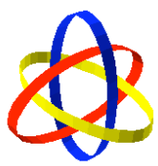
Late Breaking Good News

The President will commit to a ten year plan to double basic research funding at three agencies: NSF, NIST and DOE Office of Science. The aggregate increase for the three agencies will be about 7 percent a year over the next 10 years. In FY07, that means about $910 million in additional funding for research, and about $380 million for education programs.

Here's my quick summary:
+ The President's plan is called America's Competitiveness Initiative (ACI)
    + The initiative has 3 parts - R&D; Education; Workforce/Immigration
    + The R&D plan features a commitment to double the budgets of NSF, NIST, and DOE Office of Science in 10 years, and make the Research and Experimentation tax credit permanent
    + Cost of the R&D piece is $910 million for the agency increases, $4.6 billion for the R&E Tax Credit
    + The Education plan will cost $380 million and includes improvements to the AP/IB Baccalaureate Program, creation of an Adjunct Teacher Corps (basically alternative certification for teachers with expert knowledge in the sciences, I think), and "Math Now" programs for elementary and middle school students
    + The Workforce piece includes increasing training opportunities to 800,000 workers annually, creating "career advancement accounts", and reforms to immigration laws to attract and retain high-skilled workers.

President will be on the road on Thursday (in New Mexico, I think) to talk about the competitiveness piece and the road show will continue for the next few weeks.



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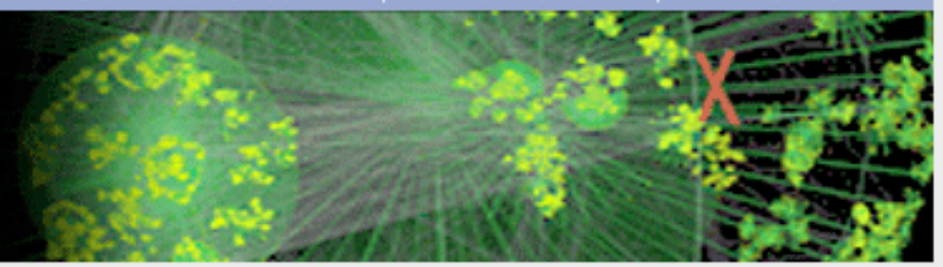
Cyberinfrastructure - stimulating advances in 21st century science and engineering



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Request for Community Input

NSF's Cyberinfrastructure Council has initiated a comprehensive strategic planning process to guide the agency's investments in cyberinfrastructure - the IT-based infrastructure increasingly essential to progress in science and engineering. The agency's plans are being developed in a document entitled *NSF's Cyberinfrastructure Vision for 21st Century Discovery*.

NSF invites community comments on the current draft of this document, which is available at http://www.nsf.gov/od/oci/CI-v40.pdf . Comments should be provided via email to: clinput@nsf.gov. Future drafts of the document will be released as the agency's plans are shaped by community input, and as new chapters are developed.

NSF plans to release the first complete version of this living document in the Spring of 2006.

NSF Invites Input on HPC Acquisition Models

NSF anticipates releasing one or more solicitations for the acquisition of high-performance computing (HPC) systems and support of subsequent HPC services. Prior to the release of the solicitation(s), NSF invites interested parties to provide input on possible models for the acquisition and service support process. Learn more on how to provide input. To view slide presentations and the list of attendees at the September 9 workshop, click here. A copy of the workshop transcripts will be available shortly.

NSF Invites Input on HPC perf. requirements

Publications See All

Report of Blue-Ribbon Advisory Panel on Cyberinfrastructure

Quick Links

Reports and Workshops Relating to Cyberinfrastructure and Its Impacts

Other Site Features

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NSF states intent to "play a leadership role"

- ***NSF will play a leadership role in the development and support of a comprehensive cyberinfrastructure essential to 21st century advances in science and engineering research and education.***
- NSF is the only agency within the U.S. government that funds research and education across all disciplines of science and engineering. ... Thus, it is strategically placed to leverage, coordinate and transition cyberinfrastructure advances in one field to all fields of research.

