In support of VLab’s Grid middleware, we are building component-based portals that will simplify the complicated submission and code management problems involved in VLab research. Based on a core of standard Grid technology such as the Globus toolkit and the Java CoG kit, we are building advanced Web Services for workflow and job management. The VLab Web Portal serves as a client management environment to these service components. We build these portals out of standard components called “portlets”, following the model of the Open Grid Computing Environments (OGCE). Portlets allow entire user interface applications, such as components for submitting PWSCF and other QUANTUM ESPRESSO codes, to be bundled into a reusable, distributable component that may be easily installed in other portal systems. This allows us to share VLab-developed components with our international collaborators and vice versa.

Marlon Pierce, Dan Kigelman, Mehmet Nacar, Gordon Erlebacher, Cesar R.S. da Silva, David Yuen, VLab Portals.

We are also investigating reusable portal components at a finer grain than portlets. By extending Sun’s Java Server Faces to support VLab Grid service clients, we will be able to greatly simplify the process of designing portlets themselves from reusable components. This will also allow us to work closely with component designers from other, unrelated portal efforts through the OGCE.

http://vlab.msi.umn.edu

Screenshot of the prototype portal using OGCE in a uPortal container.