

GGUS - Global Grid User Support

Past, present, future

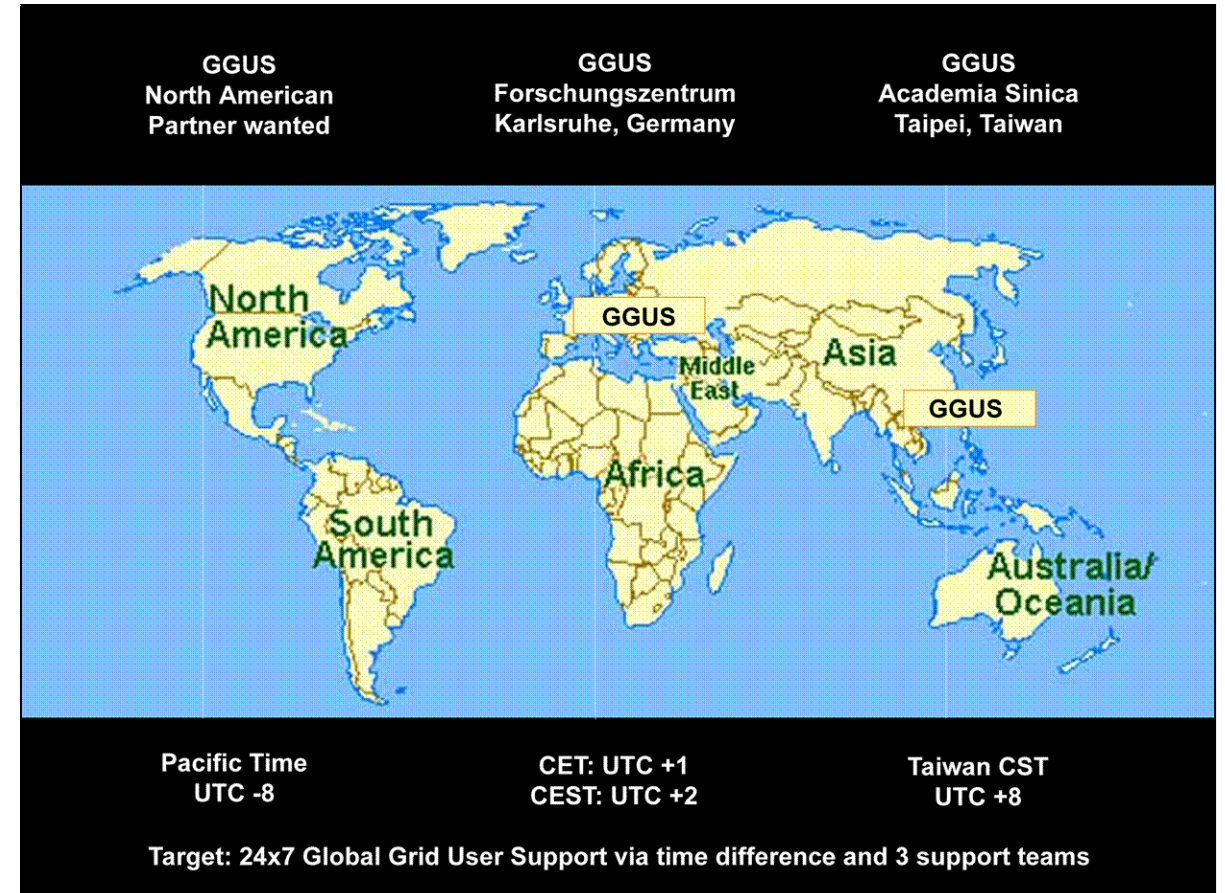
Guenter Grein,
Communication and Infrastructure Services (CIS),
2025-05-07



2003 - First ideas and concepts

Grid Deployment Board 2003-02-06

- Support by
 - 3 teams in
 - 3 timezones with
 - 8 hours time difference providing
 - **24 * 7 support**
- Support partners
 - Europe: Forschungszentrum Karlsruhe (FZK, now KIT)
 - Asia: ASGC Taiwan (Academia Sinica)
 - United States: FNAL ???

