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ATLAS software packaging

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Software packaging is indispensable part of build and prerequisite for deployment processes. Full ATLAS software stack consists of TDAQ, HLT, and Offline software. These software groups depend on some 80 external software packages. We present tools, package PackDist, developed and used to package all this software except for TDAQ project. PackDist is based on and driven by CMT, ATLAS software configuration and build tool, and consists of shell and Python scripts. The packaging unit used is CMT project. Each CMT project is packaged as several packages - platform dependent (one per platform available), source code excluding header files, other platform independent files, documentation, and debug information packages (the last two being built optionally). Packaging can be done recursively to package all the dependencies. The whole set of packages for one software release, distribution kit, also includes configuration packages and contains some 120 packages for one
platform. Also packaged are physics analysis projects (currently 6) used by particular physics groups on top of the full release. The tools provide an installation test for the full distribution kit. Packaging is done in two formats for use with the Pacman and RPM package managers. The tools are functional on the platforms supported by ATLAS - GNU/Linux and Mac OS X. The packaged software is used for software deployment on all ATLAS computing resources from the detector and trigger computing farms, collaboration laboratories computing centres, grid sites, to physicist laptops, and CERN VMFS and covers the use cases of running all applications as well as of software development.

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