

COMPUTATIONAL RESOURCE SHARING VIA GRID INTEROPERABILITY IN SOUTHERN ITALY

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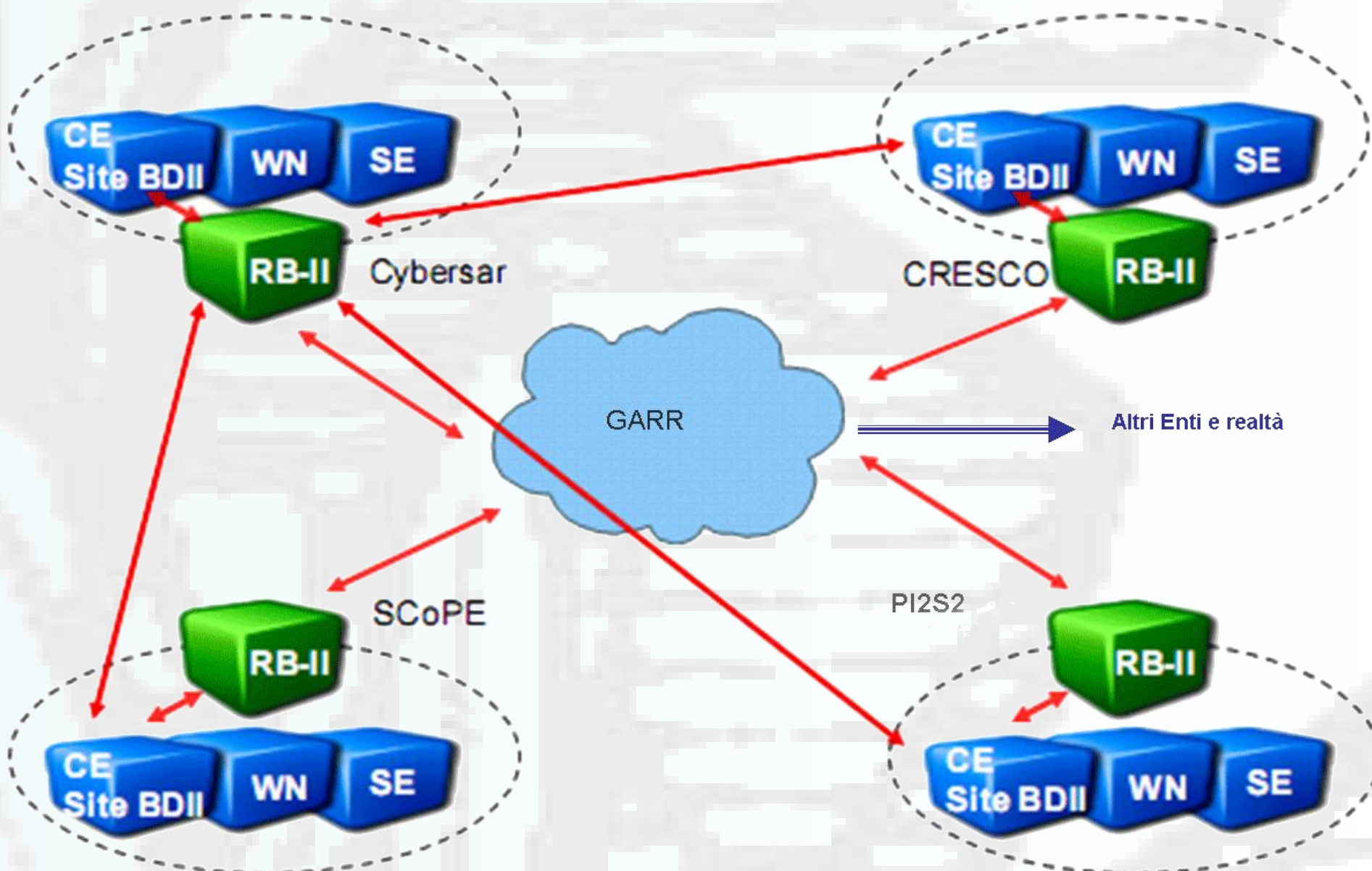
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The Community

The Italian Ministry of University and Research has promoted the creation of four distributed e-infrastructures, in the south of Italy within the CRESCO, CYBERSAR, PI2S2 and SCoPE projects, to support the scientific communities busy in the main strategic fields of e-science. The four projects have been undertaking a successful coordination experience since 2007, to share resources and knowledge, through a new interoperability model.

