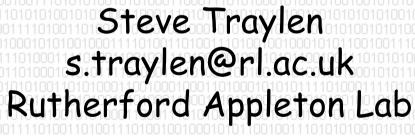




LCG2 Administrators Course Oxford University, 19^{th-} 21st July 2004 Node Installation











Node Installation - Overview



- Booting Machines.
- · Watch them fail.
- Explain LCFG hardware module.
 - + NIC
 - 14 SCSI
- Extending Profiles.
- Adding extra RPMS to the BASE-rpm.
- · Now install perfectly.
- Manual Configuration of Nodes.
 - PBS
 - Certificates
 - WN information.
- · Introduce FileCopy hack for WNs.
- Software Directory.



Watch Nodes Fail To Install



- ramdisk_size
- The module for the SCSI driver has not been loaded at install time.
- The module for the network driver has not been loaded at first reboot.
- There are two GridPP FAQS to help resolve this situation. Look at the /etc/modules.conf on the LCFGng server for the correct modules. Both involve adding extra lines to the site-cfg.h file.



Watch Nodes Fail to Install(2).



- The /etc/modules.conf file is still wrong and is missing one line still.
- We have come to the limit of what the standard template provided by LCG can provide and we must exactly specify the /etc/modules.conf we want.
- With LCFG you basically loose all hardware auto detection.



LCFG Hardware Module



- The hardware module creates the /etc/module.conf.
- We append something to a nodes profile to completely ignore what has gone before and define a completely new /etc/modprobe.conf
- http://www.gridpp.ac.uk/tb-support/faqs/modconf.html



Network Driver Not In the Kernel.



- The final problem configuring these nodes is that the network driver is not present in the kernel.
- An rpm of this driver is available.
- To add the extra RPM cp the rpm to /opt/local/linux/7.3/RPM5/external cd /opt/local/linux/7.3/RPM5/external && make
- Append BASE-rpm with the RPM you want to add.



Nodes Should Now Install



- Hopefully all nodes should now install.
- All software is there and the vast majority of configuration is done.
- Continue on to the manual steps of configuration.
 - CE, SE Host Certificates
 - *C*E PBS
 - CE Information from WN.
 - CE edg-pbs-shostequiv.conf and sshd_config
- Leave the WN as we will implement a botch to avoid the manual steps for this.
 - WNs are the nodes we want to be 100% automatic in their installation.



The FileCopy Module



- The filecopy module can be used when all else fails.
- It allows you to specify in your LCFG profile a file to copy onto your systems.
- On the WN we want to copy /etc/ssh/ssh_config into place. To the WN we add.



VO Software Directory



- This is explained in the LCG FAQ.
- Are aim is to have an area /experiment/ automounted from the SE to all the WNs.



Site is Up and Running



- At this point everything is hopefully installed and working.
- I can guarantee that something will be wrong with every site.
- · Now we move on to the testing.