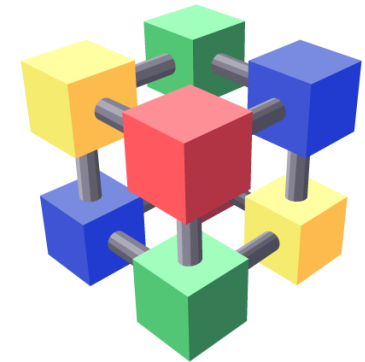


Storage Resource Reporting DPM Upgrade Task Force

Sept 2018
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WLCG
Worldwide LHC Computing Grid



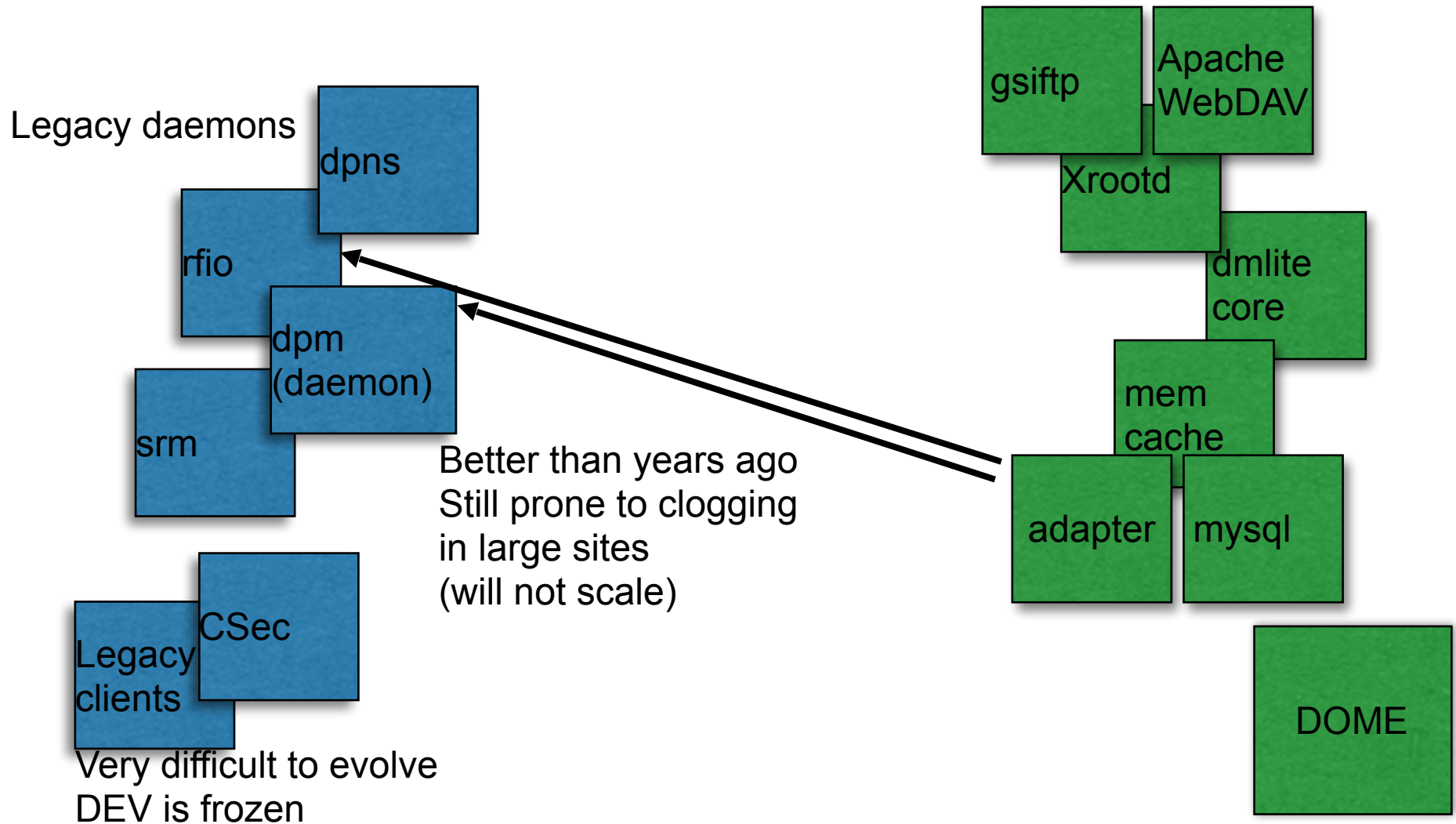
Storage Resource Reporting

- WLCG requested sites to publish the new space reports
- Directory-based reports, different from spacetokens, no SRM involved
 - Julia's talk at CHEP 2018:
 - <https://indico.cern.ch/event/587955/contributions/2936951/>
- The current prod release of DPM (1.10.4, in EPEL) supports it
