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The Distributed Parallel Multi-Platform ATLAS Release Nightly Build System

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The ATLAS offline software comprises over 1000 software packages organized into 10 projects that are built on a
variety of compiler and operating system combinations every night. File-level parallelism, package-level parallelism
and multi-core build servers are used to perform simultaneous builds of 6 platforms that are merged into a single
installation on AFS. This in turn is used to build distribution kits from which remote sites can create cloned
installations. Since ATLAS typically has multiple release branches open simultaneously, corresponding to ongoing
GRID productions, detector commissioning activities and ongoing software development, several instances of these
distributed build clusters operate in parallel. We discuss the various tools that provide performance gains and the
error detection and retry mechanisms that have been developed in order to counteract network and other
instabilities that would otherwise degrade the robustness of the system.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

ATLAS

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