



DPM 1.10.0 setup

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Outline

- DPM puppet: what's new
- DPM upgrade to v 1.10.0 via puppet
- DPM docker
- “DPM in a box”

Puppet modules distribution

- Starting from 1.10.0 the DPM puppet modules and the needed dependencies are shipped via EPEL
- New package “*dmlite-dpm-puppet*”
- It installs the modules under:
 - */usr/share/dmlite/puppet/modules*
 - The versions of the dependencies are the ones validated by us
- The modules are also still distributed via puppet- forge
 - *puppet module install lcgdm-dpm*

Puppet modules usage

- Masterless setup
 - `puppet apply --modulepath /usr/share/dmlite/puppet/modules <your manifest>.pp`
- Puppet infrastructure
 - Just install the modules in your Puppet Master
 - Separate environment may be needed (different version of the dependencies)
- <https://twiki.cern.ch/twiki/bin/view/DPM/DpmSetUpPuppetInstallation>

puppet-dpm example

```
class{"dpm::headnode":  
  configure_vos           => true,  
  configure_gridmap      => true,  
  disk_nodes             => "dpm-  
puppet02.cern.ch",  
  localdomain           => "cern.ch",  
  webdav_enabled        => true,  
  ...  
}
```

- Same for disknode and head+disknode

puppet-dpm & Hiera

- Parameters can be passed via Hiera (locally or via puppet master)

```
dmlite::disk::log_level: 1
dpm::params::debug: true
dpm::params::headnode_fqdn: "dpmhead01.cern.ch"
dpm::params::disk_nodes:
  - "localhost"
dpm::params::localdomain: "cern.ch"
dpm::params::token_password: "TOKEN_PASSWORD"
dpm::params::xrootd_sharedkey:
"A32T064CHARACTERKEYTESTTESTTEST"
dpm::params::volist:
  - "dteam"
  - "lhcb"
dpm::params::dpmmgr_uid: 500
dpm::params::mountpoints:
  - "/data"
  - "/data/01"
```

Old Manifest templates

- For the sites that are using the manifest templates distributed by us before puppet-dpm, we will continue to support them for DPM 1.10.0 legacy configuration
- We don't support them for the migration to DOME as this will require quite some changes (hidden by puppet-dpm)

Puppet Versions

- We support both puppet 4 and 5 from the puppetlabs repositories
 - Finally also the BDII module has been upgraded to support puppet 4/5
- puppet 3.x is EOL since 2017
 - <https://docs.puppet.com/guides/platforms.html#puppet-agent-and-operating-system-support-life-cycles>
 - Still usable if `future_parser` option is enabled
 - https://docs.puppet.com/puppet/3.8/experiments_future.html
 - Support from most of the needed dependencies is being dropped

Minimal setup

- Use Puppet 5
- Masterless (no Puppet infra)
- Use the dmlite-puppet-dpm rpm
- Puppet-dpm manifests
- No hiera

Bug fixes and enhancements

- Integration of the new DOME
- Implemented the Legacy free configuration
 - DPM/DPNS/RFIO/SRM free
 - DPM conf without DPM/DPNS clients
 - Everything done using dmlite-shell
- New conf for AAA (by A. Sartirana, thanks!)
- CC7 conf fix and enhancements
- Lots of other bug fixes
 - Quite some PRs from Admins😊

DPM 1.10.0 upgrade

- The upgrade steps of an existing DPM to 1.10.0 are documented at
 - <https://twiki.cern.ch/twiki/bin/view/DPM/DpmSetup1100>
- Both Manual and Puppet steps are available
 - focus on the puppet steps now
- Legacy-free steps are also documented

DPM 1.10.0 upgrade[2]

- Nothing to change on the configuration for the upgrade to DPM 1.10.0 Legacy mode
- In case of DOME migration you need to upgrade the puppet modules first
 - dmlite-dpm-puppet package
 - lcgdm-dpm \geq 0.6.0 from puppetforge
- Move to puppet 4 or 5 is also needed

Dome Installation and configuration

- Configuration changes both on *headnode* and *disknode* classes needed for DPM 1.10.0 DOME setup
 - `configure_dome => true`
 - `host_dn => 'your headnode host cert DN'`
- N.B This will upgrade the DB schema and restart all the services (if you haven't done it already in 1.9.0)
- N.B The **token_password** parameter MUST be now a string with more than 32 chars
- From this point on the Quotatokens can be defined.

