

Advanced Computing Systems & Services (ACSS)

Adapting to the Rapid Evolution of Science and Engineering Research

NSF 23-518 Program Webinar

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Office of Advanced Cyberinfrastructure (OAC)

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Webinar Goals

- Orient potential proposers on ACSS program
- Describe the current solicitation (NSF 23-518) including changes
- Answer questions from attendees
 - Send Webinar Questions to us via Q&A function in Zoom.
- Slides, audio, and transcript from this webinar will be available on the event page website:
 - bit.ly/3jj9gBL



Revision Notes

- Solicitation NSF 23-518 will accept proposals in *only* Category I or Category II on an alternating schedule
- Clarification on Performance requirements
- Clarification on Operational Funding
- The solicitation introduction and Program Description sections have been updated to more accurately reflect themes of interest for community consideration
- Other nomenclature revisions
- Upcoming Deadline (Cat I only): February 21, 2023



ACSS Program Overview

- Requests proposals from organizations willing to serve as resource providers (RPs) within the NSF ACSS program
- RPs will provide advanced cyberinfrastructure (CI) capabilities and/or services in production operations to support the full range of computational- and data-intensive research across all of science and engineering (S&E)



ACSS Guiding Principles

- Increasing the Nation's capacity for transformative S&E discoveries
- Guided by ongoing planning/visioning activities such as:
 - National Strategic Computing Reserve (NITRD.gov)
 - National AI Research Resource (AI.gov)
 - Future Advanced Computing Ecosystem (NITRD)
 - Missing Millions (Community report)
 - Expanding the Geography of Innovation (National Science Board)
 - Consideration of full lifecycle environmental impacts



Categories of Resources

- Category I, Capacity Resources: production computational resources maximizing the capacity provided to support the broad range of computation and data analytics needs in S&E research; and
- Category II, Innovative Prototypes/Testbeds: innovative forward-looking capabilities deploying novel technologies, architectures, usage modes, etc., and exploring new target applications, methods, and paradigms for S&E discoveries.



NSF 23-518 Proposal Deadlines

- February 21, 2023 – Only Category I Submissions considered
- October 31, 2023 – Only Category II Submissions considered
- October 29, 2024 – Only Category I Submissions considered
- October 28, 2025 – Only Category II Submissions considered