From NSF *Cyberinfrastructure Vision for the 21st Century Discovery*

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Cyberinfrastructure-enhanced Knowledge Communities (Networks)

Outcomes: New Ideas, New Tools, Education & Career Development, Outreach*

Attributes: Collaborative, Multidisciplinary, Geographically Distributed, Inter-institutional*

Specific Cyber Environments:
collaboratories, grids, e-science community, virtual teams, community portal, ...

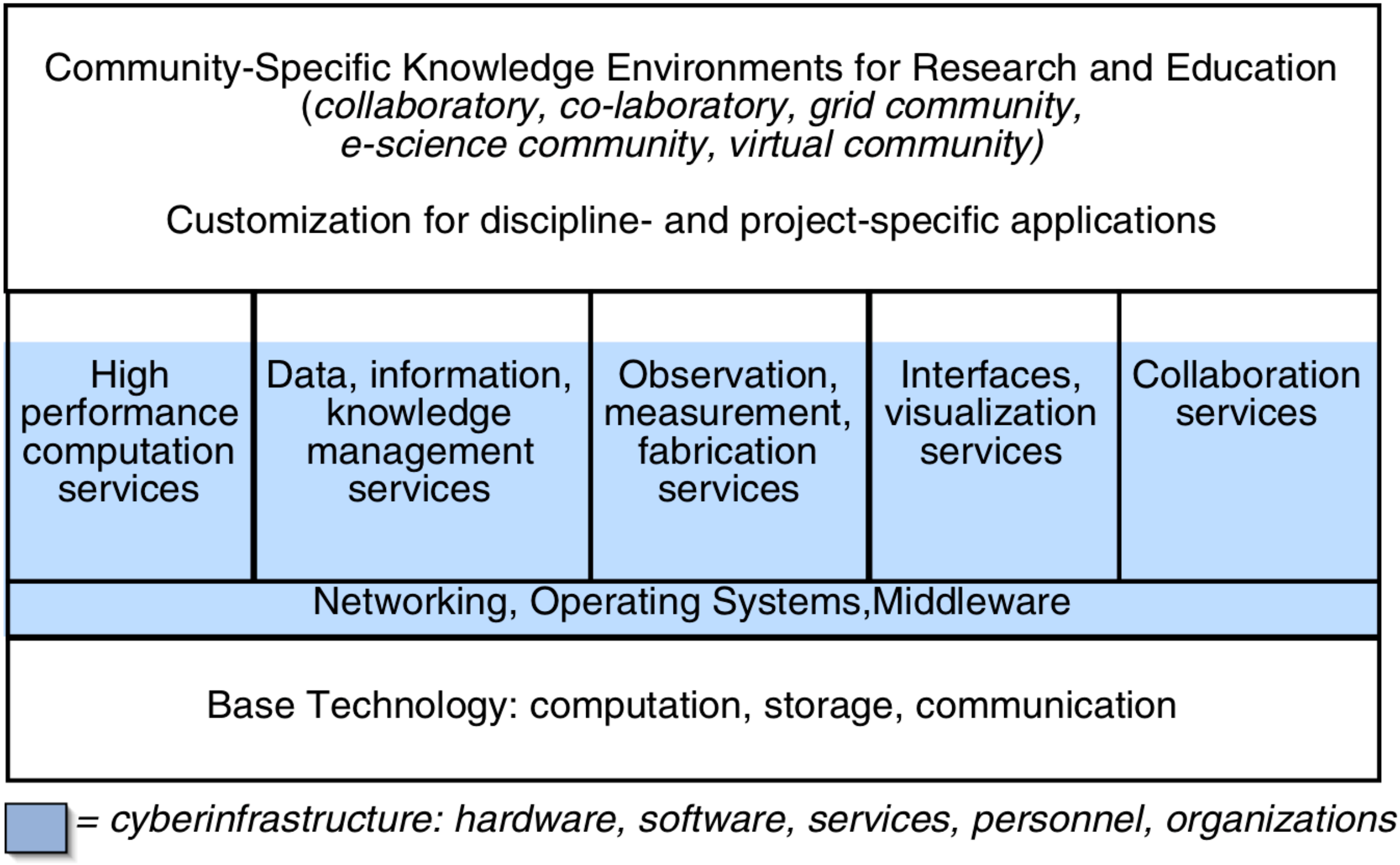
Cyber-infrastructure Services
Equipment, Software, People, Institutions

Computation, Storage, Communication and Interface Technologies

Broader Application to other disciplines and types of activity.