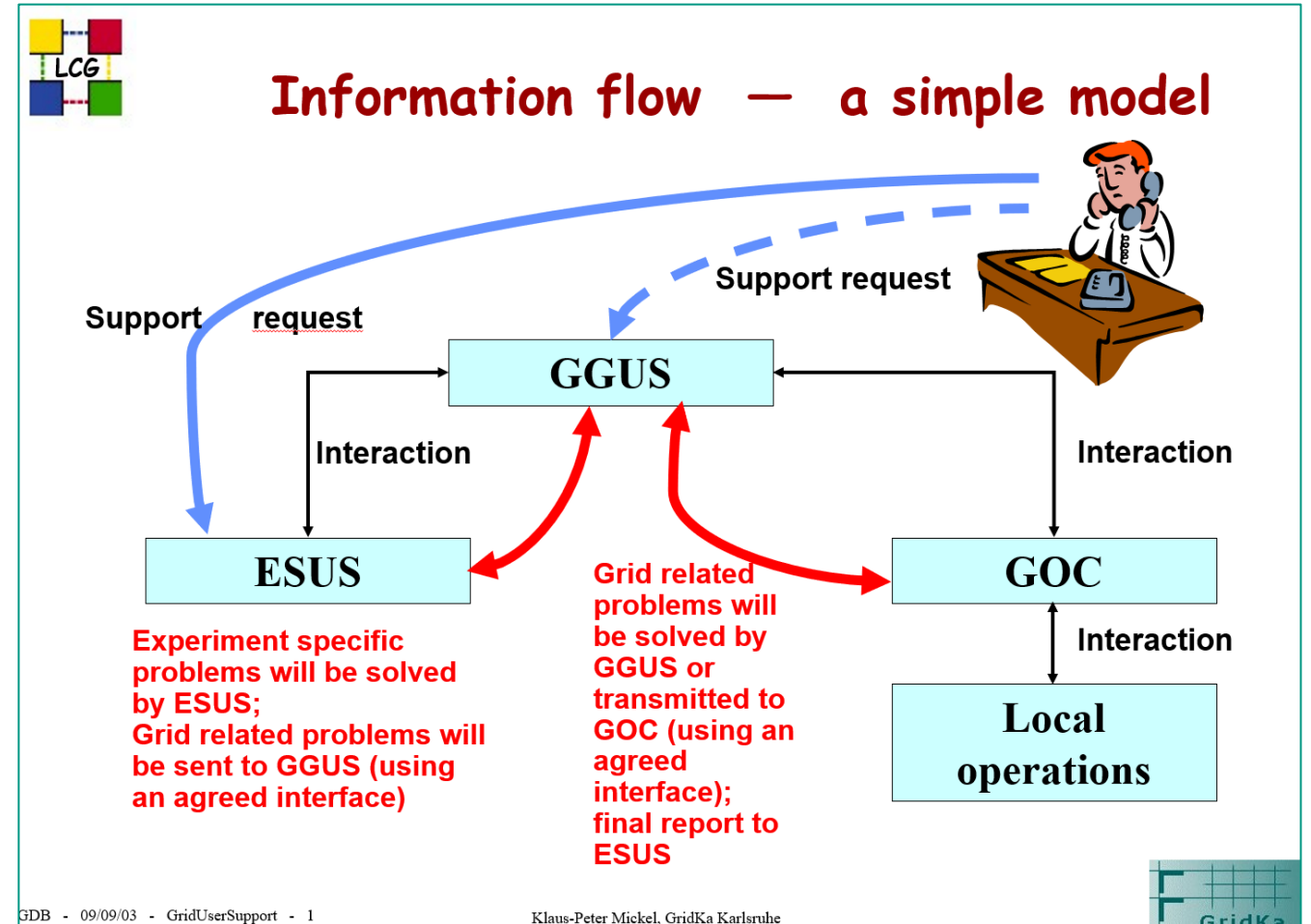


2003 – Central web interface

- One central web interface: www.ggus.org
 - Grid x509 and user/password authentication
 - FAQ and News area
 - Issue tracking system
 - Submit ticket via mail, phone or web interface
 - Grid-related documentation
 - Monitoring results of job status and grid resources available
 - Knowledge base

