



CASC Sustainability Workshop, Panel 3: Models, challenges and opportunities. Administrative costs? Resources in greatest need?

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**Extreme Science and Engineering
Discovery Environment**

Who is this guy?

- John Towns
 - PI and Project Director of XSEDE
 - Director, Collaborative eScience Program Office at NCSA
 - Co-Founder, Illinois Campus Cluster Program
- Background
 - just a mid-western boy from Missouri
 - I don't see a lot of folks from Missouri in the circles I am in
 - failed physicist
 - general relativity
 - failed computational scientist
 - numerical simulation of black hole spacetimes
 - failed networked applications guy
 - NLANR-DAST: National Laboratory for Applied Network Research-Distributed Applications Support Team
 - budding social engineer
- Wearing my XSEDE hat for this discussion



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What keeps me up at night? - #1

Articulating the value of XSEDE to stakeholders

- Stakeholders
 - funding agency: NSF
 - community we support: researchers, scholars and engineers
 - our partners: Service Providers, other infrastructure providers, collaborators in technology development,...
 - administration at our respective institutions
 - ourselves: XSEDE staff
- Requires clear metrics of success
 - How do you clearly and succinctly relate science impact when you don't do any science?
 - How do you clearly and succinctly relate societal impact to “Joe Six-Pack?”



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What keeps me up at night? - #2

How do we successfully realize our mission?

- Mission (under revision):

Accelerating scientific discovery by enhancing the productivity of researchers, engineers, and scholars by developing, promoting and sustaining the XSEDE environment of advanced digital services.

- How do we scale across new communities without imploding?
 - How do we sustain that scaling?
- How do we scale the environment without imploding?
 - How do we sustain that ever-more complex ecosystem?



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Sustainability of funding (how apropos)

- XSEDE in year 3 of 5 year project
 - Can we secure an additional 5 years of funding?
- How do we sustain after 10 years?
 - Can we avoid disruptive nature of re-compete while still deriving best value?
 - Will NSF even continue to fund such an activity?
 - Is NSF definition of “sustainable” that they no longer fund it?



Sustainability of Leadership

- Where are the up-and-coming leaders in this space?
- We are missing **programs** that develop these people
 - not like research faculty
 - faculty have grad student, postdocs, research scientists
 - they go on to become next gen research faculty
 - Center directors, facility managers, large scale project leads do not have these
 - informally, leaders mentor opportunistically identified nascent leaders
- Need **programs** and **reward structures**
 - still a cottage industry
 - need career paths



Our reach will forever
exceed our grasp, but,
in stretching our horizon,
we forever improve our world.

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