 - The numbers are available in realtime from DPM, almost zero computing cost
 - A cronjob queries the DPM core and writes these small reports in known paths known to GOCDB
 - The CRIC service (Computing Resource Information Catalogue) collects this info
- **Caveat: the new DPM core (DOME) must be enabled to support this**
 - A simple upgrade will not enable it
 - Configuration changes are needed after the upgrade of the packages

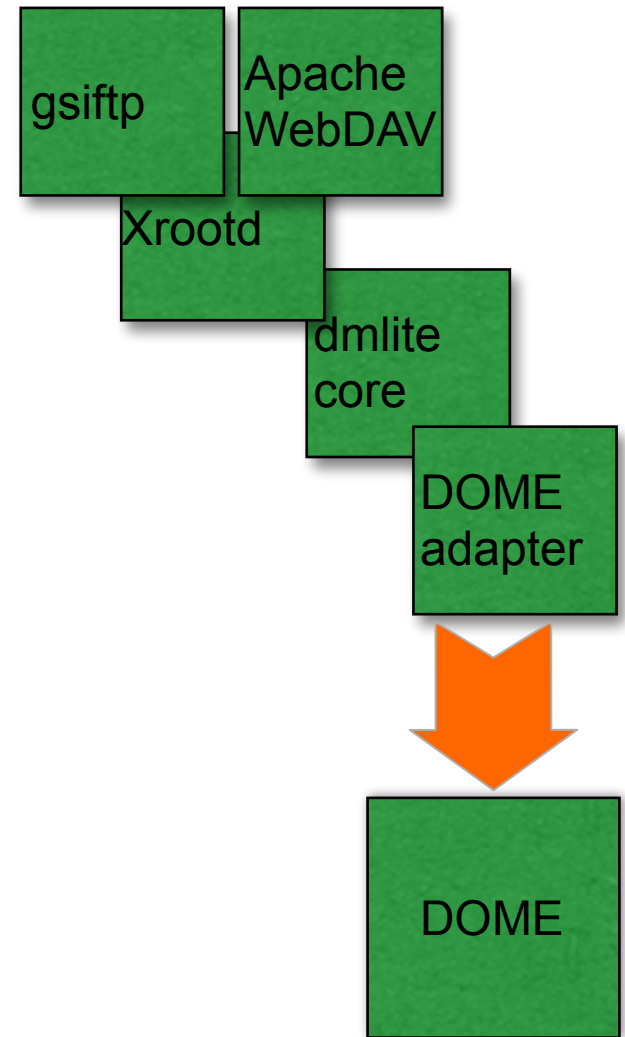
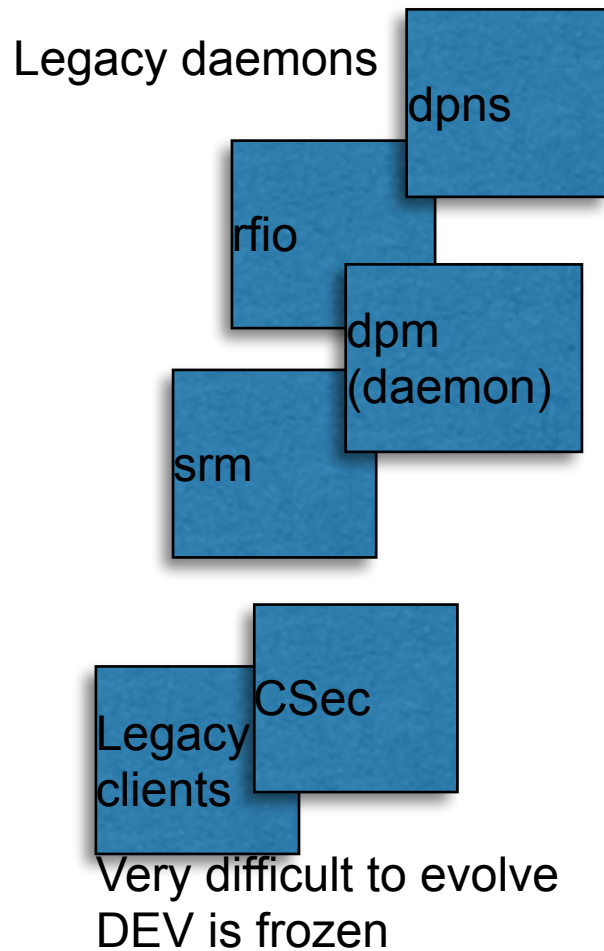
DPM in 2018

