



The Middleware Readiness Working Group

WLCG Workshop

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for the WG

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v1.1



Mandate

To ensure that operation won't suffer when a site is called to upgrade Middleware (MW) package X to version Y, i.e. that versions are not only **tested** and **certified** internally by the Product Teams (PTs), but also **ready** to be used in operation at the sites, **integrated into the experiment workflows.**

Done so far: Collaboration & Doc.

- Five meetings since 2013/12/12.
- Decided that the existence of multiple repositories is fine and the MW PTs use the one(s) of their choice. Got official statement on the EMI repo maintenance.
- Documented and inter-related:
 - The PTs responsible for the not-so-short list of MW products to be verified for Readiness.
 - The WLCG VOs' workflows, using these MW products.
 - The Volunteer sites participating in the effort which:
 - Collaborate with the PTs for testing release candidates
 - Have expert VO contacts on site.

Done so far: New WLCG Role & Tool

- The WLCG MW Officer – Andrea Manzi:
 - Orchestrates the Readiness verification at the *Volunteer Sites* for release candidates approved by the PTs,
 - Decides when a version can enter production and
 - Informs the WLCG Ops Coordination meeting.
- The WLCG MW Package Reporter – a tool, developed by Lionel Cons, that:
 - Parses and selects WLCG MW rpms running at the sites, in production & under testing.
 - Keeps collected data encrypted and with restricted access (available to the MW Officer).

Repositories in more detail

- The PTs use the repository of their choice.
Examples:
 - EPEL
 - MAVEN
 - WLCG
 - Their product's web site
 - EGI-UMD
 - EMI
 - A combination of the above

The not-so-short-list of MW products

- We picked dCache, StoRM, EOS, xrootd, DPM, LFC, FTS3, VOMS Client, as a start.
- On experiments' request, HTCondor, CVMFS, ARC CE, CREAM CE, BDII, ARGUS, UI, WN, gfal/lcg_utils, gfal2/gfal2_utils were included in the [PT table](#).
- Now using DPM to try the Readiness Verification process.
- To be followed by CREAM CE.
- Operational issues will assign priorities for including the other MW products of our PT table in the Readiness Verification effort.

More on the *Volunteer sites* & the VOs

- ATLAS & CMS Experts, David Cameron & Andrea Sciabà, members of the WG, approached sites where MW products of their choice are tested by the PT, as release candidates.
- They documented experiment application programmes to be used for the testing.
- The sites prepared a special set-up (details [here](#)) for this effort that will appear separately in Monitoring results.
- The “how” these results will be displayed is being studied.

Identifying the MW versions running in production & under Readiness verification “The WLCG Package Reporter”

- Proposal & implementation by *Lionel Cons* (CERN/IT-SDC) (see his [presentation](#) at the [4th meeting of the WG](#) on 2015/05/15).
- First version of the tool is now available, documented [HERE](#) and presented by Lionel at the [5th meeting of the WG](#) on 2015/07/02.
 - Sites report the **RPMs** they use.
 - Their RPM version information is stored in a DB.
 - A sub-set is kept containing only the MW packages used at the site.
 - What is installed for production (or testing) is checked against a reference (baseline or newer but tested) version.
 - Tests run all the time, Hammercloud (HC) is recommended.
 - Test results for release candidates may be distinguished by different site/host/queue names.
 - Historical version data are kept for 1 year to diagnose the point when test results change status (turn good/bad or unknown=not tested).
 - Existing Grid Monitoring technology will be used to evaluate results. The MW Officer examines the output results' status.

The **operational** tasks of the WLCG MW Officer

- Maintain and verify the baseline versions for the MW components
- Communicate with sites not compliant with baseline versions
- Monitor and liaise with EGI and UMD for matters regarding the WLCG MW and versions

The MW **Readiness** tasks of the WLCG MW Officer

- Discover new versions ready for entering Readiness verification
- Make sure that new release candidate versions of clients are available in the agreed CVMFS area `grid.cern.ch`
- Communicate with Volunteer sites to agree which version is tested at which Volunteer site and by which VO
- Monitor results of the Volunteer sites to decide on Readiness of a given release being verified
- Decide if versions can enter production at a subset of these sites, if tests should also run under load.
- Announce to the WLCG community the Readiness Verification results by maintaining a new extended baseline versions table

Recent WLCG MW Officer actions

- Taking over the [Baseline versions' table](#) maintenance (including [T0/T1 service versions](#)).
- Started Participation in EGI URT and WLCG Ops meetings.
- AFS Grid Application Area publication to CVMFS
 - CVMFS development team gave IT-SDC experts write access to the grid.cern.ch CVMFS area
 - AFS Grid Application area published in CVMFS
 - /afs/cern.ch/sw/lcg/external/Grid
- Decided to use DPM as pilot PT in order to apply the middleware Readiness procedure
 - DPM 1.8.9 is in preparation (target date in July 2014)
 - Understanding the DPM release process and the sites involved in the testing and the software verification.

Current actions of the WG

- **MW Officer:**
 - Work on the detailed DPM pilot set-up with *Volunteer sites* (Edinburgh & GRIF) and VOs (ATLAS & CMS).
 - Contacting sites not compliant with Baseline, e.g. CVMFS client upgrades
 - Maintaining a list of [MW Issues](#) affecting the WLCG infrastructure.
- **Site Managers: Edinburgh, GRIF & more *Volunteer sites*:** Install the ["WLCG Package Reporter"](#) for version parsing. Feedback to Lionel.
- **MW Officer & Package Reporter developer:** Think of a method to display test results, versions in production, versions of release candidates and to document conclusions (an Extended [Baseline Versions' table](#)).
- **WG management & VO experts:** Review the process documentation & proceed with CREAM CE after DPM as the 2nd product from the PT table.
- **Work with OSG:** Continue discussions within (US)ATLAS, (US)CMS, the WG and OSG to devise the Readiness verification procedure for HTCondor. This is the 1st WG activity involving OSG.

Documentation & Contact Info

- MW Readiness WG Tasks' Overview ([here](#)) for use by the WLCG Ops Coordination meeting.
- Next (6th) meeting: 2014/10/01 at 16:00hrs CEST at CERN (also vidyo/audioconf).
- Twiki:
<https://twiki.cern.ch/twiki/bin/view/LCG/MiddlewareReadiness>
- E-groups:
 - wlcg-ops-coord-wg-middleware@cern.ch
 - wlcg-middleware-officer@cern.ch
 - wlcg-package-reporter@cern.ch