

MISSOURI WESTERN STATE UNIVERSITY

REQUEST FOR PROPOSAL 20-092

FOR

 STORAGE ARRAY REPLACEMENT

Submission Deadline: Wednesday, April 8, 2020 2:00 p.m. Central Time

Questions and/or requests for clarification of this RFP should be submitted via email to the Purchasing Manager, Kelly Sloan at purchase@missouriwestern.edu. All questions and/or clarifications can be sent regarding this RFP to the Purchasing Department until 12:00pm on Tuesday, March 31st . Questions received after this date may not be answered. Please reference the RFP20-092 on all correspondence. Answers to the submitted questions will be emailed to each vendor as an addendum to this RFP. It is the responsibility of all interested parties to read this information and return it as part of the RFP confirming receipt.

**PURPOSE**

Missouri Western State University (MWSU) is seeking a technology vendor from which we can purchase a new all-flash storage array to replace our existing Dell EqualLogic environment and consolidate other storage into a single storage entity. The vendor will have qualified staff that will install and integrate the proposed array into MWSU’s data center. The vendor will also provide training and support for the new storage array to MWSU technical personnel. MWSU’s IT Services considers our needs to be that of a midlevel enterprise when considering the level of solution to propose.

 **BACKGROUND**

MWSU currently utilizes two (2) Dell EqualLogic 6510A arrays with approximately 36TB of storage in production usage and approximately 10TB of storage in backup usage. Additionally, MWSU utilizes a JBOD with approximately 85TB of storage in use for Veeam backups. Another storage array is used for auxiliary systems with approximately 5TB of storage in use.

MWSU uses eight (8) VMWare ESXi version 6.7 hosts on Dell PowerEdge hardware to host approximately 75 virtual machines of various OS and sizing requirements. The hosts are connected to the storage arrays using 10Gbps iSCSI Ethernet connections through Brocade switches. MWSU plans to maintain and expand this SAN environment for scalability and redundancy purposes in the future.

A proposed solution must be present on the VMware HCL at time of submission for VMware ESXi v6.7.

Existing workloads are comprised of Windows infrastructure servers, MS SQL and MySQL database servers, infrastructure monitoring, identity management servers, document-imaging systems, miscellaneous application servers, and a large Windows file storage environment based on Windows servers.

**STORAGE ARRAY OBJECTIVES**

MWSU is replacing the current EqualLogic storage arrays with upgraded technology to provide opportunity for better performance, data availability, and scalability. The new array must provide optimal compatibility and performance capability with our current VMware infrastructure. All components of the proposed solution must be found in the VMware Hardware Compatibility List at time of submission to ensure full VMware interoperability. MWSU projects the new array to take on additional workloads from auxiliary systems, and including comprehensive infrastructure logging, computer imaging workloads, and extensive support for virtualized desktops and other online/remote- focused services.

**STORAGE ARRAY REQUIREMENTS**

The Proposed Array must satisfy the following list of requirements. If the solution cannot fully satisfy a particular requirement, the vendor must include a narrative statement explaining why the solution is not wholly in compliance. Otherwise, the vendor will be expected to comply with the requirement for the lifetime of any awarded contract.

