Enabling Grids for E-sciencE

The GILDA training infrastructure

www.eu-egee.org

Information Society

Scope

- **We are using the GILDA testbed this week**
  - GILDA VO
    - resources for training and application prototyping
  - The production EGEE / SEE-GRID grid looks like this!
  - Current EGEE production middleware:
    - gLite 3.1
    - gLite 3.0 until end of January

- **The practical exercises are to illustrate "how"**
  - Not using typical jobs for running on a grid!
  - But to show how grid services are used, jobs are submitted, output retrieved,…
  - **Middleware overhead** will be significant for our short jobs

- **During the course we will access GILDA through**
  - Command line (Today, tomorrow morning)
  - P-GRADE Portal (tomorrow afternoon, Thursday)

GILDA is “t-Infrastructure”

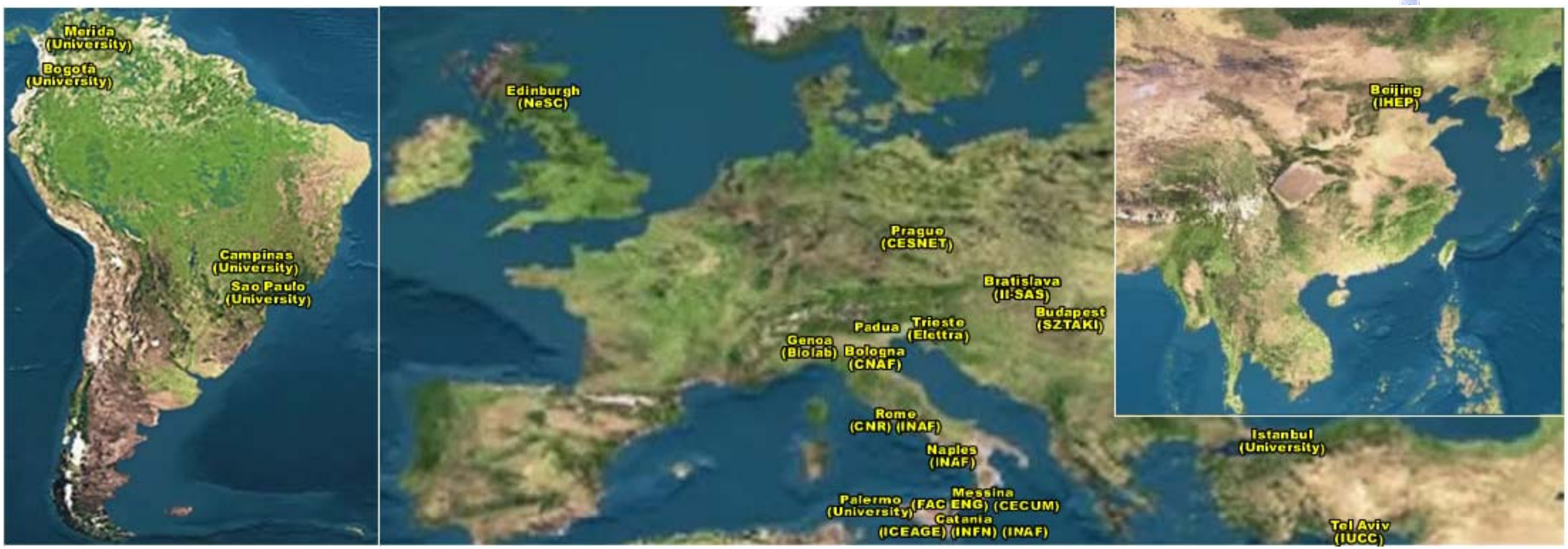
- **Why t-infrastructure?**
  - Training is necessary!
  - e-Infrastructure for production
  - t-Infrastructure for training
- **Need guaranteed response for tutorials; limit the vulnerability of production systems**
  - use training grid
  - have a training CA – lightweight authentication
  - able to change middleware to prepare participants for future releases on production system
  - need safe resources for installation training
  - easy entry point for new communities

