INVITATION FOR BIDS
OFFICE OF PROCUREMENT SERVICES

1. INSTRUCTIONS FOR BIDDERS

a. Sealed bids will be received in the Office of Procurement Services, Mississippi State University, for the purchase of the items listed herein.

b. All bids must be received in the Office of Procurement Services 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 : 405 Garrard Road E, Starkville, MS 39759.

d. All questions regarding this bid should be directed to the Office of Procurement Services 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.contracts.msstate.edu/resources/standard-forms

Bid Number: MSU2026055
Opening Date: Thursday March 26, 2026 at 2:00 p.m.
Description: Infrastructure and Compute Systems

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	Coolant Distribution Unit		
	1	Networking		
	1	Service Nodes		

The Mississippi State University High Performance Computing Collaboratory request bids for infrastructure and compute systems to support new computational systems.

Line Item 1: Coolant Distribution Unit
Provide Coolant Distribution Unit (CDU), secondary fluid network, installation and connections to racks/systems that are liquid cooled. Secondary fluid network shall support minimum of 4 racks and be expandable to support additional racks. Comprehensive installation, start up, configuration, and tuning shall be provided.
MSU will provide a 90°F facilities processed water loop for primary connection by 4 inch flanged connections. Filtration for the primary and secondary loops must be provided.
Installation of filtration must be such that filters can be cleaned/replaced without downtime.
All secondary coolant must be provided and of approved type for systems.
CDU must be approved for use with manufactures racks and direct liquid cooling solutions.

Installation must include any valves, air separators, flow limiters, pressure limiters as required.
All connections must be self sealing or utilize valves to prevent draining/leaking when connecting/disconnecting.
All power and cooling connections shall be top fed
Must meet these minimum specifications:
Nominal Cooling Capacity: 1368 kW at 7.2°F (4°C) Approach Temperature Difference (ATD)
Maximum Cooling Capacity: 2912 kW at 14.4°F (8°C) Approach Temperature Difference (ATD)
Maximum Flow Single Pump: 317 gpm (1200 l/m) at 35.4 psi (2.44 bar)
Maximum Flow Dual Pump: 475.5 gpm (1800 l/m) at 28.7 psi (1.98 bar)
Secondary Coolant Temperature Range: 50 to 131°F (10 to 55°C) dew-point control standard
Pumps: Provide 3 pumps to be operated in N+1 or triple pump mode
Voltage: 480 volt, 60Hz 3 phase
Primary Connection: 4" sanitary
Secondary Connection: 4" sanitary
Filtration: 50u triple redundant to enable on line cleaning
Communication: RS485 RTU Modbus, TCP/IP SNMP, CLI, Webserver
Remote Monitoring: HTTP, SNMP, RS-485 Modbus, Modbus IP
Monitoring: flow and alarms, leak detection configurable alerts

Line Item 2: Networking
The network racks shall house the equipment for support of the infiniband network spine as well as the aggregate and management network.
All cables of appropriate length, size and types shall be included. This includes but not limited to power and network.
All components shall be mounted in the racks.
All rackmount rails/kits and required hardware shall be provided.
All components must have redundant power supplies connected to redundant rPDUs.
All power supply and fan airflow must be of appropriate direction.
All components shall have a 5 year warranty, 8x5, NBD
It shall consist of the minimum components:

Network Aggregation/Management:
Qty 1 Rack - 52U, White, 6in set back, 750mm x 1200mm w/ Front, Rear door, side panels
Qty 2 Rack PDU - 208 volt, 60A 3phase, PDU metered, networked for monitoring, hybrid C13/C19 outlets
Qty 2 Switch - Network switch for aggregation. 48x25GbE SFP28, 4x100GbE QSFP28, 2x100GbE QSFP-DD, managed, PSU to IO air flow, 2xPSU, rack rails
Qty 4 Optics - QSFP28 100GbE LR SMF LC for connection to network backbone
Qty 2 Switch - Network switch for management. 48x1GbE BaseT, 4x10G SFP+, 2x100G QSFP28, managed, PSU to IO air flow, 2xPSU, rack rails
Qty 1 Network Cables - 100GbE QSFP28 passive copper DAC 0.5 meter
Qty 10 Network Cables - CAT 6, white 10 feet

Infiniband:
Qty 1 Rack - 52U, White, 6in set back, 750mm x 1200mm w/ Front, Rear door, side panels
Qty 2 Rack PDU - 208 volt, 60A 3phase, PDU metered, networked for monitoring, hybrid C13/C19 outlets
Qty 5 Switch - IB switch NDR, 64x400G ports via 32 ports, 2xPSU, Unmanaged, PSU to IO airflow, rack rails
Qty 4 Optics - IB twin port XCVR,800GbE,2x400,O112, 2xMPO12 APC,850nm MMF,to 50m, finned for switches
Qty 4 Cables IB - InfiniBand NDR OSFP to 2xOSFP 3m Splitter Direct Attach Copper Cable

Line Item 3: Service Nodes
The service rack shall house all components to support the clusters such as service/login nodes and file storage system for homes and apps.
All cables of appropriate length, size and types shall be included. This includes but not limited to power and network.
All components shall be mounted in the racks.
All rackmount rails/kits and required hardware shall be provided.
All components must have redundant power supplies connected to different rPDUs.
All power supply and fan airflow must be of appropriate direction.
All components shall have a 5 year warranty, 8x5, NBD
It shall consist of the minimum components.

