

# User/Operation Support at INFN-GRID

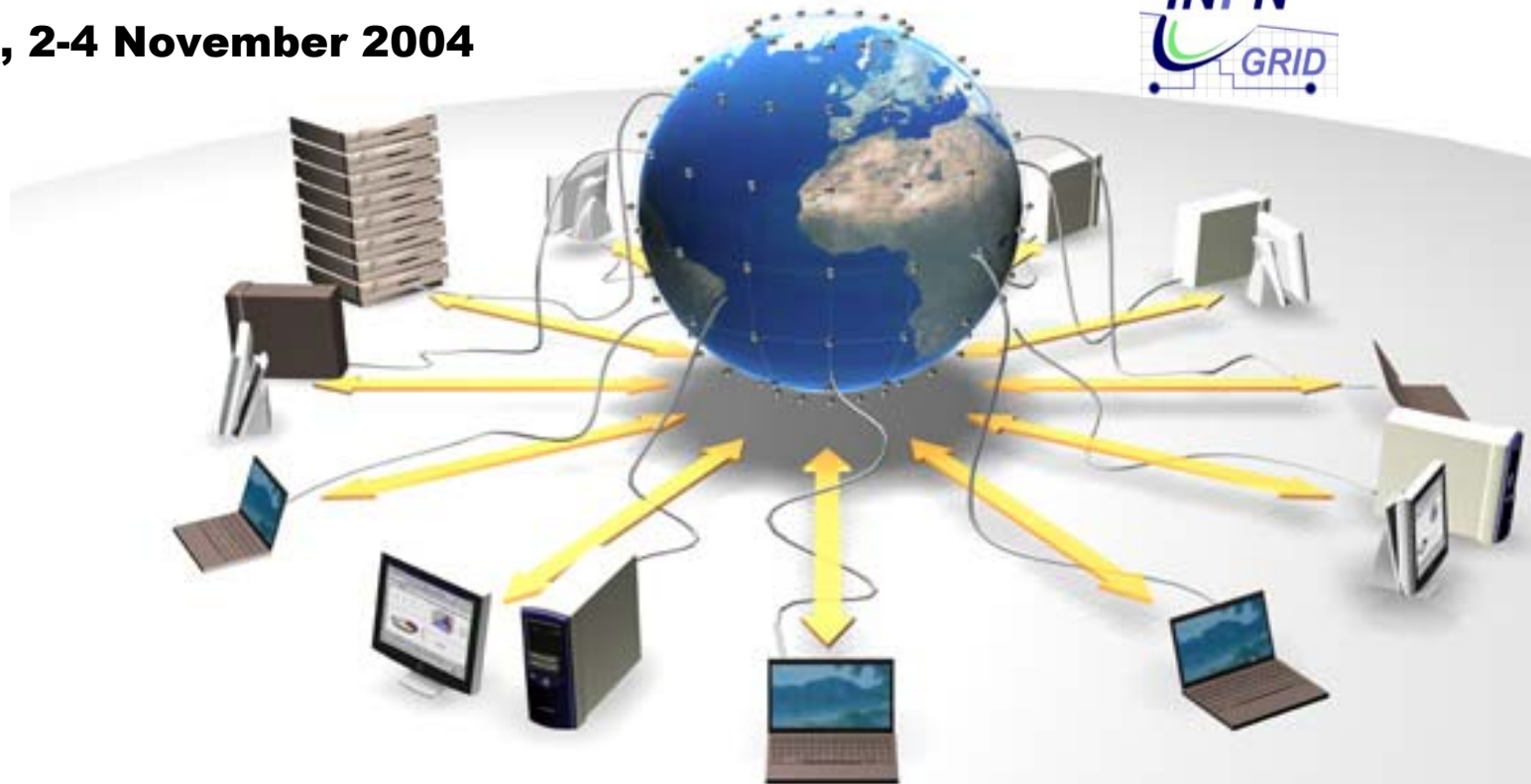
Marco Verlato (INFN-Padova)

LCG Workshop on Operational Issues

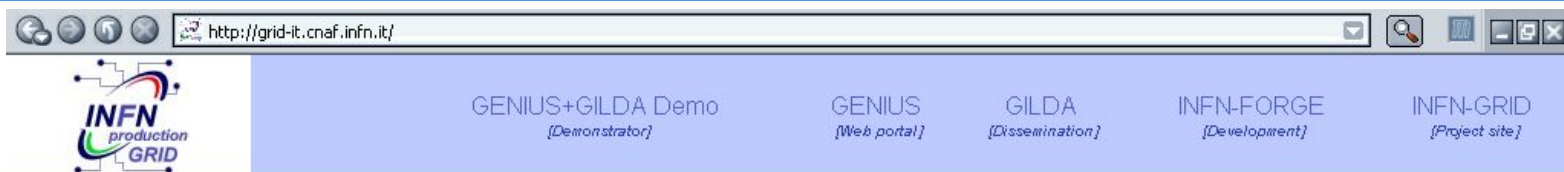
CERN, 2-4 November 2004

**eGEE**

Enabling Grids for  
E-science in Europe



- Overview
- Usage Report
- Interfacing with GGUS
- Conclusions



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## Welcome to the INFN Production Grid for Scientific Applications! **grid-it.cnaf.infn.it**



Welcome to web site of the [INFN](#) Production Grid.

