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Enabling Grids for E-sciencE

Practical using EGEE middleware:
AA and simple job submission

www.eu-egee.org

Information Society

- **Please bookmark the agenda page.**
- **You will need to refer to it during the practical.**

- **Browse to:**
- **http://agenda.cern.ch/fullAgenda.php?ida=a062591**

- **We are using the GILDA testbed today**
  - The production EGEE grid looks like this!

- **The practical exercises are to illustrate "how"**
  - Not using typical jobs for running on a grid!!
  - But to show how EGEE grid services are used, jobs are submitted, output retrieved,…

- **We will use the Command-Line Interfaces on a "User Interface" (UI) machine**
  - "UI" is your interface to the GILDA Grid
    - Where your digital credentials are held
   - Client tools are already installed

![EGEE logo - Enabling Grids for E-sciencE]
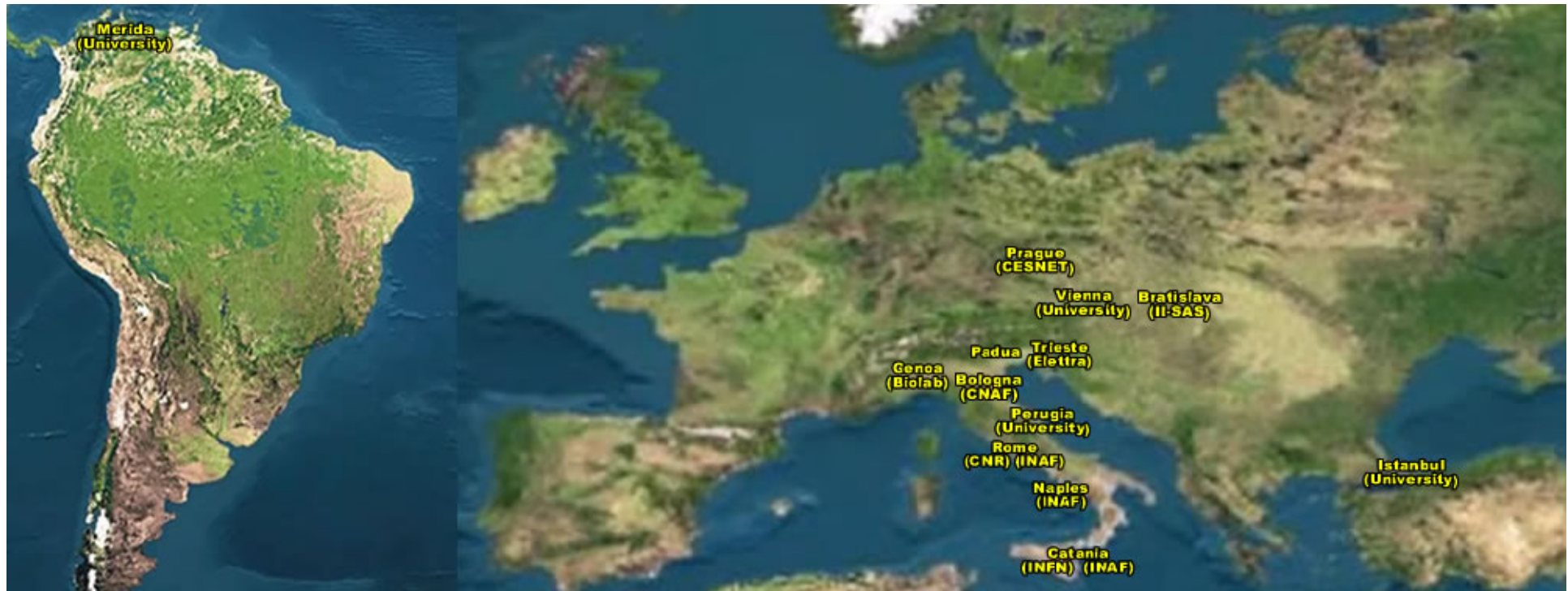
15 sites in 3 continents !

GILDA is coordinated by Roberto Barbera and colleagues at the University of Catania and INFN.