2003 – Support model

- Issue tracking system
 - Remedy ActionRequestSystem (ARS)
 - Native **web frontend by Remedy ARS.**
- Support teams organized in tier levels: 0 – 3



2003 – GGUS prototype goes live

- Developer team formed at FZK
 - **Helmut Dres** joined on September 1st 2003
 - Web frontend
 - **Guenter Grein** joined on October 1st 2003
 - Remedy work flow engine
 - SOAP API
- First **prototype** went online by **end of 2003** with integration of
 - CERN Deployment Support (CDS),
 - Experiment specific user support (ESUS),
 - Grid operations center (GOC).
- **Many problems** displaying ARS web pages
 - > Development of **web frontend** based on **PHP**



2004 - EGEE

EGEE started on 2004-04-01

- Hierarchical structure replaced by **distributed structure** (= grid-like).
 - **CIC**: Core Infrastructure Center,
 - **RCs**: Resource Centers are related to **ROCs** (Regional Operations Centers),
 - **VOs**: Virtual organizations,
 - Ticketing systems from ROCs (assuming they have one),
 - SOAP API
- Customers can **choose** where to submit a ticket:
 - ROC,
 - VO,
 - GGUS



2004 - GGUS production goes live

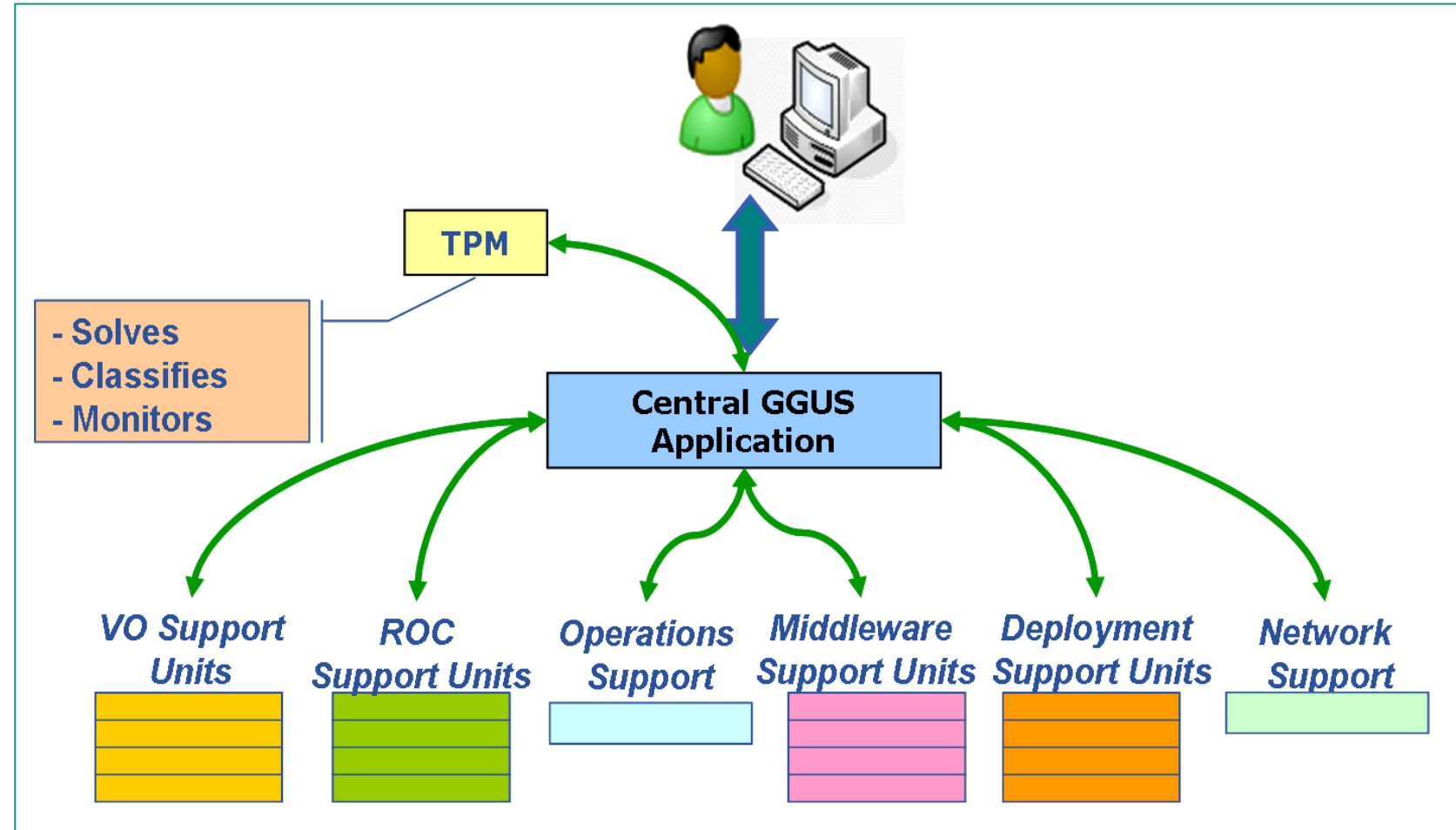
- First **production** version online
- **Lack in communication** of users (WLCG) and developers
- Established change processes
 - **Monthly** releases
 - Bugs and requests are collected in CERN Savannah system: “**GGUS shopping list**”
 - Evaluation on weekly phone conferences
 - WLCG representative & GGUS developers
 - Release notes,
 - „Did you know?“
 - Registration in **GOC DB**
 - Always in close dialogue with WLCG

