XSEDE Advisory Board Meeting Tuesday, April 21, 2020

Session I: Approval of February Meeting Minutes

- Approved.

Session II: PI Update

- Invited by NSF to submit a supplement to extend the project for 12 mos. Will be submitting a supplemental request for NSF review & approval in conjunction with the Annual report & program plan. Working on the supplement proposal now. Expectation/hope for ongoing operations for an additional year. Planning in an optimistic way that it will be approved, and will operate through Aug 2022 once approved.
- NSF still needs to issue a solicitation for a new award. Assume NSF blueprint doc is a draft of such solicitation. XSEDE submitted a response to the blueprint doc with many comments pointing out strengths & weaknesses. NSF appreciated the project's careful review of that doc.
- Q: Any substantive feedback from NSF re. the blueprint response?
- JT: Mostly thanked us for the careful review. We pointed out large holes in the plan. Doc is largely phrased in a way that they anticipate making multiple awards, and nothing in it about a program/coordination office. We called this out as a significant weakness as awardee(s) will need coordination--esp if there are separate awardees. Removed workforce development from award and moved into their larger WD in OAC. Feel this will present challenges.
- JT to share response to the blueprint with XAB today (this was sent on Feb. 3. Leslie presented to board members today)
- Received approval from NSF to make adjustments in project leadership. John has increased responsibilities at IL that require him to pull back on XSEDE a bit. John's time reduced from 60% to 40%. Ron has reduced time by 10% to handle non-XSEDE responsibilities. Tim Boerner appointed deputy project director to pick up some of John & Ron's responsibilities at 40%. Effective in early March.
  - Looked at the full set of John & Ron's responsibilities and shuffled some to Tim. John is now more external/agency facing issues. Tim handling day to day tasks, business continuity planning.
- Kelvin Droegemeier appointed acting NSF director until the permanent director can be appointed. He is well-versed in NSF. Summary of appointment status: https://www.sciencemag.org/news/2020/04/white-house-science-adviser-kelvin-droegemeier-will-also-lead-nsf-now
- XSEDE's involvement in COVID-19 HPC Consortium: They realized that they didn't have a mechanism for making allocations. XSEDE's XRAS system is exactly what was needed with

some minor adjustments. Give credit to Dave Hart & RAS team for their time and effort to make this work. XSEDE's role is important to process. Has been an intense activity. A review team meets every morning, a matching committee meets in the afternoon to determine who will get allocations. Some manual hand-off required for systems not already integrated. Bringing together this scale & diversity of resources never done before.

- 65 submissions received thus far with 35 approved and running. 18 declined. A few in process. Proposals limited to 3 pages.
- Have reached out to colleagues in Europe about potential collaborations. XSEDE's MOU with PRACE is allowing this to move forward more quickly. Goal of sharing progress and moving research forward more quickly. Moving towards also opening a similar collaboration with RIST (Japan).
- Submissions have begun to slow a bit so now backing off to meeting 3 days/week.
- Great role for XSEDE to provide a service much-needed by the community. XSEDE & NSF have gotten some recognition for this.
- John provides weekly updates to NSF on the NSF-funded resources that includes progress and accounting. Working to pull together staff time devoted thus far to understand full value of effort by XSEDE.
- Will we have a measurement later of scientific efficacy of resources/scientific payoffs?
  - Those who have been provided access to resources will be providing 1-2 page updates (internal). Consortium wants to know that progress is being made. Don't expect results immediately, but eventually expect results. If projects seem not to make progress, the consortium will consider pulling back on resources. Still working through what such a policy looks like.
  - Evaluation team willing to provide additional evaluation of efficacy.

Session III: [CEE PY10 Plan Highlights](#)

- Not clear what will follow XSEDE 2.0, but know something will follow. If we ramp down, it may not ramp back up. Trying to be optimistic about what may transition to subsequent awardee(s).
- Q: Wrap up so the project is in a well defined state for whatever comes next.
  - JT: submitted draft transition plan last year. Will provide an update to that to tell subsequent awardee(s) what we think is necessary to continue the project. Will need to figure out what is needed in the final year of the program. This is deliverable, and we have satisfied already.
- Q: Plans to split out BP from whatever next version of XSEDE is--impacts? Still want to take advantage of close integration with XSEDE even if separately funded.
  - A: Believe this is a mistake. BP & student program funds at my SP that are not part of XSEDE. BP & student program funds are typically small, so have tried to leverage the two as the sum of the parts is greater. Advantage of keeping this as part of the project as you're more invested, greater degree of understanding the user community. Splitting it up makes it not as much a part of the org's mission. Lose ability to leverage.

