Upgrade Infra in Production & DR | 01 | Svc |
| 3.9 | Migrating all existing MNSW Infrastructure Services to the Upgrade Infra in Production & DR | 01 | Svc |
| **3.10** | **On-the-job training in Managing and Operation of Existing and Upgrade HW / SW** |  |  |
| 3.10.1 | On-the-job training for Managing and Operation of HPE Alletra 6000 Storage at Bidder’s Location/Tradenet | 02 | PAX |
| 3.10.2 | On-the-job training for Managing and Operation of HPE DL3XX DHCI Node at Bidder’s Location/Tradenet | 02 | PAX |
| 3.10.3 | On-the-job training for Managing and Operation of HPE MSA2052 Storage | 02 | PAX |
| 3.10.4 | On-the-job training for Managing and Operation of HPE MSA1040 Storage | 02 | PAX |
| 3.10.5 | On-the-job training for Managing and Operation of HPE StoreEver MSL 1/8 | 02 | PAX |
| 3.10.6 | On-the-job training for Managing and Operation of HPE Aruba 8360 Switch at Bidder’s Location/Tradenet | 02 | PAX |
| 3.10.7 | On-the-job training for Managing and Operation of FortiGate NGFW Firewall at Bidder’s Location/Tradenet | 02 | PAX |
| 3.10.8 | On-the-job training for Managing and Operation of Virtaulization Environment at Bidder’s Location/Tradenet | 02 | PAX |
| 3.10.9 | On-the-job training for Managing and Operation of Veeam Backup at Bidder’s Location/Tradenet | 02 | PAX |
| 3.11 | **Warranty and Technical Support:**  The successful vendor must provide a hardware replacement warranty and technical support for the hardware and software, etc., supplied under the contract will comply strictly with this project, shall be genuine in every particular case and shall be free from defects. The successful bidder further warrants to the Client that all materials, equipment, and supplies furnished by the bidder will be new, merchantable of the most suitable grade and fit for their intended purposes.  HPE Hardware: **Three (3) Year 24 x 7 Hardware Replacement and Support Services**  Virtualization Software: **Three (3) Year 24/7 Subscription and Support Services**  Fortinet Hardware: **Three (3) Year 24 x 7 Hardware Replacement and Support Services**  FortiManager: **Three (3) Year 24/7 Subscription and Support Services**  FortiAnalyzer: **Three (3) Year 24/7 Subscription and Support Services**  FortiMonitor: **One (1) Year 24/7 Subscription and Support Services**  Firmware Support: **HPE and Fortinet 3 Year 24 x 7 Firmware Update and Support**  Local Support: **One (1) Year 24/7 Local On-Site Technical Support Services and Change Request**  Local Support: **One (1) Year 24/7 Local On-Site Technical Support for All H/W and S/W.**  **HPE, Fortinet; APC by Schneider Professional Engineers should perform all services**  **The warranty and support for this product should be** performed **by a service delivery engineer who is certified by the original equipment manufacturer (OEM). Refer to Section 3\_Evaluation and Qualification Criteria.** | 01 | Svc |
| 3.12 | **Service Level Expectation**  The Bidder shall offer a 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.   1. The Bidder will have to provide the mobile number of a Single Point of Contact to facilitate immediate contact by TMCL’s representative and he or she shall be responsible to liaise with all vendors for rectification of faults within the Next Business Day. 2. Defective equipment shall be replaced by the Bidder at his own cost, including the cost of transport if any. 3. The Bidder shall provide all normal toolkit and test equipment needed for the maintenance of the hardware to the engineer. 4. System Maintenance & Support services will include the following activities. 5. 24 x 7 online support 6. Patch updating and significant/minor software version upgrading support. 7. Issue resolution/On-site visits within 1 hrs; hardware failures were reported. 8. Phone/Email TAC and RMA support must be provided during the support period. 9. All Comprehensive local on-site technical support and maintenance services **for** existing and upgraded Infra in Production & DR **should be** performed **by a service delivery engineer who is certified by the original equipment manufacturer (OEM). Refer to Section 3\_Evaluation and Qualification Criteria.** | 01 | Svc |
| 3.13 | **Delivery of Hardware; Installation and Training:**  The maximum delivery and Installation period allowed under this bid is 95 Calendar Days. Any proposal proposing a delivery period that exceeds the above will be disqualified.  The client reserves the right to disqualify any bid with a Delivery Period that is either unrealistically low or illogical compared to estimates and industry norms.   * The successful bidder shall deliver the goods within 75 Days upon signing the contract. * The successful bidder shall complete the installation within 16 Day(s) upon site readiness. * The successful bidder shall complete the training within 03 Days. | **-** |  |
| 3.14 | **Sign-Off Documentation**  Preparation of sign-off documentation relating to the provided services shall be presented to the MED/TRADENE. By the time of signing, the scope of work mentioned in this document shall be fully completed. |  |  |

