

GILDA: the Grid INFN virtual Laboratory for Dissemination Activities

G. Andronico¹⁾, V. Ardizzone¹⁾, R. Barbera^{1,2)}, R. Catania¹⁾, A. Carrieri¹⁾, A. Falzone³⁾, E. Giorgio¹⁾, G. La Rocca¹⁾, S. Monforte¹⁾, M. Pappalardo¹⁾, G. Passaro¹⁾, G. Platania¹⁾

¹⁾INFN Sez. di Catania, ²⁾Dipartimento di Fisica e Astronomia Università di Catania, ³⁾NICE srl
grid-prod@ct.infn.it

Abstract

The elements of the GILDA dissemination grid developed within the context of Italian INFN Grid Project and the European EGEE Project are presented and described.

1. Introduction

One of the crucial issues in the uptake of Grid technology among scientists and technologists in Europe and world wide is the ease and speed with which they can get started and acquainted with it. For this purpose, the Italian National Institute of Nuclear Physics (INFN) has created the Grid INFN virtual Laboratory for Dissemination Activities (GILDA) [1] in the context of the Italian INFN Grid Project [2] and the European EGEE Project [3]. GILDA is a full grid test-bed completely devoted to dissemination and demonstration purposes. GILDA allows testing the strong capabilities of grid computing. On request, anyone can receive very quickly a grid certificate and a Virtual Organisation (VO) membership allowing them to use the infrastructure.

The elements of GILDA will be presented in the next section, while summary and conclusions will be drawn in section 3.

2. Elements of GILDA

In the same order with which they appear in its home page [1], GILDA consists of the following elements:

- the GILDA Test-bed (<https://gilda.ct.infn.it/testbed.html>);
 - it consists of several academic and “commercial” sites and contains all the most relevant Grid services such as Resource Broker, Information Index, Replica Location Service, etc.;

- the Grid Demonstrator (<https://grid-demo.ct.infn.it>);
 - a reduced version of the GENIUS grid portal [4] that **everyone** can use to submit to the GILDA Test-bed a pre-defined set of demonstration applications;
- the GILDA Certification Authority (<https://gilda.ct.infn.it/CA>);
 - a real Certification Authority which issues in quasi-real-time way both personal (two-weeks life time) and server (one year) digital certificates;
- the GILDA Virtual Organisation;
 - a Virtual Organisation which includes all people wanting to use GILDA;
- the Grid Tutor (<https://grid-tutor.ct.infn.it>);
 - a full fledged version of the GENIUS grid portal to be used during tutorials, induction courses, and training events in general;
- the GILDA Monitoring System (<https://alifarm7.ct.infn.it/gridice/site/site.php>);
 - based on the GridICE tool [5] from INFN, it can give different “views” of GILDA as function of both sites and VO’s;
- the GILDA Mailing List;
 - gilda@infn.it archived on the web at <http://server11.infn.it/archive-gilda/>.

On the GILDA home page links to detailed instructions on how to join GILDA both as single users and entire sites are also available. Instructions are given both as written web documents and **video-**

tutorials (<https://gilda.ct.infn.it/video.html>) for self-teaching.

GILDA's key advantages are the following:

- GILDA uses INFN Grid middleware (<http://grid-it.cnaf.infn.it>) which is fully compatible with the middleware deployed on EGEE infrastructure. Middlewares used by INFN Grid and EGEE infrastructure differ only by a few services;
- Users only need a certificate to access GILDA. This certificate, delivered by INFN, is valid for 2 weeks;
- The GENIUS grid portal allows quick deployment of new applications.

By its nature, then, GILDA is one of the key enabler of the "virtuous cycle" set-up in the EGEE Project to attract and support new communities. In fact:

- a novice user can get the feeling of what is grid computing and which applications can run on a grid infrastructure simply using the Grid Demonstrator which is available around the clock;
- an interested user, participating to a tutorial event or an induction course, can go through all the mandatory procedure of the request of a personal digital certificate and subscription to a VO and then use the Grid Tutor;
- a community, interested in testing the grid, can join GILDA and try to port its applications on its test-bed solving, at a smaller scale, all problems of interfacing the grid services available before entering the huge EGEE infrastructure;
- the various applications from different communities ported on GILDA can be incorporated into the Grid Demonstrator so enriching the portfolio of examples that can be demonstrated to new people;
- a site, wanting to set-up a computing or a storage resource for a grid infrastructure can join GILDA and solve, at a smaller scale, all the problems of installation and proper configuration of the machines.

In 2004 only, GILDA has been used in more than 20 demonstrative events and induction courses. A continuously updated list of the tutorials given using GILDA is available at <https://gilda.ct.infn.it/tutorials.html>.

The current status of the GILDA test-bed is shown in figure 1.

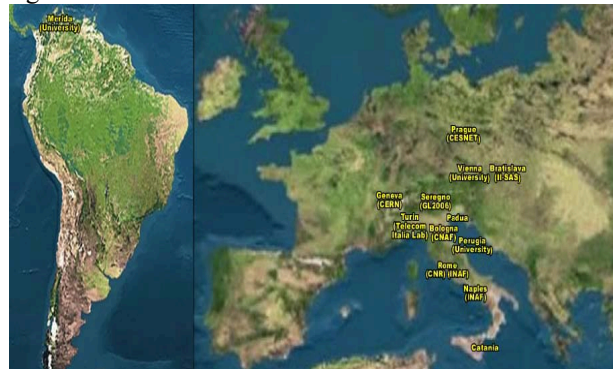


Figure 1 - Current view of the GILDA test-bed.

In the first eight months of operation the GILDA web site has received more than 250,000 hits from tens of different countries in the world. Detailed statistics, continuously updated, can be found at <https://gilda.ct.infn.it/usage>.

3. Summary and conclusions

The GILDA dissemination grid has been presented and its key elements discussed. GILDA represents a very valuable tool both in the Italian INFN Grid Project and in the European EGEE Project to disseminate the grid computing paradigm among new communities of and ease the uptake of grid technology by new potential users.

4. Acknowledgments

The authors would like to acknowledge all the site managers of the GILDA test-bed.

5. References

- [1] <https://gilda.ct.infn.it>.
- [2] <http://grid.infn.it>.
- [3] <http://www.eu-egee.org>.
- [4] <https://genius.ct.infn.it>.
- [5] <http://server11.infn.it/gridice/>.