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Global Distributed Parallel Analysis using PROOF and AliEn

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The ALICE experiment and the ROOT team have developed a Grid-enabled version of PROOF that allows efficient parallel processing of large and distributed data samples. This system has been integrated with the ALICE-developed AliEn middleware. Parallelism is implemented at the level of each local cluster for efficient processing and at the Grid level, for optimal workload management of distributed resources. This system allows harnessing large Computing on Demand capacity during an interactive session. Remote parallel computations are spawned close to the data, minimising network traffic. If several copies of the data are available, a workload management system decides automatically where to send the task. Results are automatically merged and displayed at the user workstation. The talk will describe the different components of the system (PROOF, the parallel ROOT engine, and the AliEn middleware), the present status and future plans for the development and deployment and the consequences for the ALICE computing model.

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