NA4 Workplan proposed by INFN for EGEE-III

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On behalf of INFN – Catania

All Hands meeting
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www.eu-egee.org

Information Society and Media

Outline

- **INFN workplan for NA4**
  - Training
  - Dissemination & PR
  - Porting Support
- **Some applications supported by INFN**

Training

- **The primary task of INFN in this subtask is to provide all the expertise in order to arrange some special events dedicated to the training of trainers involved in NA4 work package.**

- **These events aim to provide with theory, skills, tools and practices master-level educated trainers which can support the training virtual cycle and support the *gridification* of some new applications.**

Registration is open!

http://indico.eu-eela.org/conferenceDisplay.py?confId=125

Dissemination & PR

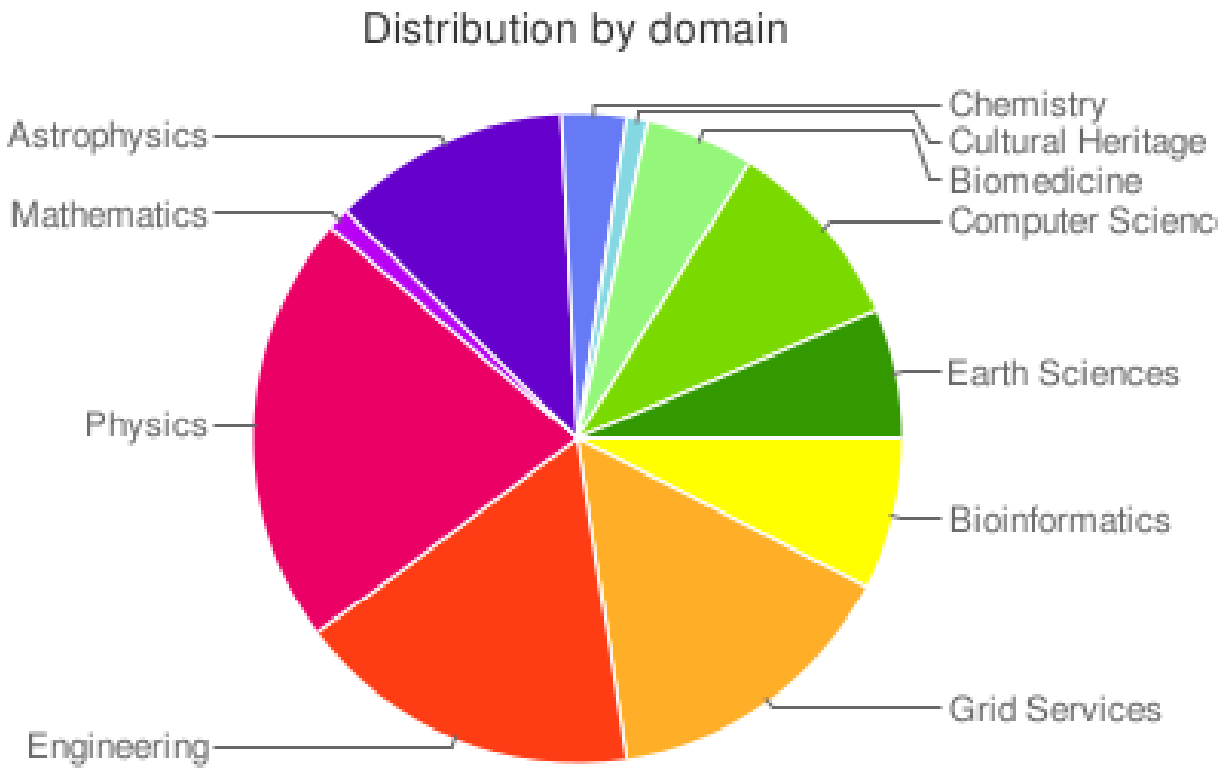
- **INFN's primary objective in this subtask is to prepare a centralized applications' database containing the most relevant information about the status of all the supported applications during the gridification plan.**

- **The valuable information collected thanks to this database can be used by all the partners involved in the project to have a global vision about the gridification plan during the project's life time.**

  - For each supported application it's possible to collect several technical information (application's name, a short description about the application, some references about the application, application's status, etc).
  - Querying the information maintained in this database each partner can retrieve more updated dissemination materials.