The GILDA t-Infrastructure

https://gilda.ct.infn.it

The GILDA Testbed

https://gilda.ct.infn.it/testbed.html



~20 sites in 3 continents

The GILDA Testbed

https://gilda.ct.infn.it/testbed.html

SERVICE	HOST
User Interface (UI)	glite-tutor.ct.infn.it
Backup User Interface (UI)	glite-tutor2.ct.infn.it
P-GRADE Portal	http://portal.p-grade.hu/gilda
LCG Resource Broker (RB)	glite-rb.ct.infn.it
gLite Resource Broker (WMS 3.0)	glite-rb2.ct.infn.it
gLite (WMproxy) Resource Broker (WMS 3.1)	glite-rb3.ct.infn.it
Information Index (BDII)	glite-rb.ct.infn.it:2170
VOMS server	voms.ct.infn.it:8443/voms/gilda
DGAS Price Authority	grid-demo1.ct.infn.it:56568
DGAS HLR	grid-demo1.ct.infn.it:56567
GridICE Monitoring System	alifarm7.ct.infn.it:50080
Services Availability Monitoring (SAM)	https://sam.ct.infn.it/sam/sam.py
Services Status (GStat)	http://goc.grid.sinica.edu.tw/gstat/gilda/
LCG File Catalog (LFC)	lfc-gilda.ct.infn.it
gLite File Transfer Service	fts.ct.infn.it
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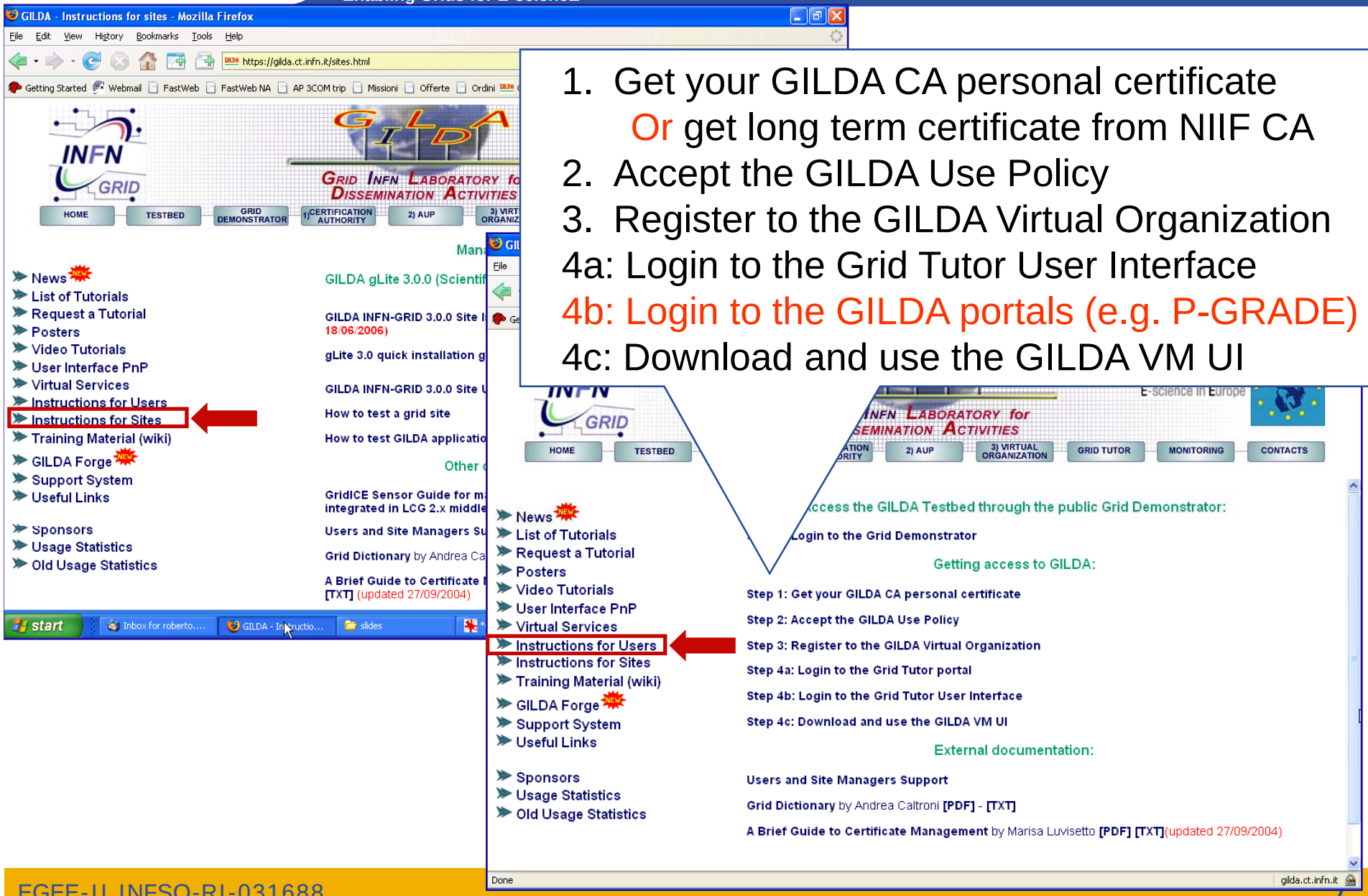
How to join GILDA

1. Get your GILDA CA personal certificate
   Or get long term certificate from NIIF CA
2. Accept the GILDA Use Policy
3. Register to the GILDA Virtual Organization

4a: Login to the Grid Tutor User Interface

4b: Login to the GILDA portals (e.g. P-GRADE)

