Portal and GIS Grid

Commumity Grids Lab at Indiana University

Reusable Science Grid Portal Components and Services

Computing Web portals are undergoing a revolution as standardized portal containers allow portals to be built out of standard components. The NMI Open Grid Computing Environment (OGCE) Collaboratory (Indiana, Michigan, ANL, TACC, NCSA, SDSU) provides these basic building blocks, including:
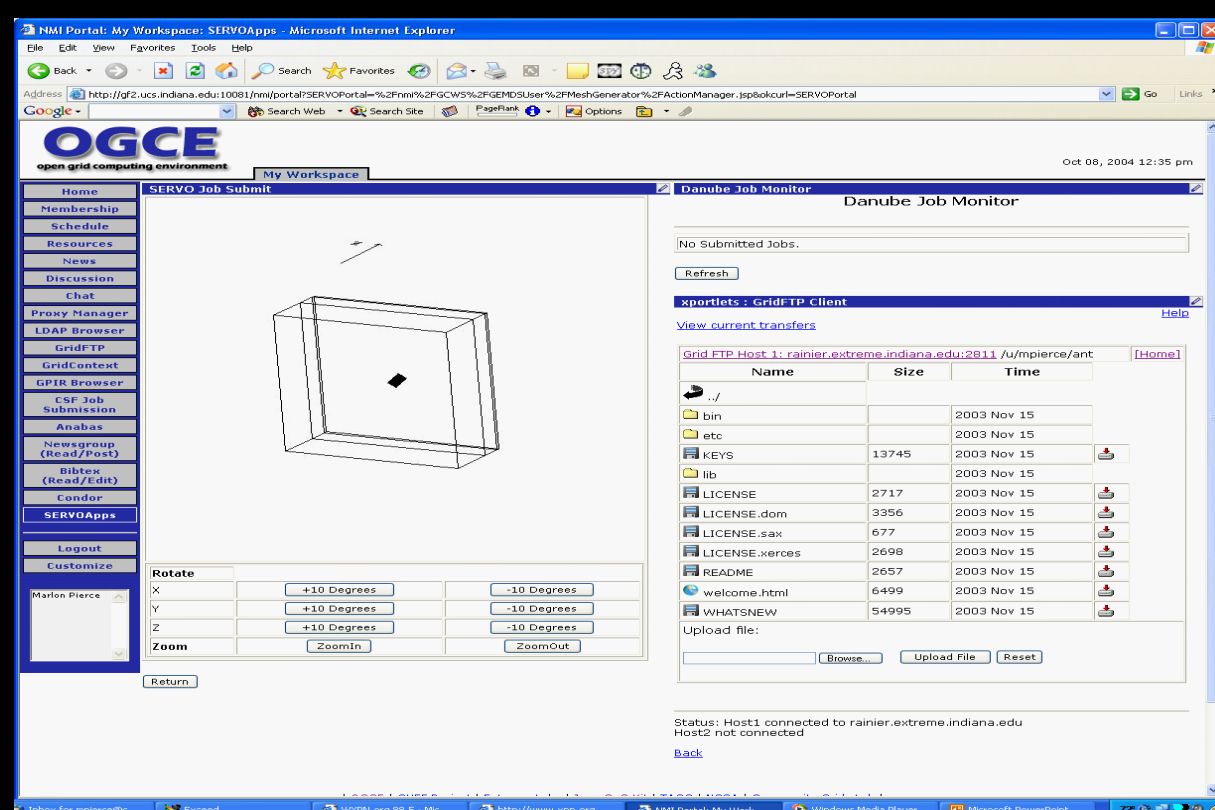
- Login/Grid Authentication
- Job submission
- File transfer
- System monitoring through GPIR
- Document share services
- Calendars
- Group accessible areas

Science portals, such as the QuakeSim project, can be built from these pieces, providing higher level, application-specific capabilities. The QuakeSim portal builds upon OGCE tools to provide the following capabilities:

- Access to QuakeTables fault data base
- Submission forms for high performance simulation codes like GeoFEST and Virtual California
- Job orchestration support for coupling applications to remote visualization services
- User project support for creating and archiving projects, input parameters, output data, and images