- Q: Where will effort come from to write papers? Papers on broadening participation & student programs recipe is on Kelly's list to do--would go to a journal.
  - JT: Staff have been publishing papers.
  - **RECOMMENDATION**: Frame language about staff publications to highlight that we've done this in the past. Need to show that this builds on our history of staff publications so it doesn't look like something new.
- Q: +-5%: Would we realistically expect such funding changes at this stage of the project?
  - JT: Redirecting resources to support COVID-19 response currently. As projects are awarded through the consortium process, also assigning ECSS staff to those projects (so taking them away from other work). Will put in the annual report an accounting of what we've devoted to this work. Can that work count towards our metrics? Need to understand how this crisis is impacting the project & impact to our planned activities.
  - Kelly: Participant support funds that included travel for people this spring/summer, and those people won't be traveling. Need to figure out the correct method to handle those travel funds, and working with NSF now. One option is to defer spending of these funds until supplement year.
  - Tom: Other funds unspent?
    - We are in the process of making sure we're spent to zero by Aug 2021, the fact that travel won't be happening is impacting this. Working through this with Bob Chadduck.
    - What else can participant support be used for: travel, lodging, registration fees, support for participation in an activity?
- Q: NSF's education programs are larger than XSEDE's. An opportunity to move XSEDE funds into a wider range of programs is possible.
- **RECOMMENDATION**: In terms of education programs, if you can show that you have the larger context in mind (larger than XSEDE), that would be a strong argument.
  - Kelly: Includes grant: difficult to tap into structure. A lot of one-way info vs. 2-way relationship. Articulate that we have a 2-way relationship & larger structure.
  - JT: Have to draw a line between education & workforce development. Have done a lot of training. If it moves to a workforce development program within OAC, it creates concerns.

Session IV: [RAS PY10 Plan Highlights](#)

- How is satisfaction measured? Via quarterly survey of everyone who goes through XRAS service.
- Previously the % of successful requests was in the 60% range, which is not desirable. Have been steadily increasing this towards an 85% goal. Held a training event to help with writing successful proposals, and that was well-attended.
- Q: What's wrong with the 13%? Resource limitation?
  - No--that is out of our control. Invoke reconciliation process at each meeting. Here is what panel awarded, here is what resources we have… then scale back to meet what

is available. If they get something we consider it a success. Hit 87% at the March meeting, and many members of the panel were remote. This could have impacted acceptance rates. Would like to see us sustain at the 87% level.

- How much beyond available resources are the requests?
    - Varies. Not uncommon to reduce by 30% to meet resource availability.
- How do you reconcile? Scientific merit?
    - SP reps & allocation team walks through requests of over requested resources & try to balance
    - Next phase looks at how big a request is. If you shave a larger request you make room for more. Those funded by NSF are treated most favorably.
    - Documented in allocations procedures & processes.
- How is this balanced with broadening participation? Issues where people from larger institutions might have more grant funds. Considerations for first time users?
    - Data showing that new requests tend to do worse than those who have received allocations previously. Have added the ability for the panel to recommend provisional acceptance for 6 mos & address concerns. This has been popular with panels as it helps even the playing field.
    - BP: more challenging as we don't have a good way to track this. We can look at institutional info. Process seems to treat institutions equally. Have been asked about demographic data about users in the past, but we don't have adequate information about users to answer this.
        - **RECOMMENDATION**: Broadening Participation and RAS could work together to consider ways to expand allocations for researchers at smaller institutions with less grant funding. Possibly in extension year could be something good to look at.
            - Dave: can look at this with CEE. Have looked at R1 vs. not R1 institutions. R1 make up majority. Success rates across different types was similar. R2s aren't suffering, but are asking for less.
            - Linda: Metric that is reported on underrepresented users/data are people who have accessed & used resources. Don't report by institution type. Promote heavily how to write a successful allocation proposal to make sure smaller institutions are getting info on how to be more successful in the process. Process appears to be equitable across different institutions/groups.
            - Provide support through novel & innovative projects, which are often newer users. Trying in multiple ways to promote greater success among more groups. But still don't have enough resources to fulfill all requests.