- DPM has been object of an epic code refurbishment, milestone reached in 2018
- One of the triggers has been SRR appearing at the horizon in 2016. It's fully supported
- From 25-years-old "LCGDM" components (e.g. rfio, libshift, SRM, ...) to flexible recent techs, e.g. xrootd, HTTP, REST
- Performance, quality of service and flexibility have radically improved
- The system has been tested in a few pilot sites (thanks!)
- Backwards compatible. If a site wants to keep SRM&C, they will just keep it
- The system can have two different configurations
 - Legacy config: everything like before. *Does not support SRR*
 - DOME config: the dmlite config is simpler as it just talks to DOME (Disk Operations Management Engine). This applies to head node AND disk servers. *Supports SRR*

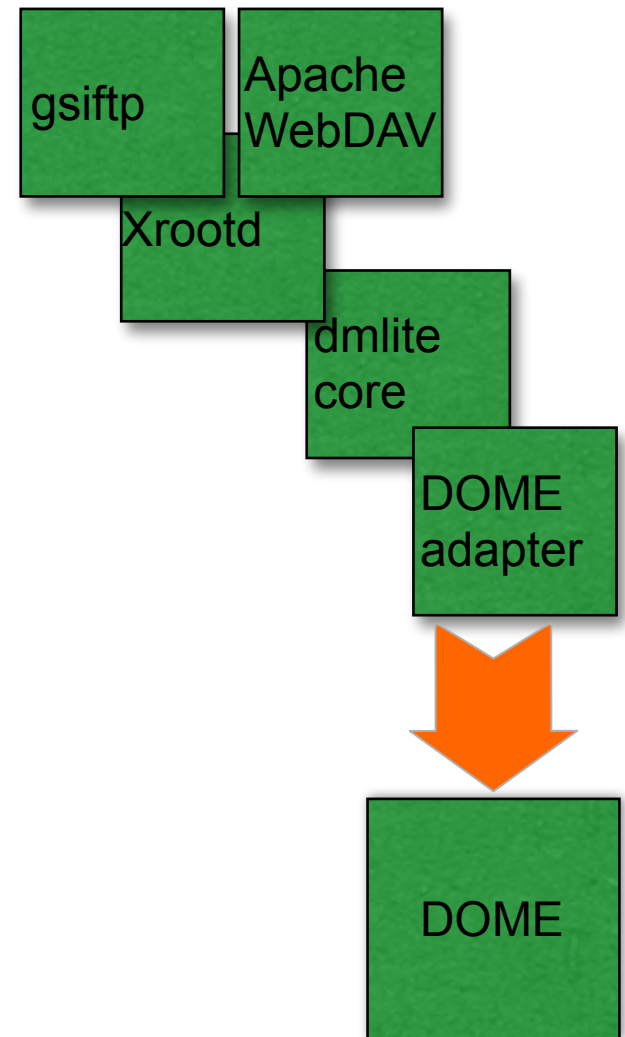
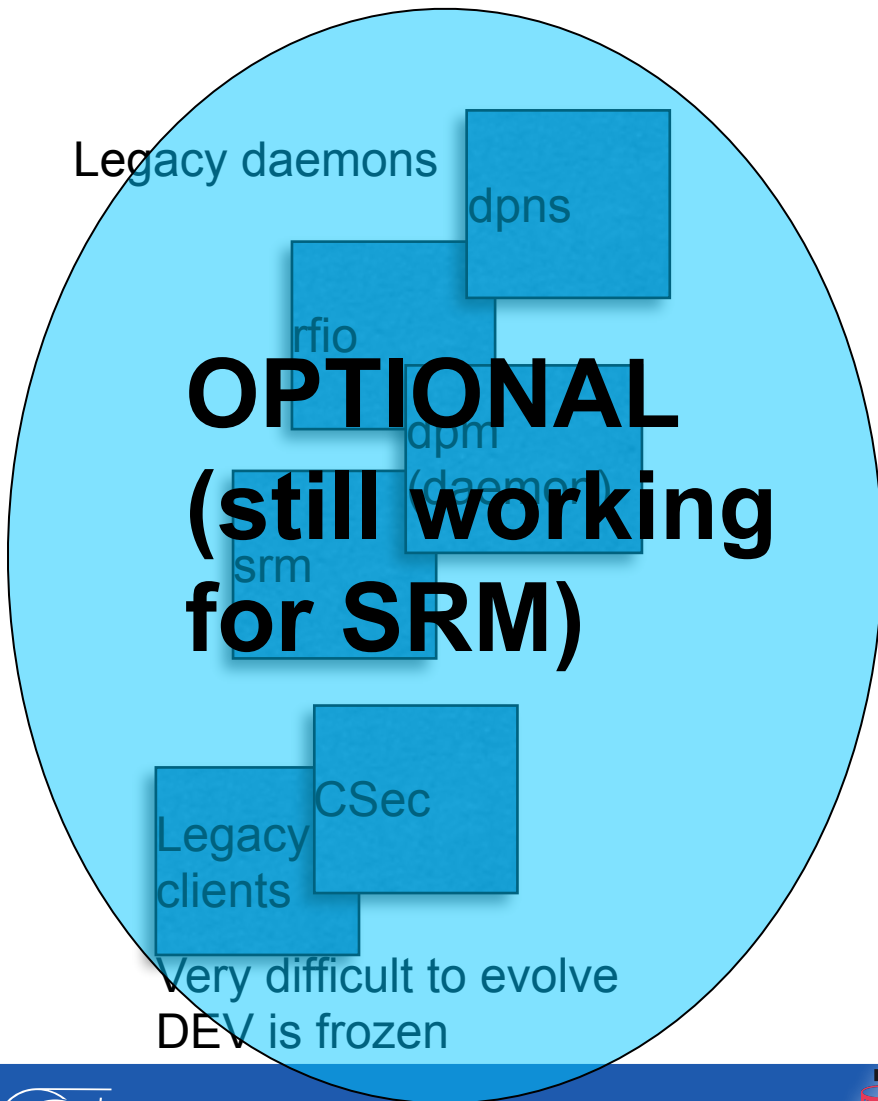
DPM components and plugins (2018)



