

EUDET/ILC Grid Status Report

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EUDET Annual Meeting
Amsterdam, 8. Oct. 2008



- Status at Tel-Aviv University (Ronen Ingbir)
- Status at Bonn University (Martin Killenberg)
- Status at DESY (Frank Gaede)

6/10/2008 Amsterdam

General

Old center

~ 50 + 10 (**Eudet**) cores (Xeon dual core) , small storage + 6 Tb (**Eudet**)

Connected to the EGEE GRID until June 2008

→ Maintenance ongoing

Future

NGI 'National GRID Initiative' - **ISRAGRID**

Government founding starting 1/2009:
Organization + 2 GB/sec infrastructure.

cores depends on technical issues.
Potential : 400 – 500 TAU computer center
cores.

Communities:

Computer science
ILC virtual organization
more ...

Xeon dual core



TAU GRID Status

Eudet 2008

6/10/2008 Amsterdam

New HEP center

~ 64 cores (Xeon quad core 2.5GHz)
Storage: 100 Tb
Use: 90% ATLAS

Original running schedule: June 2008

Status:

TAU independent network connected
only in September 2008

Middleware: glite 3.1, installed

Connectivity to EGEE GRID
expected after the Jewish high
holidays (28/9 - 22/10)

Within the next 3 years →
400 cores, 500 Tb (200,000 USD for TAU per year)



Internet Giga switch



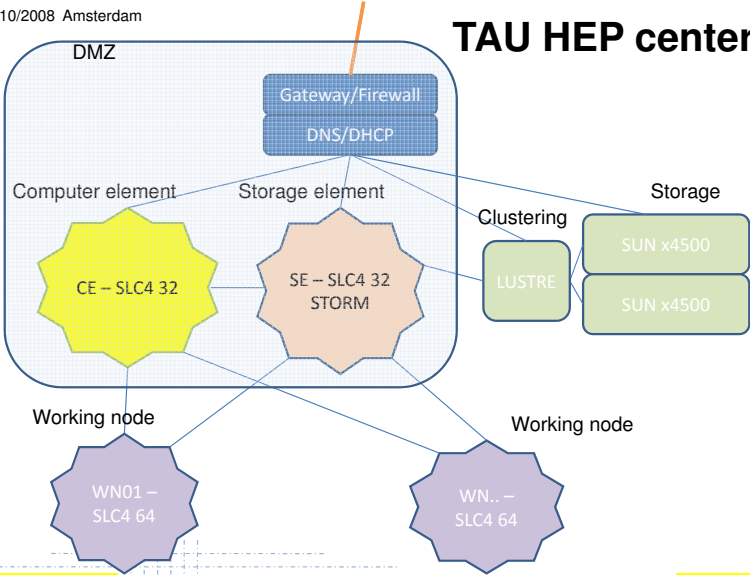
Xeon quad core 2.5 GHz

TAU GRID Status

Eudet 2008

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TAU HEP center




TAU GRID Status

Eudet 2008

Existing Grid Resources

Hardware

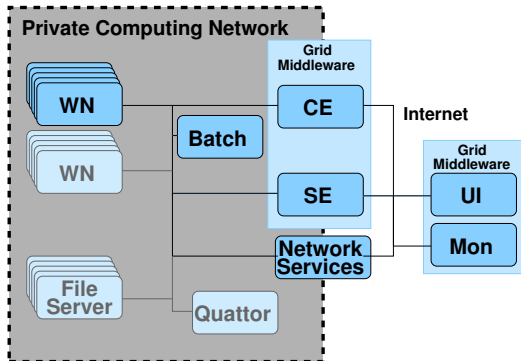
- 10 Rack-Mounted Computers
(CE + Batch + 8 WNs)
2 dual-core, 2GB RAM/core,
Gb/s ethernet, service processor
funded by EU 
- 1 File Server (SE)
~3TB as HW RAID 5,
Gb/s ethernet
paid from institute funds
- 3 std. Desktop Computers
 - UI
 - Network Services
 - Monitor Box



Additional Hardware

- Ordering process has started for
 - 496 CPU Cores
 - 72 TB Disc Space
- Installed still in 2008
- Will be available for ILC on best effort (to be shared with ATLAS)

Setup in Bonn



- WNs in private GBit Network
 - Setup did not work for CE + batch on one machine
 - Separate batch computer
 - Network service machine
- Quattor for cluster management
- Extend disk space and number of WNs

Status: Cluster is online!

