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Kerala Co-operative Milk Marketing Federation Ltd.

Milma Bhavan, Pattom Palace P.O., Thiruvananthapuram - 695004

E- Tender Reference No. KCMMF/KHO/SYS/11H/2024-25 dated
12/03/2025

Work: Supply & Installation of Server computer, SAN storage and Accessories at KCMMF Head Office.

Cover - I : Conditions of Tender & Pre- Qualification Bids
Cover - II : Price schedule, AMC (BOQ)

MANAGING DIRECTOR
KCMMF LTD.

KCMMF invites e-Tender for the Supply, Installation, testing and maintenance (during warranty period) of Server computer, SAN storage and Accessories at KCMMF Head Office as per the specification and details given below on immediate delivery basis. Bidders, who are interested to participate in the e-tender, should have valid Digital Signing Certificate and with this Digital Signing Certificate, they must have enrolled in the web site; www.etenders.kerala.gov.in as bidder. Help Desk No – 0471-2577088, 0471-25577188.

- E-Tender document Fee** : **1180/-**
- EMD Amount** : **25,000/- ((Rupees Twenty Five Thousand only)** EMD shall be made only through NEFT to be paid online as prescribed in the e tender portal. In order to avoid Payment failure, the EMD amount should be remitted in advance at least 72 hours before the tender closing date through NEFT as prescribed in the e-Tender website www.etenders.kerala.gov.in
- Date of Publish** : **12.03.2025**
- Bid Submission start date** : **12.03.2025**
- Clarification Start date** : **12.03.2025**
- Clarification end date** : **21.03.2025**
- Bid submission closing date** : **21.03.2025**
- Date of opening (technical bid)** : **22.03.2025**
- Bid validity** : **90 days**

A. Prequalification - Documents to be uploaded: -

Online Cover I

1. Scanned copy of PAN Card
2. Scanned copy of income tax returns filed for last three years.
3. Copy of audited P&L statement and balance sheet for the past three years
4. Details of previous contract executed and on hand along with address of clients, contact person, contact number, e-mail ID etc.
5. Details of service network available in Kerala
6. Commitment of single source responsibility in the Company's letterhead.
7. The bidder need to have minimum 5 years experience in dealing with IT product sales (attach copy of proof)
8. The Bidder needs to have GST registration (attach supporting documents like GST Registration Certificate).
9. Bidder need to Submit Manufacturer Authorisation Form (MAF) from OEM specific to Milma Tender for the items 2 to 8 listed in BOQ. (Mobile number and email address of the OEM contact person to be mentioned in form V). The qualified bidder has to submit OEM warranty letter confirming 3 Years OEM Warranty after the supply of materials.

(Attach scanned copies of all the above items mentioned above)

B. Online Cover II

- Price bid in the prescribed form available in the website www.etenders.kerala.gov.in as BOQ(Bill of Quantities).

The tenderer should duly sign with seal on all the pages of the tender documents before scanning and uploading.

Tenderers alone will be responsible for submission of defective tenders and such tenders are liable to be summarily rejected.

A. GENERAL INSTRUCTIONS

1. Name of Work: -

Kerala Co-operative Milk Marketing Federation Ltd invites e-tenders for Supply, Installation, testing and maintenance (during warranty period) of Server computer, SAN storage and Accessories at KCMMF Head Office. Firm/company declared ineligible to participate for corrupt, fraudulent practices or any other unethical business practices by Goal or any other State Government/ Co-operative Societies shall not be eligible during the period for which such ineligibility is declared