4c: Download and use the GILDA VM UI

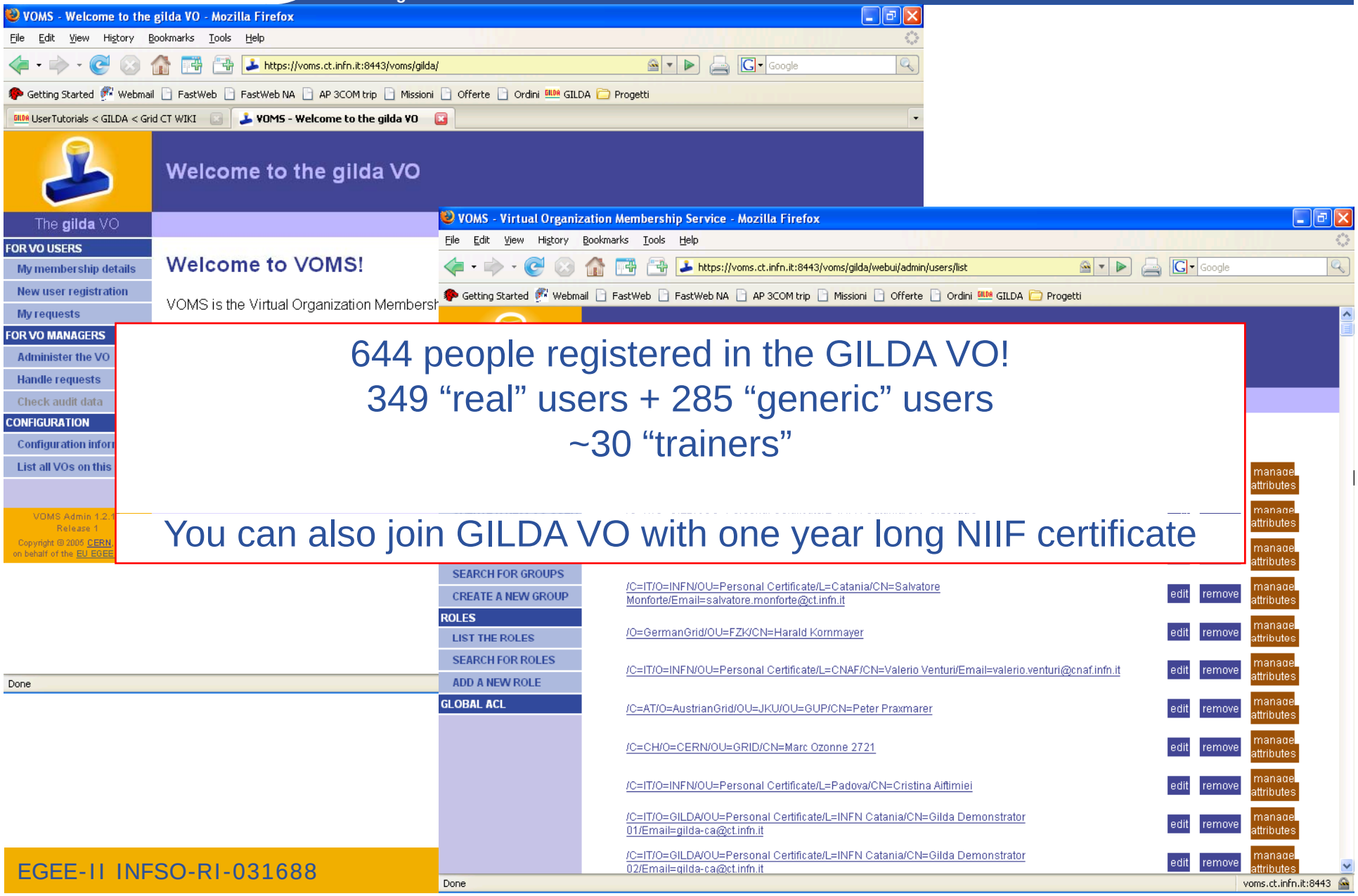


- GILDA certificates are valid for two weeks
  - not for a year as normal certificates
- GILDA certificates are renewable
  - just like normal certificates

Fill out the
No face-to-fac

The GILDA Virtual Organization
(https://voms.ct.infn.it:8443/voms/gilda/)

Enabling Grids for E-sciencE



644 people registered in the GILDA VO!
349 “real” users + 285 “generic” users
~30 “trainers”

You can also join GILDA VO with one year long NIIF certificate

The GILDA Portals

Easy to use. Hide the complexities of the middleware. Extremely useful also for self-pace learning.

The GILDA Support System

(https://gilda-support.ct.infn.it)

