

Community Grids Top Projects

Gateway Computational Web Portal

<http://www.gatewayportal.org/>

Participants: Geoffrey Fox, Ying Jin, Mehmet Nacar, Marlon Pierce, Ahmet Sayar, Yan Yan, Choonhan Youn

Project Overview

The Gateway Computational Web Portal project provides secure access to high performance computing (HPC) resources through a Web browser interface. Since 1999, Gateway has played an active role in developing and evaluating a number of user interface and middleware technologies for HPC Web portals, including JavaServer Pages, CORBA, distributed JavaBeans, XML-based Web Services, and portlets.

Gateway provides a number of basic service components, including user services such as batch script generation, job submission, job monitoring, file transfer, and job archiving. Administrative services are also provided through application Web services, which provide a universal interface allowing developers to deploy their code in the portal. Gateway builds specific portals on top of these basic services. Gateway portals support Web-based access to HPC resources, as well as fluid and structural mechanics codes for the Department of Defense's High Performance Computing Modernization Program. Gateway is deployed at the Army Research Lab and the Aeronautical Systems Center.

Gateway's basic services also form the basis of the Solid Earth Research Virtual Observatory Grid project (www.servogrid.org), funded by NASA to support access and interoperability for earthquake simulation techniques. Portal collaborators include researchers at the Jet Propulsion Laboratory, the University of California-Davis, and Brown University.

Gateway developers are active participants in the Grid Computing Environments Research Group of the Global Grid Forum.

Research

Current Gateway research focuses on two areas:

- Developing adaptable and secure Web Services to support computational Web portals
- Developing client-side portlet components and container environments to organize user interfaces and simplify access to services on the computational grid.

Contact

Geoffrey Fox: gcf@indiana.edu

Marlon Pierce: marpierc@indiana.edu

