

GridShib

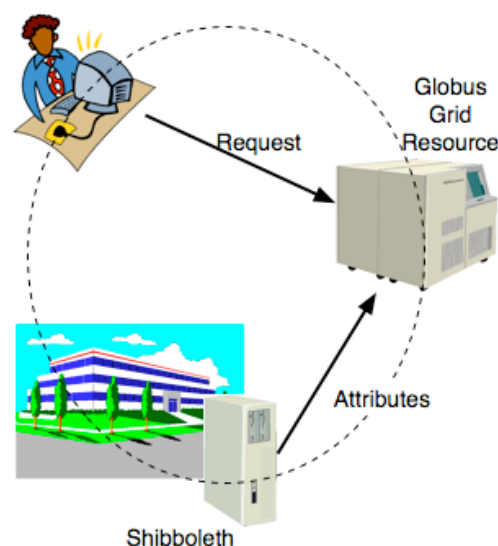
Integrating identity federation (Shibboleth) with the Globus Toolkit to provide attribute-based authorization for distributed scientific communities.

<http://gridshib.globus.org>

Large scientific projects are increasingly becoming cross-organizational collaborations with members and resources from multiple institutions forming virtual organizations to accomplish tasks beyond the ability of any single institution. These virtual organizations are structured, with different members having different privileges. For example some members might only have the right to develop and run software, while others might serve as community administrators. Using roles such as these allows virtual organizations to enforce the governing policy and to maintain the integrity of their processes and results. To avoid a scalability problem, virtual organizations seek to use access control methods in which privileges are based on user's attributes instead of identity. Resource managers would not need to know all of the users in the virtual organization, just their attributes (for example, Data Analyst or Software Developer).

Shibboleth® is a software system, developed by the Internet2 community that allows a user's institution to provide attributes about the user to enable attribute-based access to resources at other institutions. For example, university A could allow chemistry professors, but not chemistry students, at university B to access university A's on-line chemistry library. Shibboleth is standards-based, well-supported and increasingly adopted by universities and research and education networks across the U.S and abroad, making it a good infrastructure to leverage to enable attributed-based access control to Grids.

The GridShib project is developing the necessary technology that allows the interoperability of the Globus Toolkit® and Shibboleth, enabling Grids to base their access control on Shibboleth-issued attributes. Specifically, we will develop mechanisms whereby the Globus Toolkit authorization engine will contact a Shibboleth attribute authority to obtain the user attributes that the Grid service is authorized to use. These attributes are subsequently used by the Grid service to make access control decisions.



The current (November '05) GridShib software release consists of two plug-ins: one for for Shibboleth 1.3 and one for the Globus Toolkit 4.0. These plug-ins allow services built on Globus to query attributes from Shibboleth and make access control decisions based on those attributes. For the latest project news, or to download the GridShib software, please visit the project website: <http://gridshib.globus.org>

GridShib is a collaboration between the University of Chicago and NCSA, funded by the NSF NMI program under grants 0438424 and 0438385. Globus Toolkit® is a registered trademark of the University of Chicago. Shibboleth® is a registered trademark of Internet2.