[INFN-GRID](#) is a research project which features solutions and innovations in methodologies and technologies for the implementation and widespread use of large-scale platforms and grids. We participate to several national and international research projects on Grid Computing.

We're coordinating our objectives with the strategies of the European Community to build the Next Generation Grid.

Our efforts are evaluated in terms of our grid capability to solve very critical, real problems in the medium-long term. The best standards in ICT are assumed as the technological starting point (e.g. OOP, Web services, Globus), over which new technologies are studied and built.

Read how users are running their applications on the Grid ([Applications area](#))

### Latest news

- 07-10-04 12:00  
[EGEE Second Conference](#)  
22-26 November 2004, The Hague, the Netherlands  
[\[more...\]](#)
- 04-10-04 14:00  
[EGEE, INFN-GRID, Grid.it on Week.it](#)  
European and Italian grid research projects on last  
[Week.it](#) issue... [\[more...\]](#)
- 02-10-04 12:00  
[IV INFN Grid Workshop](#)  
Bari, October 25th - 27th 2004 [\[more...\]](#)

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**•26 RCs**

**•664 CPUs  
30 TB  
+Tier-1  
(890 CPUs  
60 TB)**

**•14 VOs**

**•+VOMS,DAG,  
MPI,DGAS**



http://grid-it.cnaf.infn.it/

[GENIUS+GILDA Demo \[Demonstrator\]](#)
[GENIUS \[Web portal\]](#)
[GILDA \[Dissemination\]](#)
[INFN-FORGE \[Development\]](#)
[INFN-GRID \[Project site\]](#)

