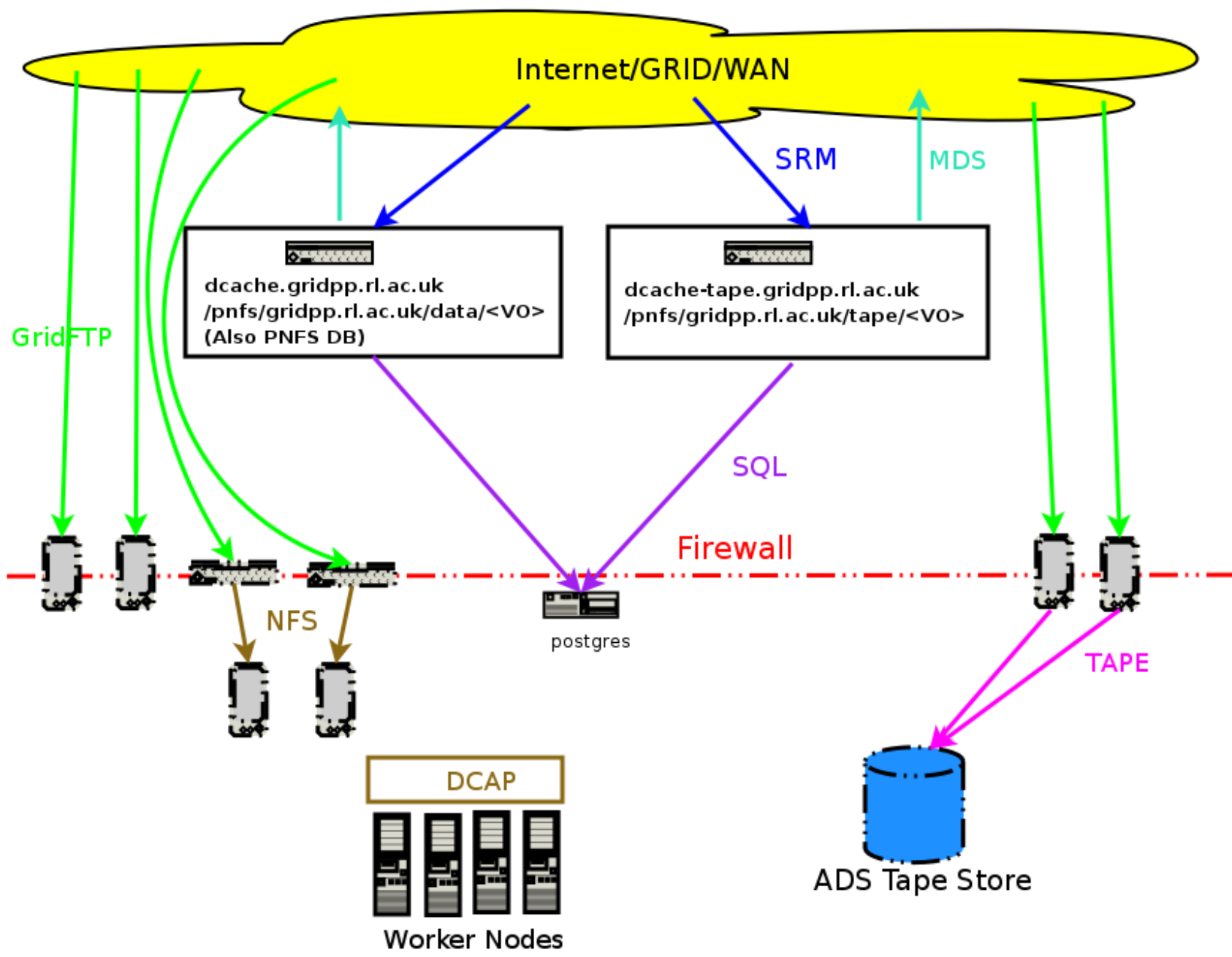# RAL DCache Status

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Outline

- Proposed setup for production system.
- Multi-homing for SC2.
- Issues, problems and confusions.
- DCache Errors?

