

Grid Portal Development for Ukrainian Grid Infrastructure

Kyselov G.D.¹, Matuschchenko V.A.¹, Chepurnoy R.V.¹

¹Educational-Scientific Complex "Institute for Applied System Analysis"
National Technical University of Ukraine "Kyiv Polytechnic Institute",
Peremogy prosp., 37, Kyiv, Ukraine, kiselev@cad.kiev.ua

Web-oriented computing GRID-portals proved themselves as quick and efficient tool in providing users of computation GRIDs with simple and friendly user interface for access and usage of GRID resources. SDGrid Portal (System Development by Grid) provides access to computational layer of national Grid infrastructure, generate Grid-resource accessibility, job status and current load reports.

SDGrid portal is based on Gridsphere with applications for Globus Toolkit 2, Globus Toolkit 4 and gLite middleware support. Gridsphere provides developers with highly-efficient mechanism in creating new applications using portlet system.

The SDGrid design is based on multilayered architecture. Each layer represents certain logical part of the system.

Client layer represents the consumers of Grid computing portals (web-browsers).

Application layer consists of the portal-specific code itself. SDGrid portal run on standard Web servers and process the client requests and the responses to those requests.

Portal services layer contains GridSphere and other portal toolkits, applications and libraries providing capabilities of user personalization, authentication, job status monitoring, load data collection e.t.c.

GRID Services layer includes those software components and services that are needed to handle requests being submitted by software to the portal services layer.

The SDGrid portal contains set of collaboration tools based on Bluesquid portlet from BIRN. Such tools provide end user with application like forums, blogs, RSS-readers, photo-galleries thus giving users complex solution for sharing data with each other, communities and projects creation.

At this moment SDGrid portal operates in its own test environment and runs through testing stage which purpose is in compatibility check with Nordugrid.

Current version of SDGrid portal can be accessed at <http://sdgrid.org.ua>.