

Toward a Post-ECP Software Sustainability Organization (PESO) Hub and Spoke Model, Role of Sustainability, Funding, Q&A

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- James Ahrens (Los Alamos National Laboratory)
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Argonne National Laboratory

June 8 – 9, 2023



Friday, June 9, 2023



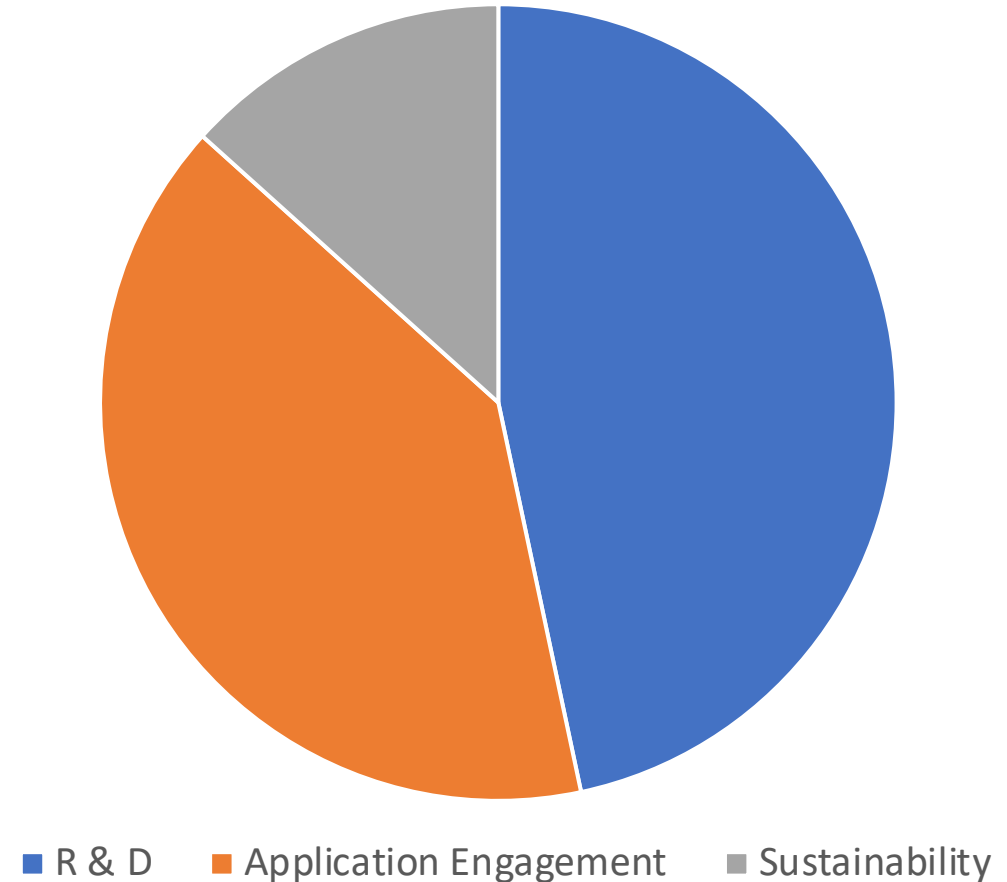
Time (CT)	Topic	Leads	Comments
7:30 am	Working Breakfast		
8:30 am	Challenges and Opportunities for Computing	Rick Stevens (ANL, Assoc Lab Director, Computing, Environment and Life Sciences)	Roles of sustainable software ecosystems in addressing next-generation computing challenges
8:45 am	Hub and Spoke Model, Role of Sustainability Funding, Q&A	Mike Heroux (PESO PI)	
9:30 am	Software Foundations	Todd Gamblin (PESO co-PI)	How we can leverage software foundations for DOE software sustainability
9:45 am	Workforce Development	Lois Curfman McInnes (PESO co-PI), Mary Ann Leung (Sustainable Horizons Institute)	Challenges and opportunities for broadening participation in the HPC workforce
10:00 am	Break		
10:30 am	Breakout		
12:00 pm	Working Lunch		
12:15 pm	Report out from breakouts, discussion		
1:30 pm	Adjourn		

The Role of Sustainability Funding

ECP vs post-ECP

- ECP provided funds for Exascale:
 - Research & Development
 - Application Engagement
 - Sustainability
- Post-ECP funding will be
 - Separate for these three efforts
 - As far as we know

