

MECHANISMS FOR COMMUNITY CONSENSUS AND ITS IMPLICATIONS FOR INTERNATIONAL COLLABORATION

Gregory D. Hager
Chair

Computing Community Consortium
Mandell Bellmore Professor of Computer Science
Johns Hopkins University



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SOME MOTIVATING QUESTIONS

- How do we energize the community around “big ideas” that will create excitement and energy for computing and computational research?
- How do we shape and articulate the relevance of computing research to national priorities?
- How do we communicate these ideas, as a community, to science policy and funding leadership?



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THE COMPUTING COMMUNITY CONSORTIUM

- Established in 2006 as a standing committee of the Computing Research Association
- Funded by NSF under a Cooperative Agreement
 - Second Award began in 2012, Site Visit completed in 2014
- Facilitates the development of a bold, multi-themed vision for computing research – and communicates this vision to stakeholders
- Led by a broad-based Council
- Staffed by CRA

OUR MISSION

The **mission** of Computing Research Association's Computing Community Consortium (CCC) is to:
catalyze the computing research community and
enable the pursuit of innovative, high-impact research.

CCC conducts activities that
strengthen the research community,
articulate compelling **research visions**, and
align those visions with pressing **national and global challenges**.

CCC **communicates** the importance of those visions to **policymakers**,
government and **industry stakeholders**, the **public**, and the **research community** itself.



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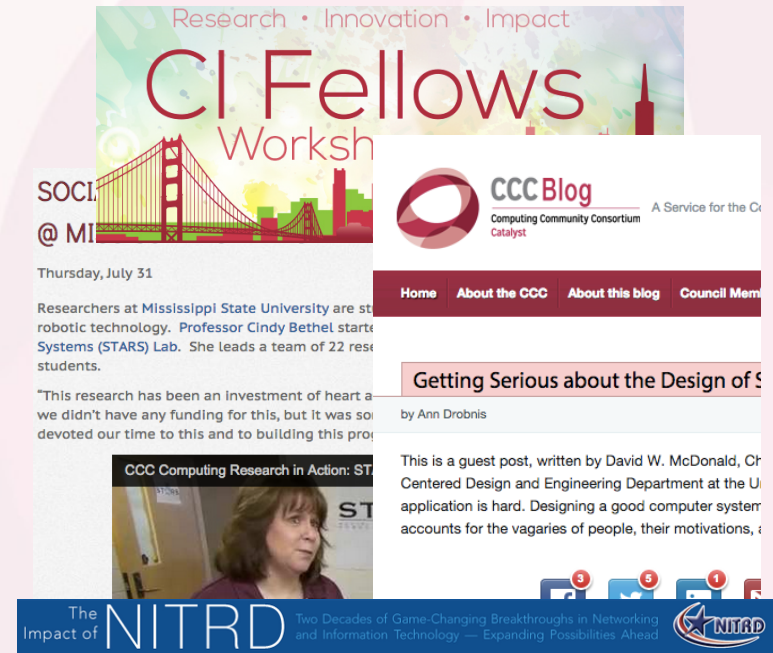
HOW DO WE DO IT?

Community-initiated visioning:

- Workshops to discuss “out-of-the-box” ideas
- Blue Sky Ideas tracks at conferences

Outreach to White House, funding agencies:

- Outputs of visioning activities
- Short reports to inform policy makers
- Task Forces – Health IT, Computing in the Physical World, Manufacturing, Big Data, Industry, High Performance Computing, Education



Communicating CS Research:

- CCC Blog [<http://cccblog.org/>]
- Computing Research in Action Video Series
- Great Innovative Impacts website
- “The Impact of NITRD” symposium

Nurturing the next generation of leaders:

- Computing Innovation Fellows Project
- Leadership in Science Policy Institute
- Postdoc Best Practices Program



