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Title: STNS01-21 BEE - FY21 P6-2: Archive, clone, and re-run workflows

Author(s): Randles, Timothy C.

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STNS01-21 BEE – FY21 P6-2: Archive, clone, and re-run workflows

ECP WBS 2.3.6.01 – LANL ATDM - BEE

PI Timothy Randles, LANL

Members LANL, Kent State University

Scope and objectives

- BEE provides a portable, modular, HPC-focused workflow engine capable of managing containerized applications at scale.
- In FY21 BEE will expand its capabilities to provide more sophisticated handling of workflows. The ability to archive, clone, and re-run workflows will be added to BEE. The kinds of resources that BEE can use to execute workflow tasks will be expanded to include public and private clouds, such as Google Cloud Platform and OpenStack.

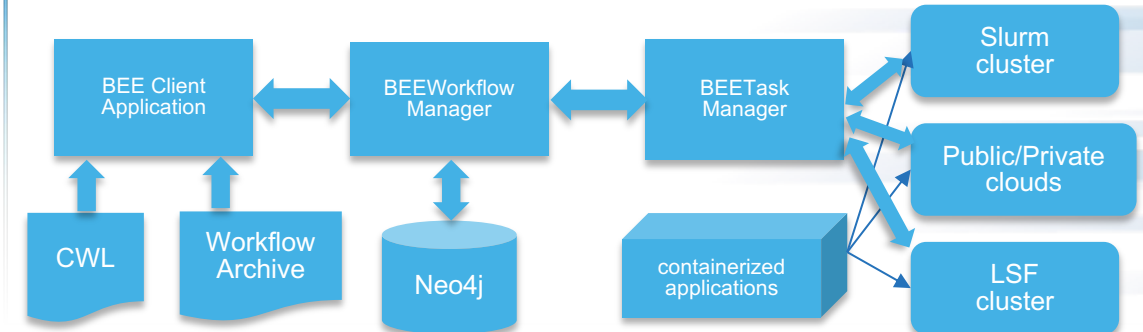
Impact

BEE will give ECP a tool that greatly simplifies the deployment of containerized workflows on the next generation of pre-exascale and exascale systems, as well as public and private clouds. BEE allows scientists to describe their workflow using the Common Workflow Language and then deploy that workflow across the entire spectrum of systems without having to learn the specifics of each container runtime, HPC resource manager, or cloud API. BEE also streamlines the curation and sharing of common workflows among the scientific community.

Deliverables Report: <https://github.com/lanl/BEE/blob/master/doc/ECPFY20STNS01-6-Completion.pdf>
HPC resources used: LANL Fog cluster



BEE: cross-platform portability of workflows



Project accomplishment

- With the ability to archive, clone, and re-run workflows, BEE now makes it possible for scientists to build up a library of known-good simulation workflows.
- Scientists will be able to spend less time configuring and managing complex computational workflows by re-using, sharing, and modifying existing workflows that have been proven to work.