



INVITATION FOR BIDS
OFFICE OF PROCUREMENT & CONTRACTS

1. INSTRUCTIONS FOR BIDDERS

- a. Sealed bids will be received in the Office of Procurement & Contracts, Mississippi State University, for the purchase of the items listed herein.
- b. All bids must be received in the Office of Procurement & Contracts on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.
- c. Bidders shall submit their bids either electronically, in Bully Buy, or in a sealed envelope. Bids CANNOT be emailed
 - a. Sealed bids should include the bid number on the face of the envelope as well as the bidders' name and address. Bids should be mailed to : 245 Barr Avenue, 610 McArthur Hall, Mississippi State, MS 39762.
- d. All questions regarding this bid should be directed to the Office of Procurement & Contracts at 662-325-2550.

2. TERMS AND CONDITIONS

- a. All bids should be bid "FOB Destination"
- b. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here:
https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf
- c. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University's Standard Contract Addendum:
<https://www.procurement.msstate.edu/contracts/standardaddendum.pdf>

Bid Number: MSU2025036

Opening Date: December 16, 2025 at 2:00

Description: lustre high performance parallel file system

Vendor Name: _____

Vendor Address: _____

Telephone Number: _____

Email Address: _____

Days the Offer is Firm: _____

Authorized Signature: _____

Name: _____

Title: _____

Item	Quantity	Description	Unit Price	Total Price
1	1	Lustre file system with 5 year maintenance and support warranty per specifications.		
2	1	Maintenance and Support for existing system per specifications for the period 3/1/2026 through 7/31/2026.		
		TOTAL		

The Mississippi State University High Performance Computing Collaboratory request bids for a lustre high performance parallel file system (HPFS) to replace an existing lustre file system as well as extended maintenance and support of the existing lustre HPFS to be replaced.

All flash lustre data storage system shall meet or exceed these requirements:

10PB usable (utilizing no compression) mounted as a single file system.

Delivered as a complete fully functional turnkey system.

Support a minimum 3500 linux (Rocky 9.1 to 9.6) clients.

Shall utilize QLC or TLC NVMe for capacity storage, SED required including any licensing.

Shall use appropriate solid state storage for metadata.

Support project and user quotas for size and file quantity.

Provide for no single point of failure.

Must include power cables, rail kit for rack mounting and cable management arms, system cables, etc...

Provide fully redundant capabilities including but not limited to power supplies, controllers, i/o modules, network connections, etc...

Must be connected to existing High Speed Network (HSN) that utilizes an infiniband NDR switch fabric. A minimum of four uplink connections shall be utilized. Infiniband cables will be provided by MSU for fabric connection.

Must connect to the existing Management Network (MN) for management functions

Shall support declustered raid or equivalent

Controller appliances shall consist of a minimum of 2x controllers (active/active) each supporting multiple vm's with fail over.

Shall utilize battery backed mirrored cache if applicable.

Shall support hot swap components including but not limited to power supplies, fans, i/o modules, drives.

Monitoring and alerting:

System must provide alerting and event notification for failed states and for recovery states.

System must provide management via web and/or cli interfaces.

System must provide or software and licenses provided for comprehensive monitoring and/or visualizing at minimum for these live conditions/parameters: System health, alerts and support items, capacity available and used for data and metadata, throughput activity, workload analyzer for top consumers of resources, performance notifications, etc.... System shall provide a configurable call home function.

Acceptance Testing:

Vendor shall perform or help MSU perform any and all tests to meet the following acceptance criteria.

Performance Tests:

shall utilize these industry standard benchmarks

sourceforge.net/projects/ior-sio/

www.vi4io.org/io500/run

Minimum performance requirements of delivered storage system.

I/O Rates: average across 5 iteration runs shall meet or exceed.

60GB/sec read

60GB/sec write

Metadata tests: average across 5 iteration runs shall meet or exceed.

135,000 file creates/s

200,000 file removals/s

600,000 file stats/s

500,000 directory stats/s

Failure/Recovery Testing:

Power redundant behavior:

For each rack PDU, one at a time, remove power and check for event notification and continued operation without interruption. Reconnect PDU, allow system to stabilize, then repeat for each PDU. No interruption should occur and full recovery should be automatic requiring no user intervention.

Infiniband link test:

Disconnect one infiniband connection to a controller and check for continued operation, reconnect and confirm continued operation. Repeat for each infiniband connection.

Disk redundancy:

Remove a single disk from an enclosure and check for event notification and continued operations. Replace drive and monitor rebuild time and status. Repeat for each enclosure.

Controller redundancy:

Turn off or remove a single controller and check for event notification and continued operations.

VM test:

Shutdown a single vm and check for continued operations.