Session V: [Ops PY10 Plan Highlights](#)

- Q: How are cloud resources funded? Does RAS allocate?
    - We had funding in the XSEDE2 budget for XDCDB and did an evaluation to look at moving the database to the cloud. Replaced purchasing hardware to paying for cloud

services. Then we were able to move other services to the cloud. Approx 15 services housed in the AWS cloud currently. Have pre-funded cloud services through the end of this project year. We don't allocate through RAS, but buy through project funds. AWS is a good solution for these enterprise services.

- Q: Not recommending that in the next version of XSEDE the project could live with cloud only? JT: Would have to do a cost benefit ratio, but more advantageous for enterprise services. We look at this carefully before we move any services.
- Cloud will make it easier to hand off services to a new awardee as well.
- XDCDB & XRAS processing need a high level of redundancy & failover, so will be easier to transition. Others are on VM services. Some things need to be physically controlled so it wouldn't make sense to move to the cloud.

Session VI: XCI PY10 Plan Highlights

- Q: Long term 5 year/10 year accomplishments compared to the vision that you had for XCI. Where are we now and what does it mean for the future?
  - Benefit across the 10 years has largely been to come up with a solid process for delivering software. Get requirements from the community & translate into what will get delivered & plan to deliver. Well documented plan/process for this. This will suit the community for a long period into the future. Idea of a research community software portal isn't just to get software, but to engage in development/deployment. Place to discover and figure out how to make use of it. CRI strengths has learned how to translate best practices at national centers into something that can be used on campuses. Implementation of local resources in a way that not everyone has to learn for the first time.
- How your efforts complement or work with training efforts. Some efforts of the XCI team surely require some training. Do you work with the training team? Do you benefit from what the CEE team is offering for training?
  - Integrate closely with CEE training. Have had a useful working relationship with the training team through all of the 10 years. Used to be part of outreach & engagement group. Those contacts have stayed largely thanks to Susan, Linda A, Jay Alameda & ECSS folks, campus champions fellows. A lot of successful outreach as a result.
  - A: A lot of the power of XSEDE is the integration & collaboration across teams.
- Q: Bigger vision for software ecosystem XSEDE was going to build. What are the obstacles? Hard to build academic software? Heterogeneity of SPs?
  - Observing this from the early days, there was a market change in the way XSEDE was asked to address community needs for software. XSEDE is an integrator of solutions--not a designer/developer. Trying to pull in from other successful projects best solutions & promote and deliver as capabilities within XSEDE. Issues of adoptions across SPs--they'll adopt what they adopt. We make recommendations, but delicate tension between identifying what's available and making sure people implement. Have developed a process to make it less painful.

- - JT: Some are reluctant to adopt academic software because no long term support for it. Result is that they often develop something locally that they can't support either. Not NSF's role, but no one is picking this up.
  - Victor: SSH software that XSEDE uses has specific modifications for high performance data transfer. Modifications to authentication to Globus. These 2 modifications don't have developers of mainline products to adopt, so someone has to maintain these changes. These capabilities are important to XSEDE. No other version of these that provide these capabilities.
  - Ken: Long term concern of open science grid.
  - JT: Have adopted ongoing support of some tools because no alternative. XSEDE has taken over support in some cases. That builds up a mortgage of things we need to support. This problem is bigger than XSEDE.
  - Where does Open MPI funding come from? Standards effort, multiple implementations. Some projects decide to take on support. Globus has found sustainability through subscriptions. Academics don't like to pay for these things. Don't feel it is the responsibility of XSEDE. No good answer from those that fund these things in the first place.