1. Be certified and present on the VMware Hardware Compatibility Website for VMware 6.7 and higher.
2. Seamlessly plug-in to VMware vCenter 6.7 and above to provide improved management of storage features from within VMware vCenter.
3. Be brand new from the manufacturer, not re-manufactured nor refurbished.
4. Not be End-Of-Life or anticipated to be End-Of-Life by the manufacturer within the next three (3) years.
5. Support SFP+ network connectivity.
6. Array must be comprised of all flash (solid state) drives, but may be either standard SAS connected or NVMe.
7. Minimally handle 250,000 IOPS during peak operation intervals (mixed read/write).
8. Minimally handle 125,000 IOPS for 95% of operation (mixed read/write).
9. Minimally handle 2GB/s of data throughput (mixed read/write).
10. Provide for overall useable space as delivered to be no less than 120TB. If the array uses deduplication or compression to deliver useable space, approximations used to convert raw to useable space must be included in the response.
11. Connectivity Requirements:
	1. VMware ESXi hosts via iSCSI
	2. VMware ESXi hosts via NFS as an alternative
	3. Multiple 10Gbps Ethernet ports per controller for scalability and redundancy.
	4. Option for additional Ethernet port(s) for remote out-of-band array management.
12. Dual controllers to provide fault tolerance and protect uptime against controller failures. Array must provide internal device redundancy to protect from cache and controller failures.
13. Dual controllers must provide for fully non-disruptive firmware/software upgrades.
14. Dual controllers must load balance automatically.
15. Redundant power supplies and cooling fans.
16. Provide for the ability to dynamically add/remove disks or disk groups to storage pools without impacting performance or stability.
17. Be capable and licensed for deduplication and compression.
18. Be capable and licensed for snapshots and replication of those snapshots, with preference of replication targets in the cloud.
19. Be capable of seamless expansion as MWSU’s storage and performance needs grow. Provide for growth upward and outward; both should occur with no downtime as disks or arrays are added in the future.
20. Be capable of hardware level thin provisioning.
21. Be capable of tracking space reservation for thin provisioning and provide warning as various thresholds are reached.
22. Provide for the ability to provision new volumes based on settings of existing volumes or snapshots.
23. Be capable of notifying vendor/manufacturer of component failures or pre-failure conditions.
24. Fit into existing MWSU Dell 4-post equipment racks.

**INSTALLATION & TRAINING REQUIREMENTS**

1. The vendor will deliver or make delivery arrangements for the array equipment to be delivered to Missouri Western State University, Hearnes Center Room 126, 4525 Downs Drive, St. Joseph, MO 64507. Pricing must be FOB Missouri Western State University. All items must be new, first quality.
2. The vendor will hold a pre-deployment onsite meeting with MWSU to identify and design a final “Implementation Plan” if deemed necessary. Such plan will cover but not be limited to the following:
	1. Connection to existing logical network.
	2. Connection to existing VMware hosts.
	3. Review of physical cabling and connectivity requirements for physical network (SFP+, cable types, etc.)
3. The vendor will assistance with the physical installation of the array if requested by MWSU.
4. The vendor will provide recommended configuration settings and best-practices for VMware host configuration for optimal connectivity to the array.
5. The vendor will assistance in installation of vCenter plug-ins and other management software as required.
6. The vendor will train MWSU IT staff in the use of and demonstrate array management tools.
7. The vendor will demonstrate the provisioning and monitoring of volumes, including hardware thin provisioning and discuss best practices.
8. The vendor will discuss the use of array snapshots and their use, management, and best practices with MWSU IT staff.
9. The vendor will discuss integration with MWSU’s Veeam backup solution and best practices, as well as cloud backup and replication targets if applicable.

**MAINTENANCE AND SUPPORT REQUIREMENTS**

1. All proposed array hardware and software comes with 24x7 technical support with 4-hour onsite response for a minimum period of 3 years.
2. All maintenance and support agreements shall cover parts, labor, incurred travel, and lodging on part of the vendor or manufacturer incurred during the execution of potential support requirements for a minimum period of 3 years.
3. Proposed maintenance and support must cover a period of three (3) years to begin upon project completion and signed acceptance of the MWSU Interim Director of IT Services.
	1. Vendor should supply as potential cost/add-on years 4 & 5 proposals for a support and maintenance agreement of the same levels as years 1-3.
4. All delivery of parts and returns of failed parts must be covered by the maintenance and support agreement and provide zero costs to MWSU for doing so.
5. Documentation and pricing of all maintenance and support features and benefits for support plans that meet these requirements at a minimum or above shall be provided as part of the response. MWSU will make a final determination at time of order for the support plan that best meets the technical and financial interests of MWSU.
6. The array solution will be capable of sending notification to MWSU IT staff of pending or occurred failure.
7. Ideal solutions will provide for the following capabilities:
	1. Event Alerting – Configurable and customizable by the array administrator for notification of triggered alerts (via email as a minimum)
	2. Auto Case Creation – Array will auto create support tickets with vendor or manufacturer, with notification sent to array administrator
	3. Summarization – Report regularly via email on configurable performance and health metrics of the array
	4. Performance Monitoring – Provide for notifications of configurable performance issues
	5. Capacity Planning – Provide metrics to show storage growth over time to allow array administrator to project when expansion of the array may be necessary
	6. Administrator Dashboard – Provide for a single pane of glass view, via a web browser to the array administrator, of high level key metrics