- 2.** For participation in this e-tender, prospective bidders are required to register themselves at the e-tendering portal. (Bidders may avail training for online e-tendering as per instructions available on e-tender web site)
- 3.** For detailed information on the e-tendering website and the procedures to be followed for downloading documents, modes of payment etc., please refer to the website www.etenders.kerala.gov.in
- 4.** The warranty period for the item supplied as specified in the form VI.
- 5. Submission of Tender:** Bidders shall submit their bids online through the portal www.etenders.kerala.gov.in only. Bids will not be accepted by any other mode.
- 6.** Documents shall be scanned and uploaded through e-tendering website within the period of tender submission.
- 7.** Bids and associated correspondence shall be written in English and shall conform to the prescribed formats. Any interlineations, erasures or over writings must be initialed by the authorised person signing the Bid.
- 8.** The KCMMF reserves the right to accept or reject in part or full any or all the offers without assigning any reasons thereof.
- 9.** Bid documents received without document/bid fee and EMD shall be rejected. No concession in Tender Fee and EMD for any type of bidders.
- 10.** Payment for document fee and processing fee are to be made online through the e-payment gateway of the portal prior to submission of bids as per details given in the bid data sheet.
- 11.** Bidders are expected to carefully examine all the instructions, guidelines, terms and conditions and formats of the tender. Failure to furnish necessary information as required in the Tender document or submission of a bid not substantially responsive, to all the requirements of the Tender document may lead to rejection of bids.
- 12.** Bidders shall submit their bid through e-tendering website on or before the last date and the time of submission of bids as per bid data sheet. It is advised that bidders may submit their bid well in advance of

the stipulated time so as to avoid last minute hiccups. No queries will be entertained on the last day of tender submission.

13. Any printing or typographical errors / omission in tender document shall be referred to the KCMMF and their interpretation regarding correction shall be final and binding on Service Provider.
14. Prices quoted shall be final and inclusive of all taxes, Delivery, Installation, Testing, maintenance (during warranty period) etc.
15. The tenders will be evaluated based on the total all-inclusive firm price quoted for all the items taken together in BOQ.
16. No price negotiation will be carried out with any bidder. Purchase order shall be issued on lowest responsive bidder. (Considering the buyback values also)
17. Any software licenses supplied shall be genuine, perpetual, full use.
18. KCMMF shall not be liable to pay any extra cost due to rise in the prices of materials costs once the purchase order is placed on selected bidder.
19. The bidder should quote for all items specified in the price bid, else bid will be treated as incomplete and will stand invalid.
20. The specifications stated in form VI for all items are the minimum configuration required. Vendors can offer higher configuration. The cost evaluation will be made on the basis of the minimum configuration specified in the tender form.
21. Once approved by the KCMMF LTD, no further change in specifications will be allowed. However, higher configuration may be accepted without compromising the minimum configuration specified in this tender document. Any deviation from finalized specifications shall be with the approval of the competent authority i.e. the Managing Director of KCMMF LTD.
22. KCMMF Ltd may install licensed versions of standard or custom made application software for equipment procured under this contract.
23. **Compatibility:** - The components as per technical specifications above are to work together compatibly interconnected. The equipment should be capable of working in networked environment with other equipment in the concerned Units.
24. The tenderer shall also give a declaration of single source of responsibility of support & spares of all equipment and peripherals offered by them to the KCMMF LTD on their Company letterhead.

25. The licenses if any for the installation of the systems should be in the name of Managing Director, KCMMF, Trivandrum.
26. **Payment terms:** Payment of 95% of the total price of the material supplied in good working condition, with taxes and duties (in full) freight and insurance (in full) will be made on request after installation, commissioning and testing and acceptance of the items as indicated in the order as per delivery schedule. Balance 5% will be paid on production of Bank Guarantee equivalent to 5% of the total contract value from a Nationalized or Scheduled Bank for the warranty period or after the successful completion of the warranty period without any interest.
27. **Taxes:** During the currency of the supply period the price shall remain firm, however, any increase in statutory levies shall be paid on production of documentary evidence and similarly in case of decrease in levies suitable adjustments shall be made while effecting payment.
28. **Delivery:** Eight weeks from the placement of purchase order by KCMMF.
29. **Legal Jurisdiction:** All Legal disputes between the parties shall be subject to jurisdiction of the courts situated in Trivandrum, Kerala state only.
30. **Force Majeure:** The successful tenderer shall not be liable or deemed to be default of any delay or failure in performance stated herein resulting directly or indirectly from causes beyond his reasonable control. If the successful tenderer is prevented from performing their function under the instrument for a period longer than 6 months due to fire, theft, earthquake, flood, accidents, riots, natural calamities, etc., the successful tenderer's liability ceases. Then both the parties shall discuss the course of action to be taken afterwards.
31. The warranty shall continue to be in force even if the location of equipment is changed.
32. Annual Maintenance Contract (AMC): - Rates (annual) for the AMC after the expiry of warranty period shall be quoted in the BOQ / Price bid (Excluding taxes). This will be considered as a part of the tender. Tenders quoted without the maintenance charges are liable to be summarily rejected. The tenderer should clearly indicate yearly AMC charges 1st, 2nd, 3rd year separately in the BOQ for the items 2, 3 and 6 in the items in BOQ.

