



## **BIDDING DOCUMENT**

***Establishment of Data Center and Supply  
of Servers & Allied Hardware Equipment***

**FINANCE DEPARTMENT  
GOVERNMENT OF GILGIT-BALTISTAN**

## **1. INVITATION TO BID**

Finance Department Gilgit-Baltistan invites sealed bids from original manufacturers, authorized distributors, and reputed firms registered with Income Tax Department and appearing on Active Taxpayers List (ATL) of FBR/Commissioner Inland Revenue, GB, for **“Establishment of Data Center and Supply of Servers & Allied Hardware Equipment”** under the project **“Automation & Digitization of Revenue System in Gilgit-Baltistan.”** The project aims to enhance ICT infrastructure to support cashless transactions and digital transformation by integrating RAAST, 1LINK/1BILL ADC, and GB Pay platforms with SAP based Financial Information System.

## **2. INSTRUCTIONS TO BIDDERS**

Proposals shall be submitted in a sealed envelope containing the following documents and information:

- i. Comprehensive profile and track record of the bidder/firm/company, including the list of available technical personnel.
- ii. Details of similar works previously undertaken by the bidder/firm/company, along with copies of work orders or contracts currently in hand.
- iii. Financial proposal clearly mentioning the rates for each item as per the scope of work.
- iv. Authorization Letter from the Original Equipment Manufacturer (OEM) or an authorized distributor of the offered equipment.
- v. The proposal must be submitted in two separate sealed envelopes, clearly marked as “TECHNICAL PROPOSAL” and “FINANCIAL PROPOSAL.”
- vi. The Technical Proposal must include the Original Bid Security, Company Profile, Experience Certificates, Registration Documents, Proof of Legal Status, Human Resource Profile, Organizational Capacity, and Relevant Specialization, fulfilling the mandatory requirements outlined in Annexure-A and Annexure-B.
- vii. The Financial Proposal must include the duly filled rate list of offered or quoted items, prepared in accordance with the Scope of Work as specified in Annexure-C.

## **ASSESSMENT OF THE PROPOSALS**

The complete proposal, alongwith all supporting documents, must reach the office of the **System Analyst, Finance Department, Civil Secretariat, Gilgit-Baltistan, Gilgit**, on or before **17<sup>th</sup> November, 2025, at 11:00 hours**. The bids will be opened at the same day on **11:30 AM** in the presence of the bidders or their authorized representatives.

Assessment of the proposals will be carried out by a committee constituted for this purpose. The evaluation and selection will be conducted under the **Quality and Cost-Based Selection (QCBS)** method in accordance with the **Gilgit-Baltistan Public Procurement Rules, 2022**.

1. The committee shall technically evaluate the bids based on the **List of Mandatory Documents (Annexure-A)** and the **Technical Evaluation Criteria**

**(Annexure-B).** Only those bidders who meets all the mandatory requirements as mentioned at **Annex-A** and secure at least **70% marks** in the technical evaluation will qualify for the opening of their financial proposals.

2. The financial proposals of technically qualified bidders will be opened in the presence of their authorized representatives, whereas the financial proposals of technically disqualified bidders will be returned unopened to the respective firms.
3. For the final selection, a **weightage of 70%** will be assigned to the technical proposal and **30%** to the financial proposal of technically qualified bidders.
4. The technically qualified bidders will then be evaluated financially. The lowest evaluated bid (A) will be assigned the **maximum financial score of 100 marks**. The financial scores of the remaining technically qualified bidders will be calculated using the following formula:

**FS = Financial Score of the Bid Under Consideration**

**A = Lowest Financial Bid**

**B = Financial Bid of the Bidder Being Evaluated**

$$FS = \left( \frac{A}{B} \right) \times 100$$

5. Once both the **Technical Score (TS)** (i.e marks obtained by the bidder in technical evaluation criteria) and **Financial Scores (FS)** are determined, the **Combined Score (CS)** will be calculated using the following formula:

$$CS = (TS \times 0.70) + (FS \times 0.30)$$

6. A sample calculation is provided below for illustration and clarity regarding the evaluation and award of the bid under the QCBS method.:

| <b>Bidder</b>   | <b>Technical Score (TS)</b> | <b>Financial Bid</b> | <b>Lowest Bid</b> | <b>Financial Score (FS)</b>           | <b>Combined Score (CS)</b>                       |
|-----------------|-----------------------------|----------------------|-------------------|---------------------------------------|--|
| <b>Bidder X</b> | 85                          | 9.000                | 8.000             | $(8.000 / 9.000) \times 100 = 88.89$  | $(85 \times 0.70) + (88.89 \times 0.30) = 86.17$ |
| <b>Bidder Y</b> | 90                          | 10.000               | 8.000             | $(8.000 / 10.000) \times 100 = 80.00$ | $(90 \times 0.70) + (80 \times 0.30) = 87.00$    |
| <b>Bidder Z</b> | 80                          | 8.000                | 8.000             | $(8.000 / 8.000) \times 100 = 100.00$ | $(80 \times 0.70) + (100 \times 0.30) = 86.00$   |

7. The bidder obtaining the highest Combined Score (CS) will be recommended for award of the contract.

8. The competent authority reserves the right to accept or reject any or all bids at any stage without assigning any reason, in line with the Gilgit-Baltistan Public Procurement Rules, 2022.

