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Enabling Grids for E-science in Europe

www.eu-egee.org

EGEE tutorial introduction

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Goals, Structure and Pre-requisites

- **Goals**:
  - provide general concepts about Grid Technologies, with particular focus on the European Grid Middleware developed by the European DataGrid project (EDG) and enhanced by the European EGEE project;
  - enable students to perform simple operations on a real Grid testbed.

- **Structure**:
  - **Morning**: presentations about general Grid concepts and particular Grid components.
  - **Afternoon**: LCG installation demonstration and hands-on exercises about job submission, data management and information system access

- **Pre-requisites for participants**:
  - No prior knowledge is required for the presentations.
  - Basic knowledge of Linux user environment (shells, editor, etc.) is necessary to complete the exercises.

Schedule

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Morning

- Introduction (10')
- Testbed overview (20')
- Grid Security (40')
- Grid Information Systems (45')
- Coffee Break (30')
- Grid Workload Management (45')
- Grid Data Management (50')

Afternoon

- LCG Generic Installation and Configuration (40')

- Hands-out (3h 20')

  - Certificate management

  - Job submission

  - Data management

  - Information Systems
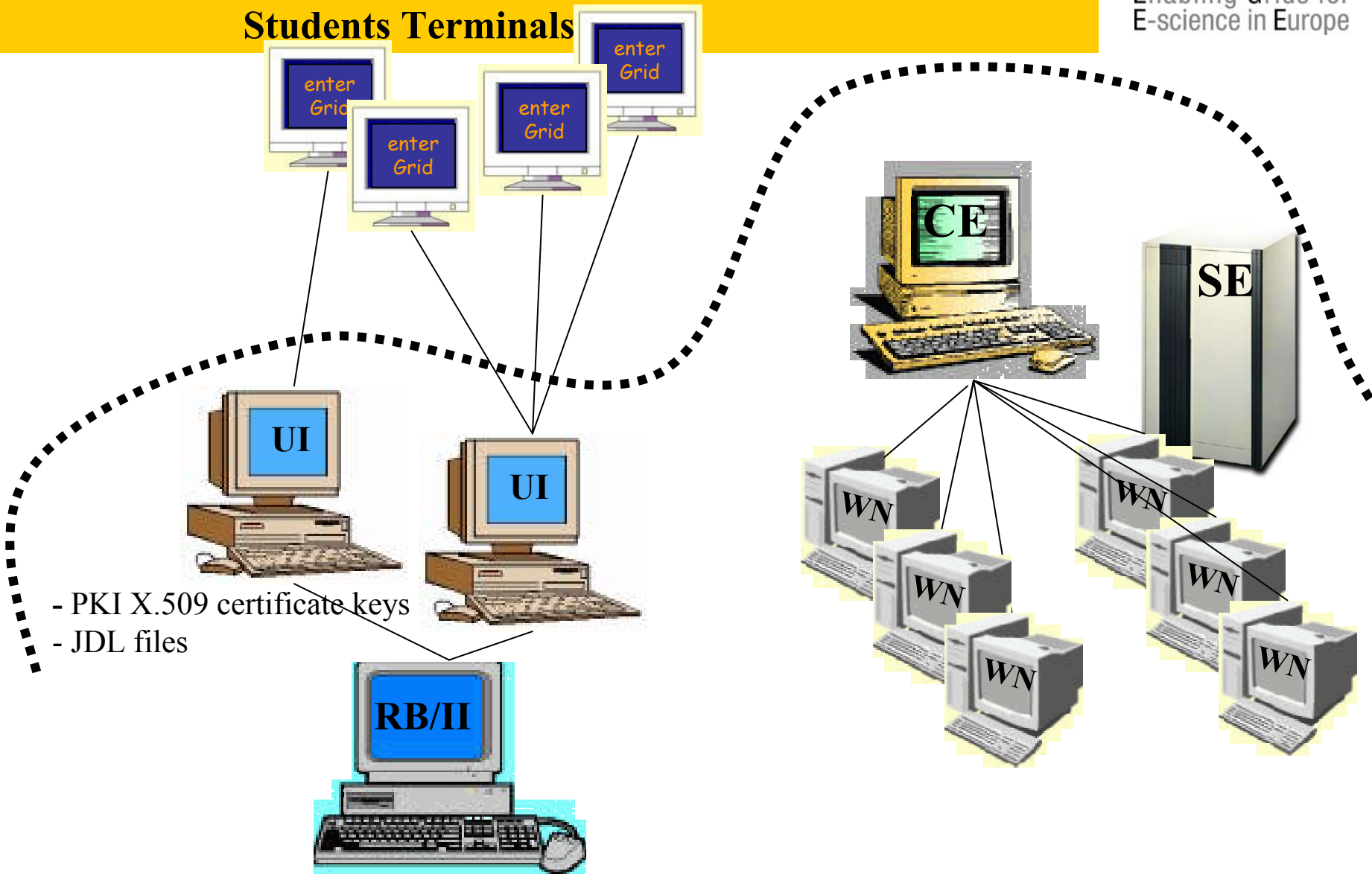
Lectures

- Testbed overview:
  - What is a Grid testbed?
  - How is it structured?
  - Which elements does it include?

- Security:
  - How users and machine identify themselves in a Grid?

- Information Systems:
  - How information about available resources is stored and retrieved in a Grid environment?

- Workload Management:
  - How job requirements are specified?
  - How jobs are assigned and dispatched to the appropriate computing resources?
  - How is the job status monitored?
  - How is the output retrieved?

- Data Management:
  - How data are moved and replicated in a Grid?

Hands-on Exercises

- The laboratory
  - You will connect to a grid infrastructure dedicated to dissemination activities and perform your exercises remotely
  - This requires an X509 certificate and a user account on the User Interface machine

- The exercises
  - Succession of increasingly sophisticated exercises exploring the different functionalities of the Grid middleware
  - You work at your own pace
  - The tutor is around in case you have questions or run into problems

- Required tools:
  - Secure shell client (ssh)
    - E.g. teraterm for Windows
  - Web browser

Training infrastructure: the Gilda testbed

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Students Terminals

enter Grid

enter Grid

enter Grid

enter Grid

UI

UI

CE

SE

WN

WN

WN

WN

WN

WN

- PKI X.509 certificate keys
- JDL files

RB/II

Accessing the grid

- Dedicated training room for hands-on session

- ssh connection to one of the three available GILDA User Interfaces (UI's)

- Each participant is provided with:
  - system accounts on GILDA's UI
  - an X509 certificate which identifies her on the testbed
  - an exercise booklet

We want your feedback

- Your feedback is actively sought:

  - Please notify any mistake in presentations and handouts material

- Feedback form:

  http://egee-na4.ct.infn.it/rome_03_feb/feedback.php

Enjoy the tutorial