

# Storage Classes at Lyon Tier-1

Lionel Schwarz <[schwarz@cc.in2p3.fr](mailto:schwarz@cc.in2p3.fr)>

**CC-IN2P3**

Centre de Calcul de l'Institut National de Physique Nucléaire et de Physique des Particules



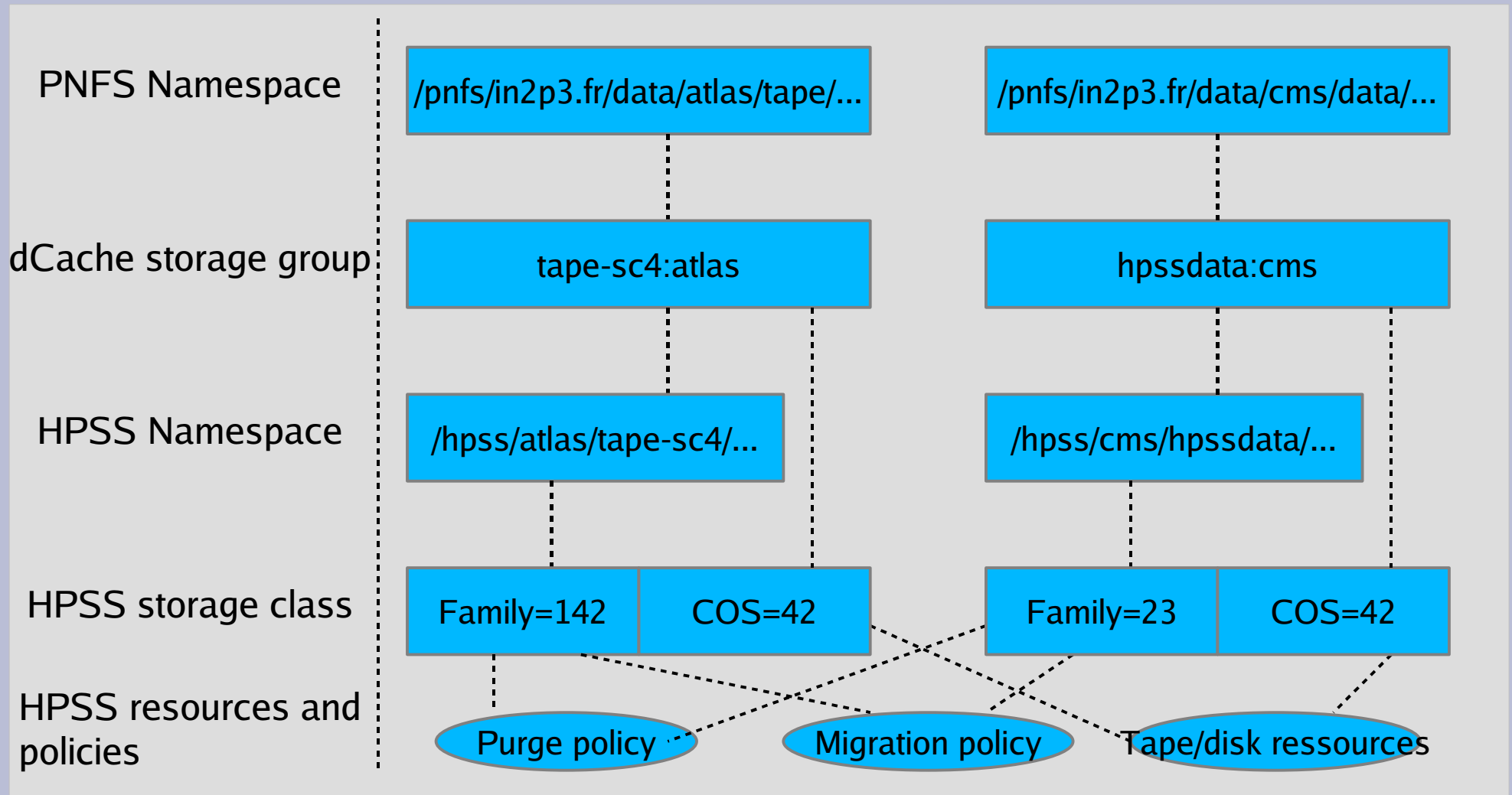
# Storage classes in MSS

- Storage Group in dCache
  - Defined by **tags** (hidden files) in the PNFS namespace
  - Linked with **pool group(s)**
  - That way, dCache knows where to physically store new files created in the namespace
- Storage Class in HPSS
  - COS (Class Of Service) is not defined in HPSS namespace
    - Associated with resources (type of disk, type of tape)
    - Associated with policies (filesize, migration, purge...)
  - Families are defined in the HPSS namespace
    - Allow to group files from a family on the same tapes

# dCache/HPSS SC mapping

- HPSS Classes Of Service are defined in dCache namespace tags (PNFS hidden files)
  - Then used by migration script
- HPSS Families are used in dCache through the mapping between the dCache storage class and the HPSS namespace (see example on next slide)

# Storage Classes levels



# Read vs Write pools

- Write pools receive files from other sites with a high (but very well known) throughput
  - Disk access tuned for sequential write
  - Network tuned for high throughput
  - High quality hardware required for precious files (but small volume needed)
- Read pool are used by local jobs
  - Disk access tuned for random access by lots of jobs
  - High quality is not required (files can be retrieved from HPSS to other pools) but large volumes are needed
- RW pools are also used for traffic in both directions

# CMS dCache pools setup

Credit: Artem Trunov

