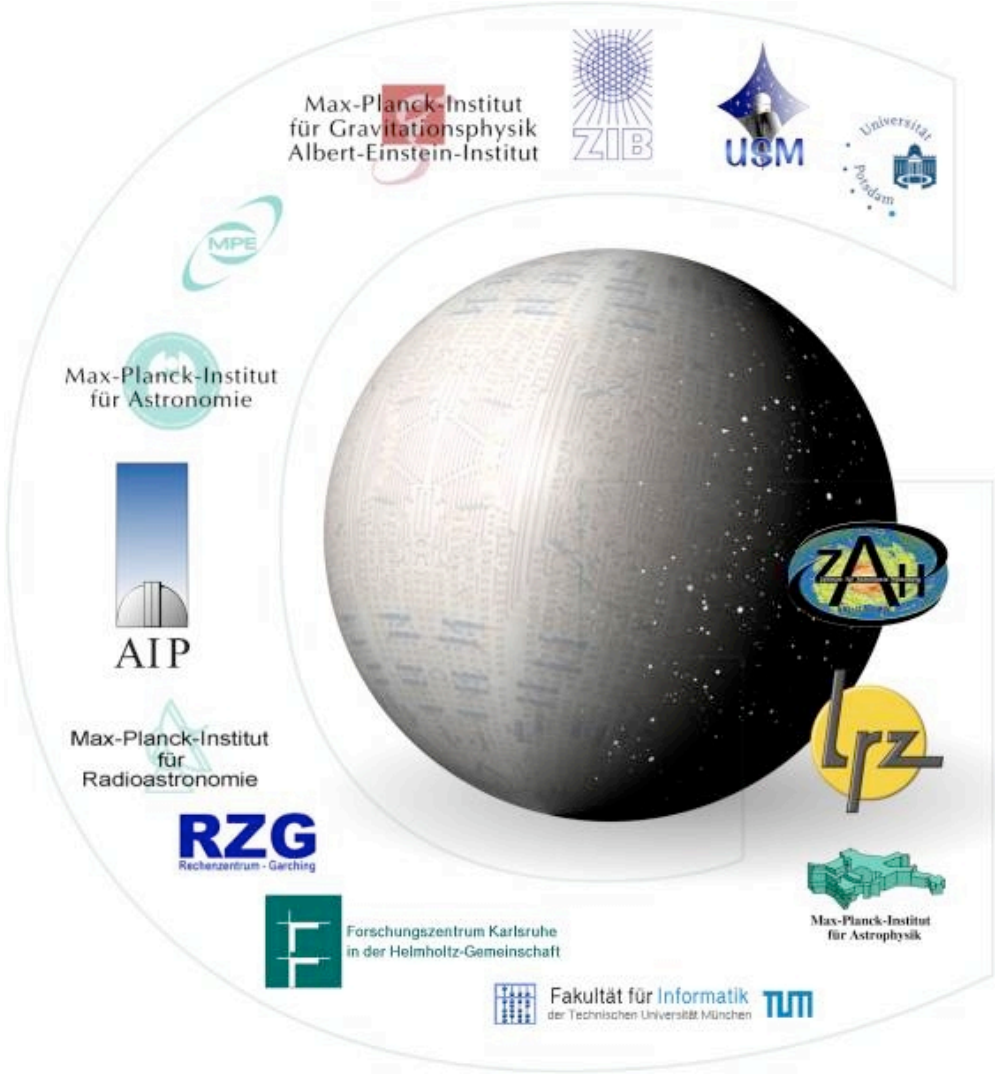
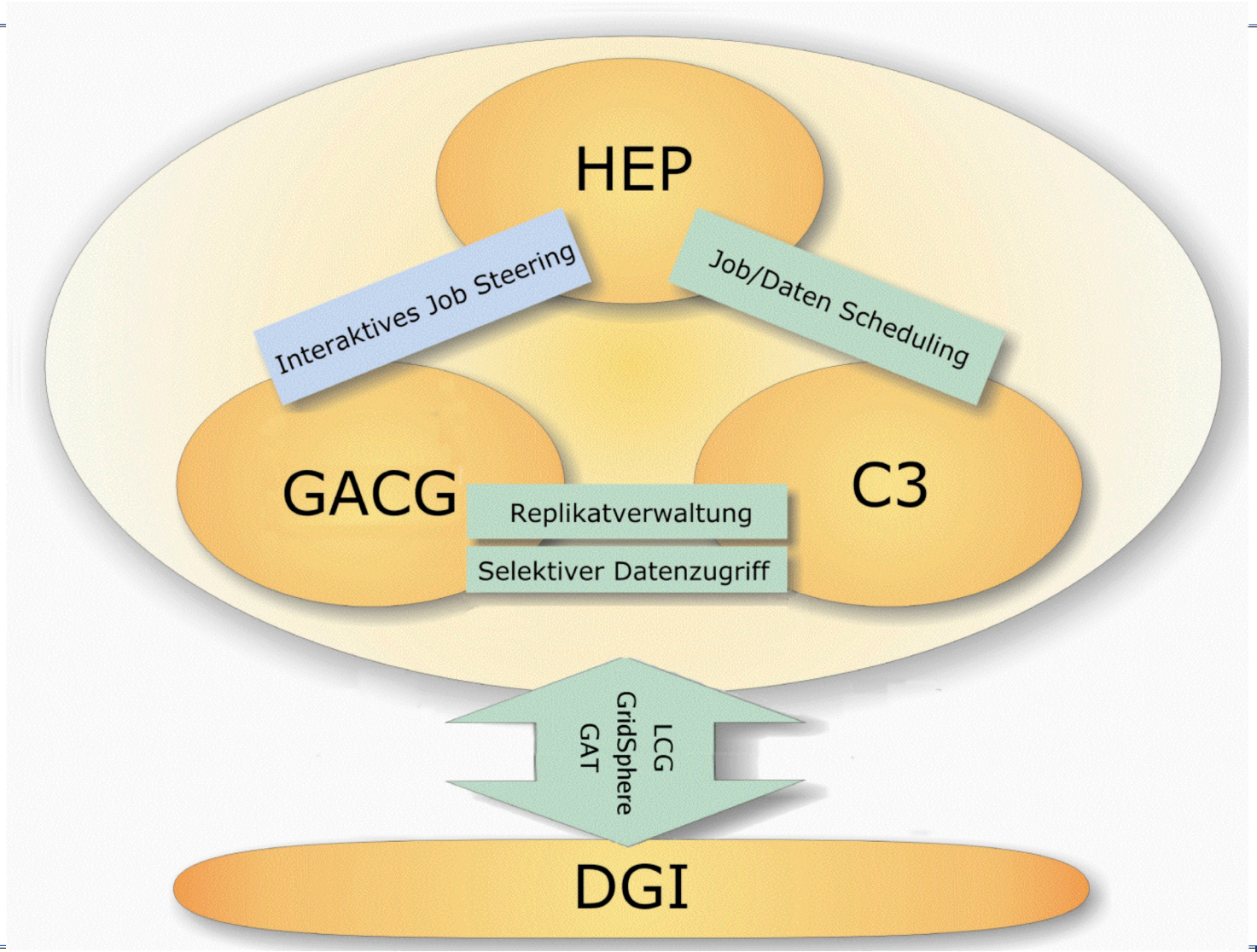
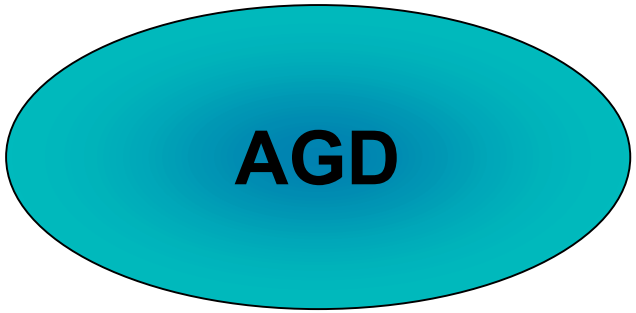
Synergies AGD & HEP