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- **Get an internationally recognised certificate**
  - From a local "Registration Authority" – you will need to see them personally, bringing passport or other identification
- **Contact the virtual organisation (VO) manager**
- **Accept the VO and the EGEE conditions of use**
- **The VO manager authorises you to use resources**
- **Upload your certificate to a "User Interface" machine**

- **We are continuing the practical from this stage**
- **You are a member of the GILDA VO**
- **We have training certificates on the GILDA testbed**

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- **If you are new to Linux – or if you prefer – work in pairs**

- **You will need to edit files and use command-line interfaces**

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Tutorial room machines

ssh

UI

glite-tutor.ct.infn.it

Internet

Grid

services
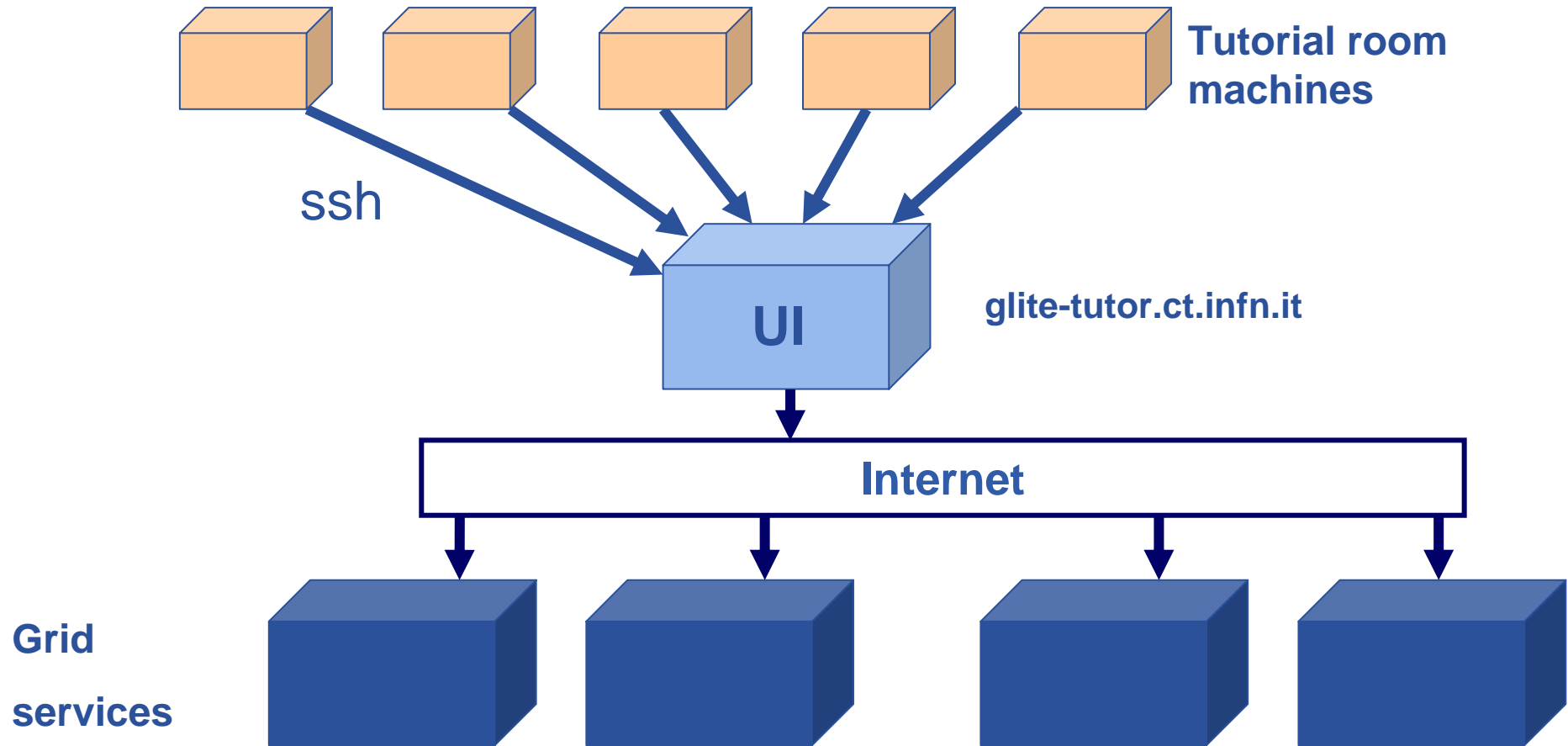
- **You will:**
    - Get to know .globus: the directory that holds your certificate
    - Create a VOMS proxy
    - See that is has both identity and authorisation credentials
    - Use it
    - Destroy it
    - See that a command fails if you don't have VOMS proxy
- **Creating the VOMS proxy is your "single sign-on" to the grid**

