

The EGI CernVM-FS infrastructure - latest developments and evolution towards a global facility

Thursday, 9 March 2017 16:00 (20 minutes)

The CernVM-FS is firmly established as a method of software and condition data distribution for the LHC experiments at WLCG sites. Use of CernVM-FS outside WLCG has been growing steadily and an increasing number of Virtual Organizations (VOs), both within the High Energy Physics (HEP) and in other communities (i.e. Space, Natural and Life Sciences), have identified this technology as a more efficient way of maintaining and accessing software across Grid and Cloud computing environments.

Following initial success of a CernVM-FS service offered to small VOs in the UK, RAL Tier-1 enlarged it and an EGI CernVM-FS infrastructure has been developed since September 2013. In this paper we describe the work carried out at RAL to expand the infrastructure to provide a resilient, distributed CernVM-FS service to non-LHC VOs across Europe and replicated around the world. We focus on the current status of its main elements: the Master Repository (Stratum-0), the Replica/Mirror (Stratum-1) and the customised mechanism to upload and maintain the master repositories by the VO Software Grid Managers.

The latest developments to widen and consolidate the CernVM-FS infrastructure as a global facility (with main contributors in Europe, North America, Asia) are reviewed, such as the mechanism implemented to publish external repositories hosted by emerging regional infrastructures (eg. South Africa Grid). Progress on enabling the 'squid auto discovery' mechanism at CernVM-FS client level (which is a specific demand from the communities using the EGI Federated Cloud resources) is described alongside the implementation of protected CernVM-FS repositories, a requirement for academic communities willing to use CernVM-FS technology.

Summary

The EGI CernVM-FS infrastructure - latest developments and evolution towards a global facility

Primary author: Mr CONDURACHE, Catalin (STFC Rutherford Appleton Laboratory)

Presenter: Mr CONDURACHE, Catalin (STFC Rutherford Appleton Laboratory)

Session Classification: Network, Security, Infrastructure & Operations IV

Track Classification: Networking, Security, Infrastructure & Operations