

# FNAL dCache Admin Notes II

Version 1.2

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- 6) Whole-System Start and Stop Procedures
  - a) Outline, Variations, and Comments
  - b) Detailed Start Procedure
  - c) Detailed Stop Procedure
  - d) To Be Continued....

# Start: Outline

- Start: user 'root', config under ~enstore/dcache-deploy/config
- Start: Some details vary, but this is the general recipe...
  - Start Apache Web Server on head node
  - Start Krb5 KDC Interface from monitoring node
  - Start Logger from monitoring node
  - Start Postgresql from monitoring node
  - Start Tomcat from monitoring node
  - Start PnfsManager on PNFS server (dcache-pnfs i/f)
  - Start dCache Services from monitoring node
  - Watch the Cells Page to be sure all services start
  - Start Monitoring 'At' Jobs from monitoring node

# Stop: Outline

- Stop: user 'root', config under ~enstore/dcachel-deploy/config
- Full Stop: Only if required. Partial stops/restarts are better.
- Stop: General recipe...
  - Stop Monitoring 'At' Jobs from monitoring node
  - Stop dCache Services from monitoring node
  - Stop PnfsManager on PNFS server (dcache-pnfs i/f)
  - Stop Tomcat from monitoring node
  - Stop Postgresql from monitoring node
  - Stop Logger from monitoring node
  - Stop Krb5 KDC Interface from monitoring node
  - Stop Apache Web Server on head node

# Start/Stop: Variations

- FNDCA: (a.k.a STKEN dCache) Public production dCache
  - Head node and monitoring node are the same (for now)
  - Hosts Enstore monitoring service, requires start/stop too.
- CDFDCA: CDF production dCache
  - postgresql is now run on cdfdca1 to support SRM
- CMSDCA: CMS production hybrid dCache
  - CMS T1 Facilities does start/stop... not covered here yet.
- Web server: A “UPS” start/stop or a “service” start/stop.
  - Some platforms use UPS packaged httpd v1 (CMSDCA)
  - SL3 uses native httpd v2 RPM (FNDCA,CDFDCA)
- CDFDCAT: CDF TEST dCache. (No ISA responsibility)
  - Runs PnfsManager ***on Head node, not PNFS server***

# Start/Stop: Comments

- If any problems arise with a “start”, do a full stop:
  - look for stray java processes. After a full stop, there should be none.
  - dCache can be confused when different core services start at very different times or if multiple copies of same process running.
  - Trouble spots: after a power outage, nodes rebooting with shutdown.
- Starting a service in the wrong place, or more than appropriate number of instances, is bad. Two one-of services can corrupt.
  - Especially true with PnfsManager: one-of and in the right place.
  - No prevention mechanism in place yet, so please take care.
  - If it happens, do a full stop and restart. Contact developers.
  - Its better to be a few minutes late than fixing corruption for days.
- 'At' jobs can be pesky beasts to kill, due to 'sleep's.
  - Be patient stopping the monitoring... easier than fixing later.

# Start: Procedure (p.1)

- For a cold start, *for FNDCA only*: [root@head-node](#)
  - `% /etc/rc.d/init.d/monitor_server-boot start`
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- Start Apache Web Server: [root@head-node](#)
  - You can leave web server running for a warm stop/start
  - For old httpd v1... setups script may be in `~products/etc`
    - `% source /local/ups/etc/setup.sh`
    - `% ups start apache`
    - No immediate feed-back. Assume it worked.
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  - For new httpd v2...
    - `% /sbin/service httpd start`
    - Normal system service feed-back.