Session VII: [Program Office PY10 Plan Highlights](#)

- Cision software both helps provide connection to more media outlets as well as provides more accurate reporting of number of hits.
- Staff publications target is set to provide as much documentation & info to the community as possible as the project winds down. Have also made it a point to have a greater focus on staff publications throughout the project.
- % subaward invoices target decreasing slightly due to delay in time for subawards to submit monthly breakdowns.
- Longitudinal studies
  - During the last review, the panel questioned the utility of conducting these studies because it wouldn't benefit XSEDE2--shouldn't engage in anything that doesn't directly impact the funded project. Can also bring value to larger community re. Lessons learned along the way. XAB thoughts?
    - Value in understanding impacts of this project to funding a future project. Value to NSF in designing future programs.
    - Will any of this inform/impact XSEDE 3? Have they been designed to impact XSEDE 3?
      - Designed to help understand XSEDE & make as effective as can be.
      - More thinking about how results can benefit the community in general.

Session VIII: [ECSS PY10 Plan Highlights](#)

- Q: ECSS used to report on a metric re. time ECSS invests in projects vs. estimated time to complete that project without ECSS support?
  - We do track this (every ECSS PI exit interview includes this question) but not as project KPI. Some PIs say they couldn't have done it without ECSS, so difficult to measure in that case. Currently using 24 mos as a cap on months saved in that case.
  - NSF could decide to put more funds into domain sciences instead of OAC, but this metric demonstrates the value of the funds they're channeling to XSEDE
  - JT: Blueprint doc ignores ECSS. We included this in our response. No specific feedback to our response.

XSEDE Supplement Proposal

- Approach is to shift the year 5 transition plan into a year 6 & sustain activities that we've been supporting throughout the project. Awardee is limited to asking for no more than 20% of the overall award. $22M is 20%. Just salaries would exceed the 20% cap. May get saved by the ability to use unspent participant support funds--may get us where we need to be. Depending on overall impacts of COVID19, may need to ask for funds to accomplish goals of the project since effort is being devoted to COVID19. Non-trivial amount of effort already incurred for this. Once we have those numbers, we'll discuss with NSF about how they want to address this (back off on other efforts or provide additional funds?).
  - Q: consider going to 11 mos?
    - JT: Something to consider. Don't know NSF's schedule for getting out solicitation
  - David: Many salary freezes across institutions. If you show standard salary escalations could result in push-back given the current climate.
    - JT: Some institutions moving to furloughs, others freezing salaries. Don't know how it will play out. Could have a year of lesser salaries as a result
  - Q: Have you worked up a budget?
    - JT: Working on this. Talked with Bob about some of the budget concerns, and he is looking into it.
- XSEDE will submit a supplement request soon & NSF will review it during the June review.
- Q: Panel review can approve more than 20% budget. Maybe some restrictions in how proposal is requested.
  - JT: Not submitting a proposal, but a supplement to the existing award. Not sure if a supplement over $10M is required to go by the science board or not.
- Q: Will there be other parts of the proposal besides the budget of concern?
  - JT: can't go beyond scope of original proposal. Will continue doing what we're doing. Costs grow over time, other costs crop up (will incur some license costs)
- Q: What lessons will be learned by doing everything remotely? How in the future XSEDE might save $ by continuing to do things remotely? Don't always have to be together. Fewer in person events can help with budget issues.

- - JT: XSEDE has been an online distributed project from the beginning. Also moved to 2 of the quarterly staff meetings being held remotely. Value in in-person format, but have cost savings with 2 virtual meetings. This June, the project will hold its first XRAC meeting virtually. Have resisted online format for this meeting up to now. If this works well, may consider moving more of these to a virtual format.
- Emre: wouldn't take on too much risk by trying to cut the budget excessively. Let NSF decide how they want to review it.
- Q: What happens if they still don't have a solicitation in another year? Creating hardship by asking for supplement year after year with continued uncertainty.
  - JT: Concerned about this, but can only point this out to our program officer. Makes it difficult for us to go outside the current scope with a supplement because we have to stay within the existing scope.
- Q: Envision engaging XAB in proposal once solicitation is released?
  - JT: Yes we will engage, but can't do that in this meeting. This meeting is supported by XSEDE grant funds. John may reach out individually to request input. Would need solicitation first. Encourage XAB members to look at Coordination Blueprint doc and provide feedback to Manish.

Wrap-up/Close Meeting

- Overall, XAB members like the virtual format, and it leaves more time for discussion.

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