1. Scope of Works: Professional Services and Migration

**All activities related to upgrading, installing, configuring, migrating, and commissioning existing and upgraded infrastructure in both the production and disaster recovery environments must be carried out by a service or implementation delivery engineer who holds certification from the original equipment manufacturer (OEM). Refer to Section 3: Evaluation and Qualification Criteria.**

**Details about the current hardware in both the Production and DR environments can be found in Table 2.0 of the Bill of Material under Items # 2.5 and 2.9.**

**The awarded party will be provided with the existing infrastructure architecture, which includes details such as network configuration, hardware specifications, and software components.**

* 1. **Upgrade, Install, Configure, Migrate and Commission of HPE DHC-Infrastructure in Production and DR**
* General Services
  + Assign a dedicated, certified project manager to oversee the deployment process.
  + Develop a detailed project plan and timeline.
  + Reviewing the storage volume design for up to 8 volumes on all eligible hosts
* Installation and Startup Service:
  + Conduct a site survey to assess environmental conditions and readiness for installation.
  + Coordinate any necessary site modifications to accommodate hardware installation.
  + Unpack and rack the HPE Alletra dHCI hardware components in existing server racks following the manufacturer's best practices.
  + Unpack, install rack and cable all HPE ProLiant dHCI configured servers
  + Conduct power-on tests and verify the operation of the hardware
  + Ensure the system and its components are installed in the rack for future expansion and upgrades.
  + Install any additional add-ons that are included with the system.
  + Cable the components following industry best practices for optimal performance and reliability.
  + Establish connectivity to power sources, network switches, and storage networks.
* Configuration Services:
  + Configure network connections and VLANs according to best practices.
  + Upgrade the array to the latest recommended firmware/software version
  + Install and configure the HPE Alletra software stack, including hypervisor integration.
  + Deploy all new servers into the dHCI configuration
  + Configure HPE InfoSight for basic management, monitoring, and reporting
  + Perform basic volume overview with the creation of up to eight volumes
* Validation, Training and Documentation:
  + Verify HPE InfoSight support is configured and working
  + Perform system validation tests to ensure proper functionality.
  + Generate detailed installation documentation, including diagrams and configuration settings.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Install, Configure, Migrate and Commission of HPE Aruba Network for Upgrade Infra in Production and DR**
* General Services
  + HPE network technology specialists should be assigned to assist with a predetermined network project
  + Deliver mutually agreed-upon network-related consulting and integration activities
  + Complete the delivery of the agreed services during standard business hours.
  + Services to be delivered with the technical assistance of a certified network engineer on-site for the duration of the project.
  + Assess current network architecture and design principles.
  + Provide recommendations for optimizing network design for Aruba Core deployment.
* Installation and Startup Service:
  + Unpack, rack, and install the switch to the existing network rack as per manufacturer guidelines
  + Install any included hardware components, including power supplies and fan modules
* Configuration Services
  + Switch physical interface configuration assistance: the configuration of physical access interfaces (access/untagged) and multiple IEEE 802.1q VLAN interfaces (trunk/tagged) according to the needs of the equipment connected to them.
  + Check ports for proper configuration and operation
  + Switch stacking and high availability configuration.
  + Set up multicast routing and Layer 2 multicast assistance, including PIM-SM, PIM-DM, and IGMP snooping if required.
  + Switch VLAN configuration assistance—create the VLAN required according to the current topology (per template, for up to 10 VLANs).
  + Switch IP management configuration—definitions and configuration of the management network for the environment’s network devices
  + Configure authorized users/IP addresses for security
  + Spanning Tree configuration assistance—simple (Spanning Tree configuration inputs for a maximum of 5 switches and up to 10 instances of MSTP within one STP domain)
  + VRRP implementation configuration (for up to 5 VLANs configured between two routers)
* Network Integration Services:
  + Develop a network integration and network security integration plan that minimizes downtime and disruption to the network
  + Perform a compatibility assessment to ensure seamless integration of Aruba switches with the existing network.
  + Configure VLANs, spanning tree protocols (STP/RSTP/MSTP), and link aggregation (LACP) on existing network infrastructure.
  + Implement Layer 2 protocols such as VLAN trucking (802.1Q) and VLAN pruning to facilitate inter-switch communication and optimize bandwidth utilization.
  + Configure Layer 3 services, including routing protocols (OSPF, BGP) and IP addressing schemes, to enable dynamic routing and efficient packet forwarding between Aruba Switches and the existing network.
  + Coordinate with the security team to understand the existing FortiGate firewall configurations and security policies.
  + Network security integration with existing FortiGate network security.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the switch to ensure that all network services are functioning as intended
  + Generate detailed installation documentation, including diagrams and configuration settings.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Install, Configure, Migrate and Commission of FortiGate Firewall for Hosting Infra in Production and DR**
* General Services:
  + Assign a dedicated, certified project manager to oversee the deployment process.
  + Develop a detailed project plan and timeline.
  + All the network security services, and security integration services shall be delivered by professional engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The service delivery shall be during standard business hours.
* Installation and Startup Service:
  + Unpack, power up, and rack mount the FortiGate NGFW Firewall hardware.
  + Ensure proper cabling and connectivity following manufacturer guidelines.
  + Install necessary licenses and accessories to enable full functionality of the NGFW.
  + Verify license activation and validity for security services.
* Configuration Service:
  + Perform initial setup and configuration of basic settings, such as IP addresses and administrative access.
  + Configure NGFW security policies, including firewall rules, intrusion prevention (IPS), and application control.
  + Implement security best practices for threat prevention and detection.
  + Configure Virtual Private Network (VPN) services for secure remote access and site-to-site connectivity.
  + Implement encryption and authentication mechanisms to ensure data confidentiality and integrity.
* Network Security Integration Service:
  + Evaluate the current FortiGate Network Security services configuration and policies.
  + Identify integration points and compatibility considerations with the FortiGate security environment.
  + Develop a migration plan to seamlessly integrate the FortiGate NGFW Firewall w//existing Security environment.
  + Coordinate with stakeholders to minimize disruptions during the integration process.
