



Procurement and Contracting Services

**Request for Proposals from interested and
qualified Vendors to provide On-Premise Cloud
System.**

ADDENDUM #1

**Please mark all proposal submission
Envelopes with the following information**

**Sealed RFP # L262303
Due on April 17, 2023 no later than 2:00 PM, MST**

The following questions were received prior to the close of the Technical Question period on April 10, 2022 at 12:00 PM MST:

1. Is UA willing to grant a week, or preferably two-week, extension to the RFP due date? The timeline between the Q&A due date and response due date is very tight. We want to ensure we have enough time to receive UA's responses to our other questions and can finalize a strong, compliant response.
[We cannot extend the due date because of other deadlines. Nevertheless, we will do our best to provide fast turnaround for Q&A.](#)
2. There is no mention if the switches need to integrate into a current network environment or if it is all stand alone.
[The cloud is an independent system with its inner necessary networking which is expected to connect to the internet via the department network. The Department has a traditional 802.1x 10Gbps network in the server room where the private cloud will be located. This is a Catalyst 3850 24x UPOE 10Gbps network switch.](#)
3. Are we using the sizing criteria for N+1 meaning we need to be able to run the workload with a node down?
[Yes.](#)
4. Does the college have existing enterprise licensing agreements with Canonical or Red Hat or other vendors for OpenStack?
[We are unaware of this.](#)
5. Does the college have existing 25G networking for this to connect to? If so, will a network diagram be provided?
[See answer 2.](#)
6. Will you be needing a vendor supported distribution of OpenStack, CEPH, Kubernetes?
[No. We expect a standard setup to validate hardware and will customize the system for our specific needs.](#)
7. Kubernetes on bare metal or virtualized on top of OpenStack?
[We prefer provisionable Kubernetes. Hence, OpenStack Ironic or Canonical MAAS for bare metal provisioning is preferred. Otherwise, VM with OpenStack also fulfill our needs.](#)
8. Any OpenStack requirements?
[See answer 7.](#)
9. Any Kubernetes requirements?
[See answer 7.](#)
10. For the 500 cores, what are your request on individual node sizing? Large nodes scale up or smaller scale out nodes?
[Minimal 3 compute nodes for high availability.](#)
11. Do you have target CEPH performance IO goals? Capacity vs. performance.
[Performance as long as the budget support. SSD in cache tier with HDD storage tier seems reasonable.](#)
12. Does the CEPH cluster need to be all flash or just flash for caching.
[See answer 11. Flash for just caching.](#)

13. Is there a separate Storage back-end network for CEPH required?
No.
14. Do you really need encryption for data at rest to be enabled in Ceph?
No.
15. Is the solution expected to be stood up in August or arrive?
We expect hardware to be full validated in August. But the research team will fine tune the configuration as the project goes.
16. What the types of workloads for this environment?
Mainly parallel data processing jobs. Some 24/7 services for an international scientific collaboration. Some AI and HPC software development, although the productive runs for these workloads will be done in a different system.
17. Are we expected to supply networking, racks, PDUs and other ancillary items as part of this bid?
Networking as Cloud infrastructure is expected. We will be providing an existing 42 unit APC 30inch wide - 40inch deep rack with basic PDU type with the power source bottom fed. Cable management capability would be good to have. We do not require KVM switches or other ancillary items.
18. Is this purchase considered a tax-free research purchase, or should we account for sales taxes in the proposal?
Yes it is tax-free.
19. SOC 2 requirements - are these certification requirements for the private cloud itself or the vendor internal systems?
While the vendor facility is expected to adhere to Security Operations Center standards, it is not requirement from the vendor to perform cybersecurity audits past delivery.
20. Does section 4.54.2.2 Access Control apply to this engagement? Are we expected to manage the solution provided including user management?
No. 4.54.2.2 does not apply.
21. "Vendor patch management process, schedules, and logs; findings of vulnerability scans and/or penetration tests of Vendor systems" Will this project include managed services as well?
No. This does not apply.
22. Is the respondent expected to propose services to perform continuous security testing of the university cloud post deployment?
No. We do not expect the vendor to provide security past deployment.
23. "Caching and performance features: solid state local disks" Is the entire 500TB expected to be solid state disks? Canonical can offer a purely solid state solution or a solution which uses caching and HDDs. University needs to specify which solution is requested in this RFP and with caching solution, the level of cache requested in the system (minimum 30TB, normal 50 TB, high performance > 50TB)
See answer 11. Flash for just caching.
24. "Support OpenStack Ironic and/or Canonical MAAS for bare metal provisioning" Do you want MAAS for bare metal for the infrastructure or bare metal compute on demand driven by OpenStack APIs?
Bare metal for the infrastructure as well.

25. Please specify how many GPUs must be quoted with the initial system.
GPU is optional with the initial system, although a few (e.g., 2) to demonstrate compatibility and performance is preferred.
26. Please specify the level of software and hardware support required. Next Business Day, 4 hour response etc..
We would appreciate a 5-year next business day hardware support.
27. Server Infrastructure-related
- Should we include server racks and associated rack accessories for cable management, power distribution, and cabling?
Please see item 17.
 - Will the university want to have all equipment, including cabling, factory integrated into these racks?
No.
 - Do the rack depth requirements defined in the RFP include the "dead air" space needed for the hot aisle?
The 40 inches is from front door to back door of the existing rack. We do not have hot racks and cold racks with dead air space.
 - Is there a data center airflow in CFM required per rack that needs to be considered?
The envisioned hosting data center will be capable of providing cooling capacity of 40,000BTU per hour.
 - What type of power infrastructure, including voltage requirement, will our equipment need to accommodate?
The proposed server room has a distribution panel with a main 70Amp 3-phase switch 23kWatt. The input is 110,208V, there are five 20Amp switches currently in that panel.
 - The RFP requests 5-year support minimum, however, the NVIDIA RTX A6000 support is only 3 years. Will this be acceptable?
Yes this is acceptable.
 - What are the storage IOPS requirements per node?
No requirement. If IOPS is provided with the RFP, we will use it as part of the evaluation.
28. Network-related
- Should we include network switches in our response?
See answer 2.
 - Should our switches be configured to run VXLAN for overlay/underlay services?
The physical network that this cloud will be connected to is a traditional 802.1x 10Gbps Departmental network distributed by a 10Gbps Catalyst 3850 24x UPOE switch. We expect the cloud to be using this switch to connect to the internet.
 - Will integrating MP-BGP EVPN from spine-leaf networks into the UA network be needed?
While the server room network is a simple 10Gb 802.1x enabled network, reliable and efficient connection to the cloud is required and it is up to the vendor to implement appropriate protocols.

- d. Will micro segmentation services be needed?
Not required.
 - e. Will UA provide IP address ranges for the underlay networks?
Yes.
 - f. Will out-of-band network infrastructure be needed?
No.
 - g. What are the uplink requirements of the private cloud connections into the UA network?
Please see answer 2, it is 10Gbps.
29. Management-related
- a. Will UA be using IaC tools, like TerraForm to provision and manage the private cloud?
Yes.
 - b. What type of authentication system will we need to integrate into?
Plan to integrate CILogon for user authentication. No specific requirement for admin authentication.
 - c. Will training of UA staff be required?
No.
 - d. Will systems and infrastructure monitoring and alerting be required?
No.
 - e. Are there any requirements for log aggregation?
No.

End of addendum, all else remains the same.