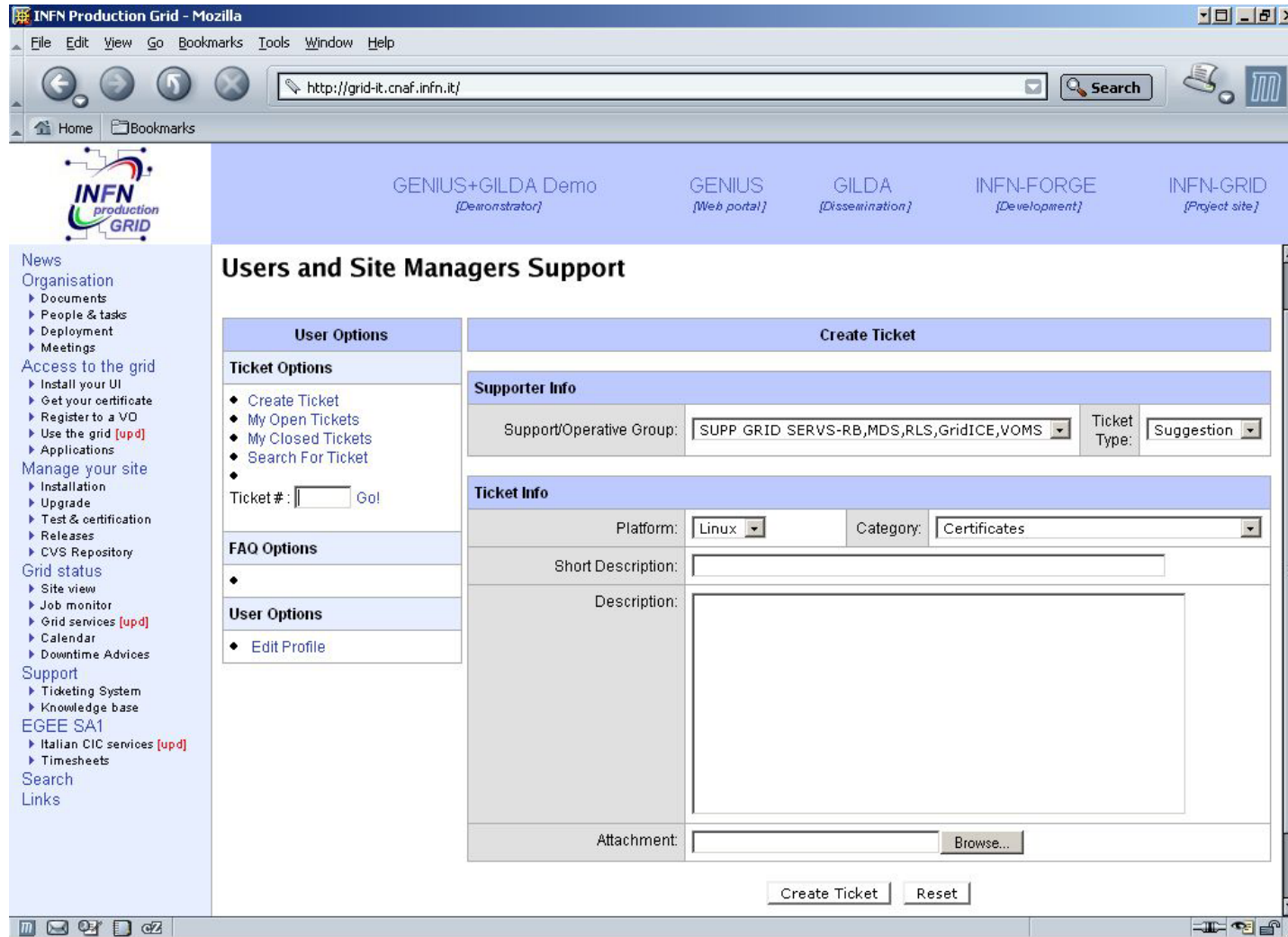
## Site Calendar

July 2004 - August 2004 - **September 2004** - October 2004 - November 2004

Attended: ■ Down: ■ Partly Down: ■ Unattended: ■ Partly Attended: ■ Queues Closed: ■

September 2004	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<a href="#">INAF-Trieste</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Bari</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Bologna</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Bologna Alice</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Bologna CMS</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Cagliari</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Catania</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-CNAF</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Ferrara</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Lecce</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-LNF</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-LNL</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-LNS</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Milano</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Napoli</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Napoli ATLAS</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Napoli Virgo</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Padova</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Pavia</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Perugia</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Pisa</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Roma 1</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Roma 2</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Roma1 Virgo</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Torino</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
<a href="#">INFN-Trieste</a>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

- The trouble ticketing system is based on **OneOrZero Helpdesk** tool ([www.oneorzero.com](http://www.oneorzero.com)), coded in PHP, using MySQL, customizable, free
- Access allowed to **registered members** approved by administrators:
  - **End-users**: they create the tickets describing problems or suggestions
  - **Supporters**: fix the problems, or redirect somewhere else
  - **Site Managers**: act as supporters for a given RC, and exchange tickets with Operatives for operational issues
  - **Operatives**: people of ROC/CIC Central Management Team and Release & Deployment Team, exchange tickets with Site Managers and Supporters

