

Automation and Testing for Simplified Software Deployment

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Creating software releases is one of the more tedious occupations in the life of a software developer. For this purpose we have tried to automate as many of the repetitive tasks involved from getting the commits to running the software as possible. For this simplification we rely in large parts on free collaborative services build around GitHub: issue tracking, code review (GitHub), continuous integration (Travis-CI), static code analysis (coverity). The dependencies and compilers used in the continuous integration are obtained via CVMFS used inside docker. This allows one to run any desired compiler version (e.g., gcc 6.2 , llvm 3.9) or tool (e.g. clang-format, pylint). To create tags for the software package the powerful GitHub API is used. A script was developed that first collates the release notes from the description of each pull request, commits the release notes file, and finally makes a tag. This moves the burden of writing release notes to the individual developer and away from the package maintainer. The deployment of software releases to CVMFS is handled via GitLab-CI. When a tag is made the software is built and automatically deployed. In this presentation we will describe the software infrastructure used for the iLCSoft and iLCDirac projects, which are used by CLICdp and the ILC detector collaborations, and give many examples of automation which might be useful for other collaborations as well.

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