BigPanDA@OLCF Operational Model (2019+)

BigPanDA Technical Interchange Meeting
BNL, 24–25 Apr 2019

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Summit User Program Update – May 2019 update

1. Early Science Program (ESP) on Summit
   - 25 proposals have been awarded time and work began January 2019
   - Early Science Program terminates at the end of June.

2. INCITE Program on Summit
   - 64 INCITE proposals requested Summit resources; 30 proposals were accepted
   - 9 INCITE proposals reviewed by new "learning panel"; 2 of these were awarded projects
   - 31 INCITE projects have been awarded time and work began January 2019

3. Nine 2019 ACM Gordon Bell nominee submissions from work on Summit

   - Diverse topics spanning modeling & simulation, data analytics, and AI

4. 2019-2020 ALCC program on Summit will begin by 1 July 2019.

5. 2020 INCITE proposal call issued 15 April, closes 21 June, 2019

   - http://www.doeleadershipcomputing.org/proposal/call-for-proposals/

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How should PanDA WLMS move forward on Summit at OLCF?

Option A: Create a new center-wide service/queue to which multiple user projects may submit jobs.

- Support by OLCF, in collaboration with ATLAS/PanDA team.
  - We need a conversation about details.

- What are the advantages of having access to a pool of tasks from multiple user projects external to Summit's queue from which one could proactively backfill Summit?

- Is there an execution strategy that would benefit from access to a pool of "backfill tasks"?

We are not ready to move straight to option A.

Option B: Support user projects from ATLAS and other science projects in using their WLMS of choice

- Kubernetes/OpenShift container orchestration ("Slate" service) is available, but still in "pilot" development.

- Each project would be responsible for deploying WLMS/WFMS middleware upon Slate.

- Enables access to wide-area, distributed task management and proactive backfill of Summit's queues (as demonstrated by BigPanDA project @ Titan.

- Normal queue policies apply
  - Queue policy special requests can be considered.

We should begin with option B on Summit.

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Considerations for implementing Option B:

- The implementation and deployment will be facilitated by OLCF, in collaboration with ATLAS/PanDA team.

– Identify individuals who will develop an implementation strategy.

– Contribute to the knowledge base by documenting the experience.

– Develop and document a recipe for deploying the essential services.

– Harden the process by enlisting friendly users to test the recipe for a set of use cases.

– How do we make it as easy as possible for diverse user projects?

– The KN8/Openshift platform at OLCF is still maturing.

  • How do we develop an automated test suite?

– Identify risks and mitigation strategies.

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Questions, Discussion, & Next Steps