

Mississippi State University

Request for Proposals 18-51

High Performance Computing System

May 14, 2018

Questions and Answers

See below the questions we received for this RFP. Please use the answers to formulate your response to the RFP.

Q1. What is the planned chilled water supply temperature to the CDU?

A1. 45-50 F

Q2. What are the planned room temperature and relative humidity in the data center?

A2. 70F room temperature with 40% relative humidity

Q3. Are there any drawings of the room/facility where this equipment will go? If so, could you please provide them to us.

A3. Yes (attached)

Q5. The RFP states that MSU will install the module power distribution unit. Will the MPDU be installed at same location as compute racks? Can MSU provide us a floor layout and status where the MPDU will be located so we can estimate the MPDU power pole to rack level PDU length? The Module Power Distribution Unit is about the size of a standard 19" rack.

A5. The PDU/RPP will not be installed inline with the compute racks, but will be located in close proximity. See attached drawing.

Q6. What is the facility supply line Chillwater temperature range so we can determine size of the CPU requirement for the system?

A6. 45-50 F

Q7. What type of 10GigE uplink connection required for the management Network? 10G SR or LR fiber link or facility will provide uplink cables?

A7. 10G SR optics should be provided by vendor; facility will provide cables for connectivity to facility LAN

Q8. Due to the complexity of the RFP, is it possible that the RFP due date be extended to the end of the month?

A8. No

Q9. Due to new Moab HPC suite, which has some stronger hardware requirements than a couple of years ago. Two servers are needed now with the specs below. Therefore, we would like to have a clarification if MSU wants to use 2 of the login nodes as Moab servers.

<http://docs.adaptivecomputing.com/9-0-4/suite/help.htm#../Subsystems/installRH7help/Content/topics/hpcSuiteInstall/prepare/hardwareReq.htm%3FTocPath%3DInstallation%2520and%2520Configuration%7CInstallation%2520and%2520Configuration%2520-%2520RHEL%25207%7CPlanning%2520Your%2520Installation%7C> 1

| | | | |
|--------|-----|-------|---|
| Medium | 500 | <100k | Moab Server+Torque Server Host <ul style="list-style-type: none">• 16 Intel/AMD x86-64 cores• At least 32 GB RAM• At least 1 TB dedicated disk space Insight Server Host <ul style="list-style-type: none">• 8 Intel/AMD x86-64 cores• At least 8 GB of RAM dedicated 1 Gbit channel between Insight and Moab• 128 GB local SSD for swap• At least 512 GB disk |
|--------|-----|-------|---|

A9. The Workload Manager/Scheduler will be hosted on the System Management Nodes.

Q10. Power/Cooling:

- Facility CW Loop Design Parameters:
 - Supply Water Temp (F) 45-50 F
 - Design dT (F) 14 F
 - Design Flow Rate (how much flow can be allocated to our solution – this will help us confirm our allowable total solution kW) 420 GPM
 - Design Flow dP (PSI) 25 PSI
- Cooling System Installation – do you require scoping of CDU and associated hardware by the vendor or will MSU handle the installation of CDU components. MSU will connect facility chilled water and power to the vendor-provided CDU.
- Facility 480V, 3P+G, 400A Feeder available fault current level 65 kAIC
- Confirm the total power allocated to this solution. The maximum power allocated to this solution is 330kVA (provided via 100% breaker at 480v, 400A).
 - The 480V, 400A feeder suggests 300kVA allocated. Please confirm.
 - If 300kVA is correct, a typical upstream breaker size transformer would be 450A or 500A. Is this acceptable (knowing that we would only ever draw ~362A on the line-side of the 300kVA transformer).

Q11. High-Capacity Storage:

vii), (3) All HDDs shall be self-encrypted drives.

