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Good morning. I'm Amy Walton, one of the NSF Program Directors managing the Data Infrastructure Building Blocks (DIBBS) solicitation. Thank you for taking time to join us today. In this webcast, I'll provide a brief overview of the program and some of the most important things you need to know about submitting a proposal.

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This is the agenda for today's presentation. The presentation starts with an overview of the NSF organizations involved in the development of this solicitation and the motivation for the DIBBs program. Next, some important aspects of this solicitation – the types of awards to be made, submission requirements, and deadlines – are presented. Finally, I'll address further questions from the audience, with help from my colleagues.

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Seven NSF Directorates, and two organizations within the Office of the Director, have participated in the development of this solicitation. The management team includes Program Directors from each of these organizations. The names of my colleagues, and their organizational affiliations, are shown on this slide; several of these Program Directors are here today to help answer any questions you might have.

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This solicitation seeks proposals that explore innovative, use-inspired infrastructure options that contribute to future discovery and innovation across multiple disciplines. These infrastructure options are:

- Guided by science and engineering research priorities
- Built upon recognized community data collections
- Implemented through collaborations between cyberinfrastructure experts and specific science and engineering research communities, to ensure continuing relevance

The resulting awards will be demonstrations of 'building block' capabilities, which may be replicated and combined to build a robust, interoperable, (inter)national data infrastructure. The focus areas in this solicitation are:

- Pilot Demonstrations: up to 7 awards, each up to \$500K per year for up to 3 years
- Early Implementation Awards: up to 2 awards, each up to \$1M per year for up to 5 years

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The program has incorporated lessons learned from the prior (2012) DIBBs solicitation. ***The current solicitation includes extensive involvement by NSF science, engineering, and education directorates in solicitation development and proposal evaluation:***

- Seven Directorates (BIO, CISE, EHR, ENG, GEO, MPS SBE), and the Director's Office of International and Integrative Activities (EPSCOR and ISE), have participated in the development of this solicitation, and will participate in the proposal review and evaluation process.
- A Cognizant Program Officer from each organization is a member of the DIBBs solicitation management team.
- Each Directorate developed a statement of domain-specific priorities and data problems. The list is included in the Program Description section of the solicitation.

The DIBBs program is guided by (and expects proposers to focus upon) innovative infrastructure addressing the research needs and priorities of these NSF science, engineering, and education communities.

The current solicitation also includes a few modifications in the categories of awards it is seeking:

- This solicitation seeks two types of proposals: pilot demonstrations (pilot systems evaluated by relevant communities), and early implementations (early demonstrations of new or expanded capabilities). Small community-building efforts (1 year awards) are not being requested in the current solicitation. Most NSF directorates have already convened workshops and other mechanisms to organize their communities, or have solicitation vehicles in place to develop this information; thus, proposals that were previously solicited in the "Conceptualization" track are not requested in this version.
- Awards will be standard/continuing awards, rather than cooperative agreements.

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DIBBs proposals will be due April 9, 2014; award decisions are anticipated in August 2014.

Besides the webinar being held today (January 27, 2014), there are a number of sources of additional information. The DIBBs Solicitation (NSF 14-530) can be found at:

<http://www.nsf.gov/pubs/2014/nsf14530/nsf14530.htm>

and the NSF Grant Proposal Guide (GPG) is available at:

http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg

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Section V-A of the DIBBs solicitation contains detailed proposal preparation instructions.

A competitive DIBBs proposal must describe the vision and rationale for the data service and infrastructure, clearly articulating the value the approach provides to science and engineering researchers. The proposal must demonstrate a strong and credible connection to the communities it serves, as well as address potential usage by other communities. The proposal must make a compelling case for its likely impact on the target communities, through direct engagement with the affected community, and should specify how adoption and usage will be monitored and how

effectiveness of the new capabilities will be measured. The composition of collaborative teams should also include the skills and expertise to implement, test and evaluate the data technologies and approaches being proposed.