* From Cummings & Kiesler (2003) report on KDI Initiative: Multidisciplinary scientific collaborations, see http://www.p2design.com/papers/kdi.pdf

From CI Advisory Panel Report



towards functionally complete CKCs

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GEOGRAPHIC PLACE	TIME: Same (synchronous)	TIME: Different (asynchronous)
Same	P: Physical mtgs. I: Print-on-paper books, journals F: Hands on labs, shops, studios	P: Shared notebook I: Library reserves F: Time-shared labs, shops, studios
Different	P: AV Conference I: Web search F: Online, real time instruments	P: Email I: Knowbots F: Autonomous instruments, session objects

P: people, I: information, F: facilities, instruments

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From NSF Cyberinfrastructure Vision for 21st Century Discovery

4. Education and Workforce

3. Collaboratories, observatories, virtual organizations

"sophisticated" science application software

1. Distributed, scalable up to petaFLOPS HPC

includes networking, middleware, systems software?

2. Data, data analysis, visualization

includes data to and from instruments?

- *provide sustainable and evolving CI that is secure, efficient, reliable, accessible, usable, and interoperable*
- *provide access to world-class tools and services*

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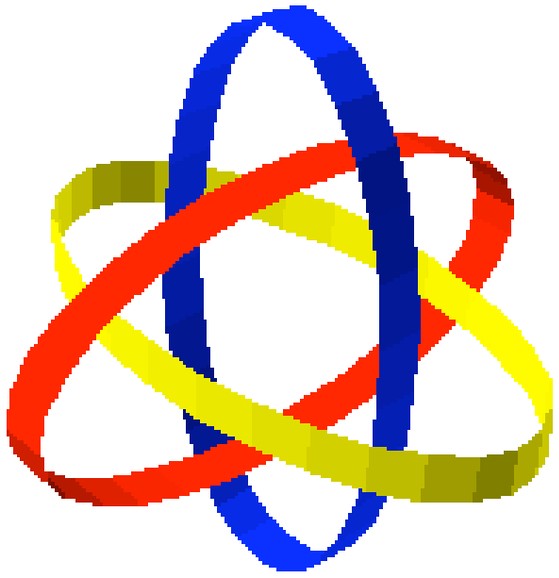
Our panel proposed a 3 component, CI program with potential *to revolutionize* the conduct of science & engineering research and applied education.

R&D for technical and social system architecture

Creation and provisioning of CI



Transformative (Revolutionary) use within research & allied education communities

