



Procurement and Contracting Services
Request for Proposals for Enterprise Grade Network
Attached Storage

ADDENDUM #1

Please mark all proposal submission
Envelopes with the following information

Sealed RFP # L262302

Due on 11/30/2022 no later than 2:00 PM, MST

The following questions were received prior to the close of the Technical Question period on November 16, 2022 at 2:00 PM MST:

1. **Section 1.2 Summary** would you please clarify the expectations mentioned as enclosure management?
 - a. with a minimum of 2 global spares?
Two physical drives available for automatic replacement of a failed drive.
2. **Section 4.4.1** Electronic and Information Technology.
 - a. Would you clarify whether the products requested in this RFP require a VPAT per this section?
This requirement can be waived.
3. **Section 5.2** What is the purpose for the storage? I.e. Backup, file storage, Database
 - a. If Database: Is ASM being used or is this accessed from mountpoints?
This is not a database but rather storage accessed from mountpoints.
4. **Section 5.2.1** Data protection with RAID capability including RAIDZ2, minimum 2 global spare disks
 - a. Is RAIDZ2, which is particular to ZFS, a requirement, or is the requirement dual parity
The requirement is dual parity but ZFS is preferred.
5. **Section 5.2.4** Caching and Performance features: Solid state Write Cache, Enterprise rated hard drives
 - a. Are spinning hard drives a requirement? **No, they are not.**
 - b. Would an all-solid state storage system be considered to fulfill the requirements? **Yes, this would be considered.**
6. **Section 5.2.5** Will you support higher connection options such as SFP/SFP +25GB, 100GB? **No**
7. **Section 5.2.6** If the proposed solution exceeds 33 inches but includes its own deep rack, is that acceptable? **No**
8. **Section 5.2.6** Please clarify if the 33" depth means the rails need to be installed at a maximum of 33", or if the hardware can be 33" deep? **Hardware can be 33 inches deep.**
9. **Section 5.2.7** OpenZFS support and snapshot capability; support for Windows, Mac, Linux clients
 - a. Would you please clarify what it means to support OpenZFS?
 - b. Are you specifying a system which is built on OpenZFS, or something else?
Yes
10. **Section 5.2.7** Will other solutions other than OpenZFS get consideration? **No**

11. What performance is required for your workload (all-flash, mid-tier/hybrid, archive)? **Seeking the best possible performance.**
12. Is performance level required for the life of the data? (In other words, is all-flash needed, then archive sufficient)? **Provide options.**
13. What is the trajectory of data growth? **Potentially 2 PB but time of growth is unspecified.**
14. Will you provide more detail regarding the intended workloads? **NAS shared among 20 research groups for storage data.**
15. What is the preferred storage product? **A NAS system.**
16. Are you preferring only NAS (Network Attached Storage/file)? Or also looking for SAN (Storage Area Network/Block) solutions? **NAS**
17. What is the current size of Data? Does the scope include migration of data to new storage? **This is a new system.**
18. Please detail your daily/weekly/monthly expected data size growth? **Unclear at this point but also not relevant to this bid.**
19. What is the expected percentage of Free Space limit for the storage? **We want 1PB net usable**
20. Share details on the expected Hard Disk drives combination for NAS Setup (SATA/SAS/SSD, all Flash drives or combination of SSD with traditional HDDs)? **We are seeking the best performance.**
21. What is minimum fault tolerance requirement? **As specified in the RFP.**
22. Provide details around your current storage environment. **Varied environment among individual research groups.**
23. What is the initial required storage capacity? **1Peta Byte**
24. How many RAID-Z2 groups are expected in the new storage environment? **This really depends on your hardware configuration. What we require is to provide 1 Peta Byte net, with at least two global spares.**
25. How many numbers of drives expected in each storage group? **This is up to your configuration.**
26. Provide locations of your data center or datacenters requires storage support. **Steward Observatory, University of Arizona.**

27. Detail your current failover mechanism? Mirror/Replications/Snapshots/etc. **We are requesting a new system with RAID-Z2 and Snapshots.**
28. Detail your expected data protection tools or data encryption tools that are in scope for this RFP. **We are not planning on data encryption.**
29. Provide a list of all noncritical and critical apps running your current setup (Database and applications). **This is a new system that will be used for scientific data storage.**
30. For hardware replacement in case of failures, please detail how the vendor is expected to replace the faulty part (Direct OEM vendor can replace the part or vendor to work onsite teams to co-ordinate the replacement with OEM) **Vendor to provide replacement part and coordinate with customer.**
31. What kind of support is expected from the vendor to meet your SLAs? Also, please detail your expected SLAs from the vendor. **As specified in RFP.**
32. What is minimum and maximum network connectivity (speed between storage and servers)? **There are 10Gbit as well as 1Gbit network connections.**
33. Any existing tools to monitor the storage arrays or expect the new vendor to provide? **Monitoring tools are expected to be part of the new system.**
34. What is the backup tool suggested to store historical data? **We have no backup tool available.**
35. Detail your current storage array and volumes (luns) threshold limits? **This depends on the hardware the vendor will provide to achieve a 1PB unit with redundancy.**
36. Detail your current IT Landscape, with systems, tools, and applications. **What is relevant here is to provide an Enterprise rate NAS system to be mounted to Linux, Macs and Windows end user desktops.**
37. What type of OS models and versions are to be supported in scope of this RFP (VM/ESXi/Physical/Hyper-V servers or clusters) **The requested NAS will be used for data storage drive mounted to Linux, Macs and Windows end user desktops.**
38. What OS distributions are you asking to support? **That depends on the NAS system.**
39. When you say net usable are you considering deduplication and compression or are you requesting raw capacity? **Net usable capacity.**
40. Are there performance tiers for the storage? Or IOPS and throughput expectations? **We are seeking the highest performance we can get.**

41. What is the type and number of employees that would need to be trained? Would on-site residency services be required? **Maximum 2, no on-site residency is required except the initial installation.**
42. On services, would monthly or quarterly health checks need to be provided? **This will depend on the integrated support package of the vendor.**
43. Will there be replication requirements to off-site or second location? **No**
44. Is data at rest encryption a requirement: Do you need Self-Encrypting drives? If yes, do you need a Key Manager as well? **No**
45. Would a cyber-vault need to be a consideration in the future? **No**
46. Are migration services necessary? How much data would be migrated? **Not required by the vendor.**
47. Would DARE be sufficient encryption, in lieu of in-flight encryption? **Not applicable**
48. Regarding certain requirements, Vendor would engage a partner to independently provide services. Are you open to a multi-vendor response? **We would prefer one point of contact.**
49. Are you looking for ongoing managed services for patches etc.? **Yes**
50. Is there a specific name/type of penetration testing do you require? **We are not requesting any penetration testing.**
51. Are you looking to include vulnerability as part of your scans? **We are not requesting vulnerability scans.**
52. Is this going to sit in your data center or are you planning to use a colocation facility? **Our server room.**
53. Are you looking for a CAPEX or OPEX solution? **We are not looking for OPEX.**
54. If a system were built with independent controllers, is it permissible to provide the mass storage as a packaged array providing it's own dual parity and sparing services to the NAS controllers by providing the NAS controllers LUNs for storage on the backend? **Yes**

End of addendum, all else remains the same.