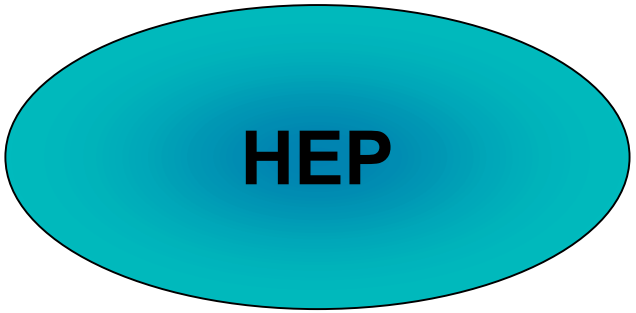


Synergies


HEP
Interaktives Job Steering
Job/Daten Scheduling
GACG
C3
Replikatverwaltung
Selektiver Datenzugriff
LCG
GridSphere
GAT
DGI

Synergies





VOMRS +	VO Management	VOMS
AGDIS	MetaData	LDG
AGDIS+ Service Monitoring	Job Monitoring	R-GMA
OgsaDAI/File Management	DataManagement	dCache

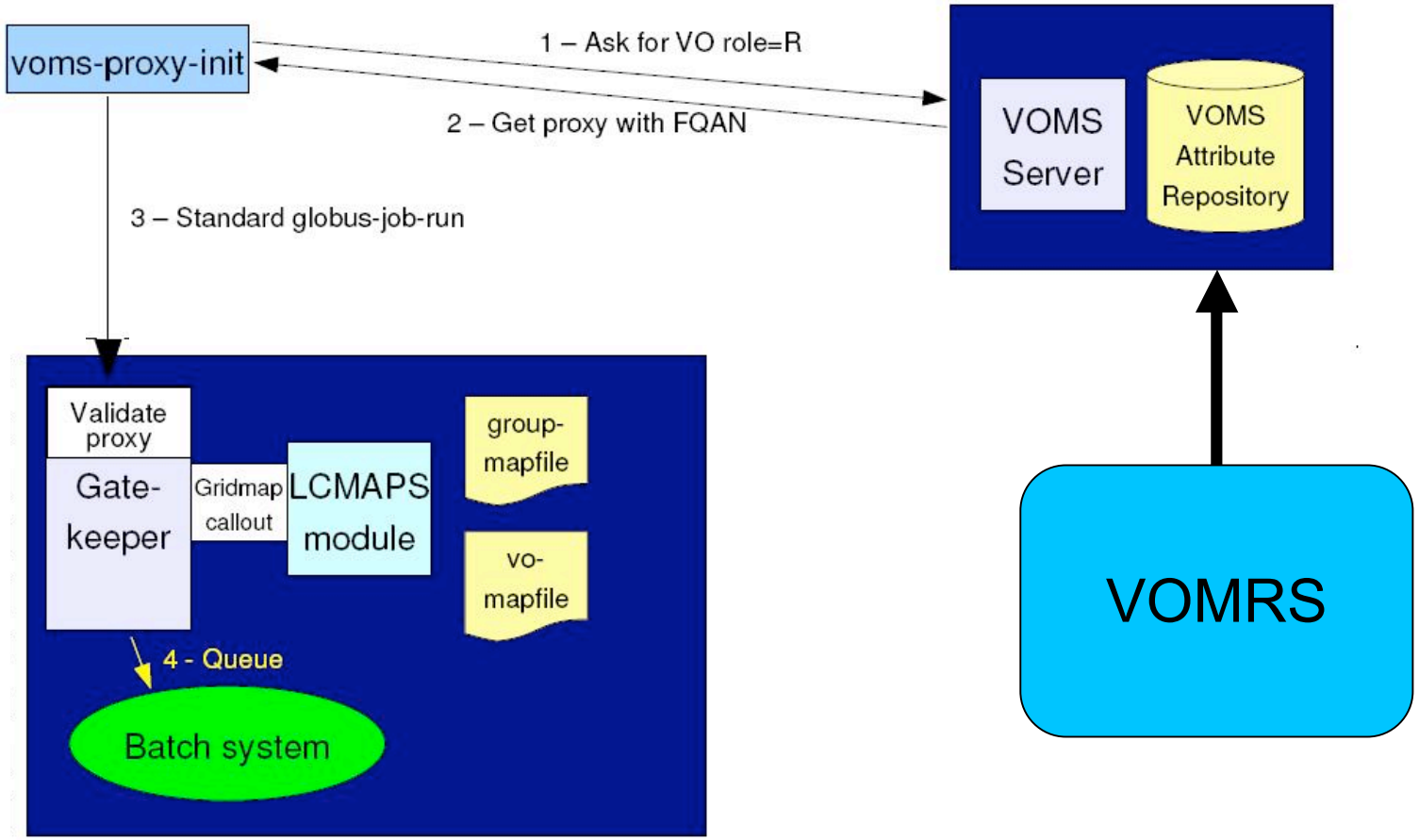
Differences

AGD		HEP
heterogeneous	Community	homogeneous
Instruments, archives simualtions	main Datasources	LHC / CERN
distributed	Networking structure	Hierarchical (Tiers)
Globus 4.x	Middleware	gLite, uniform
Pluggable into Globus	Additional services	Tightly integrated into gLite