DELIVERY / BILLING ADDRESS

Supply, installation, testing and maintenance (during warranty period) of Server computer, SAN storage and Accessories at KCMMF Head Office.

Delivery / Billing Address: Managing Director, Kerala Co-operative Milk Marketing Federation Ltd., Pattom P.O., Thiruvananthapuram-695004. Contact Person: System Officer (MIS & Systems). Contact No. 0471-2786419,420 GST NO. 32AAAK5375M3ZE

FORM – I

KERALA CO-OPERATIVE MILK MARKETING FEDERATION LTD

Supply, Installation, testing and maintenance (during warranty period) of Server Computer, SAN storage and Accessories at KCMMF Head Office. I/We confirm that to the best of our knowledge this information is authentic and accept that any deliberate concealment will amount to disqualification at any stage.

Sl.No.	Description	Compliance (Yes/No)
1. Name of the firm		
2. Name of the Proprietor, Partners/Directors		
A (Mobile No.)		
B (Mobile No.)		
3. Office Telephone Numbers		
a)		
b)		
4. Office Address (Bidder need to have office in Kerala)		
5. E-Mail Address		
6. Year of Establishment		
7. Status of Firm (Proprietor/ Partnership/ Company etc)		
8. Name of Bankers		
a)		
b)		
9. Copy of PAN Card		
10. Scanned copy of Income Tax returns filed for last three years		
11. Scanned copy of audited P&L statement and balance sheet for the past three years		
12. Details of previous contract executed		

13. Service networks available in Kerala		
14. Single source responsibility in company letter head		
15. 5 years experience dealing with IT products		
16. MAF from Server Computer OEM		
17. MAF from SAN Storage OEM		
18. MAF from OFC Patch Cord LC-LC Multimode OM4 (5m)		
19. MAF from OFC Patch Cord LC-LC Multimode OM4 (3m)		
20. MAF from Core Switch		
21. MAF from 10G SFP+ LC SR MM Transceiversfor Core Switch (For Item No:5)		
22. MAF from 10G SFP+ LC SR MM Transceivers for existing HPE 5130 Switch		
23. Copy of GST Registration Certificate		
24. Declaration		
25. Whether all the items in the tenders are quoted?		

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

FORM II
UNDERTAKING

I/We,.....

hereby agree to adhere to the conditions of Managing Director, Kerala Cooperative Milk Marketing Federation Ltd regarding Delivery, installation, testing and maintenance (during warranty period) Guarantee and payment mentioned in this tender document.

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

FORM III

KEY TECHNICAL PERSONNEL IN KERALA STATE

Sl. No.	Name	Designation	Qualification	Experience in Years	Location

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

FORM IV

LIST OF MAJOR CLIENTS IN THE STATE OF KERALA

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

FORM V

LIST OF MAF SUBMITTED

BOQ Item No	MAF Submitted (Yes/No)	Email id of the person who issued the MAF for verification	Contact Name & phone number of the person who issued the MAF for verification
2			
3			
4			
5			
6			
7			
8			

