

NA2 COMP Status Report

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EUDET Extended SC Meeting
August 27, 2007

Involved EUDET funded sites

- University of Bonn
- DESY
- Tel Aviv University

University of Bonn

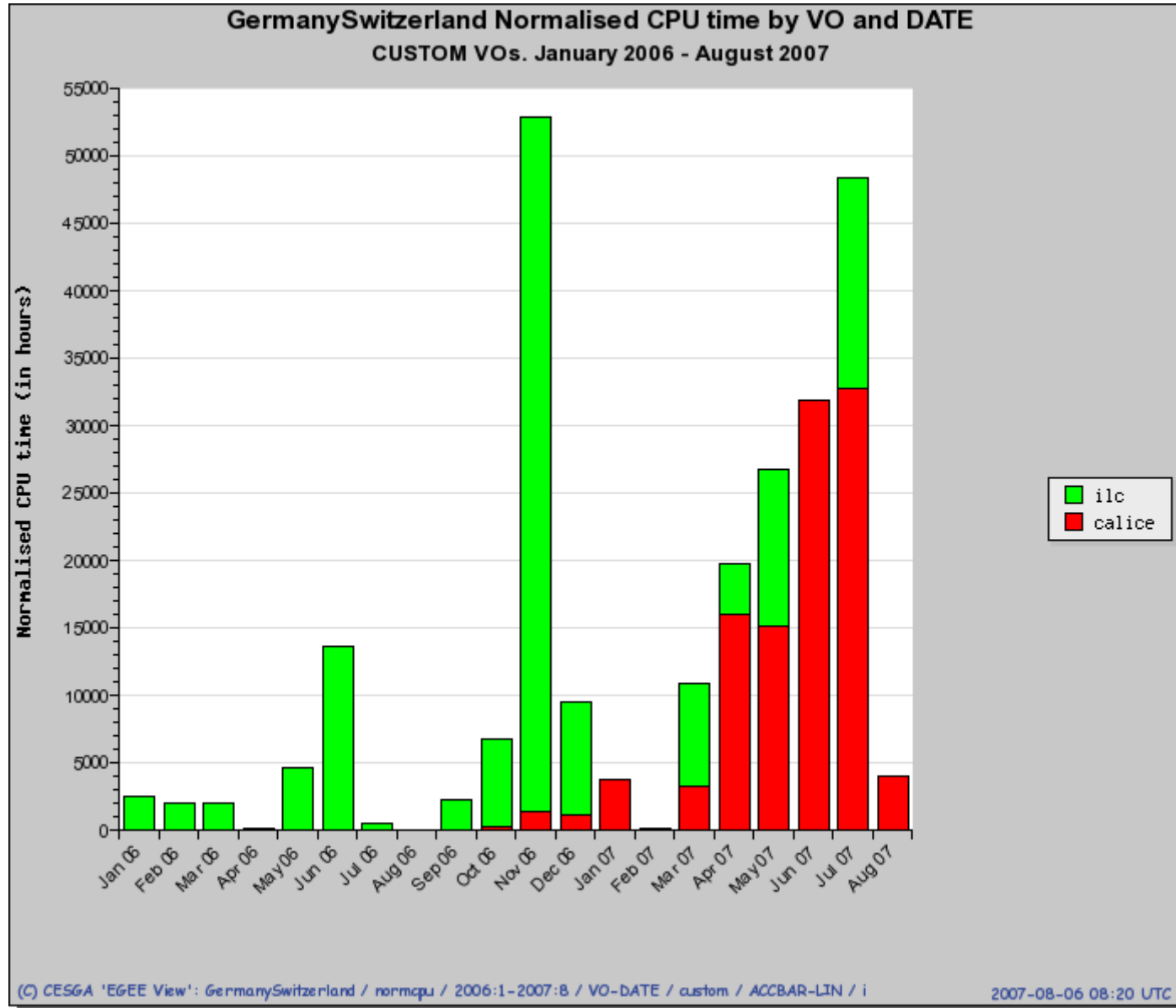
- Bought 10 dual CPU dual core SunFire X2200 machines for 34974 € in December 2006
- 1 person working on cluster setup since June 2007
- Hardware ready for use (power, network, etc. connected)
- At present no SE
- Currently working on scalable installation and configuration management environment
- Slightly lagging behind schedule due to move from Freiburg to Bonn (had to start from scratch twice)

