# Grid-enabled access to databases

F.Pasian, G.Taffoni, C.Vuerli – INAF/O.A.Trieste
A.Volpato – INAF/O.A.Padova
E.Ambrosi, A.Ghiselli – INFN/CNAF Bologna

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OAT

INAF

# The Grid and astrophysics

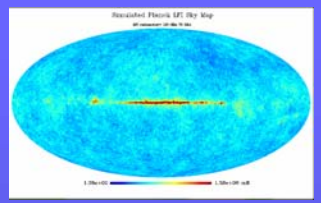
- Integration of the VObs with Grid technology is of key importance to provide users with proper computing power - requirements are:

1. Move large quantities of data
2. Handling databases is a key priority
   - has an international impact, VObs-related (IVOA)
   - searching for bulky observational data by dealing with their description (metadata)
   - should be possible, following mechanisms implemented in EGEE for the biomedical domain
   - collaboration with INAF/CNAF within Grid.it

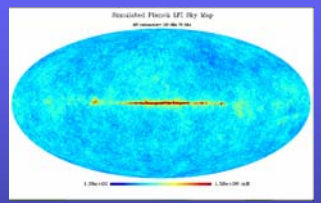
*shown at Grid.it workshop*

# PlanckGrid project (1/3)

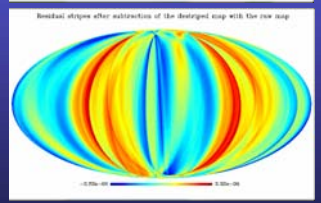
- ESA/Planck is a microwave sky survey
- Full mission has been simulated, at full resolution for LFI (TOD ~ 1.3 TB)
- Extension to HFI channels, many runs to simulate impact on science
- Application submitted to EGEE AAP



