Grid Computing Course

Summary of day 1

What you learnt about Grids

- Grids are:
  - heterogenous, distributed, wide area infrastructures primarily used for
    - high-performance
    - high-throughput
    - collaborative computing.
- Two significantly different concepts:
  - Desktop Grids
  - Utility Grids → In current course's focus
- Largest production utility Grids:
  - EGEE = ~40 VOs including EELA and GILDA (see tomorrow),
  - UK National Grid Service (NGS),
  - Nordugrid,
  - US Open Science Grid (OSG)
  - US Teragrid
  - …

What you learnt about Globus Toolkit 4

- A Grid middleware technology which provides services and tools to establish and operate utility Grids
- Bag of services that address key distributed system issues:
  - Security, Data management, Job management, Monitoring,
  - Development of custom services and service clients
- GT4 services can be used by
  - Clients contained in GT4 package → see hands-on earlier today
  - Programming API
  - Custom and 3rd party clients → e.g. P-GRADE Portal and GEMLCA tomorrow
- www.globus.org
- Current production grids use other types of middlewares, but follow similar concepts:
  - GT2
  - gLite
  - ARC

What you learnt during hands-on

- How to become a Grid user:
  - Obtain a user certificate
  - Find and register at a VO
  - Use command line or graphical clients
  - (Develop custom services and clients)
- How to manage X.509 certificates and proxy certificates
- Service discovery with MDS4
- File management with GridFTP
- Job and file management with GRAM and RFT

Further information

- GT4:

  www.globus.org
- EGEE activities:

  www.eu-egee.org

  grid.ifca.unican.es/egee-sa1-swe

  www.eu-eela.org
- Grid Certificate Authorities:

  www.gridpma.org
- Grid education – ICEAGE:
  www.iceage-eu.org