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## CentOS Linux for the ATLAS MUCTPI Upgrade

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A new Muon-to-Central-Trigger Processor Interface (MUCTPI) was built as part of the upgrade of the ATLAS Level-1 trigger system for the next run of the Large Hadron Collider at CERN. The MUCTPI has 208 high-speed optical serial links for receiving muon candidates from the muon trigger detectors. Three high-end FPGAs are used for real-time processing of the muon candidates, for sending trigger information to other parts of the trigger system, and for sending summary information to the data acquisition and monitoring system. A System-on-Chip (SoC) is used for the control, configuration and monitoring of the hardware and the operation of the MUCTPI. The SoC consists of an FPGA part and a processor system. The FPGA part provides communication with the processing FPGAs, while the processor system runs software for communication with the run control system of the ATLAS experiment. In this paper we will describe our experience with running CentOS Linux on the SoC. Cross-compilation together with the existing framework for building of the ATLAS trigger and data acquisition (TDAQ) software is being used in order to allow us deploying the TDAQ software directly on the SoC.

### Minioral

Yes

### IEEE Member

No

### Are you a student?

No

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