  + Align NGFW configuration settings with existing network security policies and practices.
  + Ensure consistency and interoperability between upgrade and existing security services.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the NGFW appliance to ensure that all network security services are functioning as intended
  + Generate detailed installation documentation, including diagrams and configuration settings.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Install, Configure, Migrate and Commission of FortiGate Firewall for Edge Infra in Production and DR**
* General Services:
  + Assign a dedicated, certified project manager to oversee the deployment process.
  + Develop a detailed project plan and timeline.
  + The network security services shall be delivered by professional engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The service delivery shall be during standard business hours.
  + Assess the network security needs of the upgraded server, core network and network security infrastructure.
* Configuration Service:
  + Configure NGFW security policies, including firewall rules, intrusion prevention (IPS), and application controls appropriate for the upgraded server infrastructure, core network infrastructure and network security infrastructure.
  + Implement security best practices for threat prevention and detection.
  + Configure Virtual Private Network (VPN) services for secure remote access and site-to-site connectivity.
  + Implement encryption and authentication mechanisms to ensure data confidentiality and integrity.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the network security policies configured on the existing FortiGate to ensure that all network security services are functioning as intended
  + Generate detailed installation documentation, including diagrams and configuration settings.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Install, Configure and Commission the FortiMonitor/Elastic and GSLB Environment in Production**
* General Services:
  + Assign a dedicated, certified project manager to oversee the deployment process.
  + Develop a detailed project plan and timeline.
  + All the services shall be delivered by vendor-certified engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The service delivery shall be during standard business hours.
* Installation and Startup Service:
  + Assess the current environment for its load balancing and availability requirement
  + Assess the digital expert
  + Verify license activation and validity for security services.
* Configuration Service:
  + Perform initial setup and configuration of basic settings, such as IP addresses and administrative access.
  + Configure GSLB to perform global server load balancing across multiple data centers or locations.
  + Define health checks, load balancing algorithms, and failover policies for optimal performance and reliability.
  + Configure FortiMonitor/Elastic to provide visibility into the performance of end-user devices, network infrastructure, cloud services, and applications.
  + Set up performance monitoring dashboards to track key metrics and identify performance bottlenecks.
  + Configure FortiMonitor/Elastic to monitor diverse IT environments, including on-premises infrastructure, cloud services, and applications from various vendors.
  + Define monitoring policies to collect and analyze performance data across the entire infrastructure stack.
  + Configure security-related monitoring dashboards to monitor security events and identify potential threats.
  + Configure synthetic transaction monitoring (STM) in FortiMonitor/Elastic to simulate user transactions and pinpoint performance issues.
  + Define STM test scenarios to emulate user interactions with critical applications and services.
  + Configure topology mapping features in FortiMonitor/Elastic to visualize all network elements in real-time.
  + Create network topology maps to identify connectivity issues and optimize network performance.
* Integration with Existing Environment:
  + Integrate FortiMonitor/Elastic with the Fortinet Security Fabric to gain insight into the health and performance metrics of FortiGate and other Fortinet devices.
  + Evaluate the current F5 BigIP LTM configuration for server load balancing.
  + Identify integration points and compatibility considerations with GSLB.
  + Develop a migration plan to seamlessly integrate GSLB with the existing F5 BigIP LTM environment.
  + Coordinate with stakeholders to minimize disruptions during the integration process.
  + Align GSLB configuration settings with existing server load balancing policies and practices.
  + Ensure consistency and interoperability between GSLB and F5 BigIP LTM for smooth operation.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the GSLB services and FortiMonitor/Elastic Environment to ensure that all related services are functioning as intended
  + Generate detailed installation documentation, including diagrams and configuration settings.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Upgrade, Install, Configure, and Commission the Virtualization Environment in Production and DR**
* General Services:
  + Perform site readiness assessment, ensuring the environment is prepared for project commencement.
  + Provide planning and deployment details for the proposed virtualization platform (VMware or RedHat).
  + Initialize all nodes per manufacturer best practices and upgrade to the latest stable firmware for all HPE Servers and Storage.
  + Vendor-certified engineers (for the selected virtualization platform) must execute the installation and configuration.
  + Submit planning and deployment documentation prior to implementation.
* Installation and Configuration Services:
  + Verify hardware compatibility with the selected virtualization platform and upgrade firmware to ensure stability.
  + Install the hypervisor software (e.g., VMware ESXi or RedHat OpenShift Virtualization nodes) on each host, adhering to vendor best practices and compatibility guidelines.
  + Deploy the centralized management platform (e.g., VMware vCenter or RedHat Advanced Cluster Management [RHACM]/OpenShift Container Platform) for orchestration and integration with existing systems.
  + Configure a highly available cluster using available nodes, enabling fault tolerance, workload redundancy, and automatic failover features.
  + Design and implement secure, segregated virtual networking.
  + Configure host networking, including virtual switches, NIC teaming, and security policies.
  + Set up storage infrastructure, including cluster-aware storage volumes, storage policies, and integration with SAN/NAS.
  + Create and present required LUNs on the SAN to the virtualization environment.
  + Establish Fibre Channel (FC)/iSCSI/NVMe-oF connectivity between hosts and SAN, validating performance and redundancy.
  + Map LUNs to hosts on the SAN and configure multipathing for resilience.
  + Provision storage resources for efficient management.
  + Configure security controls such as RBAC, encryption for data at rest/in-transit, and audit logging.
  + Minimize downtime and operational impact during deployment, ensuring alignment with organizational change management processes.
  + Implement a clustered, high-availability production environment integrated with all dependent components.
* Validation, Training and Documentation:
  + Conduct end-to-end testing of the virtualization stack, including failover scenarios, workload migration, and integration with GSLB/FortiMonitor services.
  + Validate SAN performance, cluster resilience, and redundancy mechanisms.
  + Generate detailed as-built documentation, including network diagrams, configuration templates, and compliance reports.