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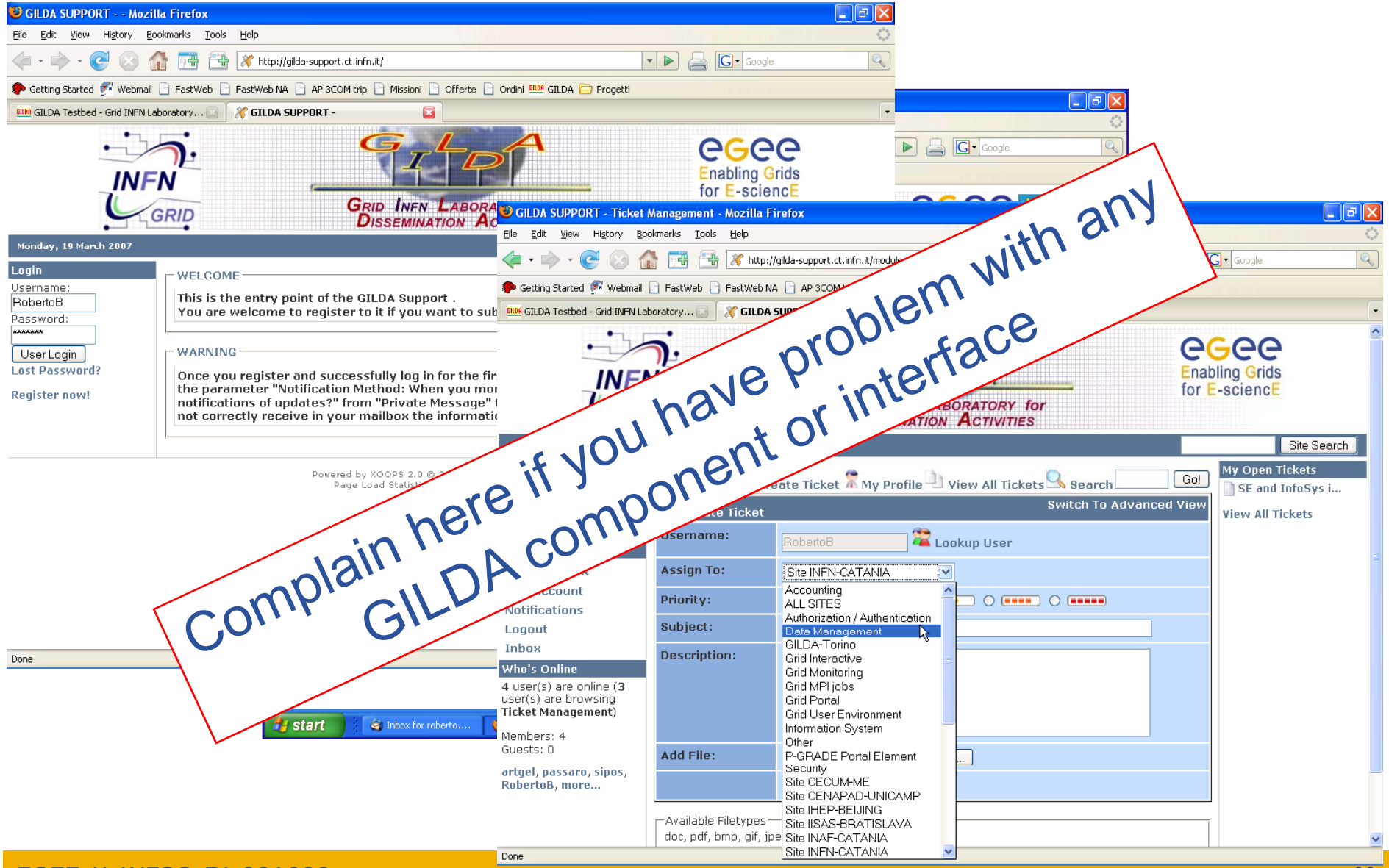
