INDIANA UNIVERSITY

5 – Philosophy of Abundance

Action Item Template Response

General Action Item Information

Lead Division/Office: Enterprise Infrastructure
Action Item Number: 5
Action Item Short Name: Philosophy of Abundance
Dependencies with other EP Action Items: 3, 4, 6, 7, 21
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I. DESCRIBE YOUR PLANS FOR IMPLEMENTING THIS ACTION.

The intent is to provide IT infrastructure resources to the university community that enable a large percentage of IU students, faculty and staff to do their work without worrying about consuming resources. The desire is to eliminate the term "quota" from the delivery of IT services, or at least raise quotas to levels that most people will not reach. If there is a technical need for a limit on resources, the goal is to provide the default allocation to meet the needs of 90% of the users of that service.

Several strategies need to be employed to reach a philosophy of abundance.   The technology needs to address the fundamentals that the IT literature describes as "cloud computing." This requires increased use of virtualization and networking services to deliver high-quality and robust infrastructure. This will require collaboration. Collaboration with commercial providers such as Google, Microsoft, or Amazon will provide cost-effective solutions for certain services, especially for students. IU could not provide a strategy of abundance for our vast student population without commercial services. IU must also better collaborate across its campuses and departments to leverage investments in storage, servers, and peripherals. The leveraging of resources, combined with lower costs for technology, will allow IU to provide internal clouds for improvements in general IT use.

Researchers will need national and regional collaborations to meet the large demands for compute, storage, and network capacity. IU will continue to invest in local resources to meet research needs and will increase its collaboration in projects like HathiTrust.

A key component of most services and applications is storage. Development of a tiered storage model will play a major role in our abundance possibilities. As envisioned, one of the primary attributes of this model is *integrated archiving of unstructured data*. Archiving (and subsequent retrieval back to primary media) should be automatic processes and require nothing on the part of the customer. Tape storage (which is orders of magnitude more green than disk) is one-tenth the cost of even the cheapest enterprise-grade disk storage and is the only feasible way we can afford an abundance of storage. In these challenging economic times it is prudent to store inactive data on the least-cost media. A plausible estimate is that 80 to 90 percent of all unstructured data on disk today will never be accessed again.

In concert with tiered storage and archiving, a massively scalable *commodity file system* should be deployed to support all university unstructured data needs. Over the next six months the CIC

(with IU leading) will conduct an in-depth evaluation of a specific technology solution to support a multi-university file system for research data. The solution is fully hardware independent and includes multi-site replication, an integrated archival system, and curation facilities. If the testbed is successful, we should detail plans to expand the adoption beyond RT and deploy a university-wide enterprise solution.

Many other action items articulate the philosophy of abundance in their scope. Enterprise license agreements with key software vendors provide appropriate software use that is a foundation for abundant computing.   The action items related to communication and network use focus on unmetered services for collaboration. The consolidated services initiative focuses on leveraging financial and human resources to meet the demands for abundant computing.

Combined with the philosophy of abundance is the need for responsible use of resources. UITS needs to continue to provide education and information on responsible use and realize that in some instances, printing for example, needs for environmental stewardship may govern the philosophy of abundance.

II. WHAT ARE THE POLICY AND PRACTICE IMPLICATIONS OF YOUR PLANS?

III. IDENTIFY STAKEHOLDERS.

UITS stakeholders include: Communication and Support, Learning Technologies, Enterprise Software, Information and Infrastructure Assurance, Networks, and Research Technologies.