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Implementing Finer Grained Authorization on the Open Science Grid

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Securely authorizing incoming users with appropriate privileges on distributed grid computing resources is a difficult problem. In this paper we present the work of the Open Science Grid Privilege Project which is a collaboration of developers from universities and national labs to develop an authorization infrastructure to provide finer grained authorization consistently to all grid services on a site or domain. The project supports the utilization of extended proxy certificates generated with identity, group and role information from the European Data Grid (EDG) Virtual Organization Management System (VOMS). These proxies are parsed at the grid interface and an authorization request is sent a central Grid User Mapping Service (GUMS). The GUMS service will return the appropriate mapping based on the identity, role or group. This allows the user to propagate information about affiliation and activity in the credentials and allows the site to make decisions on authorization, privilege, and priority based on this information. The Privilege components have been packaged and deployed on OSG sites. The infrastructure has been used to support sites with multiple computing elements and storage elements. We will present the motivation and architecture for finer grained authorization as well as the deployment and operations experience.

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