

Migration from PNFS to Chimera

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Outline:



- Preparing for migration
- Installing Chimera namespace provider
- Extracting data from pnfs
- Injecting data to chimera database
- Verify that the migration was successful

Preparation:

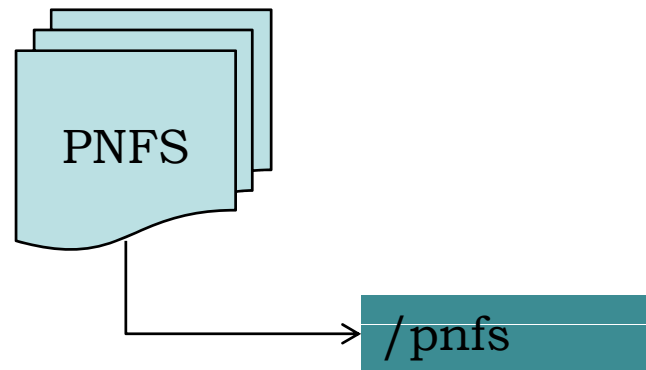


What we have in the beginning :

*the VirtualBox image with preinstalled
dCache instance and PNFS as name space
provider.*

download from USB stick or:

http://www.physik.rwth-aachen.de/~oleg/dCacheToGo-V06_pnfs.vdi.gz



dCache data on the Virtual box



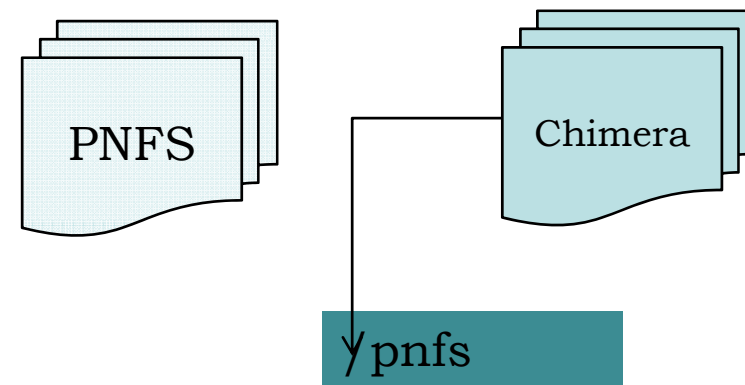
- Only the **metadata** from namespaces will be migrated. The real data on the pool stay untouched.
- The pnfs namespace provide only the metadata. No real content of the data available on the pool.

*And this information
should migrated to
chimera*

Install Chimera



- 1) Create chimera db
- 2) Modify dCache config., files:
- 3) Configure NFS v3 server
- 4) Mount /pnfs and check functionality



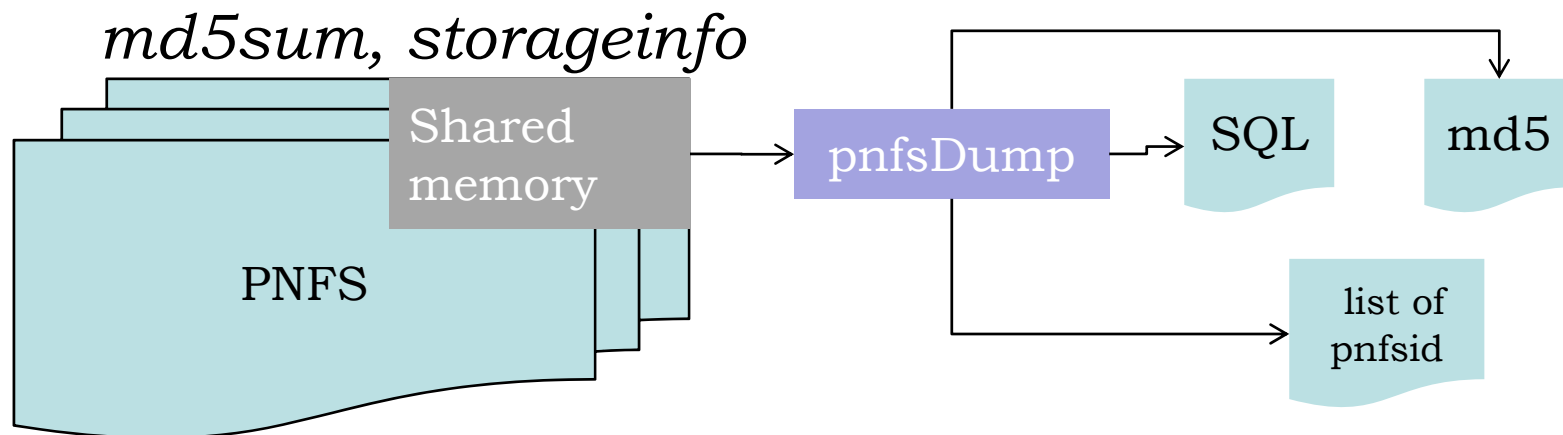
Extract the data from pnfs:



- install the pnfsDump utility
- Generate the SQL migration script

define <source_pnfsid> and <dest_pnfsid>

- generate the verification info of the files:



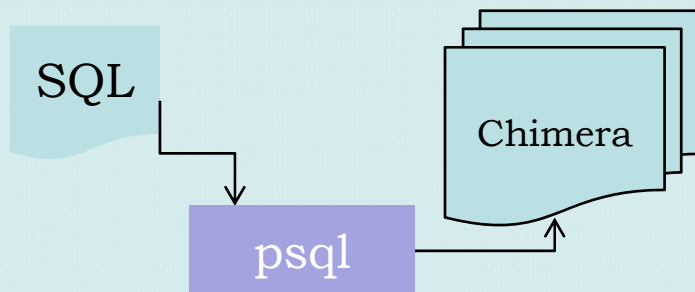
Inject the data into chimera db



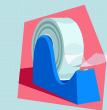
DISK:



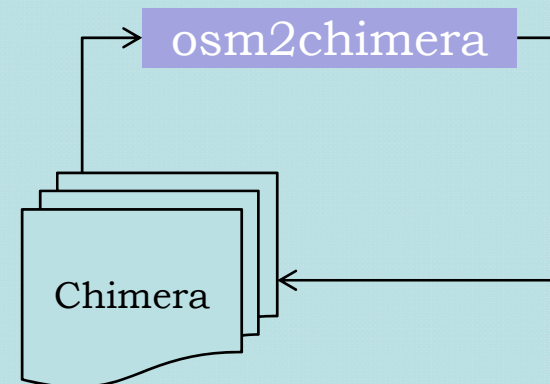
- Run SQL migration script
stable against interruptions



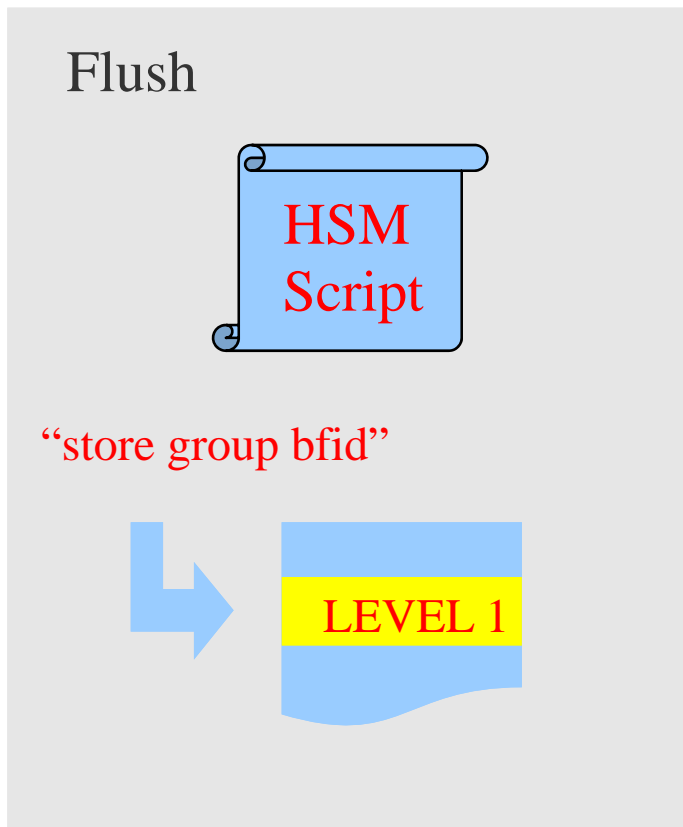
TAPE:



- We need to put in some additional info
- Convert Storage Info to URIs (tape)