Dome Installation and configuration[2]

- To complete the DOME deployment and configuration
 - `configure_domeadapter => true`
- Changes applied
 - Install and configuration of the dmlite-domeadapter-plugin
 - dmlite-adapter, mysql and memcache plugins (on the headnode) removal
- Enabling gridftp redirection is now optional, but it's suggested when you move out from SRM (performance reason)

Disabling the Legacy Stack

- Once the Legacy Stack is not needed anymore (or in new installations without legacy), it can be disabled in puppet
 - Both on headnode and disknode classes
 - *configure_legacy => false*
 - This will make sure that Puppet will not configure and enable the legacy daemons
 - Admins should remove the old packages manually before running puppet again
- https://twiki.cern.ch/twiki/bin/view/DPM/DpmSetup1100#3_Upgrade_to_DPM_1_10_0_Legacy_f

TO DO List

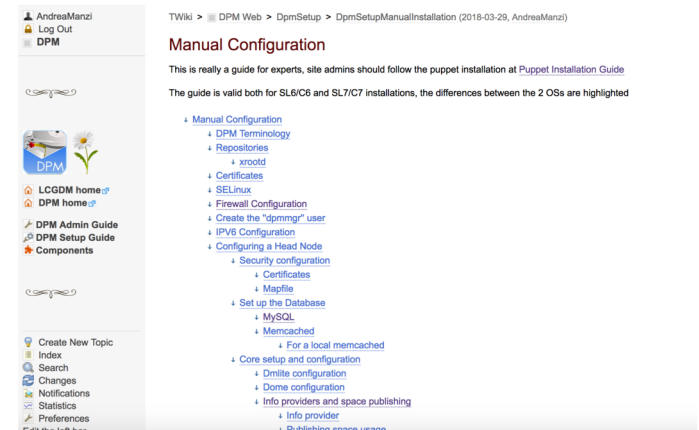
- Complete configuration changes for the new InfoProvider and Storage summary script
- NS Multi-domain setup?
- Allow a different vo list to be published on the BDII
- Align DPM/DMLITE modules versions to the version of the software
- Modernize the modules (Use new syntax and features from puppet 4/5)

Known Issues

- Puppetlabs-mysql changes since v 3.5.0 broke DPM installation with external DB for Legacy Installations
 - Still to adapt our code to the changes (item for TO DO List😊)
 - puppetlabs-mysql v 3.4.0 is used now

Manual Configuration Guide

- DPM DOME installation
 - <https://twiki.cern.ch/twiki/bin/view/DPM/DpmSetupManualInstallation>
 - N.B. DPM 1.10.0 setup to be completed
- DPM Legacy Installation
 - <https://twiki.cern.ch/twiki/bin/view/DPM/DpmSetupLegacy>



The screenshot shows a web browser displaying the 'Manual Configuration' page on the TWiki website. The page title is 'Manual Configuration' and it includes a breadcrumb trail: 'TWiki > DPM Web > DpmSetup > DpmSetupManualInstallation (2018-03-29, AndreaManzi)'. The page content includes a warning: 'This is really a guide for experts, site admins should follow the puppet installation at Puppet Installation Guide' and 'The guide is valid both for SL6/C6 and SL7/C7 installations, the differences between the 2 OSs are highlighted'. A table of contents is visible, listing sections such as 'DPM Terminology', 'Repositories', 'Certificates', 'SELinux', 'Firewall Configuration', 'Create the "dpmng" user', 'IPv6 Configuration', 'Configuring a Head Node', 'Security configuration', 'Set up the Database', 'MySQL', 'Memcached', 'Core setup and configuration', 'Dmitry configuration', 'Dome configuration', 'Info providers and space publishing', and 'Publishing space usage'. The left sidebar contains navigation links like 'Log Out', 'DPM', 'LCGDM home', 'DPM home', 'DPM Admin Guide', 'DPM Setup Guide', 'Components', 'Create New Topic', 'Index', 'Search', 'Changes', 'Notifications', 'Statistics', and 'Preferences'.

DPM Docker

- We have adapted our Docker images to DPM 1.10.0
- Only DPM “DOME only” images are available
 - https://gitlab.cern.ch/lcgdm/dpm-docker/container_registry
- Images can be rebuilt from the Docker files at
 - <https://gitlab.cern.ch/lcgdm/dpm-docker>

DPM Docker [2]

- 5 images available for C7
 - Head, Head+Disk, Disk, DB, Client
- “Fat” images
 - Several services running on a given container via *supervisord*
- No users so far AFAIK, only used for testing
- Please let us know if you are interested to use them for your testing or production installations

“DPM in a Box”

- <https://gitlab.cern.ch/lcgdm/dpm-docker/tree/master/dpmcluster>
- DPM Cluster to run in a single node
 - 4 containers : Head, Disk, DB, client
 - Dedicated bridged network
 - Self-signed Certs
 - dteam VO preconfigured, pool with 1 FS and 5GB quotatoken.
 - (latest Xrootd issue with self-signed certs)
- DEMO

Questions?

