# SL6 Migration

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ATLAS ADC weekly

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# SL6 migration timeline

- After the 1$^{st}$ of June sites were encouraged to upgrade

  - Progress slowed down by some problems still existing after the 1$^{st}$ of June

- Bulk of resources by 31$^{st}$ of October 2013

  - Less than 3&1/2 months now to move

# Sites situation

- T1s Done: 7/15 (Alice 4/9, Atlas 5/12, CMS 3/9, LHCb 4/8)

- T1s not Done: 8/15 (1 without a plan, 4 with a plan, 3 in progress)

  - 7/8 (1/1) are atlas T1s

- T2s Done: 32/129 (Alice 7/39, Atlas 15/89, CMS 18/65, LHCb 8/45)

- T2s not Done: 97/129 (40 without a plan, 45 with a plan, 12 in progress)

  - 74/97 (35/40) are atlas T2s

# EMI-2/EMI-3

- EMI-2:
  - rpm & tarball: no problem

- EMI-3:
  - 8 sites testing (see EMI-3 testing)
    - 3 are online in prod, 1 in analysis
  - So far 3 problems with new voms-proxy-info
    - 2 solved in the current production version (3.0.3)
    - 1 solved in the test version
      - Only sites setting mem limits affected
      - Should be released in one or two weeks
  - SOLVED

# Releases Validation

- The new method has been in use for a month now
  - It tags the PandaResources not the batch queues
  - It runs as a pilot (no WMS anymore)
  - sgm accounts still needed to edit local setup on NFS
    - Cvmfs solution to remove NFS requirement being tested
  - There was a problem for few days with DDM
    - Too many datasets frozen async too quickly
    - Validation jobs now freeze datasets
    - SOLVED

# Which releases?

- All SL5 pre-compiled executables work on SL6

- Not all releases compile on SL6

    - CMTUSERCONTEXT is now set by the system

        - This allows all releases to compile on SL6 in MOST cases

            - It doesn't work yet when Tools/PyUtils/bin/setupWorkArea.py

                - RPMCompactSLC6 list of releases that work in this case
                - Wider solution that works for all releases in test

        - MOSTLY SOLVED

            -

- 17.7.0, 1ˢᵗ SL6 native build, so far the only one

    - Other native build releases will follow

    - SL6 native builds do not run on SL5 sites.

# Conflicting libraries

- There was a conflict between libsts in SL5 gcc from the sw area, and SL6 libvoms needed by the LFC client called at user application level.

  - The LFC lookup moved at pilot level isolate the library calls and avoids the problem.

    - Pilot has been modified and is now in production

  - SOLVED

# SL6 open() & CVMFS

- Bug affecting the evgen tasks using LHAPDF in all the releases.
  - An open() call on SL6 kernel returns different flag than expected.
    - ~~Required CVMFS rw mount flags~~
  - RH released a kernel restoring open() call to its original behaviour
    - Install kernel-2.6.32-358.11.1.el6 onward
  - SOLVED

# UI@T3

- To configure Atlas @T3
  - AtlasRootLocalBase scripts to setup the correct environment
  - Works from cvmfs
    - It is recommended to install cvmfs rather than atlas code
- Lxplus is now setup to make it transparent for users
  - Consult the WorkBook
  - SOLVED

# User Code problems

- Users have to adapt their setup. Some tips:
  - Ensure CXXFLAGS is set correctly for SL6
  - Use the latest RootCore (00-01-80)
    - Check the RootCore twiki
  - Use alternatives to –athenaTag (--rootVer and --cmtConfig)
- Users should contact Analysis Help list rather than sites.
  - hn-atlas-dist-analysis-help@cern.ch

# Links

- SLC6Readiness
  - Problems and solutions
  - AGIS queues reorganisation
- SL6migration procedures
- SL6 sites deployment
- SL6 EMI-3 deployment

- RootCore
- WorkBook
- RPMCompatSLC6
- AtlasLocalRootBase
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# Conclusions

- Show stoppers have been solved.

- More releases with native builds will be released

- Users should adapt their code

- There are now 3.5 months to move the bulk of resources.

  - 74 T2 to move of which 35 don't have a plan

- Sites should start moving to SL6.

  - EMI-2 is safe

  - EMI-3 testing is promising

# BACKUP SLIDES
## (REPEATING DOES GOOD)

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# HEPOS_libs

- HEPOS_libs is currently available and documented
  - See SL6 Dependency RPM
    - Contains dependencies needed by Atlas
- It has been tested by a number of sites
  - On SL6 and CentOS
- If any problem:
  - Contact: Andrea Valassi/Fabrizio Furano
    - There's no GGUS support for this

# WLCG Repository

- WLCG repository for extra experiments software was deemed necessary
  - http://linuxsoft.cern.ch/wlcg/
    - Find yum repo config in it
  - HEPOS_libs is now placed there
    - SL5/SL6 versions
  - Other rpms produced or requested by experiments are also there

# Atlas procedures

- ATLAS can not run on a mixed SL6/SL5 WNs cluster transparently.

  - No SL5/SL6 WNs behind the same queue

  - No SL5/SL6 CEs behind the same panda queue

- Big Bang transition to SL6:

  - Sites go in DT and come back as SL6 site

    - Easier to handle for Atlas in particular if the sites have very little local support.

- Rolling transition to SL6:

  - Sites that don't want to go in downtime and have good local support should do this

    - Allows to catch problems in a less painful way

# AGIS Queues

- Current relation for each Site
  - PandaResources → PandaQueues → CE/queues
    - $1 \rightarrow N \rightarrow N$
  - PandaResource → PandaQueue → CE/queues
    - $1 \rightarrow 1 \rightarrow N$
  - Aim is to merge PandaResource with PandaQueue eventually
    - HC test and new SW installation use PandaResource
- Upgrade to SL6 is a good time to re-organise queues in AGIS.