Upcoming Developments for Researchers and Campuses
What is Best for Research?
Future Directions for NSF Advanced Computing Infrastructure to Support U.S. Science and Engineering in 2017–2020

In the middle of page 10...
... well-established peer of theory and experimentation. Increased capability has historically enabled new science, and many fields increasingly rely on high-throughput computing....

In the middle of page 13...
... Many fields increasingly rely on high-throughput computing that requires a greater aggregate amount of computing than a typical university can be expected to provide. Such applications can be run ...

In the middle of page 15...
... require a single, large, tightly coupled parallel computer and (b) broaden the accessibility and utility of these large-scale platforms by allocating high-throughput as well as high-performance workflows to them....
At UW-Madison ...
At UW-Madison ...

Agile, Shared Compute Systems

"submit locally, run globally"

>200,000 CPU hrs/day/user

Campus Grid

CHTC pool

The Cloud

Open Science Grid
At UW-Madison ...
At UW-Madison ...

Impact Across Domains

CPU Hours via CHTC

In 2018

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Groups Supported</td>
<td>280</td>
</tr>
<tr>
<td>Researcher Consultations</td>
<td>417</td>
</tr>
<tr>
<td>Office Hours Visits</td>
<td>420</td>
</tr>
</tbody>
</table>
To Scale Out Campus-Level OSG Impacts...

- Formalize and standardize campus-centric services for **CEs**, submit **points**, **data federation** with some amount of OSG administration.

- Scale out **HTC Facilitation** to reach more researchers!

- Improve **outreach** with campus partners.

- Leverage existing and emerging OSG campus partners for insights and testing.

- Think more diversely!
Support for Building & Running Gateways

Consulting Services

Gateway Catalog with Projects and Software Components

Hosting Services
Campus Cyberinfrastructure (CC*)

PROGRAM SOLICITATION
NSF 19-533

REPLACES DOCUMENT(S):
NSF 18-508

Full Proposal Deadline(s) (d):  
February 20, 2019

Proposals should 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 to its targeted on-campus users and projects. One possible approach to implementing such a federated distributed computing solution is joining the Open Science Grid. Whatever opportunistic, federated, scalable, distributed
Improvements to OSG Connect

Facilitation

- Streamline on-boarding and project start-up
- Streamline documentation and upstart pathways
- Office hours?
Improvements to OSG Connect

Software Portability Solutions

- documented solutions for common software, independent of modules
- Docker containers for complex/OS dependencies
- clean-up of existing OASIS modules
- pursue CVMFS/Oasis generalizability for campuses

File Storage

- consider eliminating backed-up /home; use ‘scratch’-style disk for submission directories
- support for ‘large’ output in Stash
On-Site Training

- Focus on opportunities that reach the most *campus facilitators* and *gateway developers*
- Support campuses in executing their own *campus trainings*
OSG School

https://opensciencegrid.org/user-school-2019
OSG School 2019 - Apply Now!

https://opensciencegrid.org/user-school-2019
Effective HTC Facilitation

Proactive Engagement
meet with every new user, virtually!

Personalized Guidance

Teach-to-fish Training

Collaboration Liaising

Inward and Upward Advocacy
New: HTC Facilitation Training

HTC Facilitation Community
- regular and asynchronous engagement
- training topics presented by OSG Facilitators

Shadowing
- Send your team to shadow OSG Facilitators for a week!

Hiring ...
Facilitator Hiring and Development

Improvements and Additions

- Streamline **Campus Integration** services, outreach, and facilitation
- Expand dHTC impacts via **HTC Facilitation Training** and **Science Gateways**
- Formalize **Collaboration Support**

+help from software, facOps, Ops teams!!

http://support.opensciencegrid.org
opensciencegrid

help@opensciencegrid.org

support.opensciencegrid.org

www.opensciencegrid.org/links