DESY

- Period: January until September 2006:
 - Bought 6 SunFire X4100 with 4 CPUs each for 23010 € in May 2006
 - Remaining EUDET money (6990 €) has been invested into 2 SunFire X5400 file servers with 24 TB each. Total costs 56 k€. Pro rata EUDET usage.
 - Provided in total 55890 CPU days of resources in 2006 (until Sept.)
 - 21372 CPU days used
 - 1889 CPU days used by VO ilc (8.8 %)
 - Used data storage: ilc: 3.6 TB, calice: 6.0 TB
- Period: January until June 2007
 - ilc+calice: 52668 jobs (9.7 %)
 - ilc+calice: 7213 kSpecInt2k d = 20 kSpecInt2k y (7.2 %)
 - 37 h walltime/job on average

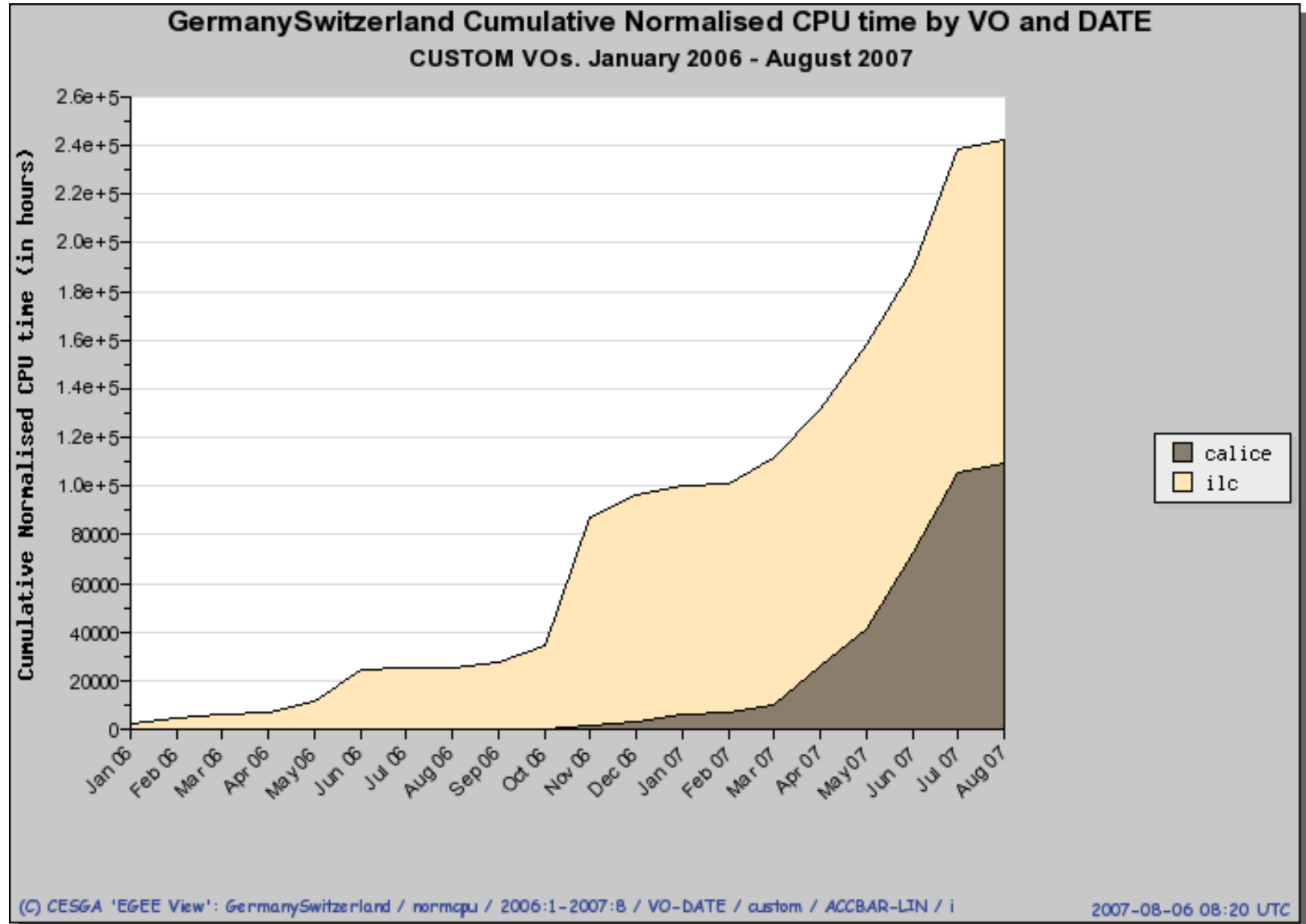
ilc and calice CPU usage in ROC DECH

DESY-HH, DESY-ZN, UNI-FREIBURG



ilc and calice cumulative CPU usage in ROC DECH

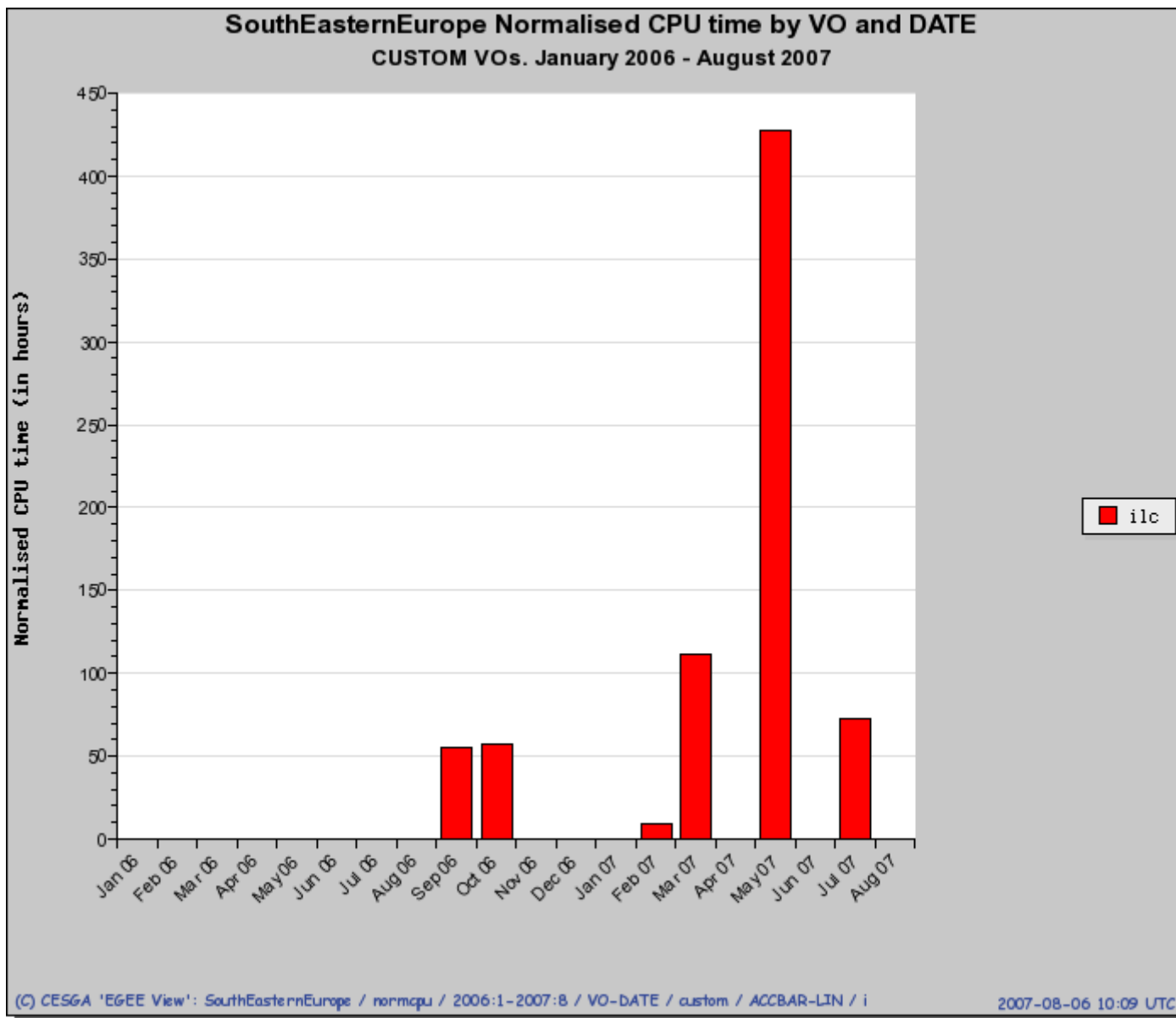