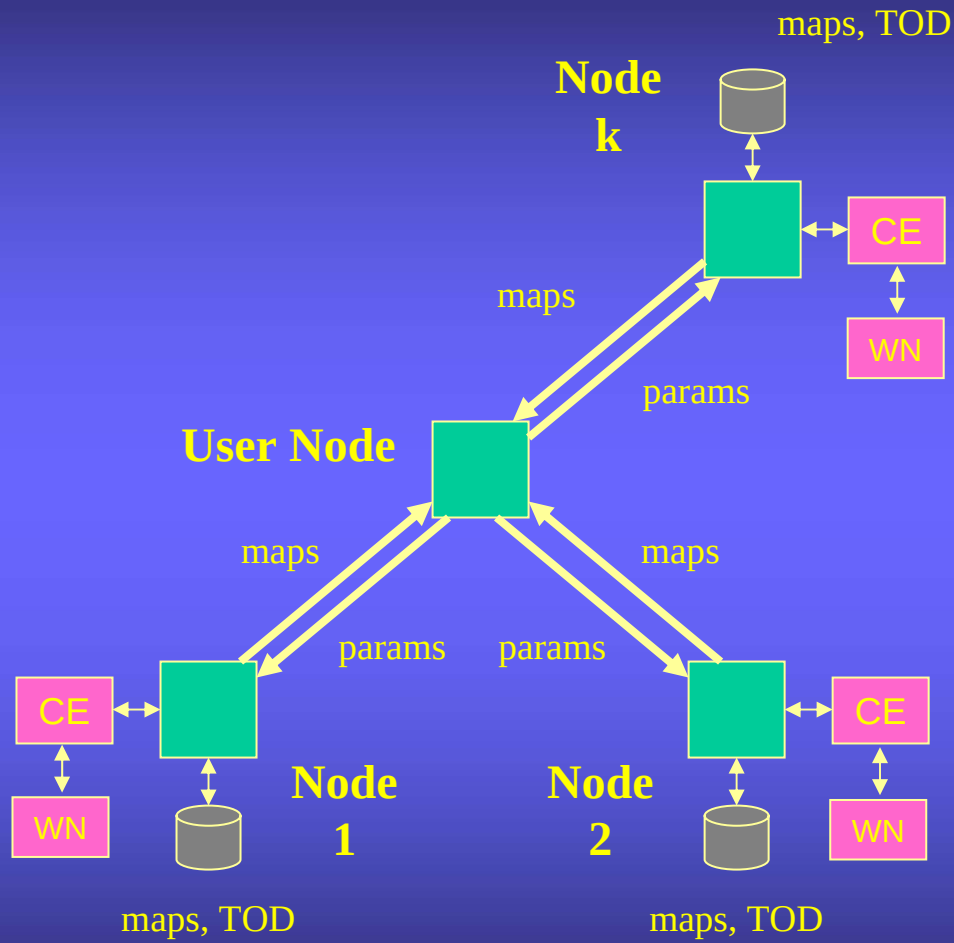
ideal “super-resolution” sky



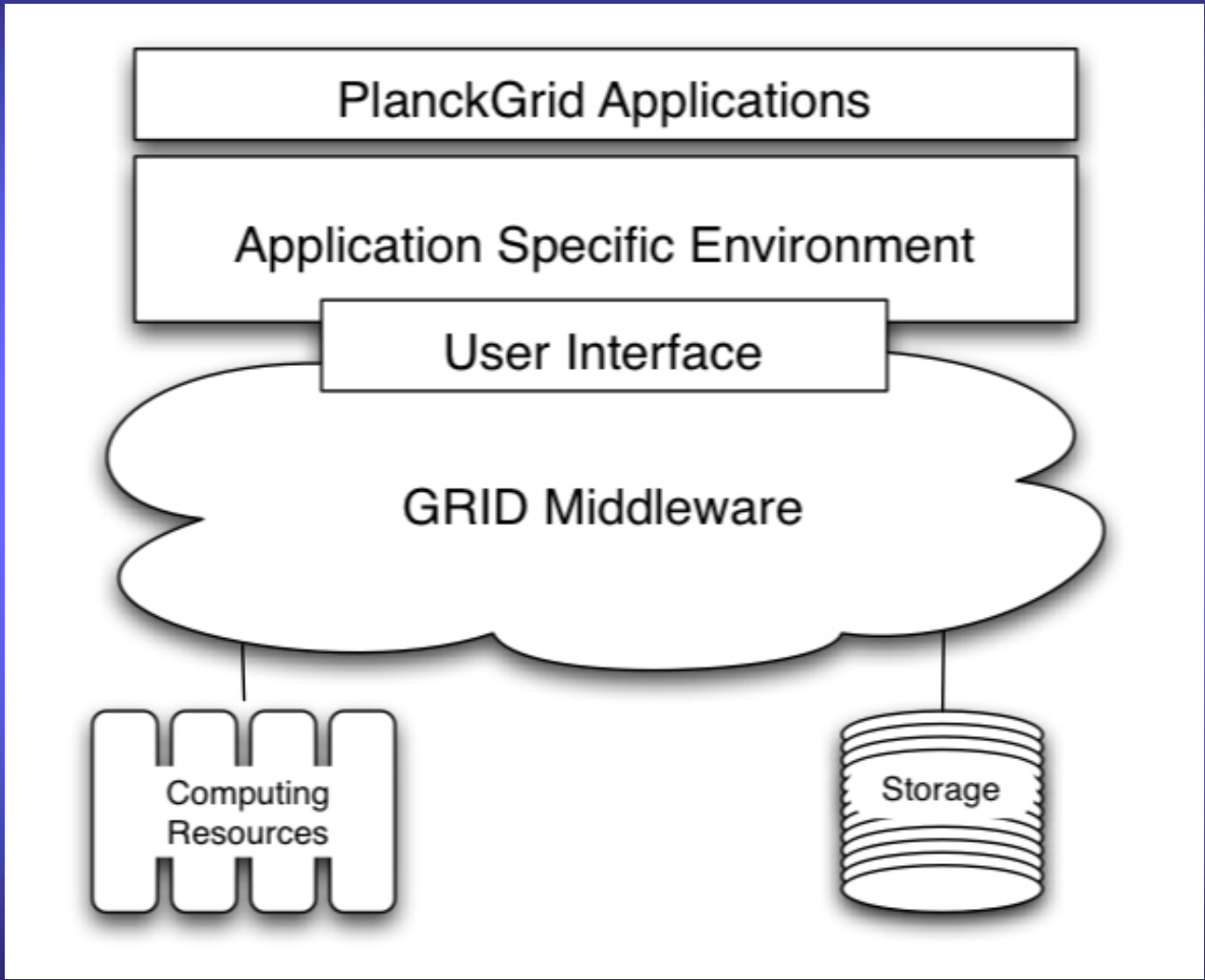
de-striped “observed” sky



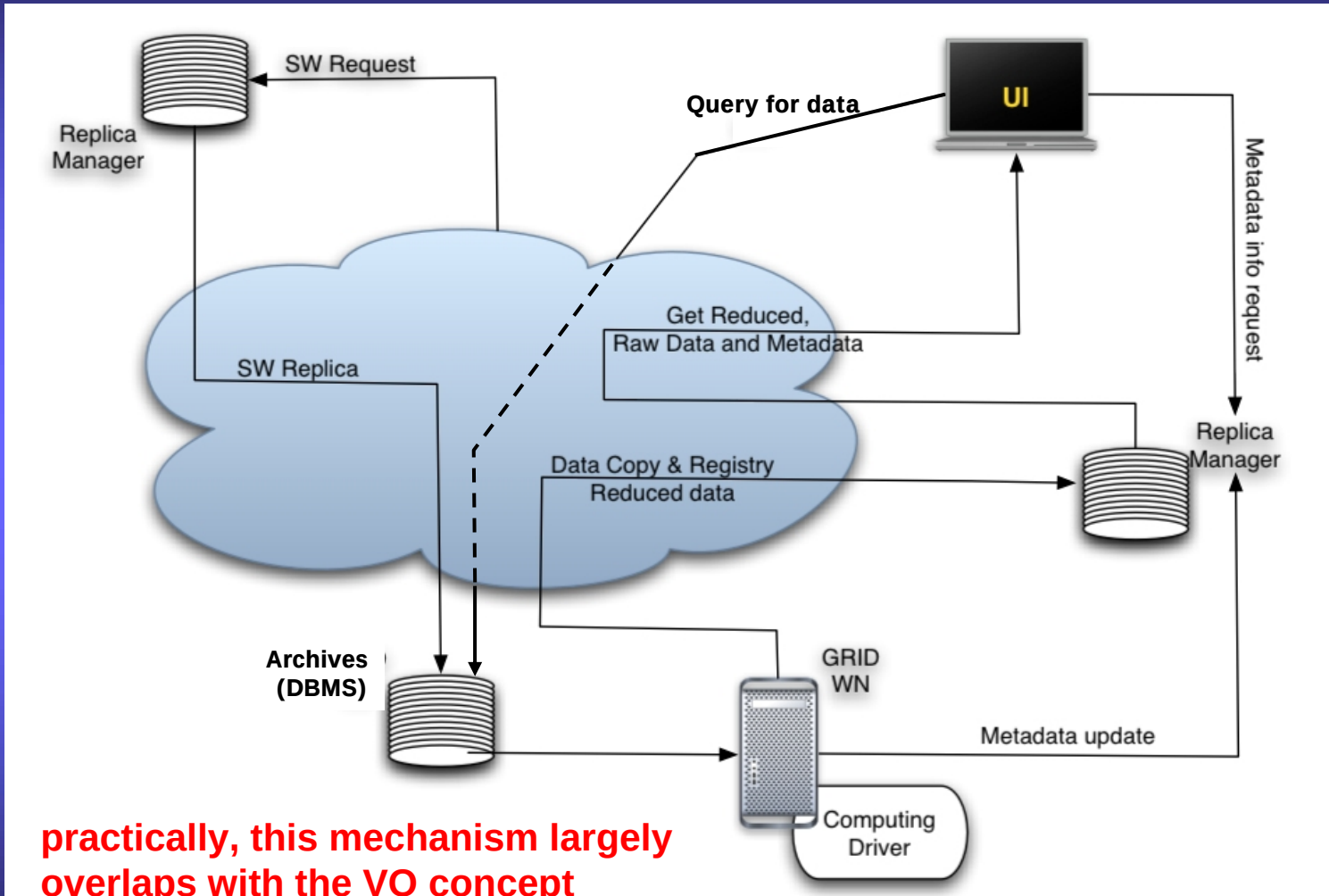
de-striping residuals map



# PlanckGrid project (2/3)



# PlanckGrid project (3/3)




**practically, this mechanism largely overlaps with the VO concept**

# Grid - DBMS integration

- Started working within the Grid.it project in spring 2004 with the following goals:
  1. Short term goal: access Astronomical DBs via GRID UI
  2. Middle term goal:  locate and access AstroDBs
  3. Long term goal: locate, getInfo, access AstroDBs
  4. Final goal: locate, getInfo and getData on AstroDBs