  + Deliver knowledge transfer sessions for IT staff on platform administration, troubleshooting, and lifecycle management.
  + Provide guidance on engaging vendor support and escalation procedures.
  + Submit operational handover documentation, including backup/restore workflows and disaster recovery runbooks.
  1. **Migrating all existing MNSW APPs and Services Infrastructure to the Upgrade Infra in Production and DR**
* General Services:
  + Perform site readiness assessment, ensuring the environment is ready for project commencement.
  + All the services shall be delivered by vendor-certified engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The service delivery shall be during standard business hours.
  + Conduct an inventory of existing MNSW APPS-related Windows Server(s) and RedHat Server(s) workloads to identify dependencies, resource requirements, and migration priorities.
  + Assess the compatibility of workloads with the new upgraded dHCI environment, identifying any potential compatibility issues or dependencies.
  + Analyze the performance characteristics of workloads to determine resource requirements and optimize performance in the new environment.
  + Develop a migration strategy outlining the approach, sequence, and timeline for migrating MNSW APPs workloads to the upgraded environment.
  + Allocate resources, including compute, storage, and network resources, to support migrated workloads based on performance and scalability requirements.
  + Identify potential risks and mitigation strategies for the migration process, including contingency plans for addressing unexpected issues.
* Migration Services:
  + Prepare the dHCI environment for workload migration, including provisioning storage, configuring network connectivity, and ensuring compatibility with migrated workloads.
  + Perform the actual migration of MNSW APPs related Windows Server and RedHat Server workloads to the dHCI environment, following the migration strategy and sequence defined in the planning phase.
  + Optimize the performance of migrated workloads in the dHCI environment, adjusting resource allocations and configuration settings as needed.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the migrated workload to ensure that all related services are functioning as intended
  + Validate the successful migration of workloads by conducting post-migration testing, including functionality testing, performance testing, and user acceptance testing.
  + Document the migration process, including migration plans, configuration settings, and post-migration validation results, for future reference and audit purposes.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Migrating all existing MNSW Database and Services Infrastructure to the Upgrade Infra in Production & DR**
* General Services:
  + Perform site readiness assessment, ensuring the environment is ready for project commencement.
  + All the services shall be delivered by OEM certified engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The services delivery shall be during standard business hours.
  + Conduct an inventory of existing MNSW Database Infrastructure (MSSQL databases) to identify size, complexity, dependencies, and migration priorities.
  + Assess the compatibility of databases with the upgraded environment, including hardware, software, and configuration requirements.
  + Analyze the performance characteristics of databases to determine resource requirements and optimize performance in the upgraded environment.
  + Develop a migration strategy outlining the approach, sequence, and timeline for migrating MSSQL databases to the upgraded environment.
  + Develop a data migration plan specifying migration methods, tools, and procedures for transferring data from source to target databases.
  + Define backup and restore procedures to ensure data integrity and minimize the risk of data loss during the migration process.
  + Identify potential risks and mitigation strategies for the migration process, including contingency plans for addressing unexpected issues.
* Migration Services:
  + Prepare the upgraded environment for database migration, including provisioning storage, configuring network connectivity, and installing necessary software and tools.
  + Perform the actual migration of MSSQL databases to the new environment using appropriate migration tools and techniques as defined in the migration plan.
  + Optimize the performance of migrated workloads in the upgrade environment, adjusting resource allocations and configuration settings as needed.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the migrated workload to ensure that all related services are functioning as intended
  + Validate the successful migration of workloads by conducting post-migration testing, including functionality testing, performance testing, and user acceptance testing.
  + Document the migration process, including migration plans, configuration settings, and post-migration validation results, for future reference and audit purposes.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.
  1. **Migrating all existing MNSW Infrastructure Services to the Upgrade Infra in Production & DR**
* General Services:
  + Perform site readiness assessment, ensuring the environment is ready for project commencement.
  + All the services shall be delivered by vendor certified engineers.
  + The allocated engineers shall be available on-site for the duration of the service.
  + The service delivery shall be during standard business hours.
  + Conduct an inventory of existing MNSW Infrastructure services (Veeam Backup, Antivirus, Kiwi Syslog, and SMTP) servers/workloads to identify dependencies, configurations, and migration priorities.
  + Assess the compatibility of workloads/servers with the upgraded environment, including hardware, software, and configuration requirements.
  + Analyze the performance characteristics of workloads/servers to determine resource requirements and optimize performance in the upgraded environment.
  + Develop a migration strategy outlining the approach, sequence, and timeline for migrating MNSW Infrastructure servers/workloads to the upgraded environment.
  + Backup existing configurations and settings for MNSW Infrastructure servers/workloads to ensure easy restoration post-migration.
  + Develop a data migration plan specifying migration methods, tools, and procedures for transferring data and configurations from source to target servers/workloads.
  + Identify potential risks and mitigation strategies for the migration process, including contingency plans for addressing unexpected issues.
* Migration Services:
  + Prepare the upgraded environment for workload/server migration, including provisioning storage, configuring network connectivity, and installing necessary software and tools.
  + Perform the actual migration of all MNSW Infrastructure to the upgraded environment, following the migration strategy and sequence defined in the planning phase.
  + Optimize the performance of migrated workloads in the upgrade environment, adjusting resource allocations and configuration settings as needed.
* Validation, Training and Documentation:
  + Conduct comprehensive testing of the migrated workload to ensure that all related services are functioning as intended
  + Validate the successful migration of workloads by conducting post-migration testing, including functionality testing, performance testing, and user acceptance testing.
  + Document the migration process, including migration plans, configuration settings, and post-migration validation results, for future reference and audit purposes.
  + Provide comprehensive knowledge transfer sessions for IT staff on managing and maintaining the environment.
  + Review how to engage manufacturer support and local technical support.

