GGUS

Change process | 24x7 operations

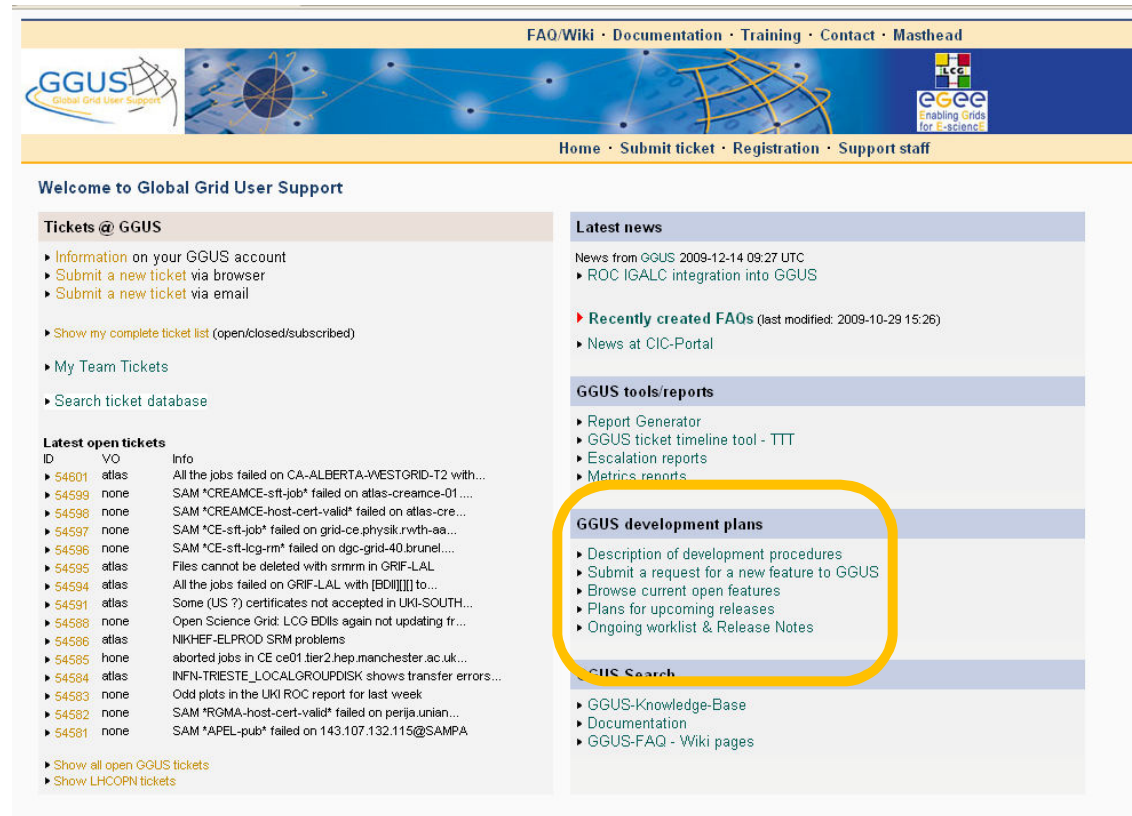**Torsten Antoni (KIT) - GDB 2010/01/13**

www.eu-egee.org

Enabling Grids for E-sciencE

- **Shopping list**
  - **A savannah project, hosted at CERN**
  - **It is an open forum where wishes and requests for GGUS can be sent to and where they are being recorded**

- **Shopping list meetings**
  - **The items entered in the shopping list will be discussed within a smaller group of GGUS experts who meet on a weekly basis.**
  - **The decisions being made here will be published and listed in the OWL**

- **Release content definition**
  - **Only proofed and agreed items of the shopping list make it into the ongoing worklist.**
  - **It is the official plan where everybody can get information on what is going on at GGUS.**

Enabling Grids for E-sciencE

- **Release preparation**
  - **Timely announcements via various information channels**
  - **Moving the new features from the development system to the GGUS training system**
  - **Testing the new features**
  - **Involvement of interface developers if necessary**

- **Problems with Alarm Tickets after the November `09 release**

  - **Submission of Alarm tickets was not possible**
  - **Alarm email wasn't sent to ROC CERN**

  - **Causing both problems:
    Mismatch between GOCDB and WLCG site names**

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- **Problem with Alarm Tickets submission after Nov09 release**

  - **SA1 requested to create reports about site performance which take time zones and office hours into consideration**
  - **For gathering this data we implemented a table in the background that collects the data necessary for this.**
  - **This table uses another table containing the time zones and office hours of all sites registered in GOC DB and OIM.**
  - **For the alarm tickets the WLCG names were used. Unfortunately we didn't create entries for the WLCG site names with time zone and office hour information.**
  - **Therefore ticket submission failed.**

