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GEANT 4 TESTING INTEGRATION INTO LCG NIGHTLY BUILDS SYSTEM

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Geant4 is a toolkit to simulate the passage of particles through matter, and is widely used in HEP, in medical physics and for space applications. Ongoing developments and improvements require regular integration testing for new or modified code.

The current system uses a customised version of the Bonsai Mozilla tool to collect and select tags for testing, a set of shell and perl scripts to submit building of the software and running the tests to a set of Unix platforms and uses the Tinderbox Mozilla tool to collect and display test results. Mac OS and Windows are not integrated in this system.

Geant4 integration testing is being integrated into the LCG applications area nightly builds system.
The LCG nightly builds system based on CMT and on pyhton scripts supports testing on many different platforms, including Windows and Mac OS. The CMT configuration management tool is responsible for the configuration of the build and test environment and external dependencies in a structured and modulated way, giving fine control of configuring options for the build and execution of tests.

For the testing itself, the LCG nightly builds system uses QMTest, a test suite providing tools to test software and to present the test outcome in different formats. We are working to integrate this tool with Geant4 tests and to improve the presentation of test results, so we can give different outputs to the default ones, and different formats.

Further improvements include 'on-the-fly' automatic tag testing, parallel execution of tests, improvements on the time use of the server, testing of patches automatically and efficiency improvements.

Summary

Presentation type (oral | poster)

oral

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