DPM WORKSHOP

Highlights

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❖ **Naples, 9-10 Oct 2014:**
  ➢ http://indico.cern.ch/event/324705/ ;
  ➢ **thanks** to the **INFN** for the hospitality;

❖ ~20 participants
  ➢ **Australia, France, Italy, Poland, Taiwan, UK;**
  ➢ France represented by F. Chollet, A. Sartirana (+ M. Jouvin remotely);

❖ just a **brief summary.** See also:
  ➢ https://indico.cern.ch/event/272779/ (Keeble).

the collaboration

❖DPM now run as a **community effort**:

➢ **CERN** takes care of the **core development;**

➢ **partners**: complementary skills/resources

It was not possible to put this proposition (web admin interface) into practice.

GRIF_{IRFU|LLR} active on puppet. QWG care of quattor.

GRIF_LAL, LAPP + GRIF_LLR contrib. to WLCG middleware validation.

Area	Partner
DMLITE/VFS	CESNET
Admin tools, rebalancing	GridPP
I/O Monitoring	Japan
Web admin interface	France
Support (beyond local responsibilities, not necessarily on rota)	GridPP
Documentation & web presence	GridPP, ALL
Configuration, puppet, YAIM transition	France, GridPP
Permanent pilot testing (EPEL-test) – for validation of all updates	GridPP, France, Italy
Ad-hoc testing: HTTP/DAV	GridPP
Ad-hoc testing: S3 validation	GridPP
Ad-hoc testing: HTTP federations	Italy,GridPP
Ad-hoc testing: IPv6	GridPP
Ad-hoc testing: GridFTP redirection	Needed
Hammercloud & I/O optimisation	GridPP, ASGC
All activities not mentioned above, see note	CERN

echos from sites

➢ Struggling with **SRM perfs.**

➢ Interest in **diff. backend**: Lustre, GPFS, HDFS, Cloud;
➢ **argus** integration;
➢ need **load** spikes **mgmt**;
➢ interest on **non-SRM ops.**

➢ Fully **AAA/FAX** enabled;
➢ **drain/load bal.** pains;
➢ mostly **Quattor.** Some **puppet** and **hybrid** sites.

➢ Open Stack **High Avail.;**
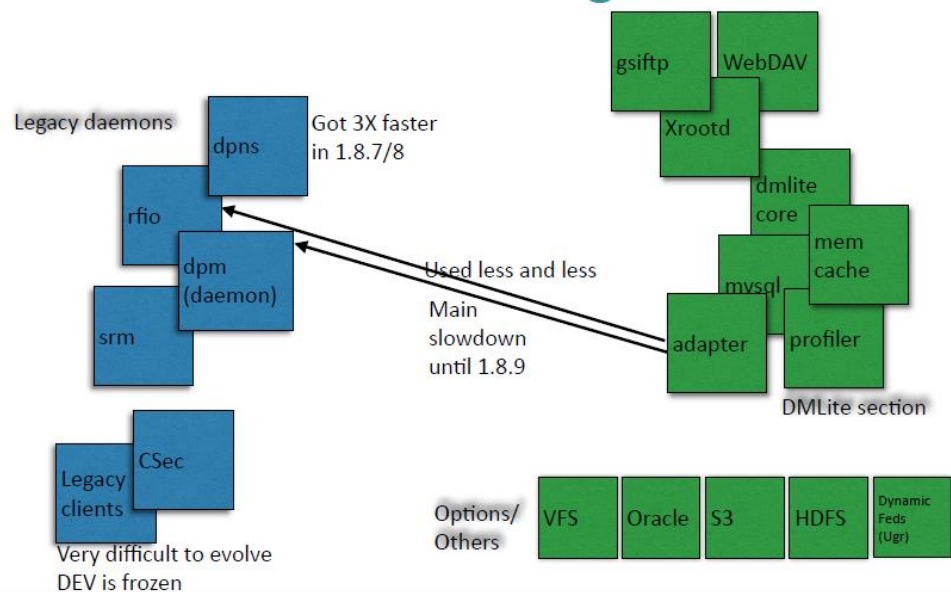➢ **distr. T2 proto** (NA-RO)
➢ **http/WebDav fed.** (inc StoRM).

