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Using Docker containers for scientific environments - on-premises and in the cloud

Wednesday, October 18, 2017 3:10 PM (20 minutes)

Docker container virtualization provides an efficient way to create isolated scientific environments, adjusted and optimized for a specific problem or a specific group of users. It allows to efficiently separate responsibilities - with IT focusing on infrastructure for image repositories, preparation of basic images, container deployment and scaling, and physicists focusing on application development in environment of their choice.

Depending on demand, compute resources can be dynamically provisioned and a containerised scientific environment can be deployed in a matter of seconds on a user laptop, a batch farm, an HPC cluster or a cloud without need for a user to learn new environment, install additional libraries, resolve dependencies, recompile applications.

The present talk will describe DESY's experience with providing Docker service on our HPC cluster and report progress in using cloud to transparently and elastically extend containerised scientific environments - a work being done within the HELIX NEBULA Science Cloud project.

Desired length

15

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Session Classification: Clouds, virtualisation, grids

Track Classification: Grid, Cloud & Virtualisation