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Cloud-native ATLAS T2 on Kubernetes

Wednesday 2 April 2025 09:50 (20 minutes)

The University of Victoria operates a scientific OpenStack cloud for Canadian researchers, and the CA-VICTORIA-WESTGRID-T2 grid site for the ATLAS experiment at CERN. We are shifting both of these service offerings towards a Kubernetes-based approach. We have exploited the batch capabilities of Kubernetes to run grid computing jobs and replace the conventional grid computing elements by interfacing with the Harvester workload management system of the ATLAS experiment. We have also adapted and migrated the APEL accounting service and Squid caching proxies to cloud-native deployments on Kubernetes, and are preparing a Kubernetes-based EOS storage element. We aim to enable fully comprehensive deployment of a complete ATLAS Tier 2 site on a Kubernetes cluster via Helm charts. Moreover, we are now preparing to deploy Openstack itself on a bare metal Kubernetes cluster.

Desired slot length

20

Speaker release

Yes

Author: TAYLOR, Ryan (University of Victoria (CA))

Presenter: TAYLOR, Ryan (University of Victoria (CA))

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