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

FORM – VI

GUARANTEED TECHNICAL PARTICULARS OF THE PRODUCTS QUOTED

1-DATABASE SERVER – 1 No.		
BRAND PREFERRED: HPE / IBM / FUJITSU		
Feature	Description	Compliance Yes/No
Make (Brand)		
Model		
Chassis	2U Rack Mountable	
CPU	Populated with 2 x Intel Xeon-Gold 5416S 2.0GHz 16-core 150W Processor	
Chipset	Intel® C741 Chipset or better	
Memory	32DIMM slots. 8 x 32 GB DIMMS scalable up to 8.0TB using DDR5 Registered DIMM (RDIMM) operating at 4800 MT/s	
Bus Slots	Server should support upto eight PCI-Express 5.0 x16 slots. Additional two x8 or higher PCIe 5.0 slots	
Hard disk drive	Should support 8 SFF HDD/SSD Populated with 2 x 960GB SATA 6G Read Intensive SFF BC Multi-Vendor SSD	
Controller	PCIe based RAID controller with 4GB Flash backed write cache supporting RAID 0, 1, 5, 6, 10, 50, 60 s Must support mix-and-match SAS, SATA, and NVMe drives to the same controller. Controller must support 6G SATA, 12G SAS, 16G NVMe. Above mentioned controller must support following : 1. Hardware root of trust and secure encryption and decryption of critical drive data 2. Online Capacity Expansion (OCE) 3. Configurable stripe size up to 1 MB 4. Global and dedicated Hot Spare with Revertible Hot 5. Instant Secure Erase 6. Migrate RAID/Stripe Size 7. Modifying Cache Write Policy 8. Move Logical Drive 9. Re-enable Failed Logical Drive	
Storage Controller	16Gb Dual Port Fibre Channel Host Bus Adapter	
Networking features	Server should support below networking cards: 1. 1Gb 4-port network adaptors 2. 10Gb 2-port Ethernet adaptor 3. 10GBaseT 2-port Ethernet adaptor 4. 10/25Gb 2-port SFP28 Ethernet adaptor 5. 10/25Gb 4-port SFP28 Ethernet adaptor 6. 100Gb 2-port QSFP28 Ethernet 7. 100Gb 1-port QSFP56 Ethernet 8. 100Gb 2-port QSFP56 Ethernet 9. 200Gb QSFP56 Ethernet Infiniband Options: 100Gb or 200Gb Single or Dual port Adapter	
Networking Interface	Ethernet 10Gb 2-Port SFP+ Adapter with MM LC SR Transceivers	
Interfaces	Serial - 1 (Optional) USB support with Up to 5 total: 1 front, 2 rear, 2 internal. 1GbE Dedicated management port	
Power Supply	Should support hot plug redundant low halogen power supplies with minimum 94% efficiency	
Fans	Redundant hot-plug system fans	
Industry Standard Compliance	ACPI 6.3 Compliant PCIe 5.0 Compliant	

	<p>WOL Support Microsoft® Logo certifications PXE Support Energy Star SMBIOS 3.2 UEFI 2.7 Redfish API IPMI 2.0 Secure Digital 4.0 Advanced Encryption Standard (AES) Triple Data Encryption Standard (3DES) SNMP v3 TLS 1.2 DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP) Active Directory v1.0 ASHRAE A3/A4</p>	
System Security	<p>UEFI Secure Boot and Secure Start support Tamper-free updates - components digitally signed and verified Immutable Silicon Root of Trust Ability to rollback firmware FIPS 140-2 validation Secure erase of NAND/User data Common Criteria certification TPM (Trusted Platform Module) 1.2 option Configurable for PCI DSS compliance TPM (Trusted Platform Module) 2.0 option Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser Bezel Locking Kit option Support for Commercial National Security Algorithms (CNSA) Chassis Intrusion detection option Secure Recovery - recover critical firmware to known good state on detection of compromised firmware</p>	
Operating Systems and Virtualization Software Support	<p>Windows Server. Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) VMware ESXi. Canonical Ubuntu Oracle Linux and Oracle VM Citrix</p>	
Provisioning	<p>1. Should support tool to provision server using RESTful API to discover and deploy servers at scale 2, Provision one to many servers using own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell</p>	
Firmware security	<p>1. For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable 2. Should maintain repository for firmware and drivers recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware</p>	

