The ILC
And
the Grid

Andreas Gellrich
DESY

LCWS2007
DESY, Hamburg, Germany
31.05.2007
Introduction

- Grid Computing is a *strategic* technology future computing in e-science (not only HEP!)
- Significant *resources* will be available in the Grid only
- User access is gained within the context of *Virtual Organizations* (VO) by way of *certificates*
- Grid is NOT distributed computing, but is a service infrastructure with *open standards, protocols* and well-defined *interfaces*
- The Grid is a *global* approach and requires global thinking!
- The computing is the easier part since jobs are *volatile*
- Data are *persistent* and require integrity
The Grid

Grid Projects Collaborating in LHC Computing Grid

EGEE Operations Information

<table>
<thead>
<tr>
<th>Active Sites</th>
<th>177</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available CPU</td>
<td>31092</td>
</tr>
<tr>
<td>Available Storage (TB)</td>
<td>2953727</td>
</tr>
</tbody>
</table>

Status

- Two Virtual Organizations (VO) are in place for ILC (‘calice’, ‘ilc’)
- ‘ilc’ is a global VO of the EU’s Enabling Grid for E-siencE (EGEE)
- The ILC VOs are hosted on DESY’s Grid infrastructure, also hosting HERA VOs and is a Tier-2 for ATLAS and CMS
- A number of Grid sites world-wide support ILC
- DESY supports a repository for ILC data files incl. tape back-end
- The CALICE test beam data (14 TB) reside at DESY and are currently being replicated to IN2P3 Lyon
- Thousands of jobs were run all around Europe on the Grid
The Home of the ILC VOs

The DESY CC
Open Issues (to be attacked)

- Stability and Performance of the middleware is a concern
- The Grid is about to move to Scientific Linux 4
- The Open Science Grid (OSG) must be interfaced
- There is (almost) no common ILC software to utilize the Grid yet
- Has anybody looked into the framework GANGA?
- VO and user support …
VO Support

• EGEE provides the *Global Grid User Support (GGUS)* portal for all global EGEE VOs, e.g. ‘ilc’:
  
  • [http://gus.fzk.de/](http://gus.fzk.de/)

• In addition, mailing lists (ML) are hosted by DESY:
  
  • calice-vo-support@desy.de
  • calice-vo-users@desy.de
  • ilc-vo-support@desy.de
  • ilc-vo-users@desy.de

• So far we have NO user and VO support concept for ILC
• There is also NO coordinated efforts to develop Grid tools for ILC
Conclusions

• Grid Computing is a strategic technology for the future; its infrastructure is developing as a core component of LHC in EGEE

• Significant resources will be available in the Grid only

• The Grid requires global thinking!

• The ILC VOs ‘ilc’ and ‘calice’ are in place and filled with members

• A repository for the CALICE test beam data is maintained at DESY and heavily used

• Let’s go the next step and supporting the ILC Grid user
Perspective

A GUI to copy files by LFNs
Practical Advises

• Find out about resources via: (same for ‘calice’!)
  
  > lcg-infosites -vo ilc all
  > lcg-infosites -vo ilc rb
  > lcg-infosites -vo ilc ce
  > lcg-infosites -vo ilc se
  > lcg-infosites -vo ilc lfc

• We maintain dedicated Resource Brokers (RB) via aliases:
  • ilc-rb.desy.de
  • calice-rb.desy.de

• The catalogue is:
  • grid-lfc.desy.de

• The data repository is:
  • srm-dcache.desy.de
Grid @ Web

- DESY Grid Web Sites:
  - http://grid.desy.de/
  - http://grid.desy.de/ilc/
  - http://grid.desy.de/install/DESY-VO.html

- Grid Computing Web Sites:
  - http://gus.fzk.de/
  - http://cern.ch/lcg/
  - http://www.eu-egee.org/

- ILC VO user registration:
  - http://grid-voms.desy.de:8443/vomses