Cluster Documentation| Johanna-Laina Fischer (jfischer)

Log On: (ssh) logonname@uscms1.fltech-grid3.fit.edu
enter password
(will be in home directory)

Daily Commands:

condor_q | less
jobs in que, if held or running, idle jobs, size, when submitted, who submitted them, name of job, id for job
to exit press q
top

df -h
partition memory
df --total
total memory
man df for total commands
who
who is logged in, when, where

sam tests : http://dashb-cms-sam.cern.ch/dashboard/request.py/latestresultssmry?siteSelect3=T3&serviceTypeSelect3=vo&sites=T3_US_FIT&services=CE&services=SRMv2&tests=1301&tests=133&tests=111&tests=6&tests=1261&tests=76&tests=64&tests=20&tests=281&tests=882&exitStatus=all

CE: Computing Element
SRMv2: Storage Element

gratia: http://myosg.grid.iu.edu

Contacts:

Bockjoo Kim: CMS software, HyperNews at UF
CMS Software Problems
Samir Needs specific version, email Bockjoo
bockjoo@phys.ufl.edu
Yujun Wu: Network Stuff, Systems Analyist? at UF
Network Problems, usually FIT's problem, but he can help
yujun@phys.ufl.edu
HyperNews: (Mailing List)
Grid Problem
OSG Storage
Mailing Lists

What Things Mean:
BestMan: Berlkeley Storage Manager, allows communication with local storage from the grid
PhEDEx: Physics Experiment Data Exports, transfer of data files, handles anything we import or export out of cluster

Sam Tests: tells us what is working/not working, tell us if CRAB jobs will run or not tells us about PhEDEx (able to transfer something into/out of site)

gratia: Shows us use of cluster

NAS: Network Attached Storage, machine that is attached to the network that has storage on it, not with the grid, storage over network

GUMS: Grid User Management System, a site tool for resource Authorization that addresses the function of mapping grid certificates to local identities

NFS: Network File System, allows a user on a client computer to access files over a network in a manner similar to how local storage is accessed

RAID: Redundant Array of Inexpensive Disks, technology that allows computer users to achieve high levels of storage reliability from low-cost and less reliable PC-class disk-drive components, via the technique of arranging the devices into arrays for redundancy

Most common RAIDs:

RAID 0: Striping feature, the data will be split block by block between the two hard disks.

RAID 1: Mirroring gives, as with striping this setup uses two hard disk drives to produce a single logical drive. Mirroring gives added security for your data at the cost of storage space.

RAID 5: (we use) Uses Mirroring and/or Striping, provides a very redundant fault tolerance in addition to performance advantages allowing data to be safeguarded while only sacrificing the equivalent of one drive's space. RAID-5 requires at least three hard drives of the same size

RAID 6: (we use) Data is striped across several physical drives and dual parity is used to store and recover data. Minimum of 4 disks. Usable capacity is always 2 less than the number of available disk drives in the RAID set.

RAID 10: Combines RAID 0 striping and RAID 1 mirroring. This level provides the improved performance of striping while still providing the redundancy of mirroring.

Raid Efficiency (Table): http://www.pcguide.com/ref/hdd/perf/raid/levels/comp-c.html

DD: Programs to test the speed of the cluster, more actually how long stuff takes, sends packets to write and read documents and times

IPerf: more theoretically what we should be capable of, setup client and server, measures capabiltiy between them, can do it on two different protocals

TCP: better for sending a document (makes sure all pieces get there)

UDP: doesn't check if its getting there okay, lets us know jitter (bad, dont want jitter, variation and time of packets arriving) and packets lost

Registering Proxy every month

NAS notes March 19, 2011:

Created new CD on Friday for ROCKS base CD. Didn't have time to boot it, booting it NOW! Error when booting on failing to determine IP information for eth0.

Mac Address: 00 25 90 33 A3 D8

FRONT END DETECTED THE NAS, IT SHOWED THE MAC ADDRESS!!! we need it to request a kickstart file? Do we need a kickstart file? If so, what now? If not, what now? Added new NAS as NAS appliance.

We tried to quit, it told us that it could not because it was waiting to kickstart, so we are giving it a few more minutes before we reboot.

Emailed Curtis and John, Hypernews, and ROCKS Discussion, hoping for some feedback by Monday.

We need to mount it at some point.

