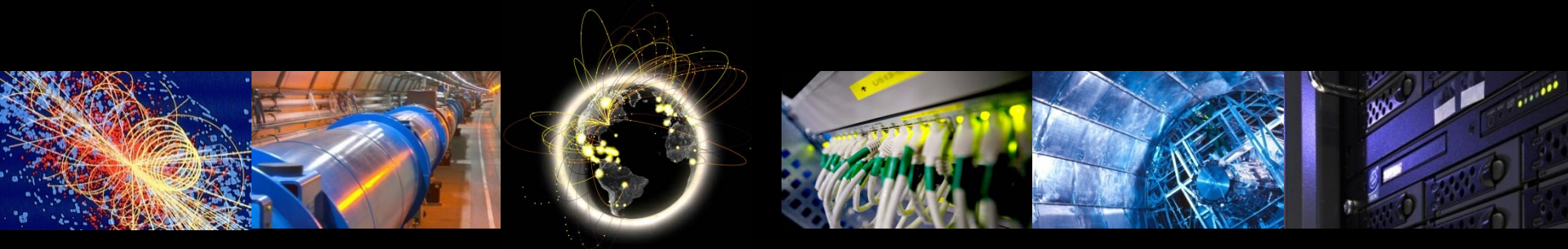


# The role of GGUS in delivering highly reliable WLCG operations

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# Why this talk?

- To show how a tool can bridge all worlds:
  - Development
  - Operations
  - Sites
  - Virtual Organisations (VOs)
  - Users
  - Supporters
- To emphasise the need for continuous follow-up in order for a good tool and an established procedure to continue being useful.

# Elements of history

- 2004 GGUS is born during <http://egee1.eu-egee.org/>
- 2005 and onwards WLCG starts using GGUS for the service challenges. The motto even back then and ever since was/is "no ticket, no problem".
- 2007 in March (during EGEE II) GGUS-VOs workshop at FZK. VOs still reluctant to use GGUS due to:
  - Some people's strong preference for direct contact with "the developer";
  - Lack of trust in the tool or missing functionality.
- 2008 and till the end of EGEE III monthly [USAG](#) meetings with VOs, ROCs and Sites helped clarify what to develop when and how.
- 2008 July Direct Site notification released for the T1s.
- 2009 January Direct Site notification released for all Grid Sites.
- 2009 March Established procedures for regular ALARM testing full-chain of support.

# Key functionality

- Direct Site notification/Automatic NGI/ROC assignment.
- Direct ROC/NGI assignment by the submitter (no TPM involvement).
- TEAM and ALARM tickets.
- Automatic interfaces with external databases/ticketing systems.
- Regular and tailored reports.

# Direct Site notification

- You are here <https://ggus.eu/pages/ticket.php> and you believe the Admins at a given Site can solve your problem.
- Select from the “Notify Site” drop-down menu the relevant Site name.
- GGUS will send email notification to the contact email at the site as this was declared in GOCDDB or OIM (for american sites).
- The ticket will be automatically assigned to the right ROC/NGI, so the routing hop via the TPM will be spared.

# TEAM and ALARM tickets

- The TEAM and ALARM ticket top functionality is the co-ownership of tickets, across experiment shifts and automatic registration of authorised TEAMers and ALARMers from the experiment authorities into GGUS via VOMS.
- ALARM tickets, in particular, automatically send SMS messages to experts on call day and night. Operators contact the relevant service expert also 24/7.

# Interfaces

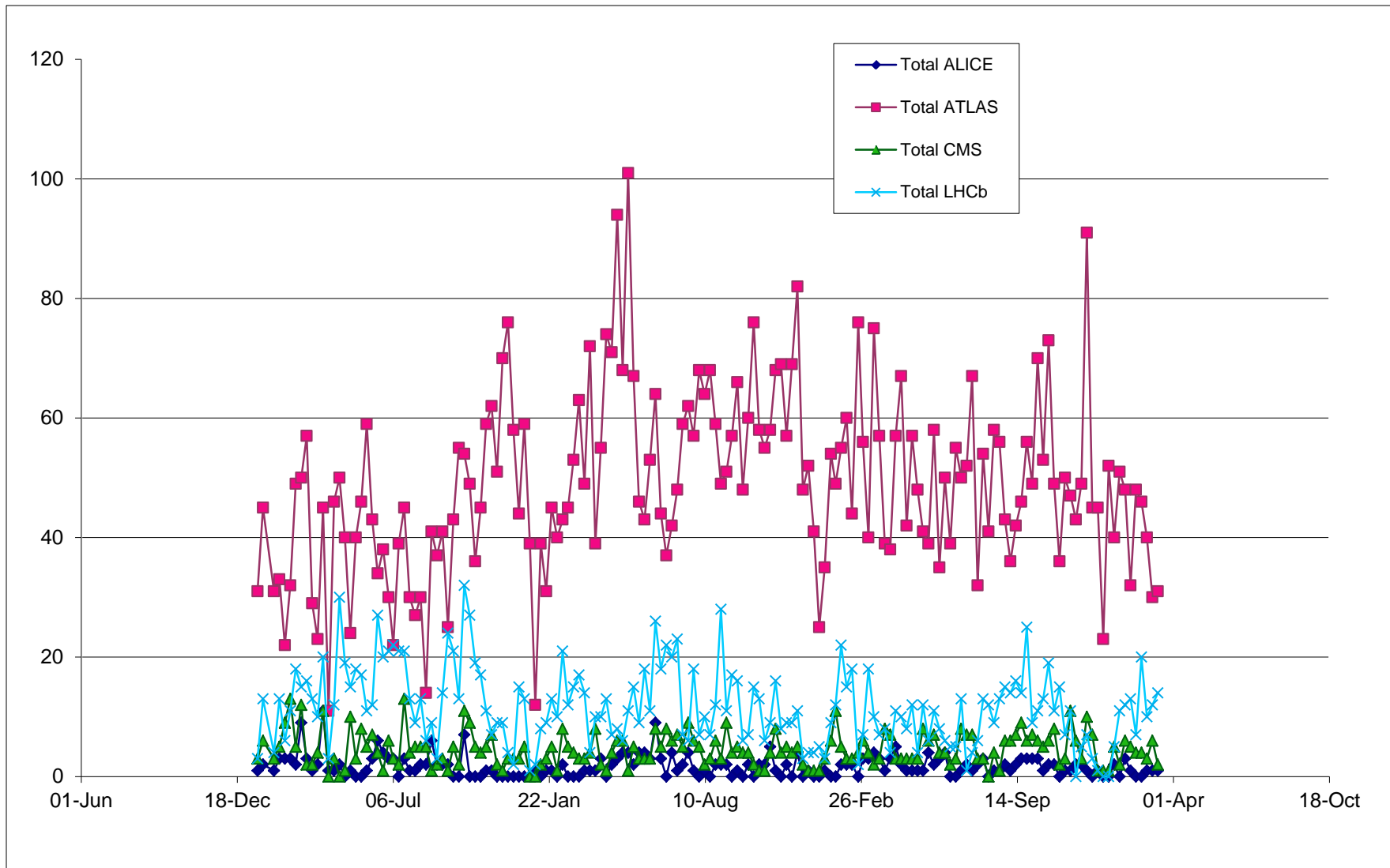
- GOCDDB & OIM (including contact and emergency email addresses and Site availability information). Data extracted daily.
- VOMS membership of Group (or Role) TEAM (or team) or ALARM (or alarm). Data extracted daily.
- Ticketing systems of CERN,OSG,CZ,DE,ES,FR,GR,IT,PL,RU.
- More info on interfaces:  
[https://wiki.egi.eu/wiki/Category:FAQ\\_Interfaces\\_\(GGUS\)](https://wiki.egi.eu/wiki/Category:FAQ_Interfaces_(GGUS))

