Executive Summary of XSEDE Advisory Board Meeting, October 10, 2018

Meeting Date: October 10, 2018

Meeting Place: Webinar via Skype

Preface: *This Webinar was an extended meeting with several presentations from the team. Included was a broad update from John, a deep dive into evaluation (staff and user surveys), and highlights of activity from the Program Office, RAS, ECSS, and Operations. Agenda, meeting notes, and slides are available for XAB members at https://confluence.xsede.org/display/XT/XAB+2018+Oct+Webinar.*

Summary of meeting comments and XAB suggestions

By agenda item:

Project Level Update from John:

John shared that based on strong reviews and reports provided to date, NSF has forward-funded XSEDE through February 2021 (the project end-date is August 2021). We will continue to require spending authority annually, however. The Program Officer has informed us that we will not be required to have a mid-year review this year and that the use of KPIs has been an effective way to community project status and progress. XSEDE held a strategic planning session on October 2 with a goal of assessing alignment of our stakeholders (stakeholders defined broadly as user community, partners (SPs), staff, funding agencies, etc.) with strategic goals. During this meeting we identified stakeholder priorities, priority areas for the draft transition plan, and priorities beyond XSEDE 2. Stakeholder priorities include access to research computing, infrastructure services supporting the ecosystem, workforce development, Campus Champions and campus engagement, and advanced user support. We also discussed how to define the role of XSEDE in addressing gaps and how XSEDE is involved, which include providing leadership, collaborating with the larger community, and thinking in strategic terms. John shared some scenarios for what might happen beyond XSEDE 2.0. Envisioned options include:

- Fund single awardee for similar services at ~$75M/5 years (labor cost). If this scenario were to play out XSEDE should determine what the most critical services are that we provide and what could be eliminated
- Fund multiple awardees (i.e., RAS might be expanded to provide support for other allocations processes). As resources are retired, this could impact whether there would be anything like XSEDE at all.

Our post-XSEDE 2.0 transition plan will point out key things that need to be continued, but there is no certainty about what NSF will do with that information. Decisions from NSF will come in the next 4-6 months, but our transition plan will not get to them until later. Should we deliver earlier? Services XSEDE provides could be leveraged, but the challenge is in how we put together a partnership. Finally, John shared that he has been invited by Manish Parashar to brainstorm with him and others about what should happen next, which is very encouraging.

Evaluation Updates:

The Evaluation team shared results from both the Staff Climate Survey and the User Survey.

Staff climate study:

- Trend of increasing scores from 2013 baseline scores
- Highest gains in wiki & website, communication tools, decision making
- Leadership/management training was a common request
- Board members discussed that it is important for XSEDE to share with NSF and the community in general the elements of what helps a virtual organization be successful.

Lizanne noted that NSF invited them to speak at the large facilities workshop about this. We need to find ways to incorporate this information into NSF planning processes, particularly when they're thinking about what the next thing looks like.

User survey:
- Awareness is slightly down from 2017. 25% of users are new to XSEDE every year, so this is common. We always need to work to get the word out about our services.
- Awareness highest among center non-research staff, center research staff, high school users, HPC centers, MIS, EPSCOR state institutions.
- Satisfaction remains high (4.28 on 5-point scale) and is highest among high school users, government lab, faculty/PI users, minority-serving and teaching focused institutions.
- Importance of XSEDE resources to your research remains high.
- Main recommendations are that users want more and faster.
- Board members discussed that the numbers are extraordinary, especially since XSEDE doesn't have control over the resources themselves. Lizanne noted that a large percentage of people who use XSEDE training materials don't have an allocation, and Service Providers don't have to provide training.

The meeting then shifted to the L2 areas providing updates.

In the Program Office, External Relations is preparing to deploy the Discover More marketing campaign in an effort to tell the XSEDE story more consistently, show XSEDE as an approachable project no matter who you are, and show the more human and thoughtful elements of XSEDE. The campaign will launch at SC18 with updated booth graphics, in-booth events, and coordination with SP booths, and it will be followed by a digital implementation following SC18. Board members discussed the strategic objective that these activities are trying to address. Hannah noted that the ER team tracks leads from the booth, how many of them we have conversations with, and who picks up materials. The External Relations team is also in the process of having a market analysis done by the Illinois Business Council (IBC), a student group at the Univ. of Illinois. IBC will conduct a market analysis for XRAS and SSO Hub services. They will provide a midpoint presentation on October 22, and SMT members will be invited to join that.