**Error readout from monitor hooked up to front end: error (2006, 'mysql server has gone away'). Has been on since Thursday, we are going login to the front end and try to kill the process. JK we just had to type #clear.

April 8, 2011:

So out of 791 jobs, 719 were held, so I deleted those. They were uscms01, glow, and osg jobs. Sam tests were failing and they all had the same error, which I believe means that the job didn't run. So, I removed the above jobs from the cue, and this will probably let those jobs run and let us pass the sam tests.

Error: Standard Error UI:000000N (something like that), tests failing: sft-job, prod

Uh, this did nothing ☹

April 14, 2011:

Clearing the job cue did not fix anything, we are still failing these SAM tests. OSG jobs go straight to held, even if I release them. So, that sucks.

New issue: Malina emailed Tier 3s and said that we need to update glite-UI to the newest version 3.2.8. Xenia and I tried yum install, yum update, and yum groupupdate to get the newest version, and it didn't work. Malina said it may be in a tarball and that we need to untar it to do so. She gave us these instructions: https://twiki.cern.ch/twiki/bin/view/LCG/UiTarInstall.

I installed tar balls and untared them into /etc/yum.repos.d and tried to update them. I got close. Missing depencencies: libcares.so.0() (64bit) by package: glite-security-gss-2.0.0-6.sl5.x86_64 (glite_updates). This is apparently error #60024. This error, upon further investigation (googling) is because epel.repo needs to be disabled:

mv /etc/yum.repos.d/epel.repo /etc/yum.repos.d/epe.repo.disabled

But, we don't have that file, so scratch that ☹. I guess its error #78331.

Anyways, found c-ares-1.3.0-4.s15.x86_64.rpm and put it in RPM folder (/home/install/rocks-dist/lan/x86_64/RedHat/RPMS/). I did yum install c-ares*.rpm and it installed. Did yum install glite-security-gss.

I asked Malina, and she said:

"Don't use yum to update gLite-UI. Just install a new gLite-UI release
from tarball. If you use a symlink like we do, just point the
gLite-UI symlink to the new release instead of the old release."

Boo. I don't like this response. w/e. I guess I can work on it tomorrow. Boo.

April 27, 20111

Updating Certificates!!!

Domain Name: See Xenia's logs
For Http certificates
$ /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
For RSV certificates
$ /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
For Host Certificates
$ /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
Certificate authority: DOE
Virtual Organization: CMS

Updating SE Cetificates:

$ ssh -dev-0-0
$cd /opt/osg-1.2
you must be root!!

jk go to CE to do this and then transfer to SE
now in CE's /opt/osg-1.2

BTW, we are using
https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/GetGridCertificates#Retrieve_and_Install_the_Host_Ce under "Request a Host Certificate"

So the text in RED we change. Host is: uscms1-se.fltech-grid3.fit.edu

$cert-request -ou s -dir . -label uscms1-se.fltech-grid3.fit.edu
reason: to identify our storage element
administrator's name: Johanna-Laina Fischer
full host name: uscms1-se.fltech-grid3.fit.edu
email: jfischer2009@my.fit.edu
phone number: 3132045810
registration authority: OSG
virtual organization: CMS
...and you agree that you are allowed to update certificates :D
Request ID: 71650

Update CRAB!!! Why? We got an email from Malina with the line "new CRAB Client Release!"
Log into CERN account: xfave (asd.....)
Will get you to: https://twiki.cern.ch/twiki/bin/viewauth/CMS/CrabClientRelNotes278
CRAB Client Release is the first thing on the site!
Download Tarball from site
$cd /mnt/nas0/OSG/APP/crab
opened new terminal which is already at computer's hostname
from that terminal: $scp /home/gridops/Downloads/CRAB_2_7_8.tgz root@uscms1.fltech-grid3.fit.edu:/mnt/nas0/OSG/APP/crab
file location of tarball? Right click, Properties, says complete file location
You will need the root password to do this! Now get rid of gridps terminal!
Need to change username and usergroup of the tarball BEFORE untaring it:
$chown uscms01 CRAB_2_7_8.tgz this changes username
$chown uscms01:uscms01 CRAB_2_7_8.tgz this changes usergroup
untar the tarball:
$ tar -xvf CRAB_2_7_8.tgz

$cd CRAB_2_7_8
(untaring makes this new directory
in directory:
$./configure sets up CRAB
DONE!!!!!!