The 3rd International Summer School on Grid Computing 2005
Vico Equense (Naples) July 10-22, 2005
Giovaaaanni's Group

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OUR TEAM

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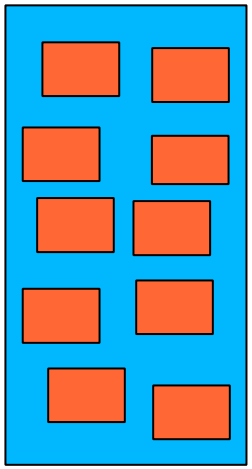
A PRACTICAL PROBLEM.....
..WHAT WE HAVE….

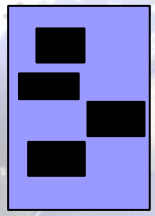
3 clusters (most important)
2 different OSs (Tru64, Linux ES3)
2 different batch systems (LSF, OpenPBS)

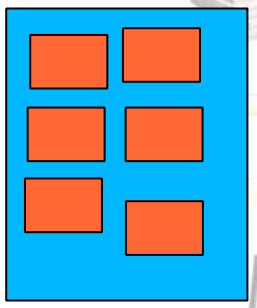


Tru64
LSF

10 nodes (4x)
HP AlphaServerSC

Cluster Linux

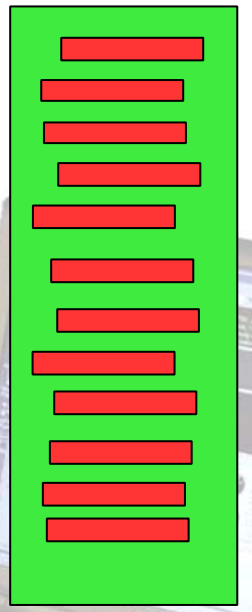




