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Experience with CORBA communication middleware in the ATLAS DAQ

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As modern High Energy Physics (HEP) experiments require more distributed computing power to fulfill their demands, the need for an efficient distributed online services for control, configuration and monitoring in such experiments becomes increasingly important. This paper describes the experience of using standard Common Object Request Broker Architecture (CORBA) middleware for providing a high performance and scalable software, which will be used for the online control, configuration and monitoring in the ATLAS Data Acquisition (DAQ) system. It also presents the experience, which was gained from using several CORBA implementations and replacing one CORBA broker with another.
Finally the paper introduces results of the large scale tests, which have been done on the cluster of more then 300 nodes, demonstrating the performance and scalability of the ATLAS DAQ online services. These results show that the CORBA standard is truly appropriate for the highly efficient online distributed computing in the area of modern HEP experiments.

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