RAS shared that their team met to look at goals and plans for the next 12 months. Topics included ways to improve administrative aspects of XRAS, revisiting accounting and updating with modern technology, reviewing tasks completed and accomplishments, using XRAS to help allocate aircraft at UCAR/NCAR, and the huge demand vs. available resources and the fact that the success rate is down to about 65%. Dave explained the major reasons people are rejected are due to some sort of technicality (they failed to do something so can easily take them out) and poorly justified requests. If a proposal is rejected the user can reapply in 3 months. A large number of proposals handled by ECSS staff have a higher success rate. Plenary & parallel session level rejections are higher, and it is more likely that a new user will be rejected than a renewal. Dave noted that the number of requests received has jumped considerably from 100+ to 200+ and shared a 2016 Chart of who gets rejected at what percent in various disciplines. He also noted that after rejection 20% never submit again, 20% apply again and get rejected again, and 60% later get a research or startup allocation. Many reviewers look at 10+ requests per quarter (volunteer work). RAS continues to push to rotate out reviewers to bring in new members, which has helped as new reviewers that come in tend to be more willing to consider requests. We do not make a deliberate effort to ensure a particular percentage goes to each field but instead look at the merit of the request regardless of field. There is a perceived competition between biologists & physicists and materials research has increased dramatically. Once the panel makes the recommendation, the reconciliation process factors in the source & amount of funding. There is a formulaic process that brings recommendations in line with available resources. RAS doesn't track gender or other demographics, but the evaluation team looks

at gender. Allocations tend to follow funding from agencies. The board noted that it would be good to have this data and be able to report on it.

N.B. **XCI** and **CEE** did not present updates at this meeting.

ECSS

ECSS shared that Phil is picking up Ralph's previous duties and Bob is picking up Nancy's previous duties. There have been over 700 cumulative requests since 2010 and service has been very successful with a 4.47 satisfaction rating and 4.03 impact rating on the User Survey. ECSS is doing adaptive reviews which are internal reviews by ECSS staff to reduce the number of proposals that have to be reviewed at quarterly allocations review meetings. PY8 goals include: improve project pipeline, prioritize staff training, science gateway user counting, shared experiences with others providing ECSS-like services, lightweight consulting, and modernization of training collaboration. Approximately 15% of users get this service, and at each XRAC meeting ECSS gets 7-10 project recommendations. Also, a fair number of start-ups get ECSS services. The Board discussed that lighter/medium weight consulting would be helpful and not everything needs a year, though Bob noted that if work is completed early, they wrap it up early. Sergiu noted that NIP is not confined to doing projects with project plans, and they also do as-needed mentoring engagements, especially in data-centric applications. The Board noted that ECSS has defined a new mode of knowledge transfer that compliments activities at universities and has done so in a way that is more agile than universities are equipped to do. The team should take credit for this as it speaks to the NSF strategic plan. There are cases where people use XSEDE platforms to gain knowledge that they use on their campus. If they learn something their campus can use, we count that as a success.

The Board discussed that HPC, CS, and data science are often intertwined and wondered if XSEDE can communicate better what it meant by these since they are so intertwined. We should look at definitions and make them what we want them to be. John clarified that CS is curiosity driven/publish papers. "Computational science" is an application of that to research problems. HPC can be involved in both. There is merit in us having our own definition of these things. The Board suggested that XSEDE be careful in its use of jargon and noted that the glossary might be expanded to a project glossary that includes jargon used in presentations and reports. We should make sure such jargon is in the glossary to ensure everyone is on the same page with definitions.

Operations

The Operations team shared their PY8 goals to develop the transition plan for post XSEDE 2.0 and continue excellent help desk ticket resolution. Ops has seen trends in tickets with 4200 average tickets per quarter (25% are addressed by the Ops center and closed), Single Sign-On Hub as the third most heavily used resource XSEDE provides (logins for ~7,000 pages from about 600-700 people, which means most people open ~10 windows), and Duo usage which was started in Oct. 2016 as optional but then became required. The Board discussed that more explanation about hybrid cloud would be helpful in future presentation materials. They also noted that it would be helpful to show ticket number information compared to number of active users. Finally, they noted that this is a complimentary technical side of the virtual community, and connections should be made there.

The Board agreed that all presentations today have great information about XSEDE's success and suggest that John start with a more far-looking presentation when he goes to NSF. XSEDE has developed an implementation of the vision of the original proposal and found a way to help navigate the challenges of integrating centers in a way that they still have competition but not to a

point that it is detrimental to science. John noted that in terms of a transition plan, we plan to talk more about the needs of the community than how to continue XSEDE, as that is the most important thing.

The Board noted that there is a fundamental question about services and the need to support operations of those. There are three levels that could be discussed:
1. To what extent an XSEDE follow-on will support that set of resources?
2. What role XSEDE plays to educate the community and onboard them to using HPC?
3. How to we best use the various other things XSEDE does to benefit the community that doesn't just involve using systems?

The XAB reminded us to look at the context of XSEDE partners and consider if the balance of investment between XSEDE & Service Providers is the right one. There is a fair amount of investment into XSEDE that directly benefits SPs. The SP operational budgets are lean so they lean on XSEDE. John noted that we have captured much of that in Craig Stewart's ROI work as it looks at what the investment would have to be locally for each SP without XSEDE and notes that you would spend a lot more than what is being spent today. The message was: we need to continue to make the point that XSEDE allows the NSF investment to multiply.