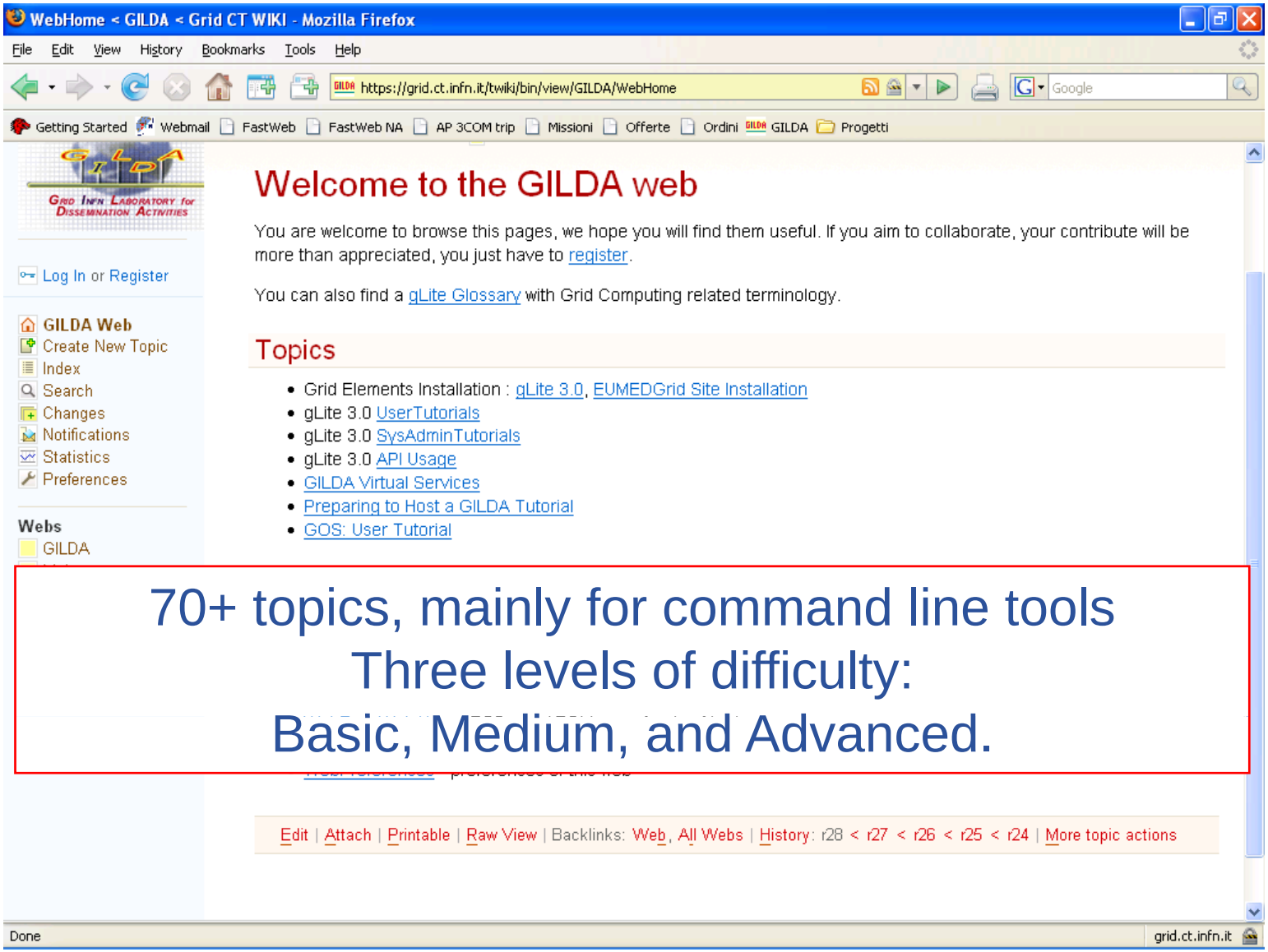
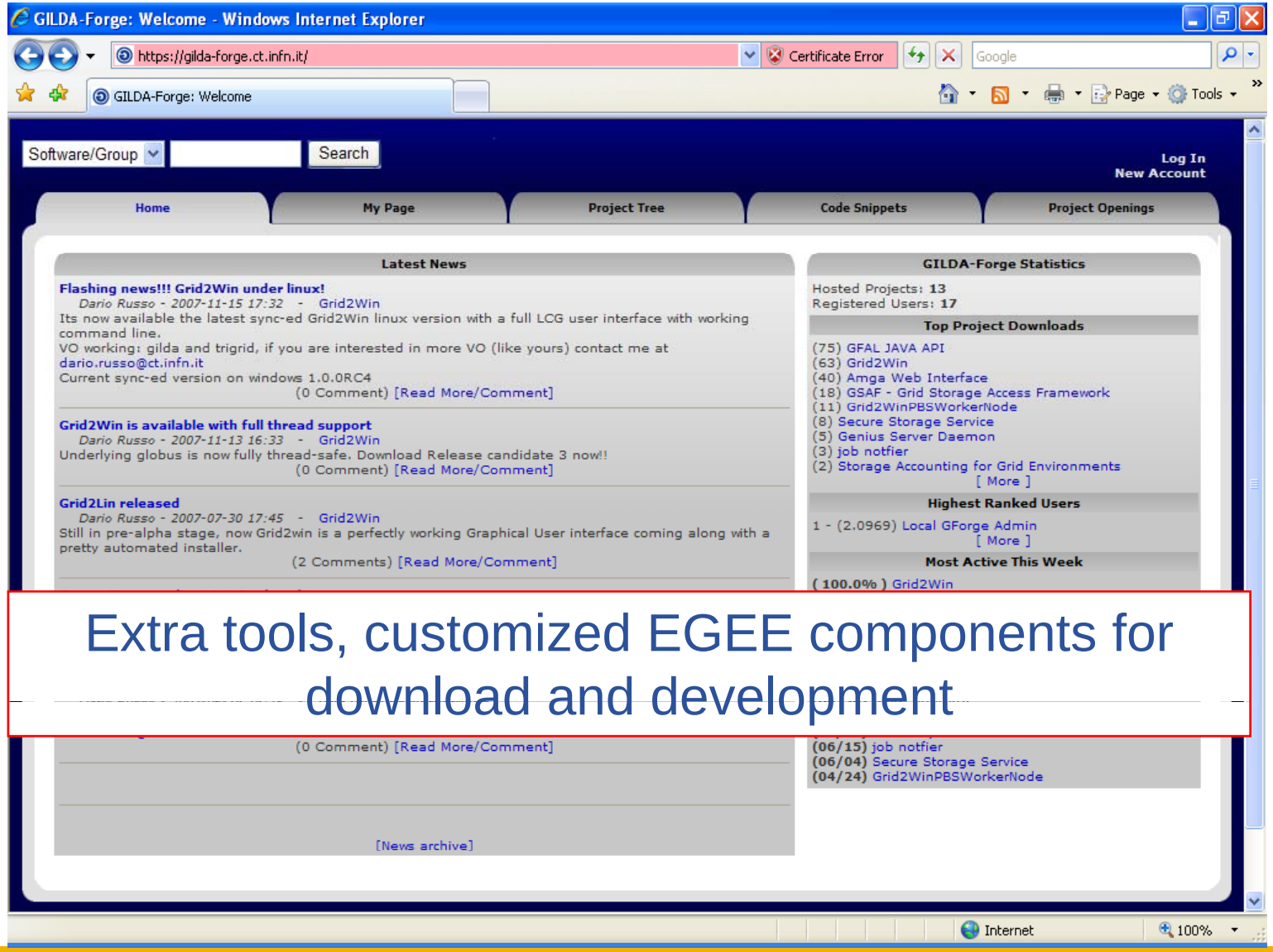