**QUALIFICATIONS**

MWSU willreview the below set of criteria for determining the vendor of choice. The choice will not be based on price alone but will consider many factors, the least of which are but not exclusive of:

1. The vendor state hardware – manufacturer and model of proposed array
2. The proposed array can be found and support indicated on the VMware Hardware Compatibility List for ESXi version 6.7 and above.
3. The array proposed is comprised of all flash (solid state) drives. Vendor has indicated the type of drive used.
4. The vendor indicated how the solution provides for VMware vCenter intergration.
5. The solution provides for the indicated 10Gbps Ethernet connectivity/redundancy requirements.
6. The vendor indicated this to be brand new equipment.
7. The vendor indicated the array is not anticipated to be End-Of-Life within 3 years.
8. The amount of usable storage capacity including estimated reductions due to deduplication and compression have been indicated
9. The amount of raw storage capacity has been indicated.
10. The vendor has indicated the amount of raw/useable space could be added to the existing array chassis.
11. The number, capacities, interface type, and speeds of the drives proposed have been indicated.
12. Rated IOPS and MB/s throughput specifications have been indicated and meet the minimum requirements.
13. Whether deduplication acts immediately (inline) or on a schedule is indicated and is licensed if applicable.
14. Whether compression act immediately (inline) or on a schedule is indicated and is licensed if applicable.
15. Provides for snapshots, snapshot replication, and if any limitations exist limits have been indicated, is licensed and applicable.
16. The amount of array storage capacity can be expanded in the future with the need for additional licensing. That is the storage capacity limit from a licensing perspective? What are the maximum limits of the platform?
17. The vendor has indicated future expansion units will retain full integration into the proposed solution.
18. The vendor has indicated that the future physical expansion will or will not be presented as a single array to VMware.
19. The amount of vertical space the solution utilizes in a standard 19” wide four-post rack. Measured in “U’s” is indicated.
20. The number and type of storage tiers has been indicated if applicable.
21. The number and type of network interfaces, types, and speed rates are included and specified, and how many are for iSCSI/NFS and management.
22. If SSD storage has been indicated, is it configured for cache or storage, and whether the SSD storage can be configured in an alternate way.
23. If mechanical drives have been configured as part of the proposed solution, as they SAS type with a minimum rotation speed of 10,000 rpm.
24. The vendor included brochures/literature from the manufacturer containing highlights and specifications of the proposed solution.
25. The vendor agrees or does not agree that they will assist in the installation of the solution, along with a schedule of proposed steps and timelines required for this installation.
26. The vendor supplies a list of on-staff solution provider technicians/engineers for the product(s) they are proposing to install and configure.
27. The vendor provides a sample of documentation to be left with MWSU after the installation.
28. The vendor provides electrical requirements for the proposed solution.
29. The vendor provides a through support and maintenance summary.
30. The proposal includes a minimum of three (3) years of support and maintenance for all hardware and software related to the proposed solution.
31. The proposal indicates who provides the indicated support (the Vendor or the manufacturer)
32. The proposal should include for consideration, if offered by the Vendor or manufacturer, the cost of years 4 and 5 of support and maintenance for all hardware and software for the proposed solution.
33. The vendor agrees to perform all the above tasks to complete deliverables within four (4) weeks of the delivery of the hardware component of the solution to MWSU facilities.
34. The vendor will describe any “Customer Loyalty” programs which MWSU could have vested interest in future purchases.

