



Enabling Grids for E-scienceE

the GILDA training Infrastructure

*Emidio Giorgio
INFN Catania*

CERN June 16th, 2008

www.eu-egee.org



<https://gilda.ct.infn.it>



The screenshot shows the GILDA website interface. At the top, there are logos for INFN GRID, GILDA (Grid INFN Laboratory for Dissemination Activities), EGEE (Enabling Grids for E-science in Europe), and ICEAGE. Below the logos is a navigation menu with buttons for HOME, TESTBED, GRID DEMONSTRATOR, 1) CERTIFICATION AUTHORITY, 2) AUP, 3) VIRTUAL ORGANIZATION, GRID TUTOR, MONITORING, and CONTACTS. A central banner features the text "New GILDA usage rule" with "NEW" starburst icons. Below this, the acronym "GILDA (Grid INFN Laboratory for Dissemination Activities)" is displayed. A paragraph describes GILDA as a virtual laboratory for demonstrating and disseminating grid computing capabilities. A list of elements follows, including the GILDA Testbed, Grid Demonstrator, Certification Authority, Virtual Organization, and Grid Tutor, each with a brief description. On the left side of the screenshot, there is a vertical list of links with "NEW" starburst icons next to several items: News, List of Tutorials, Request a Tutorial, Posters, Video Tutorials, User Interface PnP, Virtual Services, Instructions for Users, Instructions for Sites, Training Material (wiki), GILDA Forge, Support System, Useful Links, Check Your IP, Sponsors, Usage Statistics, and Old Usage Statistics.

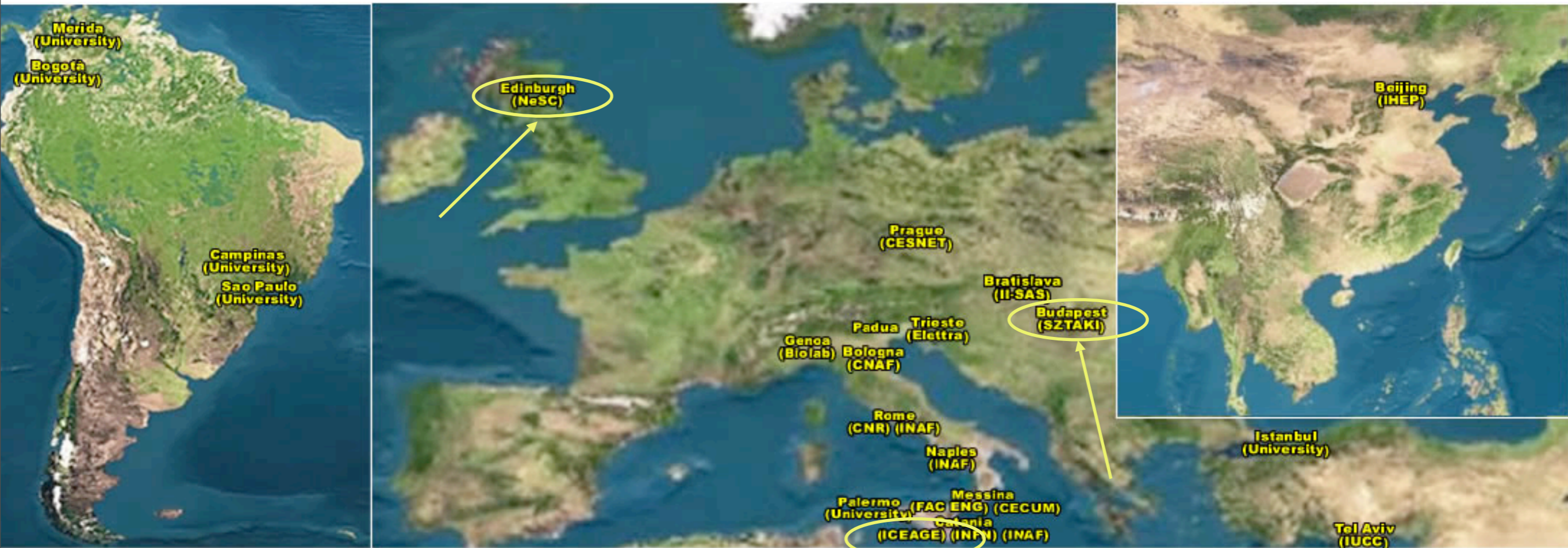
NEW [New GILDA usage rule](#) **NEW**

GILDA (Grid INFN Laboratory for Dissemination Activities)

is a virtual laboratory to demonstrate/disseminate the strong capabilities of grid computing.

GILDA consists of the following elements:

- [the GILDA Testbed](#): a series of sites and services (Resource Broker, Information Index, Data Managers, Monitoring tool, Computing Elements, and Storage Elements) spread all over Italy and the rest of the world on which the latest version of the [INFN Grid](#) middle-ware (fully compatible with [gLite](#)) is installed;
- [the Grid Demonstrator](#): a customized version of the full [GENIUS web portal](#), jointly developed by INFN and [NICE](#), from where **everybody** can submit a pre-defined set of applications to the GILDA Testbed;
- [the GILDA Certification Authority](#): a fully functional Certification Authority which issues 14-days X.509 certificates to everybody wanting to experience grid computing on the GILDA Testbed;
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- [the Grid Tutor](#): based on a full version of the [GENIUS web portal](#), to be used only during [grid tutorials](#);



~20 sites in 3 continents



Enabling Grids for E-science

The GILDA Certification Authority

(<https://gilda.ct.infn.it/CA>)

Enabling Grids for E-science



The GILDA Certification Authority

The GILDA Certification Authority (GILDA CA) issues (valid for two weeks) personal public key certificates (compliant with the X.509 standard) in order to access the GILDA CA services.

Absolutely no identity check is going to be performed on the personal certificates issued by the GILDA CA. The GILDA CA have absolutely no value on any other system.

The GILDA Certification Authority is managed by:

Giuseppe P. ...
INFN C...
Via ...

...@infn.it
... 8 5469
... 5 378 5231

... to inspect the GILDA CA certificate ... in your web browser (necessary to validate your personal certificate) click on **GILDA CA certificate** in the left part of this page.

In order to request a certificate, click on **Request a personal certificate** in the left part of this page.

If you already have a trusted certificate, click on **Request an account**, in the left part of this page, to request an account. Your personal certificate must be included in your browser before doing this.

In order to request a host certificate, click on **Request a host certificate** in the left part of this page.

Makes the complex grid authentication procedures easier for "direct" and "self" learners.

default certificate lifetime is 14 days

The screenshot shows the VOMS web interface for the GILDA Virtual Organization. The browser address bar displays <https://voms.ct.infn.it:8443/voms/gilda/webui/admin/users/list>. The page title is "Virtual Organization Membership Service". The breadcrumb navigation is "Administration » Users » List of users".

The main content area states: "There are 904 users in /gilda :". Below this, a list of users is displayed, each with a link to their profile and three action buttons: "edit", "remove", and "manage attributes".

The left sidebar contains a navigation menu with the following sections:

- ADMINISTRATION**
 - LIST OF USERS
 - SEARCH FOR USERS
 - CREATE A NEW VO USER
- FOR VO MANAGERS**
 - LIST OF GROUPS
 - SEARCH FOR GROUPS
 - CREATE A NEW GROUP
- ROLES**
 - LIST THE ROLES
 - SEARCH FOR ROLES
 - ADD A NEW ROLE

A red banner with white text is overlaid diagonally across the page, reading: "900+ people registered in the GILDA VO!".

gilda GStat: 13:19:15 04/29/08 GMT - @wgoc01

http://goc.grid.sinica.edu.tw/gstat/gilda/

Grid-Ct News RSS Alice | Oggi eBay.it YouTube English to French, It... Thesaurus.com

GILDA gilda GStat: 13:19:15 04/29/08 GM...

IUCC-LCG2 SZTAKI

	sites	countries	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	maxCPU	avgCPU
Total	7	3	94	167	15	1	1.82	0.08	95	88

Global Grid Tests

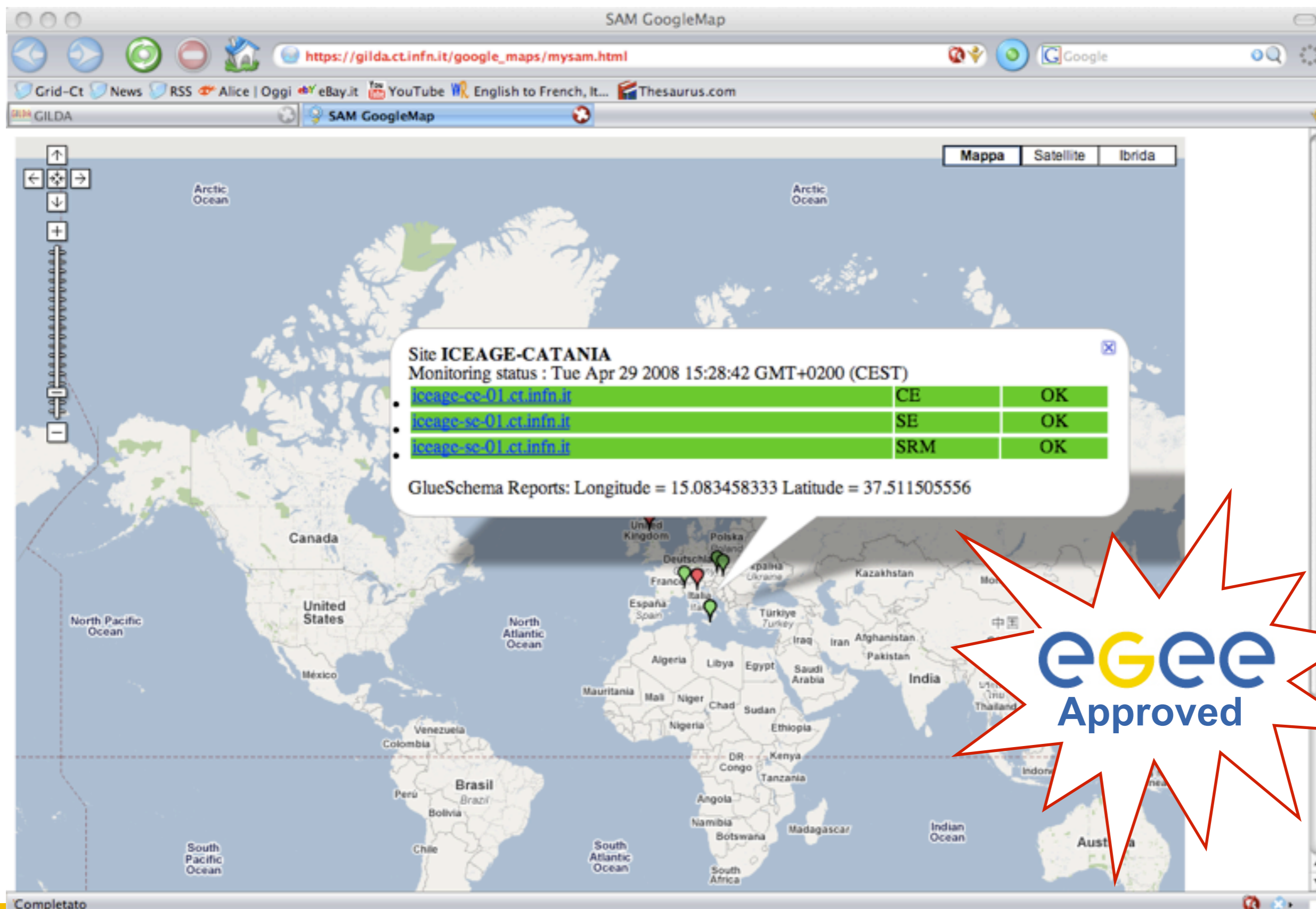
Color Legend

GSTAT . OK INFO NOTE WARN ERROR CRIT MAINT OFF

SFT . OK . . WARN ERROR CRIT SchedDown

Site List. sort by: [siteName](#) [domain](#) [maxcpu](#) [status](#)

No	Site Reports	GIIS Host	bnode	cernse	gperf	sanity	serv	serEntry	version	sclust	totalCPU	freeCPU	runJob	waitJob	seAvail TB			
1	DIST-UNIGE	grid-ce.bio.dist.unige.it	△	△	ok	ok	△	ok	GLITE-3_1_0	<pre>`lsb release -i cut -f2` `lsb release -r cut -f2`</pre>	12	12	0	0	0.06			
2	GILDA-CNAF	grid011f.cnaf.infn.it	△	△	ok	warn	△	ok	GLITE-3_1_0	Scientific Linux 3.0.8	10	10	0	0	7			
3	GILDA-INFN-CATANIA	grid010.ct.infn.it	△	△	ok	ok	△	ok		Scientific Linux 4.5	2	5	6		9			
4	GILDA-PADOVA	gilda-01.pd.infn.it	△	△	ok	ok	△	ok	GLITE-3_1_0	Scientific Linux CERN 4.6	2	15						
5	ICEAGE-CATANIA	iceage-ce-01.ct.infn.it	△	△	ok	ok	△	ok	GLITE-3_0_0	Scientific Linux CERN 3.0.8	56	4						
6	IUCC-LCG2	grid004.iucc.ac.il	△	△	ok	ok	△	ok	GLITE-3_0_0	Scientific Linux CERN 3.0.6	10							
7	SZTAKI	n31.hpcc.sztaki.hu	△	△	ok	warn	△	ok	GLITE-3_1_0	ScientificSL 4.5	2	16			18			
									sites	countries	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	maxCPU	
									Total	7	3	94	167	15	1	1.82	0.08	95



The screenshot shows a web browser window titled "SAM GoogleMap" with the URL https://gilda.ct.infn.it/google_maps/mysam.html. The browser's address bar and tabs are visible. The main content is a Google Map of the world. A popup window is open over the location of Catania, Italy, displaying the following information:

Site ICEAGE-CATANIA
 Monitoring status : Tue Apr 29 2008 15:28:42 GMT+0200 (CEST)

iceage-ce-01.ct.infn.it	CE	OK
iceage-se-01.ct.infn.it	SE	OK
iceage-se-01.ct.infn.it	SRM	OK

GlueSchema Reports: Longitude = 15.083458333 Latitude = 37.511505556

The map interface includes navigation controls on the left and a map style selector (Mappa, Satellite, Ibrida) in the top right. The status bar at the bottom of the browser shows "Completato".



Helps to improve the quality of the hands-on sessions.

The screenshot shows a web browser window titled "SAM GoogleMap" with the URL https://gilda.ct.infn.it/google_maps/mysam.html. The browser's address bar and tabs are visible. The main content is a Google Map of the world. A popup window is open over the location of Catania, Italy, titled "Site ICEAGE-CATANIA". The popup displays the monitoring status as of Tuesday, April 29, 2008, at 15:28:42 GMT+0200 (CEST). It contains a table with three rows of monitoring data, all showing "OK" status. Below the table, it provides GlueSchema Reports with Longitude = 15.083458333 and Latitude = 37.511505556. The map interface includes navigation controls on the left and map style options (Mappa, Satellite, Ibrida) on the right.

