Virtual Organisations in EGEE

What is a VO?

- A group of people sharing networked resources
- Cross oganisational
- Shared authorisation/authentication

- It is only ‘Virtual’ in that it is mediated by network communications

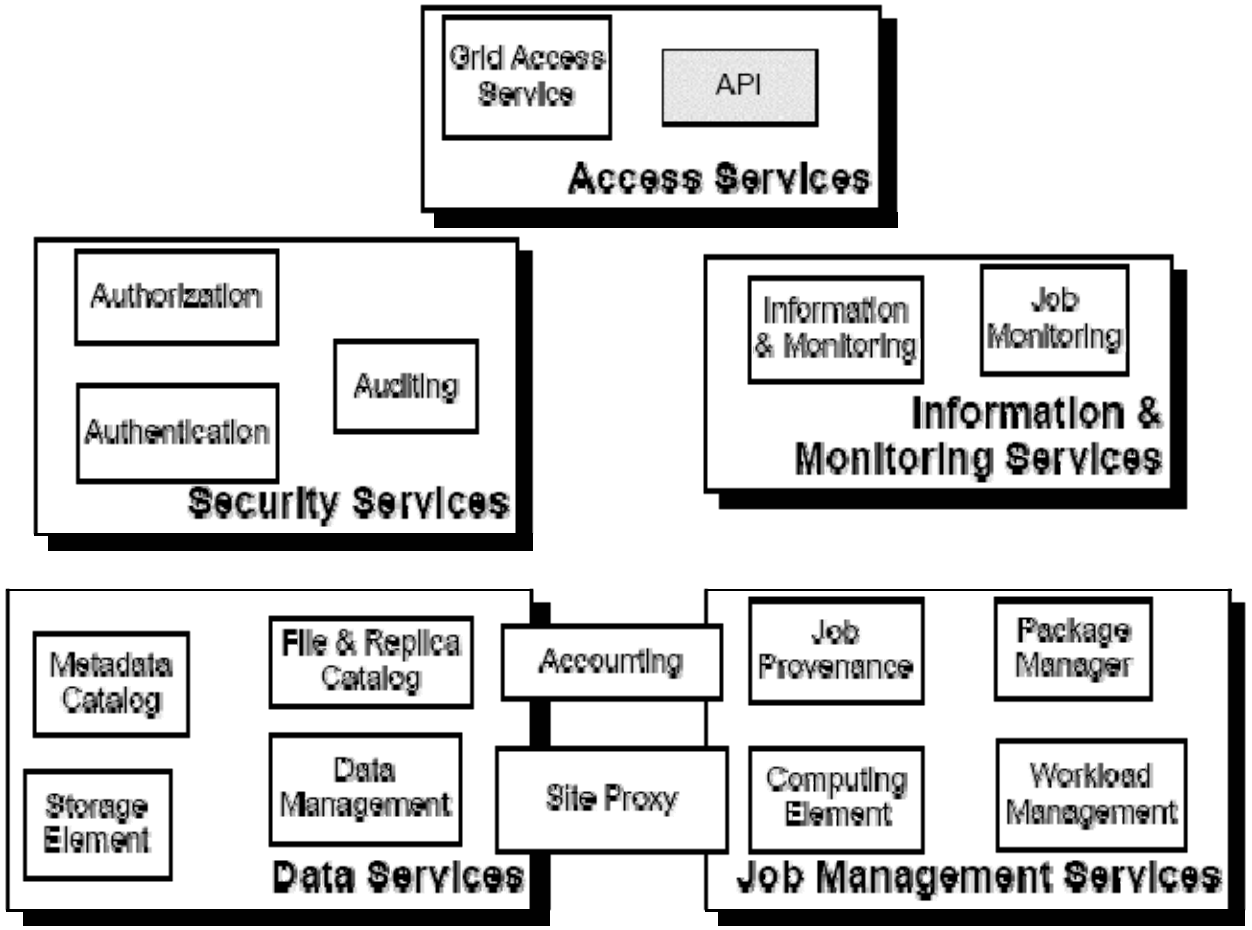
VOs in EGEE

VO	Disciplines	Nb of users
Atlas	Physics	274
Alice	Physics	31
LHCb	Physics	46
CMS	Physics	243
CDF	Physics	5
BaBar	Physics	4
Dzero	Physics	4
ZEUS	Physics	3
Biomed	Biomed	41
ESR	Earth Sciences	18
Comp Chem	Chemistry	9
Magic	Astronomy	5
EGEODE	Geo-Physics	2
Total		685
dteam	Infrastructure testing	306

Overview of EGEE Middleware

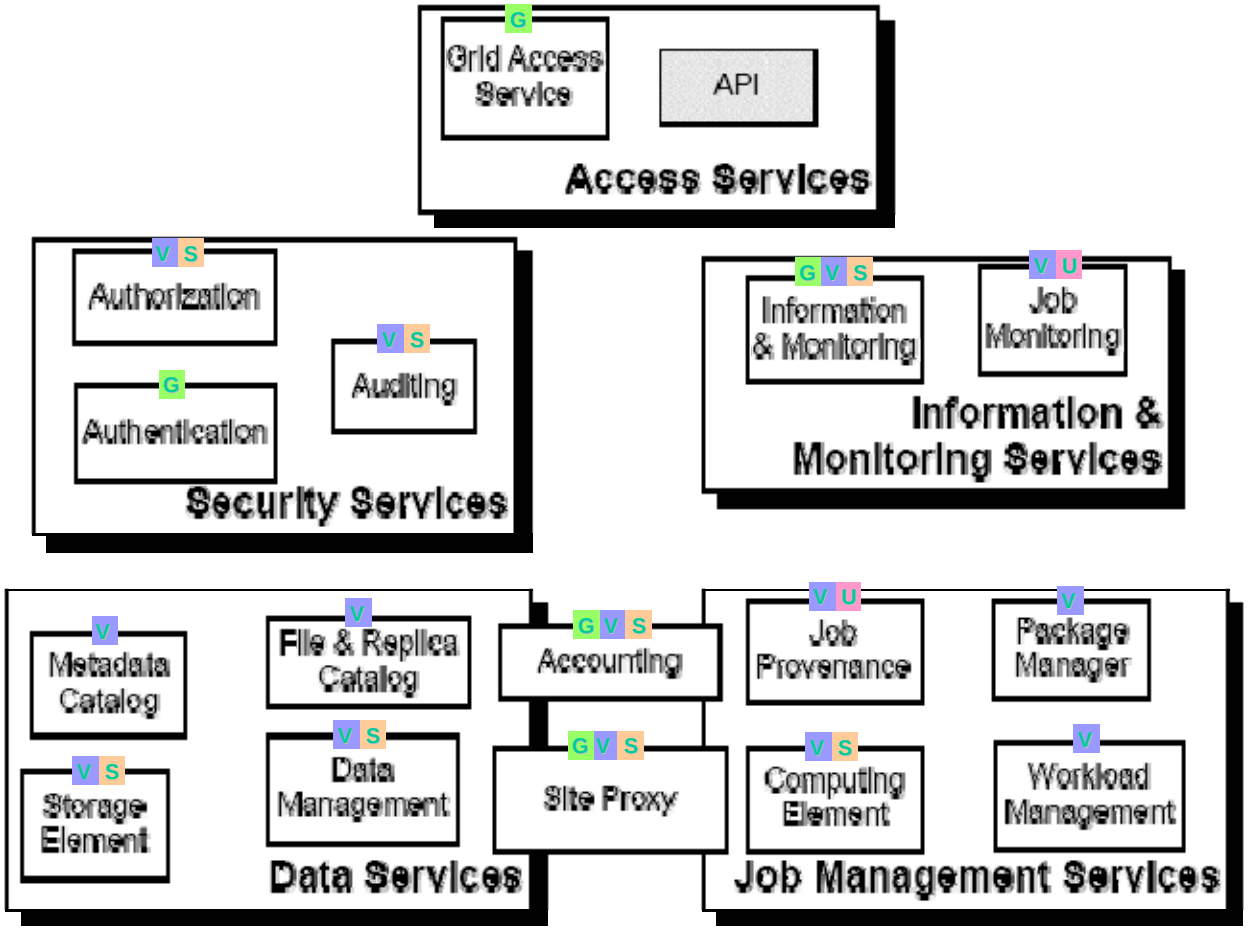
- The gLite Grid services follow a *Service Oriented Architecture*
  - **facilitate interoperability among Grid services**
  - **allow easier compliance with upcoming standards**
- Architecture is not bound to specific implementations
  - **services are expected to work together**
  - **services can be deployed and used independently**
- The gLite service decomposition has been largely influenced by the work performed in the LCG project

