

Software Sustainability & ALCF

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Where We are Now

- Primary available software
 - Agreed on list with vendor to have a base set of continuity
 - Specific widely used tools to augment vendor supplied software
- Facility supported software list is dynamic based on user needs
- Data driven
 - User base is more than DOE community
 - We do not officially adopt every project's needs
 - Adopt when there is a broad need for the software, and **we have the expertise** to deploy it (frameworks, visualization, debugger)
 - Staff might assist a project in software specifically for their project
- Most projects bring their ecosystem with them

Benefits/Opportunities

- Improve commonality across computing facilities
 - Build a skeleton of a shared ecosystem
- Faster time to science
 - Easier user engagement and adoption
 - In worse case, could some teams adopt what they need if sustainability fails?
- Help define an effective deployable, supported eco-system for HPC

Risks/Challenges

- Support level agreements with HPC facilities for deployed software
- Migration for users when products are retired
 - Opportunity cost for projects investing in software that might not be maintained
 - Support level agreements with users
- Reduced to no buy-in from users or facilities due to lack of confidence
- We have a dynamic need from year to year. How does that fold into a model?
 - Does ALCF need for a dynamic list from year to year due to mission undercut some of this? If so, how is that managed?

Some Open Questions

- Can users select from a menu and install themselves?
- Can we agree on a service level that incorporates our needs on metrics?
 - Can we have reliable support for a piece of software in a timely manner? During urgent campaigns? Etc
- What is expected out of the facilities if we have a set of supported software?
 - Early access for porting? Access to test&development systems for new software drops. etc