

# Grid Architecture and Implementation For ALICE Experiment

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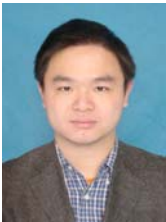
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**Abstract**—According to the requirement of the Physics Data Challenge and many years of experiences from the actual operations, we propose the Grid Architecture for the ALICE Experiment. This architecture builds on AliEn2 framework and AliEn2 is the grid framework for the whole system's management and also provides the client interface for accessing the ALICE Grid platform. On the base of AliEn2, we adopt some middlewares to make the platform more flexible, availability and efficiency. At the end, the whole system has been worldwide deployed at around 88 sites for distributed production of raw data and Monte Carlo data, detector simulation, reconstruction and real data analysis. We observe the activities of the platform from different point of view and report the performance of the whole ALICE grid platform. The whole Grid Architecture for ALICE experiment plays an important role in High Energy Physics. It successfully manages the resources distributed all over the world and has a great efficiency system to make all peoples from and in different countries working together. The experiments show the whole system works fine and efficient.

**Keyword**—AliEn, Grid, Job Management, Middleware, Transfer Management



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**Dr. Federico Carminati.** He obtained the Italian doctors degree in High Energy Physics at the University of Pavia in 1981. After working as an experimental physicist at CERN, Los Alamos and CalTech, he was hired at CERN where he has been responsible for the development and support of the CERN Program Library and the GEANT3 detector simulation MonteCarlo. From 1994 to 1998 he has participated in the design of the Energy Amplifier under the guidance of Prof. C.Rubbia (1984 Nobel Physics Laureate) in the development of innovative MonteCarlo techniques for the simulation of accelerator driven fission machines, and of the related fuel cycle. In January 1998 he has joined the ALICE collaboration at LHC assuming the leadership of the ALICE software and computing project. Since January 2001 he is holding the position of Work Package Manager in the European DataGRID project. He is responsible for the High Energy Physics Application Work Package whose aim is to deploy large scale distributed HEP applications using the GRID technology.



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