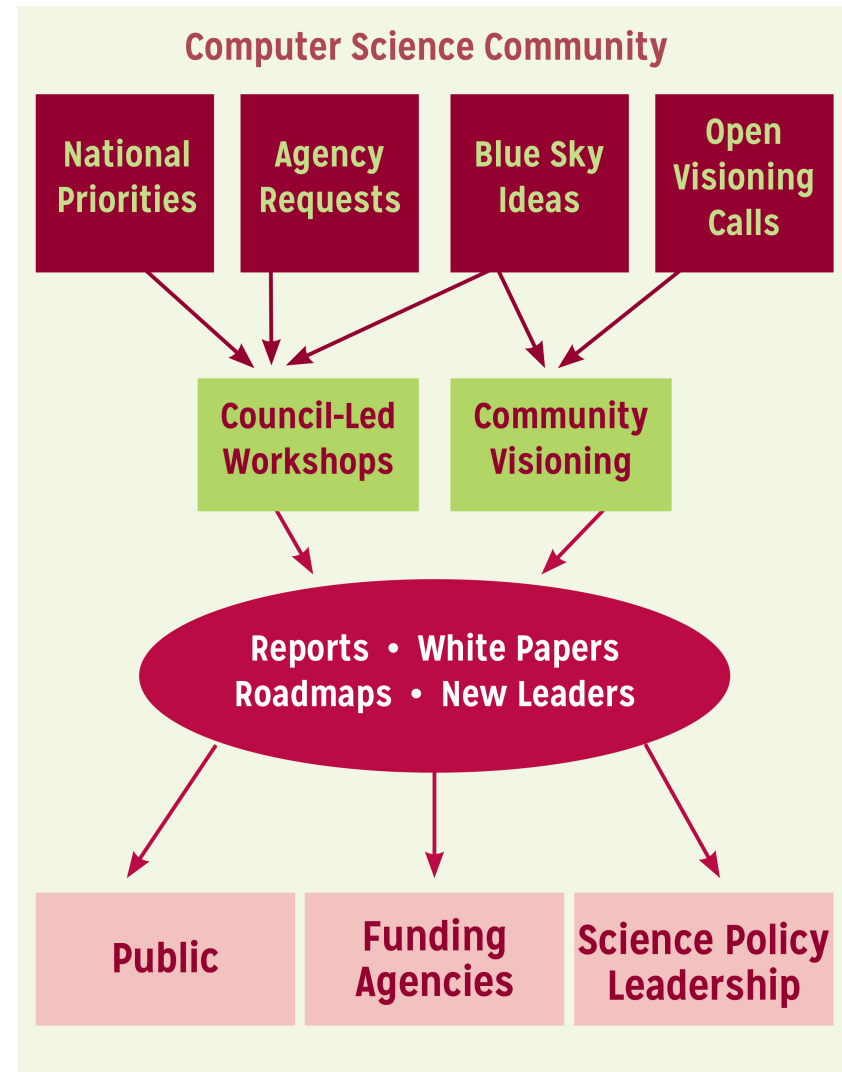
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VISIONING GOALS

Communicate the role of CS research to stakeholders

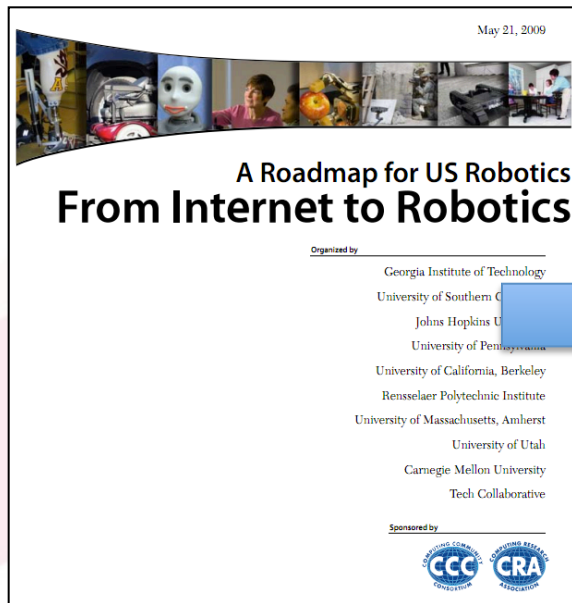
Develop leadership capacity to help shape science policy



