
NAREGI Middleware

(National Research Grid Initiative)

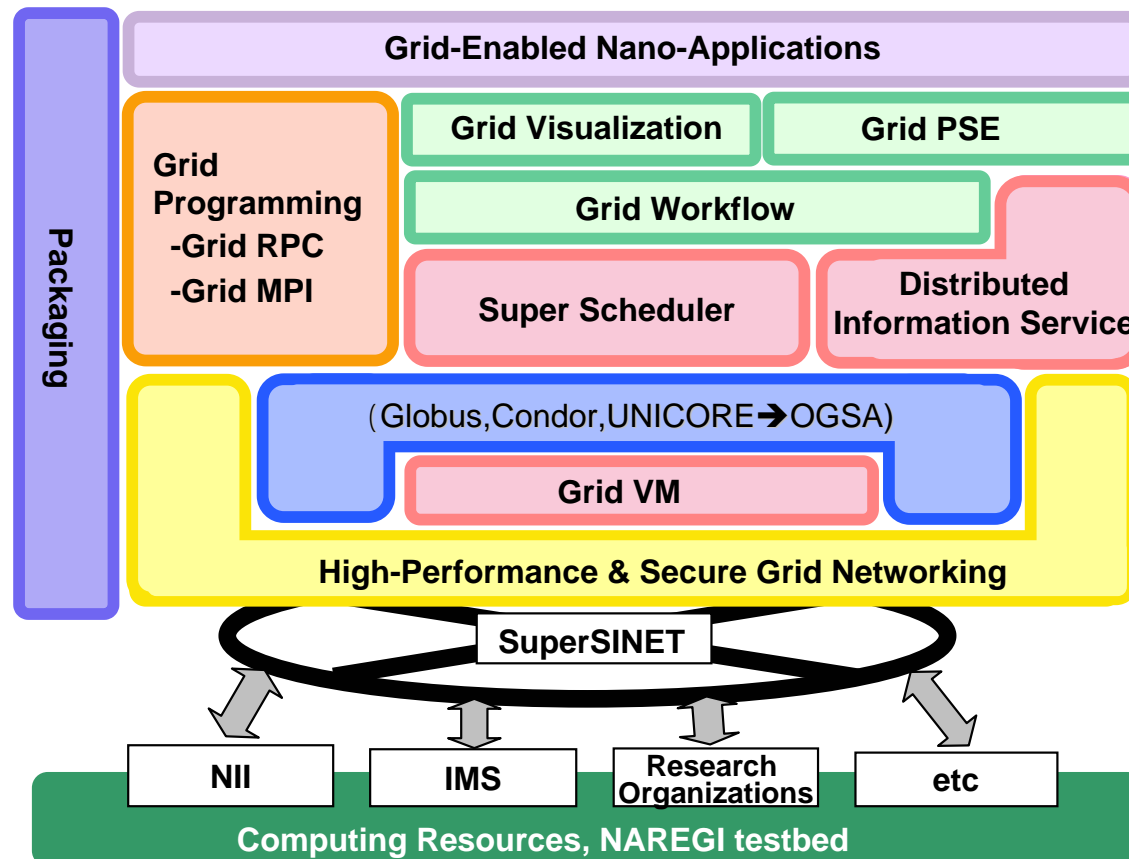
March 2005



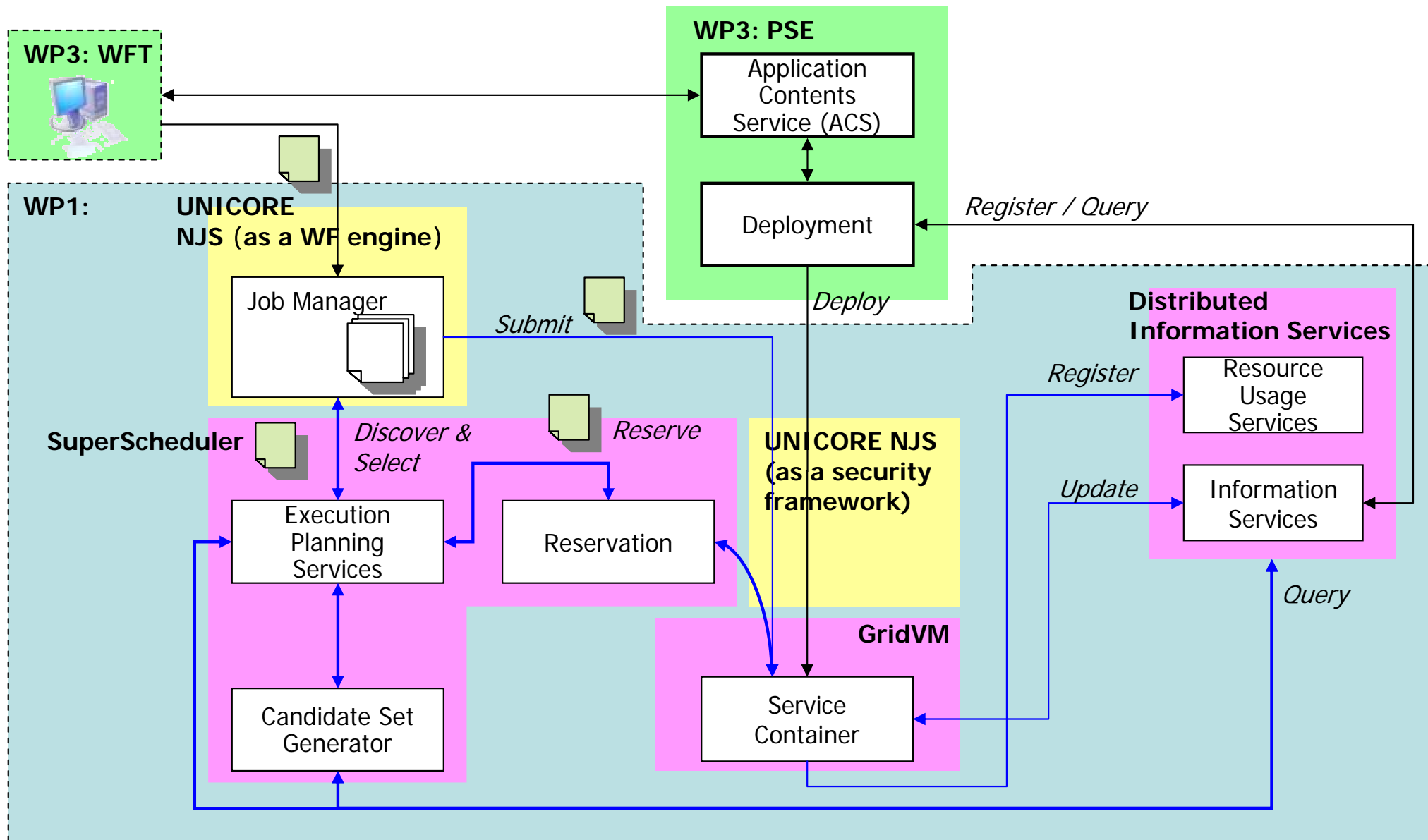
NAREGI Middleware Objectives

Constructs Server Grid, realizing Meta-computing.

- Allow users to execute complex jobs with various interactions on resources across multiple sites on the Grid.
- Stable set of middleware to allow scalable and sustainable operations of centers as resource and VO hosting providers.



NAREGI Middleware and OGSA-EMS





NAREGI WP1 Software stack and standards

Super Scheduler, GridVM, and Distributed Information Service consist the core of NAREGI middleware. We developed them as a set of interacting web services following the OGSA architectural document V1, and used many standards for interoperability, in particular WS-Agreement and JSDL.

1. WS-Agreement

- To make resource provisioning be scalable, we believe that bilateral resource matching is the best way. We are using WS-Agreement for this reason.
- Agreement based brokering is more secure than non-agreement based one, because the jobs, which do not match to local policy of site, will be rejected. This keeps the local resources safe, and autonomy of the site.

2. JSDL

- For resource matching, a meta descriptive framework, which is *portable*, *extensible*, and enables unified description of job submission and resources, and it's standardized schema are needed. Currently, we employ JSDL because it is the only one available.

We also use WS-Notification, OGSA-DAI, and other standards.