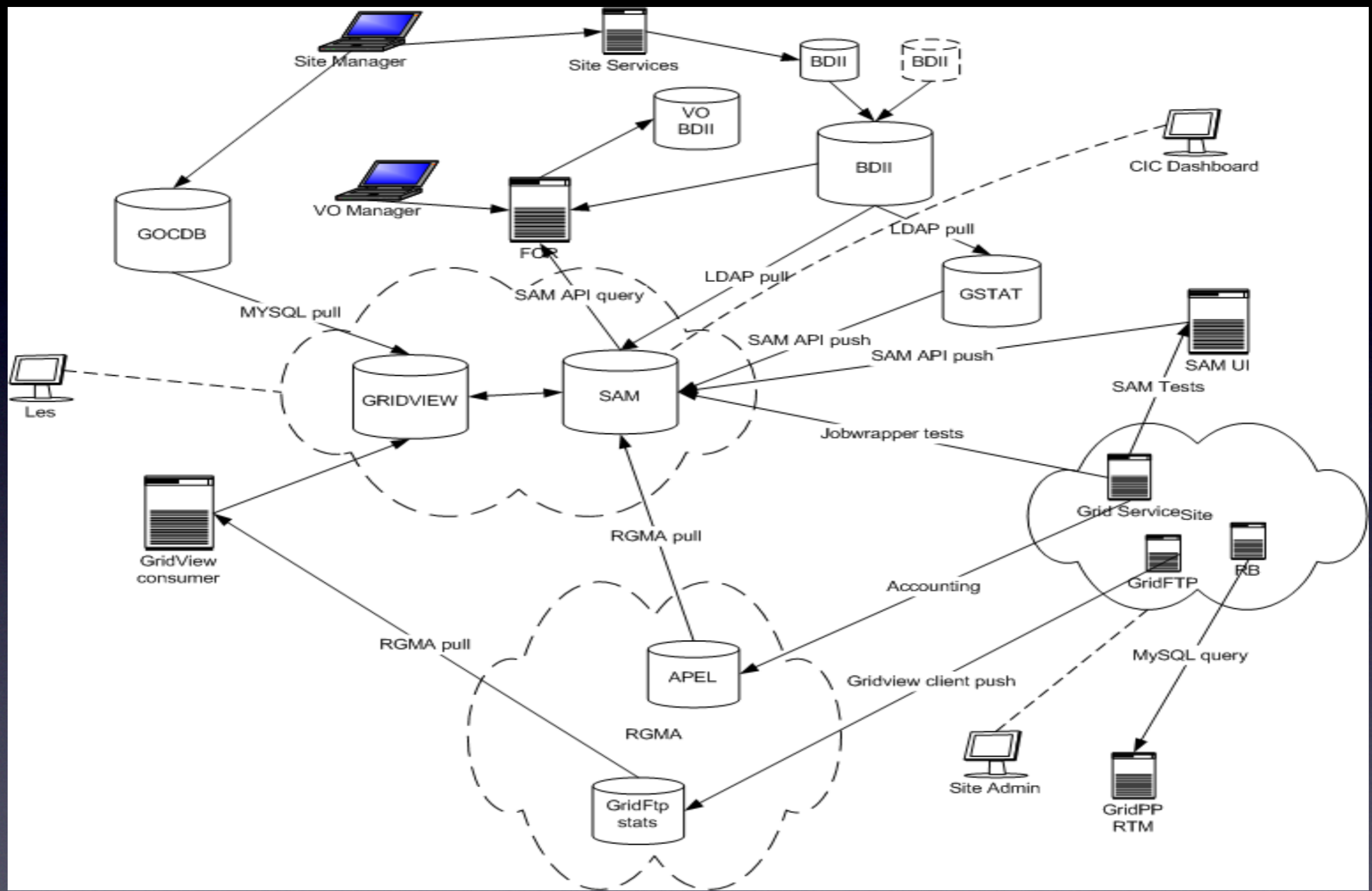


Monitoring & Accounting

Andrew Elwell (Andrew.Elwell@cern.ch)

