SA1 / the grid in Euforia

Two Parts:

- **Grid: Status**
- **Grid: How to use it**

Marcus Hardt
SCC @ FZK

Grid – Resources

- Grid Infrastructure
  - Inherited largely from int.eu.grid
  - Computer Centers:
    - PSNC in Poznan, Poland
    - IFCA in Santander, Spain
    - FZK in Karlsruhe, Germany
    - IISAS in Bratislava, Slovakia
- Total: 800 CPUs + ~2 TB Disk

Grid – Middleware

- int.eu.grid extensions to gLite

    => Glite interoperable

    => Enhanced MPI features

    => Support for interactivity

- How to use the grid?

    => See part II

Grid – What's up?

- Chalmers Cluster is about to be integrated
  - Configuration templates sent, waiting for reaction
- ENEA Cluster ("the gateway")
  - Reluctant to integrate their computer center to grid
  - Support limited to using the grid
    i.e. NOT PROVIDING RESOURCES
    => This is apparently what Fusion community wants
    => This is entirely NOT how SA1 advises to do it!

Additional services

- Savannah
    - Couple of users
    - Codes in SVN
    - Working fine
- Autobuild
    - Only used for Eirene at the moment
    - No great community pick-up
    - To be integrated for grid jobs

Grid – Other activities

- Publications:
    - Sep: Talk and paper at Euromicro in Parma
    - Sep: Talk at EGEE conference
    - Oct: Poster at Cracow Grid Workshop
- Trainings:
    - Basic grid usage training at ENEA in Naples (~15P)
    - Advanced grid trainings at GridKa School in Karlsruhe

Grid – How to use -> Courses

- Participate in courses

  - e.g. GridKa School 31.8.-4.9.2009.

- Read Material of passed courses

  - Available online => Adrian knows where

  - Read the **User Induction** page in Euforia WIKI**https://wiki.fzk.de/euforia**

EUF RIA

e-infrastructure

Grid – How to use -> Overview

1. Get a certificate

   - At your country (of work) Certification Authority

   - **Contact Marcus Hardt or Isabel Campos** if you need nelp

2. Get access to a **U**ser **I**nterface (UI)

   - UI provided by a grid site in your country

   - If not, **contact Isabel Campos or Marcus Hardt** for an account at one of the two fallback Uis

3. Contact us for supporting your Application on grid

   - We have local experts that can really help

Grid – How to use -> Authentication

- X.509 Certificate

  - To be obtained at the country of the workplace

- Join a VO

  - Virtual Organisation EUFORIA

    => https://i2g-voms.lip.pt:8080/vomses

- Account on a User Interface computer (UI)

  - Either at a grid-site in your country or at one of the fallback UIs either in Santander or Karlsruhe.

  - Read the **User Induction** page in Euforia WIKI
    https://wiki.fzk.de/euforia

Grid – How to use -> Low level job

- Basic job execution

  - Write a .jdl-file

  - i2g-job-submit <.jdl-file>
    => Returns job-service URL

  - i2g-job-submit <service URL>

  - i2g-job-submit <service URL>

- Yes, this is a bit painful

  => We suggest this for **development**
  and **early integration**
  Contacts: Isabel Campos, Marcus Hardt

```
Type         = "job";
JobType      = "parallel";
SubJobType   = "openmpi";
NodeNumber   = 12;
Executable   = "test.sh";
Arguments    = "-t 2h";
StdOutput    = "std.out";
StdError     = "std.out";
InputSandbox  = {"sleeper.sh"};
OutputSandbox = {"stdout","stder"};
```

Grid – How to use -> Migrating Desktop

- Migrating Desktop (PSNC)

  - Full featured Java Desktop

  - Abstracts much of the complication

  - Provides Powerful file-browsers

  - No account at UI needed
    (MD back-end provided at IFCA, PSNC& FZK)

  Contacts: Marcin Plociennik, Isabel Campos or Marcus Hardt

Grid – How to use -> Kepler

- Kepler actors will support submission via
  - MD backend (grids (i2g, gLite) + HPC)
  - Direct gLite-WMS connection (gLite)
- MD backend actors under development
- Kepler can be used

  - Running on local PC
  - Running on Gateway, displayed via MD + NX plugin

  Contacts: Marcin Plociennik, Bernard Guilleminet

Grid – Current issues

- No users => idle resources
- GUIs/Workflows not entirely ready yet

Summing up important stuff

- Contacts:
    - In any case of trouble or question:
        - Isabel Campos <isabel@campos-it.es>
        - Marcus Hardt <marcus@hardt-it.de>
    - If related to a GUI, additionally you can ask:
        - Marcin Plociennik <marcinp@man.poznan.pl>
        - Bernard Guillerminet <bernard.guillerminet@cea.fr>
- Links:
    - https://wiki.fzk.de/euforia
        => User Induction + User Guide (extensive)