VO Management

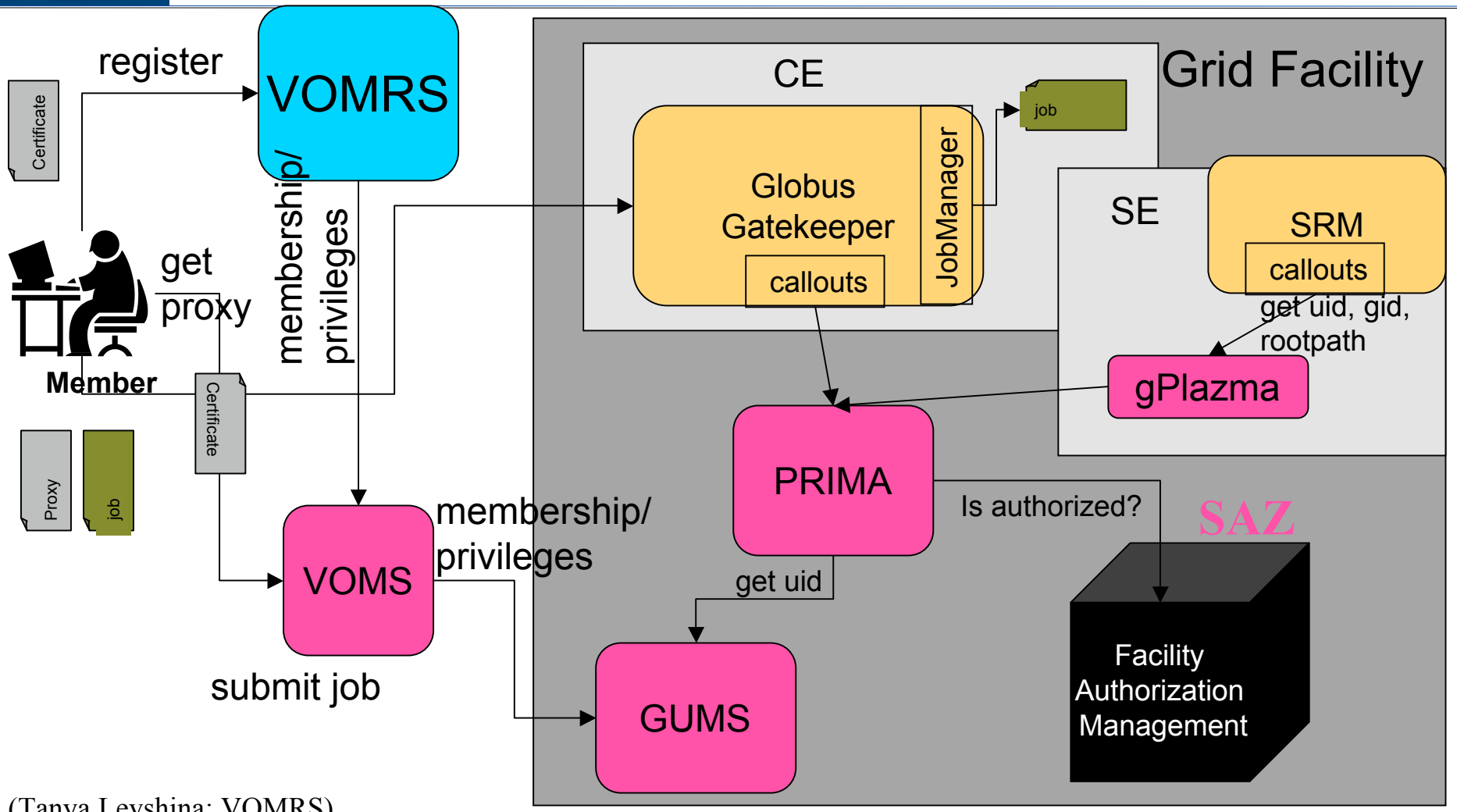
- VO Management in running projects:
  - EGEE gLite
  - Open Science Grid (OSG) – VO Privilege
- VOMRS Features
- Using VOMRS with GT4
  - Pragmatic solution: volist & merge-gridmap
  - merge-gridmap: Flowchart
  - Serving multiple VOs & Sub-VOs

VOMS/VOMRS in EGEE gLite



(Igor Sfiligoi: gLite Authentication)