The project description is limited to 15 pages, and must address the following:

- **Vision and Rationale** - Describe the scientific advance(s) motivating the data infrastructure building block, what new opportunities will be enabled, anticipated interoperability with other cyberinfrastructure components, innovative cyberinfrastructure aspects, and impact on discovery and learning across disciplines. Provide the rationale for the choice of science and engineering research and education communities to be served. Describe the nature of the anticipated user base. Explain how the vision and rationale contribute to an effective business model for achieving long term economic and technological sustainability.
- **Activities** - Describe the research, education and training plans as well as their integrative components. Describe plans for obtaining active user input. Provide plans for developing and, appropriate to the track, implementing a vigorous and comprehensive assessment and evaluation program.
- **Management** - Describe the organizational structure of the proposed team and a management plan with a diagram of reporting relationships and an outline of how the various project components interact and are brought together into a functional whole. List the types of expertise to be provided by project personnel and partners; proposals must demonstrate the inclusion of the appropriate expertise to address the problems being posed. Describe the various sectors (e.g. academic, government, non-profit, commercial, international, etc.) to be involved and how each contributes to and benefits from the project. Provide plans for increasing the participation of women, persons with disabilities, and individuals from underrepresented groups.
- **Results from Prior Research** - Describe only prior research of the PI or Co-PIs funded by NSF that is directly and immediately relevant to this proposal.

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DIBBs proposals must address the following:

- the need within and across the scientific, engineering and education community for the proposed data cyberinfrastructure;
- data elements and frameworks relevant to the specified community and the sustainability challenges to be addressed;
- data storage architectures and lifecycle processes, development, testing and deployment methodologies, validation and verification of proposed data management techniques, and any additional measures addressing trustworthiness and data security;
- usability and interface considerations, data curation and required infrastructure and technologies;

- the required organizational, personnel and management structures, project plans and operational processes; and
- a plan for governance and long-term sustainability of the data infrastructure as well as the data themselves.

Additional required documents include:

- Data Management Plan - All proposals must describe plans for data management and sharing of the products of research. Data accessibility, across a broad community, is an important attribute of cross-cutting research. Data Management Plans should explicitly state how the data generated by the project will be managed, stored, and made accessible, including efforts to ensure security. The Plan should also clearly define rights, obligations, roles and responsibilities of all parties, and any anticipated intellectual property (IP) issues associated with expanded access.
- Postdoctoral Research Mentoring plans (if the proposed project includes postdoctoral trainees).
- An integrated Conflict of Interest List, containing the full names and institutional affiliations of all people having potential conflicts of interest (COI) with any PIs, Co-PIs, and other senior personnel (SP).

Proposals may also include a 1-page system design diagram (specifying all critical components, including hardware and/or software and any necessary dependencies affecting system use by the scientific community),

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As for all proposals received by NSF, DIBBs reviewers and panelists will be asked to consider the intellectual merit and broader impact for each proposal for their reviews, panel discussions, and panel summaries. In addition to these standard criteria, DIBBs reviewers and panelists will also be asked to consider additional review criteria that are unique to the DIBBs program. (More on these criteria in the next slide).

Since January 14, 2013, the Intellectual Merit and Broader Impacts elements have had new guidance. Revised guidance for these two merit review criteria is available at http://www.nsf.gov/bfa/dias/policy/merit_review/resources.jsp.

When evaluating NSF proposals, reviewers will consider:

- What the proposers want to do
- Why they want to do it
- How they plan to do it
- How they will know if they succeed
- What benefits would accrue if the project is successful

These considerations apply both to the technical aspects of the proposal (intellectual merit) and the way in which the project may make broader contributions (broader impacts).

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In addition to the Intellectual Merit and Broader Impacts criteria, there are review criteria that are specific to the DIBBs program. Additional criteria that will be considered during peer-review are listed in Section VI-A of the DIBBs solicitation, and include:

- **Rationale for the proposed capability:** its responsiveness to community needs, and the anticipated impact on advancing science, engineering, and education;
- **Ability to address data sharing issues and capabilities across scientific and engineering domains,** by fostering collaborations between researchers in scientific domains and cyberinfrastructure experts;
- **Potential for extending proposed data capabilities to other research communities and domains,** through development or expansion of data focused cyberinfrastructure, building upon the capabilities of existing research communities, community recognized data collections, and disciplinary research interests;
- **Appropriateness of the approach, ability to address cybersecurity challenges in data privacy, integrity and confidentiality, and specific steps that will be taken to implement the conceptual design of the proposed capability;**
- **Significance of milestones, and relevance of community/usage metrics, for each year of the award.** These should be simple, but essential, milestones and metrics that show expected annual accomplishments and the impact of the capability on furthering science and the breadth of the user community;
- **Potential success of mechanisms used to reach out to engage users,** particularly for other communities in adopting the capability; and
- **Effectiveness of the management plan:** the potential for effective leadership with clear lines of authority, responsibility, accountability, community and user responsiveness, and the ability to adapt to new opportunities and technologies.

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The slides and the transcript for this webcast, as well as an audio recording, will be available at <http://www.nsf.gov/events/>. (On that web page, you'll need to look for this webcast among the list of events). I welcome your questions now, via email to DIBBsQueries@nsf.gov.