Handout Unit I – basic dCache install

Basic Install (on your HeadNode)

- based on YAIM wiki: http://trac.dcache.org/trac.cgi/wiki/manuals/YAIM
- Install all the necessary software for a dCache headnode

```
yum install glite-version compat-postgresql-libs \
glite-SE_dcache_admin_postgres lcg-CA lcg-vomscerts glite-yaim-dcache
```

• We want the InfoProvideron the same machine

yum install glite-SE_dcache_info

• Install additional RPMs to use fallback authorization mechanism

```
yum install lcg-expiregrid<br/>mapdir edg-mkgrid<br/>map edg-mkgrid<br/>map-conf \backslash fetch-crl d-cache-lcg
```

• take the default local users and groups

cp -r /opt/glite/yaim/examples/* /opt/glite/yaim/etc

• get a copy of the site-info.def template

```
cp /opt/glite/yaim/examples/siteinfo/site-info.def /root/site-info.def
```

• checkout the location of the installed Java JDK (not JRE)

rpm -qa |grep jdk jdk-1.5.0_14-fcs

• setup your /root/site-info.def

MY_DOMAIN=desy.de

JAVA_LOCATION="<yourJDKHomeDir>"

```
DCACHE_ADMIN="<yourHeadNode>.desy.de"
DCACHE_POOLS="<yourHeadNode>.desy.de:7:/pools/1
<yourHeadNode>.desy.de:7:/pools/2"
```

```
DCACHE_DOOR_SRM="<yourHeadNode>.desy.de"
DCACHE_DOOR_GSIFTP="<yourHeadNode>.desy.de"
DCACHE_DOOR_GSIDCAP="<yourHeadNode>.desy.de"
DCACHE_DOOR_DCAP="<yourHeadNode>.desy.de"
DCACHE_DOOR_XROOTD="<yourHeadNode>.desy.de"
DCACHE_DOOR_LDAP="<yourHeadNode>.desy.de"
```

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```
RESET_DCACHE_CONFIGURATION=yes
RESET_DCACHE_PNFS=yes
RESET_DCACHE_RDBMS=yes
VOS="dteam"
• run YAIM
```

```
/opt/glite/yaim/bin/yaim -c -s /root/site-info.def \
-n glite-SE_dcache_admin_postgres
```

Check what you got (on your HeadNode)

- based on the dCache book (http://www.dcache.org/manuals/Book/start/intouch.shtml)
- check running Domains in the cli

ps -ef |grep java ps -ef |grep start

• checkout active cells at the dCache web-interface

http://<yourHeadNode>:2288/cellInfo

• filesystem-commands on the exported PNFS namespace

```
ls -l /pnfs/desy.de/data/
total 1
drwxrwxr-x 1 dteam001 dteam 512 Jan 22 20:05 dteam
```

ls -l /pnfs/desy.de/data/dteam

• basic DCap transfers on the server machine

```
/opt/d-cache/dcap/bin/dccp /bin/sh /pnfs/desy.de/data/dteam/testFile1/opt/d-
/opt/d-cache/dcap/bin/dccp /pnfs/desy.de/data/dteam/testFile1 /dev/null
```

• check that the file exists in dCache

```
ls -l /pnfs/desy.de/data/dteam/testFile1
```

Why did the write work?

Basic transfers from the UI

• basic DCap transfer from the UI

dccp dcap://<yourHeadNode>:22125/pnfs/desy.de/data/dteam/testFile1 /dev/null
dccp /bin/sh dcap://<yourHeadNode>:22125/pnfs/desy.de/data/dteam/testFile2

Why is the 1st one succeeding but not the 2nd? You're mapped to a Non-ROOT user when entering unauthenticated, resulting in "no write permissions"

• Gsi-authenticated Dcap transfers

```
# obtain a GSI proxy
grid-proxy-init
```

dccp /bin/sh gsidcap://<yourHeadNode>:22128/pnfs/desy.de/data/dteam/testFile2

should work, because you're mapped to a dteam user

debug option: -d1

• GsiFTP transfers (aka GridFTP)

```
globus-url-copy file:///bin/sh
gsiftp://<yourHeadNode>:2811/pnfs/desy.de/data/dteam/testFile3
```

debug option: -dbg

• SRM transfers

srmcp file:////bin/sh
srm://<yourHeadNode>:8443/pnfs/desy.de/data/dteam/testFile4

debug option: -debug=true

Getting started with the ssh-interface

• login into dCache's interface

ssh -c blowfish -l admin -p 22223 <yourHeadNode>

default Password: dickerelch

• an example: find the pod location of a certain file

get the PnfsID from the filename

cd PnfsManager pnfsidof /pnfs/desy.de/data/dteam/testFile1

get the poolname where the file is stored

cacheinfoof <pnfsID>

cd into the pool

.. cd <PoolName> list all files in that pool

rep ls

The file should be there. For an explanation of the output format, please refer to <u>http://trac.dcache.org/trac.cgi/wiki/manuals/RepLsOutput</u>

get the filename from a pnfsid-entry

pf <pnfsId>

logout

.. logoff

Starting/Stopping dCache

• restart all dCache Domains (except pools) which are configured

/opt/d-cache/bin/dcache-core restart

• restart all configured pools

/opt/d-cache/bin/dcache-pool restart

• restart individual Domains

ps -ef |grep start # find the running domains

/opt/d-cache/jobs/gridftpdoor -domain=gridftp-<yourHeadNode>Domain stop /opt/d-cache/jobs/gridftpdoor -domain=gridftp-<yourHeadNode>Domain start