### **TERMS AND CONDITIONS**

1. Bids must be accompanied by a bid security of Rs. 1,500,000/- in the form of a Demand Draft/Pay Order from any scheduled bank, submitted along with the technical proposal. Only Demand Drafts/Pay Orders from scheduled banks will be accepted.
2. Offered rates must be inclusive of all applicable taxes, including Income Tax, Sales Tax, and any other levies.
3. No additional transportation, loading, or unloading charges shall be claimed.
4. Payment shall be made as per Government procedures.
5. No advance payment shall be made.
6. Rates shall remain valid up to 30<sup>th</sup> June, 2026.
7. For electronic items, the firm/bidder/company must possess an authorization letter from the Original Equipment Manufacturer (OEM) or an authorized distributor of the offered brands.
8. All electronic items must be brand new, unused, and of the latest model.
9. The firm must provide free technical support and service during the warranty period for all electronic items.
10. The firm must also provide installation, testing, and initial configuration for all supplied equipment.
11. All supplied electronic equipment must comply with national and international standards.
12. Any faulty equipment must be replaced within the specified period (7–30 days).
13. Refurbished or repaired items shall not be accepted.
14. A minimum one-year warranty must be clearly mentioned for all supplied items.
15. Blank or missing rates for any item shall render the bidder's proposal ineligible.
16. Evaluation of bidders shall be carried out based on the eligibility criteria specified in **Annexure-A**, and **Annex-B** of the bidding documents, in accordance with the GB PPRA Rules, 2022.
17. The Department reserves the right to increase or decrease the quantity of any item.
18. The Department also reserves the right to terminate the contract at any time, with reasons duly recorded.

19. If the firm fails to supply items of the required quality, the payment shall not be processed.
20. No TA/DA shall be admissible to bidders for participation in the bidding process.
21. Bidders must submit their tender documents strictly as per the guidelines provided, along with all required bid documents.
22. All rates and quoted specifications must be computerized and printed. Handwritten proposals shall be rejected.
23. The firm/company/bidder must have a qualified professional team.
24. Preference shall be given to firms with relevant experience and sufficient capacity.
25. Incomplete, unsealed, conditional, or late bids shall not be entertained.
26. A Non-Blacklisting Certificate/Affidavit on stamp paper of Rs. 100/- must be attached with the technical proposal of bidding documents.
27. A No-Litigation Certificate/Affidavit on stamp paper of Rs. 100/- must be attached with the technical proposal of the bidding documents.
28. An Undertaking on stamp paper of Rs. 100/- must be attached with the technical proposal of the bidding document, confirming the completion of work within three (03) months from the issuance of the work order.
29. The firm/bidder shall provide information regarding its legal status, including proof of registration of the firm/company.

**Annex-A**

| <b>Sr. No.</b> | <b>Document</b>  | <b>Attached<br/>(Yes/No)</b> |
|----------------|--|------------------------------|
| 1              | Copy of Valid NTN (National Tax Number) Certificate is attached, (exempted for bidders/firms/companies of GB).   |                              |
| 2              | Proof of Firm/Company Registration (legal status or certificate of incorporation).   |                              |
| 3              | CNIC Copies of Authorized Signatory / Company Representative.  |                              |
| 4              | Original Bid Security of Rs. 1,500,000/- in the form of Demand Draft/Pay Order from any scheduled bank.  |                              |
| 5              | Technical and Financial Proposals are sealed separately as per procedure of single stage two envelope bidding procedure.   |                              |
| 6              | Non-Blacklisting Certificate/Affidavit on stamp paper of Rs. 100/-.  |                              |
| 7              | No-Litigation Certificate/Affidavit on stamp paper of Rs. 100/-.   |                              |
| 8              | Undertaking on stamp paper of Rs. 100/- confirming completion of work within three (03) months of work order.  |                              |
| 9              | Authorization Letter/Certificate Attached with the technical proposal for the quoted items (Passive Datacenter Equipment) confirming status as authorized dealer/reseller/distributor.                               |                              |
| 10             | Quotations are computerized and printed and all rates and specifications are computerized and printed.   |                              |
| 11             | The technical specifications of the items offered by the firm/bidder/supplier for servers, hardware, and network equipment are in full compliance with the technical requirements mentioned in the bidding documents |                              |

