

# UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

**Enterprise Campus Storage Upgrades**

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Title

**Brian Doré**

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Name of Submitter  
*(Faculty or Staff Only)*

**University Computing Support  
Services**

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Organization

Title: Enterprise Storage Upgrades Date: 2022-06-14  
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Department/College/Org: University Computing Support Services

**ABSTRACT (250 words or less):**

University Computing Support Services (UCSS) provides enterprise computing resources, services, and support for the entire university community. In order to provide those services, UCSS operates a modern computer infrastructure including software, servers, and storage. This proposal seeks matching funds in our effort to upgrade and modernize our main data storage system which provides enterprise UCSS services to students and faculty.

## **a. Purpose of Grant**

If funded this matching grant will provide the funds to upgrade and enhance functionality over our existing enterprise storage system which provides storage needs for all campus computer infrastructure and services provided by UCSS.

UCSS provides and supports all centrally managed computer infrastructure on campus. At the current time this includes a Redhat virtual machine cluster, a Microsoft Hyper-V cluster, and many standalone servers. This infrastructure either directly provides or supports crucial services for all campus users including:

- Windows active directory service
- Windows System Center service
- Microsoft Windows Update service
- Official university web sites including the main [www.louisiana.edu](http://www.louisiana.edu) landing page
- Numerous departmental, organizational, and individual web sites for university constituents and research projects
- Domain Name and DHCP services
- Departmental and organizational file shares
- Electronic mailing list service
- On-campus mail routing
- Digital signage
- Password self-service
- Network monitoring and management
- Database services
- LDAP directory services
- WebAid time and attendance service

The current enterprise storage system is over 6 years old. At the time it was purchased UCSS anticipated a useful life of 5 years. The system has now been designated as “end-of-life” by the vendor meaning that maintenance will be phased out in the near future.

The proposed new storage architecture would completely replace the current system and would provide a local hybrid offering while providing a gateway to cloud based storage offerings. As always, when replacing enterprise components, UCSS aims to procure a system which provides superior features and performance. In addition to the increased performance, the new architecture provides for enhanced redundancy for our on-campus workloads as well as provides the necessary features to allow UCSS to incorporate cloud-based storage solutions as part of the services offering.

We anticipate the new system will include at least two physical appliances, with one unit located in the Stephens Hall machine room and the other unit located in the Abdalla Hall machine room. This provides redundancy across campus and provides for enhanced disaster recovery. The upgrades will also include new dedicated networking hardware to replace the networking hardware which was purchased along with the current storage system.

## **Direct Impact to Students**

As indicated above, the university enterprise storage system is a key piece of the on-campus computer infrastructure which supports the day-to-day operation of the University as a whole. In that regard the system has a major impact on the student body as a whole. As for specific services,

- All of the STEP operated computer labs depend on UCSS to provide central services for the operation of the computers in those labs
- DNS and DHCP services are necessary for all computers (on campus and off campus, university-owned and privately-owned) to access university services
- Electronic mailing list services provide announcement and discussion lists for all departments and organizations (including student organizations)
- All constituents use the self-service password management system to activate their account as new users as well as perform password maintenance while affiliated with the university

### **b. Projected Lifetime of Enhancement**

UCSS anticipates the new storage system and networking hardware will have a useful life of 5 years.

### **c. Person(s) responsible for implementation, installation, maintenance, operation, and training**

Members of the UCSS Technical Services staff will be responsible for all aspects of this project's implementation. The vendor will assist with initial installation and configuration of the systems as well as training of UCSS team members. Mr. Brian Dore will be the project lead.

### **d. STEP Plan Alignment**

The services provided by UCSS support several of the STEP Program's service level objectives (SLOs).

- **SLO-1 – Create and maintain a stable and consistent software environment in all classrooms and open-use labs.**  
Both System/Software Center (cited in SLE1.1) and desktop and server operating systems (cited in SLE 1.2) are directly supported by the UCSS compute and storage infrastructure.
- **SLO-2 – Continue to expand and enhance the campus network/internet access and its capabilities.**  
UCSS provides several services in support of the campus network including network management/monitoring, DNS, and DHCP services.
- **SLO-3 – Create, deploy, and maintain effective learning environments that facilitate multiple instructional and learning styles**
- **SLO-4 – Enhance open use labs with technology that allows students to fulfill coursework requirements.**  
As mentioned previously, the infrastructure operated by UCSS is crucial to all on-campus computers including those used to enable smart classrooms and STEP labs.

As with most major platform upgrades, UCSS will be taking a phased approach for this effort. This

request is for Phase I which will allow for the initial re-architecture, networking infrastructure, and deployment of the primary storage system as well as the migration of existing data. Phase II (January 2023) will focus on the secondary platform for redundancy as well as cloud storage capabilities and the retirement of the current end of life storage platform. UCSS is requested matching funds for this implementation as well as a 5-year sustainability plan. UCCS and UL IT will also underwrite the cost of the networking equipment that is required for connectivity to the new storage system.

**Instruction Sheet:**

1. Complete the cover page.
2. Complete the abstract page.
3. Give a description of your proposal in 12 pt. font, single spaced, addressing the following points:
  - a. Purpose of grant and impact to student body as a whole
  - b. Projected lifetime of enhancement
  - c. Person(s) responsible for
    - i. Implementation
    - ii. Installation
    - iii. Maintenance
    - iv. Operation
    - v. Training (with qualifications)
  - d. The narrative of the proposal must include the purpose and justification for each of the items listed in the Budget Proposal.
4. Complete the Budget Proposal form.
5. Include any additional information relevant to your application.
6. Discuss all previous funded STEP projects (if any).

**ONE ELECTRONIC COPY (Microsoft Word or Adobe PDF) OF  
PROPOSAL SHOULD BE EMAILED TO  
[stepproposal@louisiana.edu](mailto:stepproposal@louisiana.edu)  
BY DEADLINE DATE.**

**For additional submission instructions and deadlines,  
please visit <http://cio.louisiana.edu/step-process>**

**NO HARD COPY SUBMISSIONS WILL BE  
ACCEPTED!**

## Phase I Budget Proposal

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|----|--------------------|---|
| 1. | <b>Equipment</b>   | <b>\$150K</b><br>-Primary Storage unit in SMH<br>-Network Interfaces<br>-Controllers<br>-Disk Tray: SSD (Block)<br>-Disk Tray: HDD (File) |
| 1. | <b>Software</b>    | <b>\$30K</b><br>-Storage Software licenses/subscriptions  |
| 2. | <b>Supplies</b>    | <b>\$</b>   |
| 3. | <b>Maintenance</b> | <b>\$ (5-year maintenance is included in the equipment cost)</b>  |
| 4. | <b>Personnel</b>   | <b>\$ (Provided by UCSS)</b>  |
| 5. | <b>Other</b>       | <b>\$</b>   |

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<b>TOTAL STEP REQUEST:</b>	<b>\$180K</b>
5 Year Sustainability	\$36K

**MATCH:**

UCSS Match	\$50K (For Storage Equipment listed above)
UL OPEX Match	\$180K (Annual Cloud Services \$30K x 5 years)
UL IT Match	\$50K (Networking infrastructure)
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<b>TOTAL 5 YEAR UCSS/IT MATCH:</b>	<b>\$280K</b>