Tru64
LSF

6 nodes (2x)
HP DS20

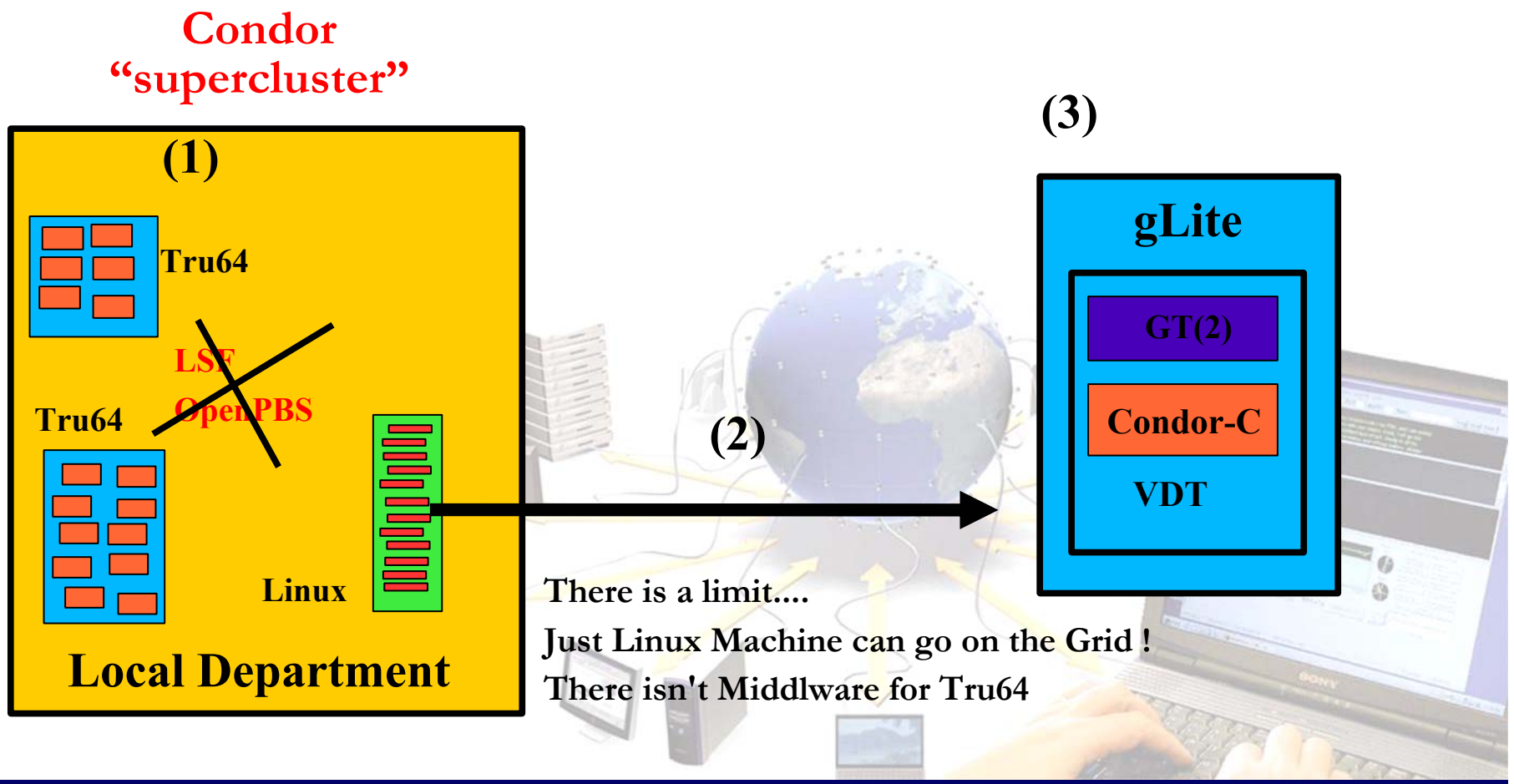
Linux ES3
OpenPBS



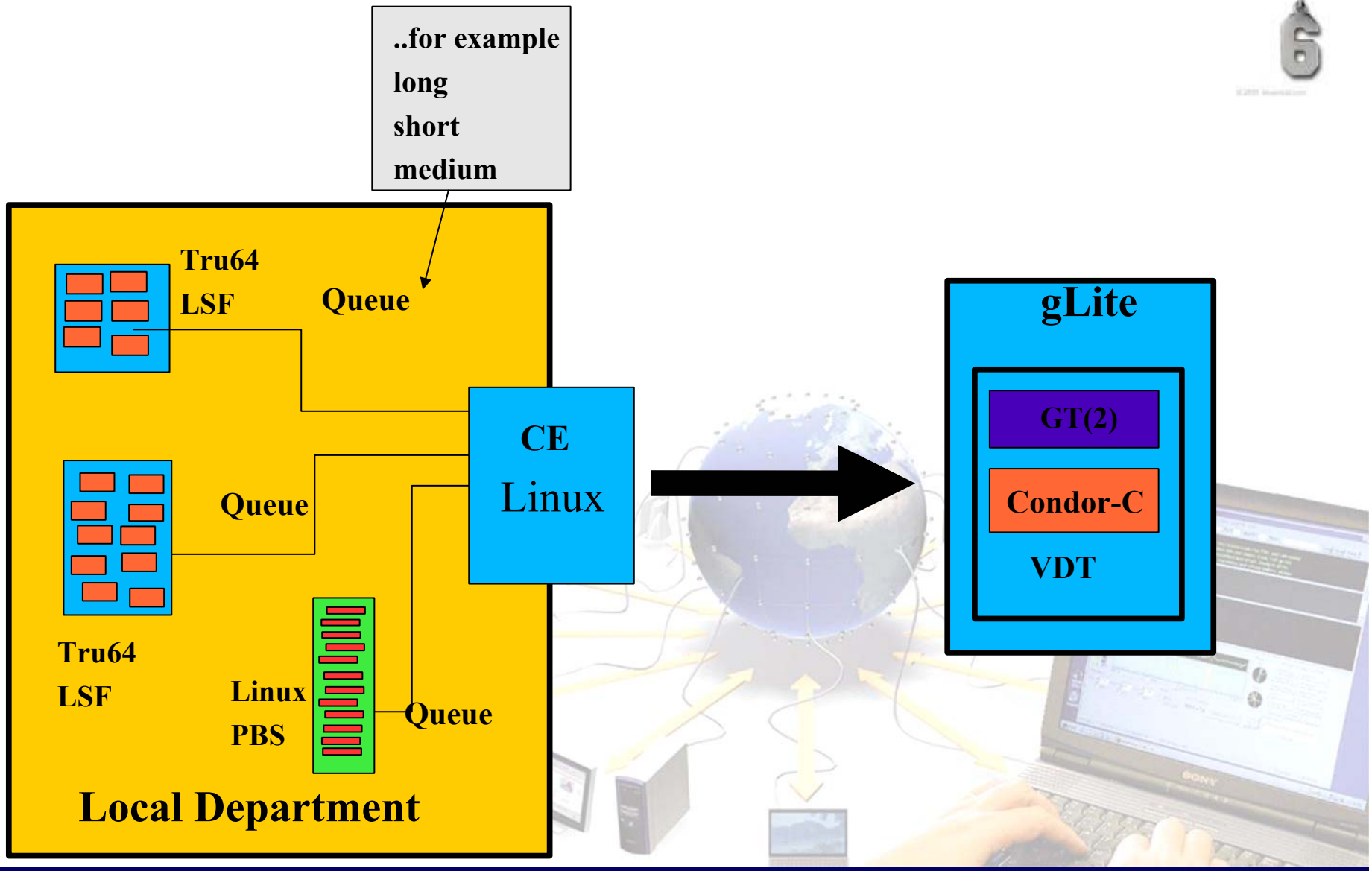
12 nodes (2x) Opteron

A PRACTICAL PROBLEM.....
..WHAT WE WANT

(1) To share resources in the local department
(2) Share my resources in Grid
(3) Use the Grid