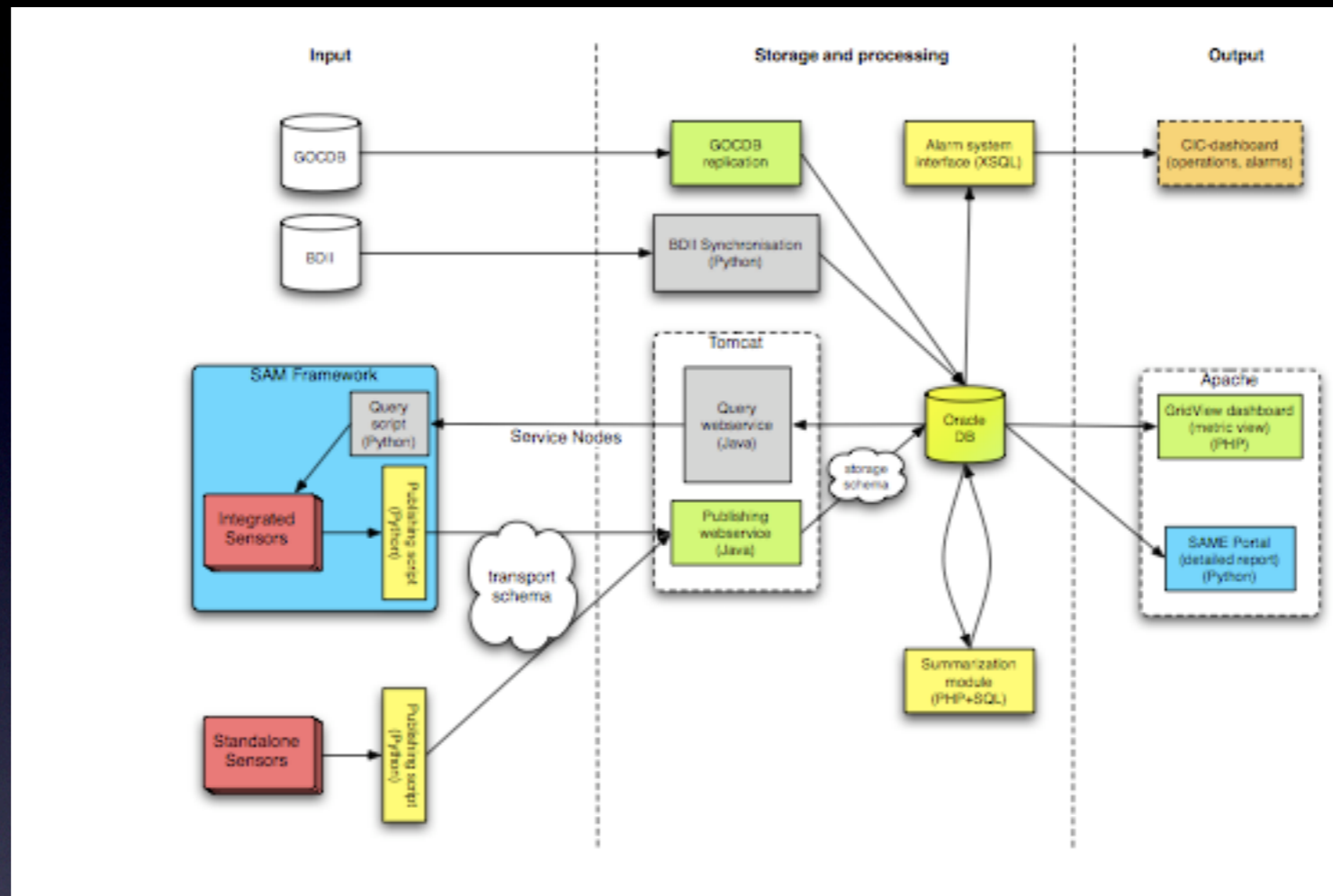
Outline

- SAM framework
- Site reports and availability
- Plans for Nagios and alarms
- APEL accounting
- Storage accounting