Installation/Operating Requirements:

- * Storage system shall be installed onsite in a rack provided by MSU.
- * MSU will provide power connections to equipment by redundant rack pdu's.
- * Storage system shall operate at 208-240 volts and consume no more than 60 amps.
- * Storage system shall require no more than 21 RU including any required blanks.
- * Storage system shall operate in a data center environment with an average ambient temperature of 72F. System shall appropriately handle temperature events above this normal condition

Pricing, Delivery, and Installation:

- * Pricing shall be valid for 90 days post bid opening date.
- * All shipping, delivery, installation, and configuration costs shall be included.
- * Delivery time shall be 45 days or less beginning with receipt of order.
- * Installation shall be completed within two weeks of delivery
- * Storage system shall be installed/configured by vendor utilizing manufacturer's or vendor's employees.
- * Vendor shall perform or help MSU perform any and all tests required to meet performance specifications as stated in this bid.

Warranty and support:

- * Storage system and all components provided shall include a five year warranty

- * Warranty shall start upon completion of installation and acceptance testing.
- * software warranty, licenses, and released software updates shall be included for a minimum of five years with minimum 7x24 remote support.
- * updates to software/firmware must be performed by original manufacturer or by MSU with manufacturer assistance, either on-site or remote.
- * Parts designated as CRU shall be provided next business day for self replacement by MSU.
- * Parts designated as FRU shall be provided next business day for replacement by vendor/manufacturer or MSU at MSU's discretion.
- * Non FRU/CRU parts shall be replaced by manufacturer next business day.

General:

- *All equipment is intended to be used as a single system and must work together accordingly. Therefore, partial bids will not be accepted
- *All equipment must be new, sold by authorized vendors of the manufacturers and include original manufacturer's warranty
- *Vendors should have credible experience with data storage for large scale high performance systems
- *Vendor must provide up to three references upon request of customers using these or similar products of the manufacturer.

Maintenance and support for existing DDN EXAScaler 18K HPFS described below for period beginning March 1, 2026 through July 31, 2026. The maintenance and support shall cover available hardware, software and firmware upgrades during this period.

Qty Part# Description

1 ES18K-EDR EXAScaler 18K appliance with 72x 2.5" drive slots, 16x EDR IB / 100GbE ports, power cables and rack mount kit; 4 OSS EXAScaler

16 SS9012-SBOD SS9012 90-slot enclosure. Includes 2x SAS-3 I/O modules, 4x power supplies, 4x power cables, rack mount kit and cable management arms

10 CBL-HMSHMS120-4 12Gb/s HD mSAS to HD mSAS Optical cable, 4m

22 CBL-HMSHMS120-7 12Gb/s HD mSAS to HD mSAS Optical cable, 7m

2 SER-1U-2112DD 1U R640 Dual 2.1GHz 4116 Silver, 16.5MB, 12-core Skylake server with: H330, iDRAC9 Ent, 96GB memory (6x 16GB @2666MHz), 2x 240GB SATA SSD drives, 1x Dual 10GE & Dual 1GE, 3x x16 open PCIe slot(s), slots for up to 8 2.5" drives

6 MEM-32G-SKY Two 16GB 2666MHz RDIMMs for Skylake based servers.

2 CARD100IBGE-CX5 ConnectX-5 VPI adapter card, dual-port QSFP, EDR IB (100Gb/s) / 100GigE, PCIe 3.0 x16 8GT/s, tall bracket

2 HAFc-QL2672 QLogic QLE2672 16 Gb/s FC dual-port low profile PCIe Gen 3 HBA, ships with SR optical transceivers installed

2 CR-LC-LC-3 LC-LC FC cable optical to storage, 3m

1 SFA7990-FC16 SFA7990 Active/Active Block Appliance with 90x drive slots, 8x FC16 ports (SR, Dual LC), power cables and rack mount kit

1296 H09C1000234EH22 10TB 7.2K RPM 12Gb/s SAS SED 4Kn HDD drive module for SS9012 enclosure

12 S09R0384224EH28 3.84TB 1 DWPD 12Gb/s SAS SED 4Kn SSD drive module for SS9012 enclosure;

2 RK42D 42U 1200mm deep rack, no PDUs

4 PDU-30-M-3P-AP 60A 208V (nominal) three phase metered PDU with IEC309 3P+G Delta input connector; outlets: 30x C13; max continuous draw of 17.2 kVA@208V; for NA (typ)

6 SUPL-POSTEOSL-PO-1 Legacy Support for DDN systems post EOSL; Remote technical support response, onsite replacement parts on a reasonable commercial effort basis; no onsite labor; monthly

4 SUPSE-ES1OSS-EOSL-1 Post-EOSL Support Subscription; EXAScaler Software; per OSS; commercially reasonable effort response;