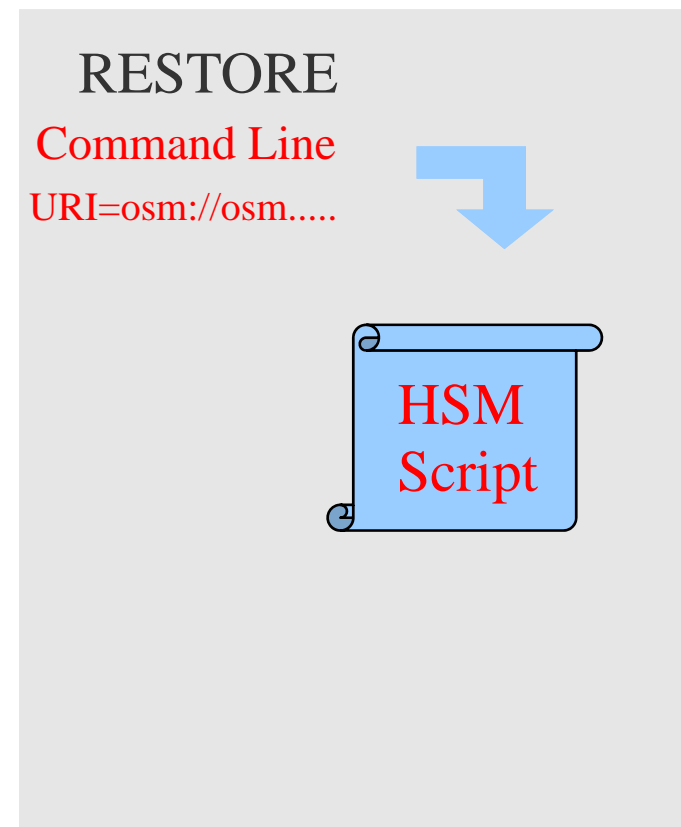
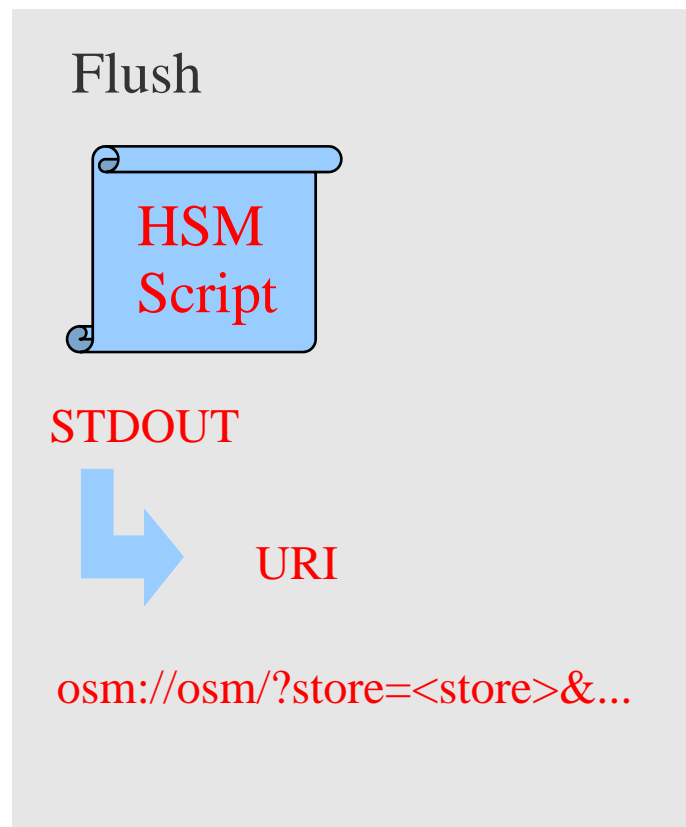
HSM interface in pre-dCache 1.8.x



HSM interface starting with dCache >= 1.8.x and PNFS



- Old mechanism can still be used.
- With URI, NFS mount is not needed any more.
- But level 'one' is still used to store HSM meta-data (Store,group,bfid)



HSM meta data in PNFS to chimera migration.



osm2chimera.sh



creates URI
if necessary

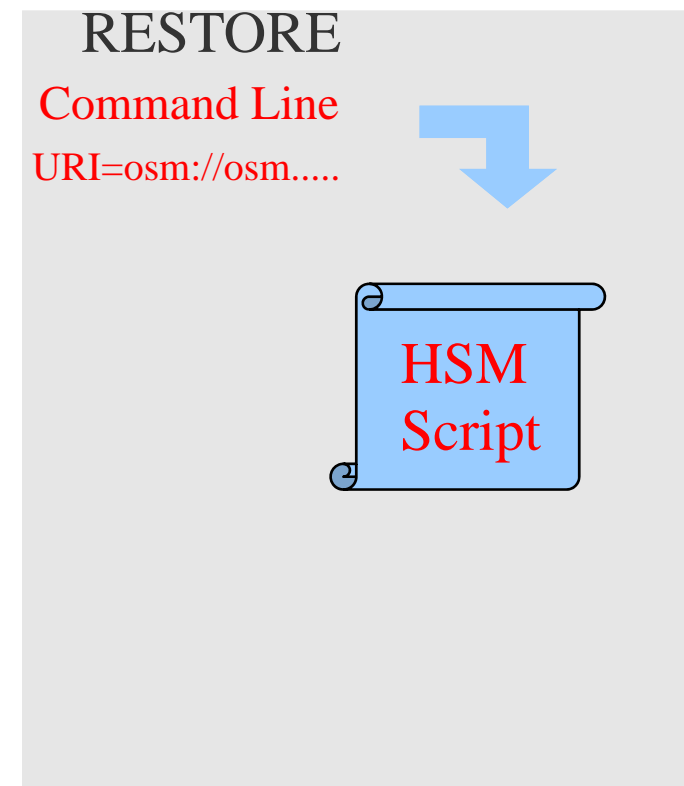
DB table (t_locations)