Borromean Ring Synergy

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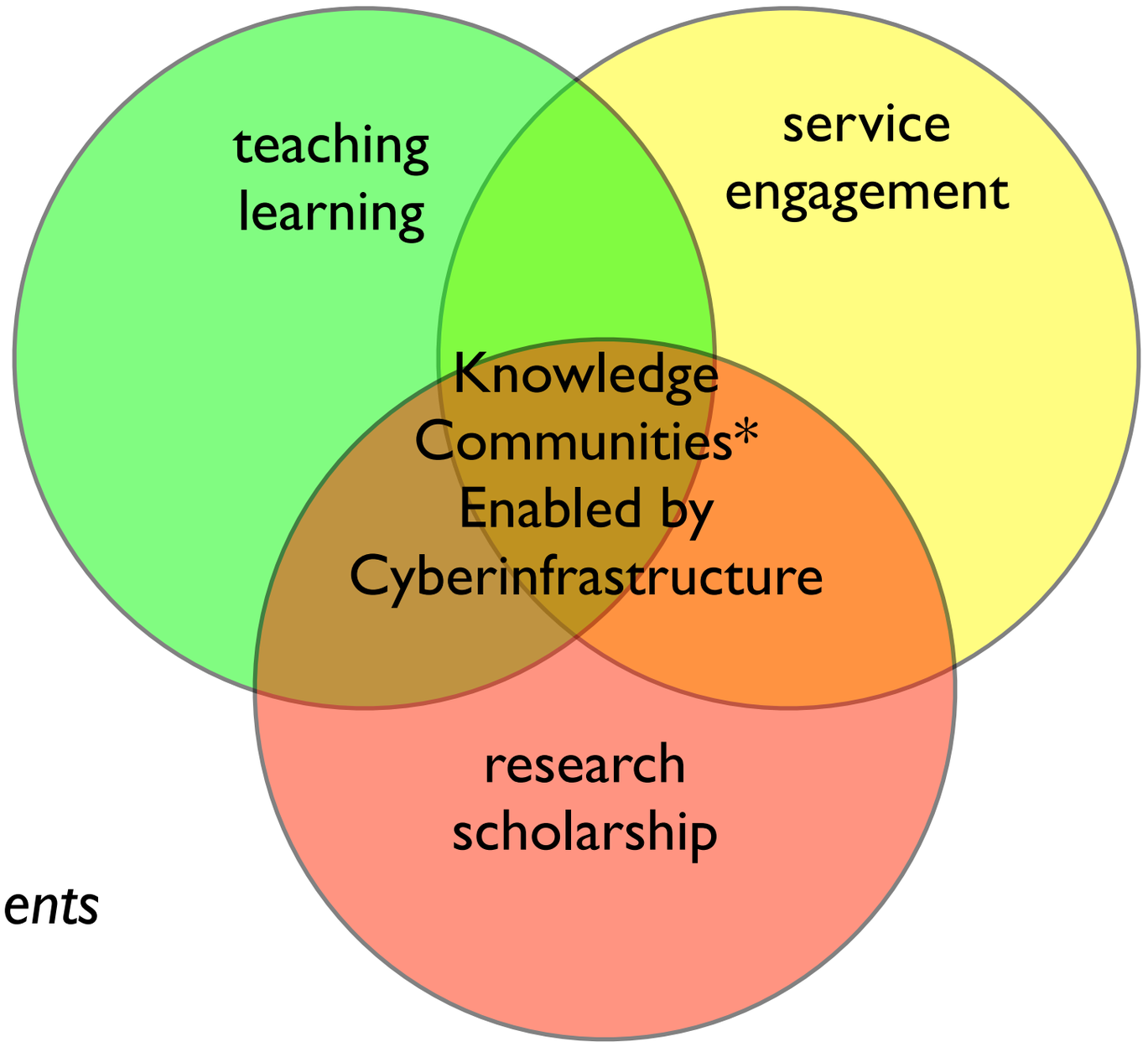
And while we are at it...

- can we create CI environments in support of research, learning, and societal engagement in ways that exploit complementarity between them?
  - *Pasteur's Quadrant research*
  - *Ubiquitous learning environments*
  - *Authentic learning*
  - *Professional development*