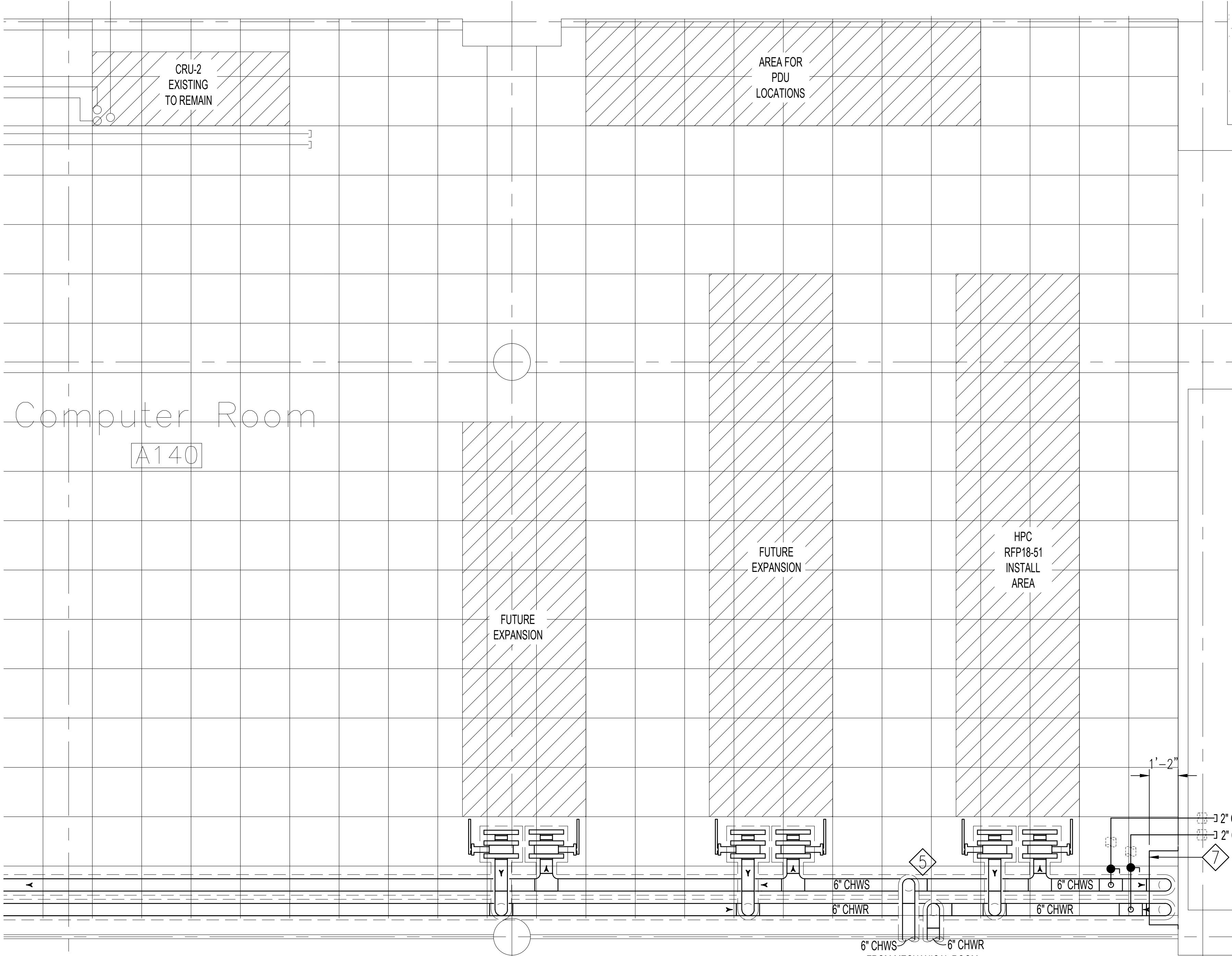
viii), (4) All HDDs shall be self-encrypted drives.

Are these statements implying that all drives that comprise the file system, including both the capacity disk (OST) and metadata targets (MDT) shall be self-encrypting? Is it also correct that non-file system related disks (i.e. the disks within the controller and server (MDS & OSS) that house the OS) do not require encryption. Please clarify.

A11. The non-file system related drives (MDT, OS, etc.) do not require self-encryption.

Q12. The cooling CDU requires a dedicated 460v 3-ph input, but facility only provides one feed of 480v circuit and it will be connected to modular power distribution unit to provide power for the HPC system, therefore we need a 2nd AC feed to power up the 460v 3-ph CDU.

A12. If necessary, a 2nd 480v 3-phase power feed (via no larger than a 60A) can be provided to power the CDU. This however, is not a preferred solution. If implemented, no other equipment can be connected to this feed.




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M102

COMPUTER ROOM ENLARGED MECHANICAL PLAN

Scale: 3/8" = 1'-0"

FOR PRICING
PURPOSES ONLY



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PDC #305-382
HVAC ADDITIONS FOR
SUPERCOMPUTER AT HPC2
MISSISSIPPI STATE UNIVERSITY

| REVISION | DATE | DESCRIPTION |
|----------|------|----------------|
| | | Addendum No. 1 |
| | | RFP-1 |

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|---------------------------|
| PROJECT NO. 17049 |
| DRAWN BY: RW |
| CHECKED BY: BCC |
| DATE: NOVEMBER 2017 |
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