**Technical Evaluation Criteria**

| <b>S. No.</b> | <b>Description</b>   | <b>Maximum Marks</b> |
|---------------|--|----------------------|
| <b>1</b>      | <b>Similar Work Experience</b>   |                      |
| <b>1.1</b>    | Establishment of Data Centers, including the supply of Server Machines, Allied Hardware Equipment, Network Switches, and Storage — each similar completed project carries 10 marks, up to a maximum of 3 projects. ( <i>Work order or completion certificate clearly indicating the nature and scope of work must be attached.</i> )   | 30                   |
| <b>2</b>      | <b>Authorization Letter</b>  |                      |
| <b>2.1</b>    | Original Equipment Manufacturer (OEM) Authorization Letter will carry 5 marks for each category listed below. In case a Distributor Authorization Letter is provided instead of an OEM Authorization Letter, 2.5 marks (i.e., half of the OEM marks) will be awarded for each category: <ul style="list-style-type: none"> <li>i) Datacenter Electric Equipment</li> <li>ii) Server Machines and SAN Storage</li> <li>iii) UPS</li> <li>iv) Environment Management System</li> </ul> | 20                   |
| <b>3</b>      | <b>Human Resource</b>  |                      |
| <b>3.1</b>    | Professional Engineers — each BS/BE or equivalent professional engineer carries 2 marks, up to a maximum of 5 engineers from the fields of Electrical, Electronic, or Computer Engineering.  | 10                   |
| <b>3.2</b>    | Associate Engineers / Technical Staff — each carry 1 mark, up to a maximum of 5 associate engineers from the fields of Electrical, Electronic, or Computer Engineering.  | 5                    |
| <b>4</b>      | <b>Financial Position / Financial Statement</b>  |                      |
| <b>4.1</b>    | Provision of the bidder/firm's financial statements showing annual turnover for the last three (03) years — each Rs. 10 million of turnover carries 5 marks, up to a maximum of 20 marks.  | 20                   |
| <b>5</b>      | <b>Compliance of Equipment with Required Specifications</b>  |                      |
| <b>5.1</b>    | Compliance with technical specifications of servers, hardware, and network equipment as mentioned in the bidding documents (Supporting datasheets and brochures must be provided). Each of the following items carries 3 marks, up to a maximum of 15 marks: <ul style="list-style-type: none"> <li>i) Server Machines</li> <li>ii) SAN Storage</li> <li>iii) Fiber Channel Switch</li> <li>iv) Managed Data Switch</li> <li>v) Next Generation Firewall</li> </ul>                  | 15                   |
|               | <b>Total Technical Marks</b>   | <b>100</b>           |

**Data Center Setup: Scope of Work and Technical Specifications**

| S. No    | Items Description/Technical Specifications & Scope   | Qty   |
|----------|--|-------|
| <b>A</b> | <b>Datacenter Passive Equipment</b>  |       |
| 1        | <b>Partitioning Interior Works</b> <ul style="list-style-type: none"> <li>Installation of <b>ESD (Electrostatic Discharge) Raised Flooring System</b> for server and power room areas.</li> <li>Provision and installation of <b>Mineral Fiber False Ceiling</b> (10mm thick, fire-retardant) <i>or</i> <b>Dumpa False Ceiling</b> (0.5mm). (252 Sq.Feet)</li> <li>Supply and installation of <b>Fire-Rated Doors</b> for Power Room and Server Room. (Size 3.5 feet x 6.5 feet)</li> <li><b>Painting, finishing, and internal partition works</b> as per design and fire safety standards.</li> </ul>   | 1-Job |
| 2        | <b>Fire Safety &amp; Protection Systems</b> <ul style="list-style-type: none"> <li>Installation of 5 Kg Fire Extinguishers (CO<sub>2</sub> type) at designated locations (04 Units)</li> <li>Provision of 25 Kg Class C Portable Fire Extinguishers for electrical fire protection (01 Unit).</li> <li>Supply, installation, and testing of Fire Detection &amp; Suppression System based on FM-200 / ECARO-25 (HFC-125).</li> <li>Deployment of Smoke Detection System for Server Room and Power Room (3-Zone Panel and 12 Nos of Smoke Detection Sensors).</li> </ul>  | 1-Job |
| 3        | <b>Electrical Works</b> <ul style="list-style-type: none"> <li>Supply and installation of electrical panels and distribution systems for 30KW including: <ul style="list-style-type: none"> <li>MICB (Manual Incoming Circuit Breaker Box) – Waterproof type.</li> <li>ATS (Automatic Transfer Switch) with manual override option.</li> <li>Power Distribution Box (PDB) for general electrical loads.</li> <li>UPS Output Power Distribution System for IT load.</li> <li>Air Conditioning Power Distribution System.</li> <li>EPO (Emergency Power Off) Box for safety compliance.</li> </ul> </li> <li>Power &amp; Earthing Cabling: Supply and laying of power, control, and earthing cables as per load design.</li> <li>Control Cables for Automation: Installation of control and signal cables for system interconnectivity.</li> <li>Cable Management: Installation of Cable Trays and Cable Ladders for structured routing of power and data cables.</li> </ul> | 1-Job |
| 4        | <b>Earthing System</b> <ul style="list-style-type: none"> <li>Earthing Bores: <ul style="list-style-type: none"> <li>Generator Body Earthing – 1 No.</li> <li>Neutral Earthing for 20 kVA Sets – 1 No.</li> <li>Network Frame Earthing – 1 No.</li> <li>Air Conditioning Frame Earthing – 1 No.</li> </ul> </li> <li>Earthing Distribution Boxes: Installation and interconnection with main earthing busbar.</li> <li>Deployment and Testing of Earthing System for all connected equipment.</li> </ul>   | 1-Job |
| 5        | <b>Power &amp; Lighting System</b> <ul style="list-style-type: none"> <li>Installation of Lighting and Power Sockets across the Data and Power Rooms.</li> </ul>   | 1-Job |