Overview of EGEE Middleware



- The gLite services are characterised by the scopes and enforcement of their policies: ***user***, ***site***, ***VO*** *and* ***global*** *(i.e. multi-vo)*

Overview of EGEE Middleware



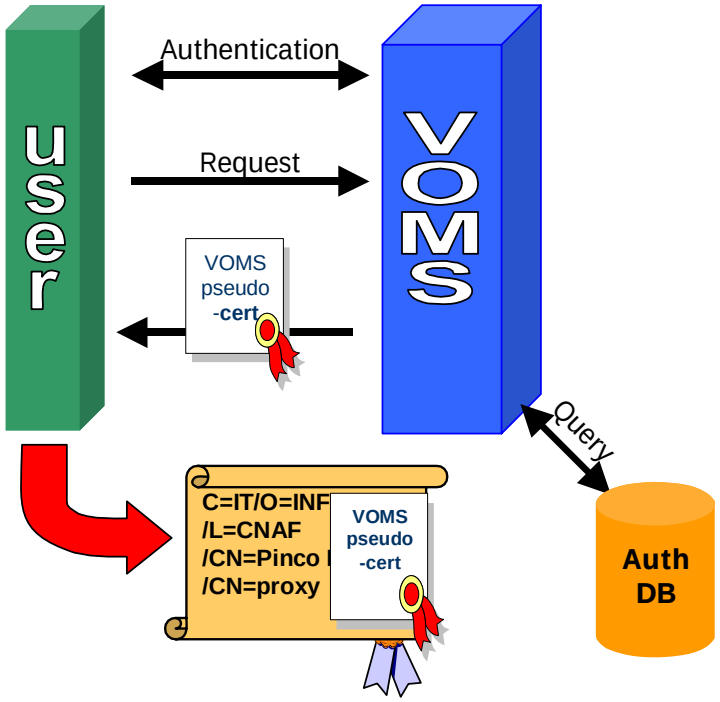
- Most services are managed by a VO
  - **independent service instances per VO**
  - **service instances will in most cases serve multiple VOs**
    - **performance**
    - **scalability**

Overview of EGEE Middleware

- **Security services**
  - **Authentication, Authorization, and Auditing**
    - **identification of entities (users, systems, and services)**
    - **allow or deny access to services and resources**
    - **provide information for post-mortem analysis of security related events.**
  - **Data confidentiality and a Site Proxy**
    - **control network access patterns of applications and Grid services utilising its resources.**

Enabling Grids for E-science in Europe

VOMS Operations

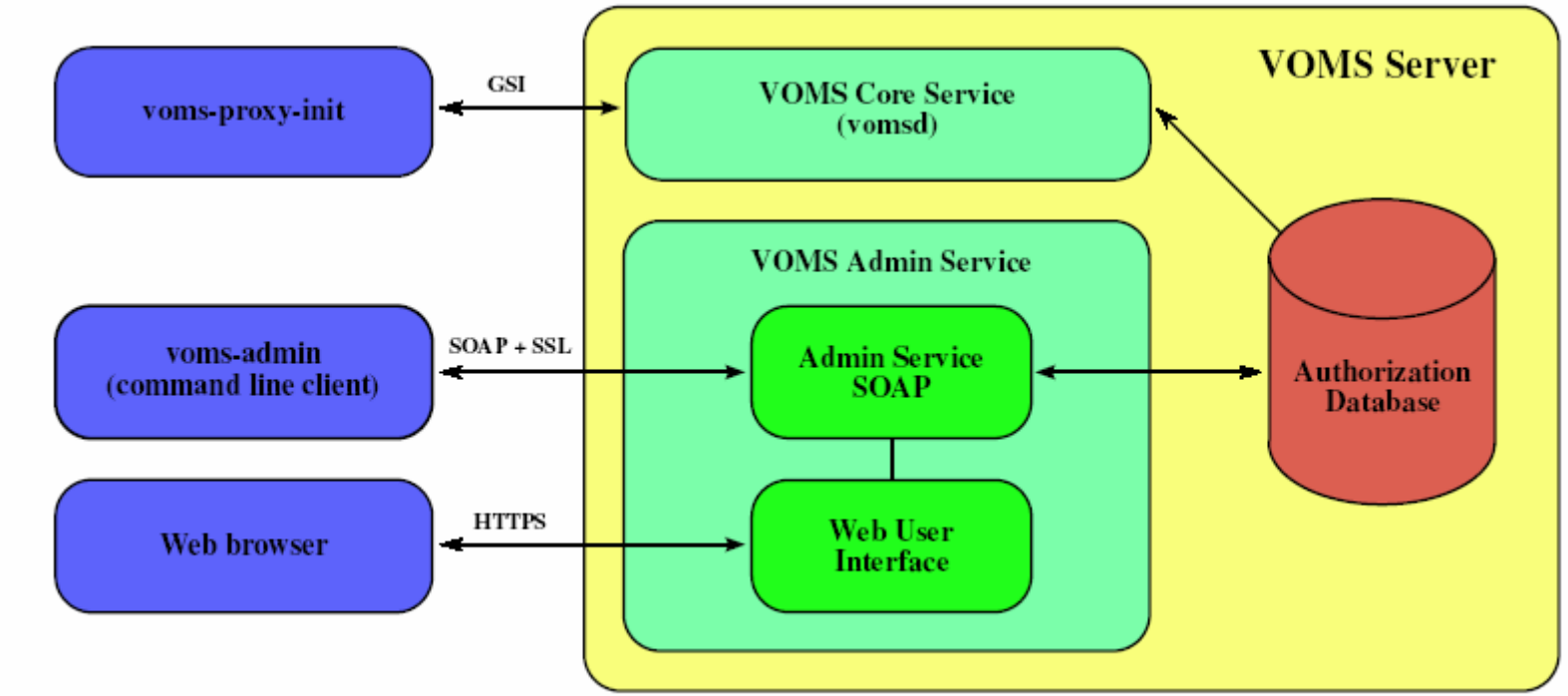


1. Mutual authentication Client-Server
   - Secure communication channel via standard Globus API
2. Client sends request to Server
3. Server checks correctness of request
4. Server sends back the required info (signed by itself) in a "Pseudo-Certificate"
5. Client checks the validity of the info received
6. Optionally: [Client repeats process for other VOMS's]
7. Client creates proxy certificates containing all the info received into a (non critical) extension
8. Client may add user-supplied auth. info (kerberos tickets, etc...)

Flavia Donno

Based on: http://www.slac.stanford.edu/econf/C0303241/proc/pres/317.PPT

gLite VOMS


voms-proxy-init
GSI
VOMS Server
VOMS Core Service
(vomsd)
VOMS Admin Service
voms-admin
(command line client)
SOAP + SSL
Admin Service
SOAP
Authorization
Database
Web browser
HTTPS
Web User
Interface

VOMS and biomed

- **VOMS provides flexible security and brings the concept of roles (finer grained security).**
  - ie. A user could have the role of a clinician in one context and the role of a researcher in another.

