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Streamlining solution for the hyper-converged cloud infrastructure at CSCS

Thursday 18 April 2024 11:10 (25 minutes)

This presentation provides a detailed overview of the hyper-converged cloud infrastructure implemented at the Swiss National Supercomputing Centre (CSCS). The main objective is to provide a detailed overview of the integration between Kubernetes (RKE2) and ArgoCD, with Rancher acting as a central tool for managing and deploying RKE2 clusters infrastructure-wide.

Rancher is used for direct deployment on MAAS-managed nodes, as well as HPC (High-Performance Computing) nodes designed for high-intensity workloads. In addition, Harvester orchestrates Kubernetes distributions for virtual clusters, improving flexibility and simplifying orchestration on the platform.

ArgoCD plays a key role in automating deployment processes and ensuring consistency between different environments, enabling continuous delivery. The integration of Kubernetes, ArgoCD, Rancher, Harvester and Terraform forms the basis of a hyper-converged, scalable and adaptable cloud infrastructure.

This case study provides information on the architecture, deployment workflows and operational benefits of this approach.

Desired slot length

20

Speaker release

Yes

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