**Data Center Setup: Scope of Work and Technical Specifications**

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|    | <ul style="list-style-type: none"> <li>Provision and installation of 12 No. of 32A 3-Pin Industrial Sockets for high-load equipment.</li> </ul>  |       |
| 6  | <b>HVAC System</b> <ul style="list-style-type: none"> <li>Supply and installation of 1.5 Ton Inverter Split Air Conditioners for Server and Power Rooms (04 Units).</li> <li>AC Sequence Controller for load management and automatic switchover (01 Unit).</li> <li>Integration with EMS (Environmental Management System) for temperature and humidity monitoring.</li> </ul>  | 1-Job |
| 7  | <b>Environmental Management &amp; Monitoring</b> <ul style="list-style-type: none"> <li>Supply, installation, and configuration of Environmental Management System (EMS) including required sensors for: <ul style="list-style-type: none"> <li>Temperature, Humidity, Smoke, Power, and Water Leak detection.</li> </ul> </li> <li>Integration of EMS with AC, Power, and Fire Systems.</li> <li>Deployment, calibration, and testing of EMS components.</li> </ul>   | 1-Job |
| 8  | <b>Security &amp; Surveillance Systems</b> <ul style="list-style-type: none"> <li>Installation of 2 x Biometric Devices (Face Recognition, FPR and Card Reader), 2 x Door Locking Switches, Access Control System for controlled entry to Server and Power Rooms.</li> <li>Deployment of 8 x 4MP IP Camera, 8 Channel NVR, 4TB Surveillance Series, 8Port POE Switch, 2 x 42Inch Smart LED TV Display for CCTV Surveillance System with recording unit and LED Display Monitor.</li> </ul>   | 1-Job |
| 9  | <b>Networking</b> <ul style="list-style-type: none"> <li>Structured cabling and deployment of Network System for 16 Nodes, Corning Cat-6 24AWG Cable, 16 x Faceplate, Ios and Back Boxes, 16 x 1Meter Patch Cords, 16 x 3Meter Patch Cords, 24 port Loaded Patch Pannel, Cable Manager, 2 x 24Port Managed Layer 3 Switch including patch panels, network switches, and data points for the Server Room.</li> </ul>  | 1-Job |
| 10 | <b>Branded Online UPS 10 KVA (APC) with Synchronizing Module and 240V Battery Bank</b> <ol style="list-style-type: none"> <li><b>Type &amp; Brand:</b><br/>True Online Double Conversion UPS, branded <b>American Power Conversion (APC)</b> or equivalent international standard brand.</li> <li><b>Capacity:</b><br/>Rated output capacity of <b>10 KVA / 9 KW</b>, suitable for critical IT and server loads with pure sine wave output.</li> <li><b>Input &amp; Output Parameters:</b> <ul style="list-style-type: none"> <li>Input Voltage: 160–280 VAC (single phase) or 300–480 VAC (three phase)</li> <li>Output Voltage: 230 VAC <math>\pm</math> 1%, Frequency: 50 Hz <math>\pm</math> 0.1%</li> <li>Power Factor: <math>\geq</math> 0.9 (lagging)</li> <li>Transfer Time: Zero milliseconds</li> </ul> </li> <li><b>Battery Management System:</b><br/>Equipped with an <b>external dry battery bank (240 V DC)</b> providing <b>extended backup time (minimum 2–4 hours)</b>, with intelligent battery management and protection against overcharge/deep discharge.</li> </ol> | 1-Job |