Virtual Organizations and authorization

- **LCG-2 users MUST belong to a Virtual Organization**
  - Sets of users belonging to a collaboration
  - Each VO user has the same access privileges to Grid resources
  - List of supported VOs:
    - https://lcg-registrar.cern.ch/virtual_organization.html
- **VOs maintain a list of their members**
  - The list is downloaded by Grid machines to map user certificate subjects to local “pool” accounts: only mapped users are authorized in LCG

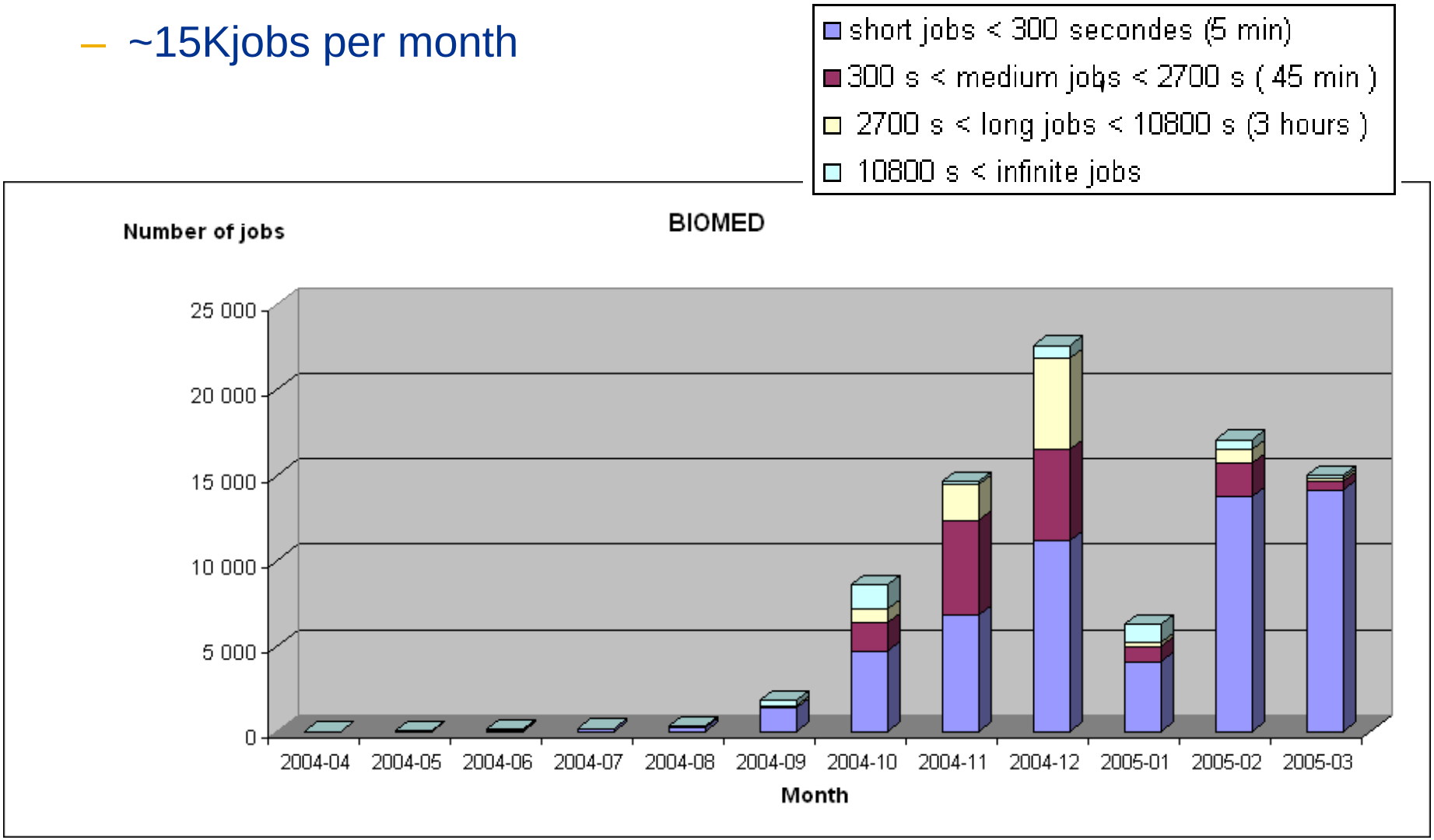
```
...
"/C=CH/O=CERN/OU=GRID/CN=Simone Campana 7461" .dteam
"/C=CH/O=CERN/OU=GRID/CN=Andrea Sciaba 8968" .cms
"/C=CH/O=CERN/OU=GRID/CN=Patricia Mendez Lorenzo-ALICE" .alice
...
```

grid-mapfile

  - Sites decide which VOs to accept

Infrastructure usage

- **JRA2 statistics**
  - ~15Kjobs per month



Biomed status

- **Focus on demonstration of grid interest for applications**
  - Contact taken with the decrypthon project
  - Nicolas Jacq proposal for a data challenge organisation
  - **Focus on scientific content of applications**
- **A data challenge in biomed this summer**

	Done	→	Challenge
Number of targets	1	1	5
Number of drug candidates	10^5	10^6	$3.3\ 10^6$
Total CPU time	188 days	5 years?	80 years?
Gain of time	149	?	?

- **Need for input for response to EU review**
  - JRA2 statistics
  - Application gains

EGEE is taking “doing big biology” seriously

- **The use of the Biomed VO in EGEE is increasing**

- **EGEE is beginning to do biomed challenges**
  - Finding highly challenging resource intensive biological applications to demonstrate the ability of the grid to stimulate the imagination of the bio-community

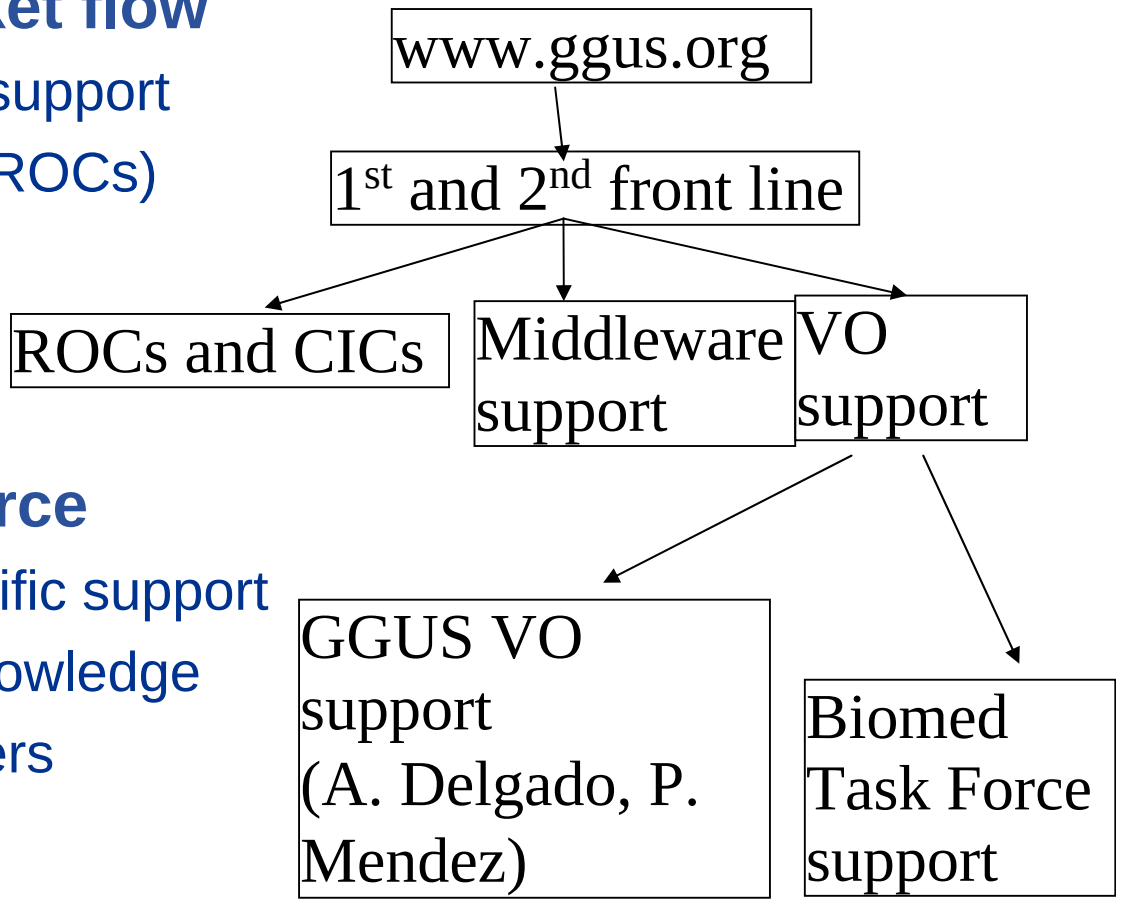
Biomed status

- **gLite**
  - Lot of testing activity inside biomed
  - Release 1.0 available
  - pre-production service expected to bring much more robustness

- **Non-application specific work initiated in the biomed activity**
  - Workflows
  - DICOM-SRM interface

User support coordination

- **Experts and GGUS ticket flow**
  - First and second line of support
  - Site problems (CIC and ROCs)
  - Generic problems
  - VO support
  - Middleware developers



- **Role of biomed task force**
  - Provide application-specific support
  - Participate to the grid knowledge acquisition of biomed users
- **Current organization**
  - Tickets sent to technical team mailing list and assigned to 'biomed VO'
  - Christophe Pera to assign messages to experts
  - Use the GGUS portal to follow on tickets

User support coordination

- **We have to learn**
  - Biomed experts to register as 'ticket administrators' and learn the GGUS ticket management tool
  - Christophe to identify the correct targets
  - People to whom tickets are assigned to should be reactive
  - Need for a rollback procedure (expect redirection errors at least in the first phasis)
  - Need to check that all tickets are followed on

SUPPORT

Grid User Support What does a user expect ?