Funding Sources



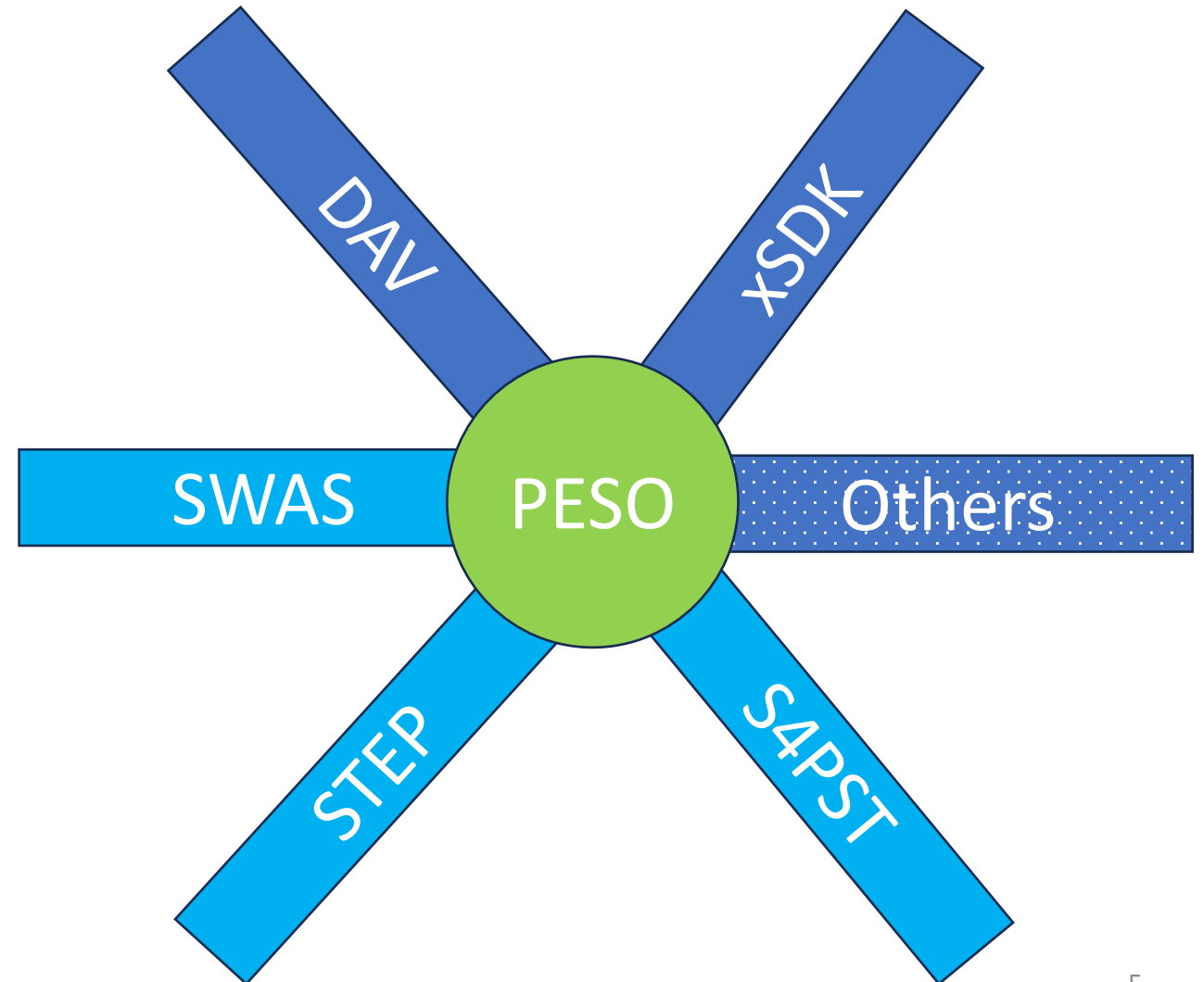
PESO Hub and Spoke Approach



- Software Product Communities (SPCs), (aka, SDKs, Spokes)
 - PESO intends to be a hub that aggregates with communities composed of like products
 - We anticipate SPCs will self-organize and have community-specific governance
 - We anticipate SPCs to include DOE-sponsored and commercial/community software
 - SPC value proposition includes – Shared design space exploration, coordination, more
- Communities of Practice (COPs)
 - PESO anticipates engaging with community leaders in important cross-cutting efforts
 - Examples include:
 - Scientific software developers: (e.g., IDEAS, HPC Best Practices webinars)
 - Community outreach (e.g., Center for Scientific Collaboration and Community Engagement (CSCCE))
 - Software foundations (e.g., NumFOCUS, Linux Foundation)
 - Workforce development (e.g., US RSE, BSSw Fellows, and Sustainable Research Pathways)
- Funding: Transparent criteria and process, with block funding

PESO Hub-and-Spoke Status

- **PESO (Hub)** – Funded seed for cross-community capabilities, engagements, services that are common to most or all software product communities
- **SWAS, STEP, S4PST** – Funded seed projects for workflows, tools, programming systems
- **DAV, xSDK** – Existing ECP SDKs that fit the PESO approach
- **Others** – Some products are missing – need to ID



Hub and Spoke Status

- PESO – SWAS, STEP, S4PST
 - Collaborating and evolving coordination within the hub-and-spoke model
- PESO – xSDK, DAV
 - Working closely under ECP already
 - Includes ECP ST and Co-Design portfolios
- PESO – SciML
 - Initial discussions to propose spoke for the scientific ML product stack
- PESO – Other products
 - What is missing that should be included?

If you are not part of ECP or the SWAS, STEP, or S4PST effort and want to engage with PESO, please provide information using this form

Next steps

- Watch for draft PESO workshop report
 - We will send pointer to all workshop participants for review
- LSSW Meeting 13: 3 – 4:30 pm, June 15, **Update on seed projects**
 - <https://lssw.io/Meeting13>
- PESO Meeting 1: 3 – 4:30 pm ET, June 20, **PESO Overview, Panel, Q&A**
 - <https://lssw.io/PESOMeeting1>