➢ Part of the **Canada HTTP dynafed federation;**
➢ also run **DPM on Belle II**

the dev status

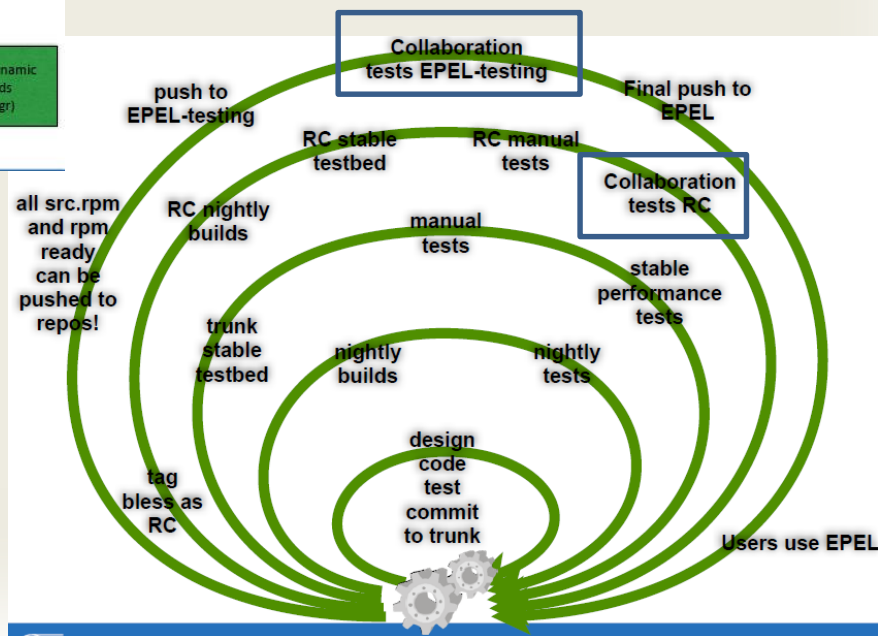« … DPM is a set of **components blessed as** well **working together** plus a standard **configuration** given **by puppet** templates …

F. Furano »

« … Our **contiuous build and testing** workflow proved to be very **relyable** and helped us a lot to use well our time…

F. Furano »

released 1.8.9

❖ Released on **05/11** in **epel**:

➢ lcgdm 1.8.9, dmlite 0.7.1, dpm-dsi 1.9.3, dpm-xroot 3.3.6, webdav 0.15 ;

➢ @ FR sites: GRIF_{IRFU|LAL|LLR},… ;

❖ **not yet** in **WLCGBaselineVersions**

➢ delayed until new SAM probe available **(15/12)**;

❖ highlights:

➢ **performances**: up to a x10 wrt 1.8.8;

➢ new features: **logging** and **xrootd-like mon**;

➢ **official puppet** modules;

➢ other: dpm-listspaces fix/argus poller emi3.

performances in 1.8.9

❖ A **lot of work** on performances*:*

  ➢ **memcached** is now part of the standard install ;

  ➢ **removed** most of **interactions** with **dpm/dpns**;

  ➢ up to **x10 peak perf** wrt 1.8.8 in opening files;

❖ triggered by **CMS-AAA tests***:*

  ➢ round of test ran by **F. Fanzago**;

  ➢ target: **100Hz** file open / **150MB/s** file read;

  ➢ **precious feedback** from sites.

new in 1.8.9: logging

❖ New **DMLite logging** subsystem:
  ➢ log **by level** log **by component**;
  ➢ final filter through syslog;
  ➢ many **log lines** added to **all components**;
 ➢ in the config file:

    ▪ **LogLevel=[0..5]**

    ▪ **Log <componentname>**

```
2014-09-19T14:22:14.740239+02:00 lxfsra10a01 httpd.event[12384]: dmlite Memcache getValFromMemcachedKey : Exiting with value from memca
2014-09-19T14:22:14.740249+02:00 lxfsra10a01 httpd.event[12384]: dmlite Profiler extendedStat : path: /dpm/cern.ch/home, follow: 1
2014-09-19T14:22:14.740265+02:00 lxfsra10a01 httpd.event[12384]: dmlite Mysql extendedStat :  parent:0 name:/
2014-09-19T14:22:14.740468+02:00 lxfsra10a01 httpd.event[12384]: dmlite Mysql execute : Executing: 0x7f75ec046f40 nParams_: 2
2014-09-19T14:22:14.740550+02:00 lxfsra10a01 httpd.event[12384]: dmlite Mysql execute : Executed: 0x7f75ec046f40 nParams_: 2 nrows:1844674
2014-09-19T14:22:14.740572+02:00 lxfsra10a01 httpd.event[12384]: dmlite Mysql extendedStat : Exiting  parent:0 name:/ szu1
```