**RESPONSE REQUIREMENTS**

To be considered, each vendor must submit a COMPLETE proposal in response to this RFP using the format specified below. There should be no attachments, enclosures, or exhibits other than those required in the RFP or considered by the Vendor to be essential to a complete understanding of the proposal. Each section of the proposal should be clearly identified with appropriate headings:

1. Narrative – Include a narrative summary description of the proposed effort and of the services(s)/product(s) that will be delivered
2. Technical Work Plans – Provide a detailed research outline and timelines for accomplishing the work.
3. Prior Experience – Describe the prior experience of your organization which you consider to be relevant to the successful accomplishment of the project defined in this RFP. Include sufficient detail to demonstrate the relevance of such experience. Proposals submitted should include descriptions of qualifying experience to include project descriptions, costs and starting and completion dates of project successfully completed.
4. Acceptance of Qualifications – vendor provides copy of the “Qualifications” section of this RFP, which indicates their responses to each item.
5. Acceptance of Deliverables – vendor provides copy of the “Deliverables” section of this RFP which indicates their responses to each item
6. Project Staffing – The vendor must be able to staff a project team, which possesses talent and expertise in the field of the requirements of this RFP. Identify a Project Manager and staff assigned by name and title. Include biographies, experience and any other appropriate information regarding the work team’s qualifications for this project.
7. Subcontractors – List all subcontractors that will be engaged to accomplish the project described in this RFP; include firm name and address, contact person and complete description of work to be subcontracted. Include descriptive information concerning the subcontractor’s organization and abilities. In addition, the information provided should include detailed information about each potential subcontractor.
8. Additional Information and Comments – Include any other information that is believed to be pertinent, but not specifically asked for elsewhere.
9. Include three (3) References – References preferably would be other regional universities. References to include Organization Name, Contact Name, Contact Email, Contact Phone #, Model # of solution provided.

**DELIVERABLES**

MWSU will withhold final payment to the contracted vendor until the list of deliverables is completed and signed off by both parties. The list of deliverables for this project is defined by the following:

1. The vendor will deliver/install/configure their proposed solution to MWSU’s data center. This step will be considered complete when a test LUN/Volume/NFS Share can be accessed by an existing VMware server for testing purposes.
2. The vendor will be present for the successful migration of three (3) virtual machines from the existing array(s) to the new array. The 3 virtual machines will start, run, and be accessed from a MWSU server or workstation.
3. The vendor will train one (1) to three (3) MWSU IT staff in the managing of the array. Training of the staff will be considered complete when at least one MWSU IT staff can:
	1. Create an administrative account on the array.
	2. Create a LUN or volume which can be used for VMware storage.
	3. Integrate the array with the VMware environment.
	4. Take a snapshot of a server, backup the snapshot, and delete the snapshot.
	5. Setup alerts for system faults, hardware faults, over-provisioning when using thin provisioning, and/or any best practice alerts recommended by the Vendor.
4. The vendor has provided basic troubleshooting steps for the most common issues, and Vendor and manufacturer 800 support phone numbers and any required customer identification.
5. The vendor has worked with MWSU IT staff to ensure that MWSU’s Veeam backup and replication solution functions with the new array by:
	1. One of the 3 migrated virtual machines can be backed up successfully by the current Veeam installation.
	2. Guest files can be restored from the above backup.
	3. The entire virtual machine can be restored from the above backup.
	4. The above backup is configured to access array snapshots if applicable.