**Data Center Setup: Scope of Work and Technical Specifications**

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|    | <p>5. <b>Synchronizing Module:</b><br/>Includes built-in <b>synchronizing module</b> for parallel operation, ensuring load sharing and redundancy between multiple UPS units.</p> <p>6. <b>Display &amp; Communication:</b><br/>LCD/LED display panel showing input/output voltage, frequency, load percentage, and battery status; communication via <b>USB/RS-232/SNMP</b> for remote monitoring and management.</p> <p>7. <b>Protections &amp; Standards:</b><br/>Provides full protection against overload, short circuit, surge, and over-temperature; compliant <b>ISO 9001</b> standards.</p>   |       |
| 11 | <p><b>Long Backup Uninterrupted Power Supply (UPS) System – Specifications</b></p> <p><b>1. Type:</b><br/>Online Double Conversion UPS (True Sine Wave Output)</p> <p><b>2. Capacity:</b><br/>20 kVA 3Phase Pure Sine Wave (as per load requirement)</p> <ul style="list-style-type: none"> <li>• Max Efficiency 98.7%</li> </ul> <p><b>3. Input Parameters:</b></p> <ul style="list-style-type: none"> <li>• Voltage: 300 – 480 VAC (three phase)</li> <li>• Frequency: 50 ± 5 Hz</li> <li>• Power Factor: ≥ 0.98 (input)</li> <li>• Surge Protection: Built-in EMI/RFI filter and surge suppressor</li> </ul> <p><b>4. Output Parameters:</b></p> <ul style="list-style-type: none"> <li>• Voltage: 230 VAC ± 1% (single phase)</li> <li>• Frequency: 50 Hz ± 0.1% (on inverter mode)</li> <li>• Max Output Current: 30.4 A / 28.9 A</li> <li>• Power Factor: 0.9 (lagging)</li> <li>• Output Waveform: Pure Sine Wave</li> <li>• Transfer Time: Zero (true online system)</li> </ul> <p><b>5. Battery Management System:</b><br/>Two (02) Power Banks Required having the following specifications</p> <ul style="list-style-type: none"> <li>• Type: Sealed Maintenance-Free (SMF) / Tubular Gel / Lithium-Ion (optional)</li> <li>• Backup Time: 4–8 hours (configurable based on battery bank size)</li> <li>• Battery Voltage: 48V (minimum)</li> <li>• Nominal Capacity: 280ah</li> <li>• Nominal Voltage [V]: 51.2</li> <li>• Battery Charger: Intelligent microprocessor-controlled with temperature compensation</li> <li>• Designed Life: 10 year</li> </ul> <p><b>6. Efficiency:</b></p> <ul style="list-style-type: none"> <li>• AC to AC Efficiency: ≥ 90%</li> <li>• Inverter Efficiency: ≥ 94%</li> </ul> | 1-Job |

**Data Center Setup: Scope of Work and Technical Specifications**

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|          | <p><b>7. Protections:</b></p> <ul style="list-style-type: none"> <li>• Overload and short-circuit protection</li> <li>• Battery overcharge and deep discharge protection</li> <li>• Surge and spike protection</li> <li>• Over-temperature shutdown with automatic recovery</li> </ul> <p><b>8. Display &amp; Monitoring:</b></p> <ul style="list-style-type: none"> <li>• LCD/LED Display for input/output voltage, load, battery status, and fault indicators</li> <li>• Audible alarms for fault, low battery, and overload conditions</li> <li>• Communication Interface: USB / RS-232 / SNMP (optional)</li> </ul> <p><b>9. Environmental Conditions:</b></p> <ul style="list-style-type: none"> <li>• Operating Temperature: 0°C – 45°C</li> <li>• Relative Humidity: 0 – 90% (non-condensing)</li> <li>• Noise Level: ≤ 50 dB</li> </ul> <p><b>10. Standards &amp; Compliance:</b></p> <ul style="list-style-type: none"> <li>• ISO 9001 Certified Manufacturer</li> </ul> <p><b>11. Physical:</b></p> <ul style="list-style-type: none"> <li>• Standalone Wall mount IP-65</li> <li>• Cooling: Forced air cooling with temperature-controlled fans</li> <li>• Enclosure: Powder-coated steel cabinet</li> </ul> <p><b>12. Optional Features:</b></p> <ul style="list-style-type: none"> <li>• External battery bank for extended backup</li> <li>• SNMP card for remote monitoring</li> <li>• Solar charging integration capability</li> </ul> |        |
| 12       | Supply, Installation, Testing & Commissioning of Electrical and Electronic Equipment   | 1-Job  |
| <b>B</b> | <b>Datacenter Active Equipment</b>   |        |
| 1        | <p><b>Servers Machines - 02 Units</b></p> <p><b>Technical Specifications</b></p> <p><b>Processor:</b></p> <ul style="list-style-type: none"> <li>• 2 × Intel Xeon Silver 4510 (2.4 GHz, 12 Cores / 24 Threads per CPU, 30 MB Cache, 16 GT/s, Turbo Boost, Hyper-Threading, 150W TDP)</li> <li>• Total: 24 Cores / 48 Threads</li> <li>• Supports DDR5 memory architecture</li> </ul> <p><b>Memory (RAM):</b></p> <ul style="list-style-type: none"> <li>• 64 GB RDIMM DDR5, 5600 MT/s (4 × 16 GB, Dual Rank, ECC Registered)</li> <li>• Expandable up to 1 TB</li> </ul> <p><b>Storage:</b></p> <ul style="list-style-type: none"> <li>• 5 × 1.2 TB SAS 10K RPM, 12 Gbps hot-swappable enterprise drives</li> <li>• Configurable in RAID 0/1/5/10 using integrated RAID controller</li> </ul>  | 2. Nos |