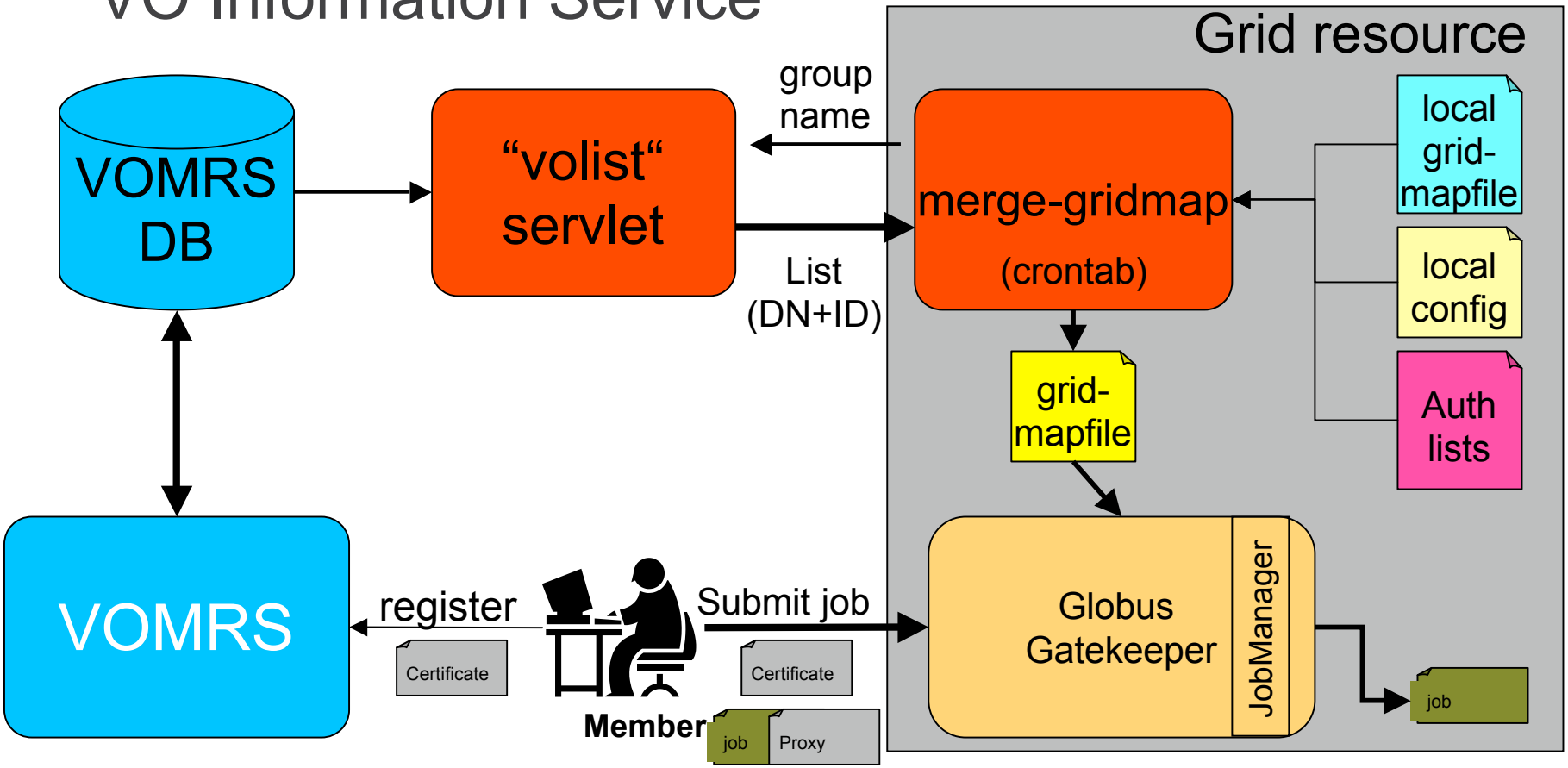
VOMS/VOMRS in OSG



(Tanya Levshina: VOMRS)

VOMRS & GT4

Pragmatic solution: Use VOMRS as "VO Information Service"

