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T4.1-P09. Development of The Continuous Automated Testing System at the International Data Centre (IDC) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO): a status report

Automatic processing system at IDC is a large complex software system; even minor modifications of this software require rigorous testing. Much of the IDC legacy software currently lacks any kind of unit or regression testing, with most of the testing being performed by domain experts running the software manually. Development of the Continuous Automated Testing System (CATS) is an ongoing project (started at the end of 2013) to integrate, standardize, and automate testing of IDC processing software. In 2014 we have designed and implemented the CATS open-source testing framework. This framework is capable of automatically executing a full range of tests, from unit tests to regression and full integration tests. Unit testing is triggered by modifications of the software code in the source repository. Integration tests are continuously executed by the CATS framework. If the test fails, CATS automatically generates an error report and posts into the CTBTO issue tracking systems so developers can rapidly fix the problems. Current target of the project is to maximize test coverage of IDC software. Development of the actual unit and integration tests help us to improve the CATS framework and set standards for the testable development of future software projects at IDC.

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