



NATIONAL SCIENCE FOUNDATION
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NSF 19-075

Dear Colleague Letter: Revised Deadline for the *Advanced Computing Systems & Services (ACSS): Adapting to the Rapid Evolution of Science and Engineering Research Program*

June 21, 2019

Dear Colleague:

Through this Dear Colleague Letter, the Office of Advanced Cyberinfrastructure (OAC) within the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) seeks to inform the community of a revised deadline date for the Advanced Computing Systems and Services (ACSS) program. The previous ACSS program solicitation, [NSF 19-534](#), offered two deadline dates: March 4, 2019, and March 4, 2020. The recently revised solicitation ([NSF 19-587](#)) makes one change: the forthcoming March 4, 2020, due date has been accelerated to November 5, 2019.

The new ACSS program solicitation, [NSF 19-587](#), maintains the goals of the previous one, i.e., requesting proposals from organizations willing to serve as service providers (SPs) for 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). Specifically, although the current ecosystem of investments serves the advanced research community well, the technology base as well as the S&E drivers are rapidly evolving, and OAC seeks to reconcile two competing goals: (1) to provide stable continuity of service to advanced researchers whose needs cannot be met through local resources; and (2) to encourage innovation and adoption of new, novel capabilities, recognizing that these capabilities may be disruptive, at least in the near term. To address this tension, the ACSS program solicitation continues to offer two tracks: one for provisioning capacity systems, which are production computational resources maximizing the capacity provided to support the broad range of computation and data analytics needs in S&E research; and the second for innovative prototypes/testbeds, which are innovative, forward-looking capabilities deploying novel technologies, architectures, usage modes, etc., and exploring new target applications, methods, and paradigms for S&E discoveries.

The ACSS program aligns with NSF's recently articulated vision for an ***agile, integrated, robust, trustworthy and sustainable CI ecosystem that drives new thinking and transformative discoveries in all areas of S&E research and education***¹. Furthermore, the solicitation is a central component of the corresponding computational blueprint that emphasizes science-based and composable computational systems and services that can adapt to new opportunities and challenges while still providing a stable environment for advanced research requiring national resources.

The acceleration of the ACSS deadline date is to enable NSF to effectively implement the blueprint by building on the first round of investments in ACSS, a strong response to the OAC-funded Exploring Clouds for Acceleration of Science (E-CAS)² project, and the deployment of Phase 1 of the Leadership-Class Computing Facility. The accelerated deadline will also allow NSF to realize its goal of a broad ecosystem of complementary resources and services that address current and emerging S&E needs.

OAC encourages the community to take advantage of this opportunity to consider novel and innovative services that are aligned with goals of the blueprint and the ACSS program solicitation, complement currently available (and planned) resources and services, and respond to current and emerging technologies and S&E needs. For example, Category I capacity systems that federate and leverage distributed resources and/or integrated cloud computing services are relevant. Likewise, Category II systems that explore novel technologies, architectures, and/or access models are also relevant. Across both categories of investment, the overarching goal of the solicitation remains ***to provision the resources and services that enable discoveries and innovation across S&E while also advancing the state of the art of the CI ecosystem consistent with NSF's mission to support discovery and innovation.***

For questions about the ACSS program solicitation, including the accelerated deadline, please contact the cognizant program directors named in the solicitation.

Sincerely,
Jim Kurose
Assistant Director, CISE
NSF

¹ "Transforming Science Through Cyberinfrastructure - NSF's Blueprint for a National Cyberinfrastructure Ecosystem for Science and Engineering in the 21st Century," <http://go.usa.gov/xm8bU>.

² "Exploring Clouds for the Acceleration of Science (E-CAS)",

<https://www.internet2.edu/vision-initiatives/initiatives/exploring-clouds-acceleration-science/>.