<p>Embedded Remote Management and firmware security</p>	<ol style="list-style-type: none"> 1. System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication 2. Server should have dedicated 1Gbps remote management port 3. Server should have storage space earmarked to be used as a repository for firmware, drivers and software components. The components can be organized in to install sets and can be used to rollback/patch faulty firmware 4. Server should support agentless management using the out-of-band remote management port 5. The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur 6. Two factor Authentication 7. Local or Directory-based user accounts with Role based access control 8. Remote console sharing upto 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality. Should provide support for Java free graphical remote console. 9. Should support managing multiple servers as one via <ul style="list-style-type: none"> Group Power Control Group Power Capping Group Firmware Update Group Configuration Group Virtual Media and Encrypted Virtual Media Group License Activation 10. Should support RESTful API integration 11. System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support 12. Server should have security dashboard : displaying the status of important security features, the Overall Security Status for the system, and the current configuration for the Security State and Server Configuration Lock features. 13. One-button Secure Erase designed to decommission/repurpose servers 14. NVMe wear level display 15. Workload Performance Advisor - Provides server tuning recommendations to improve server performance 	
<p>Server Management</p>	<p>Software should support dashboard view to quickly scan the managed resources to assess the overall health of the data center. It should provide an at-a-glance visual health summary of the resources user is authorized to view.</p> <p>The Dashboard minimum should display a health summary of the following:</p> <ul style="list-style-type: none"> • Server Profiles • Server Hardware • Appliance alerts <p>The Systems Management software should provide Role-based access control</p> <p>Zero Touch Provisioning (ZTP) using SSDP with remote access</p> <p>Management software should support integration with popular virtualization platform management software like Vmware vCenter & vRealize Operations, and Microsoft System Center & Admin Center</p> <p>Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD.</p> <p>Should provide an online portal that can be accessible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contracts and status. The Portal should also provide a personalised dashboard to monitor device health, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be available on premise (at our location - console based) or off premise (in the cloud).</p> <p>Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.</p> <p>Should have dashboard for firmware baselines while performing minimum required firmware checks and highlighting out-of-compliance devices for updates</p>	

	with the selected firmware baseline	
	The Server Management Software should be of the same brand as of the server supplier.	
Cloud Enabled Monitoring and Management	<ol style="list-style-type: none"> 1. Secure connection from customer sites to cloud service 2. Unified Identity & Access Management 3. Manages and controls servers regardless of physical location 4. Subscription-based entitlement 5. Efficient Device Onboarding 6. Firmware Update Awareness with Intelligent delta-only based updates 7. Set Group firmware Baseline and Compliance monitoring and notification 8. Group based firmware management that can be scheduled or on-demand 9. Remote Site management with low bandwidth/high latency network connectivity 10. Role-based access and views for managed customer environments 11. GUI and Rest APIs for core features 	
Warranty	Three Years onsite OEM Warranty	

2 - SAN STORAGE – 1 No.		
BRAND PREFERRED: BRAND PREFERRED: HPE / IBM / FUJITSU		
Feature	Description	Compliance Yes/No
Make (Brand)		
Model		
Operating System & Clustering Support	<ol style="list-style-type: none"> 1. The storage array should support industry-leading Operating System platforms including: Windows 2016 / 2019 / 2022, VMware and Linux. 2. Offered Storage Shall support all above operating systems in Clustering. 	
Capacity & Scalability	<ol style="list-style-type: none"> 1. The Storage Array shall be offered with 11 Nos. of 960GB SAS 12G Read Intensive SFF (2.5in) M2 Drives 2. For effective power saving, Storage subsystem shall be supplied with 2.5" Small form factor SFF drives however storage subsystem shall also support LFF drives with the addition of required disk enclosures. 3. Storage shall be scalable to minimum of 240 number of SAS SFF drives. 	
Front-end Ports & Back-end Ports	<ol style="list-style-type: none"> 1. Offered Storage system shall be supplied with 4 * 16 Gbps, 4 ports per controller 2. Offered storage system shall support 12G SAS Back-end connectivity. 	
Architecture	The storage array should support dual, redundant, hot-pluggable, active-active array controllers for high performance and reliability	
No Single point of Failure	Offered Storage Array shall be configurable in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc.	
Disk Drive Support	<ol style="list-style-type: none"> 1. Storage system shall support Enterprise SAS spinning drives, SSD and near line SAS / 7.2K RPM drives. 2. Offered storage array shall also have support for FIPS 140-2 validating self-encrypted drives. 	
Cache	<ol style="list-style-type: none"> 1. Offered Storage Array shall be given with Minimum of 12GB cache per controller in a single unit. 2. Cache shall be backed up in case of power failure for indefinite time either using batteries or capacitors or any other equivalent technology. 3. Offered Storage shall also have optional support for Flash cache using SSD / Flash drives. Offered storage shall support at-least 8TB Flash Cache. 4. Offered Flash cache shall be tuned for random read operations and shall remain activated even at less than 70% of random average read workload. 	
Raid Support	<ol style="list-style-type: none"> 1. Offered Storage Subsystem shall support Raid 1 , 10, 5 and Raid 6 2. All Raid Sets shall support thin provisioning. Vendor shall offer the license of thin provisioning for complete supported capacity of the array. 3. Thin provisioning shall be supported with offered Flash Cache. 4. Raid processing shall be offloaded to a dedicated ASIC instead of CPU. In case vendor is not supporting it then vendor shall ensure that additional 12GB cache per controller is configured to offset the raid processing workload. 	

