

The CC* Program

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The Purpose of this Presentation is to start a discussion on whether or not, we as OSG Council should motivate the institutions we work with to submit proposals to the CC* program in order to grow the OSG Open Pool.

The following slides are copied from Kevin Thompson's talk on Tuesday. Kevin is the NSF Program Manager for the CC* Program.

CC* 21-528 - Campus Cyberinfrastructure

- (Search for “NSF CC* 21-528” online to find the full solicitation)
- \$13M-\$15M in expected award funding
- **Proposals due March 1 and October 11, 2021**
- **Area #1 – Campus Network upgrades**
 - 10/100Gbps inter- and intra-campus networking
 - Re-design of campus border to prioritize science flows
- **Area #2 – Regional coordination for Small Institutions**
 - Establishing r&e network connectivity for multiple under-resourced institutions
- **Area #3 – Networking Integration and Applied Innovation**
 - Applied R&D in networking motivated by science use cases
- **Area #4 – Campus Computing** 
 - Shared cluster cycles for campus-wide science
- **Area #5 – Planning Grants and CI-Research Alignment**



Program-wide Criteria for CC* proposals

- The extent to which the work provides a needed capability **required by science**, engineering and education.
- **A partnership among researchers/educators and campus IT leadership**
- **A Cyberinfrastructure Plan** - To what extent is the planned cyberinfrastructure likely to enhance capacity for discovery, innovation, and education in science and engineering? How well does the plan as presented position the proposing institution(s) for future cyberinfrastructure development? How well does the cyberinfrastructure plan support and integrate with the institutions' science and technology plan? Are IPv6 deployment and InCommon Federation addressed? Are the activities described in the proposal consistent with the institution's cyberinfrastructure plan?
- Where relevant, addressing appropriate cybersecurity issues and challenges
- Represent ongoing opportunities for student engagement



The Cluster as a Shared Resource Intra-campus and Inter-campus:

- “Proposals should describe (1) their approach to sharing the proposed computing resource across the science drivers and researchers at their institution; (2) how the resource will be accessed by external research groups; and (3) how the resource is coordinated with external resources allowing the institution’s researchers to seamlessly access computing resources at other campuses, regional and national computing resources, and/or production cloud resources, if appropriate.”



More on that 20%...

- Proposals are required to commit to a minimum of 20% shared time on the cluster and describe their approach to making the cluster available as a shared resource external to the campus, with access and authorization according to local administrative policy.
- Conversely, the proposal should describe the approach to providing on-demand access to additional external computing resources for its targeted on-campus users and projects. **One possible approach to implementing such a federated distributed computing solution is joining a multi-campus or national federated system such as the Open Science Grid.**
- Whatever opportunistic, federated, scalable, distributed computing platform is chosen, the proposal is expected to justify the choice by including a discussion on the shared platform's track record in the community, its current scientific computing production capability, and its scaling properties.
- Proposals are encouraged to include a letter of collaboration from the selected platform and describe how they will track and report on meeting the 20% extramural usage goal each year.



CC* 2019 Awards

Award#	PI Name	Institution	Title	Award
1925596 Area #4	Fiske, Joshua A	Clarkson University	CC* Compute: Accelerating Computational Research for Engineering and Science (ACRES) at Clarkson University, A Campus Cluster Proposal	\$396,950
1925645 Area #4	Lannon, Kevin	University of Notre Dame	CC* Compute: CAML - Accelerating Machine Learning via Campus and Grid	\$400,000
1925467 Area #4	Cinabro, David A	Wayne State University	CC* Campus Computing and the Computing Continuum: Campus Cluster Resource: Expanded High Performance Computing at Wayne State	\$399,944
1925603 Area #4	Skjellum, Anthony	University of Tennessee Chattanooga	CC* Compute: A Cost-Effective, 2,048 Core InfiniBand Cluster at UTC for Campus Research and Education	\$392,235
1925192 Area #4	Rampp, Carrie	Franklin and Marshall College	CC* Compute: Building a state-of-the-art campus compute resource at Franklin & Marshall College	\$400,000
1925267 Area #4	Rossmiller, Zachary	University of Montana	CC* Compute: Improved Computing for Advanced Research and Education (ICARE)	\$394,895
1925716 Area #4	Jones, Richard T	University of Connecticut	CC* Compute: Shared Computing Infrastructure for Large-scale Science Problems	\$400,000
1925558 Area #4	Hawkins, Ronald B	University of California-San Diego	CC* Compute: Triton Stratus	\$399,514
1925590 Area#4	Montes, Juan	American Museum Natural History	CC* Compute: High Performance Campus Computing for Institutional Research at the American Museum of Natural History	\$399,258
1925541 Area#4	Belgin, Mehmet	Georgia Tech Research Corporation	CC* Compute: Integrating Georgia Tech into the Open Science Grid for Multi-Messenger Astrophysics	\$399,883
1925766 Area#4	Hauser, Thomas	UC Boulder	CC* Compute: A Hybrid Cloud Environment for the Rocky Mountain Advanced Computing Consortium	\$399,532
1925717 Area#4	Delaney, Kris	UC Santa Barbara	CC* Compute: A high-performance GPU cluster for accelerated research	\$394,804