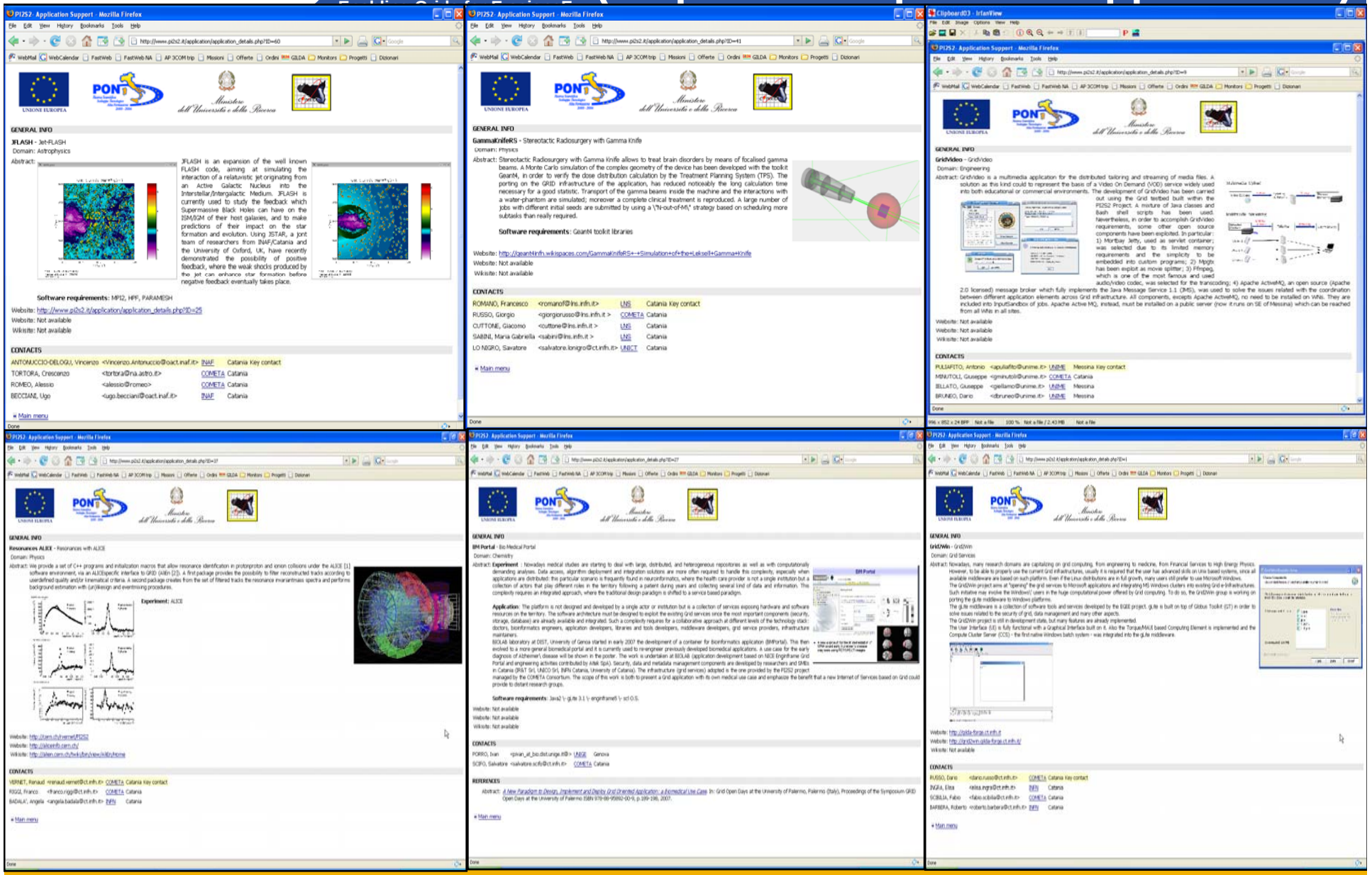
Dissemination & PR / 2

- **The digital archive for the PI2S2 project is available in this web link:**
  - www.pi2s2.it/applications (**102** "entries" up to Jun 05th 2008!)



Some examples..

(http://www.pi2s2.it/applications)