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- **Problem with Alarm Ticket notification for ROC CERN**
  - **Origin was the change request recorded here https://savannah.cern.ch/support/index.php?110614: (converge tier-1s site names from two sites into one, the WLCG name should be only an alias to the GOCDB name)**
  - **GGUS ticket was raised on 2009-12-14: "CERN did not receive the ALARM mail from two tickets (a test ticket 54103 and a real ticket 54055)"**
  - **Error only affected CERN-PROD as this site requires an extra function to control the individual alarm contacts for each WLCG VO**
  - **Reason was a forgotten update of the "new" CERN site name within this function.**
  - **Error was not detected because the test of the alarm ticket procedure after release was only carried out for FZK-LCG2 to keep "the noise" low.**

Enabling Grids for E-sciencE

- **Solution :**
  Site names in this menu are taken from GOCDB.
  WLCG names for Tier1's are mapped as follows:
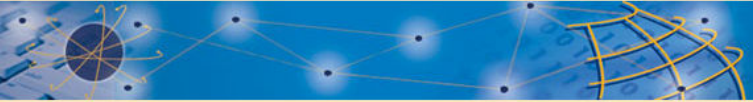
GOCDB	WLCG
TRIUMF-LCG2	CA-TRIUMF
CERN-PROD	CH-CERN
FZK-LCG2	DE-KIT
pic	ES-PIC
IN2P3-CC	FR-CCIN2P3
INFN-T1	IT-INFN-CNAF
NDGF-T1	NDGF
NIKHEF	NL-T1
SARA-MATRIX	NL-T1
Taiwan-LCG2	TW-ASGC
RAL-LCG2	UK-T1-RAL
USCMS-FNAL-WC1	US-FNAL-CMS
BNL-ATLAS	US-T1-BNL

- **Consequences of this problem**
  - **More frequent testing of the alarm mechanism**
  - **Alarm tests on a regular basis according to:**
    https://savannah.cern.ch/support/index.php?111475

Enabling Grids for E-sciencE

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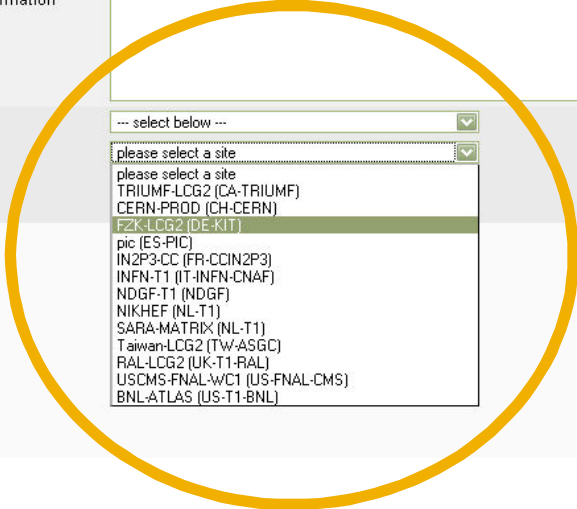
- **Fail-over system**
  - **Front end**
    - Two parallel GGUS servers for both production and training area
    - One is active, the other is standby
    - One is a real machine, the other a virtual one
    - The virtual machine is hosted on a VMware ESX cluster with Dynamic Resource Sharing and High Availablity and a redundant connection to a Storage Area Network (SAN)
    - The SAN on KIT Campus Nord has 2 locations separated by approx 500m, with independent power supply
    - As we just upgraded our systems (RHEL 3$\rightarrow$5, Remedy ARS 6.3 $\rightarrow$ 7.1)

  - **Network**
    - We currently have a redundant network connection (Internet)
      - *DFN*
      - *Belwue*

Enabling Grids for E-sciencE

- **Fail-over system**
    - **Database**
        - **DB for production, development and training system on Oracle 9i auf Solaris 9, Veritas Cluster (Failover)**
    - **Plans**
        - **Moving to Oracle 10g Real Aplication Cluster (RAC) with 2 nodes and DataGuard at two separate 2 locations**
        - **Planned for GGUS Release February 2010 (which might be in March, actually)**
        - **Automate the failover of the frontend to minimise the manual intervention needed**

Enabling Grids for E-sciencE

- **On-call service**

  - **The GGUS servers are included in the local Nagios monitoring**
  - **Incase of a failure of the GGUS system outside office hours an alarm will be created**

  - **On-call engineers of the „Grid services and GGUS" team are resonsible to react to alarms (local and external) outside office hours**

  - **Experts from all areas have volunteered to be called for assistance in case of severe problems**

- **On-call service**
  - **Service levels**
    - Service Class Level 0 (SCL-0) incidents detected by the KIT Alarm Centre are automatically forwarded to the Local Monitoring System, which in turn assigns this via SMS to all On-Call Engineers and registers the incident in the Service Desk System. All OCEs have to react immediately and collaborate with the FZK Alarm Team. SCL-0 incidents have to be escalated immediately to the site management.

    - SCL-1 or SCL-2 incidents detected by the Local Monitoring System assigned via SMS to an OCE
      - *SCL-1 incidents must be dealt with immediately*
      - *SCL-2 incidents assigned after 18:00 may be left until 8:00 of the next day*

  - **GGUS is in the SCL-1 category**