GLOBAL GRID USER SUPPORT FOR LCG

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Abstract

In 2003 within the LCG (LHC Computing Grid), the GDB (Grid Deployment Board) developed a concept for user support in the LCG environment. The main idea was to have a central entry point for all user problems (Fig. 1). Therefore a first support group was established at FZK (Forschungszentrum Karlsruhe)[1](also the site of the German Tier 1 Centre GridKa[2]) that started to support German LCG users in October 2003. This Global Grid User Support (GGUS) team developed a central support web portal (Fig. 2), where users can submit their service requests into a problem tracking and workflow tool and afterwards track and maintain their tickets. This tool is also used by the other parties concerned, like experiment specific user support or the Grid Operation Centre (GOC). In 2004 a second support team located at ASCC (Academia Sinica Computing Centre)[3] in Taiwan joined the GGUS Team, so that GGUS provides about 16hrs support on 5 days per week since the official start in June 2004. A partner in North America to complete a 24hrs service scheme is being looked for at the moment (Fig. 3). In this paper we describe the ideas, concepts, tools and processes available so far and give an outlook onto the user support issues in the EGEE (Enabling Grid for E-Science in Europe) project, which has a broader range of participants and therefore calls for a slightly different support structure.

GLOBAL GRID USER SUPPORT FOR LCG

The main idea was to have within LCG[4] a *central* entry point for all user problems.

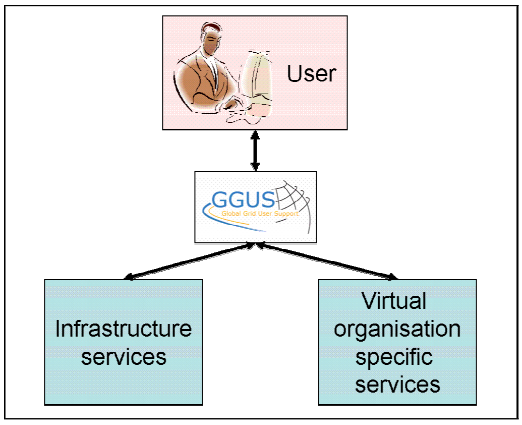

Figure 1: Basic schema of the position of GGUS in the user support for LCG or EGEE

Based on this idea all further development was based on a central database with open interfaces to all participating groups and parties. The second important idea is to build and maintain a central knowledgebase for all grid related problems, which is useable by all parts of the project, not only the users and the support team, but also development, design teams, deployment, training and operations to optimise software, processes and total quality of service.

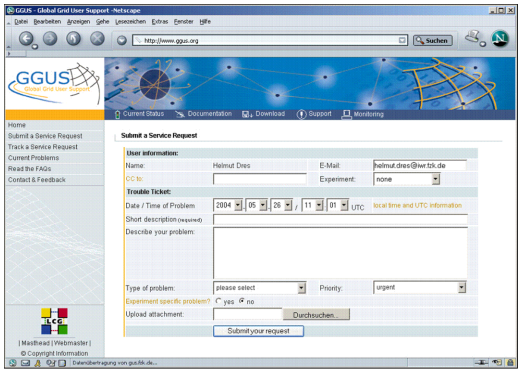

Figure 2: Screenshot of the GGUS web portal.

Processes

The target of GGUS is, to have a single entry point for all user support requests. When a user enters a support request, this request is automatically taken into a workflow, based on several attributes of the support request like experiment, priority or type of problem or if these fields do not match an automatic workflow, the GGUS team will have a look at this support request and assign the workflow manually if necessary.

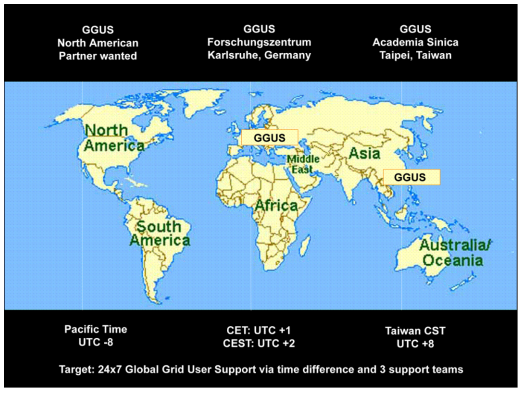

Figure 3: GGUS support scheme, covering 24hrs per day, by three teams in different time zones.