1. On-the-Job Training

* **On-the-job training in Managing and Operation of Existing and Upgrade HW / SW**
  + Provide detailed information about all the products and services deployed, including their purpose, features, and functionality.
  + Train staff on how to operate and manage effectively, including day-to-day operations, routine tasks, and best practices.
  + Educate staff on maintenance tasks, such as software updates, patch management, hardware maintenance, and backup procedures.
  + Provide hands-on training on troubleshooting common issues and challenges that may arise during the operation, including diagnosis, root cause analysis, and resolution steps.
  + Conduct practical on-the-job training sessions where staff can directly interact with the deployed infrastructure and services under the guidance of certified engineers.
  + Review relevant documentation, manuals, and guides for all the products and services, ensuring staff have access to comprehensive resources for self-study and reference.
* 2PAX On-the-job training for Managing and Operation of HPE Alletra 6000 Storage at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of HPE DL3XX DHCI Node at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of HPE MSA2052 Storage at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of HPE MSA1040 Storage at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of HPE StoreEver MSL 1/8 at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of HPE Aruba 8360 Switch at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of FortiGate Series Firewall at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of Virtualization Environment at Bidder’s Location/TMCL
* 2PAX On-the-job training for Managing and Operation of Veeam Backup at Bidder’s Location/TMCL