DPM components and plugins (2018)



DPM components and plugins (2018)



LCGDM support from 01/Jun/2019

- From **1st of June, 2019** our standard LCGDM support answer will be **“there is an alternative: upgrade DPM to DOME flavour, please”**
 - A large part of DPM support requests is about dpm+rfio clogging, these problems will instantly be reduced and simply disappear as the SRM usage decreases
- LCGDM will stay in EPEL as long as it compiles untouched in Rawhide (EPEL rules will remove it if it breaks)
 - It's pure C code, hence that can be years, we don't give limits
- LHC Tier-2s in general can work without SRM, at least there are recipes to do it
 - e.g. for ATLAS: <https://indico.cern.ch/event/699602/contributions/2944281/>

DPM upgrade Task Force

- **Sites will be incrementally asked by WLCG to provide SRR. This prompts for an upgrade+reconfig of all them, DOME has to be enabled**
 - This includes head nodes and disk servers
- There's the need for a coordinated process, to minimise the effort and maximise the outcome
 - A WLCG Task Force has been recently started (Sept 2018). The activity will be split into two phases:
 1. Pilot sites (we would like 5, we have 3 so far) upgrade/reconfigure, the DPM team works in close contact and refines the docs
 2. All the other sites are asked to upgrade
 - <https://twiki.cern.ch/twiki/bin/view/LCG/DPMupgrade>
- DPM docs: <https://twiki.cern.ch/twiki/bin/view/DPM>

Phase 1 - Volunteers wanted

- To be accomplished by the end of 2018
- So far, three sites volunteered, we'd like to have two more
 - Brunel
 - INFN-NAPOLI-ATLAS
 - PragueLCG2 (Petr Vokac already did it and contributed useful comments and fixes)
- We will soon call for a traditional “DPM dev enlarged meeting”
- We will ask for a GDB slot to propagate the information
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