Point in time and clone copy	<ol style="list-style-type: none"> Offered Storage array shall be configured with array based Snapshot and clone functionality and shall be configured for minimum of 512 snapshot licenses. Offered Storage array shall support at-least 512 point in time copies (Snapshots) and 128 volume / Clone copies 	
Replication	<ol style="list-style-type: none"> Offered storage subsystem shall support storage based replication to DR location. License for maximum supported capacity of the array shall be offered. Offered storage subsystem shall support replication to multiple storage array of the same family in fan-out mode. At least 1:4 mode shall be supported. 	
Virtualization and Thin provisioning	<ol style="list-style-type: none"> Offered storage shall be offered and configured with virtualization capability so that a given volume can be striped across all spindles of given drive type within a given disk pool. Disk pool shall support all listed raid sets of Raid 1, Raid 10, Raid 5 and Raid 6. Offered Storage shall be offered and configured with Thin Provisioning capability. 	
Data Tiering	Offered Storage shall also be configured for Sub-Lun Data tiering in real time fashion across different type of drives within a given pool like SSD, SAS, NL-SAS etc. License shall be configured for maximum supported capacity of the array.	
Global and dedicated Hot Spare	<ol style="list-style-type: none"> Offered Storage Array shall support Global hot Spare for offered Disk drives. At least 2 Global hot spare drive shall be configured for every 30 drives. Offered storage array shall have the support for distributed hot spare 	
Logical Volume & Performance	<ol style="list-style-type: none"> Storage Subsystem shall support minimum of 512 Logical Units. Storage Array shall also support creation of more than 120TB volume at controller level. Offered Storage shall have inbuilt performance management software. Configuration Dashboard shall show overall IOPS and MB/sec performance. 	
Load Balancing & Multi-path	Multi-path and load balancing software shall be provided, if vendor does not support MPIO functionality of Operating system.	
Performance	Offered storage shall have listed benchmark for performance of more than 250,000 in Raid 5 using appropriate drives at 8k block size. Vendor shall provide documentary proof for it.	
Array Integration	Offered storage array shall have plug-in for VMware VCenter, Microsoft System center as well as vStorage APIs (VAAI) for array integration.	
Warranty	Three Years onsite OEM Warranty	

3 - OFC Patch Cord LC-LC Multimode OM4 (5m) - 2 Nos.	
BRAND PREFERRED: Same as the OEM of Items 1&2	
Minimum Specification	Compliance Yes / No
Make (Brand) :	
Model :	
Graded-index, "bendable" fiber optic multimode OM4 50/125um duplex cable and Ethernet assembly with LC/MPO duplex connectors on each end; RoHS compliant	
Core diameter: 50um ±3um	
Cladding diameter: 125um ±2um	
Bandwidth: 4700 MHz-km @ 850nm (laser)	
Jacket material: OFNR (optical Fiber, non conductive, riser) LSZH (low smoke zero halogen) thermoplastic	
Optical clarity-attenuation (total loss, including connectors): 0.212 db	
Minimum recommended bend radius: 2 mm	
Approximate loss @ bend radius (850 nm):	
< 0.05 db @ 35.7 mm (2 turns)	
< 0.1 db @ 15 mm (2 turns)	
< 0.2 db @ 7.5 mm (2 turns)	
Maximum reach (no bend):	
125 m (14.025Gb SW)	
380 m (10GbE)	