This approach allows creating a unified e-infrastructure and a new scientific-technical community, ready to play a leading role for the Italian research and to address new scientific and technological challenges.

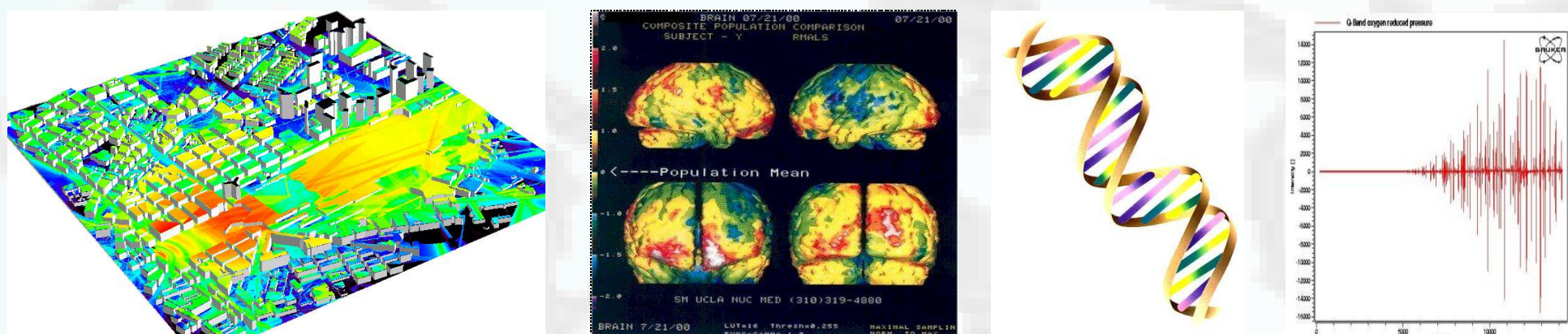


Management & Support

The needed homogeneity among the infrastructures is obtained by a common information model and by the implementation of some centralized services (the Secondary Services):

- Monitoring tools compose by a customize version of Gridlce, SAM, Gstat and Down time System.
- Accounting system based on a HLR implementation

The user support is guaranteed through a coordination of the 4 ticket systems based on HAD and Xoops/Xhelp implemented by the technical group.