	osm://osm/?xxxx

HSM interface starting with dCache >= 1.8.x and Chimera



- ➔ Old mechanism can't be used with chimera any more.
- ➔ NFS mount is not needed.
- ➔ Level I is not used any more. Only DB table.
- ➔ SQL queries can be done on HSM URI's (See Tigran's presentation)



Check the migrated data



What should check :

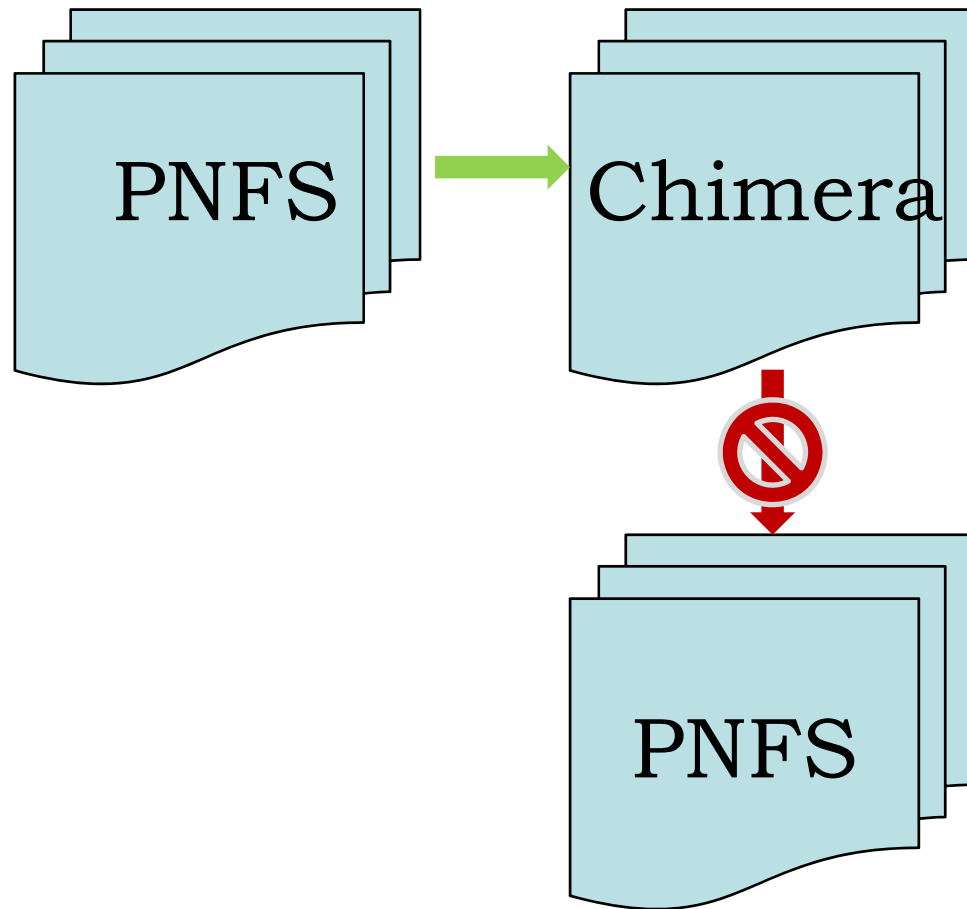
```
./migration_check.sh <list_of_pnfsids>
```

- ✓ that dCache will behave in an identical fashion when supplied with the chimera namespace instead of the PNFS namespace
- ✓ the IDs of all files, directories and symbolic-links,
- ✓ the contents of all stored data (the "levels") for each file

```
md5sum -c <md5sum_list>
```

- ✓ that each directory has the correct number of correctly named tags,
- ✓ the value of the tags stored in each directory.

Rollback



Final steps



- register content of the pools
 - pnfs register (must be done for each pool)
- or
 - import companion database location information into Chimera database
- Drop companion and pnfs databases