

## **Investigation and Analysis of Identity Management Issues by OSG and Esnet**

**<sup>1</sup> Mine ALTUNAY,\* <sup>1</sup> Tanya LEVSHINA, <sup>2</sup> Doug OLSON, <sup>2</sup> Mike HELM & <sup>2</sup> Dhiva MURUGANANTHAM**

<sup>1</sup> Fermi National Laboratory, US

<sup>2</sup> LBNL, US

Open Science Grid (OSG) and Energy Sciences Network have collaborated on understanding the identity management issues facing today's science communities. This investigation has been carried out in the form of a survey of virtual organizations (VOs) using OSG as well as a two day workshop. The workshop had two goals: analyzing a set of identity management use cases from a computer science perspective and then gathering user feedback on the current security infrastructure. We designed a separate day-session for each goal with a different set of attendees. Although the scope of each session was different, the findings from each nicely complemented one another.

A striking conclusion from the first was that interactive vs. non-interactive computing models need significantly different access control models. The emerging web-based identity management systems are built for the interactive computing environments while the GSI based grid infrastructure takes advantage of the non-interactive nature of X.509 credentials to enable long running workflows. However, because web-based computing is utilized by a much larger fraction of users, adopting a similar access control model would be more beneficial for grid computing's overall longevity and success. We seek to understand whether/how we can merge this two access control models.

From analyzing VO needs we find two sets of communities: those that are largely satisfied with the current infrastructure, and another set of VOs that heavily use diverse collaboration tools and are not satisfied with the status quo. The main issues are the lack of a unifying security infrastructure that ties the grid access model with web-based access control models. In other words, they complain because their users need to switch identities across different collaborative tools. From this analysis we will identify the most promising directions for improving the identity management infrastructure for these communities.