

EuroVO DCA WP5

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I N A F



INFORMATION
SYSTEMS UNIT



EuroVO Data Center Alliance

- Coordinate and assist European Data Centers;
- Produce a knowledge GRID (data + services)
- Coordinate with national and international GRID projects

What is WP5?

- Interest area: massive and distributed computing, Grid computing;
- Promote coordination between GRID(s) and VObs;
- Point of view of Data Centers;
- GRID(s) through Data Centers.

...in practice

- How can Data Centers benefit of GRID computing?
- How can Astronomers benefit of Grid computing?
- We can give suggestions....in principle!

Activity Plan

- **Knowledge acquisition;**
- **Interactions/Interoperation;**
- **Coordination;**
- **Suggestions and guidelines;**
- **Dissemination.**

A. Knowledge Acquisition

- Survey of European/National/Campus GRID initiatives.
- Astronomers that use the GRID, do they exist?

Astronomers and the GRID

- Who is using the GRID
- Which GRID we are using
- How we use the GRID
- What are our expectations towards the GRIDs

Users experience

...what we need...

- Let emerge the different experiences
 - national and local level;
 - difficult to count, they do not deal with specific projects;
- Collect suggestions;
- New tools: gridftp driver for CFITSIO

B. Coordination

- Keywords
 - Interoperability
 - Usability
 - Re-usability
- Identification of partners and counterparts