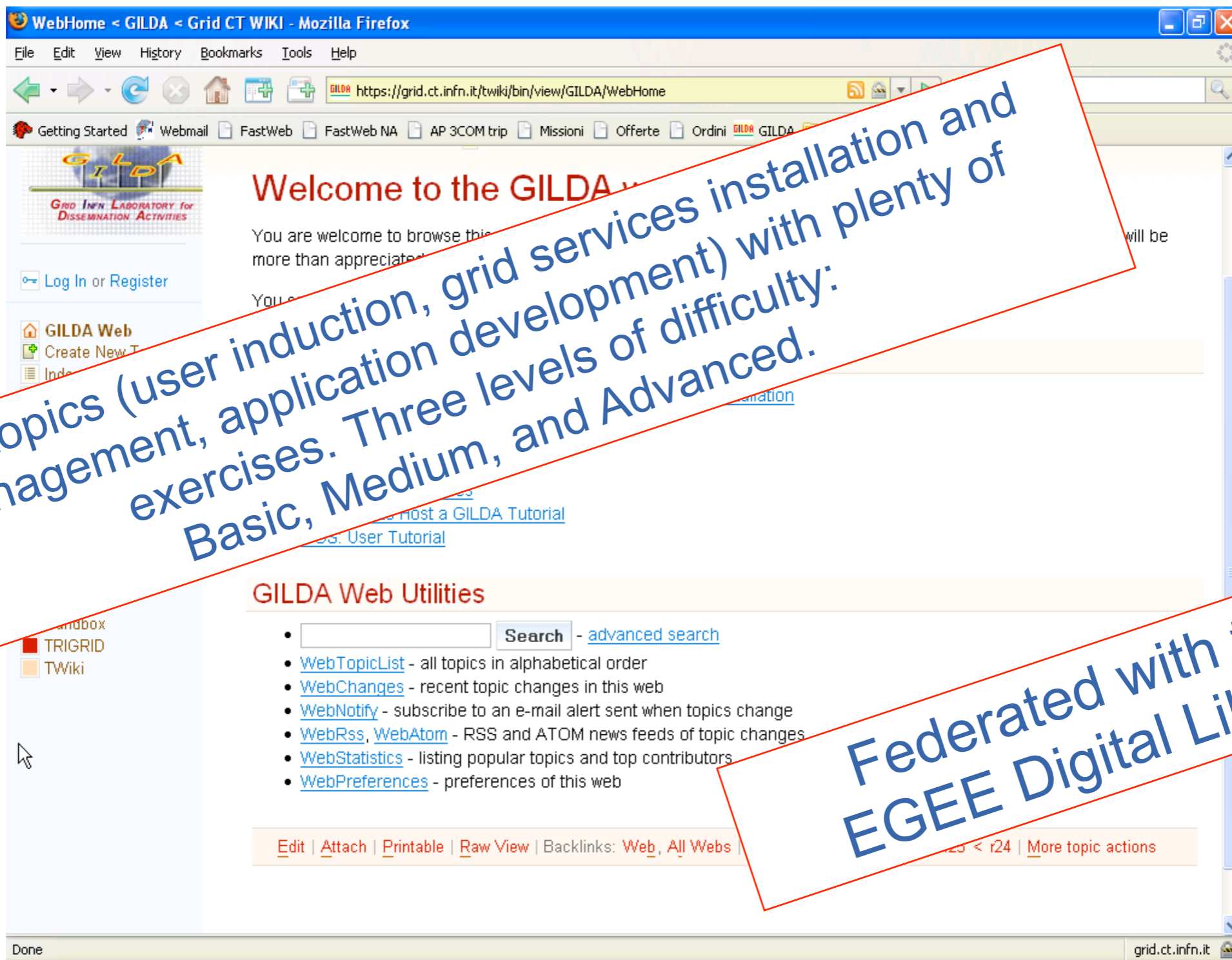
Site ICEAGE-CATANIA		
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iceage-ce-01.ct.infn.it	CE	OK
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GlueSchema Reports: Longitude = 15.083458333 Latitude = 37.511505556

eGEE
Approved

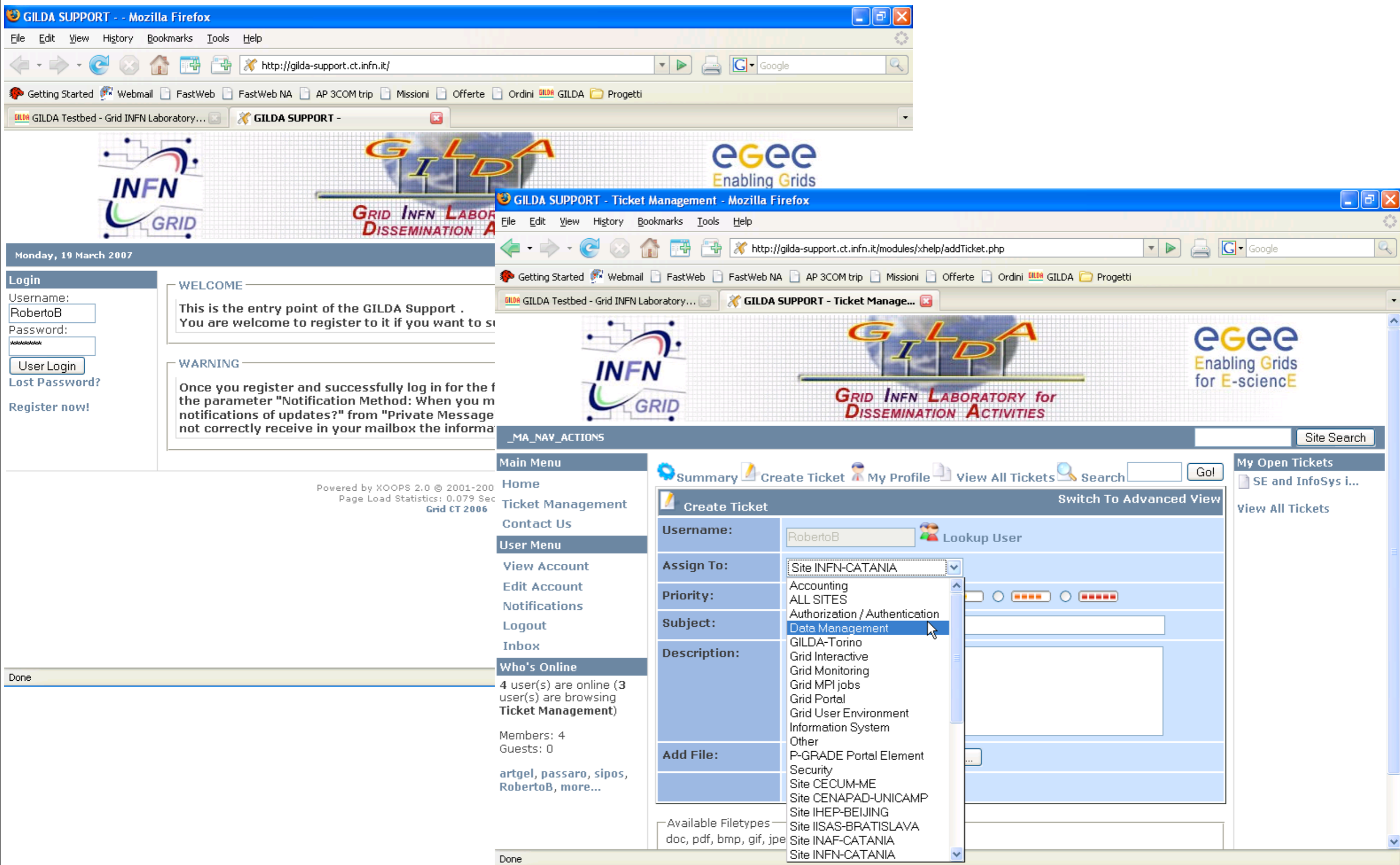
<https://grid.ct.infn.it/twiki/bin/view/GILDA/WebHome>

<https://grid.ct.infn.it/twiki/bin/view/GILDA/WebHome>



> 90 topics (user induction, grid services installation and management, application development) with plenty of exercises. Three levels of difficulty: Basic, Medium, and Advanced.

Federated with the EGEE Digital Library



GILDA SUPPORT - Ticket Management - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://gilda-support.ct.infn.it/modules/xhelp/addTicket.php

Getting Started Webmail FastWeb FastWeb NA AP 3COM trip Missioni Offerte Ordini GILDA Progetti

GILDA Testbed - Grid INFN Laboratory... GILDA SUPPORT - Ticket Manage...

Monday, 19 March 2007

Login

Username: RobertoB
 Password:
 User Login
 Lost Password?
 Register now!

WELCOME

This is the entry point of the GILDA Support .
 You are welcome to register to it if you want to s

WARNING

Once you register and successfully log in for the f
 the parameter "Notification Method: When you m
 notifications of updates?" from "Private Message
 not correctly receive in your mailbox the informa

Site Search

Summary Create Ticket My Profile View All Tickets Search Go!

Create Ticket Switch To Advanced View

Username: RobertoB Lookup User

Assign To: Site INFN-CATANIA

Priority:
 Subject: Data Management

Description:
 Add File:
 Available Filetypes: doc, pdf, bmp, gif, jpe

Main Menu

- Home
- Ticket Management
- Contact Us

User Menu

- View Account
- Edit Account
- Notifications
- Logout
- Inbox

Who's Online

4 user(s) are online (3 user(s) are browsing Ticket Management)

Members: 4
 Guests: 0

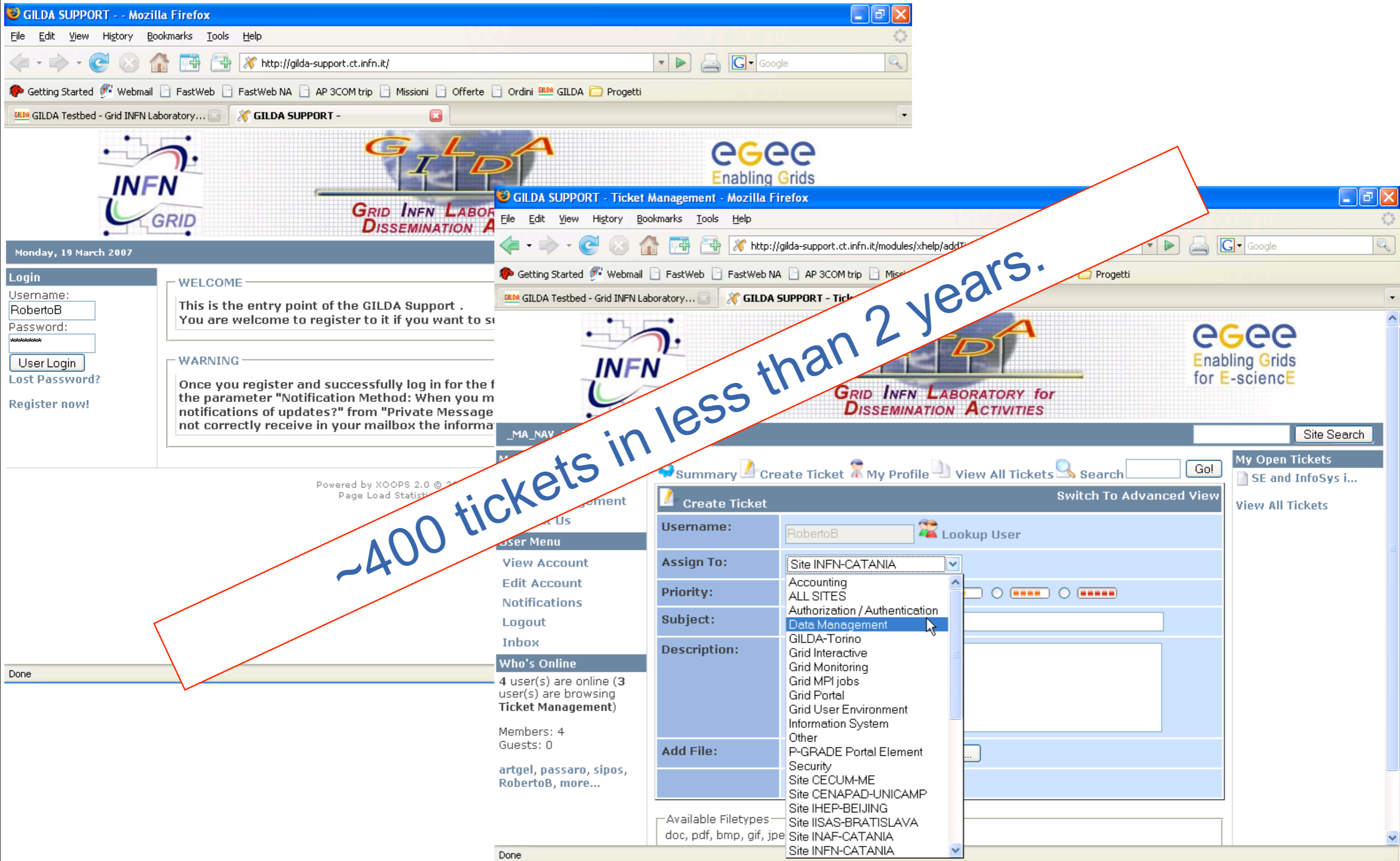
artgel, passaro, sipos, RobertoB, more...

My Open Tickets

- SE and InfoSys i...

View All Tickets

Powered by XOOPS 2.0 © 2001-200
 Page Load Statistics: 0.079 Sec
 Grid CT 2006



GILDA SUPPORT - Ticket Management - Mozilla Firefox

Monday, 19 March 2007

Login

Username: RobertoB
 Password: [masked]
 User Login
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WARNING

Once you register and successfully log in for the f...
 the parameter "Notification Method: When you m...
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~400 tickets in less than 2 years.

Create Ticket

Username: RobertoB

Assign To: Site INFN-CATANIA

Priority: [radio buttons]

Subject: Data Management

Description: [text area]

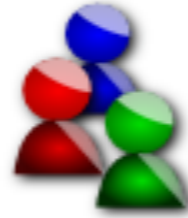
Add File: [file upload]

Available Filetypes: doc, pdf, bmp, gif, jpe

Who's Online: 4 user(s) are online (3 user(s) are browsing Ticket Management)

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 artgel, passaro, sipos, RobertoB, more...

