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New experiences with the ALICE High Level Trigger Data Transport Framework

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The Alice High Level Trigger (HLT) is foreseen to consist of a cluster of 400 to 500 dual SMP PCs at the start-up of the experiment. It's input data rate can be up to 25GB/s. This has to be reduced to at most 1.2 GB/s before the data is sent to DAQ through event selection, filtering, and data compression. For these processing purposes, the data is passed through the cluster in several stages and groups for successive merging until, at the last stage, fully processed complete events are available. For the transport of the data through the stages of the cluster, a software framework is being developed consisting of multiple components. These components can be connected via a common interface to form complex configurations that define the data flow in the cluster. For the framework, new benchmark results are available as well as experience from tests and data challenges run in Heidelberg. The framework is scheduled to be used during upcoming testbeam experiments.

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