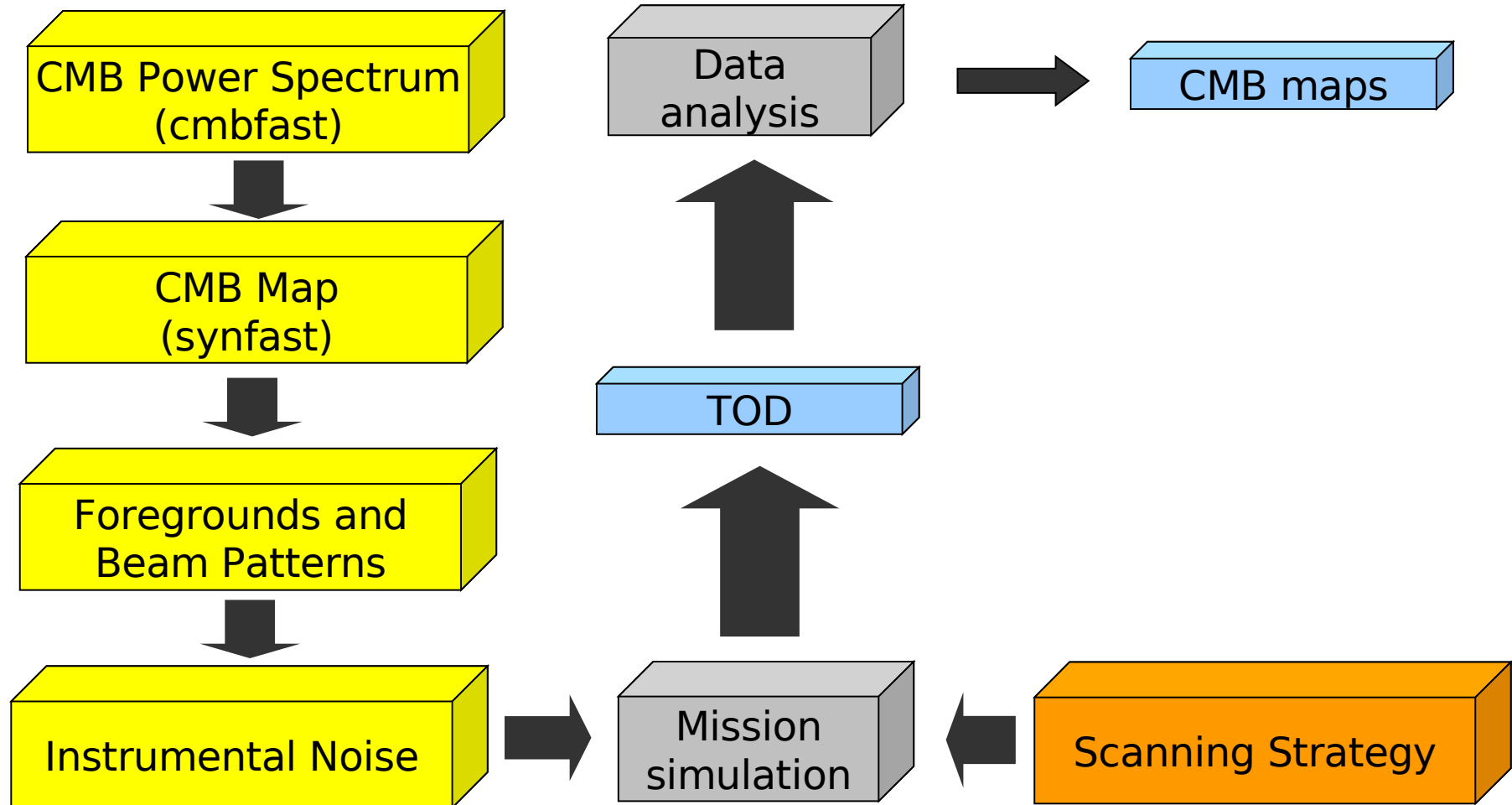
EuroVO DCA and EGEE

- Important to interoperate;
- Demonstrate that we can (and we will) use EGEE infrastructure;
- New EGEE Virtual Organization: EuroVO;
- Interoperability envelop over gLite
- A new application specific environment for EGEE

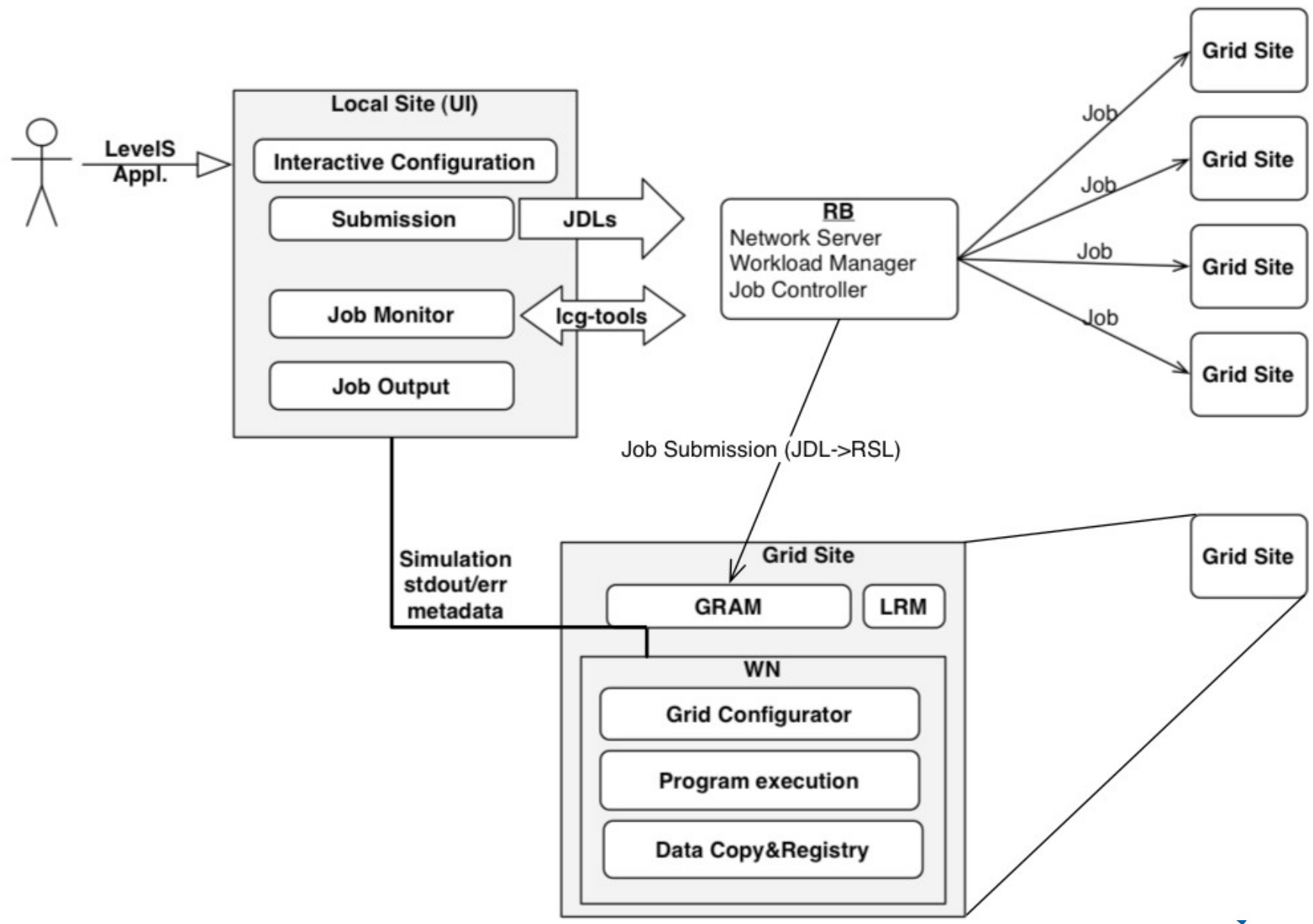
EGEE and Astronomers

- EGEE interest Group (vuerli@oats.inaf.it)
- Astronomical Applications:
 - Planck@EGEE
 - BaSTI
 - PINOCCHIO
 - Etc...
- Astronomers codes