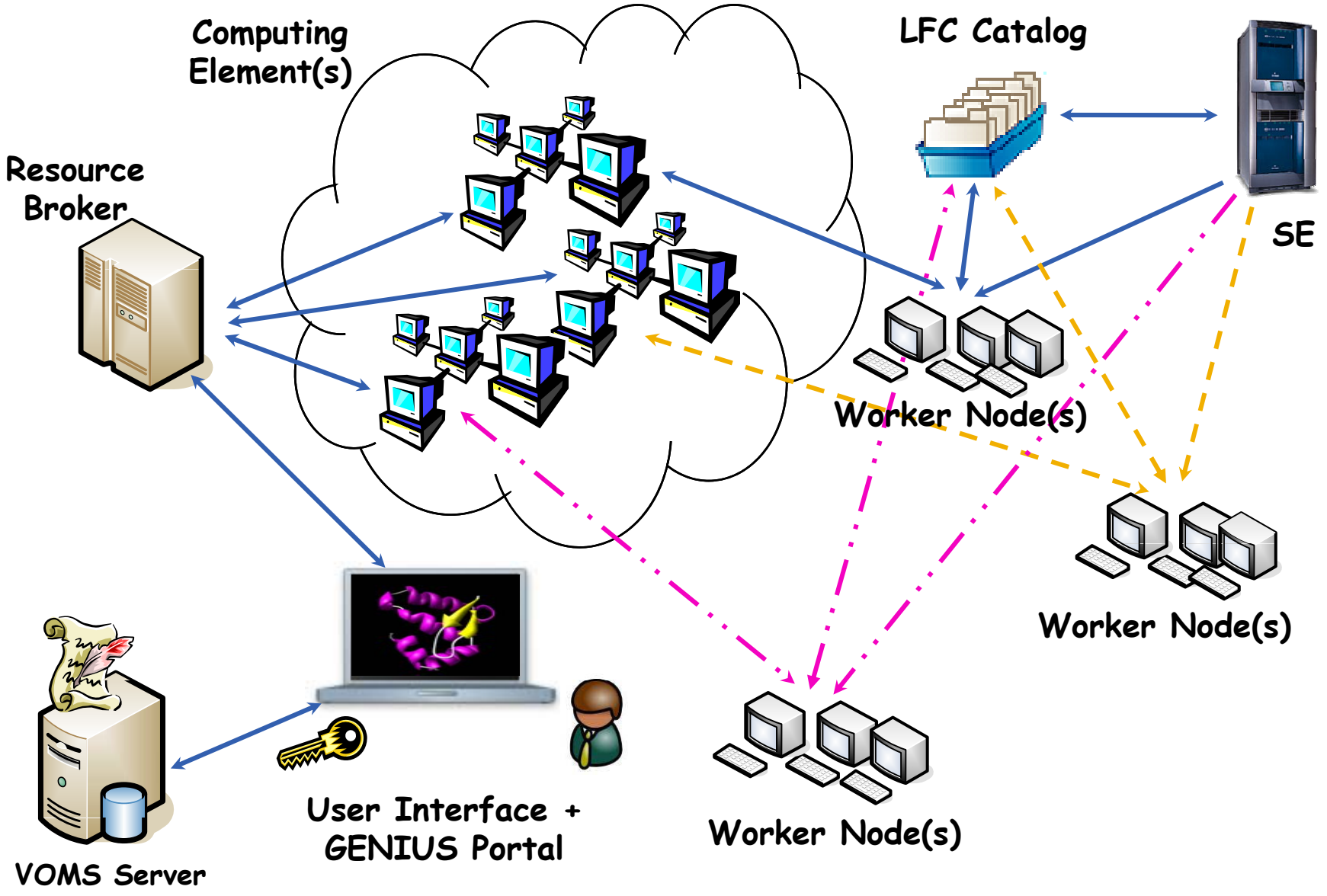


Porting Support

- **In this subtask INFN will provide a "*gridification guide*" with some technical information about how to grid-enable an user's application on the official EGEE e-Infrastructure.**
  - This guide, based on all the experiences gained by all the partners involved in previous phases of the EGEE project, aims to represent a sort of milestone for PMs involved in NA4 work package.
  - Several examples of application porting (scripts, videos, training references) will be provided in this guide in order to make easy the gridification plan of new user's application.
  - INFN will also continue to support new user's application providing all the expertise to develop some high-level services on the GENIUS Grid Portal.