GStat: UNI-BONN 09:05:33 10/04/08 GMT - @wgoc01

UNI-BONN Status: OK [GOC](#) [graphs](#)

GOCDB Configuration information:
 status: Uncertified, type: Production
 gis url: ldap://grid-ce.physik.uni-bonn.de:2170/Mds-Vo-name=UNI-BONN,o=grid

To test site GIIS:: ldapsearch -x -H ldap://grid-ce.physik.uni-bonn.de:2170 -b Mds-Vo-name=UNI-BONN,o=grid

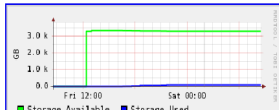
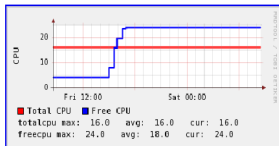
GIIS Sanity Check: ok [alert_history](#) ?

Passed

To test site GIIS:: ldapsearch -x -H ldap://grid-ce.physik.uni-bonn.de:2170 -b Mds-Vo-name=UNI-BONN,o=grid

Service Check: ok [alert_history](#) ?

Hostname	Monitored	Downtime	GOCDB NodeTypes	BDII ServiceTypes	Missing Services	History
grid-ce	Y	N	APEL,CE,Site-BDII	bdii_site,CE	none missing	alert_history
grid-se	Y	N	SE,SRM	SRM,SRM,SE	none missing	alert_history



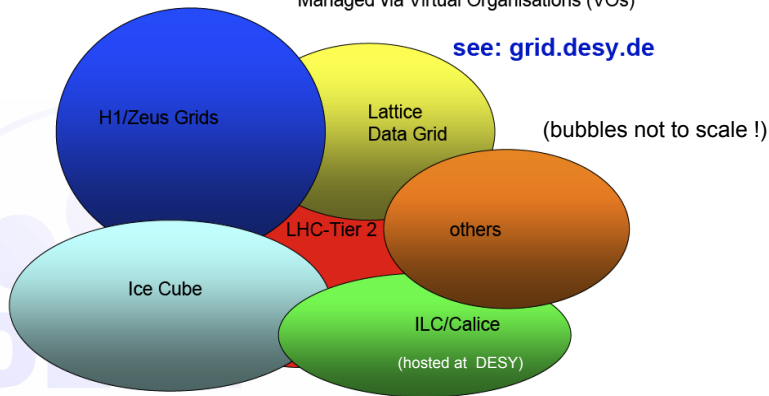
Next Steps

- Get certified as soon as possible
- Install experiment specific software
- Improve cluster management (Quattor)
- Install file server and additional WNs

user groups at DESY Grid

Managed via Virtual Organisations (VOs)

see: grid.desy.de



- the DESY Grid has a heterogenous user community
- 15 VOs are supported: hone, zeus, atlas, cms, ilc, calice...
- however: Grid hardware and middleware is as homogenous as possible