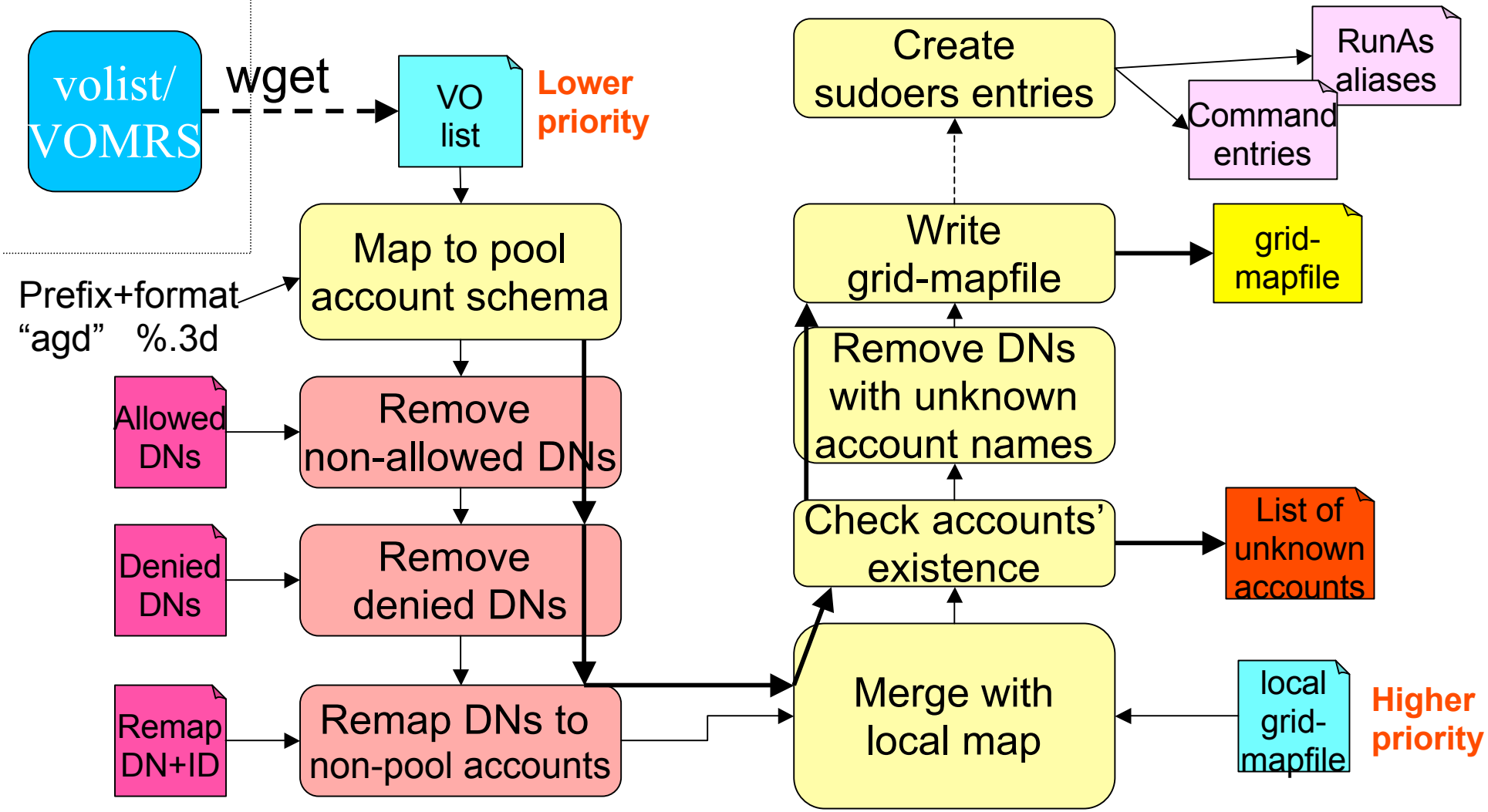


VOMRS Features

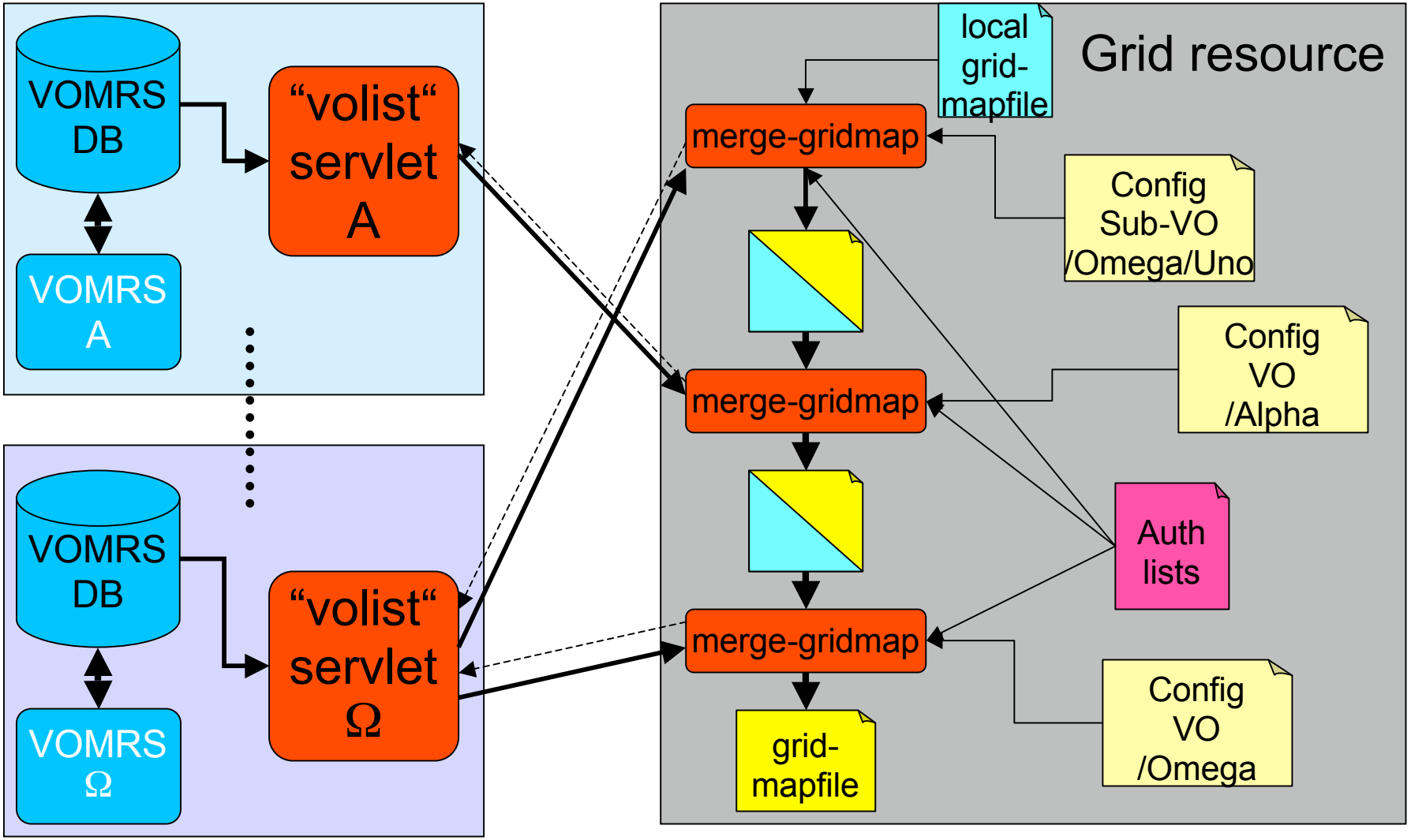
secure & authenticated management of VO membership, grid resource authorization and privileges:

- 2-phase registration workflow to register users with a VO
- Dynamic set of collected personal information
- Management of multiple grid certificates per member
- VO-level control of member's privileges
- Email notifications of selected changes and events
- Permits delegation of responsibilities within the various VO administrators and group managers
- Manages hierarchies of groups and group roles
- Interfaces to third-party systems like VOMS

Merge-gridmap flow



Serving multiple (Sub-)VOs



Summary

- Using volist/merge-gridmap with VOMRS
  - offers a lean VO management tool
  - anticipates possible changes of future EGEE or OSG/VO-Privilege components via the VOMS interface of VOMRS
  - provides the possibility to delegate access right management to a central VO management but to keep fine-grained local control
  - allows one resource to cope with multiple VOs

AGDIS & LDG

- Problem: Handling MetaData
  - LDG approach:
    - Define an XML Schema for MetaData
  - AstroGrid-D approach:
    - Use RDF and SPARQL
      - RDF is W3C standard & GGF approved
      - Comes with SPARQL as a Query Language
      - Wire Protocols: any

AGDIS & LDG

- Translations from any (wellformed) XML Schema to RDF via XSLT
  - Allows integration of MetaData from very different sources:
    - GlobusMDS (GLUECE)
    - Additional monitoring information, eg from a service monitoring application
    - RTML (Robotic Telescopes Markup Language)
    - Any XML schema based MetaData descriptions
    - Job monitoring data via push
    - Decentralized datacollection
  - Allows exchange of MetaData with any other (wellformed) XML Schema based MetaData catalogs

Job Monitoring

- AGDIS and Jobmonitoring
  - Example Cactus Application
    - (from T. Radke @ AstroGrid-D Meeting)
  - Example Service Monitor
    - Recently started script for checking the proper running of basic services on each AstroGrid-D resource
      - Implementation of first draft including push to AGDIS done in barely 2 weeks, including retrieval as HTML table and different other formats, currently working on GridSphere portlet, which provides resource & service information for jobsubmission.
    - Interesting User-Monitor-approach from Dresden

DataManagement

- HEP: dCache
  - Developped to bridge the gap between
    - Nearline storage (tape roboter) and
    - Online storage
  - For AstroGrid-D very interesting e.g. in context with LOFAR / GLOW as
    - longterm storage management system

DataManagement

- Difference between HEP and AstroGrid-D:
  - AGD: very heterogeneous requirements from the community data sources (simulations, astronomical archives, instruments (GEO600, LOFAR, RoboTels))
  - HEP: huge, but very homogeneous community data sources (LHC,CMS,ALICE....)
- AGD:
  - OGSA-DAI for database integration
  - file management requirements led to new approach