The Openness Movement → *The CLEAR Agenda*
The OPEN CLEAR Agenda

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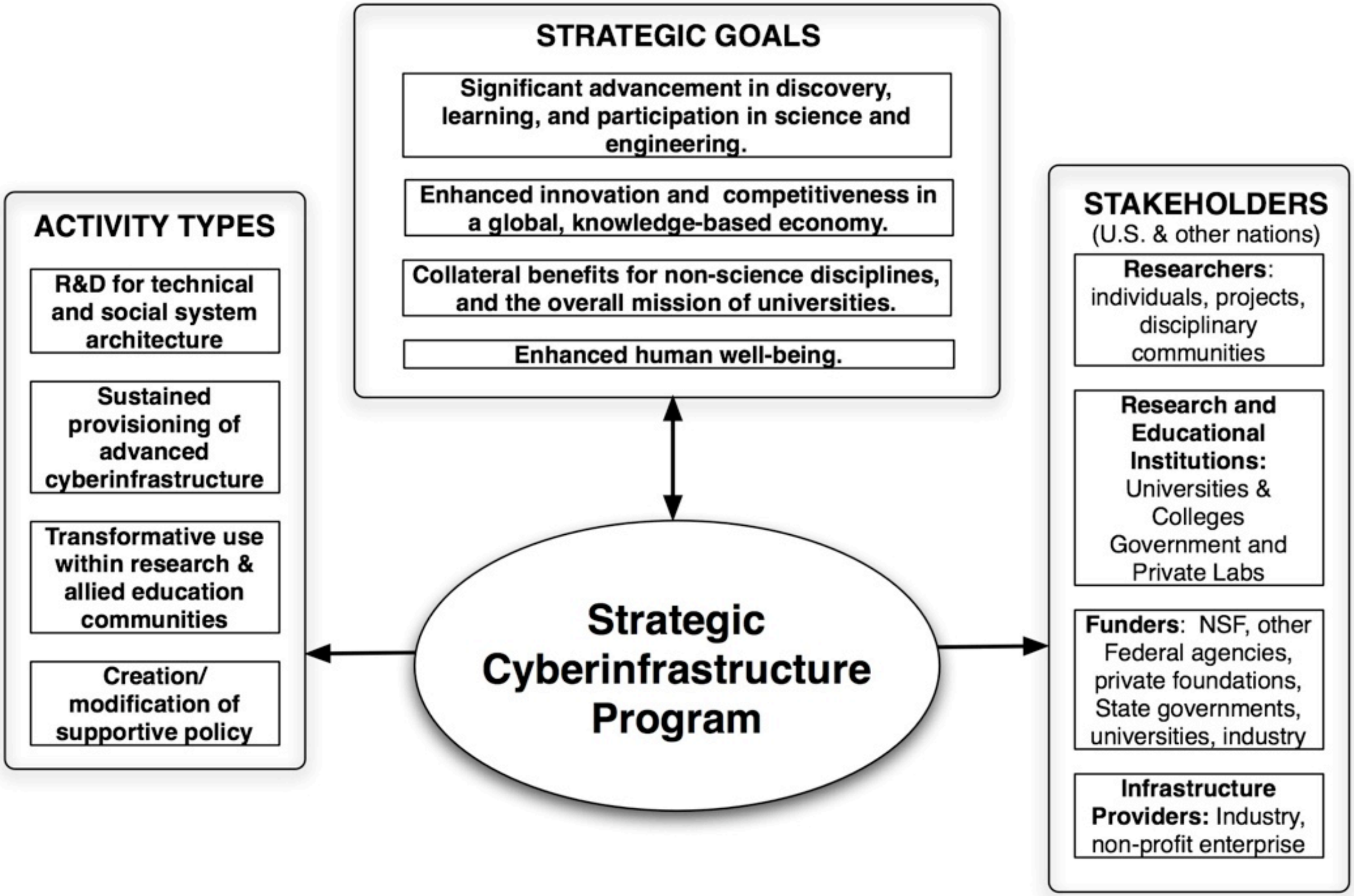
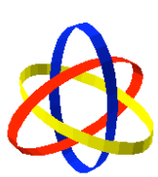
Alignment of stakeholders towards achieving strategic goals



Observations

- Make more visible in an integrated way what is already going on.
- Build on, shape, and extend what exists already. Link with existing and emergent projects in CI enhanced science/ engineering.
- Engagements (not "service"): mutual benefit, reciprocity.
- Are there leap frogging opportunities?
- People, human resources, are the key.
- Wedge of adoption with those ready and able to lead but with explicit scaling/dissemination approach.
- Help align and get resources/participation from multi stakeholders.
- Read and reference NSF strategic plan. http://www.nsf.gov/od/oci/ci_v5.pdf



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