If the support request is solvable by the GGUS team the solution is documented in the support request ticket and send back to the user. If not the system or the GGUS staff decides where to send the support request ticket next. Currently we can send or the ticket is automatically sent to (see also Fig. 4):

- Experiment Specific User Support (ESUS) → One group per LCG experiment
- CERN Deployment Support (CDS) → as there are currently lots of deployment related problems
- Grid Operation Centre (GOC) → currently located at RAL and ASCC (where as ASCC is GOC and GGUS site)

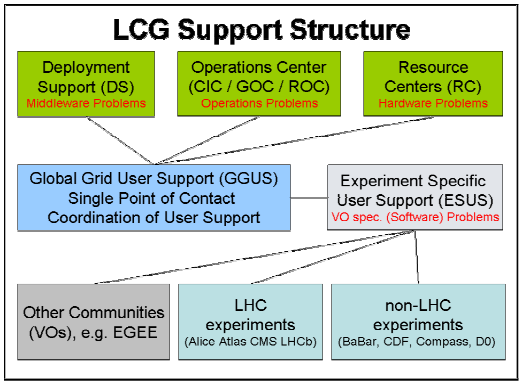

Figure 4: Schema of LCG/EGEE support structure

Figure 5 shows a user support request process from the creation of the request by the user to the closing by the GGUS support staff. The ticket arrives at GGUS via the web portal (preferred) by e-mail or (if need be) by phone (+49 7247 828383) is then solved by GGUS or assigned the responsible support unit. There it is solved and the solution sent to the user and GGUS. Finally the ticket is closed by GGUS and it is checked whether to include the solution to the request in the knowledge database (this part, especially the structure of the database, is at the moment being implemented).
In Figure 6 the workflow for the notification of the user community about a problem that showed up inside the organization of LCG is shown. The different support groups can check in the problem into the helpdesk system and GGUS will make it known via the information page on the GGUS web portal.

Current Status

Currently GGUS has setup and deployed a central web portal at ***http://www.ggus.org***. This portal provides the following functionality for the Grid User:

- Submit a problem report / service request
- Track problem reports / service requests
- Show current service requests → is my problem already known
- Show an overview of the current Grid status (taken from the GOC status pages)
- A news section, showing information about planned outages, know problems etc.
- A FAQ Section, which includes also links to the FAQs of the experiments that are using the grid in the LCG framework

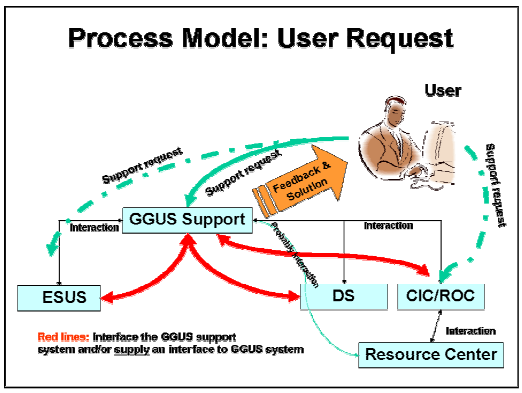

Figure 5: Schema of the process model of a service request submitted by a LCG/EGEE user.

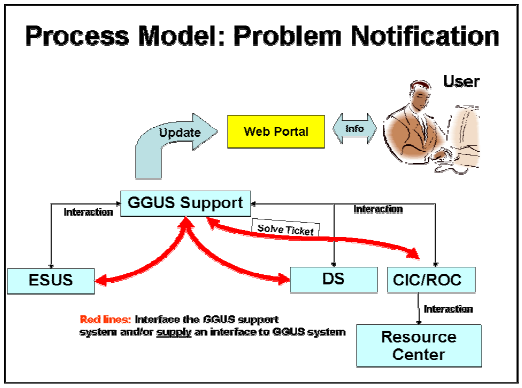

Figure 6: Process model of the notification of a problem that occurred within the organisation.

In addition this portal is the central entry point for all support groups to use the ticketing system and use other tools. The application model and architecture of the system can be seen in Figures 7 and 8.
The support groups which currently use the portal are:

- Experiment specific user support (ESUS)
- CERN Deployment Team (CDS)
- Grid Operation Centre (GOC)
- Global grid user support Team (GGUS)

They can currently use the following tools:

- Use the GGUS Remedy web ticketing application
    - View, modify, assign, reassign a ticket
    - Initiate a workflow by manually forward a ticket

- View all tickets (history and current)

- Add an new ticket
- Use the news section

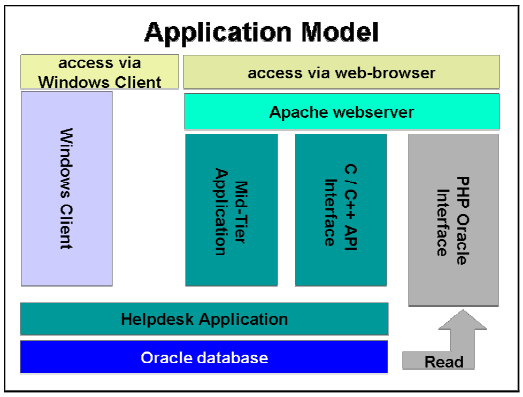

Figure 7: Application model of the GGUS helpdesk system.