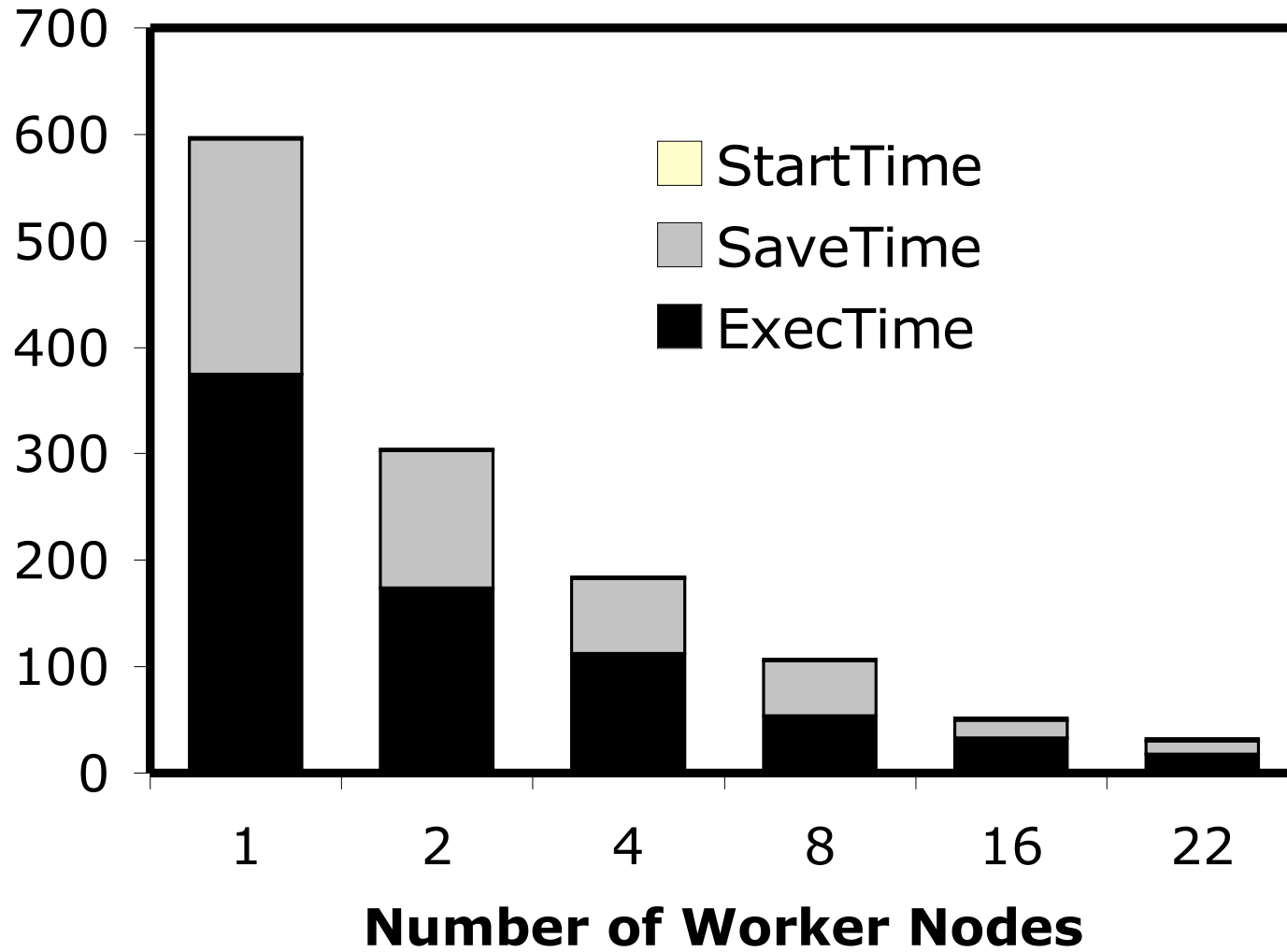
Planck@EGEE



Planck Application

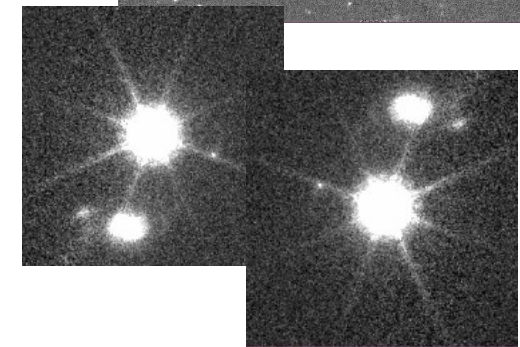
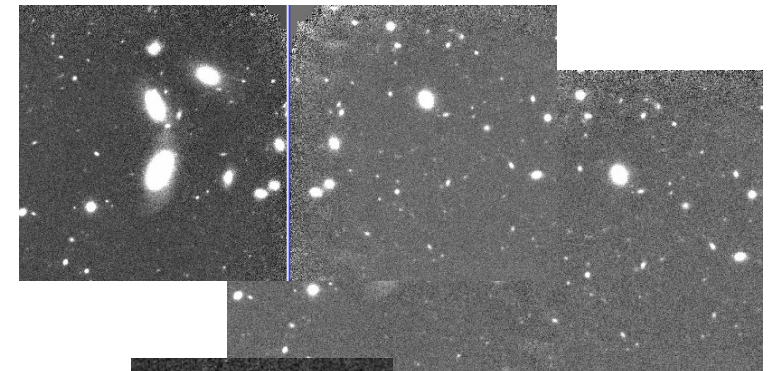


Results



Astronomical Software used

- IRAF (PyRAF):
 - Images operations;
- Midas-04Sep
 - Data reduction (bias+flat+mosaic)
 - on FORS1 images of NTT DF;
- SEXTRACTOR-2.3
 - 400x400 pix GOODS DF images;
- Swarp 2.10;
- Eclipse-4.2.0
 - dfits on 400x400 pix GOODS DF images;
- Cloudy-94;
- IDL (GDL);
- SM.



C. Suggestion and Guideline

- HOWTOs
- best practice procedures to access Grid facilities from Data Centers (DCs)
- Suggestions (e.g.):
 - **Similar/compatible auth&auth procedures ?**
 - Data sharing between DCs and Grid ?
 - Interoperable workload management systems ?
- First example:
 - Technical Document on Auth&Auth
 - Collaboration with Design Study 3 of VOTech

D. Dissemination

- Pervasive knowledge of Grid systems to DCs:
 - HOWTOs
 - Single knowledge repository: up-to-date pointers to documents on Grid Initiatives
 - Workshop
 - Schools (in coordination with Grid projects)

Re-Dissemination

- Collections of VObs requirements;
- Make Grid initiatives aware of the VObs requirements;
- Interoperating is a two way interaction!!!

Core Topics

- Authentication & Authorization
- Data Management;
- Job Management
- Single-sign-on
- VOSpace
- Workflows

A first problem



Auth&Auth

- Authentication and authorization mechanisms:
 - VOMS
 - Shibboleth
 - etc...
- Single-sign-on

Auth&Auth

