



Contribution ID: 101

Type: Talk

Unleashing the Cloud-Native Potential: Rethinking Research Cyber-Infrastructures with Kubernetes and Cloud APIs

Tuesday, 5 December 2023 13:50 (20 minutes)

The increasing adoption of cloud technologies in research cyber-infrastructures, including commercial clouds (Azure, GCP, AWS), research-oriented clouds (CHPC's Sebowa cloud and Ilifu cloud facility), and private cloud environments, has enabled greater flexibility and scalability in the industry and academia. We present the use of Kubernetes and Cloud resources in the ongoing African Pathogen Data Sharing and Archive project, a multi-country effort to develop a mechanism for sharing pathogen genomic data among public health laboratories. Through this use case, we demonstrate how effectively utilizing cloud resources necessitates a paradigm shift in viewing infrastructure as an integral part of the application, rather than a separate entity. Emphasizing the significance of API-driven software-defined infrastructure over traditional methods like creating virtual machines and networks, we present lessons learned that challenge the conventional approach to managing research cyber-infrastructures.

Student or Postdoc?

Primary authors: Mr VAN HEUSDEN, Peter (SANBI, University of the Western Cape); Mr DE BESTE, Eugene (CSIR)

Presenter: Mr VAN HEUSDEN, Peter (SANBI, University of the Western Cape)

Session Classification: HPC

Track Classification: Cloud Computing