Conference on Computing in High Energy and Nuclear Physics



Contribution ID: 24 Type: Talk

dCache CI/CD migration to Kubernetes

Monday 21 October 2024 14:24 (18 minutes)

For over two decades, the dCache project has provided open-source to satisfy ever-more demanding storage requirements. More than 80 sites around the world, rely on dCache to provide services for LHC experiments, Belle-II, EuXFEL and many others. This can be achieved only with a well-established process from a white-board, where ideas are created, through development, packaging and testing. The project's build and test infrastructure is based on Jenkins CI and a set of virtual machines. This infrastructure is maintained by dCache developers. With the introduction of the DESY-central Gitlab server, the developers have started migrating from VM-based testing to container-based deployments in the onsite Kubernetes cluster. As a result, we have packaged dCache containers and Helm charts that can be used by other sites to reproduce our test and build steps quickly or to evaluate new releases on their pre-production systems, and, eventually, become a standard model of dCache deployment at the sites.

This presentation will show challenges that we have faced, the techniques how they were solved and issues that still need to be addressed.

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Track Classification: Track 6 - Collaborative software and maintainability