

1/11
 Cluster's almost full.
 To update phedex cert:
 source setup.sh in OSG
 \$ grid-proxy-init -valid 720:00
 \$ cp /tmp/x509up_u531 /sandbox/phedex/gridcert/proxy.cert
 \$./PHEDEX/Utilities/Master -config SITECONF/T3_US_FIT/PhEDEx/Config.Prod start

NOTE: Had to manually mount /mnt/nas0 on dev-0-0 otherwise the SAM tests fail.

1/12
 Had to fix the FileDownloadDelete script for phedex today. Copied UMD's configuration, should work now.

Copied FNALXEN configuration, the script works manually, but I believe that the files are considered deleted by phedex, even though they are still there.

2/4

For CVS updates

```
cd SITECONF/T3_US_FIT
export CVS_RSH=/usr/bin/ssh
export CVSRROOT=:ext:pford@cmsscvs.cern.ch:/cvs_server/repositories/CMSSW
cvs commit
OR
cvs add <file>
```

3/4

Need to fix the OSG RSV issue.
 Found whetstone.c and linpack.c benchmarks... confirmed that each cluster CPU contributes 1.5MFLOPS

3/30

Had to do the following to fix authentication handshake issue on the SE

```
sudo ln -s /mnt/nas0/OSG/GRID/globus/share/certificates-1.13
/mnt/nas0/OSG/GRID/globus/share/certificates
sudo ln -s /mnt/nas0/OSG/GRID/globus/share/certificates /mnt/nas0/OSG/GRID/globus/TRUSTED_CA
```

3/31

Updating the VDT on the CE. Authentication of the SE gridftp server still not working.

The fix is easy. Modify \$VDT_LOCATION/osg/lib/python/configure_osg/modules/utilities.py:344 from this:

```
entry = re.compile('^s*[a-zA-Z0-9_-]+\s+[a-zA-Z0-9_-]+\s*$')
```

...to this:

```
entry = re.compile('^s*[a-zA-Z0-9_-]+\s+[a-zA-Z0-9\.\_-]+\s*$')
```

Copied from the old installation:
 osg-user-vo-map.txt

RSV not working...

```
/DC=org/DC=doegrids/OU=Services/CN=rsv/foo.bar.edu
```

To Manual group members...

```
$VDT_LOCATION/vdt/setup/configure_bestman --server y \ --user daemon \ --cert /etc/grid-
security/containercert.pem \ --key /etc/grid-security/containerkey.pem \
```

```
--http-port 8080 \ --https-port 8443 \ --gums-host uscms1.fltech-grid3.fit.edu \ --gums-port 8443 \ -  
-enable-gateway \ --with-allowed-paths=/mnt/nas0/OSG/BeStMan \ --with-transfer-servers  
gsiftp://uscms1-se.fltech-grid3.fit.edu
```

4/1

CRL Issue might be causing authentication issue

```
[root@uscms1-se osg-se]# /sandbox/osg-se/fetch-crl/share/doc/fetch-crl-2.6.6/fetch-crl.cron  
fetch-crl[15322]: 20100401T124009-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/9ff26ea4.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124013-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/b2771d44.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124013-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/b7bcb7b2.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124013-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/b93d6240.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124014-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/ba2f39ca.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124015-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/bffbd7d0.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124015-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/c48c63f3.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124016-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/cc800af0.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124019-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/ce33db76.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124020-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d0b701c0.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124020-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d0c2a341.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124021-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d11f973e.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124022-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d1737728.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124023-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d1b603c3.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124023-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/d254cc30.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124024-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/da75f6a8.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124025-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/dd4b34ea.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124025-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e13e0fcf.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124025-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e1fce4e9.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124025-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e5cc84c2.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124026-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e72045ce.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124026-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e8ac4b61.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124027-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/e8d818e6.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124027-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/edca0fc0.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124027-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/f2e89fe3.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124028-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/f5ead794.r0 failed since the original is not a valid CRL file  
fetch-crl[15322]: 20100401T124029-0400 Attempt to overwrite /sandbox/osg-  
se/globus/TRUSTED_CA/ff94d436.r0 failed since the original is not a valid CRL file
```

Removing all .r0 files and rerunning fetch-crl.cron

Using config

```
$VDT_LOCATION/vdt/setup/configure_bestman --server y \  
--user daemon \  
--cert /etc/grid-security/containercert.pem \  
--key /etc/grid-security/containerkey.pem \  
--http-port 8080 \  
--https-port 8443 \  
--gums-host uscms1.fltech-grid3.fit.edu \  
--gums-port 8443 \  
--enable-gateway \  
--with-allowed-paths=/mnt/nas0/OSG/BeStMan \  
--with-transfer-servers gsiftp://uscms1-se.fltech-grid3.fit.edu
```

PhEDEx appears to be working fine.