Service:
Qty 1 Rack - 52U, White, 6in set back, 750mm x 1200mm w/ Front, Rear door, side panels
Qty 2 Rack PDU - 208 volt, 60A 3phase, PDU metered, networked for monitoring, hybrid C13/C19 outlets
Qty 1 Switch - TOR Switch - 48x25GbE SFP28, 4x100GbE QSFP28, 2x100GbE QSFP-DD, managed, PSU to IO air flow, 2xPSU, rack rails
Qty 1 Network Cables - 100GbE QSFP28 passive copper DAC 3 meter
Qty 28 Network Cables - SFP28 to SFP28, 25GbE, Passive Copper Twinax DAC, 3 Meter
Qty 1 Switch - Network switch for management. 48x1GbE BaseT, 4x10G SFP+, 2x100G QSFP28, managed, PSU to IO air flow, 2xPSU, rack rails
Qty 1 Network Cables - 100GbE QSFP28 passive copper DAC 0.5 meter
Qty 32 Network Cables - CAT 6, white 10 feet
Qty 1 Switch - IB switch NDR, 64x400G ports via 32 ports, 2xPSU, Unmanaged, PSU to IO airflow, rack rails
Qty 16 Optics - IB twin port XCVR,800GbE,2x400,O112, 2xMPO12 APC,850nm MMF,to 50m, finned for switches
Qty 16 Cables - Passive Fiber Cable, MMF , MPO12 APC to MPO12 APC, 15m
Qty 14 Cables IB - InfiniBand NDR OSFP to 2xOSFP 3m Splitter Direct Attach Copper Cable
Qty 1 NFS Server - minimum specifications to include
processors: 2x 12Core 2.2GHz 48M Cache

memory: 512GB memory
disk: 2x 480GB configured using hardware RAID 1
network: Dual port 25GbE SFP28 adapter
network: Singe Port NDR/400GbE OSFP Adapter
power: dual fault tolerant power supplies supporting 100-240 volt
front kvm support
management: must support remote kvm, remote configuration, firmware updates, monitoring, configurable alerts by email, snmp, redfish, etc..., must support power monitoring/consumption. Any licenses required must be perpetual. Firmware updates must be supplied without additional costs for the life of the system. Provide software and any perpetual licenses for automating/managing firmware updates.
Qty 1 Disk Array - minimum specifications to include
RAID 6 or equavalent
60TB usable, formated capacity
support snapshots
support sufficient bandwidth and iops to serve 500+ clients
dual/redundant controllers
dual/redundant power supplies
HBA cards and cables required to connect to the NFS server

Qty 22 Service Nodes - minimum specifications to include
chassis: 1U supporting up to 16 E3.S NVMe Drives
processor: 2x, 32 core/64 thread, Base Clock 3GHz, Max Boost Clock 4.4GHz, All Core Boost 4GHz, 128MB L3 Cache, TPD 200-240W, 12 memory channels per socket
memory: 768GB
disk: 4x 1.6TB Data Center NVMe mixed use, configured in two hardware raid mirrors
raid controller: support hardware raid for nvme drives RAID levels 0,1,5,6,10
network: Dual port 25GbE SFP28 adapter
network: Singe Port NDR/400GbE OSFP Adapter
power: dual fault tolerant power supplies supporting 100-240 volt
front kvm support
management: must support remote kvm, remote configuration, firmware updates, monitoring, configurable alerts by email, snmp, redfish, etc..., must support power monitoring/consumption. Any licenses required must be perpetual. Firmware updates must be supplied without additional costs for the life of the system. Provide software and any perpetual licenses for automating/managing firmware updates.

Pricing, Delivery, and Installation:
* Pricing shall be valid for 90 days post bid opening date. If unable to provide 90 day pricing, you must show exactly how your price will increase, either by fixed percentage over a specific time period (i.e. cost would raise 1% every week after the bid date) or you must tie your cost

increase to a nationally published industry-wide or nationally published and recognized cost index.
* All shipping, delivery, installation, and configuration costs shall be included.
* Estimated delivery times shall be included.

General:
* All compute systems shall run Rocky 9.x linux operating system.
* All Rack power shall be bottom fed
* All Rack cooling shall be bottom fed
* All equipment must be new, sold by authorized vendors of the manufacturers and include original manufacturer's warranty
* Vendors should have credible experience with large scale high performance systems
* Vendor must provide up to three references upon request of customers using these or similar products of the manufacturer.