

THE ELETTRA E-SCIENCE PLATFORM: A FRAMEWORK FOR REMOTE OPERATIONS AND E-SCIENCE

M. Pugliese, ELETTRA, Basovizza, Trieste

Abstract

Modern science requires the most advanced Information and Communication technologies. Data generated by detectors and experimental stations have to be acquired, stored, processed, shared and visualized. Starting from the experience with the Elettra Virtual Collaboratory which allows a distributed team of researchers to carry out remote experiments using Elettra beamlines and with the contribution of EU funded research projects (GRIDCC, EUROTeV, DORII) we have developed a platform for E-Science applications. The platform is based on Grid technologies and allows the integration of sensors, instruments and other data sources to the computing and storage resources of the eInfrastructure / cyberInfrastructure and distance collaboration through a web portal called Virtual Control Room. The platform can be used in different contexts and supports the development of both scientific and industrial applications such as on-line processing of experimental data, environmental monitoring, remote operations and supervision of geographically distributed systems.

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