OAC Update

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Office of Advanced Cyberinfrastructure,

Directorate for Computer & Information Science & Engineering

National Science Foundation

2018 SI^2 PI Meeting

April 30, 2018

Outline

- OAC: Who we are

- Updates and near-term activities

OAC Organization
Program Staff

| Manish Parashar Office Director | Amy Friedlander Deputy Office Director | | Bill Miller Science Advisor (On Detail) |

| Computing | Data | Software | Networking & Cybersecurity | Learning & Workforce Development | Beth Plale * Science Advisor Public Access |

| Bob Chadduck | Amy Walton | Vipin Chaudhary * | TBD | Sushil Prasad * | Alejandro Suarez Cooperative Agreements |

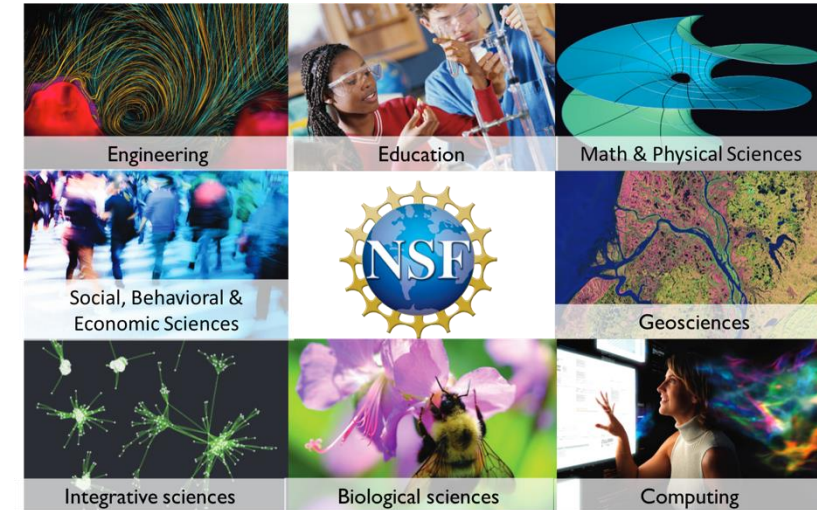| Ed Walker | Stefan Robila * | Rajiv Ramnath * (Part-Time) | Kevin Thompson | | Scott Sellars AAAS S&T Policy Fellow |

* IPA Appointment

CISE/OAC – Transforming the Frontiers of Science & Society

Foster a cyberinfrastructure ecosystem to transform computational- and data-intensive research across all of science and engineering

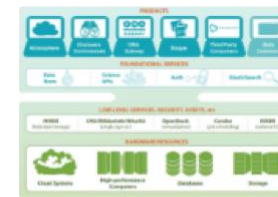- Cyberinfrastructure Research & Research Cyberinfrastructure

Engineering

Education

Math & Physical Sciences

Social, Behavioral & Economic Sciences

NSF

Geosciences

Integrative sciences

Biological sciences

Computing

CI-Enabled Instrumentation

Computing Resources
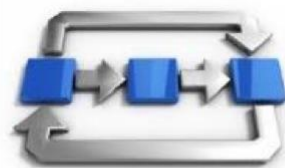
Data Infrastructure

Gateways, Hubs, and Services

Cloud Resources & Services

R&E Networks, Security Layers

Coordination & User support

Software and Workflow Systems

Pilots, Testbeds

People, organizations, and communities

April 30, 2018

4

Evolving Science & Engineering Landscape

- High-resolution multi-scale, multi-physics simulations
  - Growing scales, complexity
  - End-to-end workflows

- Streaming data from observatories, instruments
  - Volumes, rates, heterogeneity
  - Disconnected from each other, CI services

- Growing "long-tail"
  - Increasing numbers, scale
  - Growing "gateway" jobs
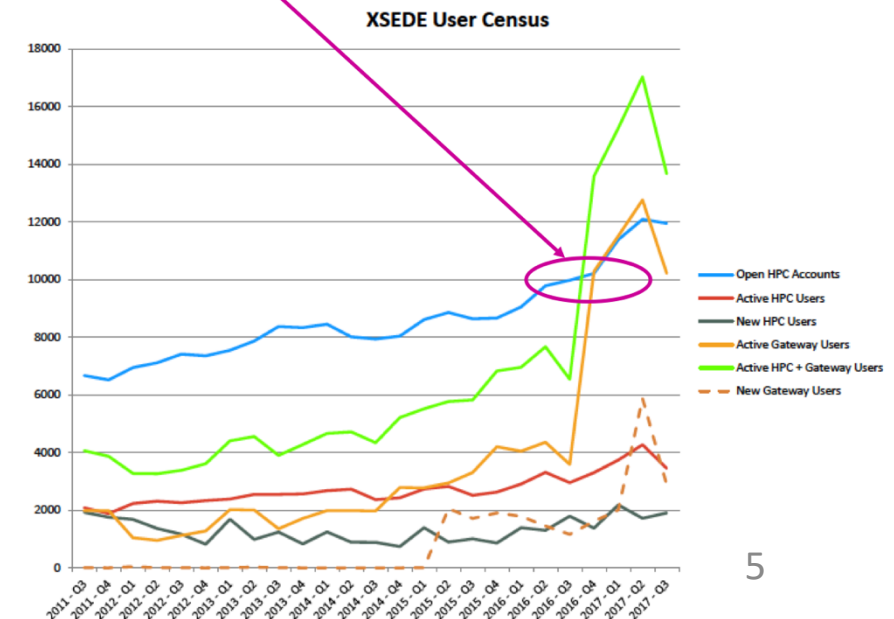 - Increasing use of clouds