1. Comprehensive On-Site Technical and Maintenance Services

**The vendor is expected to offer maintenance support services and technical assistance after the full system acceptance, and this support should be provided throughout the duration of the warranty period for** Existing and Upgraded Infra in Production and DR**:**

* An experienced certified engineer by the original equipment manufacturer (OEM) should be responsible for delivering on-site services, including hardware repair, replacement, and maintenance.
* The on-site diagnostic and repair service will be conducted by a proficient OEM Certified Engineer. This engineer will carry out thorough diagnostics, perform necessary repairs, and conduct comprehensive testing on the unit to guarantee its optimal performance.
* We should have access to experienced technical support engineers who are readily available to promptly and effectively address any questions or issues we may have. This availability will provide us with peace of mind, knowing that the assistance we need is reliably accessible whenever the need arises.
* The Maintenance Support Engineer is responsible for verifying that the unit is running on the most current stable firmware version. Any necessary firmware upgrades should be supplied to the customer at no additional cost.
* During every maintenance visit, field service engineers should run comprehensive tests to verify that our system is functioning correctly in all operational modes, stopping problems before they start.
* The Maintenance Support Engineer should follow well-defined processes and procedures to ensure the delivery of high-quality services that meet or exceed industry standards.
* The support service vendor shall maintain critical parts locally in Male’ to provide after-sale support and details should be provided.
* All Comprehensive local on-site technical support and maintenance services for existing and upgraded Infra in Production & DR should be performed by a service delivery engineer who is certified by the original equipment manufacturer (OEM). Refer to Section 3\_Evaluation and Qualification Criteria.

**4.1 Comprehensive Local On-Site Technical and Maintenance Services for existing and new HW & SW in Prod**

* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Application Node
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Database Node
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL20 Management Node
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 2052 Storage
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 1050 Storage
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Cisco Catalyst 9300-48T-E
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 4 x FortiGate 301E MGFW Firewall
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiSwitch 248E-POE
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiAP 421E Indoor AP
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Windows Server
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: RedHat Enterprise Linux
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: SQL Database
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Veeam Backup & Replication
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 3 x HPE DL38X Cluster Nodes
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortiget 200G Firewall
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiMonitor; 1 x FortiManager and 1 x FortiAnalyzer

**4.2 Comprehensive Local On-Site Technical and Maintenance Services for existing and new HW & SW in DR**

* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE DL38X Cluster Nodes
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack
* Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Fortiget 200G Firewall

1. Related Services (Optional): Comprehensive Technical and Maintenance Services
2. Related Services: 2nd Year Comprehensive 24/7 Technical and Maintenance Services