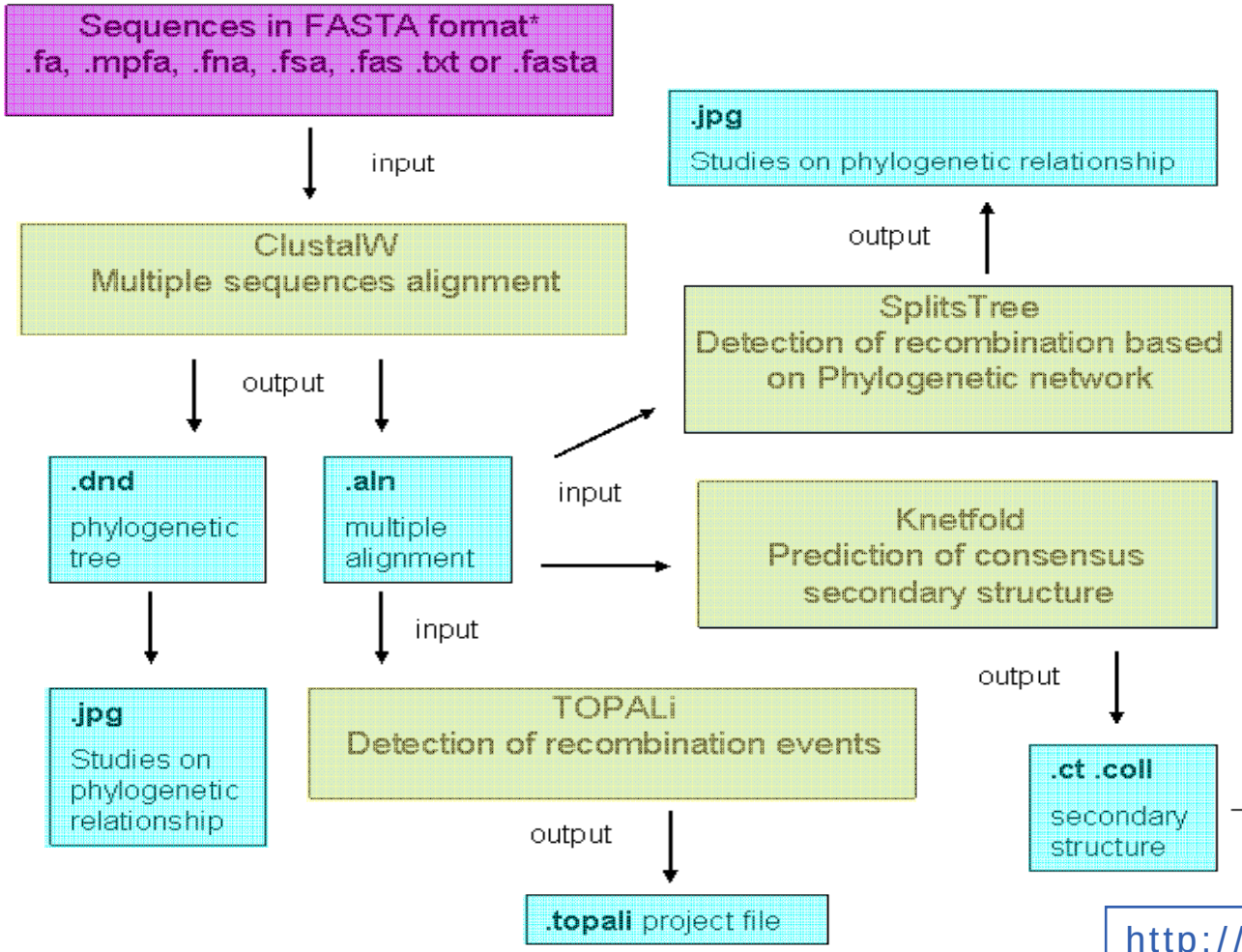
Some applications supported

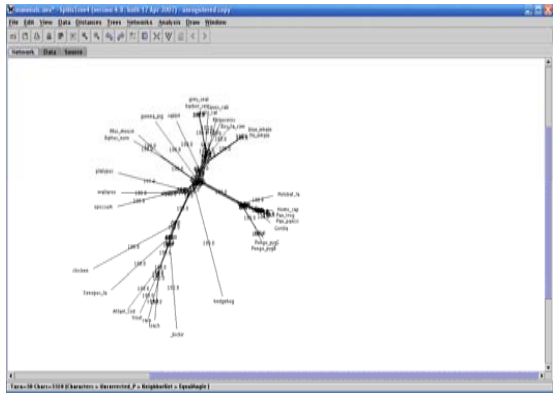
by INFN

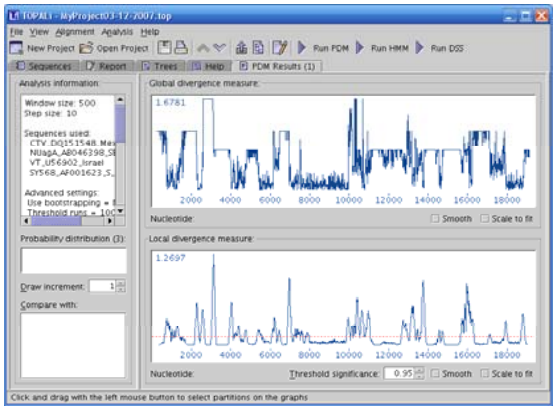

Computing Element(s)
LFC Catalog
SE
Resource Broker
Worker Node(s)
Worker Node(s)
VOMS Server
User Interface + GENIUS Portal
Worker Node(s)