SAM Framework

- Series of tests run from cern with various VOMS roles (ops / experiments)
- SE, CE, WN checks
- tests can be written by experiments (software install checks etc)
- Central logging DB -> Web & XML report
- Used as official availability figures



<https://lcg-sam.cern.ch:8443/sam/sam.py>

SAM test: *CE-sft-lcg-rm*
Submitter VO: *ops*
Node: *dgc-grid-44.brunel.ac.uk*
Execution time: *22-Oct-2008 07:09:08*

LFC_HOST=prod-lfc-shared-central.cern.ch

Replica Management tests using lcg-utils

Note: this is a super-test that contains a number of replica management tests!

Test	Result
CE-sft-lcg-rm-gfal	OK
CE-sft-lcg-rm-free	OK
CE-sft-lcg-rm-cr	OK
CE-sft-lcg-rm-cp	OK
CE-sft-lcg-rm-rep	OK
CE-sft-lcg-rm-del	OK

Overall summary: OK

Contact: If you have any questions, please submit a [GGUS ticket](#), assigned to the test submitter VO

‘Steve Lloyd’ tests

- Aggregates some critical SAM tests and home-grown job results
- Gives a quick (if ATLAS biased) view of GridPP status
- Watched by GridPP PMB (“why are we red?”)
- <http://pprc.qmul.ac.uk/~lloyd/gridpp/>

ATLAS Tests

Institute	Release	Replica	Hello World										New Package										User Analysis										Last 24 hrs	Status	
UKI-SOUTHGRID-BHAM-ESCI	14.2.23	DPM	S	S	S	F	S	S	S	S	S	S	C	S	S	S	F	S	S	S	S	S	C	S	S	S	S	C	S	S	S	S	S	91%	
UKI-SOUTHGRID-BHAM-HEP	14.2.23	DPM	X	X	C	C	C	C	C	C	C	C	X	X	C	C	C	C	C	C	C	C	X	X	C	C	C	C	C	C	C	C	25%		
UKI-SOUTHGRID-BRIS-HEP-01	14.2.23	DPM	S	S	S	F	S	C	S	S	S	C	S	S	F	F	C	C	S	C	C	C	S	S	S	S	C	S	C	C	S	S	90%		
UKI-SOUTHGRID-BRIS-HEP-02	Unknown	DPM																																	
UKI-SOUTHGRID-CAM-HEP	14.2.23	DPM	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	C	S	S	S	S	S	S	S	S	S	S	98%		
UKI-SOUTHGRID-JET	14.2.20	DPM	F	X	C	C	C	C	C	C	C	C	X	X	C	C	C	C	C	C	C	C	X	X	C	C	C	C	C	C	C	C	0%		
UKI-SOUTHGRID-OX-HEP	14.2.23	DPM	S	S	S	S	S	S	S	S	S	S	S	S	S	C	S	S	S	S	S	C	S	S	S	S	C	S	S	S	S	S	97%		
UKI-SOUTHGRID-RALPP	14.2.10	dCache	S	S	S	S	S	S	S	S	S	S	S	S	S	F	S	S	S	S	S	C	S	S	S	S	C	S	S	S	S	S	97%		

SE Tests

Site	SE	Status of Last 10 Tests										Time of Last Test		Overall Time (s)
		9	8	7	6	5	4	3	2	1	0	Submitted	Successful	
UKI-SOUTHGRID-BHAM-ESCI	epgse1.ph.bham.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	29.000
UKI-SOUTHGRID-BHAM-HEP	epgse1.ph.bham.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	30.300
UKI-SOUTHGRID-BRIS-HEP-01	lcgse01.phy.bris.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	25.200
UKI-SOUTHGRID-BRIS-HEP-02	lcgse01.phy.bris.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	23.800
UKI-SOUTHGRID-CAM-HEP	serv02.hep.phy.cam.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	24.100
UKI-SOUTHGRID-JET	grid001.jet.efda.org	F	F	F	F	F	F	F	F	F	F	22/10/08 07:45	20/10/08 07:45	
UKI-SOUTHGRID-OX-HEP	t2se01.physics.ox.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	41.100
UKI-SOUTHGRID-RALPP	heplnx204.pp.rl.ac.uk	S	S	S	S	S	S	S	S	S	S	22/10/08 07:45	22/10/08 07:45	22.500

site reports & availability















- GSTAT - <http://goc.grid.sinica.edu.tw/gstat/>
- Gridview - <http://gridview.cern.ch/>
- Weekly production reports