| **#** | **Name of Goods and Related Services** | **Qty** |
| --- | --- | --- |
| **2.5** | **OPTIONAL 2ND YEAR: Comprehensive Local On-Site Technical and Maintenance Services for Existing and Upgraded Infra in Production** |  |
| 2.5.1 | **The vendor is expected to offer maintenance support services and technical assistance after the full system acceptance, and this support should be provided throughout the entire duration of the warranty period:**   * An experienced engineer certified by the original equipment manufacturer (OEM) should be responsible for delivering on-site services including hardware repair, replacement, and maintenance. * The on-site diagnostic and repair service will be conducted by a proficient OEM Certified Engineer. This engineer will carry out thorough diagnostics, perform necessary repairs, and conduct comprehensive testing on the unit to guarantee its optimal performance. * We should have access to experienced technical support engineers who are readily available to promptly and effectively address any questions or issues we may have. This availability will provide us with peace of mind, knowing that the assistance we need is reliably accessible whenever the need arises. * The Maintenance Support Engineer is responsible for verifying that the unit is running on the most current firmware version. Any necessary firmware upgrades should be supplied to the customer at no additional cost. * During every maintenance visit, field service engineers should run comprehensive tests to verify that our system is functioning correctly in all operational modes, stopping problems before they start. * Maintenance Support Engineer should follow well-defined processes and procedures to ensure the delivery of high-quality services that meet or exceed industry standards. * The support service vendor shall maintain critical parts locally in Male’ to provide after-sale support. | 1 Svc |
| 2.5.2 | **Comprehensive Local On-Site Technical and Maintenance Services for existing and new upgraded Hardware & Software in Prod**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Application Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Database Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL20 Management Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 2052 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 1050 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Cisco Catalyst 9300-48T-E * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 4 x FortiGate 301E MGFW Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiSwitch 248E-POE * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiAP 421E Indoor AP * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Windows Server * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: RedHat Enterprise Linux * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: SQL Database * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Veeam Backup & Replication * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 3 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortiget 200G Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiMonitor; 1 x FortiManager and 1 x FortiAnalyzer | 1 Svc |
| **2.9** | **OPTIONAL 2ND YEAR: Comprehensive Local On-Site Technical and Maintenance Support for existing and new upgraded Hardware & Software in DR** |  |
| 2.9.1 | **The vendor is expected to offer maintenance support services and technical assistance after the full system acceptance, and this support should be provided throughout the entire duration of the warranty period:**   * An experienced engineer certified by the original equipment manufacturer (OEM) should be responsible for delivering on-site services including hardware repair, replacement, and maintenance. * The on-site diagnostic and repair service will be conducted by a proficient OEM Certified Engineer. This engineer will carry out thorough diagnostics, perform necessary repairs, and conduct comprehensive testing on the unit to guarantee its optimal performance. * We should have access to experienced technical support engineers who are readily available to promptly and effectively address any questions or issues we may have. This availability will provide us with peace of mind, knowing that the assistance we need is reliably accessible whenever the need arises. * The Maintenance Support Engineer is responsible for verifying that the unit is running on the most current firmware version. Any necessary firmware upgrades should be supplied to the customer at no additional cost. * During every maintenance visit, field service engineers should run comprehensive tests to verify that our system is functioning correctly in all operational modes, stopping problems before they start. * Maintenance Support Engineer should follow well-defined processes and procedures to ensure the delivery of high-quality services that meet or exceed industry standards. * The support service vendor shall maintain critical parts locally in Male’ to provide after-sale support. | 1 Svc |
| 2.9.2 | **Comprehensive Local On-Site Technical and Maintenance Support for existing and new upgraded Hardware & Software in DR**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Fortiget 200G Firewall | 1 Svc |

1. Related Services: 3rd Year Comprehensive 24/7 Technical and Maintenance Services

| **#** | **Name of Goods and Related Services** | **Qty** |
| --- | --- | --- |
| **2.5** | **OPTIONAL 3rd YEAR: Comprehensive Local On-Site Technical and Maintenance Services for existing and new upgraded Hardware & Software in Production** |  |
| 2.5.1 | **The vendor is expected to offer maintenance support services and technical assistance after the full system acceptance, and this support should be provided throughout the entire duration of the warranty period:**   * An experienced engineer certified by the original equipment manufacturer (OEM) should be responsible for delivering on-site services including hardware repair, replacement, and maintenance. * The on-site diagnostic and repair service will be conducted by a proficient OEM Certified Engineer. This engineer will carry out thorough diagnostics, perform necessary repairs, and conduct comprehensive testing on the unit to guarantee its optimal performance. * We should have access to experienced technical support engineers who are readily available to promptly and effectively address any questions or issues we may have. This availability will provide us with peace of mind, knowing that the assistance we need is reliably accessible whenever the need arises. * The Maintenance Support Engineer is responsible for verifying that the unit is running on the most current firmware version. Any necessary firmware upgrades should be supplied to the customer at no additional cost. * During every maintenance visit, field service engineers should run comprehensive tests to verify that our system is functioning correctly in all operational modes, stopping problems before they start. * Maintenance Support Engineer should follow well-defined processes and procedures to ensure the delivery of high-quality services that meet or exceed industry standards. * The support service vendor shall maintain critical parts locally in Male’ to provide after-sale support. | 1 Svc |
| 2.5.2 | **Comprehensive Local On-Site Technical and Maintenance Services for existing and new upgraded Hardware & Software in Prod**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Application Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Database Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL20 Management Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 2052 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE MSA 1050 Storage * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Cisco Catalyst 9300-48T-E * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 4 x FortiGate 301E MGFW Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiSwitch 248E-POE * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortinet FortiAP 421E Indoor AP * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Windows Server * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: RedHat Enterprise Linux * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: SQL Database * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: Veeam Backup & Replication * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 3 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virrtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x Fortiget 200G Firewall * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x FortiMonitor; 1 x FortiManager and 1 x FortiAnalyzer | 1 Svc |
| **2.9** | **OPTIONAL 3rd YEAR: Comprehensive Local On-Site Technical and Maintenance Support for existing and new upgraded Hardware & Software in DR** |  |
| 2.9.1 | **The vendor is expected to offer maintenance support services and technical assistance after the full system acceptance, and this support should be provided throughout the entire duration of the warranty period:**   * An experienced engineer certified by the original equipment manufacturer (OEM) should be responsible for delivering on-site services including hardware repair, replacement, and maintenance. * The on-site diagnostic and repair service will be conducted by a proficient OEM Certified Engineer. This engineer will carry out thorough diagnostics, perform necessary repairs, and conduct comprehensive testing on the unit to guarantee its optimal performance. * We should have access to experienced technical support engineers who are readily available to promptly and effectively address any questions or issues we may have. This availability will provide us with peace of mind, knowing that the assistance we need is reliably accessible whenever the need arises. * The Maintenance Support Engineer is responsible for verifying that the unit is running on the most current firmware version. Any necessary firmware upgrades should be supplied to the customer at no additional cost. * During every maintenance visit, field service engineers should run comprehensive tests to verify that our system is functioning correctly in all operational modes, stopping problems before they start. * Maintenance Support Engineer should follow well-defined processes and procedures to ensure the delivery of high-quality services that meet or exceed industry standards. * The support service vendor shall maintain critical parts locally in Male’ to provide after-sale support. | 1 Svc |
| 2.9.2 | **Comprehensive Local On-Site Technical and Maintenance Support for existing and new upgraded Hardware & Software in DR**   * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE DL38X Services Node * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE DL38X Cluster Nodes * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 2 x HPE Aruba 8360-32Y4C * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x HPE Nimble Alletra 6010 * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Virtualization Stack * Comprehensive Local 1-Year 24/7 On-Site Technical and Maintenance Services: 1 x Fortiget 200G Firewall | 1 Svc |