A PRACTICAL PROBLEM.....
..MORE GRID RESOURCES SHARING

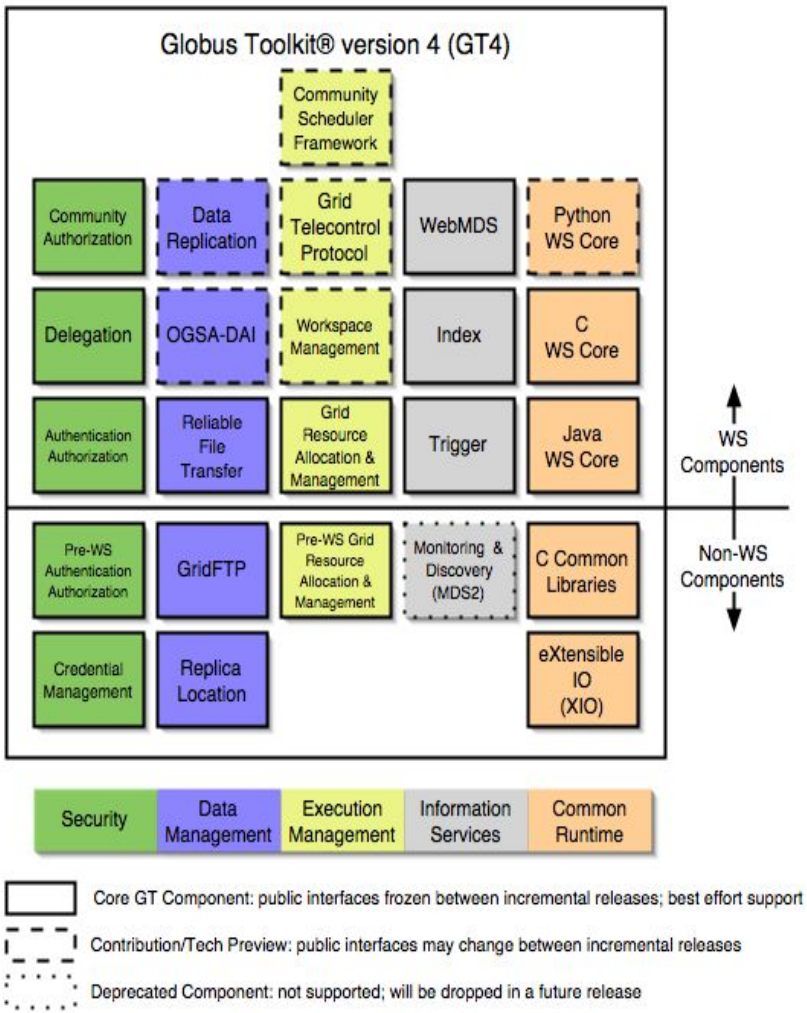


GLOBUS TOOLKIT 4

It is a fundamental enabling technology for the Grid

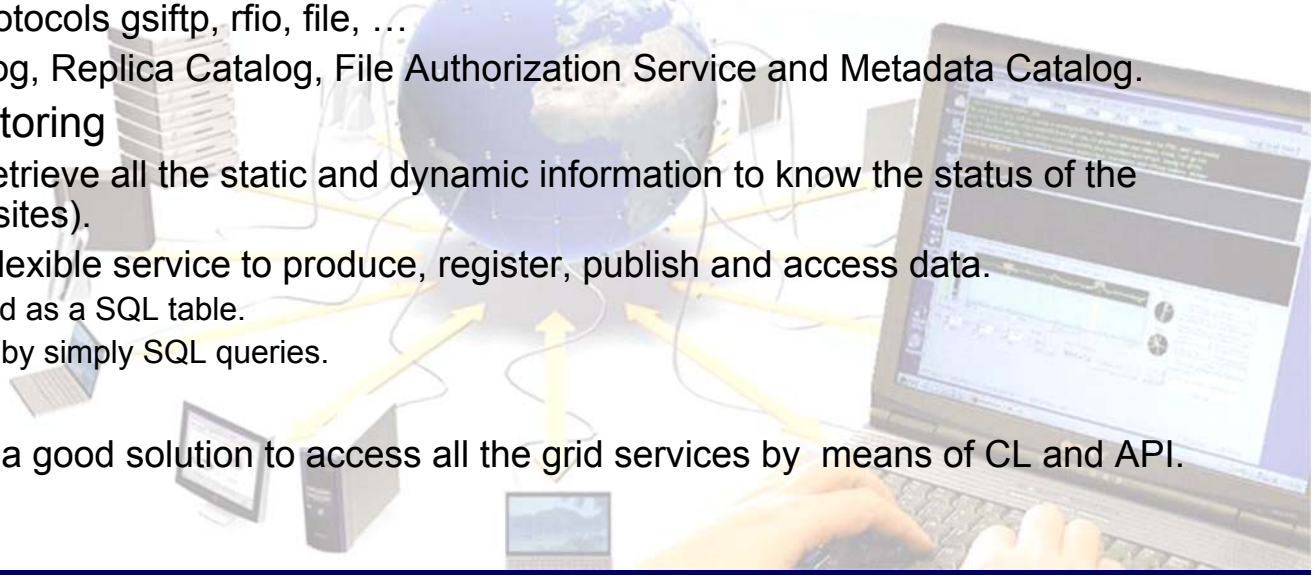
The toolkit includes software for security, information infrastructure, resource management, data management, communication, fault detection, and portability.

It is packaged as a set of components that can be used either independently or together to develop applications.

