

Major Science Collaboration Manages Access with Grouper



The Laser Interferometer Gravitational Wave Observatory (LIGO) project was created to detect cosmic gravitational waves and to develop gravitational-wave observations as an

astronomical tool. LIGO is funded by the National Science Foundation and operated by the California Institute of Technology and the Massachusetts Institute of Technology.

Research is carried out by the LIGO Scientific Collaboration (LSC), a group of nearly 800 scientists at more than 60 institutions in United States and 11 other countries. A German-English project called GEO600 is part of the LSC, and a sister Italian-French project called Virgo is another part of the mix.

The Problem

The large number of partners involved in this virtual organization created a major challenge in identity management. The LSC needed to find a single, coherent way of tracking complex group memberships and relationships between the LIGO lab, LSC, GEO600, and Virgo.

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“We began with an unmanageable, non-scalable infrastructure for authentication, authorization, and identity management in general,” says Scott Koranda, senior scientist at the University of Wisconsin-Milwaukee. “There was a need to manage it primarily to enable more sophisticated authorization to important LIGO and Virgo computing resources.”

The Solution

After reviewing available solutions, the LIGO Scientific Collaboration selected Grouper Groups Management

Toolkit from Internet2 as the single place where the information about groups, memberships, and (eventually) roles would be housed and from which other pieces of the infrastructure could draw. “We chose Grouper because of its flexibility, the number and types of interfaces (web services interfaces in particular), and because we could see that it was being solidly developed and supported,” Koranda explains.

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Another Grouper advantage is that it reflects membership information into a standard LDAP service. Many of the tools that use the information stored in Grouper can easily query an LDAP server.

The Result

As a result of the LSC identity and access management infrastructure based on Grouper (and leveraging Shibboleth® single sign-on software), new collaborators in the virtual organization can quickly be added as members in a single location. From their identity and group information, and using a streamlined authorization process, access to key resources automatically flows out to scientists throughout the world.

A key lesson learned, says Koranda, is that a collaboration the size of LIGO cannot ignore identity management and all of the related issues, including group membership.

About Grouper

Want to learn more about what Grouper can do for your campus? Read more about Grouper on the back of this page and at grouper.internet2.edu.



Grouper Groups Management Toolkit

Giving Stewards Control of Groups to Manage Membership and the Resources They Access

Internet2's Grouper Groups Management Toolkit enables project managers, departments, institutions and end users to create and manage institutional and personal groups. It puts the control of a group in the hands of its steward and enables the person to manage the membership and the resources a group can access.

Why Should I Use Groups?

Separate applications may use groups to track an individual's role, or to determine which users are authorized to access the resource. Because groups are managed separately in each application, keeping the membership roster consistent across these services becomes very difficult. If a member left a project, for example, the group's email list, wiki space, calendar, research database and other shared resources needed to be updated separately.

Grouper provides a way to define a group once and use that group across multiple applications.

Manage from One Location

Grouper consolidates group information and creates a single point of management. Membership changes are done once and provisioned to the applications. A group owner can define membership, create a group structure within a domain, or delegate all of this to someone else.

Distribute Control

Grouper keeps the group membership decisions in the hands of the business/group owners, access control in the hands of the application owners, and the technology management in the hands of the technologists. Individuals can also use the system to review their group memberships.

IT administrators are relieved from the burden of keeping up with the day-to-day group changes and Grouper increases the overall integrity of the policy and technology interaction.

Help Collaboration Happen

With Grouper, an owner sets up a group in one spot, feeding membership information to applications like

email lists and calendars. The owner needs no technical skills to create, change or delete groups or members. For example, a researcher might create a group and enable members to participate on an email list or view a web site. Students use Grouper to set up and manage groups for similar applications as they work together on shared projects and class work.

Grouper enables group management institution-wide and on an individual level, providing more secure, robust and responsive methods to control access to resources.

Ease Staff Support Load

Grouper separates the management of groups from the technical system, so a change in technology has no effect. This reduces the end-user support calls associated with underlying infrastructure changes. Removing IT from the middle of managing groups will help ease your helpdesk headaches as well.

How Do I Get Started?

To learn more about the Grouper Groups Management Toolkit, visit the Grouper website (<http://grouper.internet2.edu>) and join the community by participating on the email lists and attending the workshops and presentations offered around the country.

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