

LCG2 Administrators Course
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Node Installation

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Node Installation - Overview



- Booting Machines.
- Watch them fail.
- Explain LCFG hardware module.
 - NIC
 - 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.



- 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/RPMS/external`
`cd /opt/local/linux/7.3/RPMS/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
 - CE - 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.



- 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.