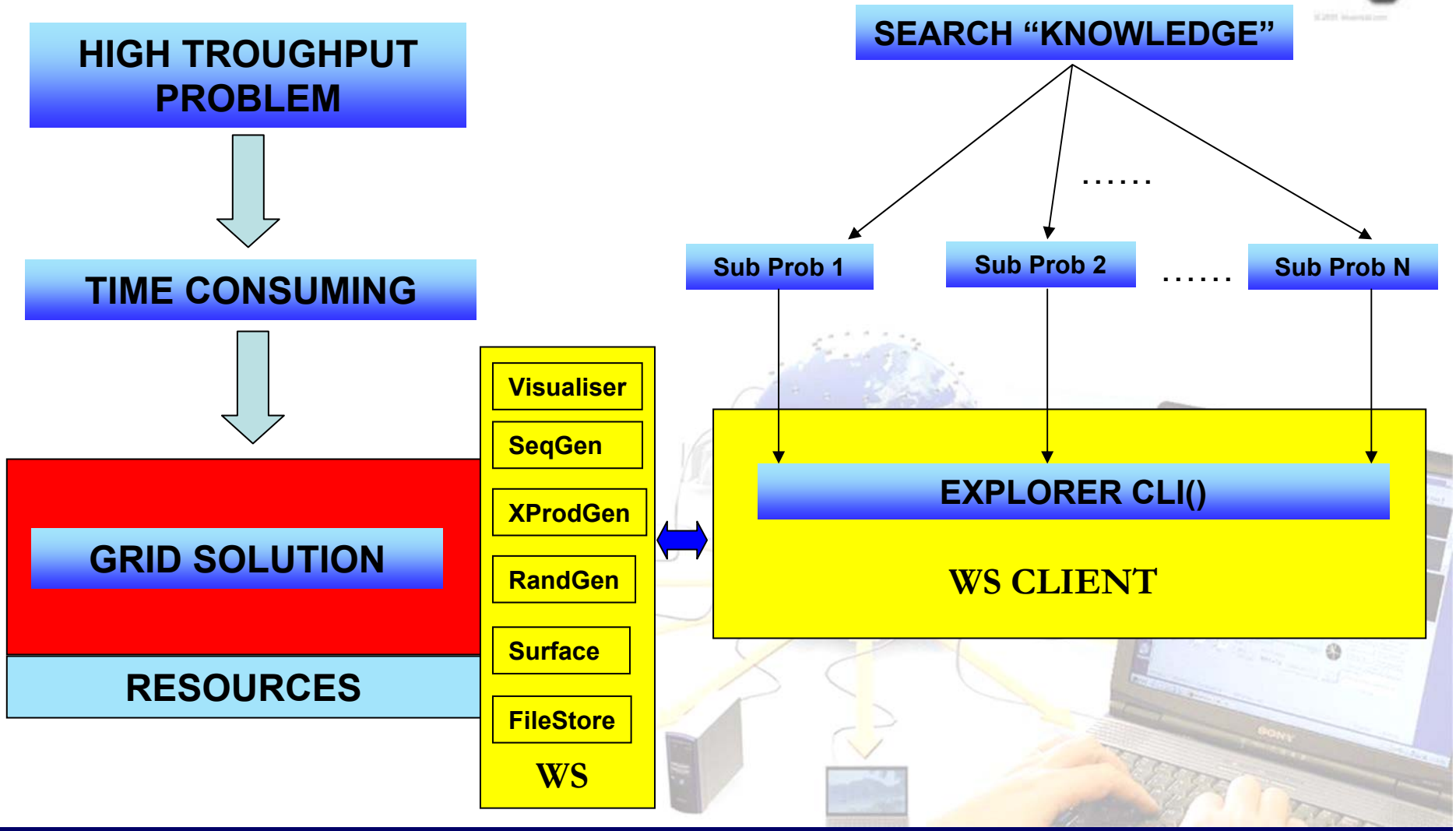


WHY gLite?