Correct answers and general help with middleware usage (how-to, new features, errors, etc.)

Solving user problems while running on Grid

User support should provide correct documentation, examples, "templates", powerful search engines, links to EGEE infrastructure contacts, e-mailing lists, etc.

A unique way to submit problems/requests for help and receive response. A unique entry point for information, for problem escalation, broadcasting news, ...

User/Site notification about site related problems, Grid status,etc.

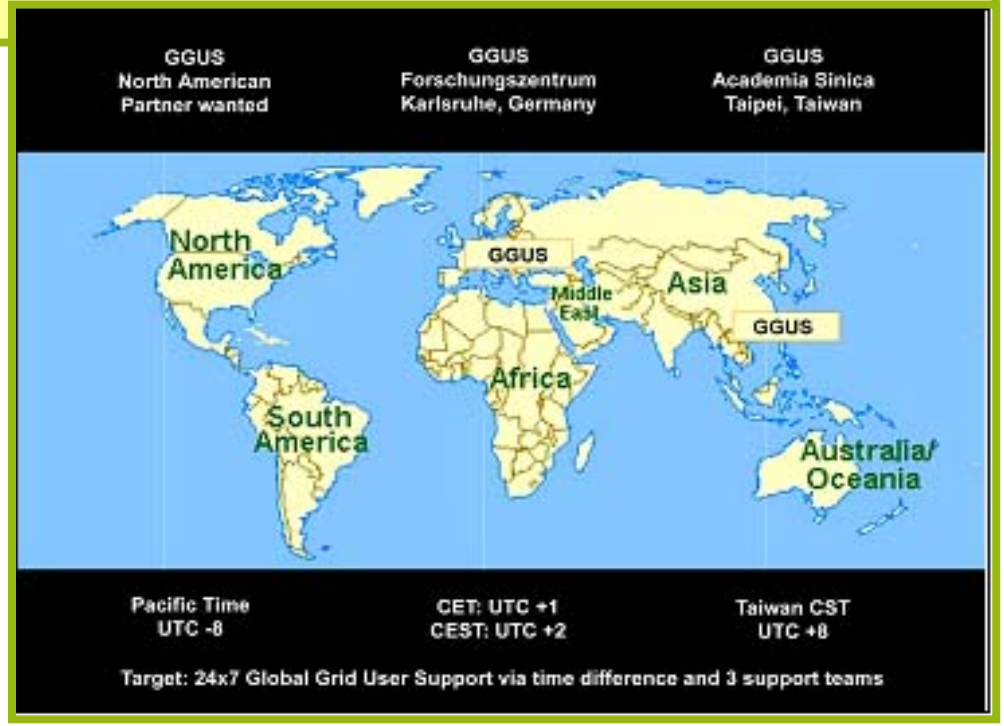
User Support is different from VO and Operations Support with a lot of overlap – tools are the same

GGUS Global Grid User Support

EGEE User Support: infrastructure

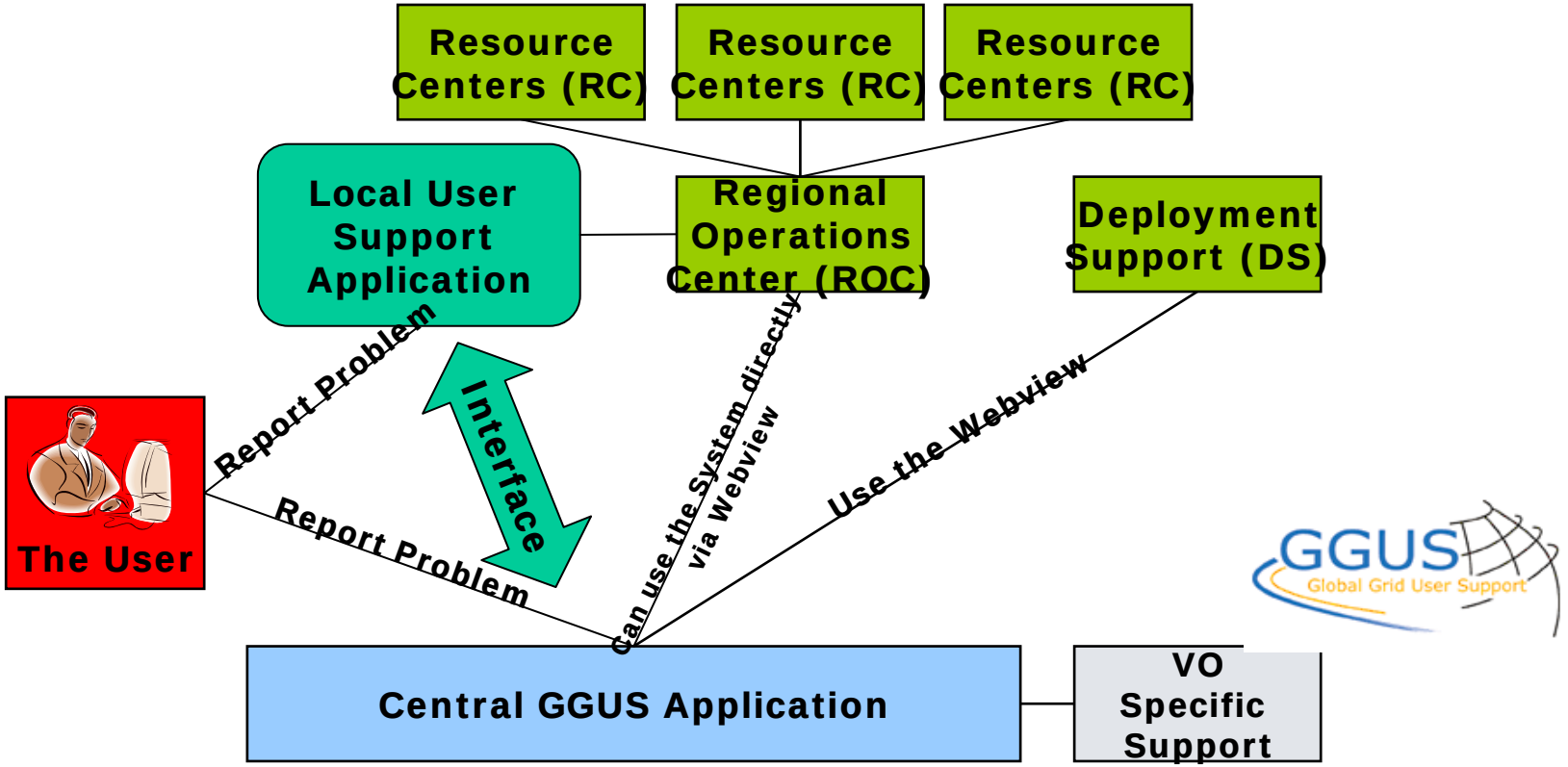
- General approach: *3 main support centers* to guarantee coverage 24/7 and 365 day support and provide a single point of contact to customers and to local Grid operations.

To ensure 24x7 support, it was decided to have 3 GGUS teams in different time zones.
GGUS started off at Forschungszentrum Karlsruhe in ***Germany*** in 2003 and has had a partner group at Academia Sinica in ***Taiwan*** since April 2004. A third partner in ***North America*** will complete the 24 hours cycle.



