Contribution ID: **406**   Type: **Oral**

The SIMPLE Framework for deploying containerized grid services

Tuesday 5 November 2019 11:45 (15 minutes)

The WLCG has over 170 sites and the number is expected to grow in the coming years. In order to support WLCG workloads, each site has to deploy and maintain several middleware packages and grid services. Setting up, maintaining and supporting the grid infrastructure at a site can be a demanding activity and often requires significant assistance from WLCG experts. Modern configuration management (**Puppet, Ansible,** ...), container orchestration (**Docker Swarm, Kubernetes,** ...) and containerization technologies (**Docker,** ...) can effectively make such activities lightweight via packaging sensible configurations of grid services and providing simple mechanisms to distribute and deploy them across the infrastructure available at a site. This article describes the **SIMPLE project**: a Solution for Installation, Management and Provisioning of Lightweight Elements. The SIMPLE framework leverages modern infrastructure management tools to deploy containerized grid services, such as popular compute elements (**HTCondor, ARC,** ...), batch systems (**HTCondor, Slurm,** ...), worker nodes etc. It is built on the principles of software sustainability, modularity and scalability. The article also describes the framework's architecture, extensibility and the special features that enable lightweight deployments at WLCG sites.

Consider for promotion

No

Primary authors: SHARMA, Mayank (CERN); LITMAATH, Maarten (CERN); SILVA JUNIOR, Eraldo (CBPF - Brazilian Center for Physics Research (BR)); SANTANA, Renato (CBPF - Brazilian Center for Physics Research (BR)); ANDREEVA, Julia (CERN)

Presenter: ANDREEVA, Julia (CERN)

Session Classification: Track 7 –Facilities, Clouds and Containers

Track Classification: Track 7 –Facilities, Clouds and Containers