



Enabling Grids for E-sciencE

UKI ROC

- supporting the LHC experiments

- maintaining the service

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www.eu-egee.org www.ukiroc.eu

UKI Regional Operations Centre

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The UKI federation in EGEE http://www.ukiroc.eu/



http://www.grid-ireland.org/



http://www.gridpp.ac.uk

http://www.grid-support.ac.uk/

The partners and the GridPP structure

Enabling Grids for E-sciencE

The formal layers in GridPP of relevance to WLCG/EGEE

Enabling Grids for E-science

	Oversight Committee	:		Collaboration Board					
Deployment	Board	Tier-2 Boa	rd	User Board Tier-1 Board					
Helpdesk support		Productio	n Manager	iger Tier-1 Manager					
Catalogue support	NorthGrid Coordinator	SouthGrid Coordinator	ScotGrid Coordir	nator	London Tier-2 Coordinator	Tier-	1 Technical Coordinator		
Storage Group	Tier-2 support	Tier-2 support	Tier-2 supp	ort	Tier-2 support		1 support 8, administrators		
Networking Group	Site Administrator	Site Administrator	Site Administr	rator	Site Administrator		- r support & aunimistrators		
CA/VOMS/Security									

Current ROC operations depend on the work of ...

Enabling Grids for E-sciencE

the deploymer	nt team & friends!
Helpdesk support Catalogue support Storage Group Networking Group CA/VOMS/Security	Production Manager Tier-1 Technical Coordinator NorthGrid Coordinator ScotGrid Coordinator London Tier-2 Coordinator Tier-1 Technical Coordinator

Example activities from across the deployment team area

- Supporting dCache
- Supporting DPM
- Developing plug-ins
- Constructing metrics
- Supporting network testing
- Running core services
- Ticket process management
- Pre-production service
- Middleware support
- Pre-release testing

- Deployment of new hardware
- Information exchange
- Maintaining site services
- Maintaining production services
- Reviewing documentation
- Liaising with users
- Monitoring use of resources
- Reporting
- Running helpdesks
- Interoperation parallel deployment

Site operations vary – this is for the WLCG Tier-1 Other sites usually have up to a few staff

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User Board

Tier-1 Board

	Grid Services Grid/Support Ross	Fabric (H/W and OS) Bly (team leader)		Grid Services Grid/Support	exp
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		Networking Support	t _		
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Regular meetings with UK

egee

Communication between sites and VOs has several

routes

Enabling Grids for E-sciencE

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Mail lists - including gridppdteam

Deployment Team (DTEAM)

Weekly DTEAM and monthly UKI meetings (includes LHC expts.)

Aggregated operations blogs

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UKI helpdesk/ticket tracking

UKI ROC

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The ROC/DTEAM monitors the status regularly

Enabling Grids for E-sciencE

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The deployment team meet weekly but check many of the EGEE and WLCG tools daily for all sites in the region including the Tier-1. Problems are discussed in the meeting and where necessary a ticket is submitted to the site.

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DIFN-RAPOLI-ATLAS	300	25	75.19%
UAM-LCG2	40	11	79.47%
INFN-MILANO	59	27	78.57%
DIDF3-LPC	190	51	79.82%
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CERN experiment dashboard

GSTAT

UK ATLAS tests

Sites are made aware of their overall availability vs targets

Enabling Grids for E-sciencE

Targets

For April >80% For June >85% For July >90% For Sept+ >95%

UKI ROC

Site and ROC issues are discussed at the weekly EGEE/WLCG operations meeting

Enabling Grids for E-sciencE

Weekly EGEE/WLCG discussion

UKI ROC

Sites

We also use our own tests: Regular monitoring of UK ATLAS user tests has helped to improve "availability"

Enabling Grids for E-sciencE

Nb: Tests availability for a normal user. This means full queues will lead to lower success - i.e. the user job can not run within given time!

