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CRIC: the information system for LHC Distributed Computing

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The Worldwide LHC Computing Grid infrastructure links about 200 participating computing centers affiliated with several partner projects. It is built by integrating heterogeneous compute and storage resources in diverse data centers all over the world and provides CPU and storage capacity to the LHC experiments to perform data processing and physics analysis at petabytes scale data operations. Moreover the experiments extend the capability of WLCG distributed environment by actively connecting opportunistic Cloud platforms, HPC and volunteer resources. In order to be effectively being used by the experiments, these distributed resources should be well described, which implies easy service discovery and detailed description of service configuration.

CRIC represents the evolution of ATLAS Grid Information System (AGIS) into the common experiment independent high-level information framework which has been evolved in order to serve not just ATLAS Collaboration needs for the description of distributed environment but any other virtual organization relying on large scale distributed infrastructure as well as the WLCG on the global scope. CRIC collects information from various information providers, complements it with experiment-specific configuration required for computing operations, performs data validation and provides coherent view and topology description to the LHC VOs for service discovery and usage configuration.

In this contribution we describe the design and overall architecture of the system, recent developments and most important aspects of the CRIC framework components implementation and features like flexible definition of information models, built-in collectors, user interfaces, advanced fine-granular authentication/authorization and others.

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