

## MU Campus Cyberinfrastructure (CI) Plan

MU's Cyberinfrastructure (CI) Council is made up of faculty and IT professional representatives of MU's schools, colleges and divisions. In consultation with researchers and others from across the University, the CI Council has developed this plan and an ongoing structure to help assure its implementation.

### Vision Statement:

**MU is committed to providing and supporting the cyberinfrastructure necessary to excel in the discovery, dissemination, and application of knowledge in an environment of rapidly changing technologies, so we may optimally fulfill our research, education, outreach, and economic development missions.**

### Planning Principles

1. Cyberinfrastructure (CI) is broadly defined as: the research environments that support advanced data acquisition, data storage, data management, data integration, data mining, data visualization and other computing and information processing services. It is meant to include not only the technology but also the human resources necessary to make it useful and effective.
2. The need for cyberinfrastructure is not limited to the science and engineering disciplines. Scholars in the humanities and social sciences also require local and remote access to large data sets, instruments, and archives. CI is necessary for the academic enterprise, and critical to MU achieving its goals and fulfilling its teaching, research, outreach and economic development missions.
3. CI is a vital part of the educational endeavor. In particular, graduate students use and benefit from CI, as do the growing number of undergraduate students engaged in research.
4. Research data is an important asset of the University and should be protected and preserved accordingly. The University should provide appropriate data dissemination and data security, preservation and curation services, and researchers need to take advantage of these services.
5. Resource allocation decisions should be based on the “common good” which can benefit many. An architecture that supports integration and is extensible should be designed and followed.
6. Faculty and other users of CI need to be engaged in the process to help prioritize purchase decisions, and assure good stewardship of limited funding and resources. The faculty increasingly need to consider resources available beyond the campus and help assure an effective and balanced use of on-campus and off-campus resources.
7. It is necessary to provide a level of “no-charge” CI resources. However, it is also necessary for researchers whose projects demand a higher level of service or resources to have a “for-fee” service available for their use.
8. A sustainable business model for CI is likely to include a combination of university funding, student fees, and external project funding. Researchers should be encouraged to work collaboratively with program officers and funding agency staff to budget for and include relevant CI services and resources as a direct cost of research projects.

## MU Campus CI Plan - Recommended Actions

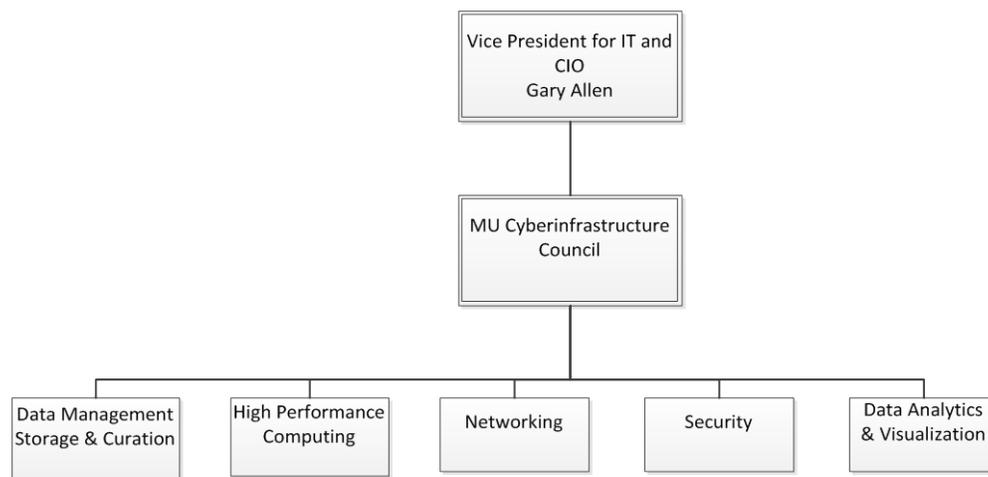
1. Continue to develop effective partnerships with investigators on research projects that need significant CI resources. These partnerships have been critical in MU's efforts to maintain and grow the necessary research computing. The appendix includes an overview of many of these partnerships.
2. Participate in regional and national collaborations of library associations and high performance computing centers to devise sustainable High Performance Computing (HPC) and research data repositories as well as local resources which can provide the necessary information security as well as the services researchers need.
3. Increase the availability of hardware, services, and associated support staff. Explore possibilities for development of a Data Visualization Core Facility.
4. Through collaboration with relevant campus academic and administrative groups, work to establish data analytics learning and workforce development opportunities, such as certificate programs and master's degrees.
5. Develop and deploy an ongoing marketing and communications campaign to raise researchers' awareness of cyberinfrastructure at MU and beyond. This effort will be led by the Division of IT and the MU Libraries, as a continuation of an already well-established partnership between those two groups.
6. Within the structure of the CI Council, convene researchers as necessary to assure the highest priority needs are met and provide assistance and consultation to those with extreme or unique needs in finding the resources they require.
7. Maintain and expand the University's network capabilities, which are generally sufficient, but will require additional investments as usage grows and technology changes and expands in scale.
8. Enhance pursuit of partnerships with business and industry. The evolving cyberinfrastructure is altering both the kind and quality of academic research in higher education. It is stimulating collaborative research endeavors that draw on diverse and dispersed partners across national and international communities. To effectively meet the growing demand for CI to meet our strategic objectives, MU needs to expand our meaningful and effective partnerships with outside entities.

## MU CI Council Structure and Governance

MU's Cyberinfrastructure Council (CI Council) is generally organized along school/college organizational structure. This allows each researcher to have an easily identifiable contact who serves as her/his representative. Council members are identified at:

<http://doit.missouri.edu/research/ci-council-members.html>

To assure the key components of the necessary cyberinfrastructure receive the necessary focus and guidance and priority setting, the CI Council will align in a work-group structure designed to help assure the needs in each of these areas is well understood and receives the appropriate priority.



These groups will initially analyze and study the relevant results of the Spring 2013 Cyberinfrastructure Survey of MU faculty and graduate students.

Responsibilities of the "Permanent "CI Council include:

1. Review progress toward the CI Plan and refine the plan as demand and situations dictate.
2. Establish and communicate demands for and recommended priorities for purchase or access through collaborations or other means.
3. Assure that MU has a "Defined CI Architecture "to explicitly determine what will (and will not be) supported.
4. Establish, refine, and communicate a business model that will provide a sustainable funding necessary for CI resources. This will likely include some level of generally available "no charge" resources, and also provide for a higher level of "for-fee" services.
5. Provide leadership in properly securing research data.
6. Help assure campus leaders are informed of the needs for CI, and how other universities are meeting those needs – in particular the needs for human resources: not just hardware and software. Demonstrate best practices and help facilitate and inspire effective collaborations.

For CI Council membership and a variety of other information, see: <http://doit.missouri.edu/ci/>