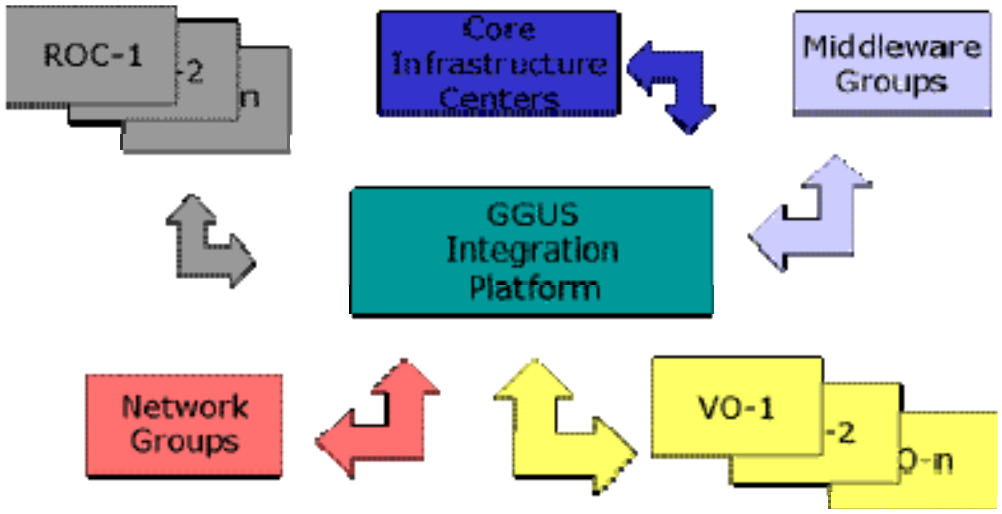
EGEE User Support: infrastructure

- The support model in EGEE can be captioned *"regional support with central coordination".* Users can make a support request via their Regional Operations' Center (ROC) or their Virtual Organisation (VO). Within GGUS there is an internal support structure for all support requests.



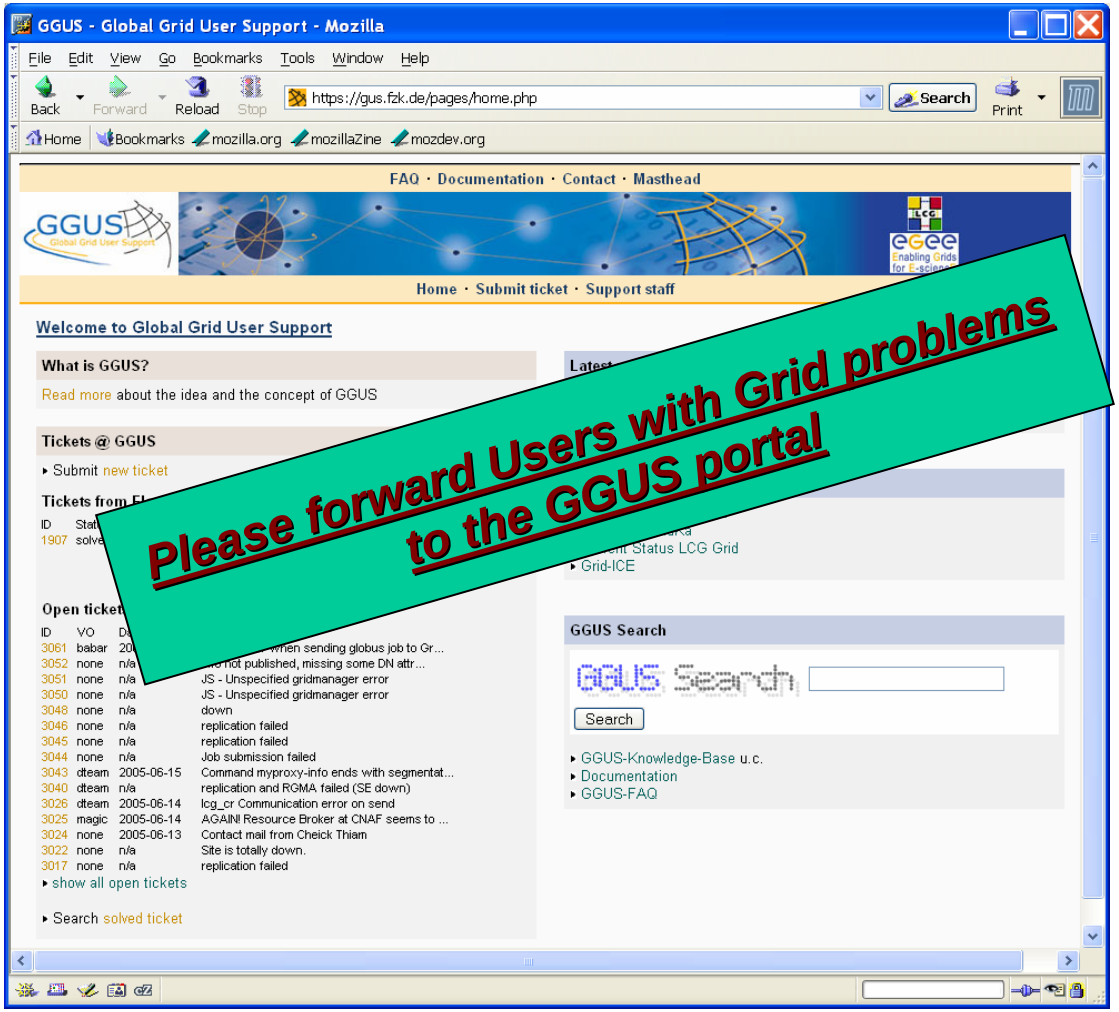
EGEE User Support: infrastructure

- The ROCs and VOs and the other project wide groups such as the Core Infrastructure Center (CIC), middleware groups (JRA), network groups (NA), service groups (SA) will be connected via a central integration platform provided by GGUS.



- This central helpdesk keeps track of all service requests and assigns them to the appropriate support groups. In this way, formal communication between all support groups is possible. To enable this, each group has to build only one interface between its internal support structure and the central GGUS application.

The GGUS Portal



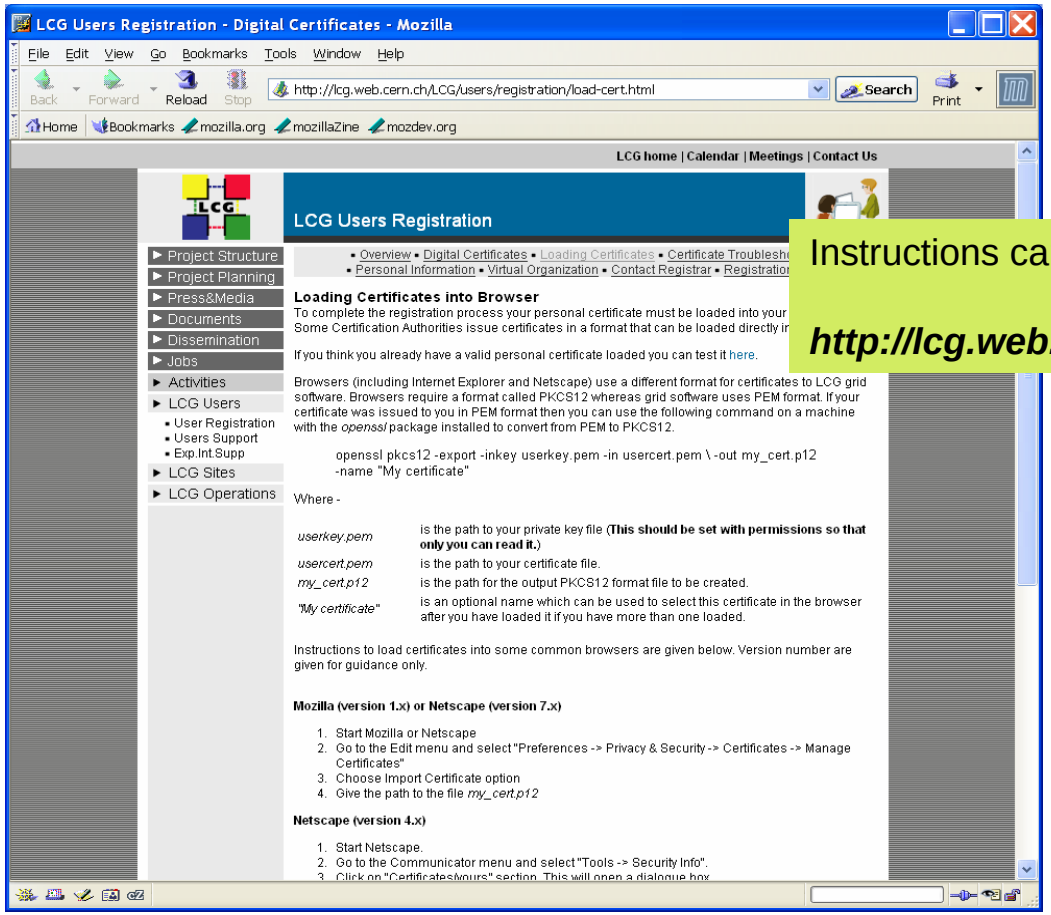
http://www.ggus.org

You need to ***register*** in order to be able To use this portal (***GSI*** or password based)

You can register as ***User*** or as ***Supporter***.