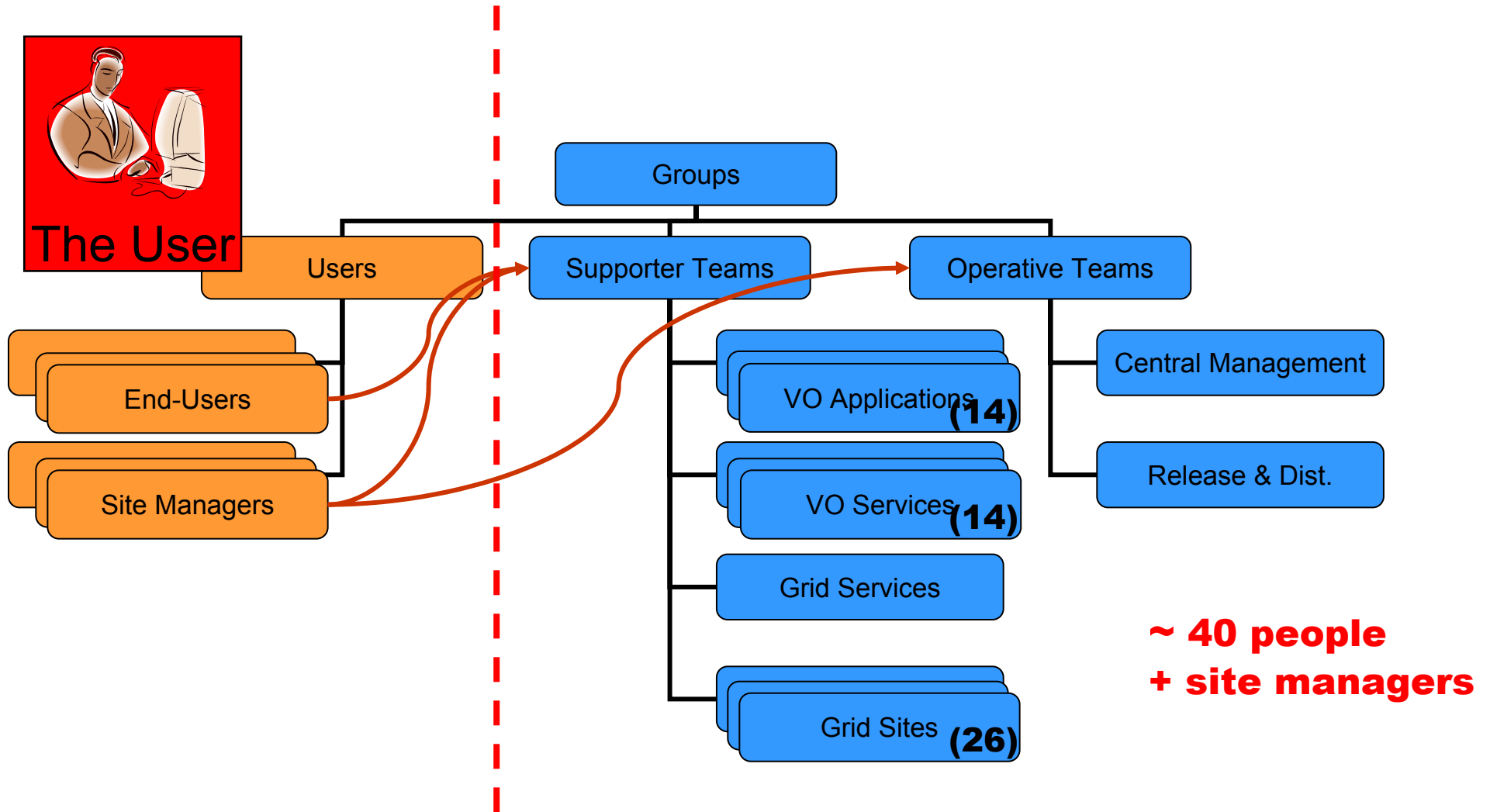


**INFN Production Grid - Mozilla**  
File Edit View Go Bookmarks Tools Window Help  
http://grid-it.cnaf.infn.it/ Search

GENIUS+GILDA Demo [Demonstrator]    GENIUS [Web portal]    GILDA [Dissemination]    INFN-FORGE [Development]    INFN-GRID [Project site]