DESY-HH, DESY-ZN, UNI-FREIBURG



- Bought 5 dual core PCs with about 3 TB RAID5 storage for roughly 10 k€ from EUDET money
- Site running 50 cores in total round the clock:
 - 9 dual core machines with 32 bit
 - 8 quad core machines with 64 bit
- Additional 30 dual core machines during the night

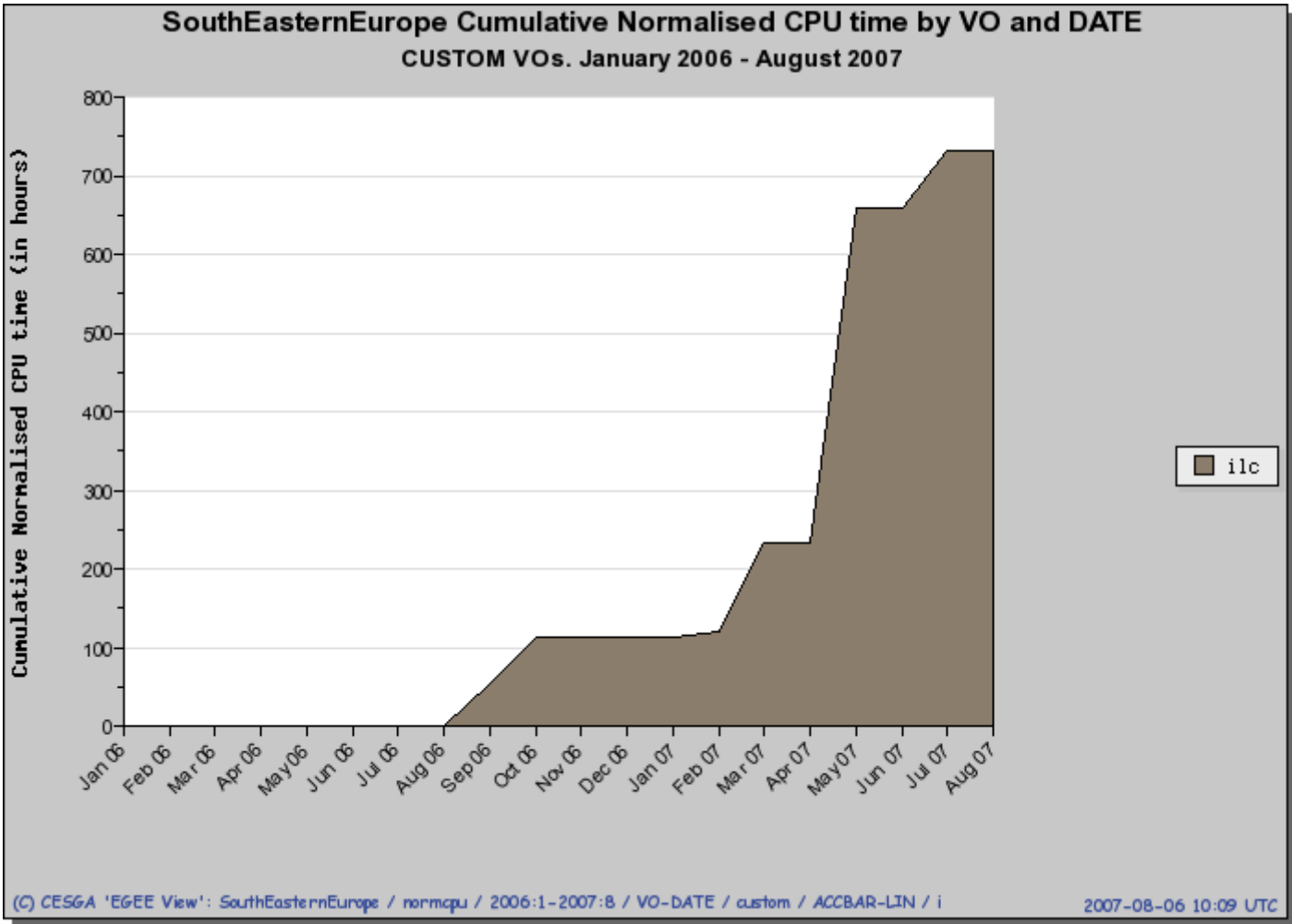
ilc and calice CPU usage in ROC SouthEasternEurope

