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Upgrade of the ATLAS Control and Configuration Software for Run 2

The ATLAS data acquisition (DAQ) system is controlled and configured via a software infrastructure that takes care of coherently orchestrating the data taking. While the overall architecture, established at the end of the 90's, has proven to be solid and flexible, many software components have undergone a complete redesign or re-implementation in 2013/2014 in order to fold-in the additional requirements that appeared in the course of LHC's Run 1, to profit from new technologies and to re-factorise and cleanup software.

This paper describes the approach that was taken to plan, organise and carry out this software upgrade project. It highlights the main technical choices that have guided the overall work, describes the major achievements and outlines how the control and configuration software may be further improved or re-shaped in the future.

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