UKI ROC

eGee

Sites use a number of tools to spot problems

Enabling Grids for E-sciencE

Oxford jobs this weekend

ScotGrid top-level BDII

Nagios for watching service status (alarms) also see GI & work here http://i4c.sourceforge.net/

Nagios General © locumentation Monitoring Service Detail Net Octail Net Octail Net Overview Bervice Detail Net Overview Net Overview	Current Network St. Lat Updated every 10 secon Napole - enviro dialogi Logidad - enviro dialogi Logidad - na agloarin - Hoffisidary for all host - Hoffisidary for all host - Were Host Shilut Detail Fr	atus 11 53 57 CEST 2007 6 9 Hoda K All Hoda	**	Up a	Host Status Tota Down Uncerchable 0 0 <u>All Problems</u> All F 0 20 Status Details F	Is Pending 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Service Status Totals Service Status Totals Obi Warning (Inknown Griffet) Pending O TT 282 0 Alt Frynklemm Alt Frynklemm 199 219
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		SE-ko-se-OMS-conste	11	CK .	06-06-2007 09.59.00	0d 1h 54m 57s	1/1	SAM status: ok
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Nagios display of prototype grid service monitoring tool

- Much going on in systems monitoring area: <u>http://www.sysadmin.hep.ac.uk/wiki</u>.
- Also with monitoring grid services:

https://twiki.cern.ch/twiki/bin/view/LCG/GridServiceMonitoringInfo

Real time monitor reports are also useful: <u>http://gridportal.hep.ph.ic.ac.uk/rtm/</u>

UKI ROC

The UKI helpdesk is fully integrated with GGUS and site ticketing systems

Enabling Grids for E-science

- We encourage cross-site support -

WAN testing for the WLCG T1 and T2s. Constant testing but currently tools used for diagnosis not alarms

Enabling Grids for E-science

14:00

15:00

16:00

17:00

18:00

Timestamp

19:00

20:00

21:00

GridMon is now setup and constantly logging data from tests between the Tier-1 and the Tier-2 sites

UKI ROC

22:00

Performance metrics are often reviewed in a number of areas

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0.85

0.8

0.75

Total CPU effici

between 1 10

(some examples)

gw39.hep.ph.ic.

pc90.hep.

cgce01.gridpp

cgce01.phy.bris

svr016.gla.scotgri

epgce1.ph.bham.ac. hepgrid2.ph.liv.ac. ce02.esc.qmul.ac.t

v03.hep.phy.cam.

ce1-gla.scotgrid

ce1.pp.mul.

tota 듄

Group

hepinx206.pp.rl.a gc-grid-44.brunel.

pygrid-18.lancs gw-2.ccc.ucl

e02.physics.ox.

grid-40.brunel lesc.doc.ic Efficiency=Successful Lime Total Time Q4 2006

Enabling Grids for E-sciencE

e_Gee

Ticket response times are monitored by the ROC

150

The storage group actively contribute to SRM testing and developing of the accounting. We also check resources that are deployed.

Security - policies and wider engagements are important. We take part in the EGEE security challenges and assess response times.

UKI ROC

15

Enabling Grids for E-sciencE

- Ticket Process Management insight into current problems
- Security policy work
- Grid Security Vulnerability tracking
- Storage testing (SRM v2.2) for experience
- Running Pre-production sites we see what is coming
- Porting the middleware •
- EGEE user support activities
- Core Infrastructure Monitoring (COD)

Activities the ROC is developing:

- Grid Operations Centre DataBase (GOCDB)
- eLearning virtual environments .
- Accounting sensors now working on storage
- Grid MPI 🜲
- GridPP site readiness reviews visit the sites to discuss and takeup problems, issues and concerns directly. This has proved very informative and stimulated sites to think more about the service they are being asked to deliver....

Summary

Enabling Grids for E-sciencE

1 The UKI ROC has 3 grids. GridPP currently dominates

2 There are formal structures in place (including MoUs)

3 Good **communication** is key to maintaining the service

4 There is a lot of **monitoring** in place (Grid node, network....)

5 Performance **metrics** are still developing but critical

6 Close working between deployment and user representatives helps

ご幸運を祈ります