**Users and Site Managers Support**

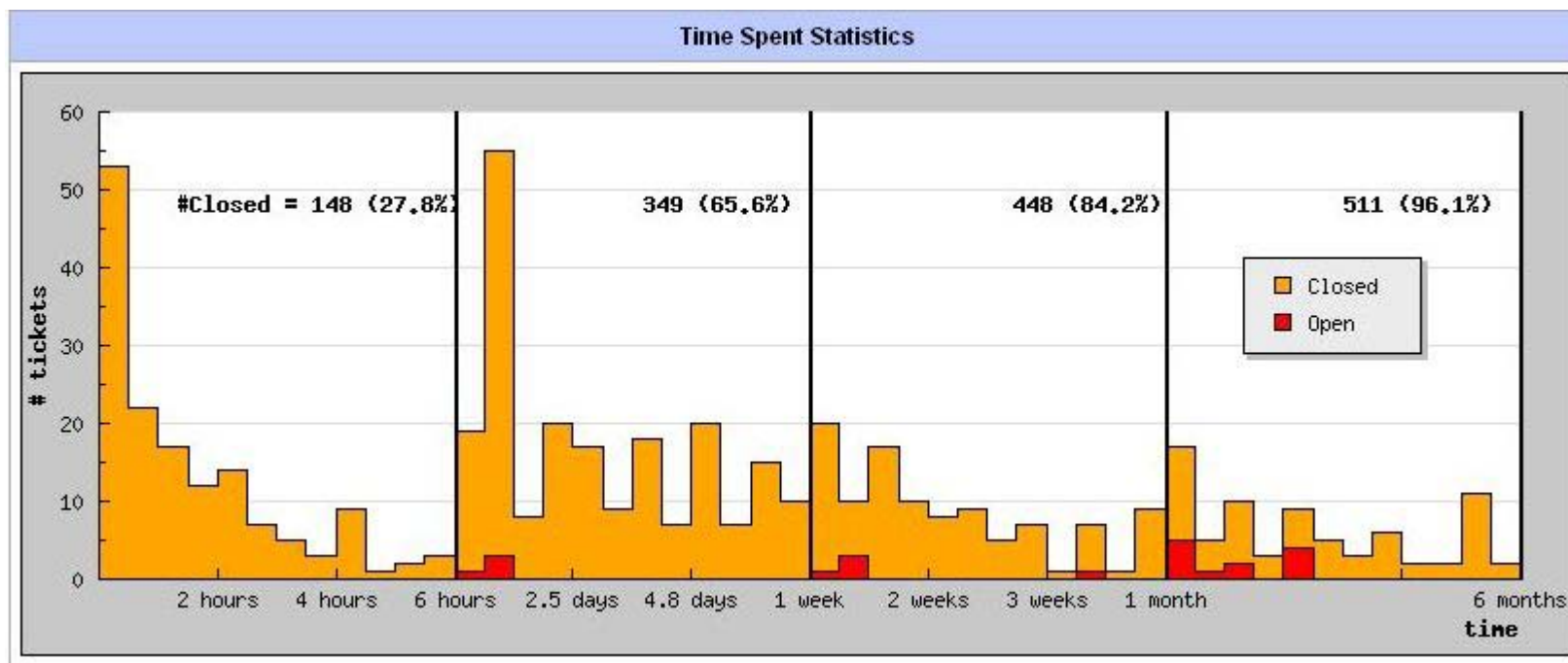
<p><b>User Options</b></p> <p><b>Ticket Options</b></p> <ul style="list-style-type: none"> <li>◆ Create Ticket</li> <li>◆ My Open Tickets</li> <li>◆ My Closed Tickets</li> <li>◆ Search For Ticket</li> </ul> <p>Ticket #: <input type="text"/> Go!</p> <p><b>FAQ Options</b></p> <ul style="list-style-type: none"> <li>◆</li> </ul> <p><b>User Options</b></p> <ul style="list-style-type: none"> <li>◆ Edit Profile</li> </ul>	<p><b>Create Ticket</b></p> <p><b>Supporter Info</b></p> <p>Support/Operative Group: <input type="text" value="SUPP GRID SERVS-RB,MDS,RLS,GridICE,WOMS"/> Ticket Type: <input type="text" value="Suggestion"/></p> <p><b>Ticket Info</b></p> <p>Platform: <input type="text" value="Linux"/> Category: <input type="text" value="Certificates"/></p> <p>Short Description: <input type="text"/></p> <p>Description: <input type="text"/></p> <p>Attachment: <input type="text"/> <input type="button" value="Browse..."/></p> <p><input type="button" value="Create Ticket"/> <input type="button" value="Reset"/></p>
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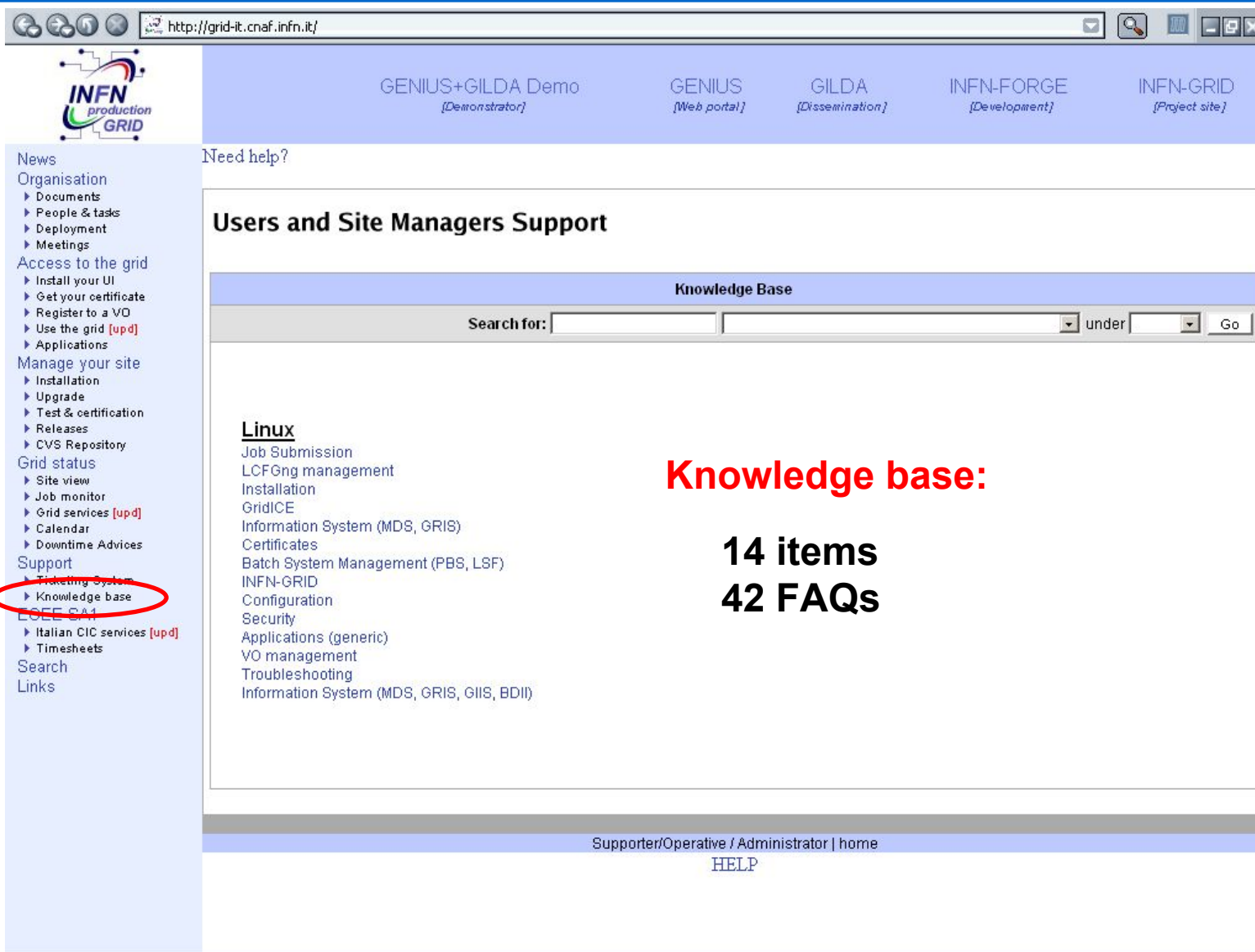
## Statistics after 1 year of operations