**Data Center Setup: Scope of Work and Technical Specifications**

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|   | <p><b>Storage Controller:</b></p> <ul style="list-style-type: none"> <li>PCIe Gen4 Hardware RAID Controller with 2 GB Cache and Battery/Flash Backed Write Cache (BBU/FBWC)</li> </ul> <p><b>Network Interface:</b></p> <ul style="list-style-type: none"> <li>Dual Port 1 GbE + Dual Port 10 GbE (RJ-45 / SFP+ configurable)</li> <li>Optional OCP 3.0 slot for additional NICs</li> </ul> <p><b>Power Supply:</b></p> <ul style="list-style-type: none"> <li>Dual Redundant 800W Hot-Pluggable Power Supplies (80 Plus Platinum Certified)</li> </ul> <p><b>Chassis:</b></p> <ul style="list-style-type: none"> <li>2U Rack-mountable Server Chassis with tool-less design and hot-swap drive bays</li> </ul> <p><b>Cooling:</b></p> <ul style="list-style-type: none"> <li>Intelligent redundant cooling fans with thermal management</li> </ul> <p><b>Optional Features:</b></p> <ul style="list-style-type: none"> <li>iDRAC / iLO Remote Management Module (Web-based remote monitoring &amp; control)</li> <li>TPM 2.0 Security Module</li> </ul> <p><b>Operating System Compatibility:</b></p> <ul style="list-style-type: none"> <li>Supports Windows Server 2022, Red Hat Enterprise Linux, Ubuntu Server, VMware ESXi, and other major server OS platforms</li> </ul> |        |
| 2 | <p><b>High-Performance Server Machines - 02 Units</b></p> <p><b>Technical Specifications</b></p> <p><b>Processor:</b></p> <ul style="list-style-type: none"> <li><b>2 × Intel® Xeon® Gold 5418Y</b> (2.0 GHz base frequency, 24 Cores / 48 Threads per CPU)</li> <li><b>Total:</b> 48 Cores / 96 Threads</li> <li>16 GT/s bus speed, 45 MB Intel Smart Cache</li> <li>Supports Intel Turbo Boost, Hyper-Threading, and Virtualization Technologies</li> <li>TDP: 185W (Performance-optimized)</li> </ul> <p><b>Memory (RAM):</b></p> <ul style="list-style-type: none"> <li><b>8 × 32 GB RDIMM DDR5</b>, 5600 MT/s, Dual Rank ECC Registered</li> <li><b>Total Installed Memory:</b> 128 GB</li> <li>Scalable up to 2 TB (depending on configuration and motherboard support)</li> </ul> <p><b>Primary Storage:</b></p> <ul style="list-style-type: none"> <li><b>2 × Intel Enterprise SSD D3-S4520 Series – 960 GB</b>, 2.5" SATA 6Gb/s, 3D TLC NAND<br/>(Configured for Operating System and Critical Applications – RAID 1)</li> </ul> <p><b>Secondary Storage:</b></p> <ul style="list-style-type: none"> <li><b>5 × Intel Enterprise SSD D3-S4520 Series – 1.92 TB</b>, 2.5" SATA 6Gb/s, 3D TLC NAND</li> </ul>   | 2. Nos |

**Data Center Setup: Scope of Work and Technical Specifications**

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|   | <p><i>(Configured for Data Storage and Virtual Machine Repositories – RAID 5/10)</i></p> <p><b>Storage Controller:</b></p> <ul style="list-style-type: none"> <li>• Hardware RAID Controller supporting RAID 0/1/5/6/10 with 2 GB Cache and Battery Backup Unit (BBU)</li> </ul> <p><b>Network Interface:</b></p> <ul style="list-style-type: none"> <li>• Dual Port 10GbE + Dual Port 1GbE (RJ-45/SFP+), supporting teaming and redundancy</li> <li>• Optional OCP 3.0 slot for additional network expansion</li> </ul> <p><b>Power Supply:</b></p> <ul style="list-style-type: none"> <li>• Dual Hot-Pluggable Redundant Power Supplies, 800W each, 80 Plus Platinum Certified</li> </ul> <p><b>Chassis:</b></p> <ul style="list-style-type: none"> <li>• 2U RackmountForm Factor, Hot-Swappable Drive Bays, Tool-less Access Design</li> </ul> <p><b>Cooling System:</b></p> <ul style="list-style-type: none"> <li>• Intelligent, Redundant High-Performance Fans with Dynamic Thermal Control</li> </ul> <p><b>Management Features:</b></p> <ul style="list-style-type: none"> <li>• Integrated Remote Management Controller (e.g., iDRAC / iLO / XClarity)</li> <li>• Remote power management, monitoring, and firmware update capabilities</li> </ul> <p><b>Operating System Compatibility:</b></p> <ul style="list-style-type: none"> <li>• Fully compatible with <b>Windows Server 2022</b>, <b>Red Hat Enterprise Linux</b>, <b>Ubuntu Server LTS</b>, and <b>VMware ESXi</b> environments</li> </ul> |      |
| 3 | <p><b>SAN Storage (24-Bay) – 01 Unit</b></p> <p><b>Technical Specifications</b></p> <ol style="list-style-type: none"> <li>1. <b>Controller &amp; Processor:</b><br/>Dual Active-Active Controllers with Intel® Xeon® Processors and minimum 32 GB cache per controller.</li> <li>2. <b>Connectivity:</b><br/>Minimum <b>16 Gbps Fibre Channel Ports</b> (4 Nos) with optional 10/25 GbE iSCSI support.</li> <li>3. <b>Drive Configuration:</b> <ul style="list-style-type: none"> <li>○ 24 × 2.5" Hot-Plug Drive Bays</li> <li>○ 8 × 1.92 TB Enterprise SSDs (SAS, 24 Gbps, 512e) installed</li> <li>○ Support for All-Flash, Hybrid, or HDD configurations</li> </ul> </li> <li>4. <b>Performance &amp; Protection:</b> <ul style="list-style-type: none"> <li>○ RAID 0/1/5/6/10 supported</li> <li>○ Snapshot, Cloning, and Thin Provisioning</li> <li>○ Data Deduplication and Compression</li> <li>○ Synchronous/Asynchronous Replication</li> </ul> </li> <li>5. <b>Management &amp; Compatibility:</b> <ul style="list-style-type: none"> <li>○ Web-based Management Console</li> </ul> </li> </ol>  | 1.No |