    -> deliverable 3.1
  - Integration of Virtual Observatory tools

HEP, ALICE

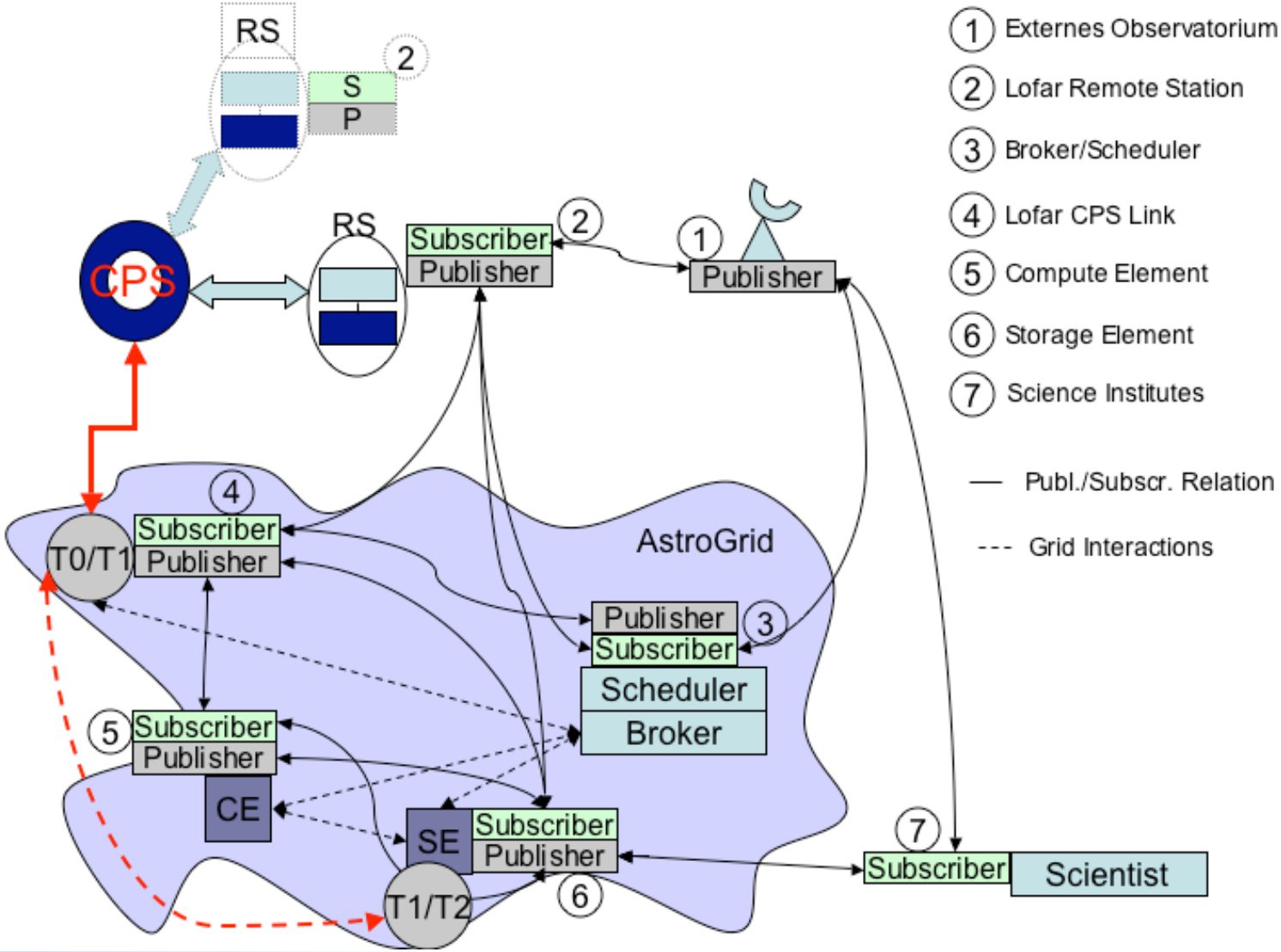
- GlowGrid : realtime processing of radiotelescope signals
  - Using ALICE / HTL developments

  Especially:
    - publish/subscribe methods
  - Goal: design a grid based approach for

    Event triggered, on demand realtime processing of LOFAR data
    - from a subset of remote stations
    - especially by exploiting a long baseline

LOFAR: Wide Area Sensor Network

GlowGrid Sketch



Acronyms and Links

LOFAR: LOw Frequency ARray
GLOW: German LOng Wavelength (Consortium)

LDG: Lattice Data Grid
AGD: AstroGrid-D
AGDIS: AstroGrid-D Information Service

RDF: Resource Description Framework
SPARQL: SPARQL is a recursive acronym for: SPARQL Protocol and RDF Query Language

Links:

http://www.gac-grid.de/project-overview/events-meetings/meetings/meeting-MPE/cactus-metadata-management.pdf
http://www.gac-grid.de/project-overview/events-meetings/meetings/meeting-MPE/WG_2_Information_Service_Usecase.pdf
http://www.gac-grid.de/project-documents/deliverables/wp2.html (AGDIS)
http://www.gac-grid.de/project-documents/deliverables/wp3.html (DataManagement)