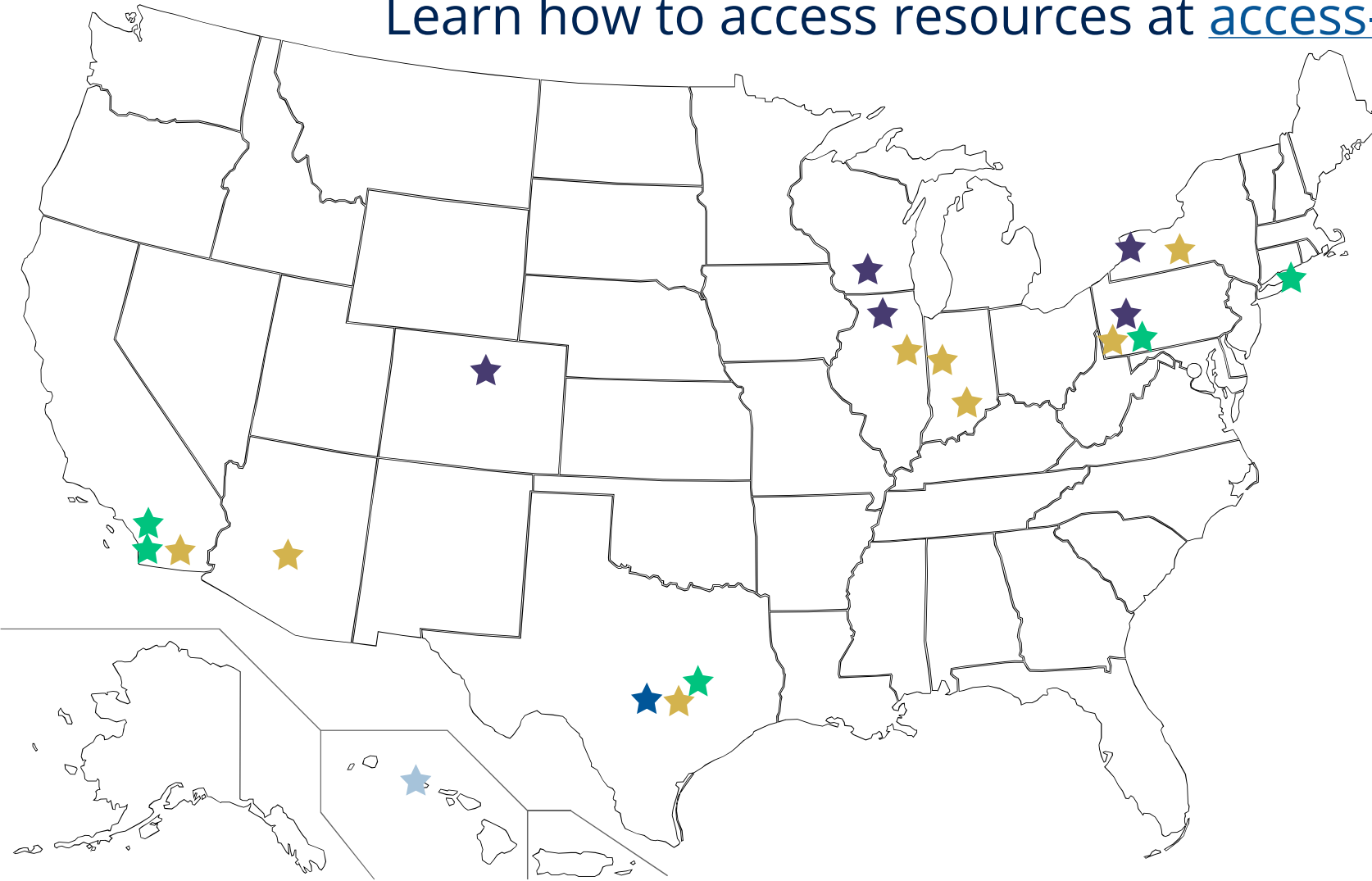
Category I – Capacity Resources

- *“... intended to be operational deployments of production computational resources that will provide maximum capacity and throughput to support the broad range of computation and data analytics needs in S&E research.”*
- Address the requirements listed in II. Program Description
- Expectation that at least 90% of the provisioned system or service will be available to the S&E community
- Exploration of novel models for CI federation encouraged.



NSF-supported Advanced CI Resources

Learn how to access resources at access-ci.org



Category I - Capacity Systems

- Anvil
- Bridges 2
- Delta
- Expanse
- Jetstream 2
- Stampede 2

Category II – Innovative Prototypes/Testbeds

- Neocortex
- Voyager
- Ookami
- NRP
- ACES

Leadership-class

- Frontera

Distributed Services

- PATH / Open Science Grid
- ACCESS



Eligibility Information (1/2)

- Who May Submit:
 - Institutions of Higher Education (IHEs)
 - Non-profit, non-academic organizations
 - Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs) may apply provided that they are not including costs for which federal funds have already been awarded or are expected to be awarded
- Who may serve as PI: no restrictions



Eligibility Information (2/2)

- Limit on Number of Proposals per organization: 1
 - An organization may submit only one proposal but may be a subawardee on other proposals responding to this solicitation.
 - Collaborative projects may only be submitted as a single proposal
- Limit on Number of Proposals per PI or co-PI: 1
 - Individual can be PI or co-PI on no more than one proposal. There is no limit on the number of proposals in which an individual may be associated in other capacities (e.g. Senior Personnel)
- NOTE: Eligibility Information is independently associated with each competition and each due date



Proposal Preparation Guidance

- The project description page limit is 30 pages.
- In addition to those described in PAPPG, the Project Description must include the following sections
 - a. Resource Specification;
 - b. S&E Application Performance;
 - c. Resource Reliability and Usability;
 - d. Project Management and Risk Mitigation;
 - e. Data Infrastructure;
 - f. Security;
 - g. Operations Plan; and
 - h. Broader Impacts.