- **Tutorial for Users**



- **Tutorial for Site Administrators**



- **Grid Schools**



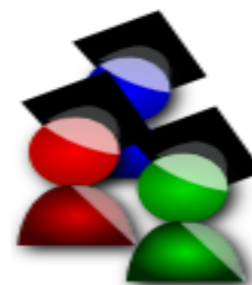
- **Tutorial for Developers**



- **Customized events**



- **Tutorial for Trainers**



- **The virtualization**
 - GILDA uses **VMWare** to virtualize PCs/Grid Services
 - VMWare – (<http://info.vmware.com/>)
 - An alternative software is: **Xen** – (<http://www.xen.org/>)
- **GILDA Virtual Services**
 - Several virtual services are ready to use by:
 - <https://gilda.ct.infn.it/VirtualServices.html>
- **The UI PnP** (<https://gilda.ct.infn.it/UIPnP.html>)
 - Sometime it is useful to install a UI into a existing Linux distro
 - No root priviledges are requested
 - Easy to install and configure
- **Grid2Win** (<http://grid2win.gilda-forge.ct.infn.it/new/index.php>)
 - Recently GILDA supports/tests a Windows porting of gLite



- Provides **mostly** Training on  Middleware
- However GILDA actually support several multimiddleware : gLite, GT4, Condor, UNICORE, OGSA-DAI
- GILDA offers tools developed by supported projects like: Grid2Win, SecureStorage, GSAF, gLibrary/DRI



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We will focus on training for gLite

- **Audience Requisites:**
 - Basic Unix/Linux commands Knowledge (command line)
 - Basic concepts of Networking (ssh, scp, etc.)
- **Technical Requisites:**
 - A computing room equipped with computers that can be used by students or a simple class room where students can bring their own laptops
 - To access to the Grid, 3 possibilities:
 - Use of a dedicated UI server
 - Use of UIs running on virtual machines
 - Use of the UI PnP on Linux Accounts
 - Use of the GILDA glite-tutor and glite-tutor2 UI servers
 - A network connection with the outside Internet bandwidth of at least 8 Mbit/s
 - a FastEthernet (10/100 Mbit/s) and/or a Wi-Fi (IEEE802.11b/g802.11b/g at 11/54 Mbit/s) local area network
 - a big screen and a video-projector (2 if the room is large);
 - a sound system (microphone + amplifier + loud speakers) if the room is big.

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Sites with outgoing connections slower than 8 Mbit/s are strongly discouraged to candidate themselves to host grid tutorials.

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- From the gilda web site: <https://gilda.ct.infn.it>



NEW [New GILDA usage rule](#) **NEW**

- [News](#) **NEW**
- [List of Tutorials](#)
- [Request a Tutorial](#)
- [Posters](#)
- [Video Tutorials](#)
- [User Interface PnP](#)
- [Virtual Services](#)
- [Instructions for Users](#)
- [Instructions for Sites](#) **NEW**
- [Training Material \(wiki\)](#)
- [GILDA Forge](#) **NEW**
- [Support System](#)
- [Useful Links](#)
- [Check Your IP](#) **NEW**
- [Sponsors](#)
- [Usage Statistics](#)

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GILDA (Grid Infn Laboratory for Dissemination Activities)

➤ Posters

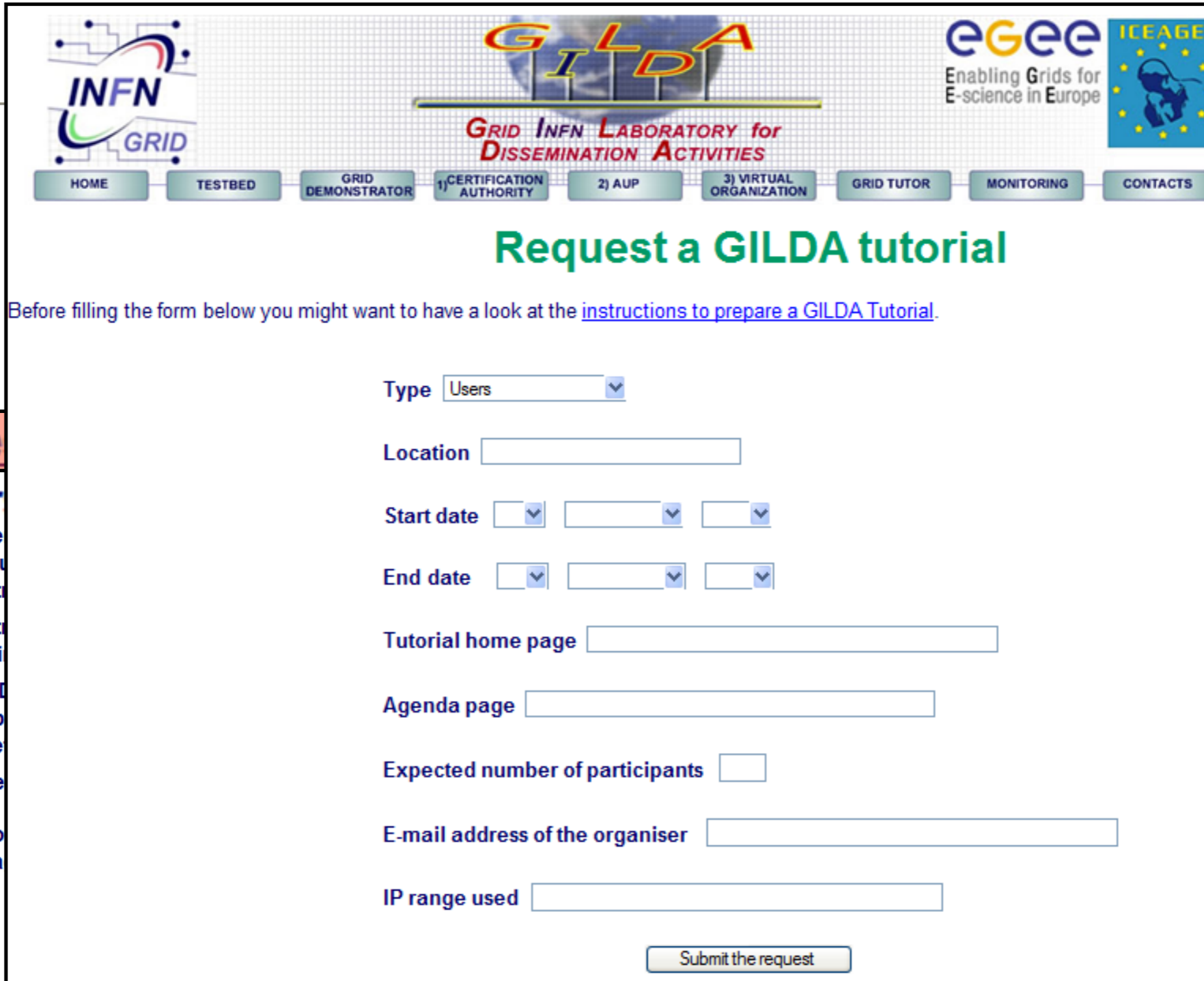
Virtual laboratory to demonstrate/disseminate the strong capabilities of grid computing.





- User Interface PnP
- Virtual Services
- Instructions for Users
- Instructions for Sites **NEW**
- Training Material (wiki)
- GILDA Forge **NEW**
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[CONTACTS](#)

Request a GILDA tutorial

Before filling the form below you might want to have a look at the [instructions to prepare a GILDA Tutorial](#).

Type

Location

Start date

End date

Tutorial home page

Agenda page

Expected number of participants

E-mail address of the organiser

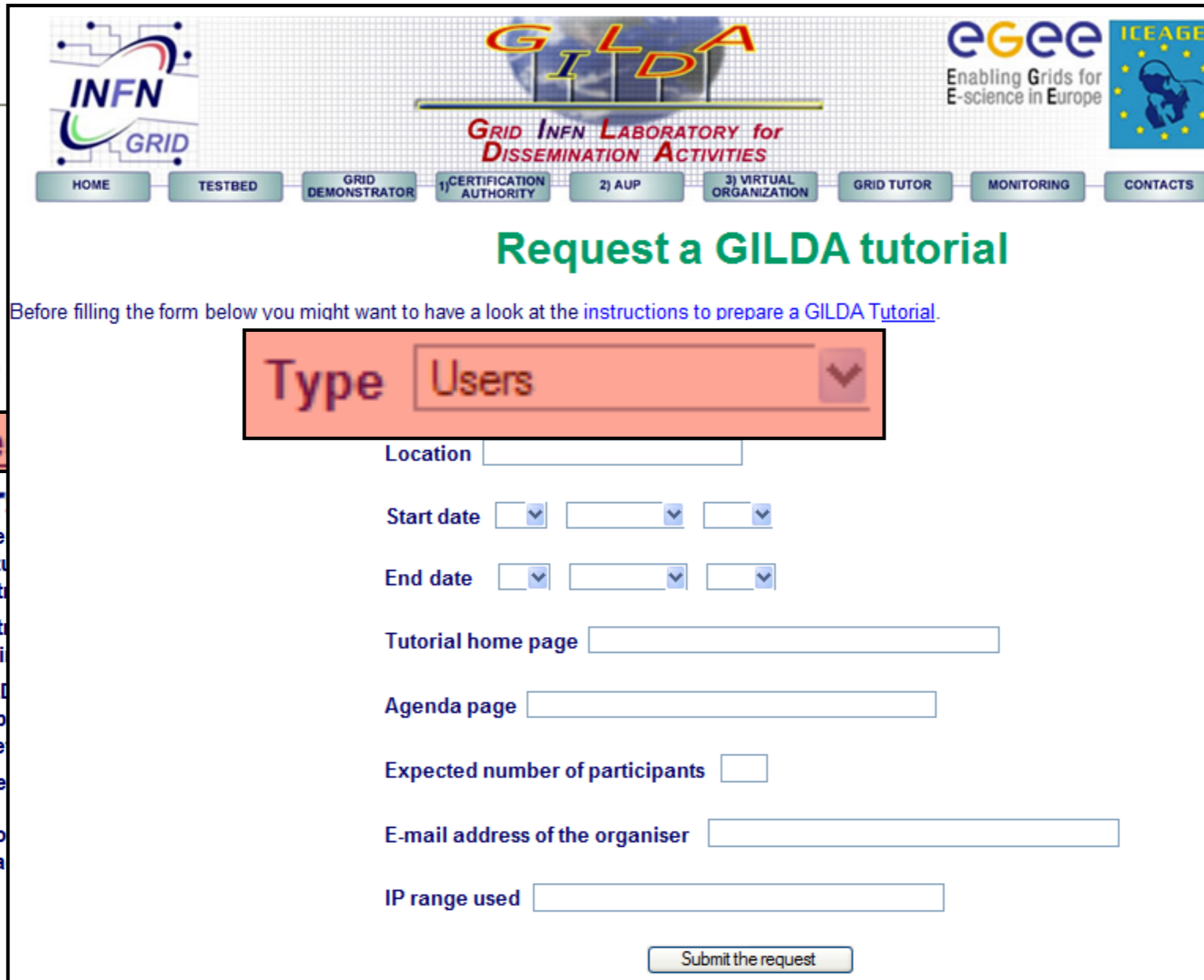
IP range used





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- [Poster](#)