TAU-LCG2



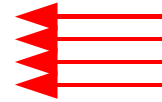
ilc and calice cumulative CPU usage in ROC SouthEasternEurope

TAU-LCG2



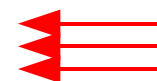
All ILC CEs

#CPU	Free	Total Jobs	Running	Waiting	Computing	Element
240	0	0	0	0	0	grid-ce0.desy.de:2119/jobmanager-lcgpbs-ilc
114	4	0	0	0	0	grid-ce2.desy.de:2119/jobmanager-lcgpbs-ilc
165	165	0	0	0	0	grid-ce3.desy.de:2119/jobmanager-lcgpbs-default
165	165	0	0	0	0	grid-ce3.desy.de:2119/jobmanager-lcgpbs-testing
108	45	0	0	0	0	lcg-ce0.ifh.de:2119/jobmanager-lcgpbs-ilc
0	0	0	0	0	0	fermigrd1.fnal.gov:2119/jobmanager-condor-ilc
380	194	0	0	0	0	node07.datagrid.cea.fr:2119/jobmanager-lcgpbs-ilc
102	0	0	0	0	0	grid10.lal.in2p3.fr:2119/jobmanager-pbs-ilc
100	74	0	0	0	0	polgrid1.in2p3.fr:2119/jobmanager-pbs-ilc
226	138	88	78	10	0	cclcgceli02.in2p3.fr:2119/jobmanager-bqs-short
4648	4626	22	4	18	0	cclcgceli02.in2p3.fr:2119/jobmanager-bqs-medium
98	98	0	0	0	0	cclcgceli02.in2p3.fr:2119/jobmanager-bqs-long
52	48	4	0	4	0	cclcgceli03.in2p3.fr:2119/jobmanager-bqs-short
996	996	0	0	0	0	cclcgceli03.in2p3.fr:2119/jobmanager-bqs-medium
8	8	0	0	0	0	cclcgceli03.in2p3.fr:2119/jobmanager-bqs-long
14	4	0	0	0	0	dgl0.cc.kek.jp:2119/jobmanager-lcgpbs-ilc
44	0	0	0	0	0	rls02.cc.kek.jp:2119/jobmanager-lcgpbs-ilc
1244	81	1	0	1	0	lcgce01.gridpp.rl.ac.uk:2119/jobmanager-lcgpbs-S
1244	81	0	0	0	0	lcgce01.gridpp.rl.ac.uk:2119/jobmanager-lcgpbs-ilcL
7	1	0	0	0	0	ce.epcc.ed.ac.uk:2119/jobmanager-lcgpbs-ilc
54	0	1	1	0	0	lcfngng.cs.tau.ac.il:2119/jobmanager-pbs-ilc
264	2	0	0	0	0	dgc-grid-44.brunel.ac.uk:2119/jobmanager-lcgpbs-ilc
5	5	0	0	0	0	dgc-grid-35.brunel.ac.uk:2119/jobmanager-lcgpbs-short
5	5	0	0	0	0	dgc-grid-35.brunel.ac.uk:2119/jobmanager-lcgpbs-rampdown
5	5	0	0	0	0	dgc-grid-35.brunel.ac.uk:2119/jobmanager-lcgpbs-production
122	1	0	0	0	0	dgc-grid-40.brunel.ac.uk:2119/jobmanager-lcgpbs-ilc
60	28	0	0	0	0	gw39.hep.ph.ic.ac.uk:2119/jobmanager-lcgpbs-ilc
188	1	3	3	0	0	ce00.hep.ph.ic.ac.uk:2119/jobmanager-sge-30min
188	1	449	187	262	0	ce00.hep.ph.ic.ac.uk:2119/jobmanager-sge-72hr
