Contribution ID: **401** Type: **oral**

Virtual Machine Logbook (VML) - Enabling Virtualization for ATLAS

Thursday, March 26, 2009 2:40 PM (20 minutes)

ATLAS software has been developed mostly on CERN linux cluster lxplus[1] or on similar facilities at the experiment Tier 1 centers. The fast rise of virtualization technology has the potential to change this model, turning every laptop or desktop into an ATLAS analysis platform. In the context of the CernVM project[2] we are developing a suite of tools and CernVM plug-in extensions to promote the use of virtualization for ATLAS analysis and software development.

The Virtual Machine Logbook (VML), in particular, is an application to organize physicists[1] work on multiple projects, logging their progress, and speeding up "context switches" from one project to another. An important feature of VML is the ability to share with a single "click" the status of a given project with other colleagues. VML builds upon the save and restore capabilities of mainstream virtualization software like VMware, and provides a technology-independent client interface to them. A lot of emphasis in the design and implementation has gone into optimizing the save and restore process to makepractical to store many VML entries on a typical laptop disk or to share a VML entry over the network.

At the same time, taking advantage of CernVM's plugin capabilities, we are extending the CernVM platform to help increase the usability of ATLAS software. For example, we added the ability to start the ATLAS event display on any computer running CernVM simply by clicking a button in a web browser.

We want to integrate seamlessly VML with CernVM unique file system design to distribute efficiently ATLAS software on every physicist computer. The CernVM File System (CVMFS) download files on-demand via HTTP, and cache it locally for future use. This reduces by one order of magnitude the download sizes, making practical for a developer to work with multiple software releases on a virtual machine.

Presentation type (oral | poster)

oral

Primary authors: Dr CALAFIURA, Paolo (LBNL); Dr YAO, Yushu (LBNL)

Co-authors: Mr CAVALLI, Andrea (Ecole d'Ingénieurs et d'Architectes de Fribourg, Switzerland); Dr LEGGETT, Charles (LBNL); Dr BAPST, Frederic (Ecole d'Ingénieurs et d'Architectes de Fribourg, Switzerland); Mr POFFET, Julien (Ecole d'Ingénieurs et d'Architectes de Fribourg, Switzerland)

Presenter: Dr YAO, Yushu (LBNL)

Session Classification: Software Components, Tools and Databases

Track Classification: Software Components, Tools and Databases