

GridPP Portal - Portals and VREs

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Users

This portal has been built to meet the immediate requirement of providing easy access to the computational and storage capabilities of the LCG. The current users are GridPP (for dissemination purposes), and the HEP experiments CALICE and MICE.

Design

The portal consists of two machines; a "portal" machine and an "LCG User Interface" machine. It is accessed by a user from any third machine. Since the portal is designed to be used in a "wandering" manner, the user's machine needs only to have internet access and a web browser, both of which are standard, and a few small files that can easily be moved around on a floppy or USB memory stick.

The portal machine serves pages using an Apache webserver. It can serve pages over http, but all functional pages are accessed over https. GridSite allows effective one-time login using the user's CA signed certificate. When a user first logs in with their certificate, an area is assigned to them by the portal. GridSite then provides a nice interface for uploading and managing files.

In order to use the LCG, the portal needs to be able to have access to a user's proxy. A Java Web Start program allows the user to create and send a proxy to the portal just by giving their password and clicking a button. This proxy is then held in a secure (non http accessible) area, and used by the portal on behalf of that user.

The LCG User Interface is on a second machine, and the portal machine sends requests for services over SOAP. These services are all described by WSDL files.

Each time the user uses the portal to do something on the LCG, their proxy is sent to the LCG UI machine. All communication is done over https. The UI machine runs another Apache server that can serve SOAP Web Services using the Perl SOAP::Lite module over CGI. The CGI scripts always delete the user's proxy before finishing their tasks.

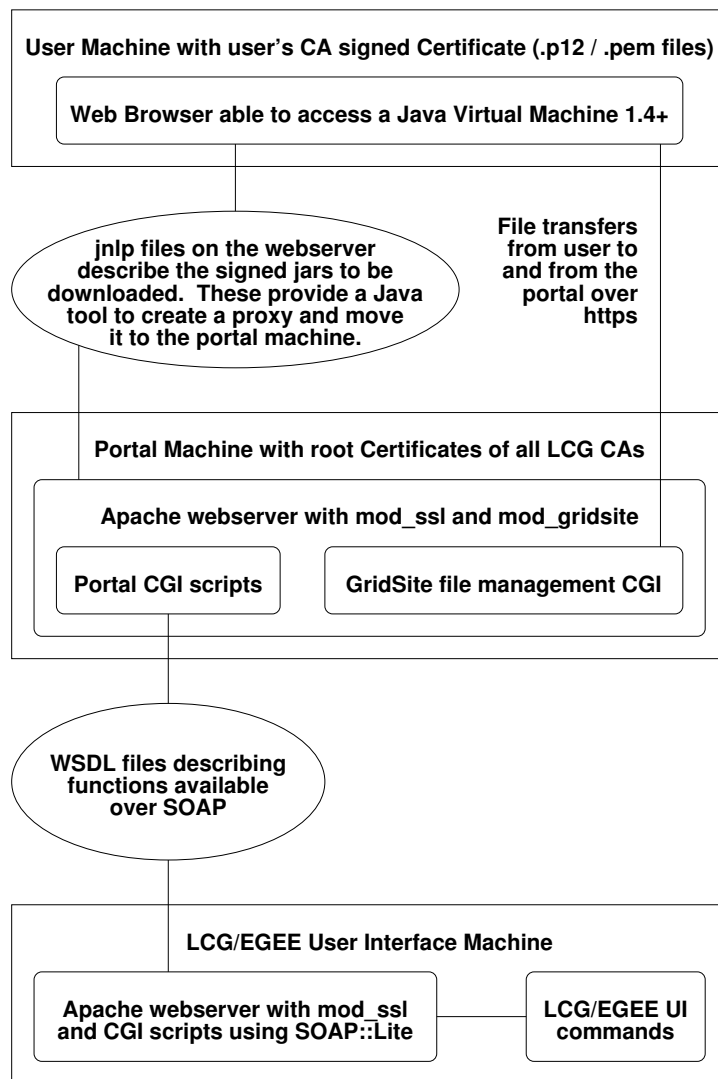


Figure 1: *Architecture of the GridPP Portal*

Future Development

The portal was built with an architecture consisting of two clearly separated parts. The main reason is that the user interface should not reflect any changes in the LCG that are ongoing, and so separating the two via SOAP Web Services ensures this. Also, by providing the LCG functionalities over Web Services, we allow for the development of other front ends. These could include a web browser based JSR-168 compliant portal framework, or a standalone Java program.

The choice of using Perl/CGI on the user interface for the current development was due to a combination of development speed and current stability. It is also the case that the ideal of reusable JSR-168 compliant portlets is not applicable to this portal, which is required to deliver immediate access to the LCG.