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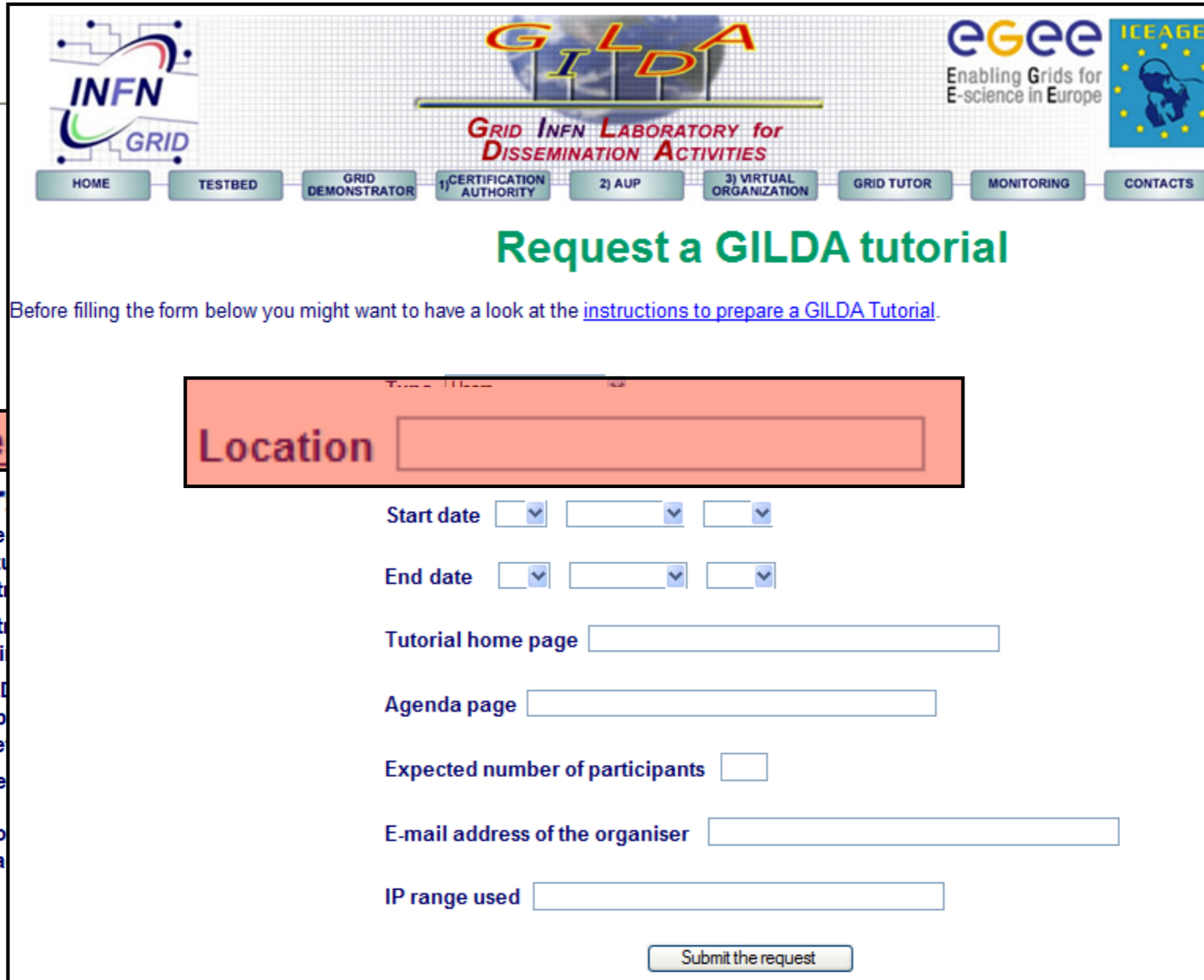
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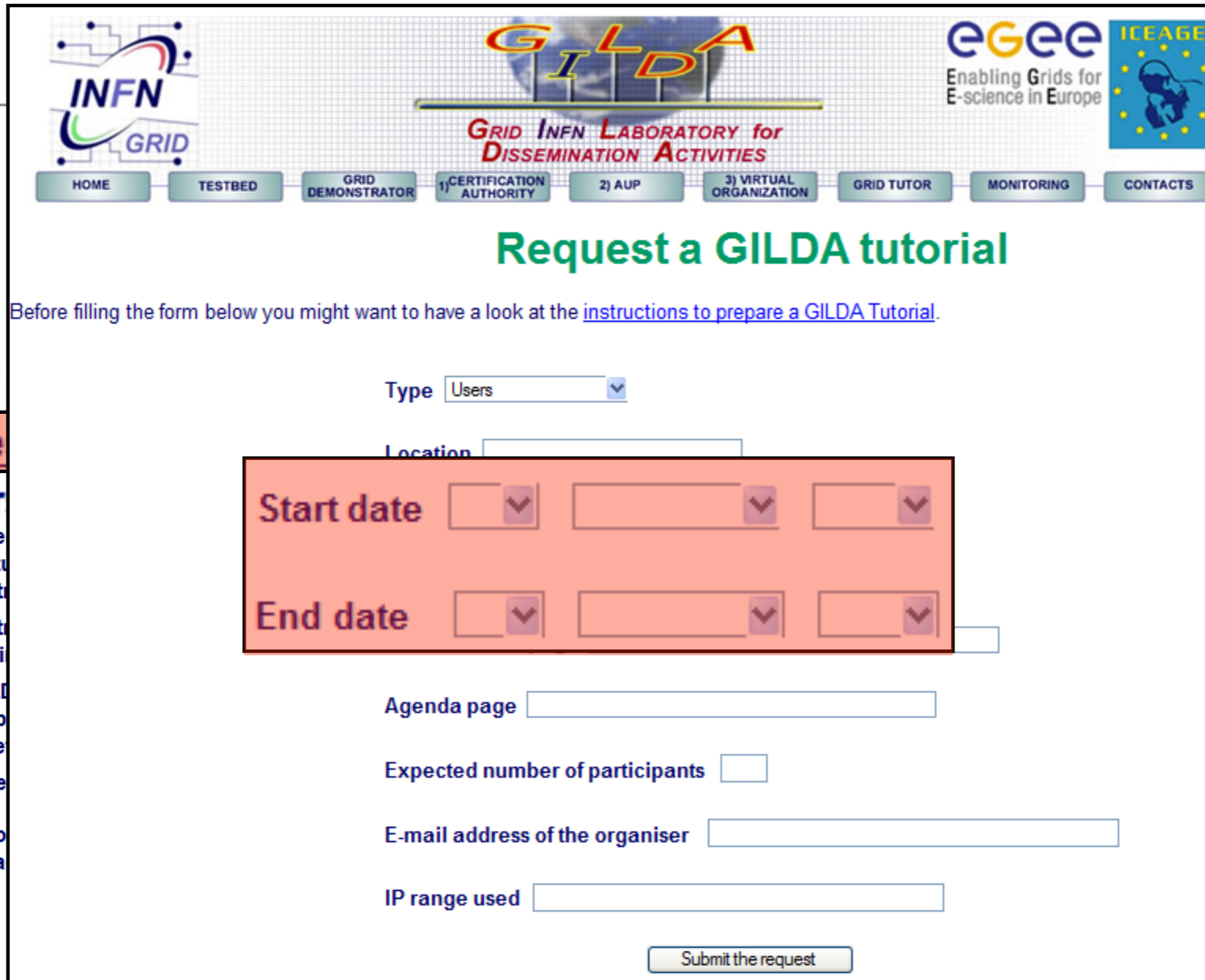
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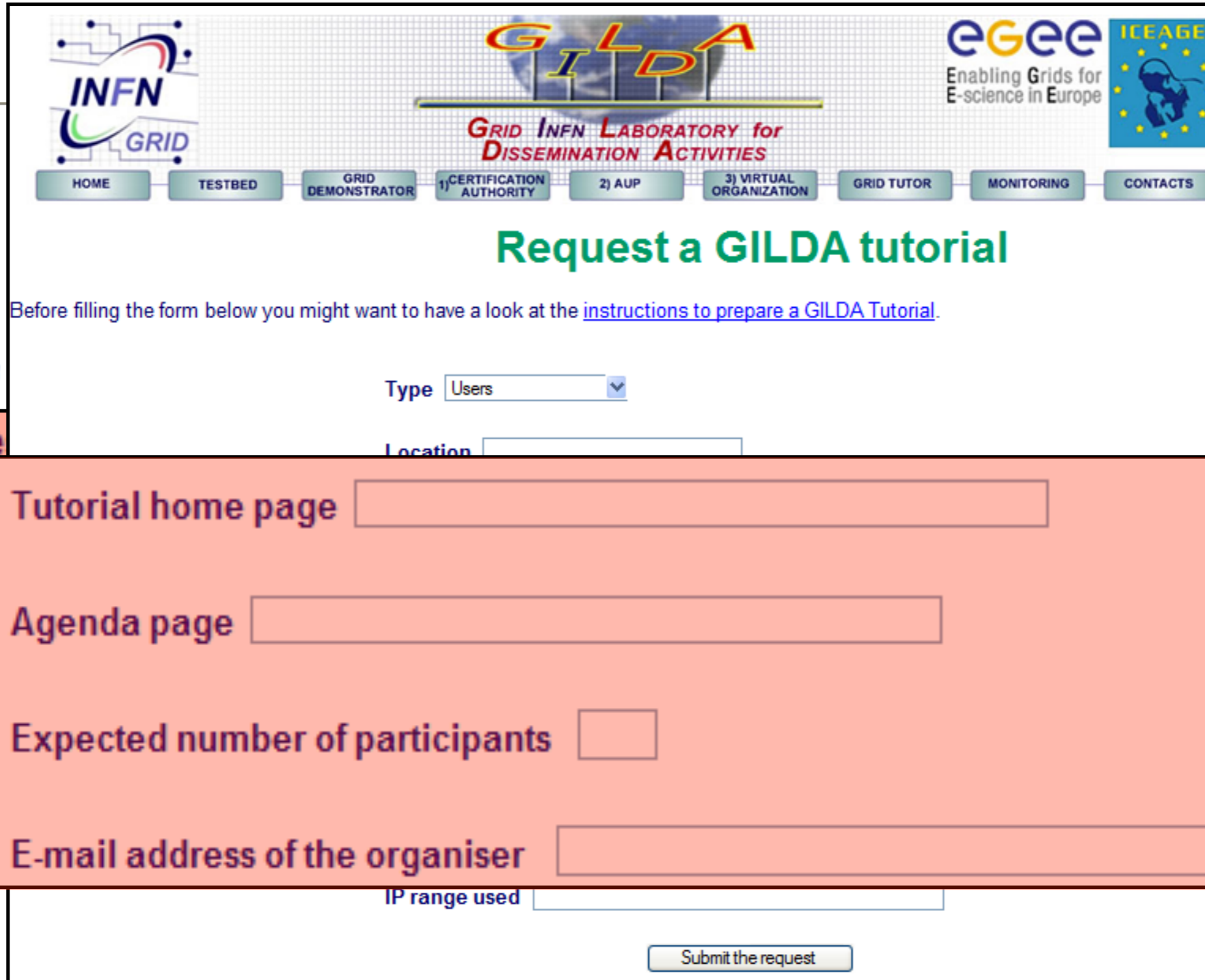
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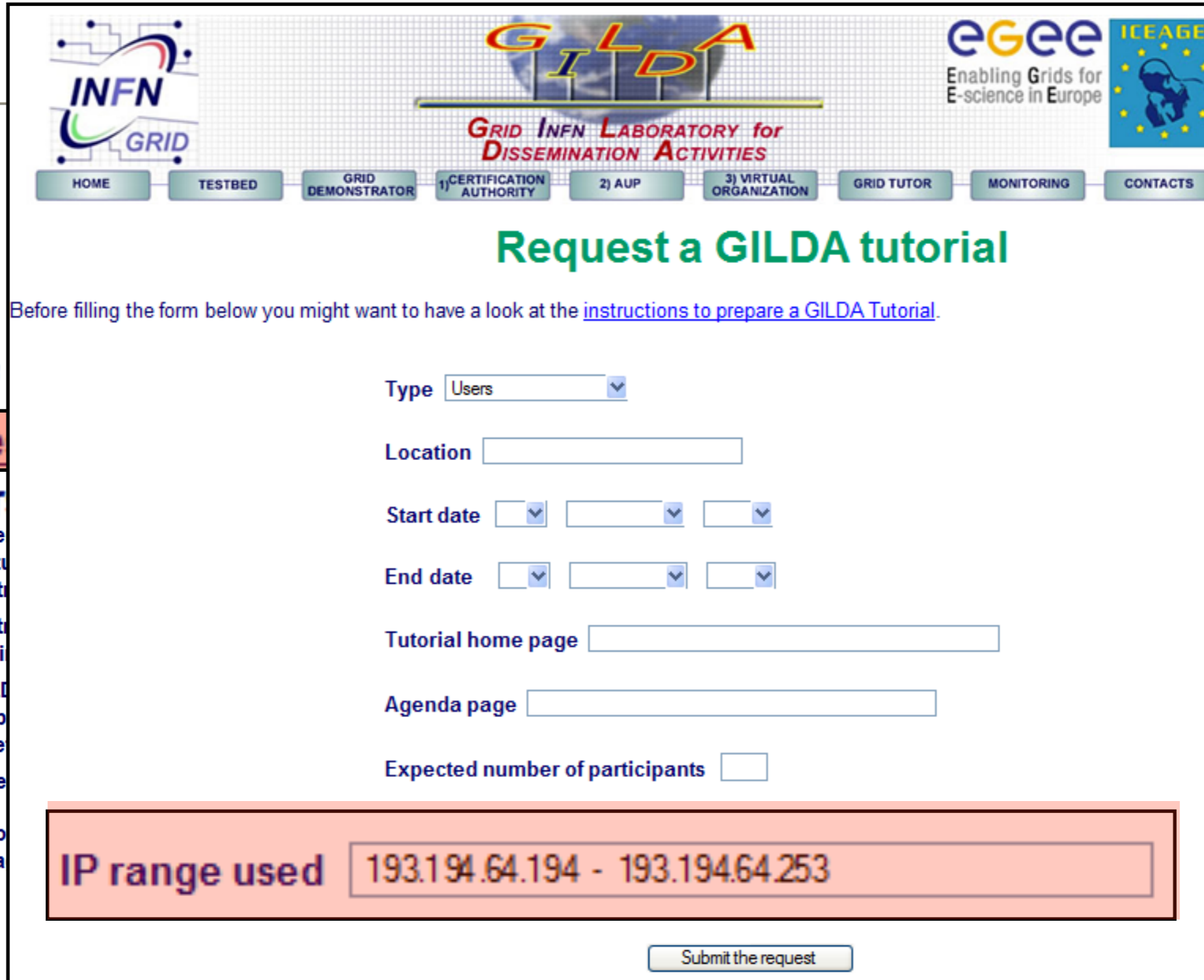
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[CONTACTS](#)

Request a GILDA tutorial

Before filling the form below you might want to have a look at the [instructions to prepare a GILDA Tutorial](#).

Type

Location

Start date

End date

Tutorial home page

Agenda page

Expected number of participants

IP range used

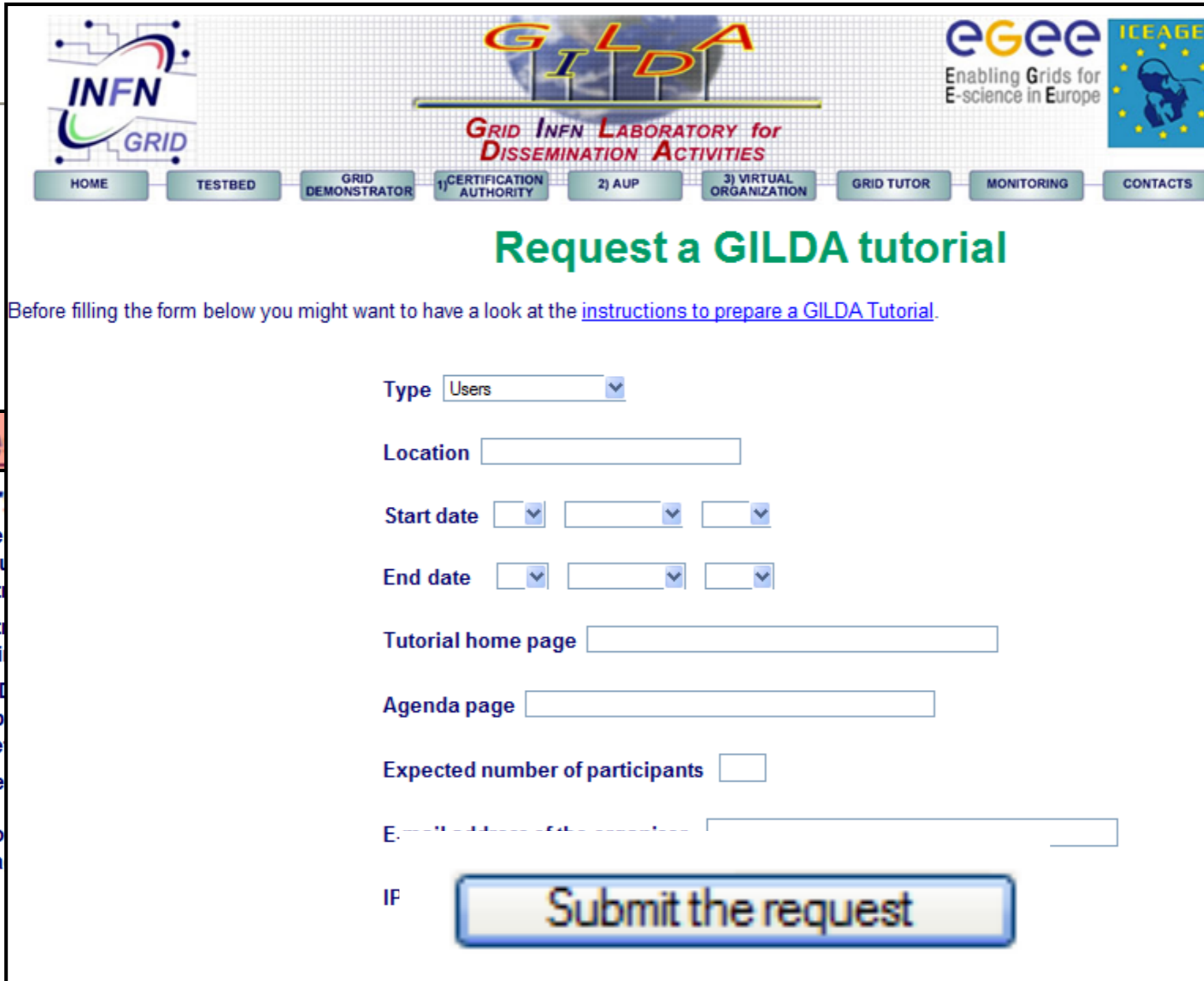
- List of
- **Request**
- Poster

- Use
- Virtu
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- GIL
- Sup
- Use
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- From the gilda web site: <https://gilda.ct.infn.it>



The screenshot shows the GILDA website interface. At the top, there are logos for INFN GRID, GILDA (GRID INFN LABORATORY for DISSEMINATION ACTIVITIES), EGEE (Enabling Grids for E-science in Europe), and ICEAGE. A navigation menu includes links for HOME, TESTBED, GRID DEMONSTRATOR, 1) CERTIFICATION AUTHORITY, 2) AUP, 3) VIRTUAL ORGANIZATION, GRID TUTOR, MONITORING, and CONTACTS. The main heading is "Request a GILDA tutorial". Below this, a link points to "instructions to prepare a GILDA Tutorial". The form fields are: Type (Users), Location, Start date (month, day, year dropdowns), End date (month, day, year dropdowns), Tutorial home page, Agenda page, Expected number of participants, and an email field. A large "Submit the request" button is at the bottom.

