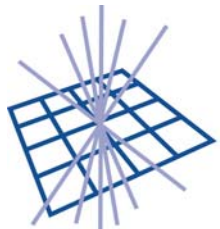# LCG2 Administrator's Course

Oxford University, 19th – 21st July 2004.

Running LCG, Handy Hints and Tips

A Sysadmins View

Chris Brew

Developed in conjunction with GridPP and EGEE

Outline

- Overview

- The export or opt problem

- Updaterpms.conf changes, remember this!

- Filecopy is your friend

- "I want afs, ganglia, this, that and the other"

- UI as an interactive service

- Letting the link take the strain. A coordinated approach to managing and LCG site

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Overiew

- With LCG/LCFGng installation it is not difficult to get a basic system up and running

- But the default installation is quite cumbersome and limited

- Adding extra packages or upgrading provided packages is not obvious

the export or opt problem

- **Why is /opt/local on the server mounted as /export/local on the clients?**

- **Make life easier for yourself**
  - link /export/local to /opt/local
  - forget /opt/local even exists

updaterep.conf changes!

- /etc/updaterep.conf is specific to a release
- If you update to a new release and suddenly find lots on missing rpms, make sure you copied the new version in

Filecopy is your friend

- Filecopy lets you copy files from your server to the node you are setting up
- Enable it with:

  ```
  /* Enable the File Copy Object */
  EXTRA(profile.components)    filecopy
  profile.version_filecopy                    1
  EXTRA(boot.services)                    filecopy
  ```

- Use it with:

  ```
  EXTRA(filecopy.files)     identity
  filecopy.uri_identity         file:///export/local/linux/7.3/filecopy/general/some/path
  filecopy.dest_ralproxy      /some/local/path
  ```

- Useful for extra config files, ssh keys, certificates, etc.
- Easiest to create an area under the export for it
- HOSTNAME gets replaced by cpp when the profile is built

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Adding Extra rpms

- **Easy way – Add extra section to BASE-rpm**
  - +rpm_name-version (no arch or .rpm)
  - Copy rpm into /export/local/linux/7.3/RPMS/other
  - Run gmake to build header
  - Needs redoing for every release
  - Gets installed on all nodes

Adding extra rpms 2

- Better way – Create your own NODE-rpm definitions
  - change "+updaterpms.rpmcfg CE-rpm" in host definition file to point to your definition
  - Include a general site list of extra rpms
  - Include rpms specific for the type of node
  - then include the LCG Node definition
- Might still need to modify BASE-rpm, Why?
  - rpms in BASE-rpm get installed on the first pass before the reboot
- Create site-BASE-rpm and include it at the end, easier that adding many extra lines each time
  - If you want to install newer versions of thing in BASE-rpm add them as +rpm_name.version

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Adding extra rpms 3

- Good RPMS to add

- AFS – Expts. like this and it's fairly easy, look at the GridPP FAQ.

- Ganglia – install gmetad and webfrontend on your LCFGng server and configure gmond with Steve's lcfg object

Add your UI to Your NIS Domain

- You already have an interactive Unix service using NIS how do you add these accounts and home areas to the UI

  network.nisdomain *nis_domain*

  EXTRA(chkconfig.services) ypbind
  chkconfig.name_ypbind   ypbind
  chkconfig.levels_ypbind 345

  /* Mount File systems */
  EXTRA(nfsmount.nfsmount) home mail
  +nfsmount.nfsdetails_home /home *home_server*:/home
      hard,intr,rw,nosuid,rsize=8192,wsize=8192,actimeo=0
  +nfsmount.nfsdetails_mail /var/spool/mail *mail_server*:/var/mail
      hard,intr,rw,nosuid,rsize=8192,wsize=8192,actimeo=0

Putting it all together

- General installation involves copying a lot of files around
- Often when you upgrade files get overwritten, your changes get lost and you cannot roll back easily

Letting the link take the strain

- Create yourself a place to keep the tags:
  - /export/local/linux/7.3/tags
- Create a place to keep the filecopy files:
  - /export/local/linux/7.3/filecopy/general
  - /export/local/linux/7.3/filecopy/nodes/*<node>*
- Get your tag, put it in the tags folder and create a link to it
  - cd /export/local/linux/7.3/tags
  - cvs co –r *<tag>* -d *<tag>* lcg2
  - ln –s *<tag>* current

Letting the link take the strain 2

- Instead of copying the parts of the tag to their positions just create links but do it through the "current" one.
  - ln –s /export/local/linux/7.3/tags/current/rpmlist /export/local/linux/7.3/rpmcfg/current
  - ln –s /export/local/linux/7.3/tags/current/source /var/obj/conf/server/source/
  - ln –s /export/local/linux/7.3/tags/current/tools/updaterep.conf /etc/updaterep.conf

Letting the link take the strain 3

- In your source/site dir edit cfgdir-cfg.h and local-cfg.h to tell lcfg where the source and rpmlist are:
  - #define CFGDIR "/var/obj/conf/server/source/current
  - +updaterpms.rpmcfgdir /export/local/linux/7.3/rpmcfg/current

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Letting the link take the strain 4

- To upgrade to a new tag; check it out of cvs as before, change the "current" link and update the server packages and repository

- If the site-cgh.h format or defaults have not changed rebuilding the node profiles should update them to the new tag

- But you can now roll back easily if the release has problems.

More on Adding rpms

- Create a *<site>* folder under rpmcfg and put all you local rpmlist files there

- When you install a new tag cd to your *<site>* rpmcfg and:

  - In -s --targetdirectory /export/local/linux/7.3/rpmcfg/current/ *