NORGRID

- **Objective: competence building on middleware and related technologies in Norway/NOTUR**

- **Prepare a middleware infrastructure for the next HPC project (starting 2005)**

- **One-year project (Jan – Dec 2004), ca. 3 FTE**
  Partners : NTNU, UiB, UiO, UiT, UNINETT
  Funding 50% NFR and 50% partners

Jacko Koster, Bergen Center for Computational Science, University of Bergen

NORGRID middlewares

1. **ARC/NorduGrid middleware**

   - **connect four universities; up and running at UiB, UiT (UiO, NTNU in October)**
   - **participate in Nordic collaboration (swegrid, NDGF, NorduGrid)**

2. **Alternatives: UNICORE, Globus Toolkit, and EGEE/LCG2**

   - **comparison/reference material; obtain broad experience**

   - **UNICORE: up and running at UiB and UiT (UiO, NTNU in October)**
   - **Globus: await upcoming GT4.x, start building competence on Web Services**
   - **monitor developments in EGEE/LCG2**
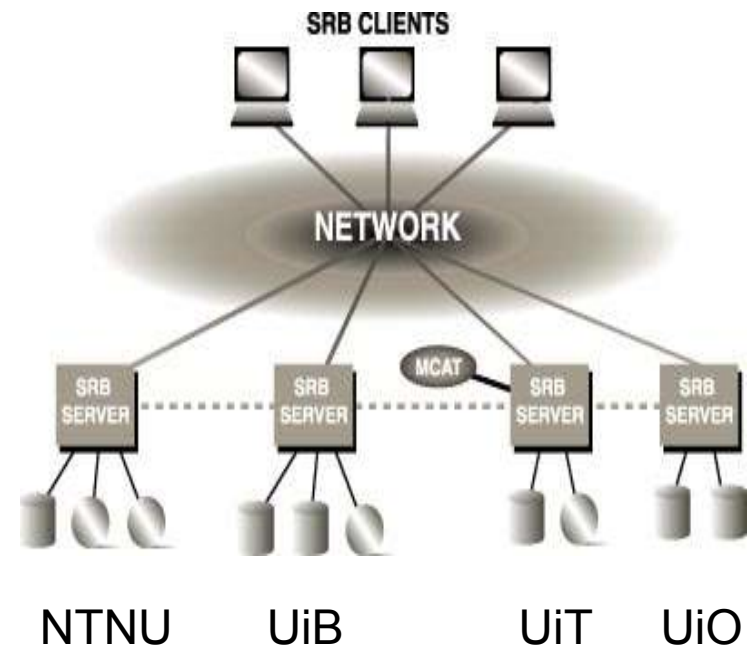
NORGRID activities

3.1. Key functionality for Norwegian HPC infrastructure

Distributed Data Management: transparent storing, retrieving, moving, manipulating, replicating, searching, sharing of distributed data

Storage Resource Broker (SRB) is a client-server middleware that provides a uniform interface for connecting to heterogeneous data resources over a network and accessing replicated data sets.

The Metadata Catalog (MCAT) provides a way to access data sets and resources based on their attributes rather than their names or physical locations.
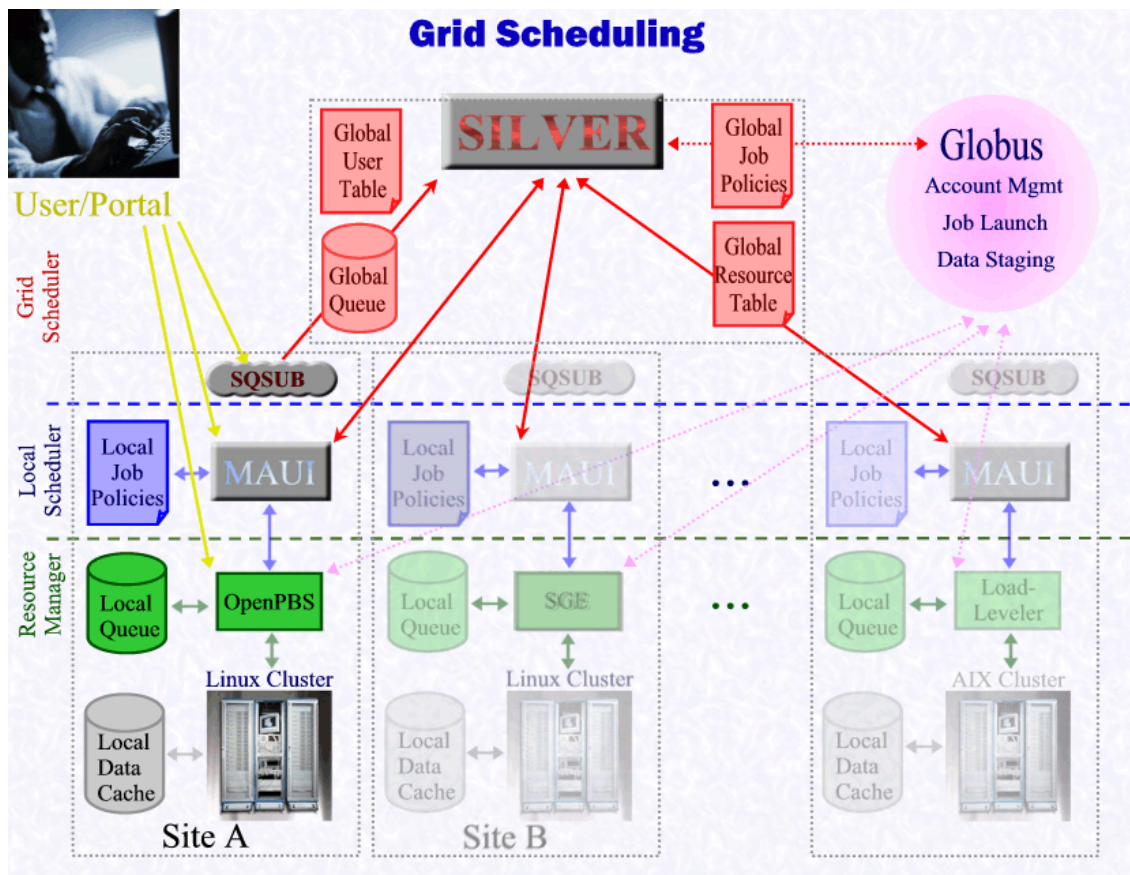

NTNU   UiB   UiT   UiO

(SDSC–SRB)

3.2. Key functionality for Norwegian HPC infrastructure

Metascheduling: single point of access (interface) for submitting applications to the Norwegian HPC infrastructure

NORGRID interfaces

4. End-user portals

    - **Establish framework and end-user interfaces to simplify the use of important applications on the (Norwegian) grid. Includes interfaces to chemistry and bio-informatics applications.**

5. FEIDE/middleware interface

    - **Study and implement interface between Norwegian standard for authentication (FEIDE) and middleware authentication**

    - **Felles Elektronisk IDEntifikasjon in Norwegian educational sector. FEIDE has focus on standardization of userdata, authentication, authorization, and access control (esp. for web applications)**

other

Other projects in which Norwegian organizations participate:

EGEE, NDGF, ENACTS, HPC-EUROPA, HPC4U, ….