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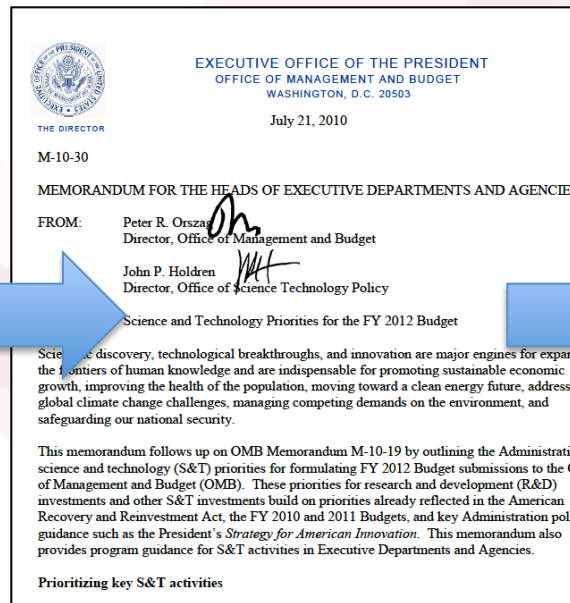
CATALYZING AND ENABLING: ROBOTICS



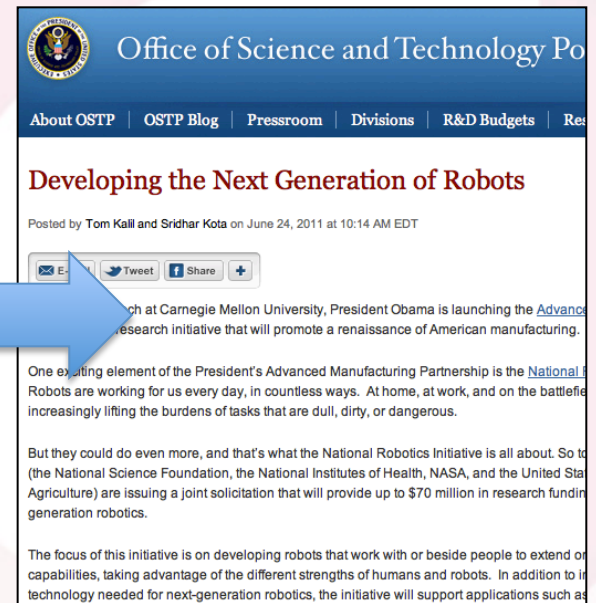
4 meetings during
summer 2008

Roadmap published
May 2009

*Extensive discussions
between visioning
leaders & agencies*



OSTP issues directive to all
agencies in summer 2010
to include robotics in
FY 12 budgets



National Robotics
Initiative announced
in summer 2011



Henrik Chistensen
Georgia Tech

BLUE SKY IDEAS CONFERENCE TRACKS

- Special “Blue Sky Ideas” tracks at leading conferences
 - Reach beyond usual papers
- CCC provides prize money for top 3 papers
 - Papers should be:
 - open-ended
 - “outrageous” or “wacky”
 - Present new problems, new application domains or new methodologies
 - Relatively short (4-6 pages)
 - Published after the conference



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LEADERSHIP IN SCIENCE POLICY INSTITUTE

To educate a cadre of computing researchers on how science policy in the U.S. is formulated and how our government works

November, 2011

- 34 attendees
- 7 women
- 19 received financial aid
- 24 institutions represented
- 23 participants from public institutions, 7 from private, 4 from industry