Step 0




Step 1

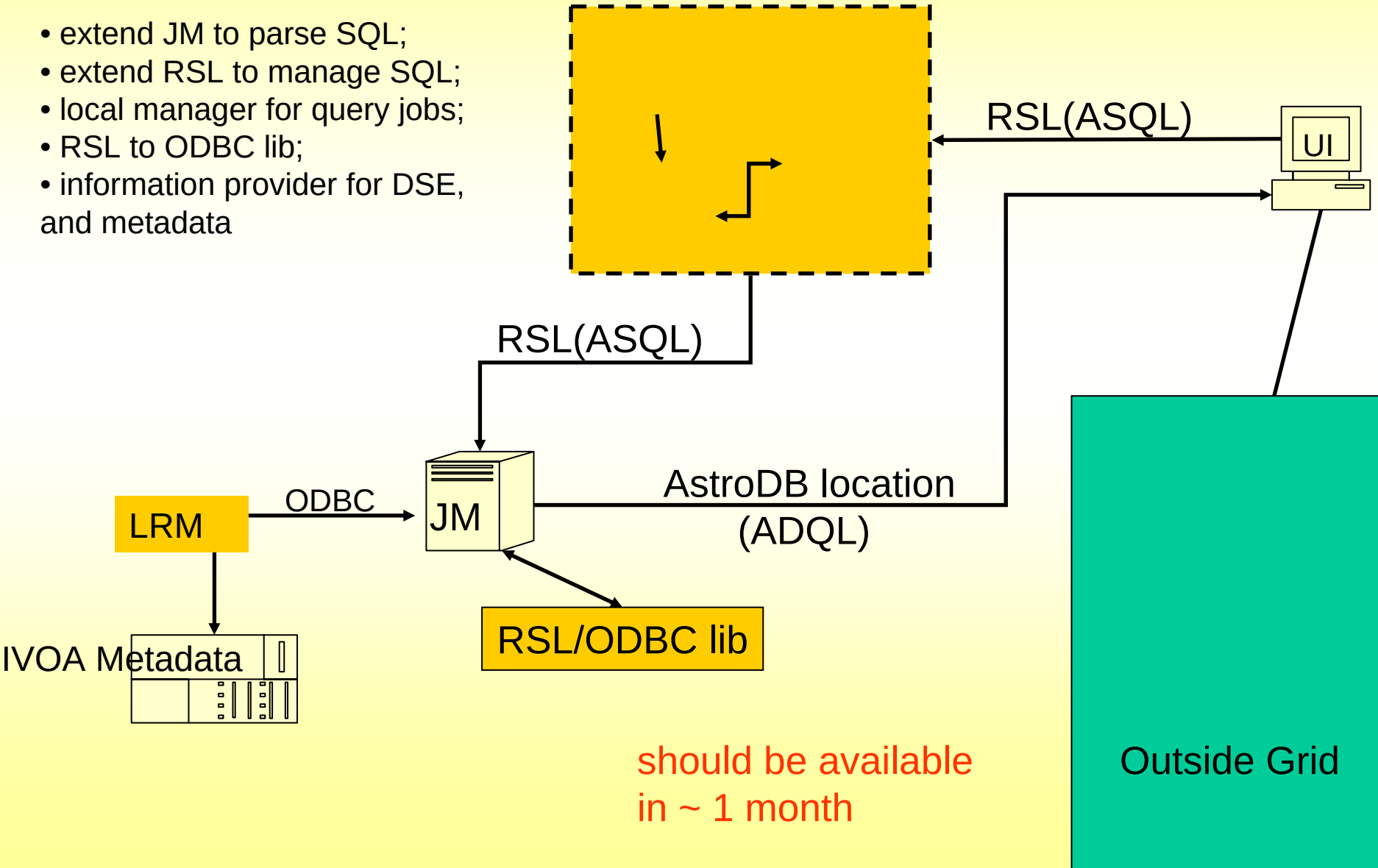



both already available

Step 2:

getInfo ➡ metadata ➡ **Grid DSE**

- extend JM to parse SQL;
- extend RSL to manage SQL;
- local manager for query jobs;
- RSL to ODBC lib;
- information provider for DSE, and metadata