To remove VOs from GUMS authentication, remove them from host to group mappings.

4/6

Reinstalling the updated worker-node client on the NAS

<https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/WorkerNodeClient>

Adding to condor_config

```
PER_JOB_HISTORY_DIR=/opt/osg-1.2/gratia/var/data
```

4/16

Trying to remove the RSV jobs

Going to disable GUMS and Gridftp probes since if SRM probe is working then Gridftp is definitely working.

To prevent probes from running:

1) set this to disable in the config.ini

```
enable_gums_probes = %(disable)s
```

2) Delete the submission file at

```
$VDT_LOCATION/osg-rsv/submissions/probes/*__gums-authorization-validator-  
probe\@org.osg.gums.authorization-status.sub
```

3) Restart osg-rsv if it is running

```
vdt-control --off osg-rsv
```

```
vdt-control --on osg-rsv
```

4/20

Trying to fix CRAB jobs... might have to do with CMSSW not being reported by SAM tests.

Fixed the batch line in the config.ini under GIP configuration - changed to condor.

```
batch = condor
```

BDII is now receiving information

Use command:

```
/mnt/nas0/OSG/GRID/openldap/bin/ldapsearch -xLLL -p 2170 -h exp-bdii.cern.ch -b o=grid "  
(GlueCESEBindGroupSEUniqueID=uscms1-se.fltech-grid3.fit.edu)"
```

Yes, CRAB is working now due to fixing GIP and subsequently SAM tests.

To remove Gridftp from RSV monitoring on myosg dashboard, remove Gridftp service from both FLTECH and FLTECH-SE. We are now green.

5/6

Doing a quick fix for CEMon

To help workaroud a potential issue at the central Indiana CEMon collector / BDII, it's important that you make a small configuration change.

In \$VDT_LOCATION/glite/etc/glite-ce-monitor/cemonitor-config.xml:

There's an XML stanza

```
<subscription id="subscription-http___is2_grid_iu_edu_14001-OSG_CE-RAW"
with <policy rate="300">
--
```

Please change the policy rate to 299 instead of 300 _for only one of the subscriptions_. In other words, your CE will send information to is1.grid.iu.edu every 300s and is2.grid.iu.edu every 299s (or vice-versa).

Restart tomcat

5/18

Renewing the host, http, and RSV certificates/keys

Trying to figure out how
<https://twiki.grid.iu.edu/bin/view/Security/CertScriptsPackage>

Also redoing group organization, moving all user accounts to users and OSG accounts to osgusers.

Also g4hep, g4cs and gemhep are in mtusers

Setting up proxyrenew script in /sandbox/phedex/gridcert

To remove strange characters in files
`sed -i s/{ctrl+v}{ctrl+m}// filename`

or `dos2unix <filename>`

5/20

Had an issue with corrupted CRL files again... deleted them and ran `fetch-crl.cron`
This might fix the SAM test issue

5/25

Editing user creation script to be completely automated.

Still need to renew the host, http, rev certs, sent an email to the OSG RA to become a gridadmin, then I can use the cert scripts package listed above.

Gridadmin access granted

Hi Patrick,
Your certificate, serial# 0x89F6 has been installed for gridadmin access to the DOEGrids CA. The privilege will expire with your certificate on Aug. 28, 2010. Let me know if you have any problems.
Doug

5/27

```
/opt/osg/cert-scripts/bin/cert-gridadmin --host uscms1.fltech-grid3.fit.edu --service http --email pford@my.fit.edu --affiliation osg --vo cms --prefix http-uscms1
```

```
/opt/osg/cert-scripts/bin/cert-gridadmin --host uscms1.fltech-grid3.fit.edu --service rsv --email pford@my.fit.edu --affiliation osg --vo cms --prefix rsv-uscms1
```

```
/opt/osg/cert-scripts/bin/cert-gridadmin --host uscms1.fltech-grid3.fit.edu --email pford@my.fit.edu --affiliation osg --vo cms --prefix host-uscms1
```

Don't forget to copy host cert to containercert
httpcert/key need to be owned by daemon!

Updated all the uscms1 certs. uscms1-se expire in September
Use
openssl x509 -in <cert> -noout -enddate

Weird!
SRM-ping does not work with jumbo frames!
Switching to jumbo frames (MTU 9000) for eth0 ONLY

6/2

Playing around with Hadoop and HDFS
<http://hadoop.apache.org/common/docs/current/quickstart.html#Prepare+to+Start+the+Hadoop+Cluster>
http://hadoop.apache.org/common/docs/current/cluster_setup.html#Pre-requisites
http://hadoop.apache.org/common/docs/current/hdfs_user_guide.html#Pre-requisites
<http://hadoop.apache.org/common/docs/current/>

To replace the end of a line with a : (useful for hosts.deny file)
:%s/\$/:/g

condor_rm sguragain -forcex -constraint JobStatus == "5"
This might not work properly...