April, 2013

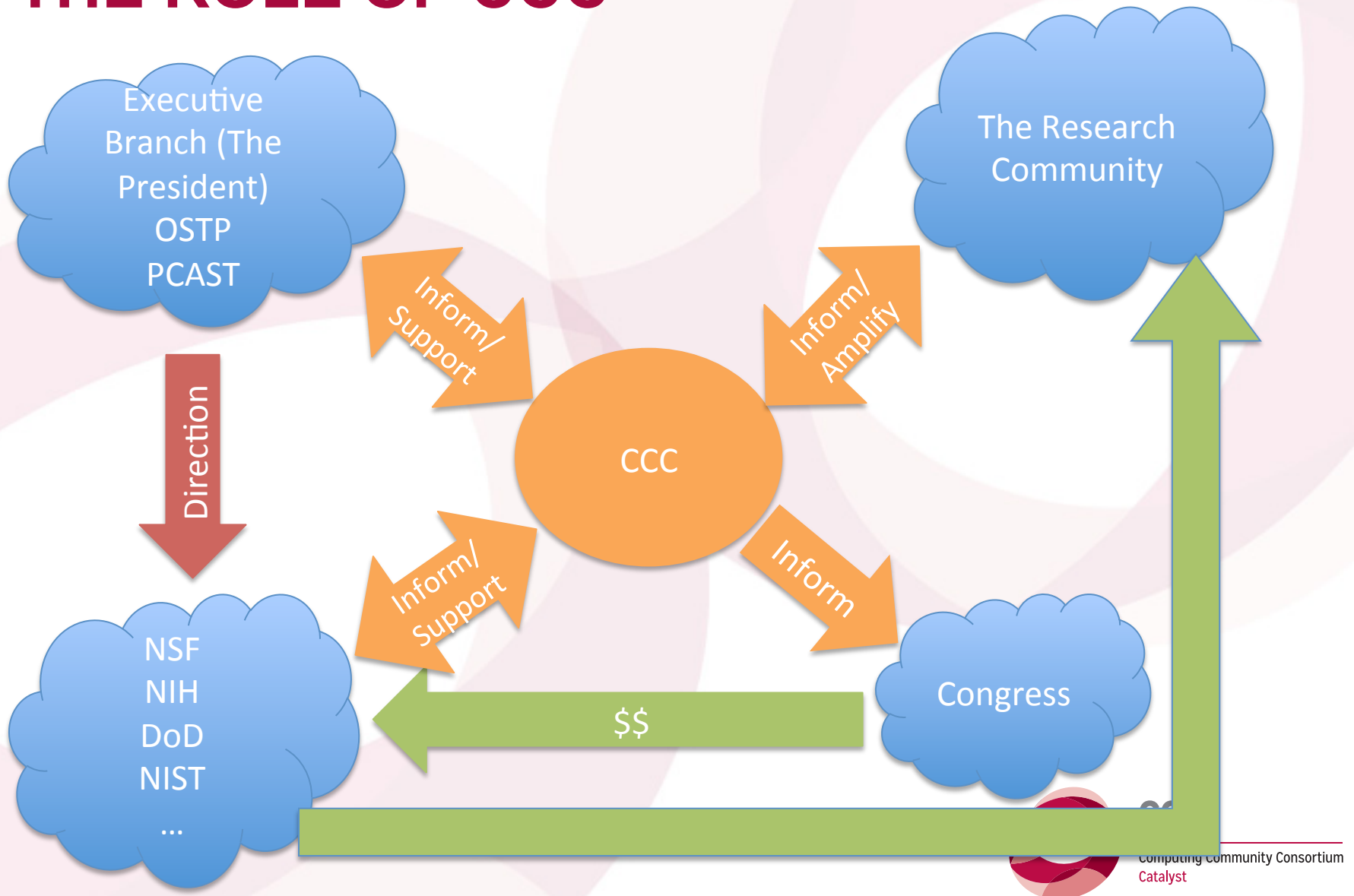
- 53 attendees
- 12 women
- 6 received financial aid
- 47 institutions represented
- 40 participants from public institutions, 12 from private, 1 from industry



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THE ROLE OF CCC



ACTIVITIES RELEVANT TO ROBOTICS

2013

- Robotics, Automation, and Computer Science (with NSF, OSTP)
- Robotics: Science and Systems Blue Sky Workshop

2014

- Computing Visions 2025: Interacting with the Computers All Around Us (with CISE)
- Computing Visions 2025: The New Making Renaissance: Programmable Matter and Things (with CISE)

