



GridPP

UK Computing for Particle Physics

Disk Pool Manager Experiences at Glasgow

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What is it?

- Lightweight SRM storage solution
- Written by LCG
- Designed for Tier 2s with disk storage
- Emphasis on ease of
 - installation
 - management
 - Maintenance
- Based on CASTOR name server code





- Our experience with dCache had been mixed
 - Difficult to install
 - Poor documentation of features and configuration files
 - Only partially functional (or required odd workarounds)
 - Generally hard to understand (makes bug hunting more difficult)





- Available from LCG 2.5.0
- Tested basic install via YAIM
 - Installs “simplest case”:
 - Single node with srm, gridftp and pool.
 - More parameters than dCache - but these are helpful (more secure, additional parameter options)





What Happened

- Did it work....?

No ☹

- Found three “bugs”
 - YAIM Installer
 - rfiod configuration
 - GridFTP server with SRM client





- Modifies “home directories” of a few non-privileged users.
- Fails completely if these are nfs mounted with `root_squash`
- Fix:
 - YAIM configuration variable which can be exposed, `DPMCONFIG`
 - Use `~user` instead of `/home/user`
 - Install note warning





- Line missing from `rfiod` configuration file `/etc/shift.conf`.
- **Fix:**
 - Add a line like this to `/etc/shift.conf`:
`TRUST <FQDN_OF_DPM_HOST>`
- Bug resolved in < 8 hours.





SRM GridFTP Bug

- SRM Client copies file onto pool
- GridFTP server was attempting to copy using pool mapped account, instead of `dpmmgr` user
- Fix required new version of `dpm-gridftp`
- Bug resolved in < 36 hours





Glasgow DPM is setup with one local pool

- Have tested locally:
 - dpns functionality (ls, mkdir, rm, rmdir)
 - globus-url-copy
 - SRM v1: srmCopy, srmAdvisoryDelete, srmGetMetadata
- Have tested remotely from Edinburgh
 - SRM v1: srmCopy (in works, out doesn't - probably firewall?), srmGetMetadata, srmAdvisoryDelete





- Well Documented - it has man pages!
- Clear, manageable, distinction between volatile and permanent storage
- SRM v2
- It works!
 - 1 day to setup
 - 2 days to debug (by J-P Baud)
- Comprehensible architecture - makes bug hunting easier
- Logging is sensible - records DNs where necessary
- Most daemons run non-privileged





- DPM seems easy to install and configure
- Well documented
- Bugs do (did?) exist but are being fixed quickly by LCG team
- Offers SRM v1 and v2 now
- Glasgow and Edinburgh will make further tests of DPM functionality
- A good solution for Tier 2s in SC4...?

<http://www.physics.gla.ac.uk/gridpp/datamanagement/DiskPoolmanager>

http://goc.grid.sinica.edu.tw/gocwiki/Useful_presentations_about_the_LFC_and_the_DPM

[http://goc.grid.sinica.edu.tw/gocwiki/How_to_install_the_Disk_Pool_Manager_\(DPM\)](http://goc.grid.sinica.edu.tw/gocwiki/How_to_install_the_Disk_Pool_Manager_(DPM))