DESY Grid resource for LHC

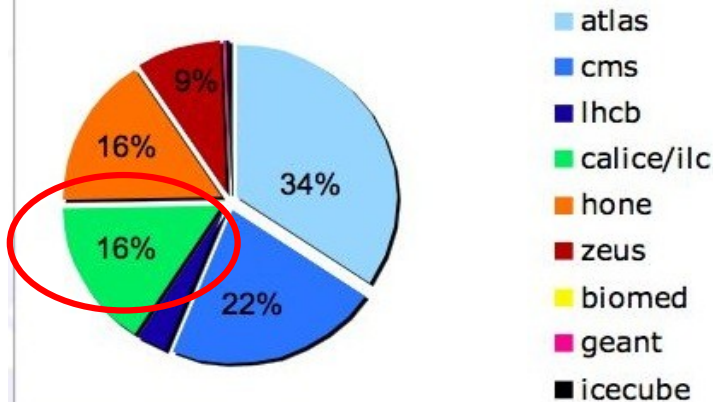
A:= Atlas; C:= CMS; L:= LHCb

Frank Gaede, EUDET-Meeting, Amsterdam Oct. 6-8, 2008

	2008	2009	2010	2011	2012	2013
CPU [kSI2k]	580 A	900 A	1720 A	2300 A	2890 A	3970 A
	540 C	1120 C	3060 C	4230 C	5390 C	6750 C
	325 L	810 L	810 L	810 L	810 L	810 L
Disk [TB]	260 A	440 A	740 A	1040 A	1340 A	1870 A
	200 C	230 C	300 C	440 C	580 C	710 C
	1 L	2 L	2 L	2 L	2 L	2,5 L
Tape [TB] officially not requested						
NAF upgrade in the range of the Atlas requests						

usage of DESY grid by ILC

**CPU utilization DESY Grid
(1.4.08-29.9.08)**



Frank Gaede, EUDET-Meeting, Amsterdam Oct. 6-8, 2008

Reliability of the DESY Tier 2

	aug-08		may-08 jun-08 jul-08		
CH-CHIPP-CSCS (Switzerland, CHIPP)					
CSCS-LOG2	99 %	97 %	94 %	96 %	92 %
CN-IHEP (China, IHEP, Beijing)					
BEIJING-LOG2	99 %	98 %	85 %	79 %	95 %
CZ-Prague-T2 (Czech Rep., FZU AS, Prague)					
prague_oesnet_log2	90 %	90 %	97 %	86 %	89 %
praguelog2	99 %	98 %	82 %	94 %	98 %
DE-DESY-ATLAS-T2 (Germany ATLAS Federation, DESY)					
DESY-HH	99 %	99 %	98 %	99 %	99 %
DESY-ZN	99 %	98 %	99 %	100 %	99 %
DE-DESY-RWTH-CMS-T2 (Germany, CMS Federation)					
DESY-HH	99 %	99 %	98 %	99 %	99 %
DESY-ZN	99 %	98 %	99 %	100 %	99 %
RWTH-Aachen	97 %	97 %	0 %	0 %	80 %
DE-FREIBURG WUPPERTAL (Germany, ATLAS Federation FR/W)					
UNI-FREIBURG	94 %	94 %	71 %	76 %	88 %

Frank Gaede, EUDET-Meeting, Amsterdam Oct. 6-8, 2008

Grid storage for ILC/EUDET

- CALICE:
 - 30TB tb-cern
 - 4.7TB tb-desy
 - 6.1TB tb-fnal
- ILC:
 - 2.1TB LDC monte carlo
 - 19TB ILD-LOI Monte Carlo
- ILC/EUDET-JRA1:
 - 1.4TB 2007 testbeam data
 - 513G 2008

Calice Monte Carlo production

- Software: Mokka-06-06-Calice02
- 300K events in 30 slcio files

ILD-LOI Monte Carlo production

- LOI-benchmark channels defined by WWS-SW panel
- also need SM background
- -> used large Whizard SM data set produced at SLAC
- -> produced $\sim 50 \text{ fb}^{-1}$
 - >15 M events
 - ~ 80 CPU years
 - DESY, other sites (UK,F,...)
 - 20 TB stored at DESY

using the Grid was the only way forward in order to to get the resources that we needed for the LOI mass production !

ilcsoft job submission scripts

- automated job submission scripts for **Mokka & Marlin** with direct access to MySQL database I.Marchesine
- keep track of job status (see next slide)
- register produced output files
- **job input:**
 - steering files
 - input files: stdhep, slcio
 - binaries (either on SE or installed locally)
- **job output**
 - slcio files – stored on Grid SE
 - tar ball: log files, steering files

Summary

Tel-Aviv

- Still in maintenance
- Plan to be back online in November

Bonn

- Site is online, testing is ongoing
- Plan to be ready to use this month

Desy

- 1800 CPUs, 700 TB storage
- Heavily used in the last year(s)
 - Calice test beams and MonteCarlo
 - Pixel Telescope test beam
 - ILD-LOI mass production