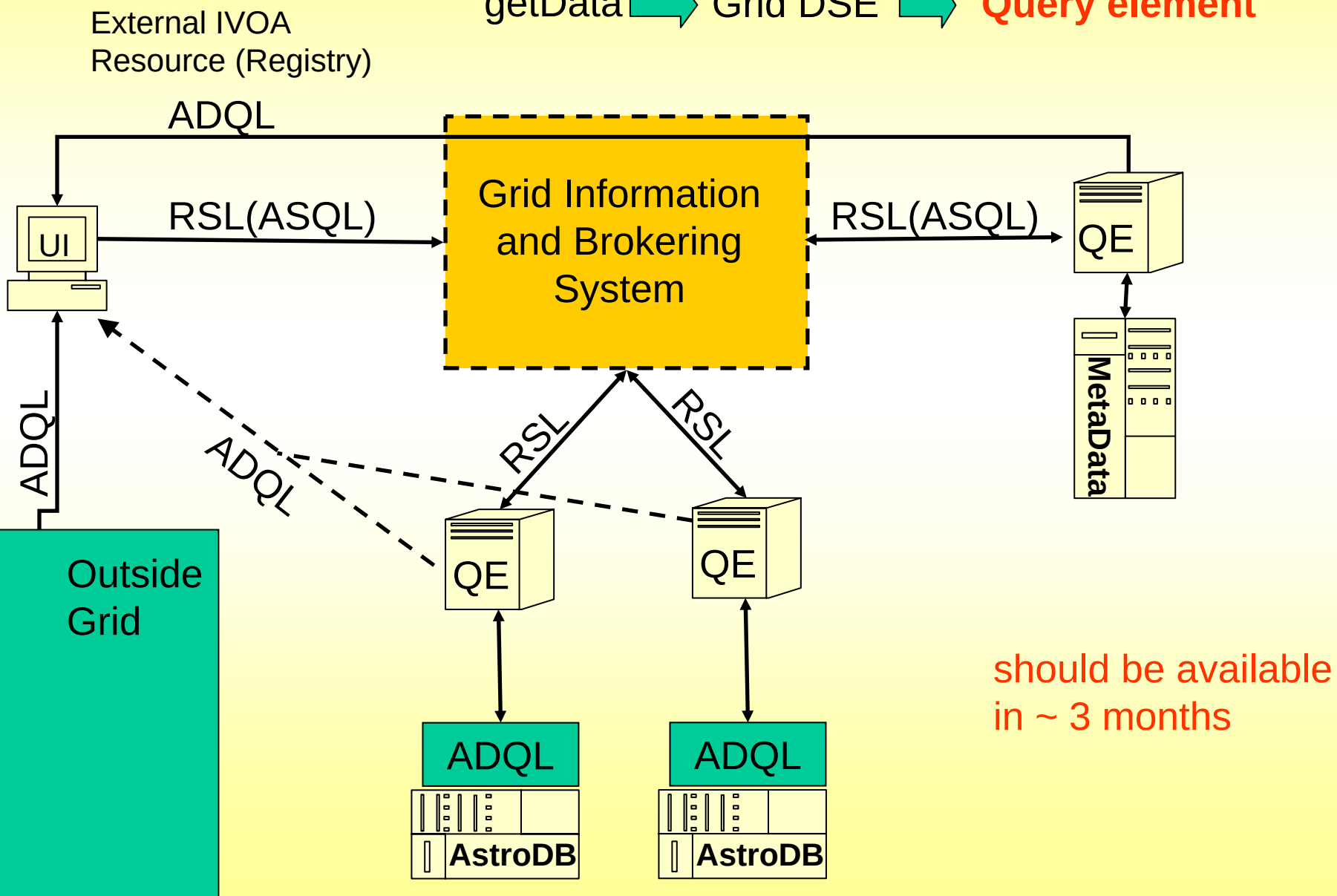



should be available
in ~ 1 month

Step 3

getInfo ➡ metadata ➡ **Grid DSE**

getData ➡ Grid DSE ➡ **Query element**




should be available
in ~ 3 months