Applications

Open Grid Computing Environments

http://www.collab-ogce.org

The OGCE is funded by the NSF National Middleware Infrastructure to produce free, open source software for building Grid Computing Portals.
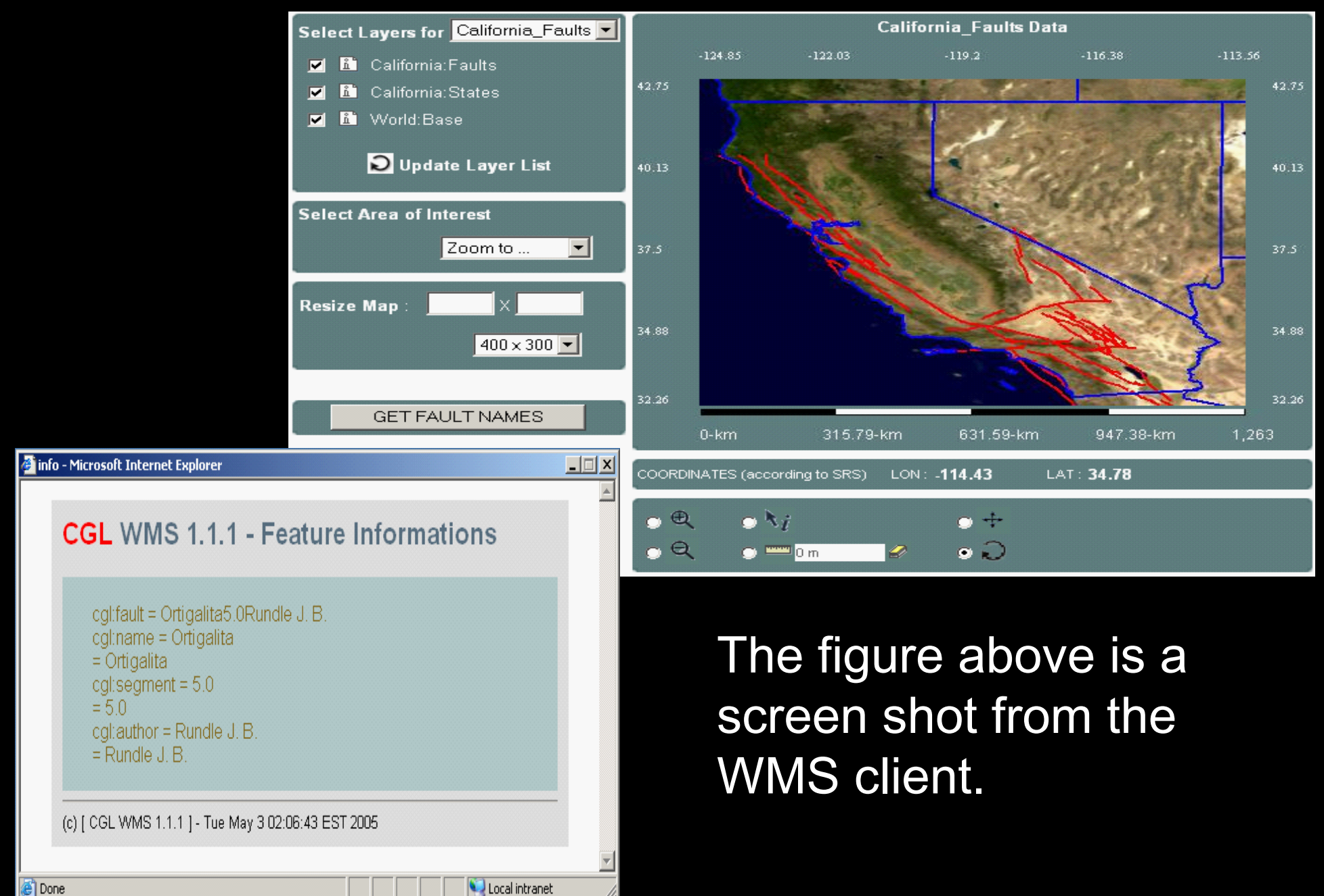
OGCE portlets can be used to build science portals out of usable components. The figure illustrates a geometry specification that used for creating a finite element mesh input file for the GeoFEST FEM code. The portlet on the left shows the user's remote file system on a selected host.

GIS Grid

http://www.crisisgrid.org

The figure shows a client to a Web Map Server, which combines satellite imagery layered with drawn images (state boundaries, earthquake fault locations, etc) retrieved from a Web Feature Server. We use this to provide an interactive user interface for setting up and running Geophysical applications.

The figure to the left is FeatureInfo of the selected Popup for non-geometirc attributes features.

The figure above is a screen shot from the WMS client.

Collaborative portlets

http://www.collab-ogce.org

One may join sessions with Unicast or H.323 session clients. One may also join interactive chat sessions. Using the option "StreamingStart" to send streams from your desktop.

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