

Preliminary list of eScience needs, created by the eScience Working Group during 2006-07

Shared intellectual infrastructure

- Shared expertise in key eScience technologies such as sensor networks, cluster computing, scientific databases, data mining, machine learning, and visualization; the envisioned roles for this mixture of scientific staff and faculty are to assist PIs in writing credible research proposals and executing on those proposals, and to position UW as a leader in advancing these technologies

Shared physical infrastructure

- Remain at the forefront of research and educational networking
- Expanded machine room space for racks of blades, storage, etc. – a mixture of on-campus, off-campus, University-owned, commercial
- Small scale but emblematic instantiations of cooperative cluster computing (the University need not provide a large-scale facility, but must make it easy for PIs to provide their own and access others')

Shared expertise for cluster computing, Grid computing, and OptIPortal use

- Centralized support for a starter kit and “try-it-and-see” Windows and/or Linux cluster computing, including Condor-like remote job execution facilities, RPM, Rocks, etc. – centralized knowledge, centralized software availability, centralized interaction
- Similarly, centralized expertise regarding Grid participation
- Similarly, centralized expertise regarding OptIPortal participation
- Establish and coordinate “working groups” / “user communities” for each
- Small-scale instructive implementations of each, as noted above

Shared storage and archive support

- A centralized campus storage cluster and related services – a charged-back service similar to Amazon S3 (Simple Storage Service)
- Centrally coordinated and operated remote large scale data archive services – leverage C&C's existing efforts to establish coherent, cost-effective archive storage capabilities to ensure the integrity and recoverability of data for UW and its hospitals (and the UW's partners)

Partnerships

- Leverage future large-scale data site/hosting opportunities – find opportunities in a large scale data hosting role, and establish partnerships for long-term strategic leverage in data storage / data mining opportunities
- Establish a new network of regional cyberinfrastructure (CI) partnerships: in general, develop relationships with centers possessing complementary cyberinfrastructure expertise and resources; there is potential in working with a mix of PNNL, the local biotech industry, Microsoft, Alaska and Hawaii and the WWAMI states; special opportunities in environmental and biomedical science