- List of
- **Request**
- Poster

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- List of
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Type

Location

Start date

End date

Tutorial home page

Agenda page

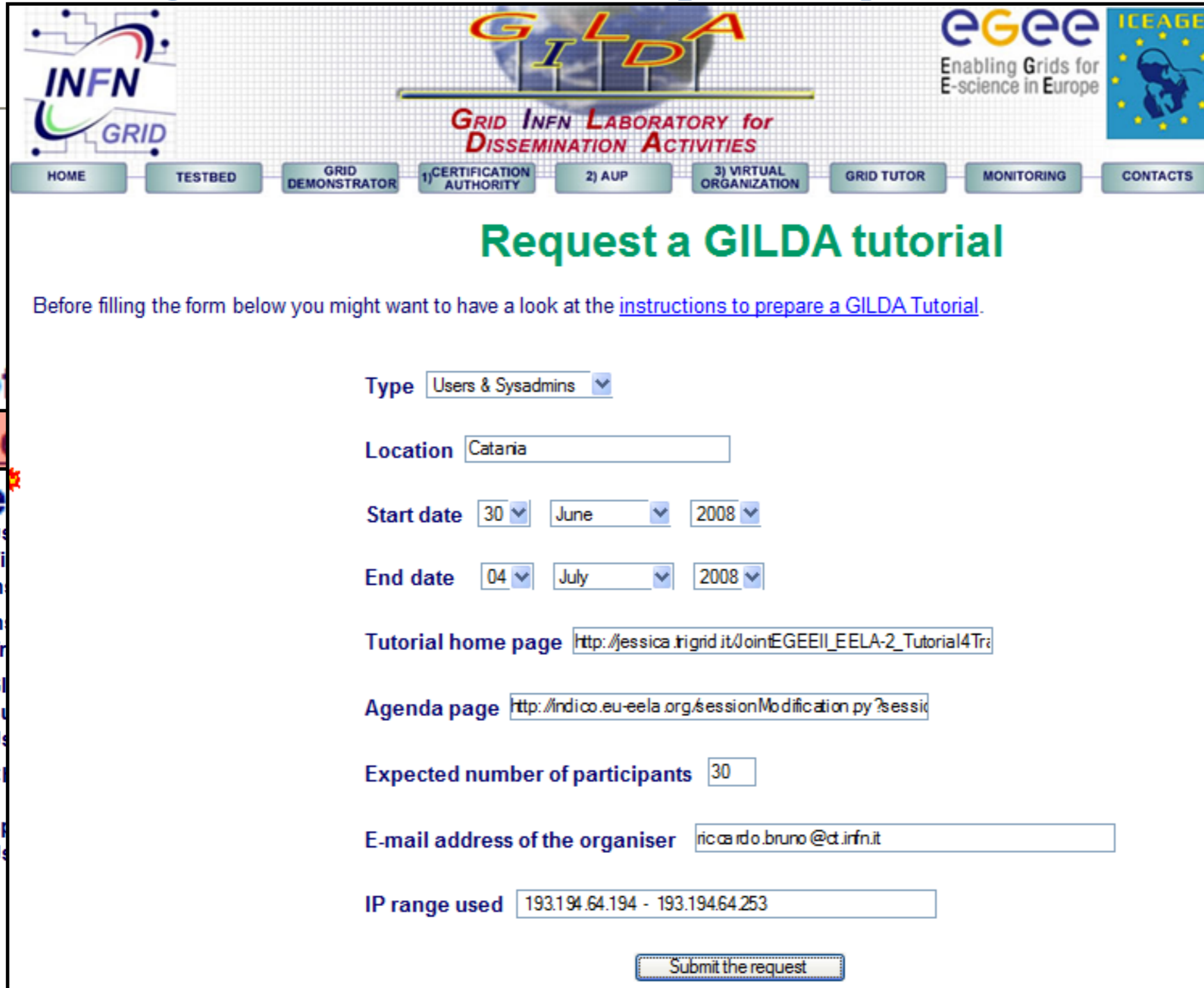
Expected number of participants

E-mail address of the organiser

IP range used

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- From the gilda web site: <https://gilda.ct.infn.it>



Request a GILDA tutorial

Before filling the form below you might want to have a look at the [instructions to prepare a GILDA Tutorial](#).

Type:

Location:

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Tutorial home page:

Agenda page:

Expected number of participants:

E-mail address of the organiser:

IP range used:

- List of
- **Request**
- Posters

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Request a GILDA tutorial

Before filling the form below you might want to have a look at the [instructions to prepare a GILDA Tutorial](#).

Type

Location

Start date

End date

Tutorial home page

Agenda page

Expected number of participants

E-mail address of the organiser

IP range used



Your request has successfully been submitted.



Oggetto: [Grid-Prod] Request of a GILDA Tutorial at Catania

Da: riccardo.bruno@ct.infn.it

Mittente: owner-grid-prod@alihp1.ct.infn.it

Data: 15.56

A: grid-prod@ct.infn.it

Dear administrators of GILDA testbed,

There will be a "Users & Sysadmins" tutorial at Catania from 30 June 2008 to 04 July 2008. Could you create 30 certificates and accounts?

The tutorial home page is <http://jessica.trigrid.it/JointEGEEII EELA-2 Tutorial4Trainers>.

The agenda page is <http://indico.eu-eela.org/sessionModification.py?sessionId=0&confId=125>.

The ip range used is 193.194.64.194 - 193.194.64.253.

Regards.

Expected number of participants

E-mail address of the organiser

IP range used



Your request has successfully been submitted.

ATTENTION!

The number of users is limited to max 80 persons

Accounts will be created on GILDA UI servers:

`glite-tutor.ct.infn.it`

`glite-tutor2.ct.infn.it`

Specified IP address in the request form will be enabled for incoming connections to both machines

The PASSPHRASE is common to ALL generated user certificates

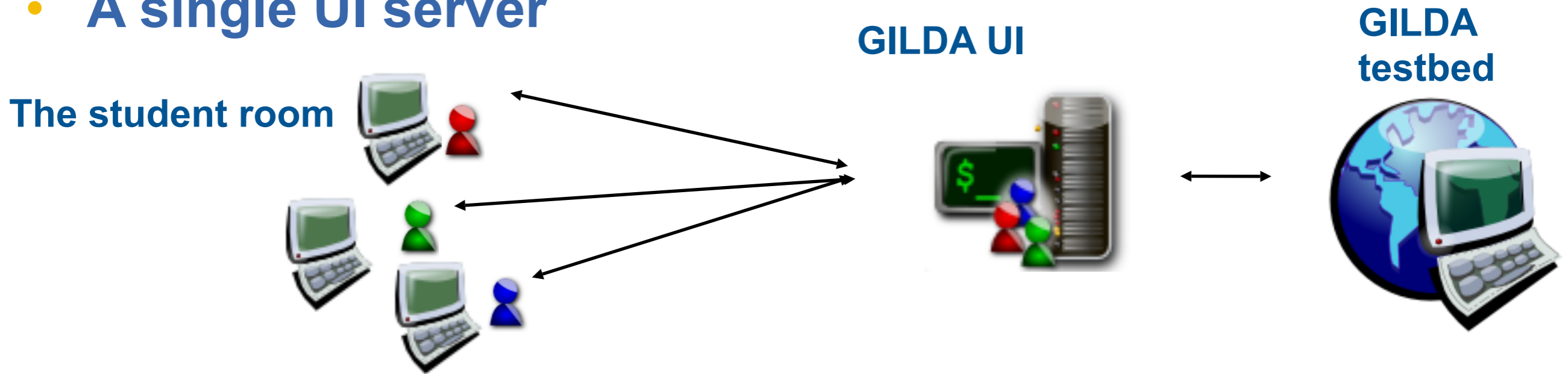
It is: **[location]** (all capital letters)

GILDA tutorial certificates normally expire a week after the end of the tutorial.

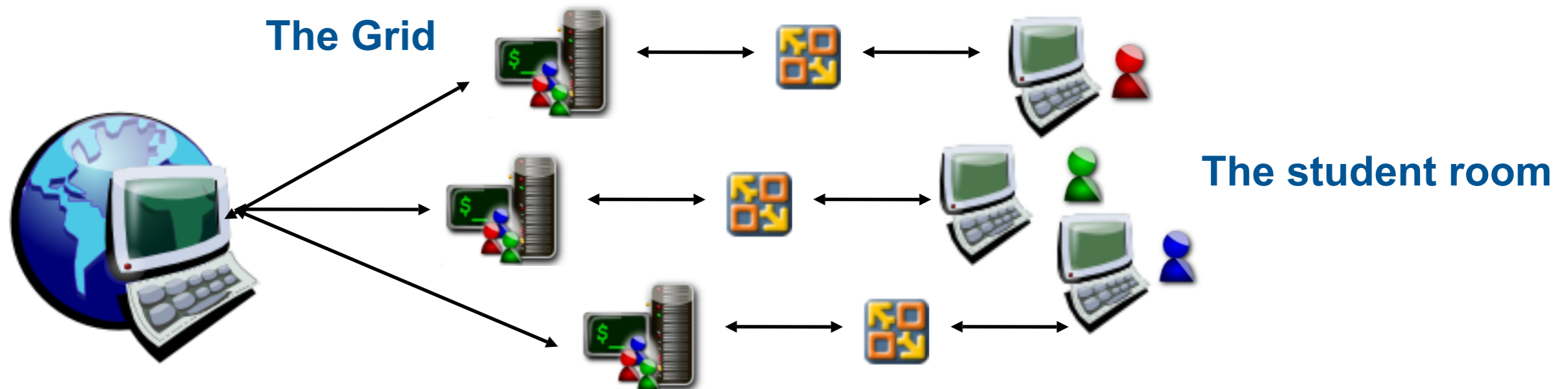
Users might want to continue to use GILDA must submit a request to join the VO:

`https://gilda.ct.infn.it/CA/mgt/restricted/ucert.php`

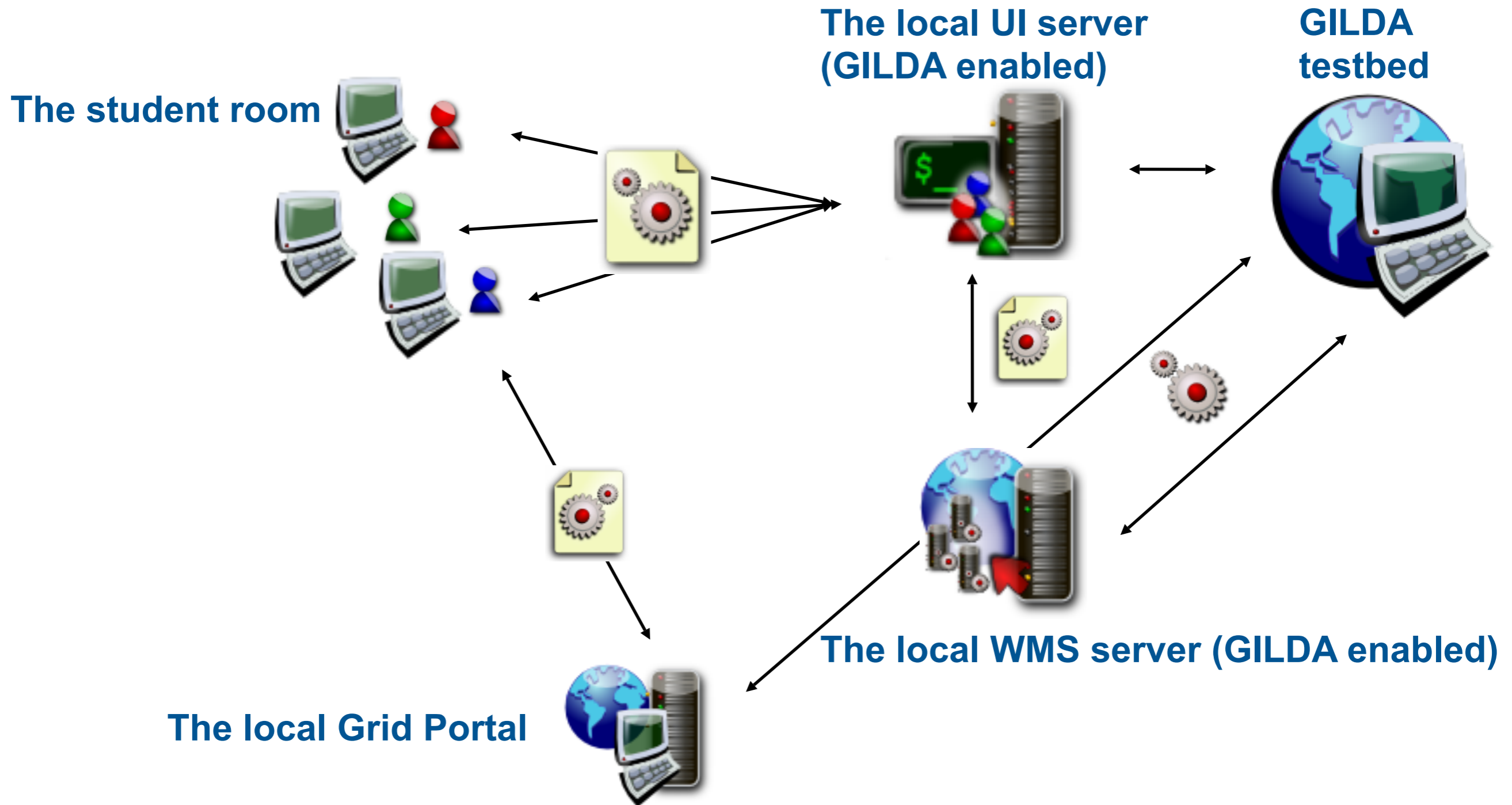
- **A single UI server**



- **Usage of UIs running on Virtual Machines**



- A local WMS serving the site



- **In case the student UI is centralized, its a good practice to make stress tests on the UI in order to discover potential problems.**
- **GILDA developed several stress tests for WMS and Storage and Cataloguing services.**
- **Stress tests may discover problems on resource overloading, network latencies, certificates etc.**
- **It's a good practice to start at least once a stress test over the UI that will host the tutorial**
 - if you are going to use GILDA UIs ask the admins
 - if you are going to use you own UI ask for the package

- **Two different solutions:**
 - PCs running Windows
 - SCP Client
 - SSH Client
 - PCs running Linux
 - X Interface
 - Office package
- **Suggestions** (available free software):
 - Windows:
 - SCP: WinSCP (<http://winscp.net/eng/docs/introduction>)
 - SSH: Putty (<http://www.chiark.greenend.org.uk/~sgtatham/putty/>)
 - LinuxLike solution with CygWin
 - Linux:
 - Office package: OpenOffice (<http://www.openoffice.org/>)