new in 1.8.9: Mon
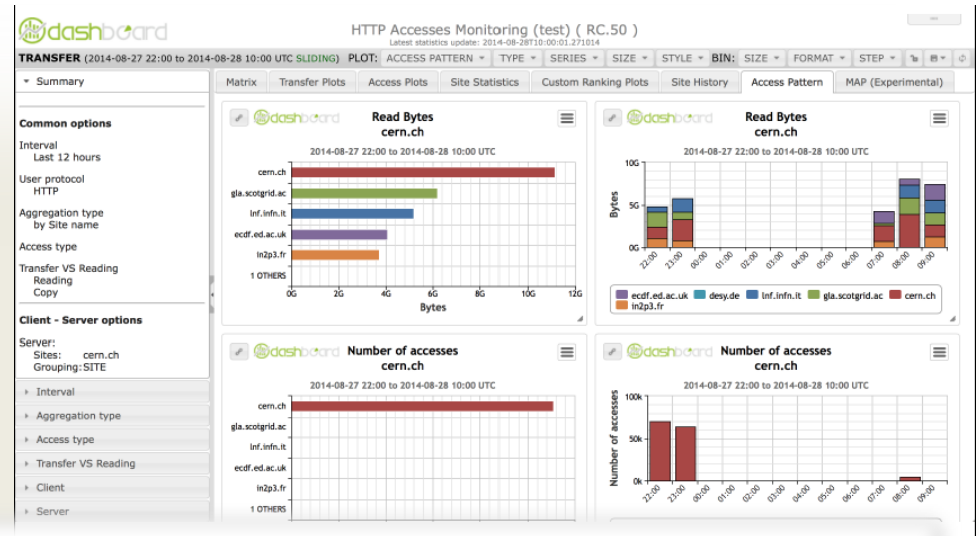

❖ Dmlite-plugin profiler plugin:
  ➢ **wraps dmlite** api calls;
  ➢ sends info to a **GLED**;
  ➢ implements **real-time multiVO multiprotocol** xrootd-like IO monitoring;
❖ **integration** of **HTTP** to monitoring dashboard **in progress.**

gridftp redirection

- Allows for **SRM-less** gftp transfers;
- https://svnweb.cern.ch/trac/lcgdm/wiki/Dpm/GridFTP
- **not all clients** support the DP mode needed
    - **old clients** will trigger **rfio** background **copies**;
    - **FTS3** and **gfal-2** are ok.

Mode used by redirection
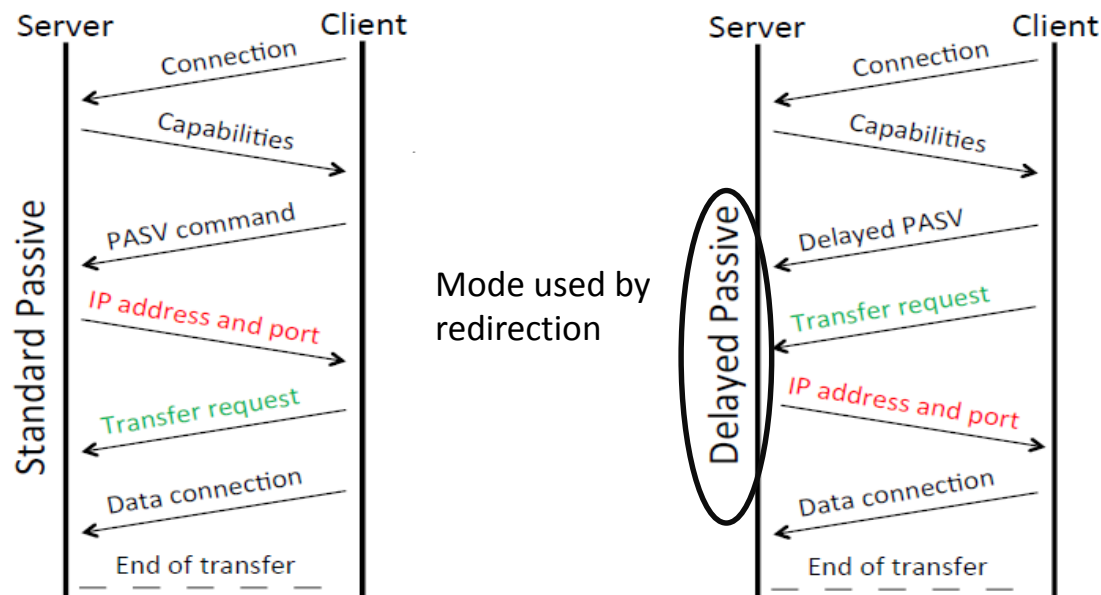
Available since 1.8.8

Currently testing: LAPP, GRID_LLR and Edinbourg.

❖**Replace RFIO** with WebDav:

   ➢ **Davix** seems to have all needed functionalities;

❖**review** spacetoken and **pools**:

   ➢ **remove pools** as we know them;

   ➢ **space management on** top level **directories**;

   ➢ **disks labelling**;

❖space reporting : **srm-less** operation

   ➢ cover srm functionality within the namespace ;

   ➢ proposal and **consensus with dCache and StoRM** on metadata report (webdav RFC).

❖ **Gridftp logging** too verbose

➢ fix provided;

❖ **reconsid. of metapackage** for handling deps

➢ metapackage **added to epel**, trying to avoid "synchronization pb" with EMI metapackage;

❖ rebalancing / draining

➢ in the forum, **sites stuck with rfio** (little improvement in 1.8.9 fix which prevents a hang but still bug in rfiod);

➢ preference to **redo the tool** using the recently API **using webdav and gridftp**.

❖ DPM community is **very active**:
  ➢ sites and devs seem to be making a great job;

❖ **1.8.9** released:
  ➢ important **performance upgrade**;
  ➢ some **new stuff**: logging and mon;

❖ other **new** stuff:
  ➢ **gridftp redirection**;
  ➢ …and **more to come**: rfio/pools/srm bye bye;

❖ **French** contribution:
  ➢ **testbeds** running at LAPP, GRIF_{LAL|LLR};
  ➢ active on **puppet/quattor** conf – GRIF_* .