2015

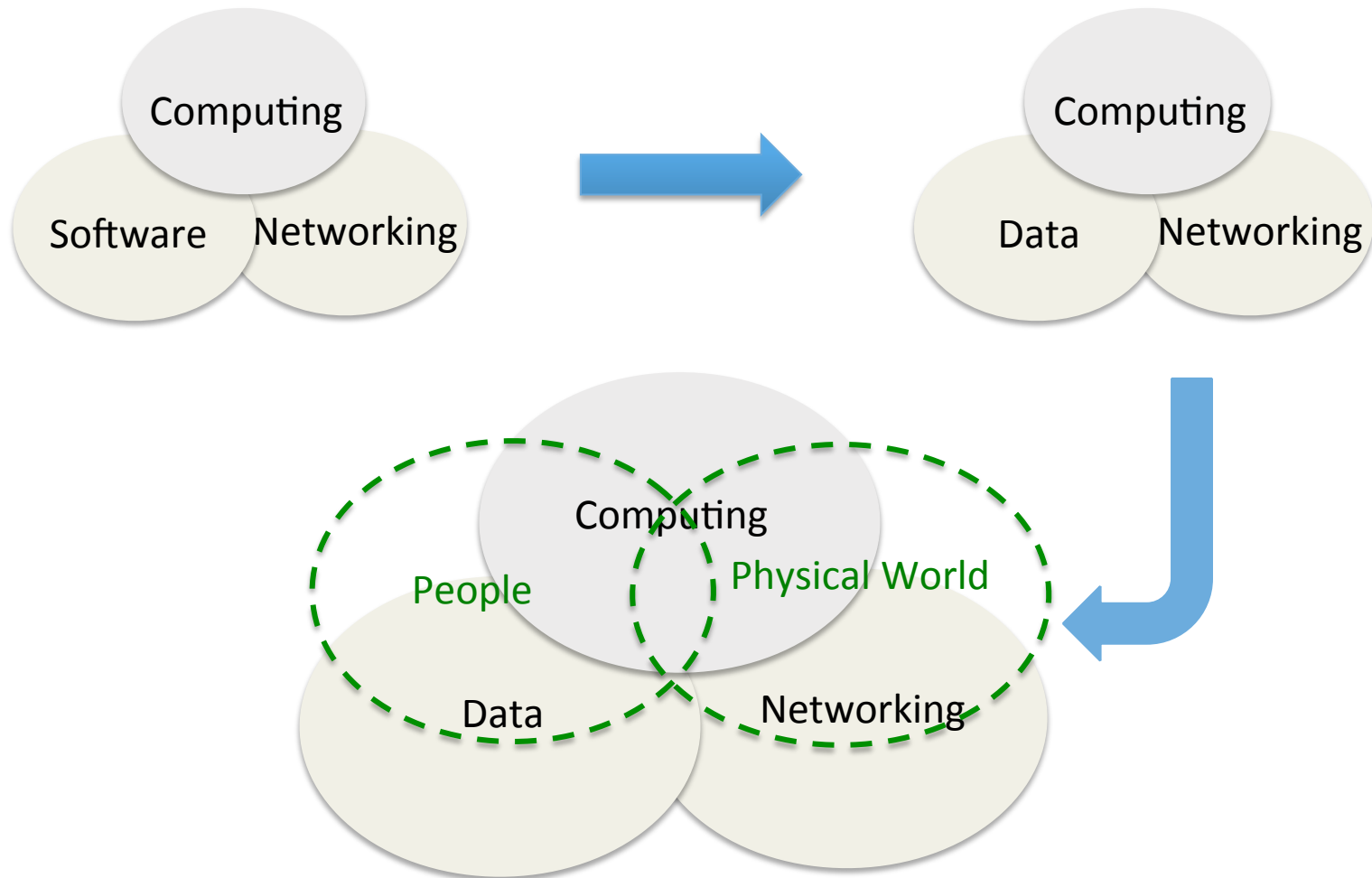
- Computing Visions 2025: A Roundtable Discussion
- White paper series on Autonomy
- Roundtable Discussion on Police Worn Body Cameras
- Academic-Industry Interaction
- NSF Workshop on Future Directions in Cyber-Physical Systems, Robotics, and Autonomy
- RSS 2015, 50th Anniversary of Shakey Blue Sky Track
- Systems Computing Challenges in the Internet of Things Whitepaper