The GILDA Training Material
(https://grid.ct.infn.it/twiki/bin/view/GILDA/WebHome)



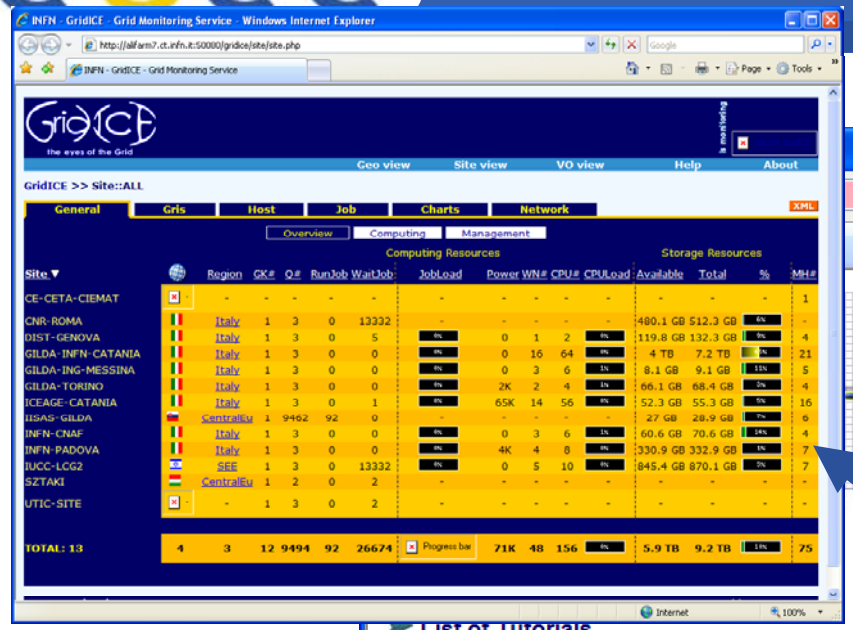
70+ topics, mainly for command line tools
Three levels of difficulty:
Basic, Medium, and Advanced.

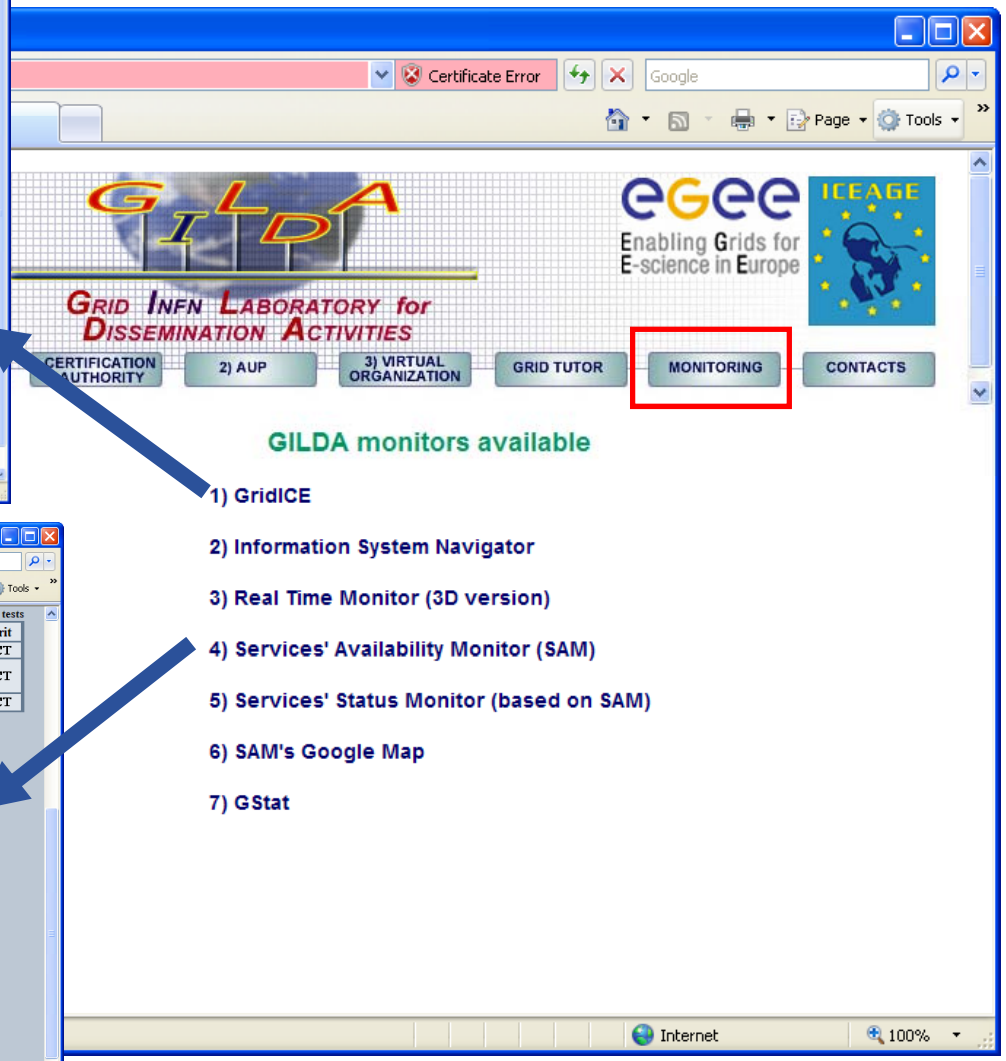
Application development: the GILDA Forge (https://gilda-forge.ct.infn.it)

