

(133) BUSINESS CASE: STORAGE, CONSULTING & TOOLS FOR RESEARCHERS

PROJECT SUMMARY

UW-IT has been providing excellent networking services to UW researchers for many years, but has only been offering researchers computing and storage services for a few years. We propose that increasing investment in central computing cyberinfrastructure will benefit UW researchers and the UW by driving consolidation of support, operations, and skill sets around a "common core stack" of research computing solutions.

KEY OBJECTIVES AND BENEFITS

Today, there is 1 FTE who manages the Hyak and lolo system. Most of that person's time is spent on operations, small continual improvements, and at most one significant project each year. We propose adding another FTE to provide backup coverage for operational duties, but more importantly, to provide increased capacity to complete several significant projects each year that will add more offerings to our central cyberinfrastructure computing services.

Enhancement projects that would be considered for implementation:

- Enable lolo file storage so any researcher can access and easily move Big Data on/off campus (GridFTP, Globus Online, BBCP, HPN SSH)
- Create hybrid cloud with Open Science Grid to share compute cycles on national basis
- Enable data stored in lolo to be published and/or manipulated on standard servers outside of Hyak
- Coordinate licenses, integrate and broaden access to key software package used by research community
- Pilot new software tool deployments and standardize support configurations (Hadoop, Cassandra database, etc.)
- Improve self-service documentation and assistance with leveraging common computing solutions

As more disciplines begin to require computing and Big Data resources for research, having easy-to-access and easy-to-use core cyberinfrastructure becomes important for faculty recruitments and retention. A common core infrastructure is also more efficient for the UW because it will allow those who already understand the tools to share their knowledge and collaborate with others.

TIMELINE ESTIMATE

Estimate of Project Duration (#of Months): 12 Start date (Month, Year): July 1, 2014

BUDGET ESTIMATE – complete the yellow boxes (double-click)

| | Implementation | Ongoing (Annual) |
|---|--------------------|-------------------------|
| Contributed Labor (# of Hours @ \$107): | \$ - | \$ - |
| New Labor (# of FTE @ \$135,000/yr): | 1 \$ 135,000 | 0.5 \$ 67,500 |
| HW/SW/Other non-Labor Expenses: | 150,000 \$ 150,000 | \$ - |
| Total: | \$ 285,000 | Total: \$ 67,500 |

FUNDING

How will this project be funded? (check all that apply) Existing UW-IT Budget Provost Self-sustaining, grant, other

Are the funds for this project already committed?

Implementation: Yes No Partially, explain: If new services were self-sustaining, could be partial.
 Ongoing (annual): Yes No Partially, explain: If new services were self-sustaining, could be partial.

PROJECT DEPENDENCIES

None, although build-out of campus 100G High Speed Research Network and 40G backbone are key enablers.

PRIORITIZATION CRITERIA

1. Strategic Value

1. Does this project improve the University's academic or research excellence?

Yes, for those researchers who choose to use a common service stack, they will save start-up time and effort, and can devote more of their research time toward research instead of operating computing systems.

2. Does it improve the UW's competitiveness by helping to attract the best students, faculty, and staff or by increasing and diversifying funding?

Yes. Faculty recruitments and retention are frequently dependent on what technologies the UW can offer the candidate. Candidates who do not wish to run their own infrastructure are harder to attract when we don't have any easy way to meet their computing and networking needs. By having current Big Data and other cyberinfrastructure technologies available, researchers can also better compete for grants.

3. Does it enhance interdisciplinary collaboration in research, instruction, or other University efforts across organizational, regional, or global boundaries?

Yes. When research teams at the UW use a common set of technologies, they not only can share ways on how to do the research computing, but also more easily share their research between groups.

2. Impact

4. Does this project improve the personal productivity or experience of students, faculty, or staff (i.e. individual end user of system or service)?

Yes, it simplifies the startup and ongoing operational efforts for researchers and their staff for cyberinfrastructure tools. Common computing technologies and knowledge also simplifies inter-group sharing.

5. Does it benefit a large number of UW students, faculty, or staff?

Potentially. The selected tool set enhancements will need to be properly selected and then adopted by researchers. Also, any service that comes with an additional cost will need to be implemented so the charges are reasonable and competitive with other alternatives.

6. Does it improve administrative efficiency or reduce overall administrative costs for the University (and not by shifting costs to units)?

Yes. By having fewer implementations of different technologies for solving the same issues, the UW will operate more efficiently and make better use of deployed computing systems.

3. Risk

1. Does this project help sustain and strengthen core IT operations, mitigate operational risk, or ensure key services are resilient?

Strengthen core IT operations: Yes. The additional staff will form a core team of expertise, so if a staff member elects to leave, the impact will be much less than today. It also strengthens IT operations across the UW by focusing skills on common set of tools, and enables more interactions and conversations between central IT and departmental IT.

Mitigate Operational Risk: Yes. Consolidation of large-scale research computing to a core team with strong vendor relationships reduces risk compared to multiple ad-hoc alternatives.

Resiliency: Central IT solutions are designed for resiliency since the added cost is minimal for any system that is used by a significant number of people. Resiliency is often left out of ad-hoc small systems.

2. Does this project address compliance, financial, or information security and privacy risk?

Central IT systems address these needs as required by customers. No unique needs are identified at this time.

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APPROVED BY (Division Head): Brad Greer

DATE: 1/27/14