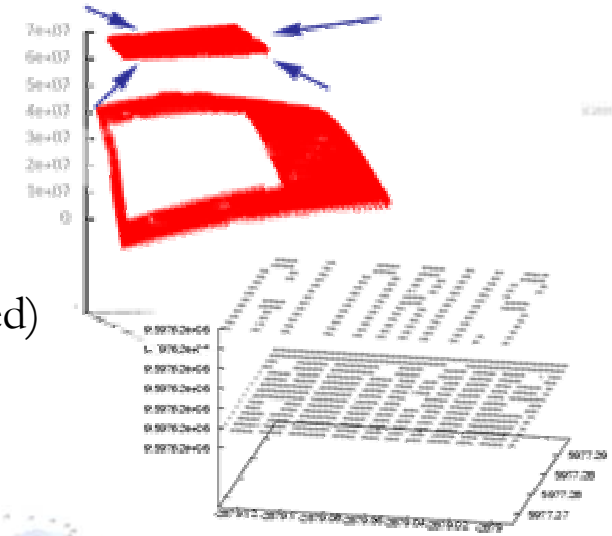
- gLite middleware is composed by a layered structure that implements most of the technologies we need:
  - Security
    - Use of X.509 certificates, Proxy and MyProxy to authenticate the users
    - Use of VOMS to organize VO users in groups and/or roles
  - Job & Data Management
    - Use of WMS as a set of Grid components to manage our tasks
      - JDL can easily describe our jobs and our requirements by means of the GlueSchema class add.
      - CondorC to perform all the JM operations (job submission/removal).
    - Use of simply disk pools accessed by SRM interface with standard POSIX-I/O using many different protocols gsiftp, rfio, file, …
    - Use of File Catalog, Replica Catalog, File Authorization Service and Metadata Catalog.
  - Information & Monitoring
    - Globus MDS to retrieve all the static and dynamic information to know the status of the grid (eg. Lcg-infosites).
    - RGMA seems a flexible service to produce, register, publish and access data.
      - Data is viewed as a SQL table.
      - Data queued by simply SQL queries.
  - Grid Access
    - Plug & Play UI is a good solution to access all the grid services by means of CL and API.



EXERCISE : "SEARCH THE KNOWLEDGE" (1/2)



EXERCISE : "SEARCH THE KNOWLEDGE" (2/2)



Develop program to compute a set of points

- **Explorer Client :**
  - **Local functionality**
  - **Web Services**
- **Convert Explorer to use GT Web Services**
- **Evolution of the client** (just studied, not implemented)
- **OGSA-DAI to access DBs** (deepThoughtII, PeoplesPublicData.xml)

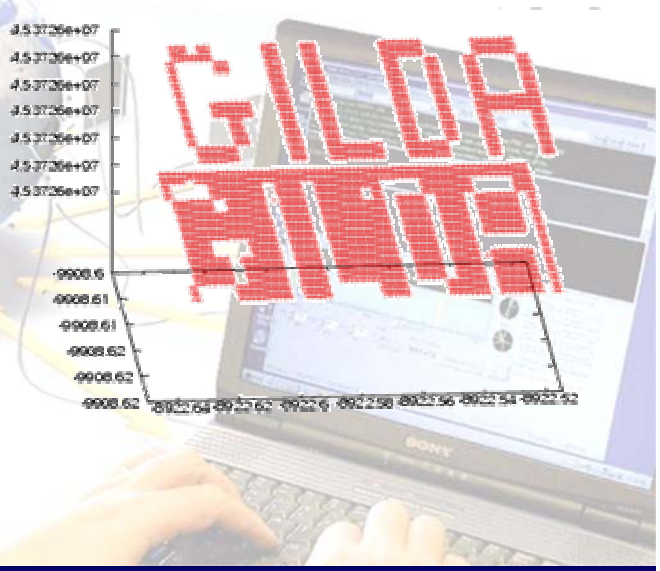
Final Exercise ("search for knoledge") :

- **Understood how the scanner works**
- **Recognized three pillars so far, using the point of the previous databases;**
- **Discovered two words**

Future:

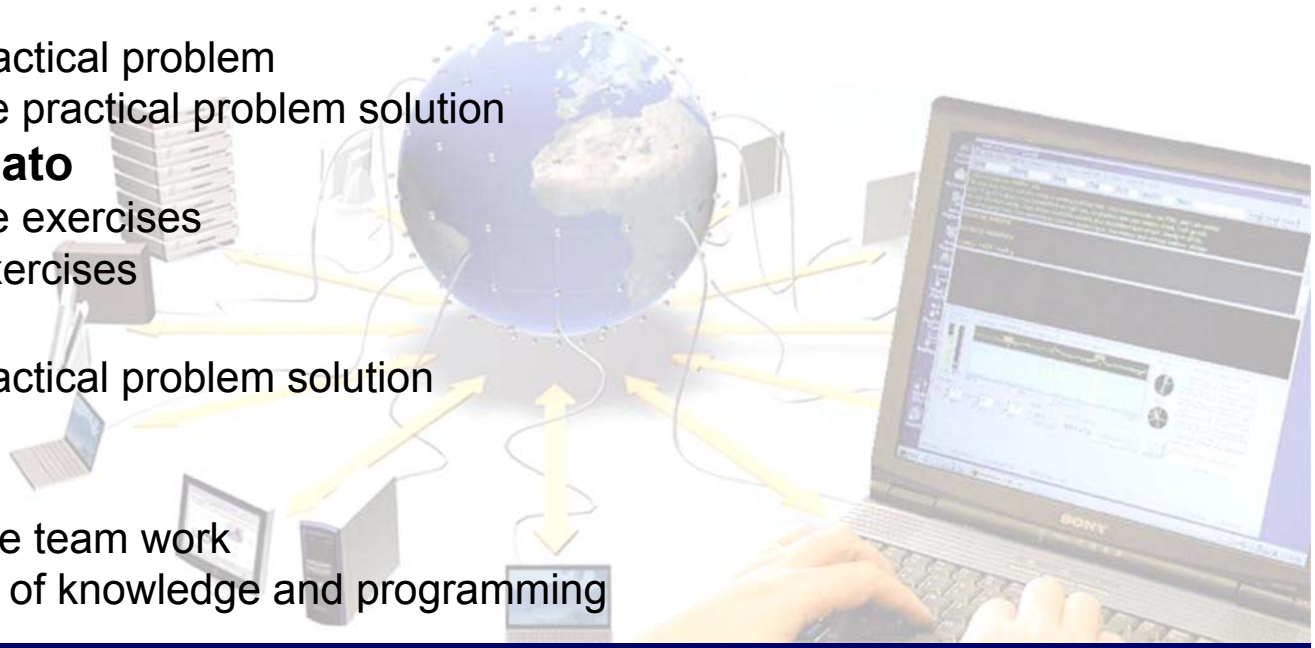
Make the discover more automatic using workflows;

- **Access to DBs containing the points by OGSA-DAI**
- **Look for outliers inside the pillar and then explore the surface around them with high density, in order to retrieve the words.**



TEAM WORK

- **Myrian Costa**
  - Contribution to the presentation
  - Slide about gLite
- **Silke Halstenberg**
  - Contribution to the exercises
  - Search of knowledge
- **Giuseppe Misurelli**
  - Contribution to practical problem solution
  - Slide about gLite
- **Giovanni Morelli**
  - Propose of the practical problem
  - Contribution to the practical problem solution
- **Concetto Spampinato**
  - Contribution to the exercises
  - Slide about the exercises
- **Daniele Spiga**
  - Contribution to practical problem solution
  - Slide about GT
- **Roberto Turrin**
  - Coordination of the team work
  - Exercises, search of knowledge and programming



TEAM FEEDBACK

- **Cons**
  - The exercise proposes a practical use of the Grid and Web Services, but was too focused on the programming aspect
  - Review the time scheduling:
    - Time to think about the lectures
    - Time to think about how to do exercises
    - Time to do the exercise
  - More Grid Principals and Concepts
  - Less stress

- **Pro**
  - The progressive exercise is a good way to interact with the technologies
  - Good combination of theory and practices
  - We appreciated to see many technologies and real applications of the Grid
  - Work in team is very interesting (even if not easy..)

- **Now**:
  - We have a larger view about Grids
  - We have more knowledge of other languages and people