<https://iogw1.hpc.ufl.edu:40960/12404/1275570785/>
<https://iogw1.hpc.ufl.edu:40970/32424/1275578339/>
<https://iogw1.hpc.ufl.edu:40979/26436/1275570813/>

<https://pg.ihepa.ufl.edu:41140/6575/1275583112/>
Globus error 17: the job failed when the job manager attempted to run it

```
condor_q sguragai -long -constraint JobStatus=="5" | grep
```

```
cat SamirJobs | xargs cat | grep JM-Contact | grep ufl
```

cluster-fork onto the compute nodes the firewall rule for GLOBUS ports:
iptables -A INPUT -p tcp --dport 40000:45000 -j ACCEPT
iptables -A OUTPUT -p tcp --dport 40000:45000 -j ACCEPT
/sbin/service iptables save

6/5

SAM jobs failing due to proxy issue, killed the process for grid_manager_monitor_agent for uscms01 since it probably hung.
Also updated the CRLs manually.

Fix proxyrenew script.

6/8
Updated log on the wiki.

Install nagios again.

To fix the crontab for users... trying to just put the commands directly into /etc/crontab

6/9

Topics for meeting:

Ask about storage, configuration, what to buy for our needs

Worth purchasing faster CPUs?

Grid security and proxies

GUMS, RSV, SAM

6/14

Topics for June 16th:

Startup/shutdown sequence

Useful commands: cluster-fork, insert-ethers, rocks sync config, rocks sync users, vdt-control

User administration (script, groups)

Regular scripts (crontab etc)

Web interfaces, tw_cli - 3ware 888, APC 3052, VDT 8080

Machine access to special mounts (e.g. GRID)

Exercise: Issue with crontab

6/15

NOTE: To redirect stderr to stdout, use 2>&1

To start/stop phedex:

ssh phedex@uscms1-se.fltech-grid3.fit.edu

cd /sandbox/phedex

./PHEDEX/Utilities/Master -config SITECONF/T3_US_FIT/PhEDEx/Config.Prod stop

NOTE: Had to add HOME=/home/phedex to the proxyrenew script since the /etc/crontab file sets HOME=/ by default... this was causing the script to look for the usercert and key in the wrong place.

6/16

To fix the user crontab issue on nodes other than the frontend, had to add no_root_squash to the /export entry in /etc/exports. Root was being squashed on the SE, so the home directory for phedex couldn't be accessed by root to set up crontab.

To set the loglevels (e.g. for cron) configure /etc/syslog.conf

6/20

Topics for 6/23

Condor

OSG software stack

Storage configurations

6/21

sudo yum list

to get list of packages

We already have opengl stuff and Subversion

http://www.howtoforge.com/preventing_ssh_dictionary_attacks_with_denyhosts

Have set up denyhosts on both CE and SE! Working!

It's picked up several addresses from the FLTECH domain and added them to hosts.deny. Apparently the script doesn't

6/22

Getting rpmforge release from http://apt.sw.be/redhat/el5/en/x86_64/RPMS.rpmforge/rpmforge-release-0.5.1-1.el5.rf.x86_64.rpm

6/23

Topics:

Condor config and management, cluster structure, commands

OSG software, security

DenyHosts

NAS Hardware

Next week we will set up a testbed system for them to learn from.

Notes for monday meeting:

OpenGL + Subversion stuff is up

DenyHosts security

Setting up a test bed for IT to learn from

Started discussion with SiMech

Investigate jumbo frames for internal network, look for dropped packets on the Cisco switch

Testing out NFS4

<http://www.crazysquirrel.com/computing/debian/servers/setting-up-nfs4.jsp>

Works!

```
sudo time dd if=/dev/zero of=/mnt/nas0/testfile5 bs=64k count=32768
```

<https://twiki.grid.iu.edu/bin/view/Tier3/ClusterNFSSetup>

http://www.centos.org/docs/5/html/Deployment_Guide-en-US/s1-nfs-client-config-autofs.html

I will plan to set up an NFS4 export system on the new NAS under /data under the pseudo mount point /nfs4export.