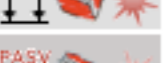












Nagios / Alarms Plans

- *Grid Service Monitoring Working Group*
- Most sites (should) already have monitoring
- Nagios plugins to incorporate grid tests / remote results
- Apache ActiveMQ for scalability

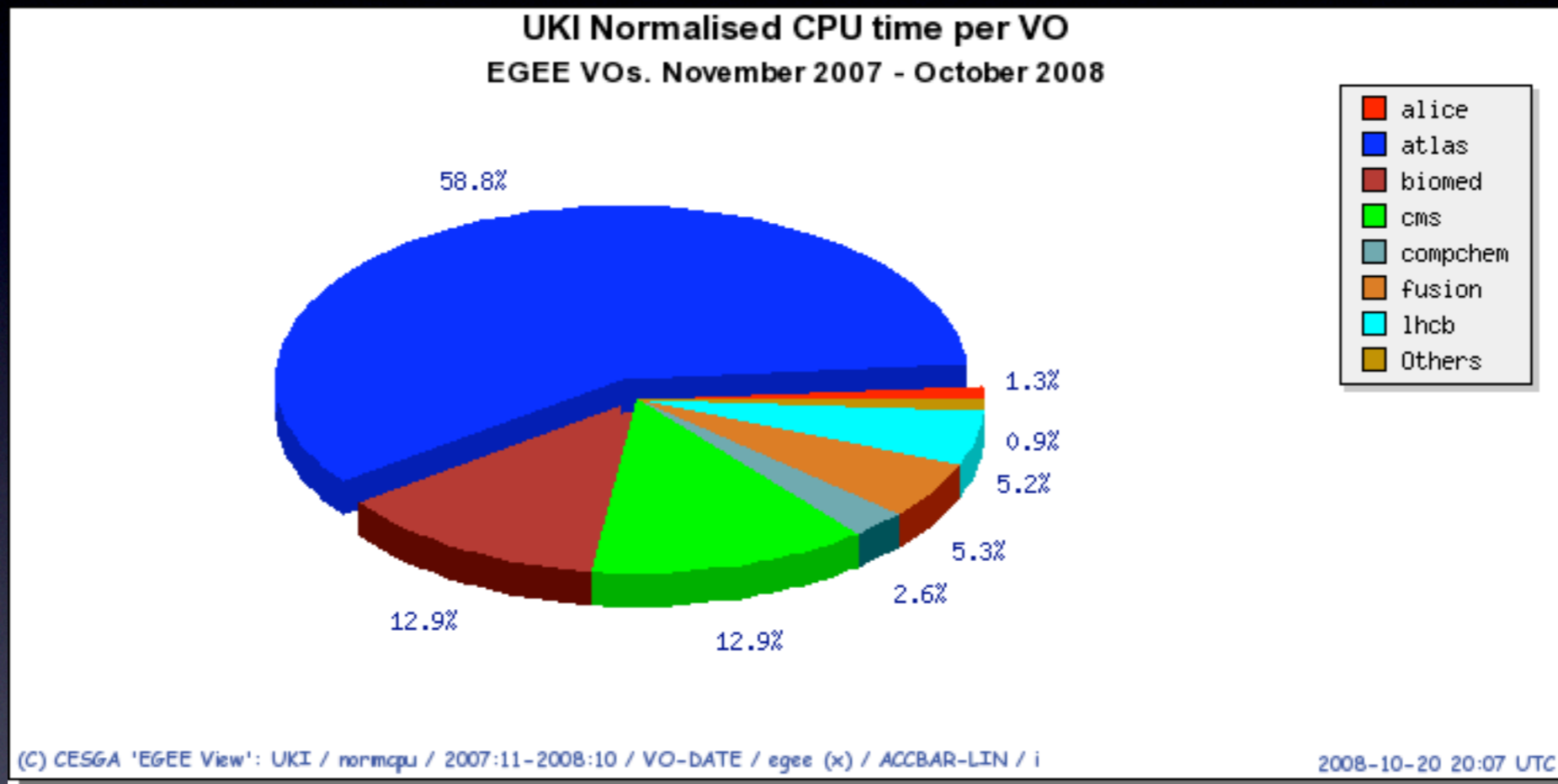
Service Overview For Service Group 'remote'