Ticket Statistics	
Open Tickets:	21
Closed Tickets:	511
Total Tickets:	532

**~10 tickets a week on average**







The screenshot shows a web browser window with the URL <http://grid-it.cnaf.infn.it/>. The page features a navigation menu on the left and a main content area. The main content area is titled "Users and Site Managers Support" and contains a "Knowledge Base" section. The Knowledge Base section has a search bar and a list of items. The text "Knowledge base: 14 items 42 FAQs" is overlaid in red and black. The footer of the page includes "Supporter/Operative / Administrator | home" and "HELP".

Navigation menu items:

- News
- Organisation
  - Documents
  - People & tasks
  - Deployment
  - Meetings
- Access to the grid
  - Install your UI
  - Get your certificate
  - Register to a VO
  - Use the grid [upd]
  - Applications
- Manage your site
  - Installation
  - Upgrade
  - Test & certification
  - Releases
  - CVS Repository
- Grid status
  - Site view
  - Job monitor
  - Grid services [upd]
  - Calendar
  - Downtime Advises
- Support
  - Tricketing System
  - Knowledge base
  - LOEE SA1
    - Italian CIC services [upd]
  - Timesheets
- Search
- Links

Top navigation links:

- GENIUS+GILDA Demo [Demonstrator]
- GENIUS [Web portal]
- GILDA [Dissemination]
- INFN-FORGE [Development]
- INFN-GRID [Project site]

Knowledge Base search bar: Search for: [ ] under [ ] Go

Knowledge Base items:

- Linux
- Job Submission
- LCFGng management
- Installation
- GridICE
- Information System (MDS, GRIS)
- Certificates
- Batch System Management (PBS, LSF)
- INFN-GRID
- Configuration
- Security
- Applications (generic)
- VO management
- Troubleshooting
- Information System (MDS, GRIS, GIIS, BDII)

Overlaid text: **Knowledge base:**  
**14 items**  
**42 FAQs**

Footer: Supporter/Operative / Administrator | home  
HELP

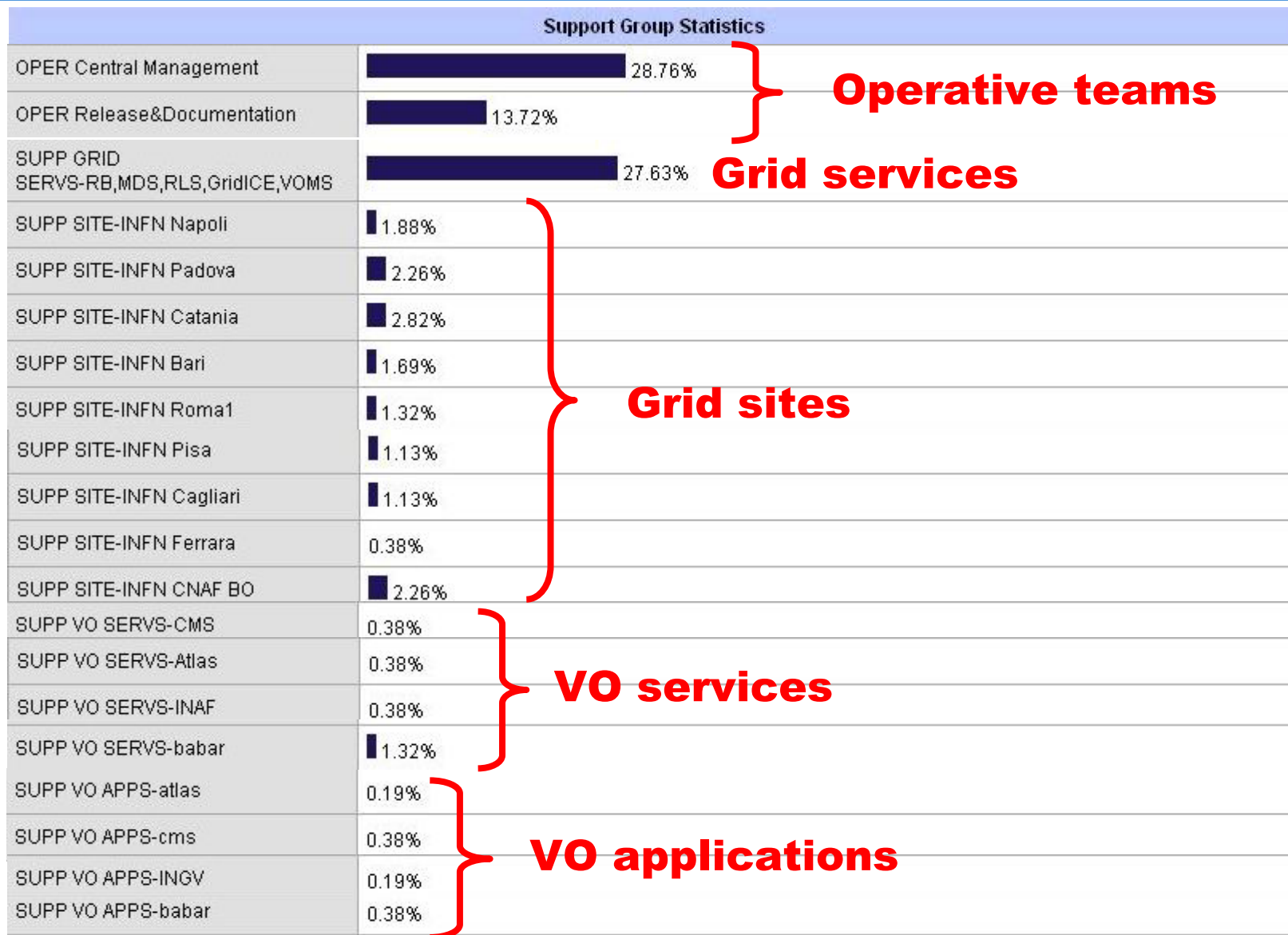
# Usage Report (3/5)