Note for subversion

```
cvspserver stream tcp nowait root /usr/bin/cvs cvs --allow-root=/home/pauljohn/cvsroot --allow-root=/home/pauljohn/cvsmisc pserver
```

If you want to make the same work under xinetd, you save a config file in /etc/xinetd.d called cvspserver, (where the last line tells it the names of your repositories):

```
service cvspserver
```

```
{
```

```
    socket_type      = stream
```

```
    protocol         = tcp
```

```
    wait             = no
```

```
    user             = root
```

```
    passenv          =
```

```
    server           = /usr/bin/cvs
```

```
    server_args      = --allow-root=/home/pauljohn/cvsroot --allow-root=/home/pauljohn/cvsmisc
```

```
pserver -f
```

```
}
```

This should work

As for OpenGL, got the libglub.so.3 file from

ftp://ftp.muug.mb.ca/mirror/centos/5.4/os/x86_64/CentOS/freeglut-2.4.0-7.1.el5.x86_64.rpm

Errors regarding glib not being recognized - it's not in the RPM database! since I installed it from source code. Trying to use checkinstall to generate RPMs.

7/6

Meeting notes

GTK/GLib not wanting to update via packages, tried making RPM but didn't work, GLib is a dependency for a lot of stuff, don't want to break it. Will ask IT tomorrow in meeting.

Set up a Rocks 5.3 cluster with latest condor - functioning.

7/7

ITB Setup with IT:

Had the osg-user-vo-map.txt error, invalid lines. Copied over the one from the cluster.

7/8

Updated CRAB for samir, got the tarball from

<https://twiki.cern.ch/twiki/bin/viewauth/CMS/CrabClientRelNotes273>

Extracted in /mnt/nas0/OSG/APP/crab and ran ./configure

7/13

To do:

Fix SVN for Will - DONE

Find out what's wrong with the new version of CRAB

To get SVN working for will, wbittner had to be in the svnuser group and I set permissions for /export/svn/wbittner to 770 and for /export/svn to 755.

Pain in the arse.

Trying to set up new version of glite (3.2.7)

<https://twiki.cern.ch/twiki/bin/view/LCG/UiTarInstall>

Copied over the old site-info-ui.def from Bockjoo's installation and adapted it to 3.2.7

7/15

We don't need glite-ui unless we want to submit jobs to EGEE!!! It wouldn't work anyway, since we don't have myproxy installed yet.

Fixed the problem with CRAB by adding the following to /opt/condor/etc/condor_config:

```
GRIDMANAGER_MAX_PENDING_SUBMITS_PER_RESOURCE = 1000
```

```
GRIDMANAGER_MAX_SUBMITTED_JOBS_PER_RESOURCE = 1000
```

And changing scheduler to condor_g in crab .cfg file

Now jobs submit and run successfully.

So all we have to do is update CRAB to get new features.

<https://twiki.cern.ch/twiki/bin/viewauth/CMS/CrabClientRelNotes273>

7/20

Potential fix for hanging jobs

```
$VDT_LOCATION/vdt/etc/vdt-local-setup.sh:
```

```
host=`/bin/hostname -s`
if [ `echo "$host" | grep "compute"` ]; then
    export -n GLOBUS_TCP_SOURCE_RANGE
    export -n GLOBUS_TCP_PORT_RANGE
else
    GLOBUS_TCP_SOURCE_RANGE=40000,45000
    GLOBUS_TCP_PORT_RANGE=40000,45000
    export GLOBUS_TCP_SOURCE_RANGE
    export GLOBUS_TCP_PORT_RANGE
fi
```

7/27

Performing cluster shutdown tomorrow for power outage, scheduled the downtime in OSG OIM from 9 to 2. Updating the kernels on the cluster, this is a great time to do it.

Note that the following entries are essential on the CE iptables in order to enable web access to nodes without a web-interface

```
*nat
```

```
-A POSTROUTING -o eth1 -j MASQUERADE
```

```
COMMIT
```

```
-A FORWARD -i eth1 -o eth0 -m state --state NEW,RELATED,ESTABLISHED -j ACCEPT
```

```
-A FORWARD -i eth0 -j ACCEPT
```

```
# cluster-fork yum update kernel kernel-devel kernel-headers -y
```

7/29

```
-A INPUT -m state --state ESTABLISHED,NEW -p tcp -m tcp --dport 9000:10000 -j ACCEPT
```

```
-A INPUT -m state --state ESTABLISHED,NEW -p udp -m udp --dport 9000:10000 -j ACCEPT
```

Installed the new condor using the instructions at

<https://twiki.grid.iu.edu/bin/view/Tier3/CondorSharedInstall>

This is an install that is shared across the cluster, making it a lot easier to change the

configurations on the nodes - no more kickstart installs! Need to change the extend-compute.xml file to reflect this change.

Note the above iptables config

Note the condor_config.cluster settings, they are important! Condor goes apeshit if the slightest thing is wrong.