1888	120	948	343	599	0	hep-ce.cxl.hpc.ic.ac.uk:2119/jobmanager-pbs-heplt2
116	49	4	3	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-1hr
116	49	5	4	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-3hr
116	49	8	7	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-6hr
116	49	12	11	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-12hr
74	12	12	11	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-24hr
74	12	332	74	258	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-72hr
116	49	2	1	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-10min
116	49	2	1	1	0	mars-ce2.mars.lesc.doc.ic.ac.uk:2119/jobmanager-sge-30min
1348	598	10	10	0	0	ce02.esc.qmul.ac.uk:2119/jobmanager-lcgpbs-lcg2_short
1348	598	116	115	1	0	ce02.esc.qmul.ac.uk:2119/jobmanager-lcgpbs-lcg2_long
144	0	0	0	0	0	cel.pp.rhul.ac.uk:2119/jobmanager-pbs-ilcgrid
382	3	0	0	0	0	fal-pygrid-18.lancs.ac.uk:2119/jobmanager-lcgpbs-ilc
824	435	0	0	0	0	hepgrid2.ph.liv.ac.uk:2119/jobmanager-lcgpbs-ilc
834	668	0	0	0	0	ce01.tier2.hep.manchester.ac.uk:2119/jobmanager-lcgpbs-ilc
842	660	0	0	0	0	ce02.tier2.hep.manchester.ac.uk:2119/jobmanager-lcgpbs-ilc
106	0	148	98	50	0	helmsley.dur.scotgrid.ac.uk:2119/jobmanager-lcgpbs-grid
544	0	0	0	0	0	svr016.gla.scotgrid.ac.uk:2119/jobmanager-lcgpbs-ilc
24	12	0	0	0	0	epgcel.ph.bham.ac.uk:2119/jobmanager-lcgpbs-ilc
24	12	1	0	1	0	epgcel.ph.bham.ac.uk:2119/jobmanager-lcgpbs-short
18	13	0	0	0	0	epgce2.ph.bham.ac.uk:2119/jobmanager-lcgpbs-ilc
18	13	0	0	0	0	epgce2.ph.bham.ac.uk:2119/jobmanager-lcgpbs-short
74	0	0	0	0	0	t2ce02.physics.ox.ac.uk:2119/jobmanager-lcgpbs-ilc
74	0	2	1	1	0	t2ce02.physics.ox.ac.uk:2119/jobmanager-lcgpbs-short
266	12	3	0	3	0	heplnx206.pp.rl.ac.uk:2119/jobmanager-lcgpbs-short
266	12	0	0	0	0	heplnx206.pp.rl.ac.uk:2119/jobmanager-lcgpbs-ilc
266	12	3	0	3	0	heplnx207.pp.rl.ac.uk:2119/jobmanager-lcgpbs-short
266	12	0	0	0	0	heplnx207.pp.rl.ac.uk:2119/jobmanager-lcgpbs-ilc
62	40	0	0	0	0	ce.bfg.uni-freiburg.de:2119/jobmanager-pbs-ilc
1508	0	0	0	0	0	cmsosgce.fnal.gov:2119/jobmanager-condor-ilc
1508	0	0	0	0	0	cmsosgce2.fnal.gov:2119/jobmanager-condor-ilc