Type Statistics	
Total Tickets For Each Type (Percentage of Total Tickets)	
Problem	57.33%
Suggestion	13.91%
Advisory	28.76%

Category Statistics	
Total Tickets For Each Category (Percentage of Total Tickets)	
Certificates	7.52%
Site Installation	9.96%
Site Upgrade	15.79%
Job Submission/Status/OutputRetrieving	17.29%
User Interface	1.5%
VOMS	0.94%
LCFG	1.88%
RB	2.44%
RLS	5.08%
MDS	3.76%
GridICE	3.57%
Site shutdown	21.24%
Network (for TIER1)	0.75%
Storage (for TIER1)	0.19%
Computing (for TIER1)	0%
Other	8.08%

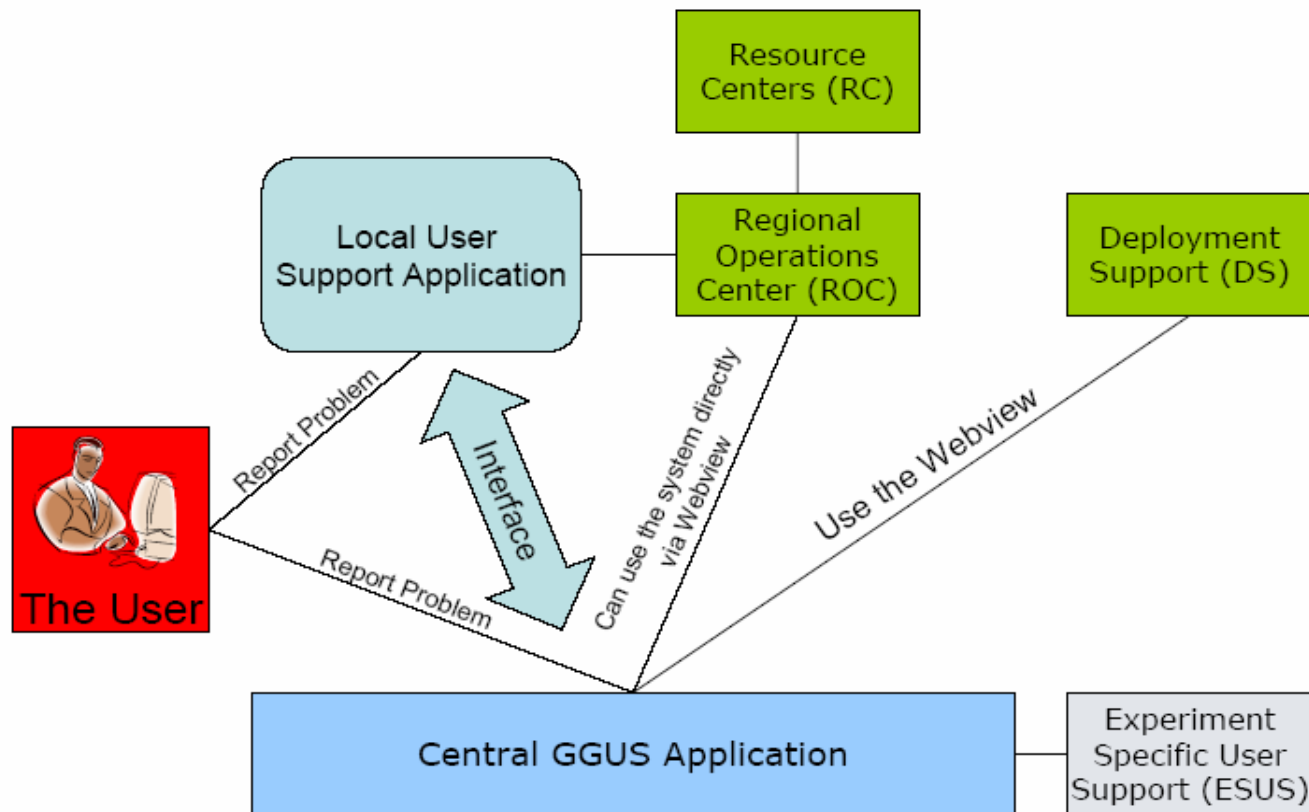
**Statistics after 1 year of operations**