**31 awards across 2 years.
31 x \$400k x 0.2 = \$2.5M
compute hardware for the OSG cause.**

Next due date: October 11 2021

CC* 2020 Area #4 Awards

Award#	PI Name	Institution	Title	Award
2018846 Area #4	Carver, Jeffrey	University of Alabama Tuscaloosa	CC* Compute: Accelerating Advances in Science and Engineering at The University of Alabama Through HPC Infrastructure	\$399,995
2018149 Area #4	Sedore, Christopher	Tufts University	CC* Compute: GPU Infrastructure to Explore New Algorithmic & AI Methods in Data-Driven Science and Engineering at Tufts University	\$400,000
2018766 Area #4	Andresen, Daniel	Kansas State University	CC* Compute: GP-ARGO: The Great Plains Augmented Regional Gateway to the Open Science Grid	\$378,599
2020446 Area #4	Yan, Le	Louisiana State University	CC* Compute: Deep Bayou: Accelerating Scientific Discoveries with A GPU Cluster	\$398,760
2018758 Area #4	Larkins, Brian	Rhodes College	CC* Compute: A high-performance computing cluster to accelerate research, education, and training at Rhodes College	\$389,662
2018551 Area #4	Chace, Daniel	Southern Illinois University at Edwardsville	CC* Compute: SIUE Campus Cluster	\$395,580
2018851 Area #4	Segee, Bruce	University of Maine	CC* Compute: High-Memory Compute Resources for Maine	\$399,813
2019089 Area #4	Mandel, Jan	University of Colorado at Denver	CC* Compute: Accelerating Science and Education by Campus and Grid Computing	\$399,938
2018926 Area#4	Smith, Preston	Purdue University	CC* Compute: Private Campus Cloud for Data Analytics and Machine Learning	\$392,205
2019007 Area#4	Jelinkova, Klara	William Marsh Rice University	CC* Compute: Interactive Data Analysis Platform	\$397,600

CC* 2020 Area #4 Awards

Award#	PI Name	Institution	Title	Award
2019000 Area #4	Dugas, Diana	New Mexico State University	CC*Compute: From classroom to the lab: NMSU responds to the changing HPC landscape in New Mexico	\$399,869
2019216 Area #4	Liu, Feng	Portland State University	CC* Compute: GPU-based Computation and Data Enabled Research and Education (G-CoDERE) at PSU	\$395,926
2019035 Area #4	Webb, Edmund	Lehigh University	CC* Compute: Acquisition of a Lehigh University HPC cluster to enhance collaboration, research productivity and educational impact	\$399,607
2018936 Area #4	Taylor, Christopher	Louisiana State University Health Sciences Center	CC* Compute: Compute Cluster for Computational Sciences at Louisiana State University Health Sciences Center – New Orleans (LSUHSC-NO)	\$399,458
2018933 Area #4	Wemhoff, Aaron	Villanova University	CC* Compute: High-Performance Computing Backbone for Accelerating Campus-Wide and Regional Research	\$397,196
2019220 Area #4	Kesselman, Carl	University of Southern California	CC* Compute: A Customizable, Reproducible, and Secure Cloud Infrastructure as a Service for Scientific Research in Southern California	\$399,800
2018822 Area #4	Scozzafava, Samuel	Syracuse University	CC* Compute: A High Performance GPU Cluster at Syracuse University	\$393,128
2018841 Area #4	Pal, Anirban	West Texas A&M University	CC* Compute: GROWTH - Gateway for Increased Research Output at a West Texas Higher-education Campus	\$297,528
2019194 Area#4	Castillo, Jose	San Diego State University	CC* Compute: Central Computing with Advanced Implementation at San Diego State University	\$399,328





Open Science Grid

Acknowledgements



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