1. What is the door height to get a 42U rack into the building? With the 42U rack being taller than your door, how do you normally get racks into the building?

ANS: Due to an editing error, the dimensions of the doors were reversed. Height is 96", the width is 72".

2. Attachments 1-4 - does that mean you want a BOM as the attachment?

ANS: Yes.

3. Can the bid due date be extended by two weeks?

ANS: No it will be extended for just one week. New submission deadline is April 30th, 2024.

4. Page 9, Section 4, item g.: In item g. you refer to xCAT which is EOL and soon will no longer be supported. Is MSU considering or would consider migrating to Confluent, a direct xCAT successor?

ANS: MSU plans to continue with xCAT following the ongoing community support transition. MSU will consider Confluent.

5. Page 9, Section 4, item h.: In item h. you mention the OS must support Ubuntu 22.04, 24.04 LTS and RHEL 9.3. Will one of these be used for acceptance testing?

ANS: 22.04 LTS.

6. Page 10, Section 7, item b.: Is MSU working on upgrading the L3 InfiniBand switches? Is there a timeframe for that upgrade to happen?

ANS: We are planning on discussing this with the winning bidder, but it is not included in the scope of this bid.

7. Page 10, Section 7, item b.: Should the vendor provide UFM licenses for the compute nodes?

ANS: No.

8. Page 13, Section 11, item a.: In item a. you refer to the HPCC-specific software installation to be used to perform acceptance testing. Will you provide the specifics of the "HPCC environment" such as OS Version, compiler(s) version(s), MPI type and version, OFED version, Spectrum Scale Version, Slurm Version, xCAT version?
ANS: OS: Ubuntu 22.04

Compiler/MPI: foss2023b from EasyBuild, (GCC 13.2 /OpenMPI 4.1.6), but we also have the Intel compilers and MPI available and may consider alternatives suggested by the vendor.

OFED: 23.10-2.1.3.1-LTS

Scale: 5.1.9

Slurm: 23.02.7

xCAT: 2.16.5

9. Page 18, Performance Details section: In the Performance Details table, the last three line items are listed as “Cost for one large memory.” However, elsewhere the RFP states that pricing should be submitted separately. Will you please confirm MSU wants to see cost/price information in the Performance Details table?

ANS: Editing error. Pricing should be on the pricing sheet only.

10. In Section 7, (Network) you mention the Infiniband Topology as a single high-speed fabric, but in the pricing table you don’t have a line for network pricing separate from the Compute and the GPU clusters. How do you desire the pricing for the network of these 2 clusters to be shown on the pricing table as the clusters could share common components?

ANS: Per 7.b.iv.5, All required L2 switches and L2-L3 links to support cluster24 and cluster24-gpu should be included in the cluster24 (Line Item 1) configuration. L1 switches, L1-L2 cables, and L1-node cables for cluster24-gpu should be included in the appropriate quote for cluster24-gpu. Line items 2 and 4 should include any additional switches and equipment required beyond the existing configuration.

MSU is not requiring a dedicated L1 switch for cluster24-gpu if there is sufficient switch capacity on cluster24.

11. In Section 8.1.e, you mention “The rear door heat exchanger power consumption will be provided by MSU HPCC.” Please explain further what you mean by “Power Consumption”. It’s a bit confusing in this context.

ANS: MSU will supply active rear doors with fans. The power consumption will be fans to draw air through the rack.

12. In Section 8.1.g.xiii, You mention “In-rack type CDU facility chilled water flowrates are anticipated at less than 80 LPM”. What is the minimum flowrate?

ANS: Our chilled water system can turn down to as little chilled water flow as is applicable for loads, so from a Facilities chilled water perspective, we don’t have a minimum flowrate criteria.
13. You mention benchmarks throughout the document, but we don’t see any specific (minimum) benchmarks that need to be achieved. Do you have any specific benchmarks that we need to address?

ANS: Performance (as measured by the benchmarks defined in section 2 and in the performance detail form) per dollar is our primary evaluation metric. Vendors should maximize performance on the defined benchmarks for the most competitive bid.

14. In section 8.1.g.v, you mentioned that MSU will provide the rear door heat exchanger model and specifications. When will we receive this info?

ANS: After the bid is awarded.

In the Objective for the compute cluster, SPEC2006 is mentioned, but in the Acceptance section and in the performance details table, SPEC2017 is mentioned. Are either of these typos? Or are we expecting to run both?

ANS: 2006 is a typo. 2017 is the target.

15. What target OS (Ubuntu or RedHat) should be run for the install/benchmark?

ANS: Ubuntu 22.04 LTS

16. The floor is poured concrete. All doors have a 96” (W) x 84” (H) clearance.” The height clearance is low since MSU wants to use 48U racks (48 x 1.75inch = 84inch – that is without shock packing material). Not sure how any rack that is 48inch will fit through that door height?

ANS: Editing error. 96” vertical. ANS: MSU will supply doors. If you have an integrated door solution, please provide that as an option with pricing.

17. Are you asking us to provide the Rear door coolers as part of our RFP Bid? (see section 8G) If yes, what is the model number? If yes, are you asking us to quote the installation of these doors?

ANS: MSU will supply doors. If you have an integrated door solution, please provide that as an option with pricing.

18. Using the existing core L1 switches will prevent NDR switches, do you want to include the L1-L2 cabling in the RFP?

Given that, let’s drop those cables and MSU will discuss core switch plans with the winning bidder.

19. Does MSU prefer NDR? Would you want to see the newest technology in e newest cluster? Is that a general statement you can make?

There are some compelling options in NDR, but we are not specifying a specific generation. MSU would appreciate NDR but would consider HDR; we are considering overall best value for the university.

20. Which version of MLperf?

Latest; 3.1.
21. Target cooling capacity on the rear doors?

We do not have a specific target. MSU will have doors on each rack to minimize impact to the facility. MSU is interested if the vendor has an integrated solution with their rack system.

22. On the GPU side of the House, can you give philosophy on how you would choose between the different options you've outlined?

There are three drivers on our GPU questions here; one is cost per node. NVIDIA is very good at pricing for performance, and the top-of-the-line solutions are difficult for researchers to obtain funding for. Second, a significant fraction of the MSU research community does not need double precision floating point. Third, we’re looking at non-CUDA options to see if they can meet the needs of our researchers, and how it plays into the need of our community.

23. There are two clusters; will the benchmark be expected to run on every node, or are you going to add admin nodes?

We have an existing admin structure that we will integrate this cluster into. Our evaluation criteria will be based on total performance; if the vendor needs admin nodes we will not run the acceptance testing on, but do not expect them to contribute to the overall performance.

24. What if during acceptance testing one node is running admin services which results in a greater than 10% variation in performance?

MSU has existing admin infrastructure that those services would be running on. If you can’t use that, any nodes included for administration would not be under the 10% variation rule and not be included in the total performance calculation.

25. Does the cluster whole cluster HPL include CPU and GPU or just CPU?

The cluster whole cluster HPL is just cluster CPU, not CPU and GPU. Single-node HPL should be provided for CPU nodes and GPU nodes.