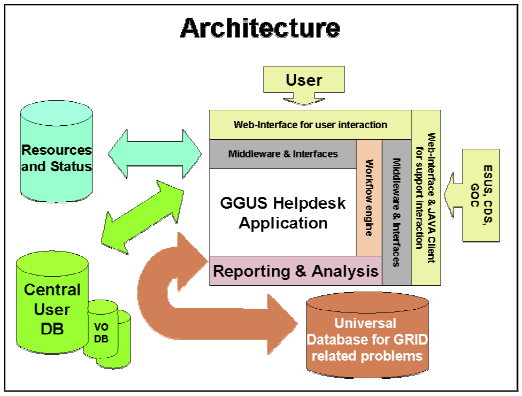

Figure 8: Schema of the architecture of the GGUS helpdesk system.

OUTLOOK TO EGEE

Changes necessary for ROC integration

In EGEE[5] it was decided by the ROC (Regional operation Centre) managers conference to have a central helpdesk in which all service requests should be visible but to provide support by the local ROC to local users. It was also decided, that GGUS is providing the central application. As there is a slightly different structure within the EGEE project (seen in Fig 9) there is need to adapt to these structures within GGUS.

GGUS will provide an interface for the users to submit their support requests and in addition sample all requests from the Resource Centres (RC). GGUS will filter and classify all these requests and send the requests to the appropriate ROC, CIC and/or experiment specific user support (ESUS). In addition GGUS provides a central helpdesk application, where all ROC, CIC, Resource Centres and ESUS can maintain and process the support requests. Also will GGUS build and maintain a central knowledge database and a news and FAQ section.

The system is web based, using email notification. It needs a current browser (Mozilla/IE) and JRE combination. The server is hosted at FZK and it is planned to collocate one at our LCG-GGUS Partner site ASCC in the future.

GGUS will be *Last Resort* if a user does not know where to send his request to or gets no answer once he submitted his request. GGUS will also provide a web based trouble ticket system for the ROCs that do not have one already and/or want to use the one provided by GGUS.

Also will GGUS be in charge of coordinating the Service Level Agreements (SLA).

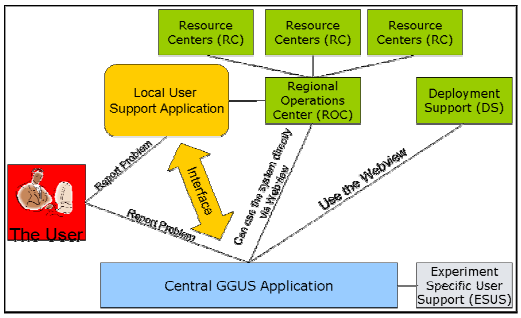

Figure 9: schema of the user support structure in the framework of the EGEE project.

The ROCs have to provide support to their local users via local a helpdesk system or other methods. Additionally they have to also support local VOs (Virtual Organisations). Global VOs (spread over many ROCs) will be centrally supported. RCs will be supported by their local ROC.

Service requests can be assigned to each support group in case they have competence in the field in question, even if the problem occurred locally in a different area.

Status of GGUS in EGEE

GGUS at the moment working on a new trouble ticketing system that will meet the needs for user support in EGEE described above. It will include a web service interface, which will be tested in a first project to connect the Italian ROC's helpdesk and GGUS by the end of November.

An important thing to be done is to define the interfaces to the VOs, which in EGEE come from different sciences and might have very different structures. As a first step in process two HEP experiments that are also part of LCG are currently defining these structures in discussion with GGUS. On this basis the other VOs can be approached to also work on this important issue to build up a working support structure in a complex environment like EGEE.

REFERENCES

[1] http://www.fzk.de
[2] http://www.gridka.de
[3] http://www.ascc.net
[4] http://lcg.web.cern.ch
[5] http://www.eu-egee.org