

k8s-hep Meetup

→ intro slides

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k8s-hep Meetup ('Chicagoland') January 30, 2020









WELCOME

Evolving Computing Models & Facilities



"Evolutionary change towards HL-LHC is required, as the experiments will continue to use the current system. Mapping out a path for migration then requires a fuller understanding of the costs and benefits of the proposed changes. A model is needed in which the benefits of such changes can be evaluated, taking into account **hardware and human costs**, as well as the impact on software and workload performance that in turn leads to physics impact." CWP - https://arxiv.org/abs/1712.06982



We'll need Facility R&D to match our Software R&D



A fundamental **redesign** of our Tier2 complex is needed to provide **flexibility** to innovate services (CI/CD pipelines), **reproducibility** to ensure reliability, and **security** to sustain new operations models

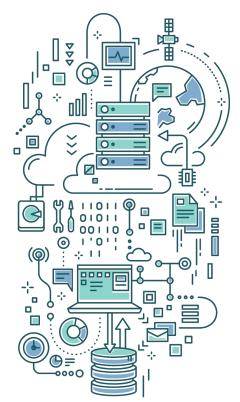
Facility Elements



- service platforms
- clustered storage
- analysis frameworks
- edge caches
- interactive services

accelerators for ML and DOMA functions

Resources for scalable innovation needed!



Growing recognition that k8s can help



- IRIS-HEP 'blueprint' meeting at NYU June 21–22,
 2019 https://indico.cern.ch/event/820946/
- Of the key outcomes:
 - Kubernetes identified as a planned common denominator technology for the SSL, increasing our innovation capability through flexible infrastructure.
 - Plans for a multi-site SSL substrate project that will federate SSL contributions from multiple resource providers (institutes and public cloud), offering the AS area a flexible platform for service deployment at scales needed to test the viability of system designs.



Joint WLCG & HSF Workshop 2019 - Analysis Systems: From Future Facilities to Final Plots

1-2 November 2019 University of Adelaide, North Terrace campus

America/Chicago timezone

Overview

Timetable

Participant List

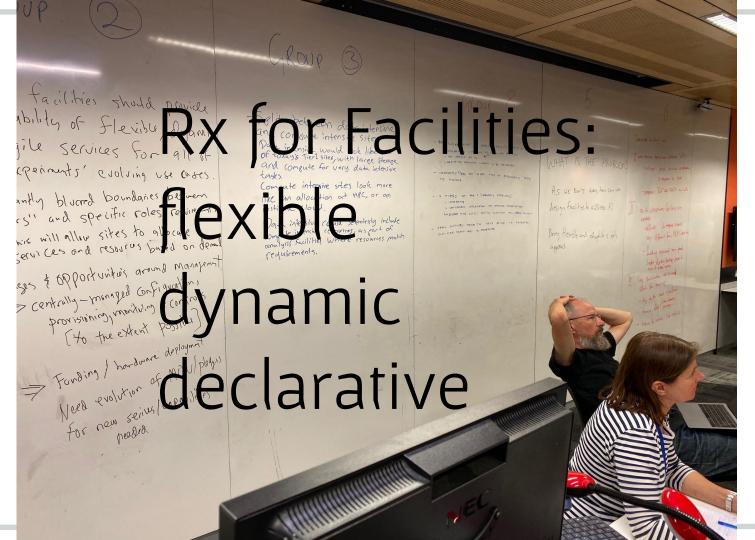
Challenge Groups

This workshop will consider the data that we will gather in upg declarative models become m work. This allows many interest engine to the level of the companion throughput analysis work.

How will this work in practice that analysis? Will funding agencial constraints be? Machine learn likely to increase in importance. And how can I build the bridge analysis work, training maching

The workshop will try to answer of the communities concerned find topics of mutual interest.







other meetings signaling wave of interest



- K8s BoF at CHEP19, link
- Dec 10 Pre-GDB Many faces of k8s, <u>link</u> and c.f.
 Alessandra's summary <u>link</u>
- And CNCF Research User Group
 - Ricardo's pre-GDB <u>talk</u>
 - https://github.com/cncf/research-user-group

Goals today



- Describe our respective developments and interests
- Summarize potential roles
 - Service orchestration & declarative CI
 - On the edge; in the infrastructure; over resources
- Look for opportunities to collaborate
 - Infrastructure
 - Platforms
 - Applications
 - Community building --> local, wlcg, cncf.io



iris-hep Slack #ssl

https://join.slack.com/t/iris-hep/shared_invite/enQtOTI5NDIyNDY4MzI1LTYxMTdiYmE0NGQyOTRlYzewMThhMGNmYzM0NWY3MGZhN2RlMjZiNjU5YTg1YzBlYjFjMzVjODMwYWIwNGQzNGI