# Escalation reports

- Prepared weekly by the GGUS developers.
- They cover tickets concerning the 4 WLCG VOs and TPM activity.
- Totals are submitted to the WLCG Operations' meeting every Monday.
- They are also presented with ALARM drills to the WLCG MB (monthly) meeting.
- You can see them from page [https://ggus.eu/pages/metrics/download\\_escalation\\_reports.php](https://ggus.eu/pages/metrics/download_escalation_reports.php)



# WLCG GGUS activity totals



# Other GGUS reporting tools

- Report Generator (see dedicated talk in the same conference session)  
<https://ggus.eu/stat/stat.php>
- Ticket Timeline Tool: gives ticket numbers and their status, for a given timeframe and a give Notified Site. <https://ggus.eu/stat/ttt.php>
- Search engine: rich choice of fields to select and functional display combinations.  
[https://ggus.eu/ws/ticket\\_search.php](https://ggus.eu/ws/ticket_search.php)

# Quality of ticket life

- Since January 2010 it is possible to open a GGUS ticket on behalf of a 3rd party and getting out of the loop (dev. item <https://savannah.cern.ch/support/?111183> ).
- If the issue requires advice by multiple Sites or developers, GGUS allows contribution of all supporters world-wide.
- Middleware-related GGUS tickets guarantee the provision according to the SLA signed between EGI and EMI.
- A GGUS ticket URI can be referenced from any document.
- The submitter can escalate a ticket, i.e. remind responsible supporters, the TPM and GGUS dev. Team that faster response is needed.
- Other people can be receive an email notification of GGUS tickets updates or get involved in the resolution process or subscribe to a foreign ticket to follow progress out of interest.

# Automation is not everything

- The key to maintain a tool's popularity is:
  - Solidarity in the team.
  - Continuous process of improvement.
  - Peer pressure (requiring customers, responsible providers).
  - Uninterrupted follow-up.
- To do this, we use:
  - Daily WLCG Operations' tel. meeting with all issues recorded in GGUS.
  - Weekly GGUS development tel. meetings with all requested features recorded in savannah/rt.
  - GGUS functionality 'exploit' by presenting concrete ticket summary figures and detailed drills in all mgnt & coordination meetings (weekly, monthly).

# Condicio sine qua non

- If we wouldn't have the support of the WLCG mgnt, we wouldn't have become the tool of choice for the LHC experiments' Grid community.
- To keep the community trust, we have to be always present and available to listen/follow-up and careful to avoid/explain Service Incidents.
- As resources are very limited, we should choose carefully the developments that make sense for the actual users (e.g. what is the impact to the user community when gus.fzk.de no more exists?)

# Conclusions

- GGUS is one of the few operational tools on which the WLCG 24 x 7 service is built.
- Thanks to active collaboration between all relevant parties (sites, experiments, developers, supporters) it has been extended over time to meet concrete needs from this operational service.
- The WLCG service is very requiring as it delivers:
  - Quantitatively: 1.5 M jobs/day & 22 PBytes of data in 2011.
  - Qualitatively: as shown by GGUS tickets' resolution times, monitoring data, performance improvements of data mgnt tools etc (detailed status report [here](#)).
  - More importantly, it allows the users to do more and better science, faster than ever before.
- This is why the GGUS availability, maintenance and developments are very important and should be done carefully .



# This Is Not The End

- Communities with questions
- Different workflows
- New ideas
  - Lets discuss them now
- Thank You for your attention!