Internet/GRID/WAN

SRM

MDS

GridFTP

dcache.gridpp.rl.ac.uk
/pnfs/gridpp.rl.ac.uk/data/<VO>
(Also PNFS DB)

dcache-tape.gridpp.rl.ac.uk
/pnfs/gridpp.rl.ac.uk/tape/<VO>

SQL

Firewall

NFS

postgres

TAPE

DCAP

Worker Nodes

ADS Tape Store

Questions about Production Setup

- Is this sensible, any better ideas.
- CMS and others look to be assuming they can delete files immediately.
  - This includes files on tapes.
  - There is no delete method to interact with the HSM.
- Truncate option does not work for us?
- We don't know how to drain a disk server for maintenance.

Quotas on Production Setup

- Currently we quota VOs by having pools uniquely attracted to say.
  - /pnfs/gridpp.rl.ac.uk/data/dteam
- This should allow us to drain a disk partition and move it to a different VO to change allocations.
- We can also have a shared pool to introduce soft limits. (The tape backed disk will be like this)
- But we reduce the number of servers that can do I/O though. Anything better?
- Storage space advertised needs to reflect this.

Multi Homing for SC2

- Aim
  - Have disk servers on production network.
    - These were running the pool software.
  - Expose this to UK light network via multi-homed GridFTP servers.
  - We could not get it to work.
    - FTP protocol returned i.p. for data channel on wrong interface. (Can we bind the gridFTP doors?)
    - Pool nodes tried to contact external interfaces of GridFTP Nodes.
- For SC3 this problem may go away but is very likely relevent for other T2 sites.

Data Flow

- We have general confusion about what happens with.
  - SRMGet
  - SRMPut
  - SRMCopy (Push and Pull)
- In particular what initiates the various connections at GridFTP and dCap levels.
- Choice of GridFTP server is not influenced by location of data?

DCache Errors

- Some errors encountered during running of dCache
  - All seen in latest release
  - Full java backtraces omitted for brevity
  - None appear to affect operation, but disconcerting at first
  - Does make it harder to see actual errors in logs
  - Ignoring errors is not a good habit to get into

Odd Errors 1

- Extra blank line in <host>.poollist leads to following in <host>Domain.log

```
Cell(${0}@jra1dch01Domain) : CellAdapter :
prepareRemoval : got java.lang.NullPointerException

…
```

Odd Errors 2

- ## From pnfs.log

```
Cell(PnfsManager@pnfsDomain) : Error obtaining 'l' flag
   for getSimulatedFilesize :
   java.io.FileNotFoundException:
   /pnfs/fs/.(puse)(000000000000000000001690)(2) (Is a
   directory)
```

Odd Errors 3

- ## From srm.log during startup

```
Cell(SRM@srmDomain) : java.sql.SQLException: ERROR:
  Relation 'srmnextrequestid' already exists
 Cell(SRM@srmDomain) :     at
  org.postgresql.core.QueryExecutor.executeV2(QueryExec
  utor.java:287)
…
```

Odd Errors 4

- ## From gridftpdoor.log for every transfer

```
Cell(GFTP-Unknown-101@gridftpdoorDomain) :
   java.io.IOException: Log root directory /tmp/dcache-
   ftp-tlog not found
Cell(GFTP-Unknown-101@gridftpdoorDomain) :           at
   diskCacheV111.doors.FTPTransactionLog.begin(FTPTransa
   ctionLog.java:98)
Cell(GFTP-Unknown-101@gridftpdoorDomain) :           at
   diskCacheV111.doors.GsiFtpDoorV1.startTlog(GsiFtpDoor
   V1.java:109)
…
```

  - Does go away if directory is created

Odd Errors 5

- ## From http.log:

  ```
  Cell(topo@httpdDomain) : Exception in Loop :
    java.lang.ClassCastException
  ```

- ## From dcache.log:

  ```
  Cell(l-100-Unknown-80270@dCacheDomain) :
    java.io.InvalidClassException:
    dmg.cells.nucleus.CellMessage; local class
    incompatible: stream classdesc serialVersionUID =
    245546046775649833, local class serialVersionUID = -
    5559658187264201731
  ```

  ```
  Cell(l-100-Unknown-80270@dCacheDomain) : at
    java.io.ObjectStreamClass.initNonProxy(Unknown
    Source)
  ```

  …