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# Continuous integration for the software and the firmware of the new ATLAS Muon-Central-Trigger-Processor-Interface (MUCTPI)

The new Muon-Central-Trigger-Processor-Interface (MUCTPI) is part of the upgrade of the ATLAS Level-1 trigger system for the upcoming run of the Large Hadron Collider at CERN. The new MUCTPI has three high-end FPGAs and one SoC. The FPGAs receive and process muon candidate information arriving on 208 high-speed optical serial links. Processed trigger information and summary data are sent to other parts of the trigger and the data acquisition. The SoC controls, configures and monitors the hardware and the operation of the MUCTPI. The FPGA part of the SoC provides communication with the processing FPGAs, while the processor system runs software for communication with the run control system of the ATLAS experiment. All software necessary to run the MUCTPI including operating system and run control software is being built using continuous integration. CentOS Linux, cross-compilation and the existing framework for building of the ATLAS trigger and data acquisition (TDAQ) software are being used in order to deploy the TDAQ software directly on the SoC. After the successful use of continuous integration of the software, also the firmware is being built using that scheme. This paper describes the advantages of the use of continuous integration, our experience, as well as the difficulties that needed to be overcome.

### Minioral

Yes

### IEEE Member

No

### Are you a student?

No

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