

“Spanish Network for e-Science: Fostering Spanish Scientific Activity by Means of Collaborative Use of Distributed Computational Resources”

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Abstract

The use of distributed resources along Internet for tackling challenging scientific problems in a collaborative way, has suffered a significant impulse in the recent years. This activity, known as e-Science, has as one of the main pillars the creation of stable and distributed infrastructures at regional, national or international level, connected through Internet.

In 2007, the Spanish Ministry for Education and Science from the Spanish Government, approved the Spanish Network for e-Science, which constitutes the first initiative in Spain oriented to coordinating users from different scientific disciplines and experts on two complementary technologies, such as Supercomputing and Grid Technologies.

The Spanish Network for e-Science is formed by almost 700 researchers from 68 groups in more than 40 Spanish institutions. The network has four main activity areas: Grid Infrastructures, Supercomputing Infrastructures, Middleware and Applications.

The network aims at consolidating scientific communities and applications that are involved in e-Science, as well as fostering the adoption of this technology by new ones, with the objective of reinforcing the international presence of Spanish researchers, as well as their scientific production. For this purpose, one of the main mandates of the Spanish Network for e-Science is the creation of a Spanish Grid Initiative providing an infrastructure with production quality. Furthermore, the network proposes setting-up mechanisms for the coordination among Spanish resource providers in both Grid and Supercomputing, by the development of new middleware components focused on the interoperability problems. Finally, the network is investing an important effort on defining the basis for the development of a sustainable and attractive exploitation model that could ensure the long-term availability of these e-Science infrastructures.