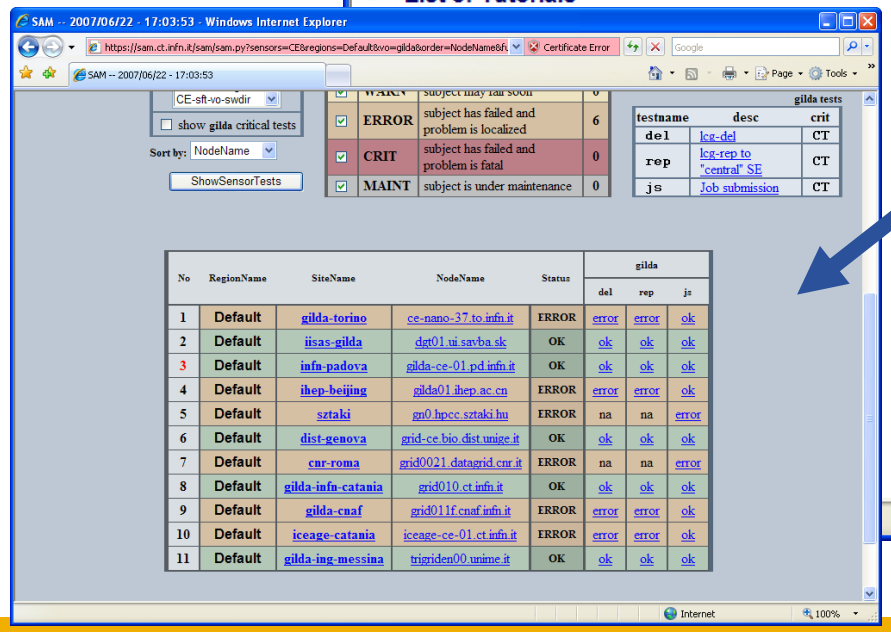


Extra tools, customized EGEE components for download and development

Monitoring systems







Situation at the school

- **40 user certificates were obtained from GILDA CA**
  - One private key + one public key per person
- **Certificates have been registered at GILDA VO**
- **Certificates were uploaded into GILDA MyProxy server**
  - Accessible from portal and from command line
- **40 accounts were created on User Interface machine**
  - For command line tutorial
- **40 accounts were created on GILDA P-GRADE Portal**
  - For portal tutorial

“Grid in a box/room”: the GILDA Virtual Services (t-Infrastructure scalability) (https://gilda.ct.infn.it/VirtualServices.html)