**Data Center Setup: Scope of Work and Technical Specifications**

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|   | <ul style="list-style-type: none"> <li>○ Integration with VMware, Hyper-V, and Linux/Windows Servers</li> </ul> <p><b>6. Power &amp; Redundancy:</b></p> <ul style="list-style-type: none"> <li>○ Dual Hot-Swappable Power Supplies (80 Plus Platinum)</li> <li>○ Redundant Cooling Fans</li> </ul>   |       |
| 4 | <p><b>Rack Cabinet (42U) – 01 Unit</b></p> <p><b>Technical Specifications</b></p> <ol style="list-style-type: none"> <li><b>1. Rack Enclosure:</b> <ul style="list-style-type: none"> <li>○ 42U Standard Server Rack, 19-inch width, heavy-duty steel construction.</li> <li>○ Front and rear perforated doors with lock and ventilation.</li> <li>○ Removable side panels for easy access.</li> <li>○ Cable management channels and adjustable mounting rails.</li> </ul> </li> <li><b>2. KVM Console:</b> <ul style="list-style-type: none"> <li>○ Integrated <b>17-inch LCD Display</b> with <b>8-Port KVM Switch</b>.</li> <li>○ Compatible with multiple server platforms (USB/VGA/HDMI).</li> <li>○ Slide-out drawer design with keyboard and touchpad.</li> </ul> </li> <li><b>3. Power Distribution Units (PDUs):</b> <ul style="list-style-type: none"> <li>○ Dual Vertical PDUs (minimum 8 outlets each).</li> <li>○ 230V AC input, surge protection, and circuit breaker included.</li> </ul> </li> <li><b>4. Cooling &amp; Safety:</b> <ul style="list-style-type: none"> <li>○ Provision for top/bottom fan unit or external cooling integration.</li> <li>○ Proper earthing and grounding points provided.</li> </ul> </li> </ol> | 1.No  |
| 5 | <p><b>Fiber Channel Switch for SAN Storage – 02 Unit</b></p> <p><b>Technical Specifications</b></p> <ol style="list-style-type: none"> <li><b>1. Type &amp; Form Factor:</b> <ul style="list-style-type: none"> <li>○ Enterprise-grade <b>Fiber Channel Switch</b>, rack-mountable (1U).</li> <li>○ Non-blocking architecture with high throughput and low latency.</li> </ul> </li> <li><b>2. Ports &amp; Speed:</b> <ul style="list-style-type: none"> <li>○ Minimum <b>24 Ports</b>, auto-sensing <b>16/32 Gbps Fiber Channel</b>.</li> <li>○ At least <b>8 Ports licensed and active</b>, scalable up to all 24 ports.</li> </ul> </li> <li><b>3. Connectivity &amp; Compatibility:</b> <ul style="list-style-type: none"> <li>○ Compatible with leading SAN Storage and Server Systems (Dell EMC, HPE, Lenovo, NetApp, etc.).</li> <li>○ Supports <b>Zoning, NPIV, and Fabric Services</b>.</li> </ul> </li> <li><b>4. Management:</b></li> </ol>  | 2.Nos |