190 m (8.5Gb FC)	
400 m (4.25Gb FC)	
Cable length: 5m (16.4 ft)	
One Year Warranty	

4 - OFC Patch Cord LC-LC Multimode OM4 (3m) – 4 No.		
Brand Preferred: Panduit / Siemon / R&M		
Item	Description	Compliance Yes / No
Make (Brand)		
Model		
Standardisation	Multimode as per standard ITU-T G.651, Optical properties as per IEC 61753-1	
Cable class	Patch Cord	
Connector class	Connector	
Connector type	LC Duplex	
Protection class (IP) connector	20	
Polishing connector	PC	
Attenuation grade IL - connector	C	
Return loss grade RL - connector	2	
Number of connectors	2	
Patch Cord type	Duplex	
Fiber class	MM OM4	
Cable jacket material	LSZH	
Cable jacket characteristics	Flame-retardant	
Cable overall diameter	2.0 (± 0.1) mm	
Fiber / conductor diameter	50/125µm	
Fiber type	Multimode (MM)	
Length (meter)	3 m	
Warranty	One Year	

5 - Core Switch – 1 No.		
BRAND PREFERRED: Cisco/HPE Aruba/Brocade		
Item	Minimum Specification	Compliance Yes/ No
Make (Brand)		
Model		
Architecture	Shall be 19" Rack Mountable	
	Shall support dual power supply	
	The Switch should support 16 fixed Gigabit Ethernet ports	
	The switch shall have 4 SFP+ ports in addition to the above ports	
	The switch shall have one expansion slots to support up to eight 10GBASE-T ports	
	1 RJ-45 serial console port	
	1 RJ-45 out-of-band management port	
	2 GB SDRAM; packet buffer size: 4 MB, 512 MB flash	
	Shall have switching capacity of 288 Gbps Gbps	
	Shall have throughput up to 180 Mpps	
The Switch should have modular operating system		
Resiliency	Shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch and Layer-3 router	

	Shall support virtual switching fabric creation across nine switches using 10G Ethernet Links	
	The modules/cables to create virtual switching fabric shall be provided	
	IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol	
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)	
	Ring protocol support to provide sub-100 ms recovery for ring Ethernet-based topology	
	Virtual Router Redundancy Protocol (VRRP) to allow a group of routers to dynamically back each other up to create highly available routed environments	
	Graceful restart for OSPF, IS-IS and BGP protocols	
	Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols	
Layer 2 Features	Shall support up to 4,000 port or IEEE 802.1Q-based VLANs	
	Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs	
	Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops	
	Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure	
	Shall support Jumbo frames on GbE and 10-GbE ports	
	Internet Group Management Protocol (IGMP)	
	Multicast Listener Discovery (MLD) snooping	
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	
	Multicast VLAN to allow multiple VLANs to receive the same IPv4 or IPv6 multicast traffic	
	support IEEE 802.1ad QinQ and selective QinQ	
	Should support Multicast Source Discovery Protocol (MSDP)	
Layer 3 Features (any additional licenses required shall be included)	Static Routing for IPv4 and IPv6	
	RIP for IPv4 (RIPv1/v2) and IPv6 (RIPng)	
	OSPF for IPv4 (OSPFv2) and IPv6 (OSPFv3)	
	IS-IS for IPv4 and IPv6 (IS-ISv6)	
	Border Gateway Protocol 4 with support for IPv6 addressing	
	Policy-based routing	
	Unicast Reverse Path Forwarding (uRPF)	
	IPv6 tunnelling to allow IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet	
	Dynamic Host Configuration Protocol (DHCP) client, Relay and server	
	PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for IPv4 and IPv6 multicast applications	
QoS and Security Features	MPLS capability including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)	
	VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability	
	Shall provide support of VPLS for scalability	
	Access Control Lists for both IPv4 and IPv6 for filtering traffic to prevent unauthorized users from accessing the network	
	Port-based rate limiting and access control list (ACL) based rate limiting	
	Congestion avoidance using Weighted Random Early Detection (WRED)	
	Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDRR) and weighted random early discard (WRED)	
	IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port	
Media access control (MAC) authentication to provide simple authentication based on a user's MAC address		
Management Features	Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers	
	Port security and port isolation	
Management Features	Configuration through the CLI, console, Telnet, SSHv2 and Web browser management interfaces	