Required Supplementary Documents

- In addition to those specified in PAPPG, the following Supplementary Documents are required:
 - a. Actual or estimated performance benchmark results
 - b. Detailed Projected Operating Costs
 - c. A list of all institutions and companies involved in the project
- Please review section V of the solicitation for detailed preparation and submission instructions



Acquisition Budget vs User Support & Operating Costs

- Budget for Acquisition or resources cannot exceed \$10,000,000 (Category I)
- Acquisition proposals with budgets in excess of the identified maximum thresholds may not be considered appropriate and may be returned without review
- Budget Details for User Support and Operating Costs
 - Operations Plan section of the Project Description
 - Detailed Projected Operations Costs supplementary document
- User support and operating costs should not be included in the budget section of proposals responding to this solicitation



User Support and Operating Costs Thresholds

- User support and operating costs of the system of up to 20% (or up to an additional 5% with very strong justification) of the acquisition costs per year will be considered.
 - Acquisition costs are defined as the total value of acquisition award
 - For example: a proposed Category I resource with proposed budget of \$10,000,000 may request up to \$2,000,000 (or \$2,500,000 with very strong justification) of user support and operating costs per year.
- Such a budget would come in a future second request for operations related supplementary funds to be submitted after the initial NSF award.
- Questions about what constitutes “acquisition costs” vs “user support and operating costs,” can be sent to the cognizant program directors.



NSF Review Criteria

- All proposals will be evaluated against two criteria:
 - Intellectual Merit: The Intellectual Merit criterion encompasses the potential to advance knowledge; and
 - Broader Impacts: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.
- The following elements will be considered for both criteria:
 - What do the proposers want to do?
 - Why do they want to do it?
 - How do they plan to do it?
 - How do they will know if they succeed?
 - What benefits would accrue if the project is successful?



Solicitation Specific Review Criteria

- In addition, reviewers will be asked to assess the adequacy of the descriptions provided in the required sections of the proposal
- See Section VI. NSF Proposal Processing and Review Procedures, for more information



The Award Process

- Initial Acquisition Award
- Preparation of Project Execution Plan, including definition of criteria for acceptance review
- Consideration of supplemental funding action for user support and operating costs
- Acceptance Review



Note on Schedule

- The competition deadlines reflect the government Fiscal Years (Oct – September) of the competitions
- The upcoming February 23, 2023, deadline corresponds to FY23
- The following October 31, 2023, deadline corresponds to FY24
- Acquisition and deployment of full systems should be completed within 12 months of the award start date



Note on FastLane Decommissioning

- FastLane capabilities have been migrated to Research.gov
- Proposals submitted in response to this program solicitation must be prepared and submitted via Research.gov or via Grants.gov and may not be prepared or submitted via FastLane.



Summary

- Upcoming Deadline: February 21, 2023 (Category I only)
- Future deadlines correspond to independently run competitions (i.e., in terms of submission limits)
- Additional sections required in submissions
- Solicitation Specific Review Criteria
- Budget restrictions and Operating vs. Acquisition costs



Frequently Asked Questions

You may ask questions using the Q&A function



Eligibility information

- Q: If my organization applies within the submission limits of the February 21, 2023 (Category I Only) deadline, is my organization eligible to apply for other deadlines?
- A: Yes, Eligibility Information is independently associated with each competition and each due date.



User Support and Operating Costs (1)

- Q: The solicitation states that “User support and operating costs are expected to be up to 20% of the acquisition cost per year...” Does each year of operating expenses constitute 20% of the yearly acquisition cost or 20% of the total acquisition cost?
- A: The “initial acquisition cost” is defined as the total value of acquisition award, irrespective of how a proposer may break it down. For example, a Category I system with a budgeted total acquisition cost of \$10M could request up to \$2M (20%) in user support and operating costs per year or up to \$2.5M (25%) per year with very strong justification for the request.



User Support and Operating Costs (2)

- Q: Should anticipated user support and operating costs be incorporated into the budget section of the proposal?
- A: No. NSF 23-518 is considering funding for the acquisition of advanced computing systems and services. As noted in the solicitation, user support and operating costs will be considered and provided as a second action to an awarded cooperative agreement. At this point, such costs should be listed in the relevant supplementary documentation, namely the Detailed Project Operating Costs.



Question & Answer Session

- Please use the Q&A function to ask your question
- Upcoming Deadline: February 21, 2023 (Category I Only)
- This presentation and recording will be available at:
 - bit.ly/3jj9gBL
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