**Data Center Setup: Scope of Work and Technical Specifications**

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|   | <ul style="list-style-type: none"> <li>○ Web-based GUI, CLI, and SNMP management interfaces.</li> <li>○ Support for Fabric OS or equivalent enterprise switch OS.</li> </ul> <p><b>5. Redundancy &amp; Power:</b></p> <ul style="list-style-type: none"> <li>○ Dual hot-swappable power supplies and cooling fans.</li> <li>○ 100–240V AC, 50/60Hz auto-ranging input.</li> </ul> <p><b>6. Performance &amp; Reliability:</b></p> <ul style="list-style-type: none"> <li>○ Switching bandwidth <math>\geq</math> 512 Gbps aggregate.</li> <li>○ Latency <math>&lt;</math> 1 microsecond.</li> <li>○ Support for redundant fabrics and trunking.</li> </ul> <p><b>7. Accessories &amp; Mounting:</b></p> <ul style="list-style-type: none"> <li>○ Rackmount kit, power cords, and required transceivers (SFP+ 16/32 Gbps) included.</li> </ul>   |       |
| 6 | <p><b>Managed Data Switch – 24 Port, Layer 3 – 02 Units (Cisco or Equivalent)</b></p> <p><b>Technical Specifications</b></p> <ol style="list-style-type: none"> <li><b>1. Type &amp; Form Factor:</b> <ul style="list-style-type: none"> <li>○ Fully Managed <b>Layer 3 Gigabit Ethernet Switch</b>, rack-mountable (1U).</li> <li>○ Enterprise-grade performance and reliability.</li> </ul> </li> <li><b>2. Ports &amp; Speed:</b> <ul style="list-style-type: none"> <li>○ <b>24 x 10/100/1000 Mbps RJ-45 ports</b> (auto-sensing).</li> <li>○ Minimum <b>4 x SFP/SFP+ uplink ports</b> (1G/10G).</li> </ul> </li> <li><b>3. Switching Capacity &amp; Performance:</b> <ul style="list-style-type: none"> <li>○ Switching capacity <math>\geq</math> 128 Gbps.</li> <li>○ Forwarding rate <math>\geq</math> 95 Mpps.</li> <li>○ Latency <math>&lt;</math> 2 microseconds.</li> </ul> </li> <li><b>4. Layer 3 Features:</b> <ul style="list-style-type: none"> <li>○ Static and Dynamic Routing (RIP, OSPF, VRRP).</li> <li>○ VLANs, Inter-VLAN Routing, Access Control Lists (ACLs).</li> <li>○ DHCP Snooping, IGMP Snooping, and QoS support.</li> </ul> </li> <li><b>5. Management &amp; Security:</b> <ul style="list-style-type: none"> <li>○ Managed via Web GUI, CLI (SSH/Telnet), and SNMP v1/v2/v3.</li> <li>○ IEEE 802.1X authentication, port security, and RADIUS/TACACS+ support.</li> </ul> </li> <li><b>6. Power &amp; Reliability:</b> <ul style="list-style-type: none"> <li>○ Dual redundant internal/external power supply (optional).</li> <li>○ Fanless or low-noise cooling design for continuous operation.</li> </ul> </li> <li><b>7. Compatibility:</b></li> </ol> | 2.Nos |

**Data Center Setup: Scope of Work and Technical Specifications**

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|   | <ul style="list-style-type: none"> <li>○ Supports integration with major network vendors (Cisco, HPE, Dell, etc.).</li> <li>○ Compatible with existing data center and SAN network architecture.</li> </ul>  |       |
| 7 | <p><b>Next-Generation Firewall for Data Center – 02 Units</b></p> <p><b>Technical Specifications</b></p> <ol style="list-style-type: none"> <li>1. <b>Type &amp; Performance:</b> <ul style="list-style-type: none"> <li>○ Enterprise-grade <b>Next-Generation Firewall (NGFW)</b>.</li> <li>○ Throughput: <math>\geq 20</math> Gbps for firewall traffic.</li> <li>○ Threat prevention throughput: <math>\geq 10</math> Gbps.</li> <li>○ Concurrent sessions: <math>\geq 2</math> million.</li> </ul> </li> <li>2. <b>Interfaces:</b> <ul style="list-style-type: none"> <li>○ Minimum <b>8 x 1/10G SFP/SFP+ interfaces</b>.</li> <li>○ Support for <b>high-availability (HA)</b> configurations (Active/Active, Active/Standby).</li> </ul> </li> <li>3. <b>Security Features:</b> <ul style="list-style-type: none"> <li>○ Stateful inspection, Intrusion Prevention System (IPS/IDS).</li> <li>○ Application visibility and control (AVC).</li> <li>○ URL filtering, malware protection, and sandboxing integration.</li> <li>○ SSL/TLS decryption and inspection support.</li> </ul> </li> <li>4. <b>VPN Capabilities:</b> <ul style="list-style-type: none"> <li>○ Support for <b>IPSec and SSL VPN</b> for site-to-site and remote access.</li> <li>○ Hardware-based crypto acceleration.</li> </ul> </li> <li>5. <b>Management &amp; Monitoring:</b> <ul style="list-style-type: none"> <li>○ Centralized management via <b>Web GUI, CLI, and SNMP</b>.</li> <li>○ Integration with <b>Security Management Center or Cloud Management Platform</b>.</li> <li>○ Log collection and analytics support (Syslog, NetFlow, etc.).</li> </ul> </li> <li>6. <b>Reliability &amp; Redundancy:</b> <ul style="list-style-type: none"> <li>○ Dual power supplies (redundant).</li> <li>○ Hot-swappable components and failover capability.</li> </ul> </li> <li>7. <b>Certifications &amp; Compliance:</b> <ul style="list-style-type: none"> <li>○ Must comply with <b>NIST/FIPS 140-2</b> and <b>Common Criteria</b> standards.</li> </ul> </li> </ol> | 2.Nos |