[remote \(remote\)](#)

Host	Status	Services	Actions
ayton.dur.scotgrid.ac.uk	UP	2 OK	
ce.glite.ecdf.ed.ac.uk	UP	44 OK 3 WARNING 11 CRITICAL	
ce01.dur.scotgrid.ac.uk	UP	83 OK 1 WARNING 3 CRITICAL	
mon.glite.ecdf.ed.ac.uk	UP	9 OK	
se01.dur.scotgrid.ac.uk	UP	22 OK	
srm.epcc.ed.ac.uk	UP	10 OK 1 CRITICAL	
srm.glite.ecdf.ed.ac.uk	UP	17 OK 6 CRITICAL	
svr018.gla.scotgrid.ac.uk	UP	22 OK	
svr019.gla.scotgrid.ac.uk	UP	3 OK	
svr021.gla.scotgrid.ac.uk	UP	75 OK 1 WARNING 1 CRITICAL	
svr022.gla.scotgrid.ac.uk	UP	3 OK	
svr029.gla.scotgrid.ac.uk	UP	2 OK	
svr030.gla.scotgrid.ac.uk	UP	11 OK	
ui.glite.ecdf.ed.ac.uk	UP	11 OK	

SRMv2-ATLAS-lcg-cp-Atlas		CRITICAL	10-22-2008 07:52:46	45d 12h 50m 32s	1/1	SAM status: error
SRMv2-ATLAS-lcg-cr-Atlas		CRITICAL	10-22-2008 07:52:46	45d 12h 50m 32s	1/1	SAM status: error
SRMv2-ATLAS-lcg-del-Atlas		CRITICAL	10-22-2008 07:52:46	45d 12h 50m 32s	1/1	SAM status: error
SRMv2-del-OPS		OK	10-22-2008 07:56:54	44d 23h 35m 58s	1/1	SAM status: ok
SRMv2-get-OPS		OK	10-22-2008 07:56:52	29d 22h 32m 58s	1/1	SAM status: ok
SRMv2-get-SURLs-OPS		OK	10-22-2008 07:56:33	44d 23h 36m 16s	1/1	SAM status: ok
SRMv2-gt-OPS		OK	10-22-2008 07:56:47	36d 21h 35m 1s	1/1	SAM status: ok
SRMv2-host-cert-valid-OPS		OK	10-22-2008 08:09:24	0d 13h 22m 16s	1/1	SAM status: ok
SRMv2-ls-OPS		OK	10-22-2008 07:56:41	44d 23h 36m 9s	1/1	SAM status: ok
SRMv2-ls-dir-OPS		OK	10-22-2008 07:56:35	44d 23h 36m 15s	1/1	SAM status: ok
SRMv2-put-OPS		OK	10-22-2008 07:56:40	44d 23h 36m 10s	1/1	SAM status: ok
hr.srce.CAdist-Version		CRITICAL	10-21-2008 16:48:52	17d 15h 43m 16s	4/4	Official IGTF version is 1.25. Old CA distribution version found, new version is 22 days old.
hr.srce.DPNS-List		CRITICAL	10-22-2008 08:19:48	31d 19h 28m 3s	4/4	Listing content of /dpm succeeded. Unable to find domain subdirectory glite.ecdf.ed.ac.uk in: ecdf.ed.ac.uk.
hr.srce.GridFTP-Transfer		CRITICAL	10-22-2008 08:04:20	15d 18h 13m 16s	4/4	Upload to remote computer failed failed with error: globus_ftp_client: the server responded with an error500 Command failed. : open/create error: Connection closed by remote end
hr.srce.SRM-Transfer		OK	10-22-2008 07:48:52	8d 8h 43m 16s	1/4	Upload to remote computer succeeded. Download from remote computer succeeded. File successfully removed from remote computer. Received file is valid.