All ILC SEs

Avail Space (Kb)	Used Space (Kb)	Type	SEs
13165972	121035328	n.a	grid-se2.desy.de
239240031	69997615	n.a	grid-se3.desy.de
316870895	10528995269	n.a	srm-dcache.desy.de
8916777745	8118965742	n.a	globe-door.ifh.de
1	1	n.a	fndcal.fnal.gov
1348271232	2560250944	n.a	fermigrid1.fnal.gov
478170000	n.a	n.a	node12.datagrid.cea.fr
1150000000	36789696	n.a	grid05.lal.in2p3.fr
2617294548	842887812	n.a	polgrid2.in2p3.fr
1	1	n.a	polgrid4.in2p3.fr
1280000000	n.a	n.a	dg11.cc.kek.jp
684050000	n.a	n.a	rls06.cc.kek.jp
1010812	106366222	n.a	dcache.gridpp.rl.ac.uk
n.a	n.a	n.a	srm.epcc.ed.ac.uk
70434316	39082412	n.a	se-01.cs.tau.ac.il
5110000000	61766	n.a	dgc-grid-34.brunel.ac.uk
4155763319	156383846	n.a	gfe02.hep.ph.ic.ac.uk
n.a	6230340	n.a	se01.esc.qmul.ac.uk
3030000000	6307858	n.a	se1.pp.rhul.ac.uk
7019285955	3253202076	n.a	fal-pygrid-20.lancs.ac.uk
n.a	n.a	n.a	segrid1.ph.liv.ac.uk
85476335000	1	n.a	dcache01.tier2.hep.manchester.ac.uk
n.a	n.a	n.a	dcache02.tier2.hep.manchester.ac.uk
800010000	n.a	n.a	gallows.dur.scotgrid.ac.uk
2960000000	n.a	n.a	svr018.gla.scotgrid.ac.uk
1431480000	5712597	n.a	epgse1.ph.bham.ac.uk
107250000	74549	n.a	t2se01.physics.ox.ac.uk
131020295	51705	n.a	heplnx204.pp.rl.ac.uk
n.a	n.a	n.a	se.bfg.uni-freiburg.de
4780640800	5956777440	n.a	cmsosgce2.fnal.gov



All CALICE CEs

#CPU	Free	Total	Jobs	Running	Waiting	Computing	Element
4	4	0		0	0		lcg02.ciemat.es:2119/jobmanager-lcgpbs-calice
240	0	20		20	0		grid-ce0.desy.de:2119/jobmanager-lcgpbs-calice
114	1	77		12	65		grid-ce2.desy.de:2119/jobmanager-lcgpbs-calice
165	165	0		0	0		grid-ce3.desy.de:2119/jobmanager-lcgpbs-default
165	165	0		0	0		grid-ce3.desy.de:2119/jobmanager-lcgpbs-testing
108	46	18		18	0		lcg-ce0.ifh.de:2119/jobmanager-lcgpbs-calice
102	0	1		0	1		grid10.lal.in2p3.fr:2119/jobmanager-pbs-calice
100	76	0		0	4444		polgrid1.in2p3.fr:2119/jobmanager-pbs-calice
226	142	84		74	10		cclcgceli02.in2p3.fr:2119/jobmanager-bqs-short
4648	4632	16		2	14		cclcgceli02.in2p3.fr:2119/jobmanager-bqs-medium
98	98	0		0	0		cclcgceli02.in2p3.fr:2119/jobmanager-bqs-long
52	48	4		0	4		cclcgceli03.in2p3.fr:2119/jobmanager-bqs-short
996	996	0		0	0		cclcgceli03.in2p3.fr:2119/jobmanager-bqs-medium
8	8	0		0	0		cclcgceli03.in2p3.fr:2119/jobmanager-bqs-long
14	4	11		10	1		dg10.cc.kek.jp:2119/jobmanager-lcgpbs-calice
44	0	0		0	0		rls02.cc.kek.jp:2119/jobmanager-lcgpbs-calice
60	28	10		0	10		gw39.hep.ph.ic.ac.uk:2119/jobmanager-lcgpbs-calice
188	2	2		2	0		ce00.hep.ph.ic.ac.uk:2119/jobmanager-sge-30min
188	2	452		186	266		ce00.hep.ph.ic.ac.uk:2119/jobmanager-sge-72hr
1888	120	949		343	600		hep-ce.cx1.hpc.ic.ac.uk:2119/jobmanager-pbs-heplt2
104	60	30		24	6		pc90.hep.ucl.ac.uk:2119/jobmanager-lcgpbs-lcgcalice
824	435	0		0	0		hepgrid2.ph.liv.ac.uk:2119/jobmanager-lcgpbs-calice
834	668	1		0	1		ce01.tier2.hep.manchester.ac.uk:2119/jobmanager-lcgpbs-calice
842	661	0		0	0		ce02.tier2.hep.manchester.ac.uk:2119/jobmanager-lcgpbs-calice
24	12	9		8	1		epgcel.ph.bham.ac.uk:2119/jobmanager-lcgpbs-calice
24	12	1		0	1		epgcel.ph.bham.ac.uk:2119/jobmanager-lcgpbs-short
18	13	0		0	0		epgce2.ph.bham.ac.uk:2119/jobmanager-lcgpbs-calice
18	13	0		0	0		epgce2.ph.bham.ac.uk:2119/jobmanager-lcgpbs-short
140	138	1913		616	1297		serv03.hep.phy.cam.ac.uk:2119/jobmanager-lcgcondor-calice