	SNMPv1, v2, and v3 and Remote monitoring (RMON) support	
	sFlow (RFC 3176) or equivalent for traffic analysis	
	Management security through multiple privilege levels with password protection	
	FTP, TFTP, and SFTP support	
	Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port. Shall support minimum four mirroring groups	
	RADIUS/TACACS+ for switch security access administration	
	Network Time Protocol (NTP) or equivalent support	
	Shall have Ethernet OAM (IEEE 802.3ah) management capability	
Software Defined Networking (SDN) Capability	OpenFlow protocol capability to enable software-defined networking	
	Allows the separation of data (packet forwarding) and control (routing decision) paths, to be controlled by an external SDN Controller, utilizing OpenFlow protocol	
Environmental Features	Shall provide support for RoHS and WEEE regulations	
	Shall be capable of supporting both AC and DC Power inputs	
	Operating temperature of 0°C to 45°C	
	Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A	
Warranty and Support	Warranty shall be offered directly from the switch OEM.	
	Lifetime warranty with advance replacement and next-business-day delivery	

6 - 10G SFP+ LC SR MM Transceivers for Core Switch (For Item No:5) - 4 Nos.		
BRAND PREFERRED: Cisco/HPE Aruba/Brocade		
Feature	Description	Compliance Yes/No
Make (Brand)		
Model		
Type	10G SFP+ LC SR MM transceiver to use in Core Switch.	
Transceiver form factor	SFP+	
Warranty	One Year	

7 - 10G SFP+ LC SR MM Transceivers for existing HPE 5130 Switch - 2 Nos.		
BRAND PREFERRED: HPE Aruba		
Feature	Description	Compliance Yes/No
Make (Brand)		
Model		
Type	10G SFP+ LC SR MM transceiver to use in Existing HPE 5130 Switch.	
Transceiver form factor	SFP+	
Warranty	One Year	

8 - Microsoft Windows Server 2022			
SL.NO	Description of Requirement	Qty	Compliance Yes/No
8	Windows Server 2025 Standard - 2 Core License Pack (DG7GMGF0PWHC)	16	

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

DECLARATION

KERALA CO-OPERATIVE MILK MARKETING FEDERATION LTD

Supply, Installation, testing and maintenance (during warranty period) of Server Computer, SAN storage and Accessories at KCMMF Head Office.

The Managing Director,

Kerala Co-operative Milk Marketing Federation Ltd.,

Milma bhavan, Pattom P.O., Thiruvananthapuram.

Dear Sirs,

Ref: 1. Supply, Installation, testing and maintenance (during warranty period) of Server Computer, SAN storage and Accessories at KCMMF Head Office.

2. Tender Reference No. KCMMF/KHO/SYS/11H/2024-25 dated 12/03/2025

I/we agree to execute Supply, Installation, testing and maintenance (during warranty period) of Server Computer, SAN storage and Accessories at KCMMF Head Office within the timeframe stipulated in the tender scope of document. I/we agree not to employ Sub-Service Providers without the prior approval of the KCMMF. I/We agree to pay GST and all other applicable taxes prevailing and as levied on for which the same are liable and the rates quoted by me/us are inclusive of the same.

We unconditionally accept the terms and conditions as stipulated in the tender documents.

I/We agree that in case of my/our failure the supply of the items with the specifications and instructions received from the KCMMF during the course of the work, KCMMF reserves the right to terminate my contract and revoke the bank guarantee issued by me.

Yours truly,

Seal and Authorised Signature of the Bidder/s

Name:

Designation:

Place:

Date:

SECTION - II

PRICE SCHEDULE

Consists of BOQ as mentioned below to be submitted in Cover – II in the form of **BOQ** (Bill of Quantities)

BOQ – For the items,