Software and Application

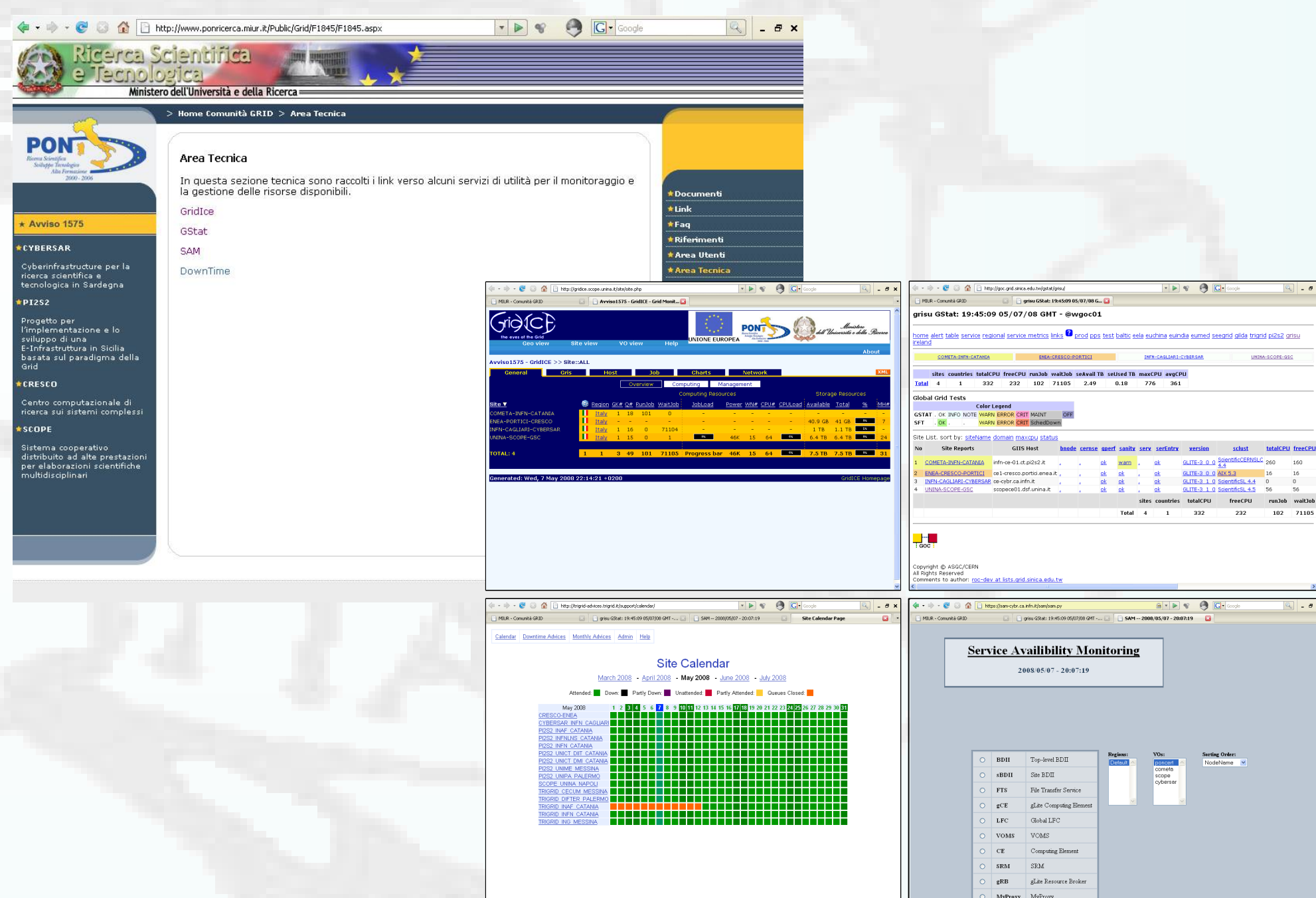
The technical operative groups support the research community by a large set of Open Source and Commercial softwares composed by scientific library, development tools and self contained application based on innovative code created within the project.

Each project publish technical documentation and user Guide in order to help the final user to access at the software facilities.

Finally a set of software are encapsulated in installation, validation and uninstall jobs in order to simplify the management and software and package maintenance.

The Interoperability Strategy

From a technical point of view, this approach provides an integrated production-quality service on four different e-Infrastructures based on gLite middleware and the ENEA-Grid experience. Each deploys a minimal sub set of gLite collective services, called Primary Services, in order to manage the access to resources and the membership of the virtual organizations authorized. This set of collective services, duplicated at each project infrastructure, avoid single points of failure.



Conclusion and Future Trends

The coordination activities of the CRESCO, CYBERSAR, PI2S2 and SCoPE projects, is a really successful interoperability experience in the Italian and International landscape.

The new interregional e-infrastructure is completed and ready to involve new partners and to export this experience in other national and international Research and Industrial Frameworks.