CHEP'07
VICTORIA, BC

Contribution ID: **424**   Type: **oral presentation**

Integrating Xgrid technology into HENP distributed computing model

Monday, 3 September 2007 15:40 (20 minutes)

Modern Macintosh computers feature Xgrid, a distributed computing architecture built directly into Apple's OS X operating system. While the approach is radically different from those generally expected by the Unix based Grid infrastructures (Open Science Grid, TeraGrid, EGEE), opportunistic computing on Xgrid is nonetheless a tempting and novel way to assemble a computing cluster with a minimum of additional configuration. In fact, it requires only the default operating system and authentication to a central controller from each node. OS X also implements arbitrarily extensible metadata, allowing an instantly updated file catalog to be stored as part of the filesystem itself.

The low barrier to entry allows an Xgrid cluster to grow quickly and organically. This paper and presentation will detail the steps that can be taken to make such a cluster a viable resource for HENP research computing. We will further show how to provide to users a unified job submission framework by integrating Xgrid through the STAR Unified Meta-Scheduler (SUMS), making tasks and jobs submission effortlessly at reach for those users already using the tool for traditional Grid or local cluster job submission. We will discuss additional steps that can be taken to make an Xgrid cluster a full partner in grid computing initiatives, focusing on Open Science Grid integration. MIT's Xgrid system currently supports the work of multiple research groups in the Laboratory for Nuclear Science, and has become an important tool for generating simulations and conducting data analyses at the Massachusetts Institute of Technology.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

STAR

Primary authors: Mr KOCOLOSKI, Adam (MIT); Dr LAURET, Jerome (BROOKHAVEN NATIONAL LABORATORY); Mr HAJDU, Levente (BROOKHAVEN NATIONAL LABORATORY); Dr MILLER, Mike (MIT)

Presenter: Mr KOCOLOSKI, Adam (MIT)

Session Classification: Distributed data analysis and information management

Track Classification: Distributed data analysis and information management