- Authentication and authorization mechanisms:
 - VOMS
 - Shibboleth
 - etc...
- Single-sign-on-double-functionality
- User certificate, host certificate, application certificate...

Authentication

- Trend/recommendation under discussion:
 - Do not create CAs on a per-project or per-VO basis. National CAs only should be created
- Projects and VOs then...
 - Should make use of national CAs and in case create and manage their own RAs
- Running a CA is not to be undertaken lightly. It could be a real challenging task for a single Institution

Authentication

- What about VObs?
 - VObs could create its own CA, but this is not in line with the trend pushed by EGEE
 - EuroVO is strongly in favour of national CAs only.
- Problem: what about the mutual exchange of credentials between CAs?
 - Policy Management Authorities (EUGridPMA, APGridPMA and TAGPMA) run this issue. They in turn are members of IGTF (International Grid Trust Federation)

Authorization

- Different tools currently in place (EGEE for instance makes use of VOMS)
 - Problem: interoperability
 - Recommendation: be in tune with standards
- This is a big problem for the single-sign-on

Authorization

- Possible scenario:
 - Additional layer sitting on top of authorization tools allowing different VOs to exchange information on their users, associated roles and access rights.
- But...
 - The human factor cannot be dropped through and through. VO Managers can still take their decisions autonomously.

Thanks for your attention