All CALICE SEs

Avail	Space (Kb)	Used	Space (Kb)	Type	SEs
596220000		271322		n.a	dpmsrm.ciemat.es
13165972		121035328		n.a	grid-se2.desy.de
239240031		69997615		n.a	grid-se3.desy.de
69924040		2008660		n.a	srm-dcache.desy.de
8916522117		8119221370		n.a	globe-door.ifh.de
2780000000		392938193		n.a	grid05.lal.in2p3.fr
2617294548		842887812		n.a	polgrid2.in2p3.fr
1		1		n.a	polgrid4.in2p3.fr
15825906888		280220472		n.a	ccsrm02.in2p3.fr
1280000000		n.a		n.a	dg11.cc.kek.jp
684050000		n.a		n.a	rls06.cc.kek.jp
1		1		n.a	goliass100.farm.particle.cz
8295480		6309928		n.a	goliass26.farm.particle.cz
4155763361		156383804		n.a	gfe02.hep.ph.ic.ac.uk
3910		n.a		n.a	pc55.hep.ucl.ac.uk
85476335000		13019		n.a	dcache01.tier2.hep.manchester.ac.uk
n.a		n.a		n.a	dcache02.tier2.hep.manchester.ac.uk
2931480000		95011103		n.a	epgse1.ph.bham.ac.uk
313060000		5217437		n.a	serv02.hep.phy.cam.ac.uk

Some (non-representative) user feedback

- ILC:
 - DESY-HH, DESY-ZN and TAU work fine in general
 - in addition good experience with CC IN2P3 (after initial problems)
 - problems with running on “random” sites in UK and France (not investigated any further, might be fixed now)
 - problems with Freiburg after they moved to pure gLite CE
- CALICE:
 - job success rate: ~ 90 % – 95 %
 - used sites in France, Germany, Japan, Spain, UK
 - overall satisfying performance
 - some complains about network bandwidth: generally all institutes have good connections to CERN but transfers between other institutes often rather slow (e. g. DESY – CC IN2P3: 3-4 MBytes/s ⇒ takes more than a month to replicate CALICE's 13 TB of data!)

Conclusions

- EUDET funded hardware is timely integrated into existing sites DESY and TAU
- Bonn is well advanced and likely to start contributing ilc computing resources until autumn
- Offered and *used* ilc and calice grid resources are increasing with time
- Large fluctuations as function of time and site in grid usage
- User feedback shows that the grid is of great help for ilc/calice related work
- But it might take some time to set up a job submission framework which catches important potential exceptions which occur from time to time (some patience is needed)

Ideas to increase utilisation

- Advertise the available resources
- More organised production of MC samples: production team?
- Common job submission framework: Marlin extension for Ganga?
- Better meta-data management: MC database revival?