- Two computers

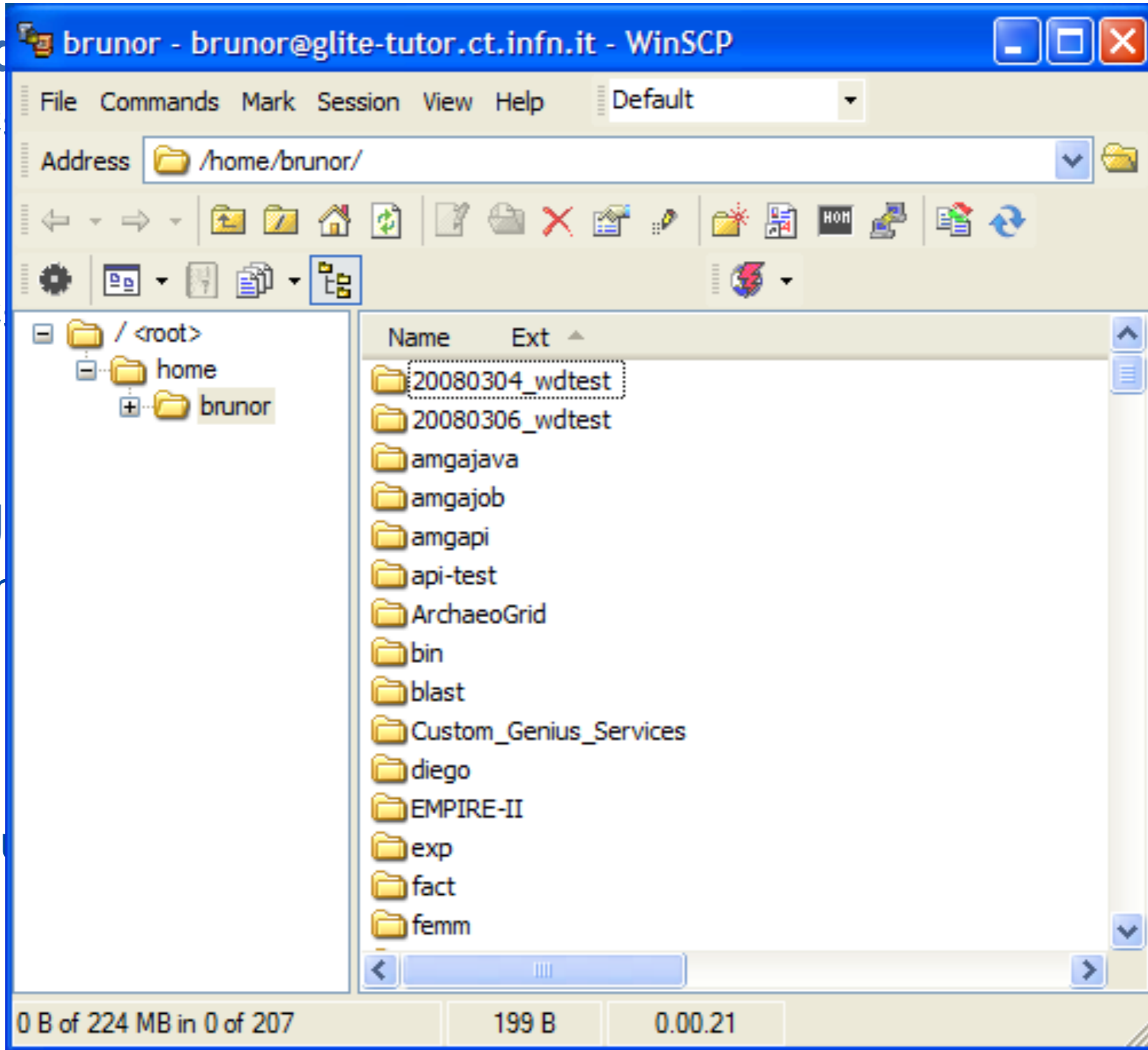
- PC

- PC

- Suggest

- Win

- Lin



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- Two computers

- PC1

- -

- PC2

- -

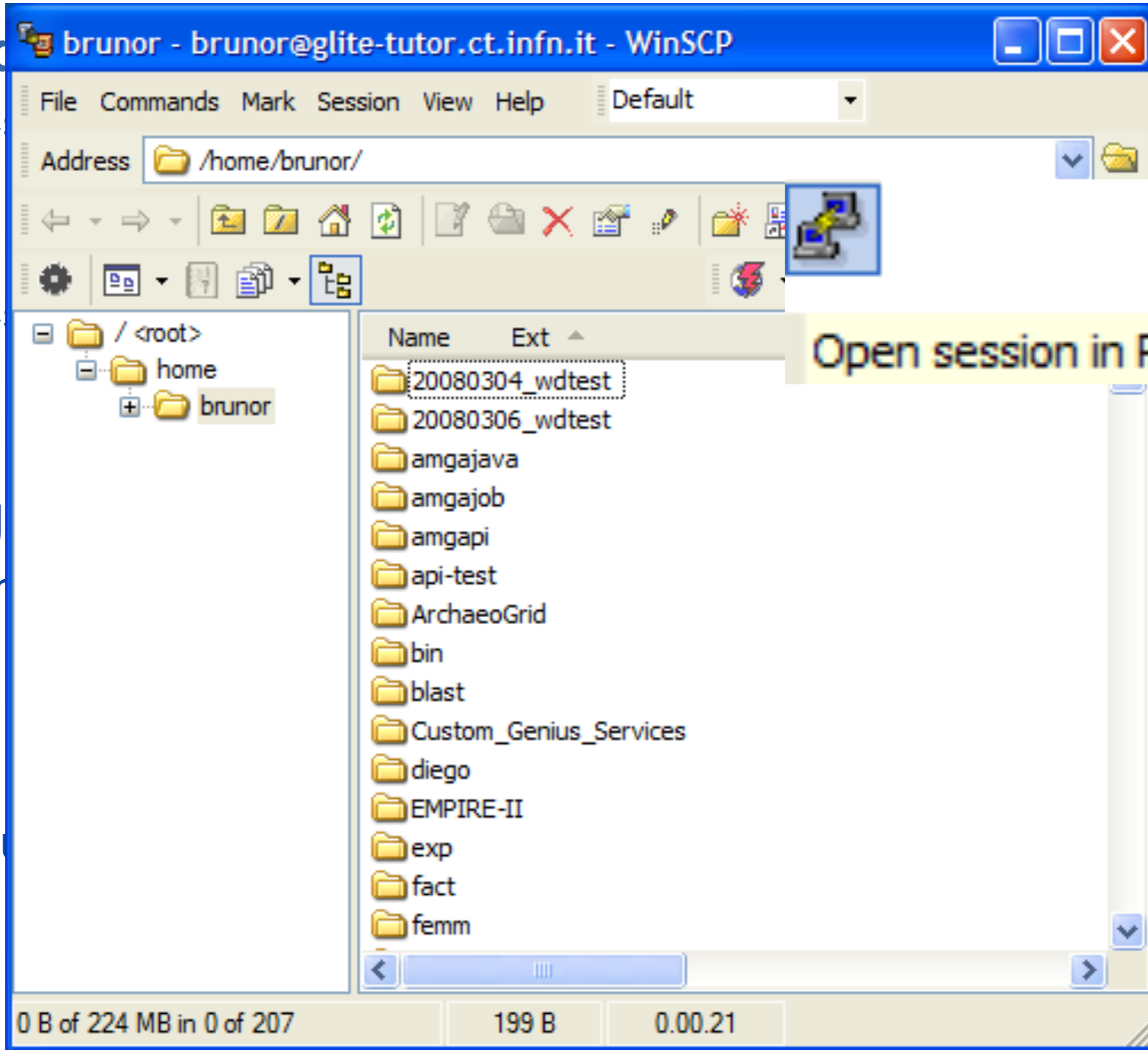
- Suggested software

- WinSCP

- -
 -

- Link

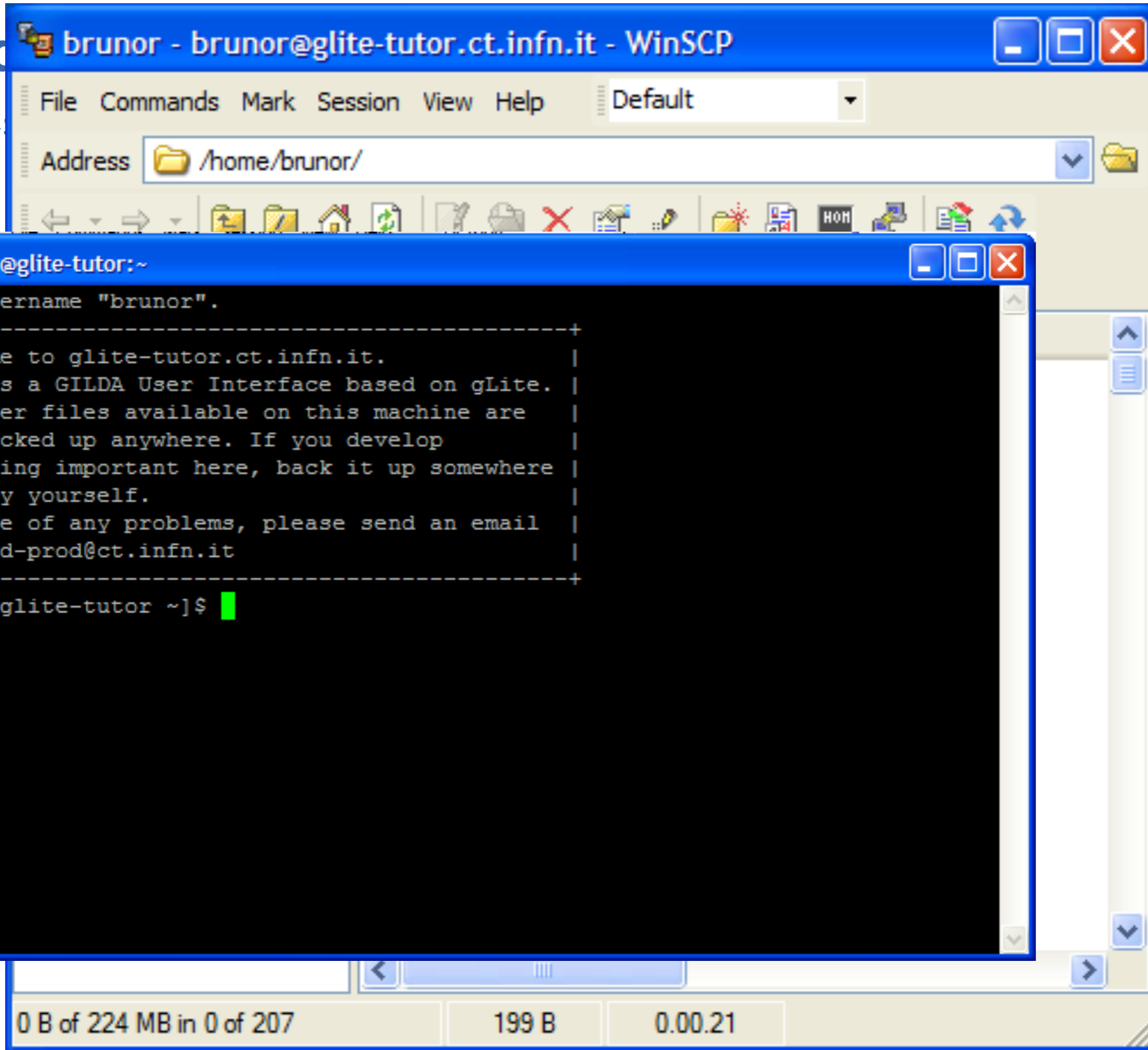
-



Open session in PuTTY (Ctrl+P)

putty/)

- Two o
- PC



outty/)

- Two different
 - PCs running
 - SCP Client
 - SSH Client
 - PCs running
 - X Interface
 - Office packages
- Suggestions
 - Windows:
 - SCP: WinSCP
 - SSH: PuTTY
 - LinuxLike
 - Linux:
 - Office packages

```

gridct@brunor ~
$ scp
usage: scp [-1246BCpqr] [-c cipher] [-F ssh_config] [-i identity_file]
          [-l limit] [-o ssh_option] [-P port] [-S program]
          [[user@]host1:]file1 ... [[user@]host2:]file2

gridct@brunor ~
$ ssh
usage: ssh [-1246AaCfGkMNnqsTtVvXxY] [-b bind_address] [-c cipher_spec]
          [-D [bind_address:]port] [-e escape_char] [-F configfile]
          [-i identity_file] [-L [bind_address:]port:host:hostport]
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
          [-R [bind_address:]port:host:hostport] [-S ctl_path]
          [-w local_tun[:remote_tun]] [user@]hostname [command]

gridct@brunor ~
$ █
    
```




- **Hardware requirements similar to user/induction tutorials**
- **Medium skills on programming in the most known languages (C/C++, Java, Python) are requested**
- **Specific section of wiki available with working examples**
- **<https://grid.ct.infn.it/twiki/bin/view/GILDA/APIUsage>**



- Provides training on gLite middleware installation
- The aim of this tutorial is to explain how to **INSTALL** and **MAINTAIN** grid sites.

- **Audience Requisites:**
 - **Advanced** Unix/Linux skills (command line, administration)
 - Good knowledge of networking and relative services (DNS, Firewall, etc.)
- **Technical Requisites:**
 - A network connection having outside Internet bandwidth of at least 8 Mbit/s
 - a FastEth. (10/100 Mbit/s) and/or a WiFi (IEEE802.11b/g - 11/54 Mbit/s) LAN
 - A computing room equipped with desktops that can be used by students or a simple class room where students can bring their own laptops
 - At least 1 machine (either real or virtual, with Xen or Vmware) each 2 users.
 - Machines must have direct and inverse resolution, so either :
 - Provide machines with public IP addresses direct/reverse solved by public DNS or
 - Provide machines with private IP addresses solved by a local DNS (that will be "pointed" by students)
 - Real machines should have at least 1 GB main memory per processor (dual processor machines are preferred) and at least 40 GByte of internal hard-disk
 - The machines must be available for tutors at least 1 week before the tutorial
 - A big screen and a video-projector (a 2nd video-projector for the machine to install would be better);
 - A sound system (microphone + amplifier + loud speakers) if the room is big.