# Start: Procedure (p.2)

- Start Krb5 KDC Interface: [root@monitor-node](#)
  - % /usr/local/bin/dgang -a '/etc/rc.d/init.d/kdcmux-boot start'
  - Exit status of dgang should be '0'
- Start Logger, Postgresql, Tomcat: [root@monitor-node](#)
  - % /etc/rc.d/init.d/logger-boot start
  - % /etc/rc.d/init.d/postgres-boot start
  - % /etc/rc.d/init.d/tomcat-boot start
  - OK, if only .bashrc permission errors are printed.
- Start Postgresql for SRM *for CDFDCA only*: [root@cdfdca1](#)
  - % /etc/rc.d/init.d/postgres-boot start
- Start PnfsManager: [root@pnfs-server-node](#)
  - % /etc/rc.d/init.d/dcache-boot stop
  - % <pause for a minute or so>
  - % /etc/rc.d/init.d/dcache-boot start

# Start: Procedure (p.3)

- Start dCache Services: root@monitor-node
  - % /usr/local/bin/dgang start
  - Exit status of dgang should be '0'
  - Watch “Cells” page for all services to start. This can take 5+ minutes on large systems, but it is worth the effort.
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- Start Monitoring: root@monitor-node
  - % /etc/rc.d/init.d/monitoring-boot stop
  - % rm ~enstore/dcache-deploy/config/statisticsLock
  - % /etc/rc.d/init.d/monitoring-boot start
  - Ignore extraneous errors in monitor start.
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- Check-out after a start: details in later talk...
  - Errors in billing? Successful clients? Exceptions in logs?

# Stop: Procedure (p.1)

- Consider Options: details in later talk...
  - Is full-stop needed? warm restart? sub-service restart?
  - Stop/Start: dcap clients *should* reconnect, ftp clients fail.
- Stop Monitoring: [root@monitor-node](#)
  - % /etc/rc.d/init.d/monitoring-boot stop
  - % <pause for a minute or so>
  - % /etc/rc.d/init.d/monitoring-boot stop
  - % kill <atd-child pid> (if necessary)
  - Be sure no atd **children** are running, leave top-level atd.
  - They can re-awaken! Let this part take a minute or two.
- Stop dCache Services: [root@monitor-node](#)
  - % /usr/local/bin/dgang stop
  - Exit status of dgang should be '0'
  - “Cells” goes page down early, so wait 1-2 minutes here.

# Stop: Procedure (p.2)

- Stop PnfsManager: root@pnfs-server-node
  - % /etc/rc.d/init.d/dcache-boot stop
  - Careful on the pnfs-server-node. Let PNFS keep running.
  - Only the PnfsManager java process should be stopped.
- Stop Postgresql for SRM **for CDFDCA only**: root@cdfdca1
  - % /etc/rc.d/init.d/postgres-boot stop
- Stop Logger, Postgresql, Tomcat: root@monitor-node
  - % /etc/rc.d/init.d/tomcat-boot stop
  - % /etc/rc.d/init.d/postgres-boot stop
  - % /etc/rc.d/init.d/logger-boot stop
  - OK, if only .bashrc permission errors are printed.
- Stop Krb5 KDC Interface: root@monitor-node
  - % /usr/local/bin/dgang -a '/etc/rc.d/init.d/kdcmux-boot stop'
  - Exit status of dgang should be '0'

# Stop: Procedure (p.3)

- Stop Apache Web Server: root@head-node
  - You can leave web server running for a warm stop/start
  - For old httpd v1... setups.sh might be in ~products/etc
    - % source /local/ups/etc/setups.sh
    - % ups stop apache
    - No immediate feed-back. Assume it worked.
  - For new httpd v2...
    - % /sbin/service httpd stop
    - Normal system service feed-back.
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- Check-out after a stop: Are stray java processes left? There should be none, on any dCache admin or pool node.

# To Be Continued...

- How to “know”: system is working? is dead? is cleaned up?
- Glitches: A few known ones, and how to fix them.
- Does the whole system have to be restarted?: What can be done without a global restart and what requires a restart.
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- User Authorization Record (kpwd) scripts: dcuser\*\*\*\*
  - Common use-cases
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- Cron Jobs: What do they do? What runs as who?
  - Glitches and how to fix them.
- At Jobs: What are they? What do they produce?
  - Glitches and how to fix them.