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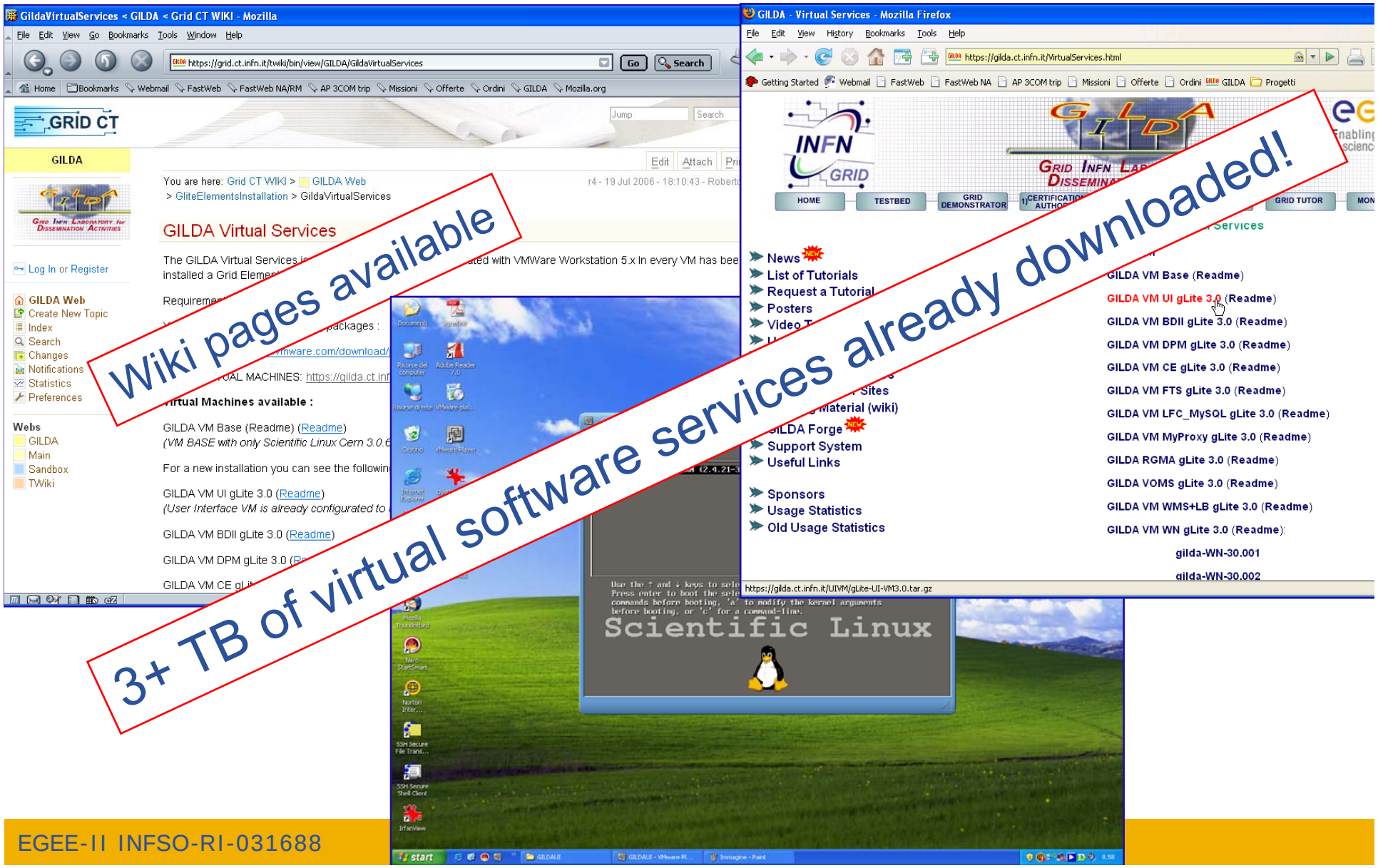
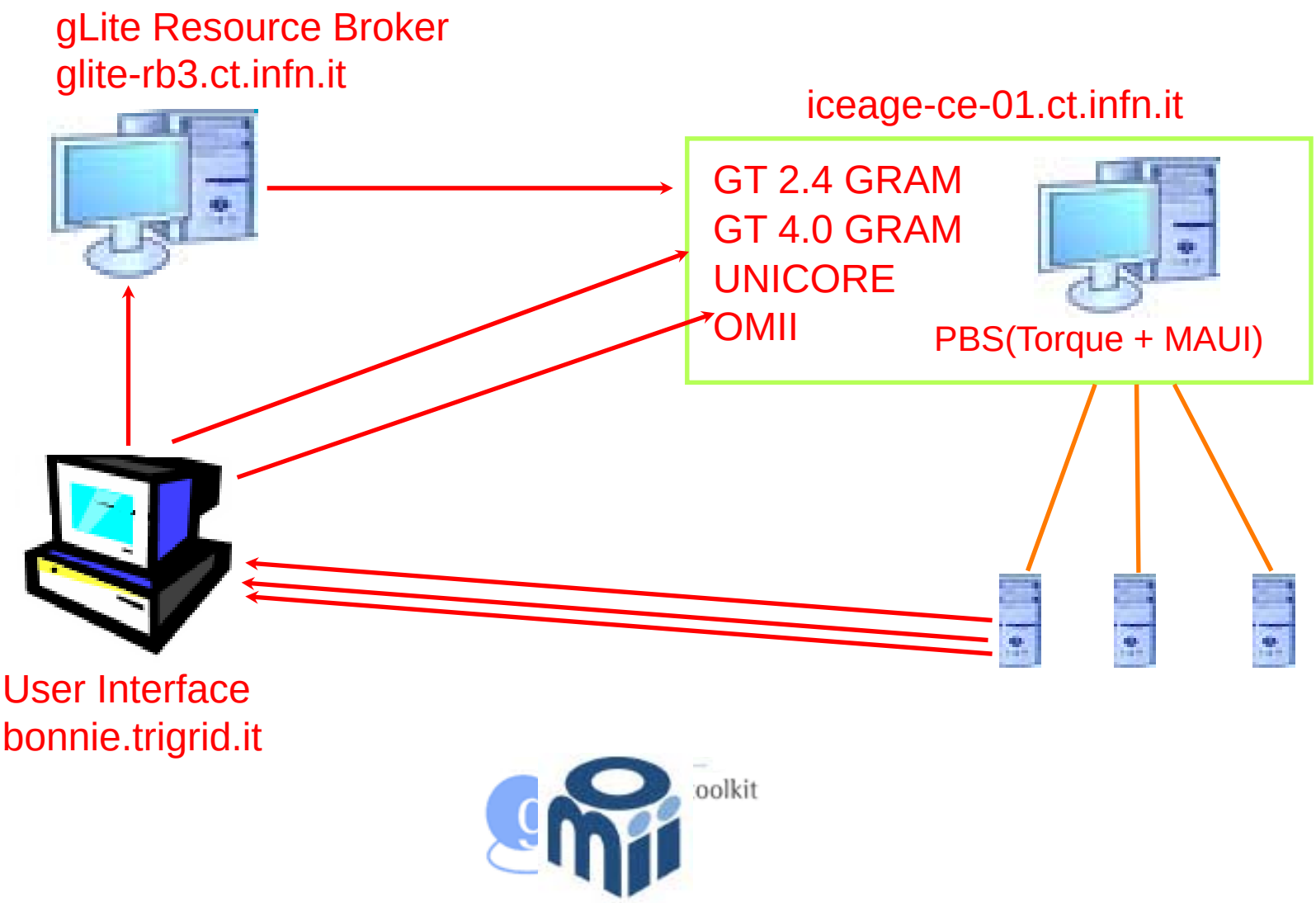


A look into the future: Middleware co-existence in GILDA

- **In the context of ICEAGE project the GILDA Team has carried out an important study about the co-existence of several middlewares on the same physical computing and storage resources.**
- **Results:**
  - Super User Interface: a machine (real or virtual) with a gLite User Interface, a Globus Toolkit 4 (GT4) client, a UNICORE client and an OMII-UK client on board.
  - Super Computing Element: the same Torque/MAUI farm can execute jobs coming from gLite, GT4, UNICORE and OMII-UK.
  - The same GILDA CA certificates can be used with all the 4 different middleware implementations.

Planned middleware co-existence on GILDA



Thank you!

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