Supporter ?
If you think you have a good knowledge in Grid and have time to provide support, please contact your ROC or directly ESC at:

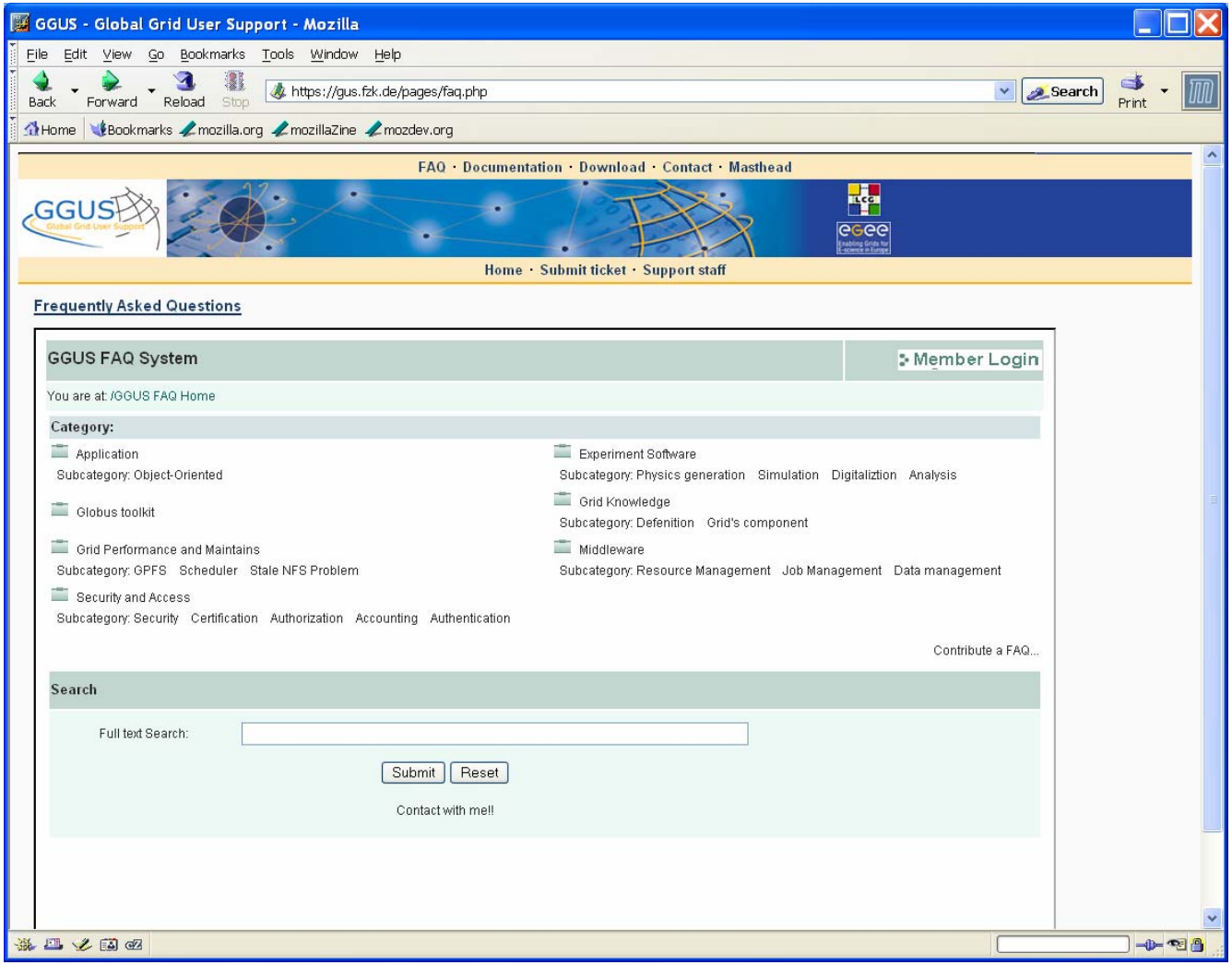
The GGUS Portal: uploading your certificate into your browser



Instructions can be found:

http://lcg.web.cern.ch/LCG/users/registration/load-cert.html

The GGUS Portal: the User view



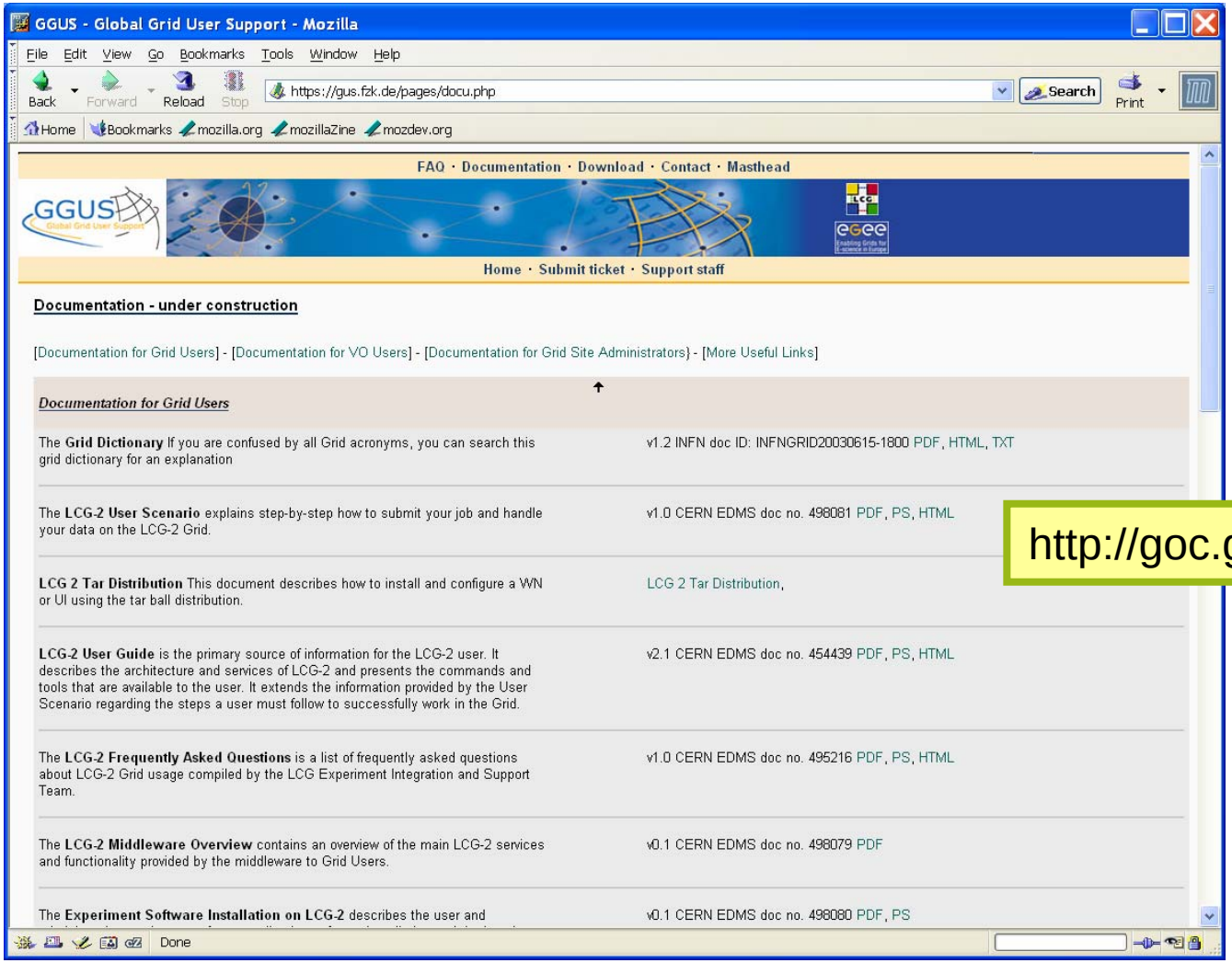
Quite useful FAQ
Compiled using Wiki
And Knowledge DB

A group is working on this to fill in the pages

Check Documentation For more useful Links

Stay tuned!

