

New CI platform for EOS and XrootD

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In the past year, we have migrated the continuous integration platform of EOS, XrootD and all related projects from Jenkins to Gitlab CI in order to provide a more agile, satisfying and all-automated build environment.

Numerous achievements have been reached during the year.

We have introduced builds and packages for new platforms. For EOS, we have created an all-inclusive dmg package for Mac OS Sierra. Both for EOS and XrootD, Debian packaging has been made available with the support of Ubuntu Artful packages for EOS and XrootD, and with the support of Ubuntu Xenial for XrootD. A new, fully-functional apt repository has been established for making widely available the built Debian packages.

For non-release builds, compiler caching has been made available for all platforms to reduce compilation time as much as possible.

A lot of efforts have been made towards the verification of the EOS software in hope to constantly improve the quality.

We have introduced unit testing based on Google tests framework.

We started to use multiple static analysis tools, Coverity (once a day) and cppcheck with Sonar on a regular basis to detect problems as early as possible.

We introduced a containerized environment based on Docker images (which are built and published for each code changes) to be able to conduct complex tests (FUSE, FUSEX, EOS CLI, stress tests) requiring a fully functional (including authentication) running instance of EOS for each code changes. A similar effort has been made for testing XrootD, as well.

Packages are now automatically signed for released RPMs and all Debian packages.

Our continuous integration environment also has been integrated with Koji to automatically publish release SRPMs which will be rebuilt and client packages will be available in the EPEL repositories.

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