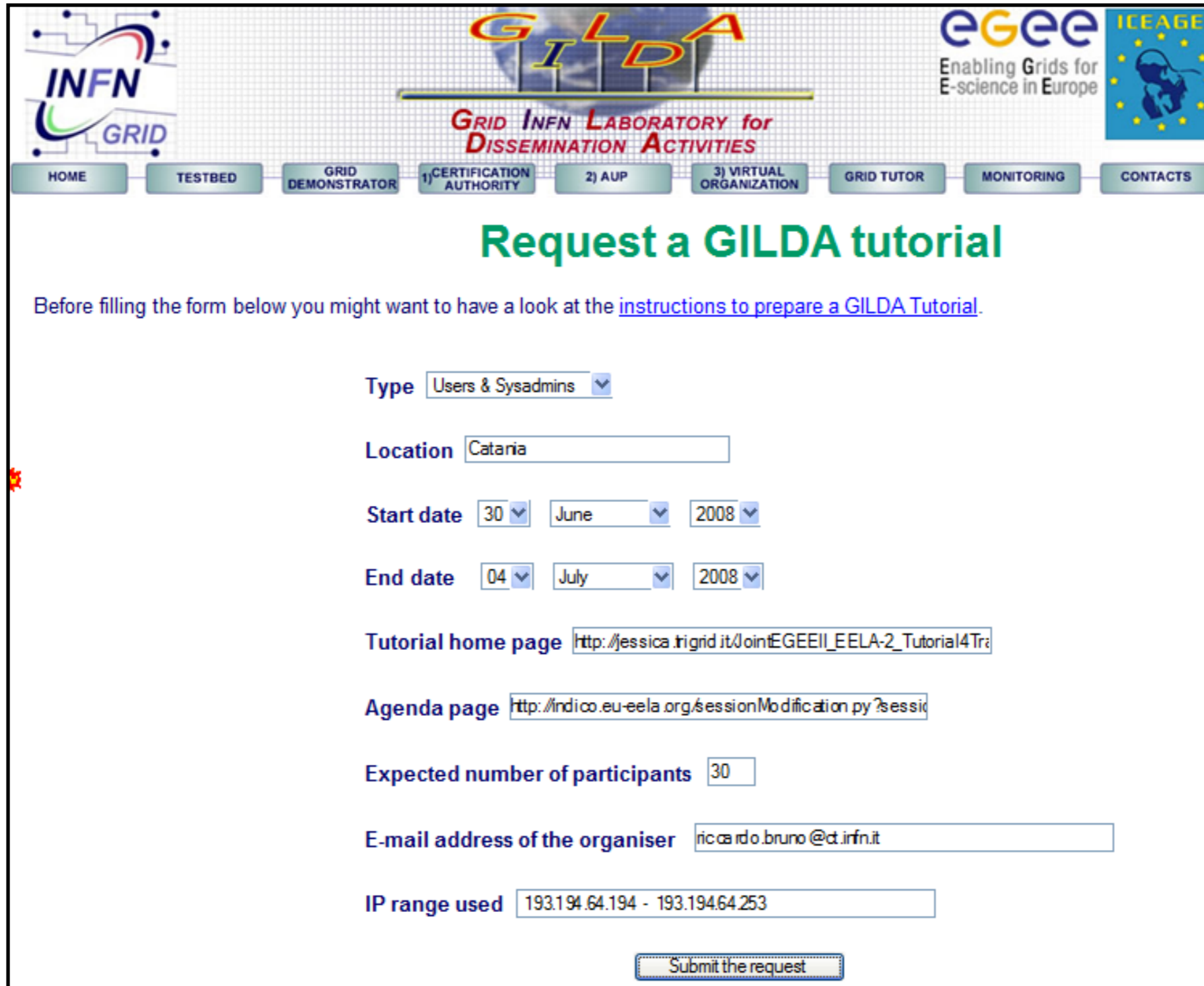
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 - A computing room equipped with desktops that can be used by students or a simple class room where students can bring their own laptops

Sites with local network slower than 100 Mbit/s are strongly discouraged to candidate themselves to host grid tutorials.

- Provide machines with public IP addresses direct/reverse solved by public DNS or
- Provide machines with private IP addresses solved by a local DNS (that will be "pointed" by students)
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- **The requesting procedure is the same as for users ...**

- The requesting procedure is the same as for users ...



The screenshot shows the GILDA website interface. At the top, there are logos for INFN GRID, GILDA (GRID INFN LABORATORY for DISSEMINATION ACTIVITIES), EGEE (Enabling Grids for E-science in Europe), and ICEAGE. A navigation menu includes: HOME, TESTBED, GRID DEMONSTRATOR, 1) CERTIFICATION AUTHORITY, 2) AUP, 3) VIRTUAL ORGANIZATION, GRID TUTOR, MONITORING, and CONTACTS.

Request a GILDA tutorial

Before filling the form below you might want to have a look at the [instructions to prepare a GILDA Tutorial](#).

Type:

Location:

Start date:

End date:

Tutorial home page:

Agenda page:

Expected number of participants:

E-mail address of the organiser:

IP range used:

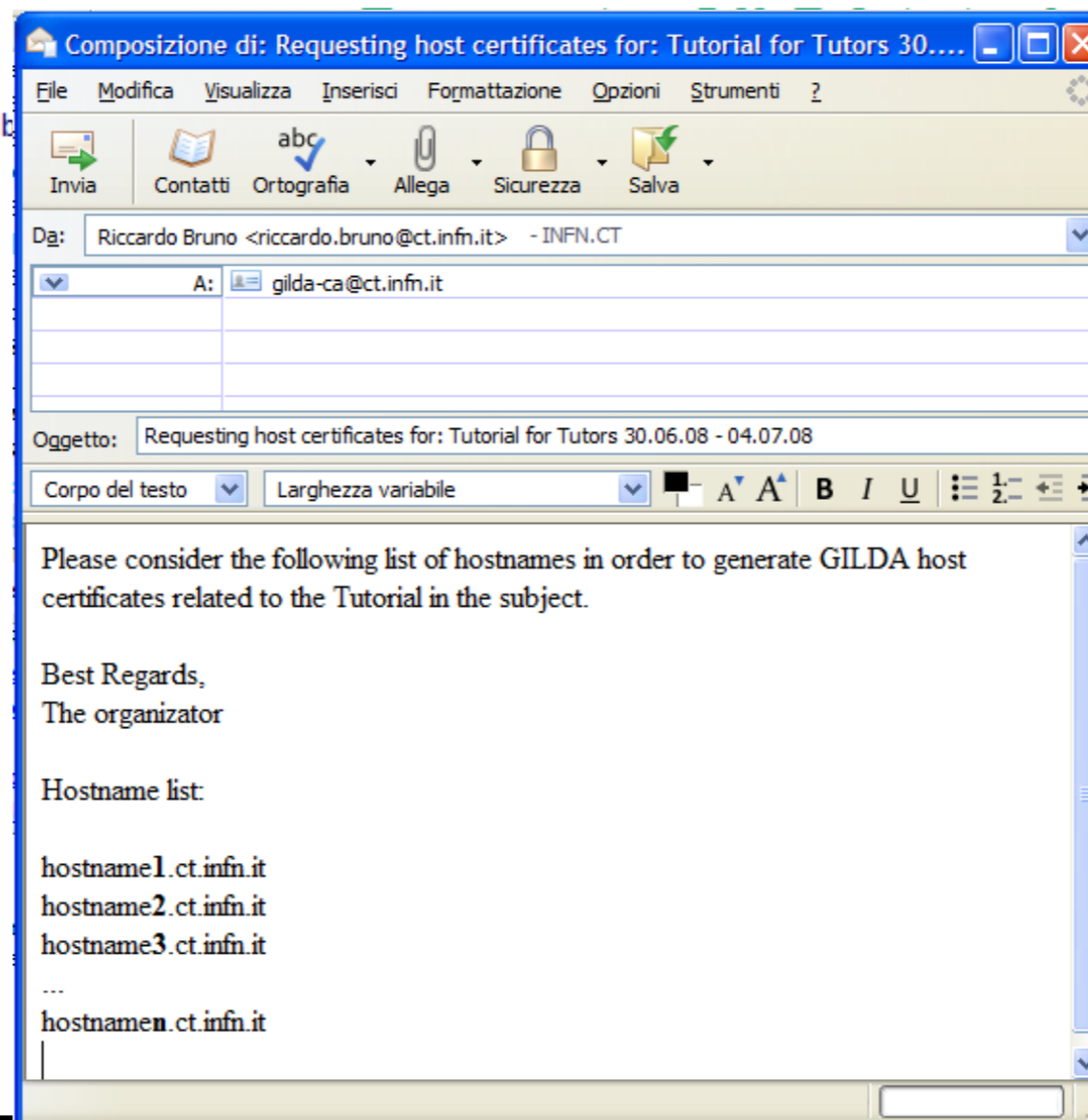
- The requesting procedure is the same as for users ...

A further step is necessary after the form submission.

It is necessary to send a list of hostnames to the GILDA-CA mailing list (gilda-ca@ct.infn.it)

This list of hostnames will be used to generate GILDA HOST certificates.

Before filling the form b



- The requesting procedure is the same as for users ...

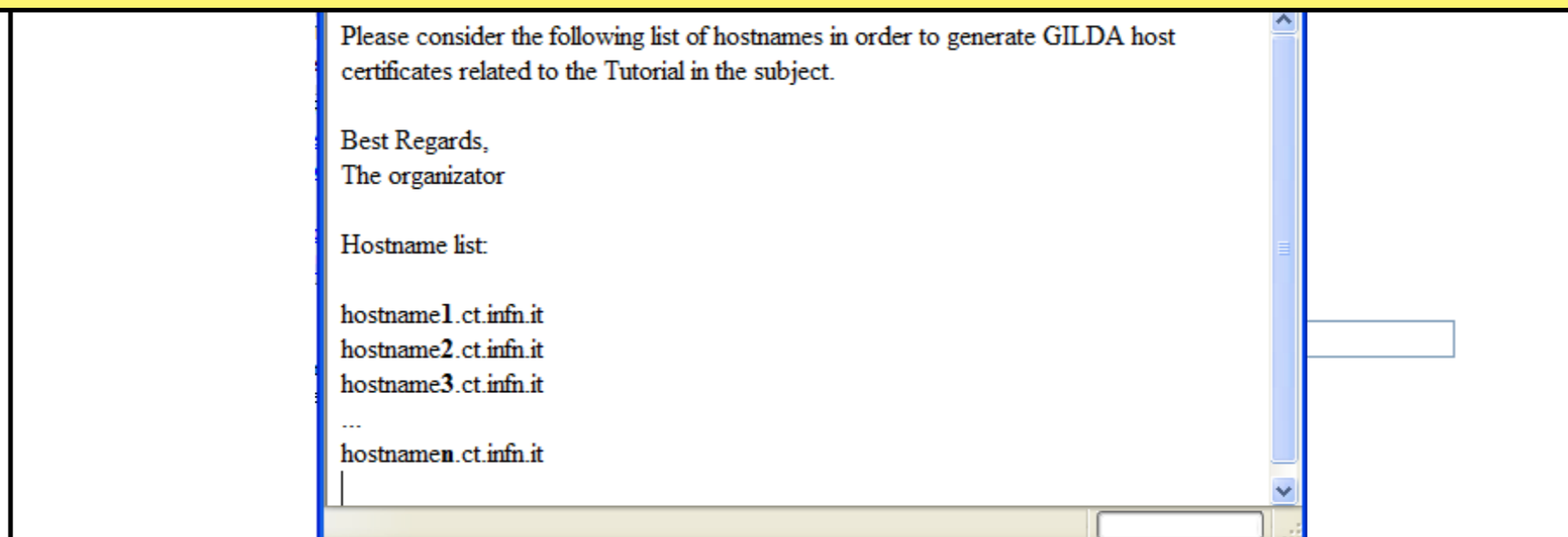
A further step is necessary after the form submission.
It is necessary to send a list of hostnames to the
GILDA-CA mailing list (gilda-ca@ct.infn.it)

ATTENTION!

GILDA host certificates for tutorials normally expire after the end of the tutorial.
Users might want to continue to use GILDA host certificates must submit a request to:

<https://gilda.ct.infn.it/CA/mgt/restricted/srvreq.php>

Requested GILDA host certificates have one year of validity



Please consider the following list of hostnames in order to generate GILDA host certificates related to the Tutorial in the subject.

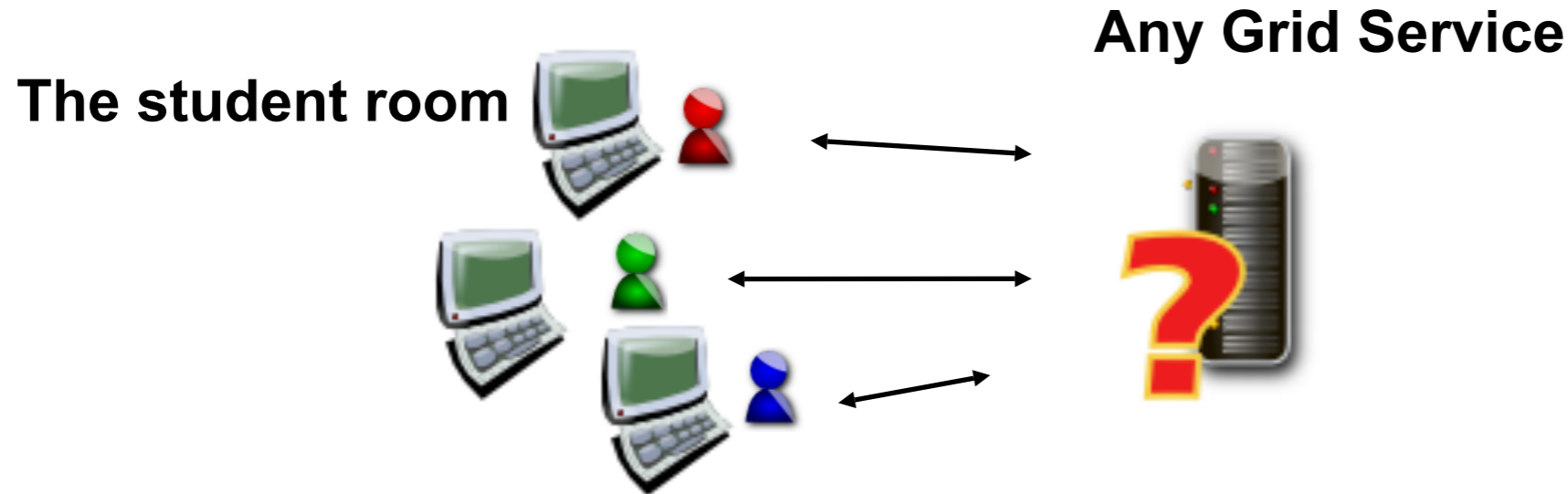
Best Regards,
The organizer

Hostname list:

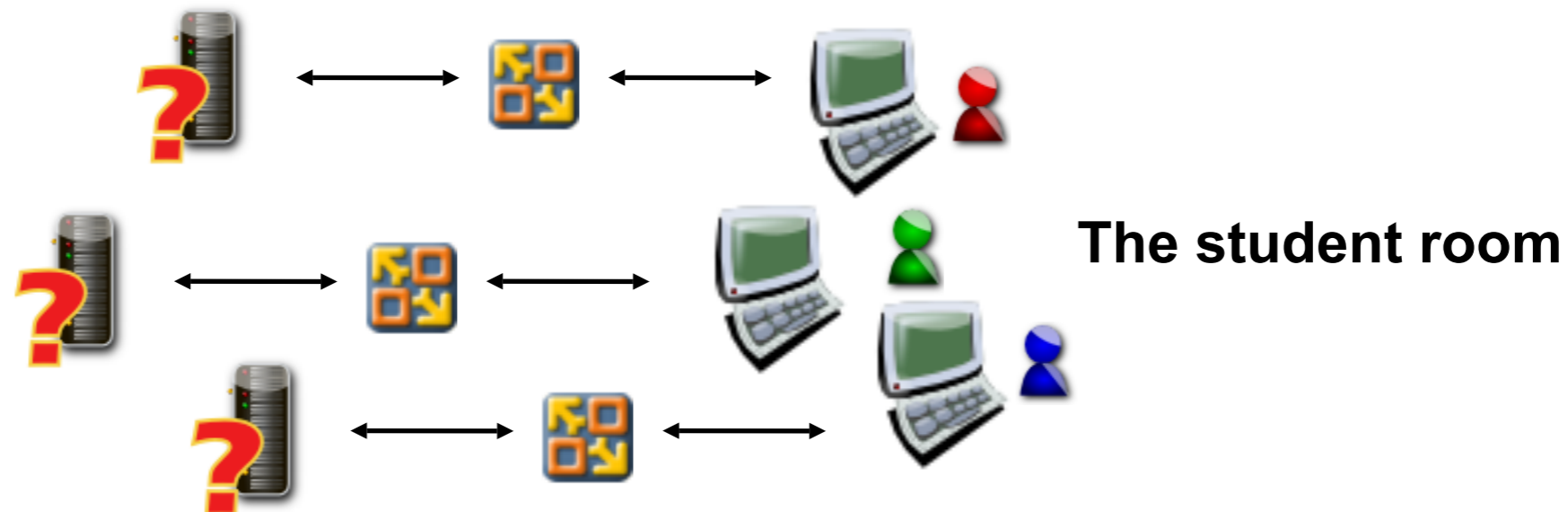
hostname1.ct.infn.it
hostname2.ct.infn.it
hostname3.ct.infn.it
...
hostnamen.ct.infn.it

- **Dedicate a PC hosting a web server and let it be accessible by students**
- **Create a mirror of the GILDA software repository with the command:** `wget -mp -nH -np http://grid018.ct.infn.it/rep`
 - Currently GILDA repository is a sub set of INFN Grid repository hosted by CNAF: <http://igrelease.forge.cnaf.infn.it/doku.php?id=doc:tips:mrepo>
- **Create directories seen by the web server and copy on it:**
 - GILDA Host certificates
 - GILDA User certificates
 - The java JDK 1.5.0 RPM (Java Development Kit 5.0 Update XX)
 - Optionally, a directory containing all slides (sometime indico is slow or unreachable or just contain last minute slides not yet uploaded into the Agenda).
 - VM Images with BASIC installation (SLC4+prerequisites)

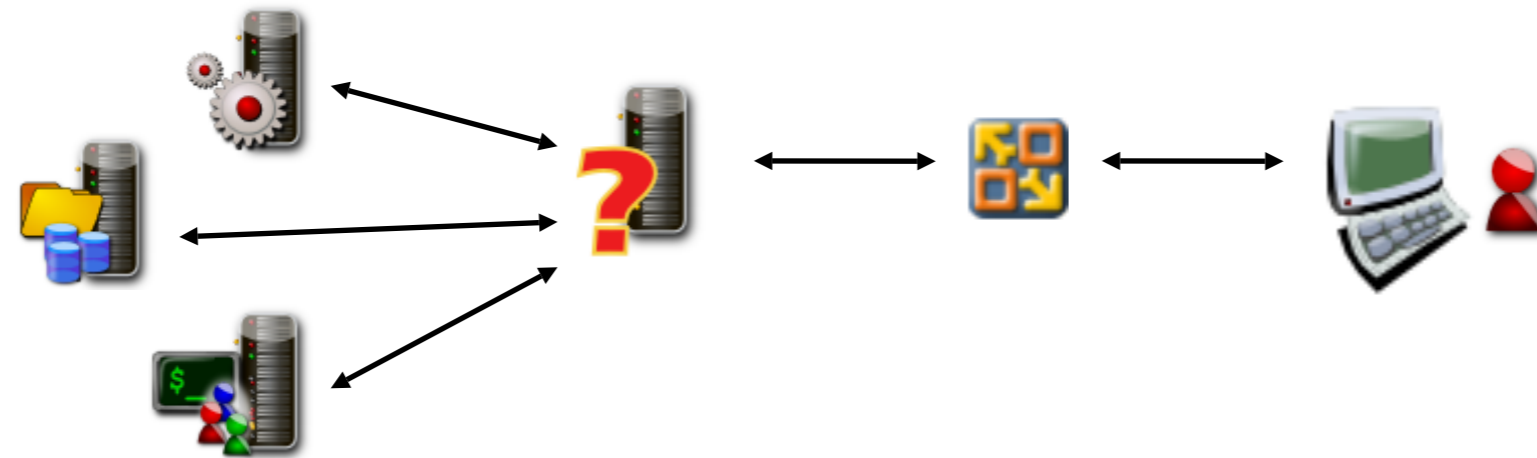
- **A Dedicated PC for each service**



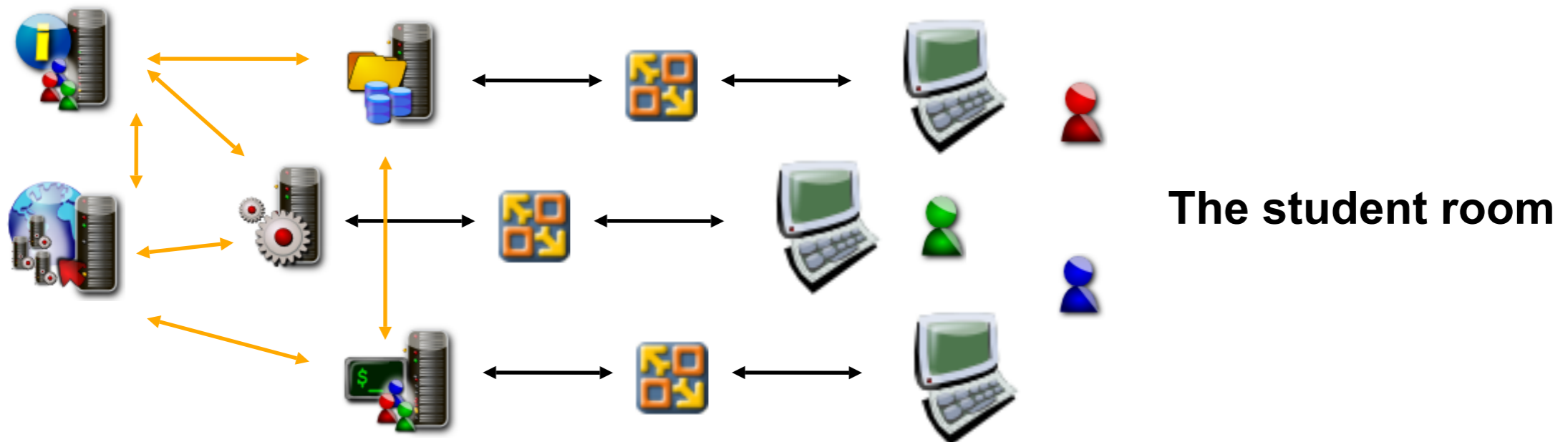
- **Usage of Virtual Machines**



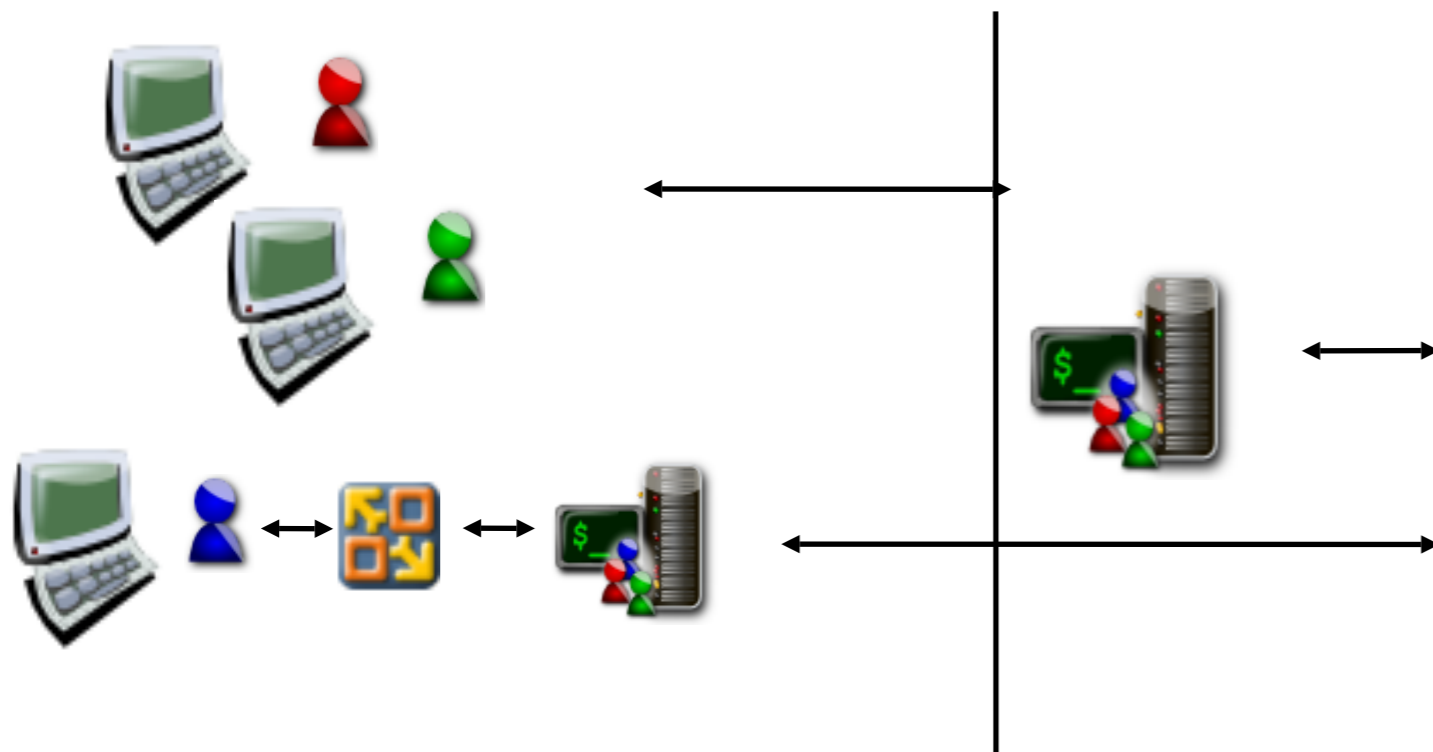
- **A key point in tutorial for site administration:**
 - Each student installs a service storing the VM image file



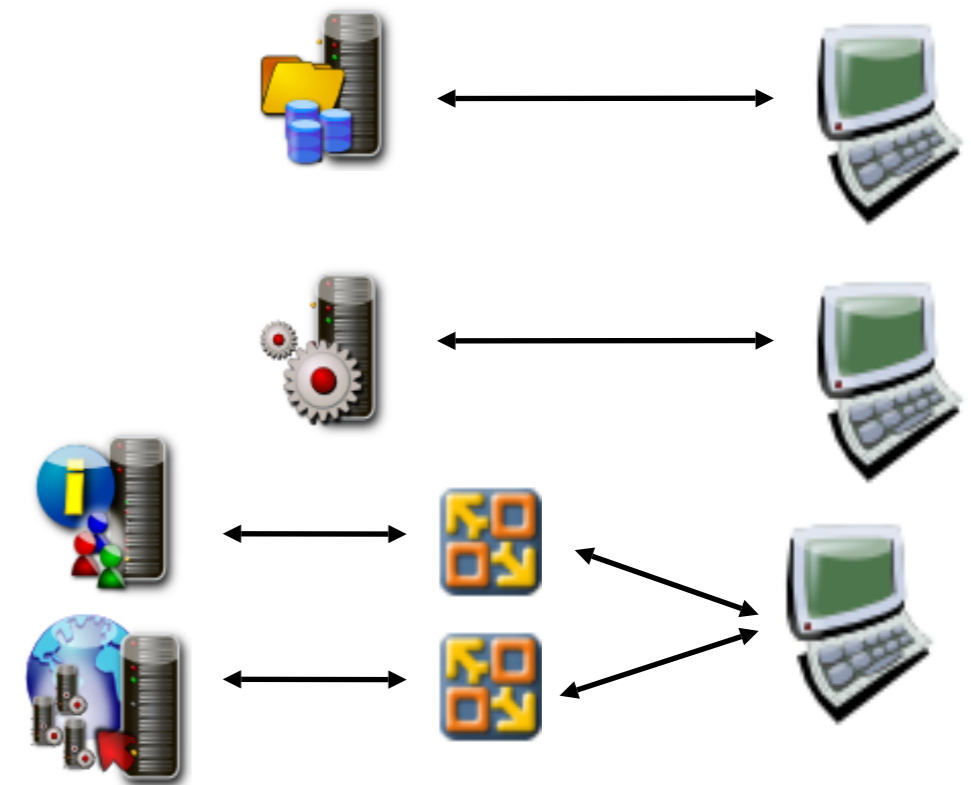
- Let installed machine cooperate as a Local grid site



The student room



Computers room



- **The training event need a Feedback Form;**
 - Why the feedback form:
 - Improve the quality of training material
 - Improve the quality of training
 - Obtain suggesions from students
 - Report the quality of training to the funding institute
- **The FF just collects student feedbacks**
 - Normally one feedback per Talk
 - 6 degree of choice
 - Poor, Insufficient, Fair, Good, Very Good, Excellent
 - 1 comment field

Question	EGEE website	Other website (please state URL)	Article (please state publication)	Event (please state event title)	Other (please state)	Statement	
Where did you hear about EGEE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>	
Goals Rating	Poor	Insufficient	Fair	Good	Very Good	Excellent	Comments
Goal 1 : EGEE Project and Middleware Overview	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 2 : The GILDA t-Infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 3 : Authorization and authentication in gLite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 4 : Practice on authentication and authorization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 5 : Theory on information system : BDII	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 6 : Practice on Information System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 7 : Theory on gLite WMS : Architecture, command line, JDL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 8 : Practice on gLite WMS : job submission and monitoring, JDL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 9 : Theory on Parametric Jobs, Collection, DAG and MPI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 10 : Practice on special jobs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 11 : Theory on gLite Data Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 12 : Practice on gLite Data Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 13 : How to join the CYCLOPS VO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 14 : The AMGA metadata catalog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

Question	EGEE website	Other website (please state URL)	Article (please state publication)	Event (please state event title)	Other (please state)	Statement	
Where did you hear about EGEE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>	
Goals Rating	Poor	Insufficient	Fair	Good	Very Good	Excellent	Comments
Goal 1 : EGEE Project and Middleware Overview	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 10 : The GEDM I.C.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

You can ask for a web based feedback form
To request a FeedbackForm for a training event just send a email:
TO: rita.ricceri@ct.infn.it
CC: grid-prod@ct.infn.it

Goal 6 : Practice on Information System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 7 : Theory on gLite WMS : Architecture, command line, JDL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 8 : Practice on gLite WMS : job submission and monitoring, JDL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 9 : Theory on Parametric Jobs, Collection, DAG and MPI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 10 : Practice on special jobs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 11 : Theory on gLite Data Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 12 : Practice on gLite Data Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 13 : How to join the CYCLOPS VO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Goal 14 : The AMGA metadata catalog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>