Growing use of XSEDE Resources
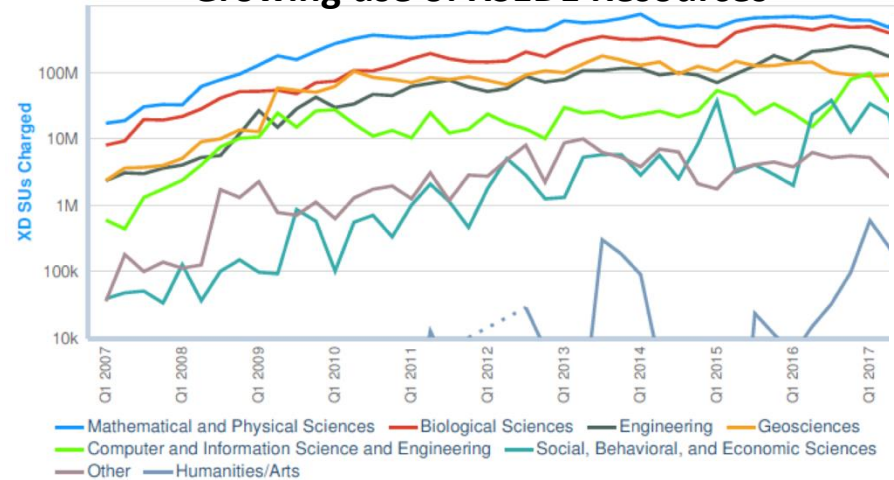
End-to-end Workflows
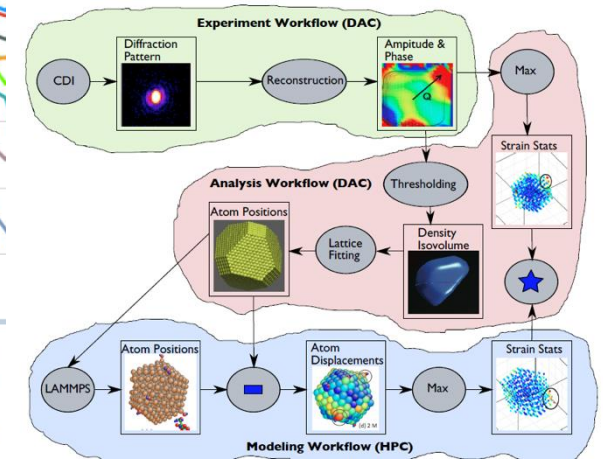
Instrument, Observatories, Experiential Facilities

Increasing "Gateway" Users

April 2018

5

New! Cyberinfrastructure for Sustained Scientific Innovation (CSSI)

- Cross-directorate program that encompasses the Data Infrastructure Building Blocks (DIBBs) and Software Infrastructure for Sustained Innovation (SI^2).

- Supports innovative, and integrative, development and deployment of robust, reliable, sustainable data and software CI for scientific discovery and innovation.

- Flexible and responsive to evolving needs of science and engineering research.

Elements — Small groups that will create and deploy robust capabilities to advance one or more areas of science and engineering.

Framework Implementations — Larger, interdisciplinary teams for development and application of common, sustainable CI to address shared research challenges.

- Planned CSSI categories: Planning Grants for Community CI and Community CI Implementations that aim to establish long-term CI capabilities and hubs of excellence.

Other Ongoing and Near-Term Activities

- Leadership-Class Computing

- Cyberinfrastructure for Sustained Scientific Innovations (CSSI)

- DCL: Advancing Long-term Reuse of Scientific Data

- NSF 2018 Large Facilities Workshop, April 30-May 2

- Webinar series, May 17 – more to come

- 2nd DIBBs PI Workshop – late June/early July

To subscribe to the OAC Announce Mailing List
Send an email to:
OAC-ANNOUNCE-subscribe-request@listserv.nsf.gov