VIRALPACK (http://www.pi2s2.it/)

http://www.pi2s2.it/applications/application_details.php?ID=10
http://www.pi2s2.it/applications/application_details.php?ID=15
http://www.pi2s2.it/applications/application_details.php?ID=18
http://www.pi2s2.it/applications/application_details.php?ID=16







http://www.isgtw.org/?pid=1000877

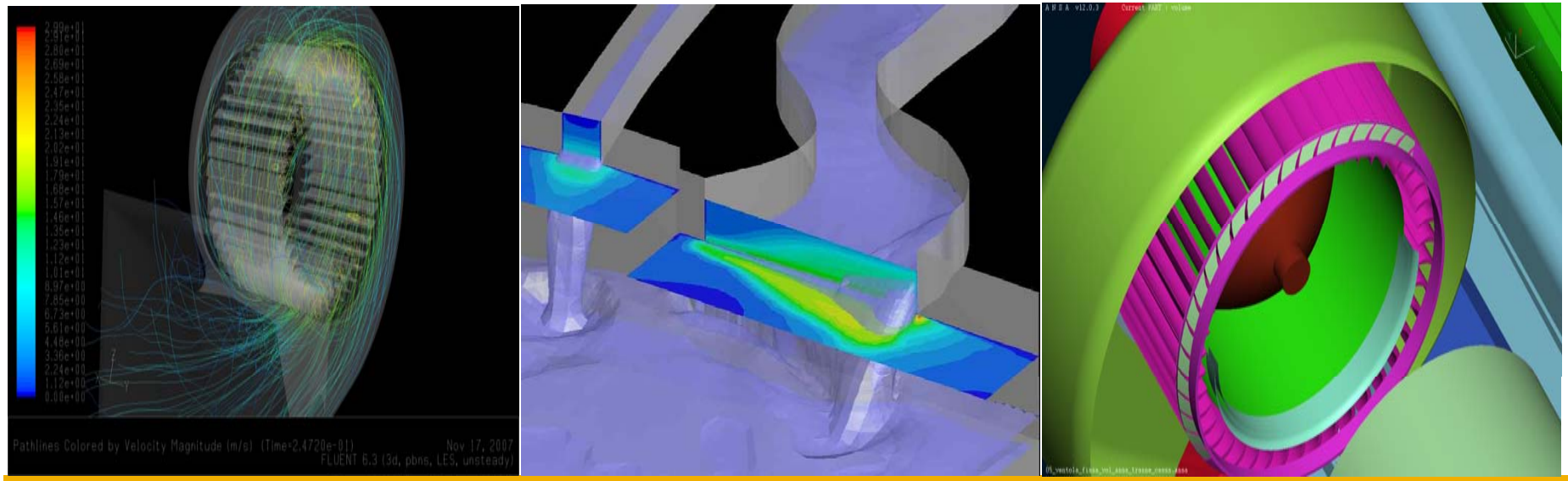
FLUENT

(http://www.pi2s2.it/applications/application_details.php?ID=4)

FLUENT (Finite Element Method code for Computing Fluid Dynamics) is an MPI parallel code using its own wrapper when it runs on the Grid as an MPICH job;

The adopted solution uses the *pre-processing* script which downloads the input files before to start the actual FLUENT computation;

Images courtesy of Emanuele Leggio (emanuele.leggio@gmail.com)



OpenFOAM

(http://www.pi2s2.it/applications/application_details.php?ID=3)

OpenFOAM is an open-source simulation environment. OpenFOAM has been the most difficult case, so that the porting process has not been completed. There are various peculiarities about this case:

the package requires many environment variables to be set by sourcing a script on each execution node; this operation is currently not supported by the middleware for the slave nodes of a Grid site;

- current tests are performed by statically sourcing the environment script on each node, which is not a feasible solution for a production site;

MPICH flavour is supported by OpenFOAM but requires a total code recompilation with the gcc4.2 compiler, never tested in the MPICH Grid environment;

- on the other hand, recompiling the package with the supported PG compiler is rather impossible as it would require line-by-line code adjustment; so, we are currently studying the former solution, trying to use standard solutions instead of Grid “proprietary” ones;

two different (32/64 bits) versions of the SW package required accurate matching with the gLite middleware;

each developer may want to recompile the SW package to add its own solvers.

Questions