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## **ALFA: Next generation concurrent framework for ALICE and FAIR experiments**

*Friday, 2 October 2015 09:00 (30 minutes)*

The commonalities between the ALICE and FAIR experiments and their computing requirements led to the development of a common software framework in an experiment independent way; ALFA (ALICE-FAIR framework). ALFA is designed for high quality parallel data processing and reconstruction on heterogeneous computing systems. It provides a data transport layer and the capability to coordinate multiple data processing components. ALFA is a flexible, elastic system which balances reliability and ease of development with performance by using a message based multi-processing in addition to multi-threading. The message-based approach allows different parts of the software to run on different hardware platforms (heterogeneous system). Moreover, each process in ALFA assumes limited communication and reliance on other processes. Such a design add horizontal scaling (multiple processes) to vertical scaling provided by multiple threads to meet computing and throughput demands. ALFA does not dictate any application protocols. Potentially, any content-based processor or any source can change the application protocol. The framework supports different serialization standards for data exchange between different hardware and software languages. The status of the development and existing proto-types will be presented in this talk.

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