# Usage Report (4/5)



- Support up to now on **best effort** basis, supporters answer in their working hours (8x5), if not busy with meetings, conferences, etc...
- At a rate of ~10 tickets a week it is enough, better human resources management required in future with the grow of the grid
- We are happy with our system, and **would like** to receive a ticket even for support requests from GGUS or other ROCs/CICs
- We also **would like** to forward tickets to GGUS, CDS, other ROCs/CICs support systems when needed, i.e.:
  - middleware issues
  - grid services managed by other ROCs/CICs
  - problems in RCs of other ROCs
- We **do not want** to have an account on every other system or look at overloaded mailing lists

- ROC Managers approved the User Support Task Force outcome:
  - to use the local Helpdesk Systems in conjunction with a central integration platform at GGUS





- **First Pilot Interface** between INFN Helpdesk System and GGUS ready by the end of this week
- Based on **Web Services** at GGUS side, several advantages:
  - sample code available for PHP / Perl and other computing languages
  - very fast: 600-1000 service requests/sec on the GGUS Servers
  - easy to adapt
- Based on **e-mail** at INFN side (importing tool)
- XML or Text exchange format
- The main issue is the **Ticket Fields Mapping** between the two systems

GGUS Field	Type	INFN Field	Type	Notes
ext_id	int(?)	ext_id	int(?)	<b>WARNING!</b> This field is missing at GGUS and INFN.
local_id	int(?)	local_id	int(?)	<b>WARNING!</b> This field is missing at GGUS and INFN.
Name	Char(80)	user	varchar(255)	<b>OK;</b> check size
Login	Char(128)	?	?	<b>WARNING!</b> This field should not be compulsory. An external user does not necessarily have an account at GGUS
Email	Char(80)	email	varchar(255)	<b>OK;</b> check size
Phone	Char(50)	phone	varchar(48)	<b>OK</b>
Experiment	Char(15)	MISSING	-	<b>WARNING!</b> Needs to be created
Short Desc.	Char(128)	short	varchar(255)	<b>OK;</b> check size
Description	Diary	description	text	<b>OK;</b> check type
Problem Type	Char(50)	category	varchar(48)	<b>WARNING!</b> Values need to be agreed upon
Date And Time	Date_Time	create_date	int(60)	<b>WARNING!</b> Different type. Conversion needed
Exp. Specific	Char(1)	MISSING	-	<b>WARNING!</b> Needs to be created
Attachment	Blob()	attachment	longblob	<b>WARNING!</b> This field is in table attachments
Short Sol.	Char(254)	MISSING	-	<b>WARNING!</b> Duplicate Solution field here
Solution	Char(4000)	update_log	text	<b>WARNING!</b> Verify if INFN is the right one
Diary Of Steps	Diary	MISSING	-	NOT USED
Internal Diary	Diary	MISSING	-	NOT USED

## Ticket fields map

- Missing fields identified and added to INFN system
- Same activity going on for other ROCs to speed up interfacing process
- GGUS doesn't need to know about local ROC support internal structure

- INFN-GRID Support System Infrastructure in place since 1 year, more than 500 support requests handled
- Front End for both Users and ROC/CIC Operation managers
- Pilot Interface to Central GGUS System almost completed
- Interfaces between GGUS and other ROC Systems will follow soon (straightforward for SWE System based on OneOrZero too)
- GGUS interface with ROCs is not enough, we need also an interface with CDS, GOC, Experiments (mostly using Savannah tool)
- The final goal is having all above various support components within EGEE interfaced with each other