hr.srce.SRM1-CertLifetime		OK	10-21-2008 21:59:52	20d 10h 32m 16s	1/4	Certificate will expire in 295.80 days (Aug 13 16:11:07 2009 GMT).
hr.srce.SRM1-Ping		OK	10-22-2008 08:24:46	20d 8h 22m 23s	1/4	SRM ping successful.
hr.srce.SRM2-CertLifetime		OK	10-21-2008 13:48:52	31d 18h 43m 16s	1/4	Certificate will expire in 296.14 days (Aug 13 16:11:07 2009 GMT).
org.egee.npm.SE		OK	10-22-2008 08:22:10	34d 20h 41m 56s	1/1	OK
org.egee.npm.SRM		OK	10-22-2008 08:22:24	34d 20h 41m 53s	1/1	OK
org.nagios.BDII-Check		OK	10-22-2008 08:19:48	46d 7h 47m 14s	1/4	LDAP OK - 0.095 seconds response time
org.nagios.GridFTP-Check		OK	10-22-2008 08:19:48	15d 20h 12m 23s	1/4	FTP OK - 0.046 second response time on port 2811 [220 srm.glite.ecdf.ed.ac.uk GridFTP Server 2.3 (gcc64dbg, 1144436882-63) ready.]
org.nagios.SRM1-PortCheck		OK	10-22-2008 08:19:48	46d 7h 41m 49s	1/4	TCP OK - 0.013 second response time on port 8443
org.nagios.SRM2-PortCheck		OK	10-22-2008 08:19:48	46d 7h 39m 25s	1/4	TCP OK - 0.013 second response time on port 8446

APEL Accounting



- <http://www3.egee.cesga.es/gridsite/>

Storage Accounting

- Greig Cowan - Storage Versions / Space tokens

Other Stuff...

- Network Monitoring
- FTS Monitoring
- Experiment Dashboards
- Production Monitoring

```

svr021:/opt/lcg/libexec# diff -u lcg-info-dynamic-software.orig
lcg-info-dynamic-software
--- lcg-info-dynamic-software.orig    2007-11-22 14:25:02.000000000 +0000
+++ lcg-info-dynamic-software        2008-10-10 22:02:15.000000000 +0100
@@ -1,8 +1,10 @@
#!/usr/bin/perl -w

use strict;
+use IO::Dir;

my $path="/opt/edg/var/info";
+my $ngspath="/usr/ngs";
my @output; # Idif output that is sent to std out.
my @dirs;   # The contents of the path
my @ldif_file; # Content of the static Idif file
@@ -23,7 +25,7 @@
    exit 1
}

-#Finds the installed software
+#Finds the installed software (glite)
@dirs=`ls $path`;
foreach(@dirs){
    chomp;
@@ -40,6 +42,13 @@
}
}

+# Do the same for the NGS software
+my @tags = sort grep { /^[A-Z0-9]+_?/ } ( IO::Dir->new($ngspath)->read );
+for my $t (@tags) {
+    push @exp_soft, "GlueHostApplicationSoftwareRunTimeEnvironment: NGS-$t\n";
+    push @exp_soft, "GlueHostApplicationSoftwareRunTimeEnvironment: $t\n";
+}
+
#Produces the output from the static Idif file and the install software.
for (@ldif_file){
    if(/dn:\s+GlueSubClusterUniqueID=/){

```