**Vendor Instructions**

* Proposals may not be accepted if the RFP number is not on the outside of the envelope.
* Proposal must be prepared in accordance with Submission Material (described below). Those proposals, which are not in compliance, may be deemed non-responsive.
* The last day for questions regarding this RFP is 12:00 p.m. Central Time, March 31, 2020. These questions should be submitted to purchase@misssouriwestern.edu.
* RFP should be submitted no later than April 8, 2020 2:00 p.m. Central Time to:

Missouri Western State University

Purchasing, Popplewell Hall 221

4525 Downs Drive

St. Joseph, MO 64507

**Submission Materials**

ELECTRONIC AND/OR FAXED COPIES WILL NOT BE ACCEPTED. Responses must be signed and sealed in mailing envelopes with the Respondent’s name and address clearly written on the outside. The Request for Proposals Bid Number (RFP20-092) shall also be clearly marked on the outside of the envelope or package. MWSU reserves the right to reject any and all bids received in response to this RFP and to waive any minor irregularity or informality.

The following items should be mailed to MWSU by April 8, 2020 by 2:00pm Central Time.

* Invitation to Bid Page: Complete the required vendor contact information for RFP20-092.
* Review the Technical Requirements to ensure your solution will be compliant with MWSU’s needs beginning on page two (2). Provide detailed responses to each point addressed beginning on page five (5) with Qualifications until top of page seven (7) ending with Response Requirements.
* Pricing: Include page nine - ten (9-10) pricing page to provide a brief overview of your proposal pricing. Include all requested costs indicated on the pricing sheet.
* Addendum: Include any addendums for verification of receipt.
* Include one (1) original plus one (1) copy of all proposal submission materials for two (2) hard copy documents. Also, include one (1) non-returnable flash drive with your entire proposal.
* Current signed and dated W-9.

**RFP Questions**

RFP questions and/or requests for clarification should be submitted via email to the Purchasing Manager, Kelly Sloan, at purchase@missouriwestern.edu. All questions and/or clarifications can be sent at any time regarding this RFP to the Purchasing Department until 12:00pm on Tuesday, March 31, 2020. Questions received after this date may not be answered. An addendum will be sent to all participants to ensure all vendors receive the same information.

**Notes**

Please provide specific notes/explanations regarding your work if necessary. Any suggestions for improvement to the proposed project would be appreciated also.

**Evaluation**

For vendors who meet the minimum qualifications their proposals shall be evaluated by the Selection Review Committee.

Responses to this RFP will be evaluated upon the features and functionality stated in the proposal and the related costs as well as the responses provided. The evaluation process of proposed solutions will be managed to identify the solution that best meets the objectives of this RFP and serves the MWSU’s objectives with the best value.

Factors that will be considered during the assessment and decision process include:

1. Demonstration of the solution
2. Information from references provided by prior and current customers of the vendors
3. Cost (including maintenance and other recurring costs)
4. Experience and Reliability
5. Proposed Method of Performance and the presented implementation plan
6. Response and compliance to the requirements of RFP



**STORAGE ARRAY REPLACEMENT**

**PRICING SHEET**

Provide the cost/rate/price information for all firms/persons named in your RFP. Using the following price schedule to identify each of the products, services and activities included in your proposal. Attach additional pages as needed. Pricing must be FOB Missouri Western State University. All items must be new, first quality.

Array Hardware, Software, Features, and Licensing Costs:

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| --- | --- | --- | --- |
| Item | Quantity | Cost | Total |
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Array Implementation Costs (include training costs):

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| Item | Quantity | Cost | Total |
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Mandatory Maintenance and Support Costs:

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| Item | Quantity | Cost | Total |
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Optional Year 4 and 5 Maintenance and Support Costs:

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| --- | --- | --- | --- |
| Item | Quantity | Cost | Total |
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Total Cost Initial Cost and 3-year maintenance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please indicate estimated days for delivery of array upon receiving PO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ days.

**LEASE PRICING**

Additionally, please provide and describe available financing options for 2 and 3-year purchase plans should MWSU deem financing is necessary to complete purchase. Typical terms that MWSU utilizes are lease-to-purchase with $1 buyouts at the end of the term.

2-year lease (24 months)

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| --- | --- | --- |
| % RATE |   | ANNUAL PAYMENT PER YEAR |
|   |   |   |

3-year lease (36 months)

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| % RATE |   | ANNUAL PAYMENT PER YEAR |
|   |   |   |

Vendor Authorized Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vendor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_