The GGUS Portal: the User view



Very useful page.

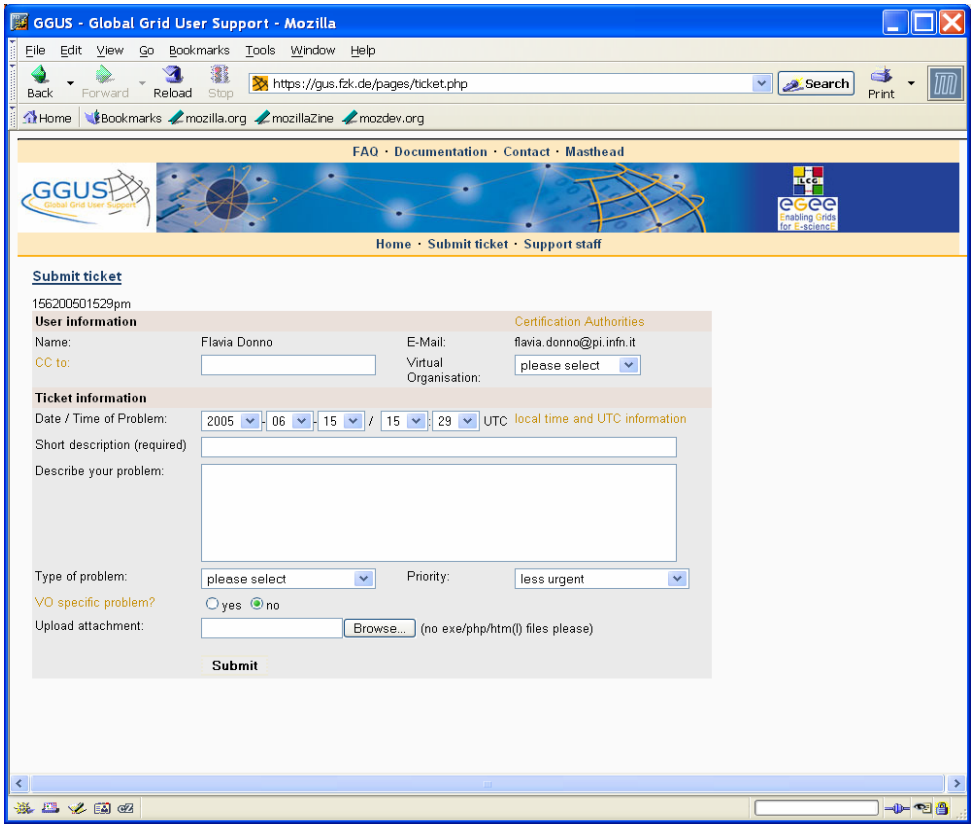
It is kept updated with the most recent, valid and correct Documentation

http://goc.grid.sinica.edu.tw/gocwiki

Please, signal useful docs to ESC.

We need help to provide more documentation

The GGUS Portal: the User view



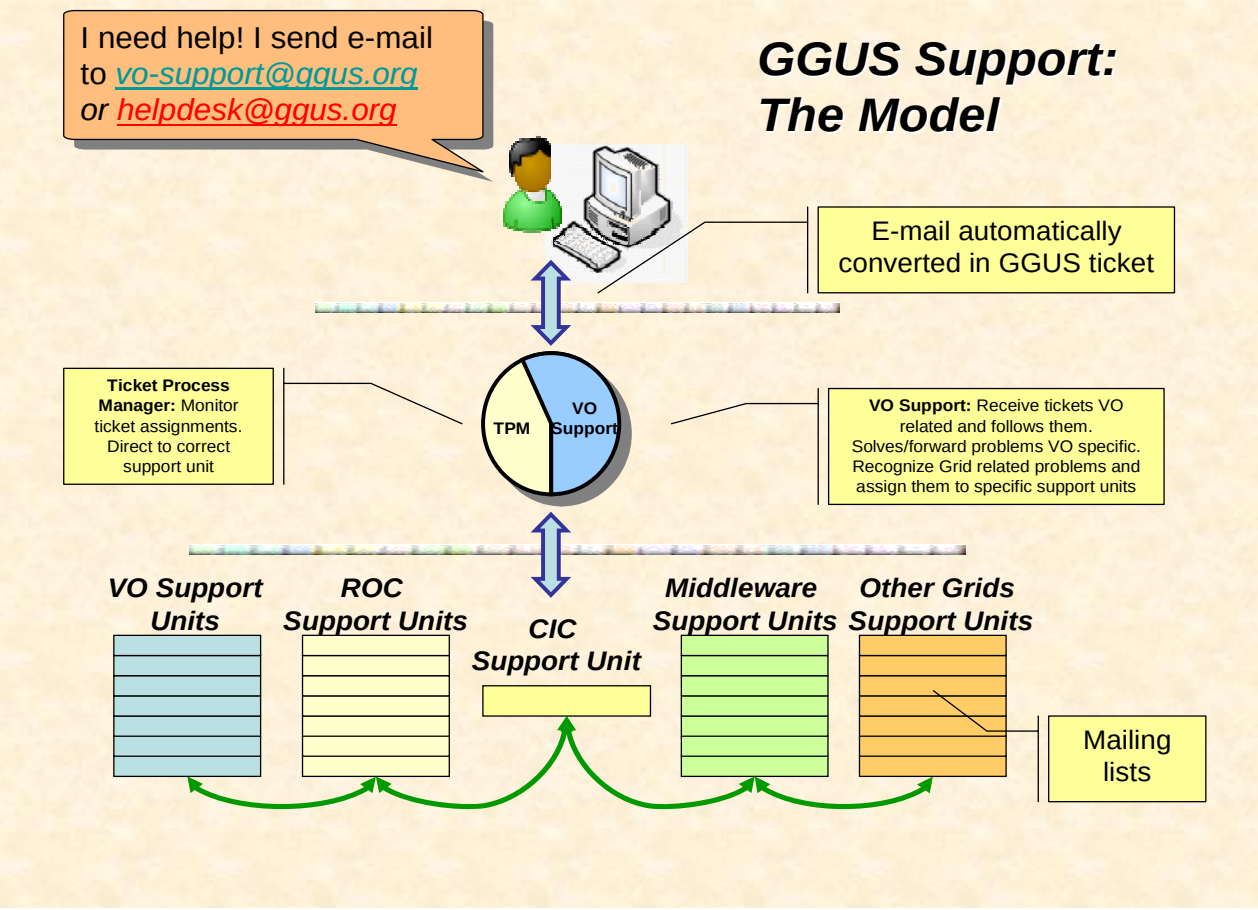
At the moment a user can only request help through the GGUS Web portal, using the Web interface to the Ticketing system

The CC field allows you to notify others that will follow the problem and solutions

With “Type of problem” you can preliminary categorize your problem. Specify “other” if you do not know.

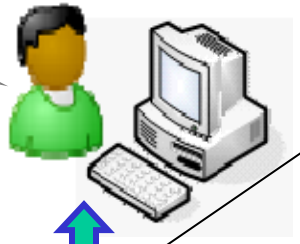
Short description required. It is used to build knowledgebase.

What is it going to be available ?