1. Test and Inspection

**The bidder should perform a major operational test after installation with the purchasers. It validates that all connected hardware components, such as servers, storage, and networking elements, power up correctly and communicate as expected within the dHCI system.**

**Completing this test ensures that the HPE dHCI environment is ready for further configuration and functional testing.**

|  |  |  |
| --- | --- | --- |
| Type of Test | Objective | Time/Milestone |
| Initial Power-On Sequence | Verify that all HPE dHCI components (servers, storage arrays, network switches) power on correctly without errors. | Immediately upon hardware installation completion. |
| Component Health Check | Confirm that all hardware passes self-tests and that no faults are detected. | Directly after power-on and system boot. |
| Firmware and BIOS Validation | Ensure all components are running on compatible firmware and BIOS versions required by HPE dHCI. | After component health check; updates may be applied immediately if needed. |
| Network & Security Connectivity Check | Validate network connectivity between all components (servers, storage, Firewall and switches). | After firmware and BIOS validation, before any data configuration. |
| Storage Initialization | Ensure storage arrays and volumes are recognized and accessible within the dHCI environment. | After network connectivity is confirmed. |
| Run Power-Up Diagnostics | Conduct diagnostics on all components (CPU, memory, storage, network) to confirm operational status. | After storage initialization, before any system configurations. |
| Installation/Commissioning | Final setup, configuration, and verification of all components, ensuring readiness for production. | Following all diagnostics; prior to handover or final acceptance testing. |
| Hardware Compatibility Test (HCT) | Verify that all HPE dHCI components (servers, storage, networking) are compatible and integrated as expected. | Immediately after hardware installation and power-on diagnostics. |
| Network & Security Connectivity Test | Confirm network connections between servers, storage, Firewall and switches, ensuring stable connectivity and correct VLAN configurations. | Following HCT and firmware/BIOS validation, before configuring storage or Virtualization stack integration. |
| Storage Performance Test | Measure storage IOPS, latency, and throughput to verify expected performance for the intended workload. | After network setup and storage initialization, before virtualization stack integration. |
| Virtualization Stack Integration Test | Validate integration with hypervisor and its management platform, ensuring smooth operation of storage policies, virtual machine provisioning, and compatibility. | After confirming network and storage performance, before failover testing. |
| Failover and High Availability (HA) Test | Test failover mechanisms to confirm high availability, ensuring continuity in case of hardware failures. | After Virtualization Stack integration, typically during initial deployment testing or commissioning phase. |
| Management and Monitoring Test | Ensure HPE InfoSight and other management tools are set up to monitor and manage infrastructure components effectively. | Following HA test, at the start of operational testing, before final acceptance testing. |
| Data Protection and Recovery Test | Test backup, restore, and disaster recovery features to validate data security and availability. | After management and monitoring setup, usually as part of final testing before system handover. |

1. Diagram

Not Applicable