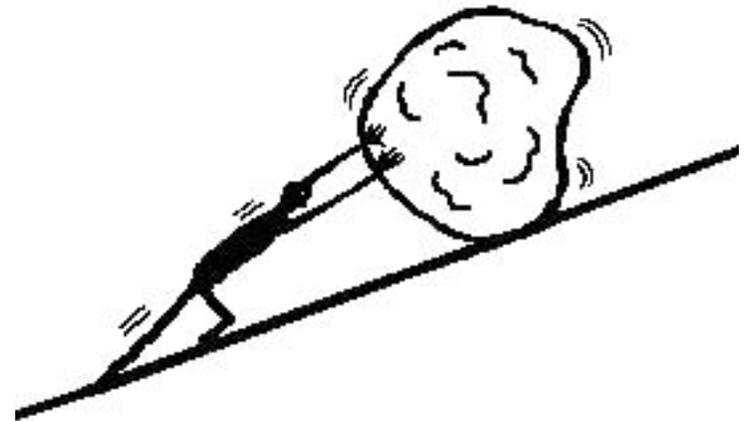


# LCG and Tier-1 Facilities Status

- LCG interoperability.
- Tier-1 facilities..
- Observations. (Not guaranteed to be wry, witty or nonobvious.)



# LCG Interoperability

- Three interoperability choices

1. Dedicated machinery .

1. 5 nodes/10 cpus – now is 13 nodes/26 cpus no SE.
2. LCG-2\_0\_0 – via LCFGng. Upgrade available.
3. We have been “off the air” since #2 started.

2. LCG gateway to US-CMS resources.

1. LCG CE installed on cmsrv10 with condor-g – May 10.
2. Sporadic work has been done:
  - problems – time != progress
3. Solutions in new upgrade?

3. Common interfaces.

1. Someone must be doing something.

# Things to do

- Upgrade to current tag on dedicated resources and on CE interface (cmsrv10).
- Get back online with current resources.
  - Enter LCG fray.
- Configure CE interface.
  - Test simple jobs with current LCG.
  - Test simple jobs with one CMS cluster.
  - Configure farm to behave as LCG worker nodes. Test again.
- SE needs to be installed.

# LCG Observations

- LCG support is good.
- LCG installation infrastructure is not (LCFGng).
- LCG instructions on doing manual installs is good. (Manual installs are Rocksible.)
- My input has been nil once up due to other time constraints.
- FNAL is a minimal presence due to time and resource constraints, both human and machine.

# Tier-1 Facilities – Current

- 196 machines in 5 clusters with various servers.
  - LCG: 13 WN's.
  - Storage: 20 dcache servers : admin, pool – 30 TB
  - 4 IBRIX nodes – 9 TB disk.
  - UAF – 3 servers, 36 WN's bunch o' disk.
  - PG – 4 servers, 84 WN's
  - DGT – 1 server, 4 WN's
  - Various servers – Rocks, console, bugzilla, VOMS, GIIS, GRIS, LCG-CE, MOP, tomcat/webserver, ganglia
  - 2 FTE's.

# Tier-1 Facilities – Future

- This year:
  - 100 WN's on the floor.
  - 4 new storage nodes, 5 new servers.
  - 10 TB storage.
- Next year
  - 300 new worker nodes up to 20 new servers.
  - Storage = gobs and gobs
- 3 FTE's

# Stuff to do

- LCG interoperability.
- Dcache vs. Lustre vs. GFS
- Condor or some other batch system.
  - Sharing = fine grained policy
- Continued Rocks work – scalability, configuration etc.
- Load balancing for UAF – LVS, switch etc.
- High availability for critical servers.
- GRID3/Tier-2 involvement/support.
- Documentation.
- Monitoring – users, processes, machines.
- Security (FBS)
- Time to plan and architect.

# Observations

- Political priorities are trumped by physical realities.
- $\sum N(\text{TE}) \leq \sum N(\text{People})$
- CMS sysadmin ratio has been at 1:100 but many servers and storage with unique configurations included. CDF/DO/Farms team are about 1:200-250. Google is at 1:500
- UAF, storage, PG are separate knowledge areas that need attention.