



# Dmlite-shell

## past, present and future

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DPM Workshop 2019

LHEP Bern

13/14 June 2019

# dmlite-shell

- It's a shell for DPM administration
  - 58 commands in total
  - Can be used interactively or not ( `dmlite-shell -e "command"` )
- It differs from standard admin tools
  - The command doc is available via "help" command -> no man pages
  - options/commands parameters sometimes are not following the UNIX counterparts ( e.g. `unlink <file> -f` )
- Made for admins and developers, not for users
- Python based, contributions are welcome 😊
- <https://twiki.cern.ch/twiki/bin/view/DPM/DpmAdminDmliteShell>

# dmlite-shell - past

- Firstly developed as the shell to administer a DPM installation with dmlite
  - Usage of Python-dmlite and Dpm/dpns python bindings
- From DPM 1.9.0 and the first DOME release
  - DPM DOME shell admin
    - Better to remove dmlite from the name? 😊
  - Most of the commands works only if DOME is enabled
    - gryconf
    - fs\*
    - quotatoken\*
  - it uses also directly invocation to DOME via REST without reimplementing everything via the Python-dmlite interface

# dmlite-shell - present

- Since the last workshop we had 1.10.x bug fixes releases and 2 minors (1.11 and 1.12)
- Fixes/enhancements for the shell
  - Quotatokens created via dmlite-shell are not listed by dpm-listspaces
  - package misses the dependency to davix
  - Incorrect printing of space numbers
  - Use human-readable constants
  - wait more than 15s for a checksum calculation to finish

# dmlite-shell – drain

- The drain commands in dmlite-shell are using HTTP for I/O ( while dpm-drain uses RFIO)
  - *drainpool, drainserver, drainfs + replicate and replicamove*
  - Same options as the old drain implementation (plus dryrun)
  - Multithreading (up to 10, more can be forced)
  - Of course it requires LCGDM-DAV properly configured on all the disknodes
  - The DOME based version is quite fast (thanks to DOME vs Legacy improvements when writing new replicas) and does not need extra conf ( i.e. Headnode DN mapping)
  - N.B. You need to setup a Quotatoken for a folder with files to be drained

# dmlite-shell – drain

- During the last month following the feedback from site admins we have started to implement some enhancements (see next slide) for better error reporting and legacy DPM /DOME interaction
- N.B. As our testbeds do not have the load and the size of a production site, admins feedback is quite important in this case

# dmlite-shell – near future

Fixes /enhancements in DPM 1.13 (to be scheduled)

- Use the DB names from DOME conf in dbutils
  - N.B. if you are not using the standard names for your DPM DBs, some commands will fail in DPM 1.12
- Drain enhancements
  - Better error reporting for failed drain
  - *drain* commands log to a file by default
  - *drain* should set to RO FSs also via Legacy DPM ( if available)
- Visualization enhancements
  - Print the poolstatus as a readable string
  - Print the activitystatus in readable form
  - Improve help format for optional parameters
  - *Qryconf* lists fs alphabetically ordered
- Wrong treatment of for current directory in quotatoken\* commands
- Remove *replicamodify* optional server parameter





# dmlite-shell – future

- Enhancements discussed with admins
  - Improve the *find* commands in order to use patterns
    - Not so straightforward
  - Improved documentation
  - Recursion missing on some commands
  - Legacy admin-tools integration?
  - Python3 support
- Support for non-X509 identities?
  - Needed only if we will implement support for OIDC as foreseen in WLCG AAI plans ( see A. Ceccanti talk)
  - Now only X509 identities are supported in various commands
    - ACLs, user\* , etc
    - Need to extend them to OIDC identities (SID)

# Legacy Admin-tools integration ?

- Some legacy admin-tools commands are using the dpm/dpns python bindings
- Should these tools be integrated in the shell and deprecated? ( any volunteer ? 😊) in particular:
  - *dpm-disk-to-dpns* -> *mapdisk\_tolfns* ( already done as a test)
  - *dpm-list-disk*
  - *dpm-dpns-to-disk*
- *dpm-dbck* is written in perl and does not use legacy calls
  - But it uses the legacy DB conf files NSCONFIG and DPMCONFIG
- The *dpm-sql-\** commands are using only DB calls, are they used?

• Python2 -> 3 ?



# Python3

- dmlite-shell support for Python3 is lacking..
  - We should target C7 and the future C8
- First step is to build the dmlite-python bindings for Python3
- The best would be to adapt the shell code to Python3 and use only that version, removing Python2 support when SL6 will be dead
  - Not clear if python2 and our deps will stay in C7 after 2020
  - <https://pythonclock.org/>

# more scripts..

- DPM is also shipping different python script which could be integrated in the shell
  - `dmlite-mysql-dirspaces.py` ( recently improved by Petr, thanks! )
  - `dpm-storage-summary.py`
  - `dome-info-provider.py`
- Not a lot of effort.. but at the moment there is no plan to integrate them with `dmlite-shell`

# Summary

- dmlite-shell has a quite complete set of commands for DPM administration
  - Legacy admin-tools to be ported ?
- We expect more feedback and support now that sites are moving to DOME
- Thanks to DPM sysadmins for reporting issues and suggestions

# Questions ?