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- **.globus directory contains your personal public / private keys**

```
[taipei49@grid019 taipei49]$ ls -l .globus/
-rw-r--r--     1 taipei49 users    1111 Mar  6 14:51 usercert.pem
-r--------     1 taipei49 users     963 Mar  6 12:57 userkey.pem
```

In the practical, you will type: "ls –l .globus"

Notice the file permissions !

userkey.pem: private key

usercert.pem: public key + credential + CA signature

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```
voms-proxy-init --voms gilda

Your identity: /C=IT/O=GILDA/OU=Personal
   Certificate/L=taipei/CN=taipei49/Email=mjm@nesc.ac.uk
Enter GRID pass phrase: EDINBURGH
Creating temporary proxy
   ............................................... Done
Contacting  voms.ct.infn.it:15001
   [/C=IT/O=GILDA/OU=Host/L=INFN
   Catania/CN=voms.ct.infn.it/Email=emidio.giorgio@ct.infn.it]
   "gilda" Done
Creating proxy
   ............................................... Done
Your proxy is valid until Fri Mar 10 23:32:12 2006
```

Now please go to the agenda page

http://agenda.cern.ch/fullAgenda.php?ida=a062591

Access webpages from "further information" for this talk
" Using a certificate and simple job submission".

The webpages have the titles

1. Using VOMS Tutorial

2. Workload Management System

Do the VOMS one first!!!!!

Be careful to follow all instructions
– e.g. remember to download the tar file!!

- **Slides for after the practical**

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```
voms-proxy-init --voms gilda

Your identity: /C=IT/O=GILDA/OU=Personal
  Certificate/L=taipei/CN=taipei49/Email=mjm@nesc.ac.uk
Enter GRID pass phrase:   EDINBURGH
Creating temporary proxy
  ................................................. Done
Contacting  voms.ct.infn.it:15001
  [/C=IT/O=GILDA/OU=Host/L=INFN
  Catania/CN=voms.ct.infn.it/Email=emidio.giorgio@ct.infn.it]
  "gilda" Done
Creating proxy
  ................................................. Done
Your proxy is valid until Fri Mar 10 23:32:12 2006
```

- Note VOMS server is contacted for AuthN credential

- Proxy (AuthN) is created locally

- **Keep your private key secure.**

- **Do not loan your certificate to anyone.**

- **Report to your local/regional contact if your certificate has been compromised.**

- **Do not launch a proxy for longer than your current task needs.**

If your certificate or proxy is used by someone other than you, it cannot be proven that it was not you.

- **The EGEE multi-VO grid is built on**
  - Authentication based on X.509 digital certificates
    - Issued by CAs that are internationally recognised (enabling international collaboration)
    - With proxies
  - Authorisation provided by VOMS
    - VOMS supports
      - *multiple groups, roles within a VO*
- **voms-proxy-init: is your logon to the grid**
- **Allows job submission,….**

- **Any questions??**

- VOMS on EGEE: User Guide available at http://glite.web.cern.ch/glite/documentation/default.asp
- VOMS
  - Available at http://infnforge.cnaf.infn.it/voms/
  - Alfieri, Cecchini, Ciaschini, Spataro, dell'Agnello, Fronher, Lorentey, From gridmap-file to VOMS: managing Authorization in a Grid environment
  - Vincenzo Ciaschini, A VOMS Attribute Certificate Profile for Authorization
- GSI
  - Available at www.globus.org
  - A Security Architecture for Computational Grids. I. Foster, C. Kesselman, G. Tsudik, S. Tuecke. *Proc. 5th ACM Conference on Computer and Communications Security Conference*, pp. 83-92, 1998.
  - A National-Scale Authentication Infrastructure. R. Butler, D. Engert, I. Foster, C. Kesselman, S. Tuecke, J. Volmer, V. Welch. *IEEE Computer*, 33(12):60-66, 2000.
- RFC
  - S.Farrell, R.Housley, An internet Attribute Certificate Profile for Authorization, RFC 3281