GGUS Support: The Model

I need help! I send e-mail to *vo-support@ggus.org*



E-mail automatically converted in GGUS ticket

Ticket Process Manager: Monitor ticket assignments. Direct to correct support unit

TPM | VO Support

VO Support: Receive tickets VO related and follows them. Solves/forward problems VO specific. Recognize Grid related problems and assign them to specific support units

VO Support Units

ROC Support Units

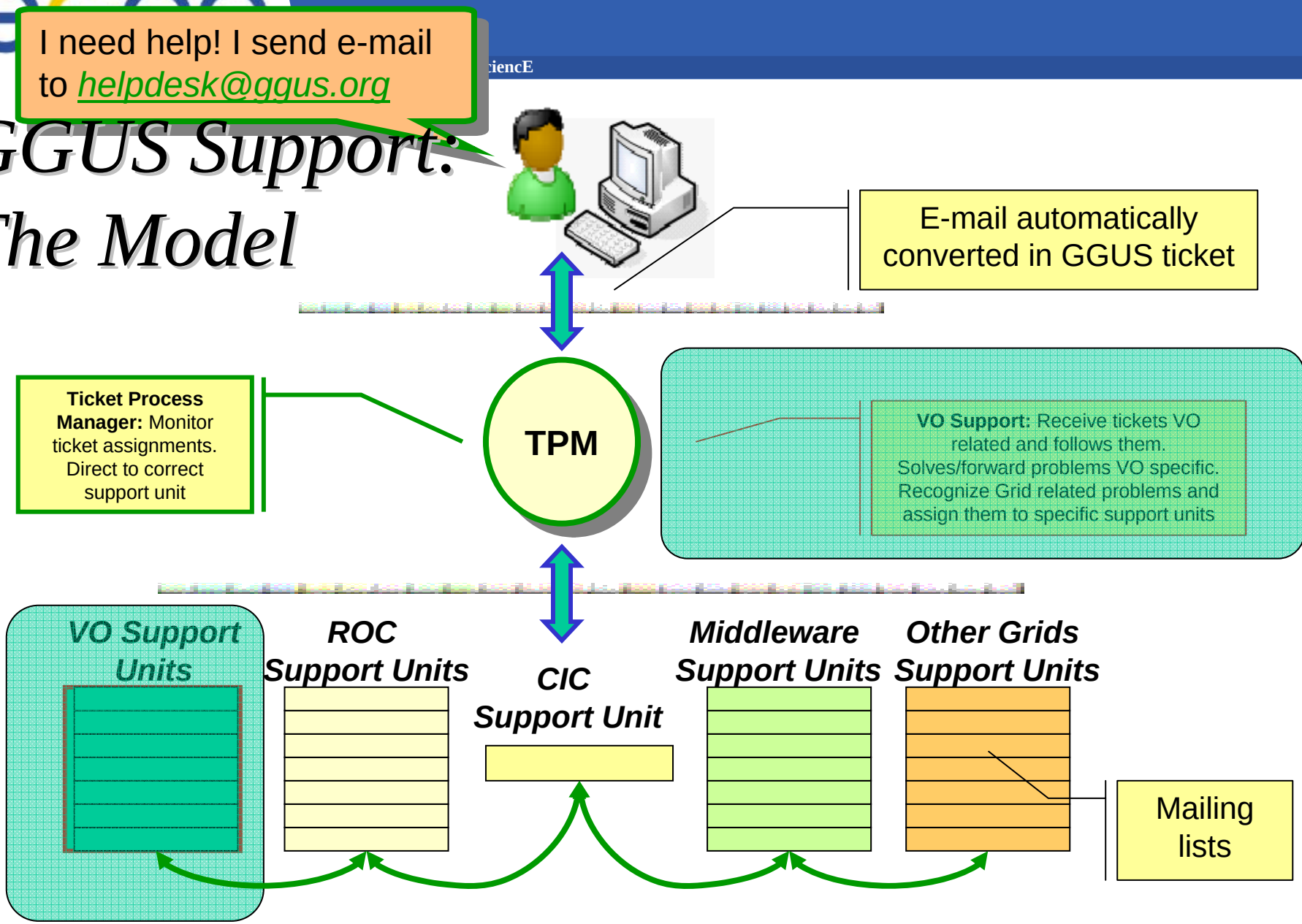
CIC Support Unit

Middleware Support Units

Other Grids Support Units

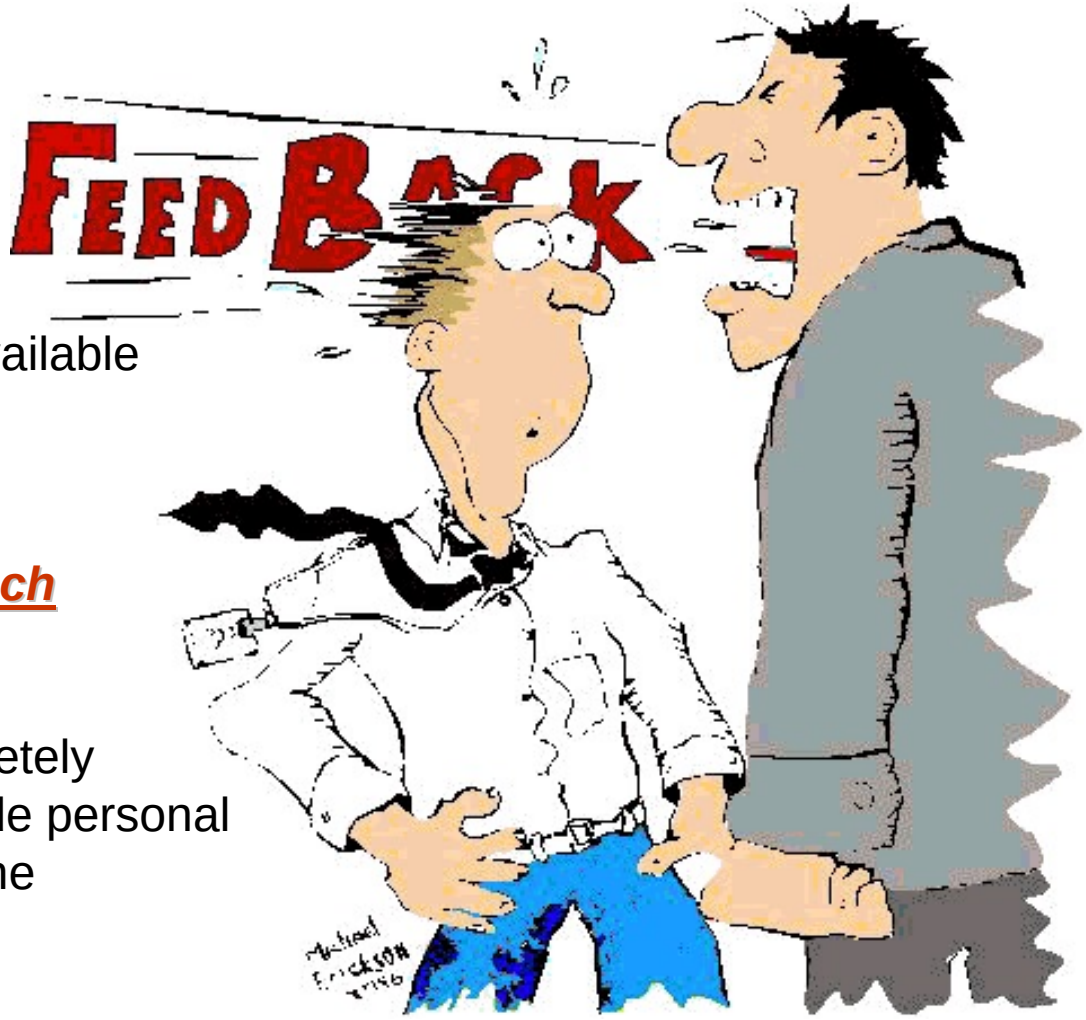
Mailing lists

GGUS Support: The Model



Feedback

- It is very important for us to get your feedback



- An electronic feedback form is available on the GGUS portal.
  You can always send e-mail to support@ggus.org or ***project-eu-egee-sa1-esc@cern.ch***

- The electronic feedback is completely anonymous. If you want to provide personal information you have to do it in the feedback field.