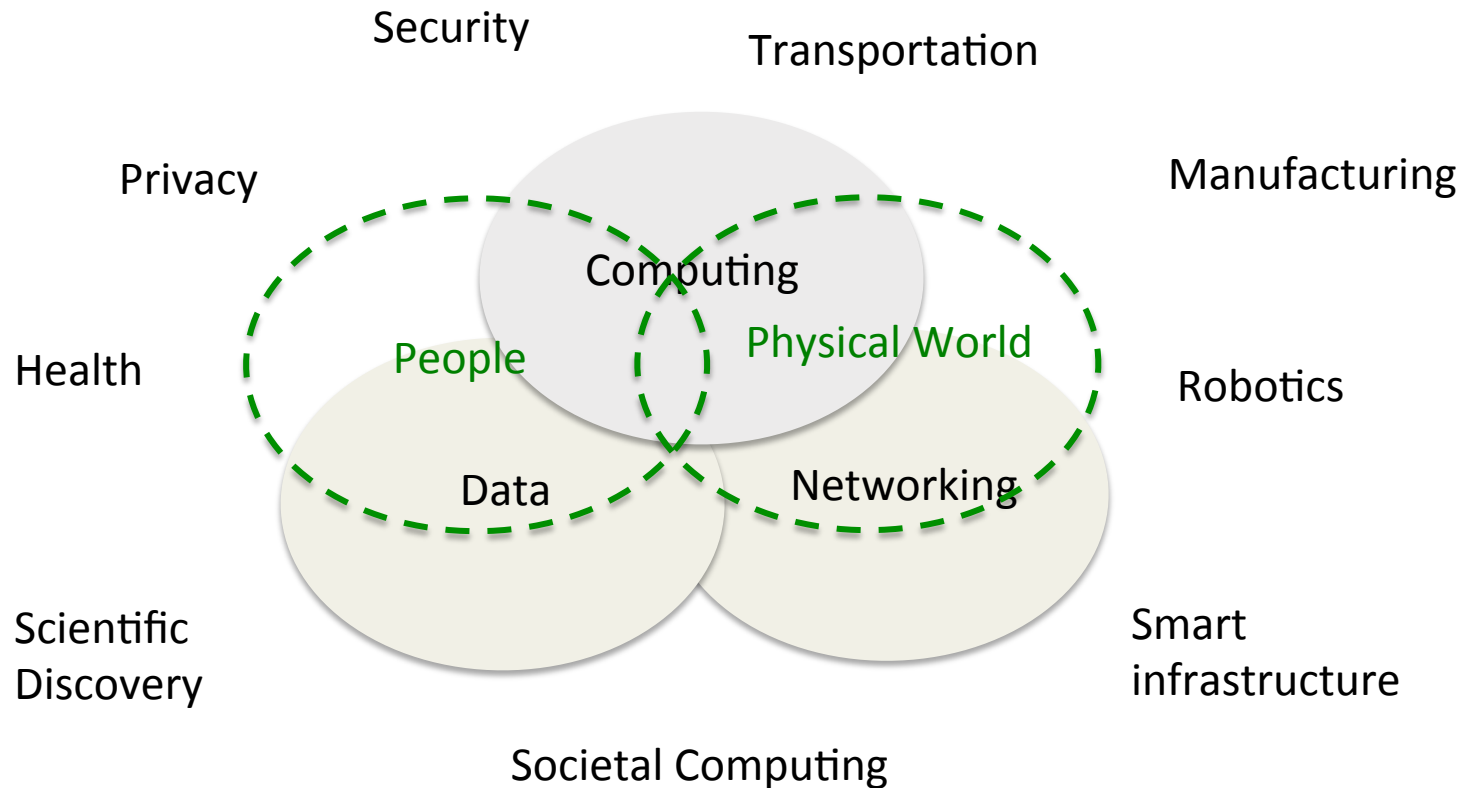
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Evolution of IT 1991-2015



Evolution of IT 1991-2015



This evolution has not diminished, but rather has increased the relevance and role of NITRD in coordinating federal investments in IT research.

SOME CLOSING THOUGHTS ON INTERNATIONAL COLLABORATION FROM THE CCC PERSPECTIVE

- National organizations have real value – politics, relationships, and funding are “local.”
- This means we can work together to create a common story and sending a common message on important research directions.
- The value of international exchange is hard to articulate in general, but easy to explain at the retail level – work together to find the success stories and keep them handy
- Joint funding is difficult, but coordination is easier. Work to create mechanisms that encourage coordinated funding.



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CCC: CATALYZING AND ENABLING COMPUTING RESEARCH

*www.cra.org/ccc
www.cccblogger.org
adrobnis@cra.org*



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