2005 – Integration with other systems

- Executive Support Committee (ESC) established
 - Coordination of GGUS development
 - Members of GGUS, ROCS, CERN, lead by CERN
- 40 support groups integrated in GGUS
- Increasing number of VOs and ROCs request integration in GGUS or integration of their ticketing systems
- Integration of central services
 - Core Infrastructure databases (GOC DB, OIM DB) -> site data
 - VOMS servers -> roles and permissions
 - CIC portal (became operations portal)

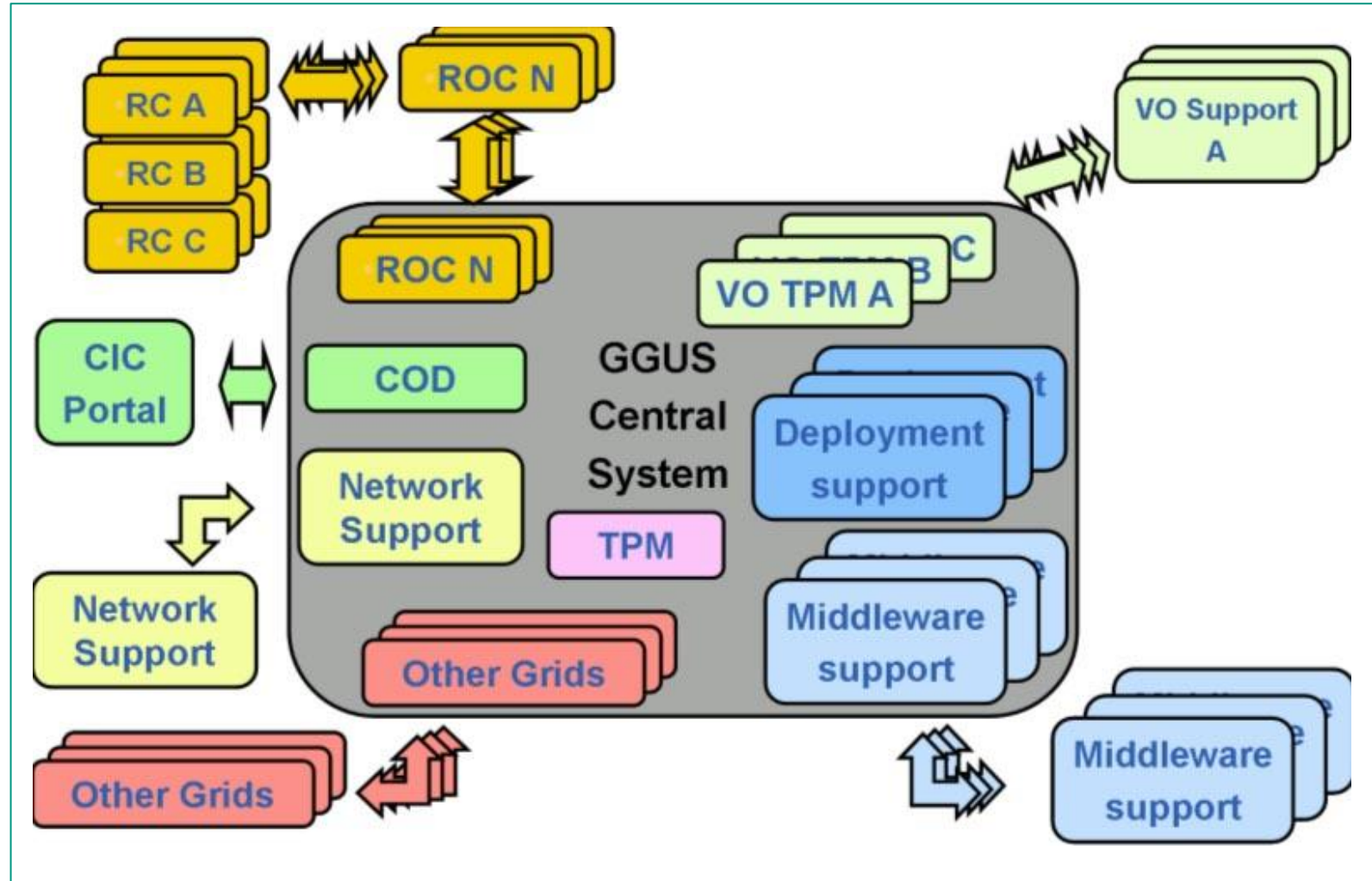
2006 – Integration with other systems

- Integrating and removing support groups ongoing
- Integrating other ticketing systems
 - RT,
 - xoops,
 - 1or0
- Established TPM
 - Ticket Processing Manager
 - 1st line support



2007 – Integrations ongoing

- OSG (Open Science Grid) helpdesk system
- CERN Savannah
- Many discussions
 - Involve VOs in 1st line support
 - Improve **support quality**
 - Improve **responsiveness**



2010 – EGI

- Transition from EGEE to EGI
 - Computing infrastructure for **all communities**
 - New technologies, e.g. **cloud computing**
 - Support groups restructured
 - ROCs -> NGIs
 - GOC DB, Operations Portal etc. -> Core services
 - Software Developer Teams -> Product teams



2010 - Introduction of xGUS

- Presentation on EGI Technical Forum in Amsterdam
- Motivation for xGUS
 - **Lightweight** ticketing system for small NGIs and projects interfaced with GGUS
 - **Low** administration effort
 - **Customization** for logos, support groups and email addresses
- Basic ideas of GGUS and xGUS
 - Communication tool
 - Offers collaboration for various teams and groups
 - Flat hierarchy and permissions: everybody can see everything
 - Common source code for both GGUS and xGUS

2010–2011 - Report Generator and ticket oversight

2010

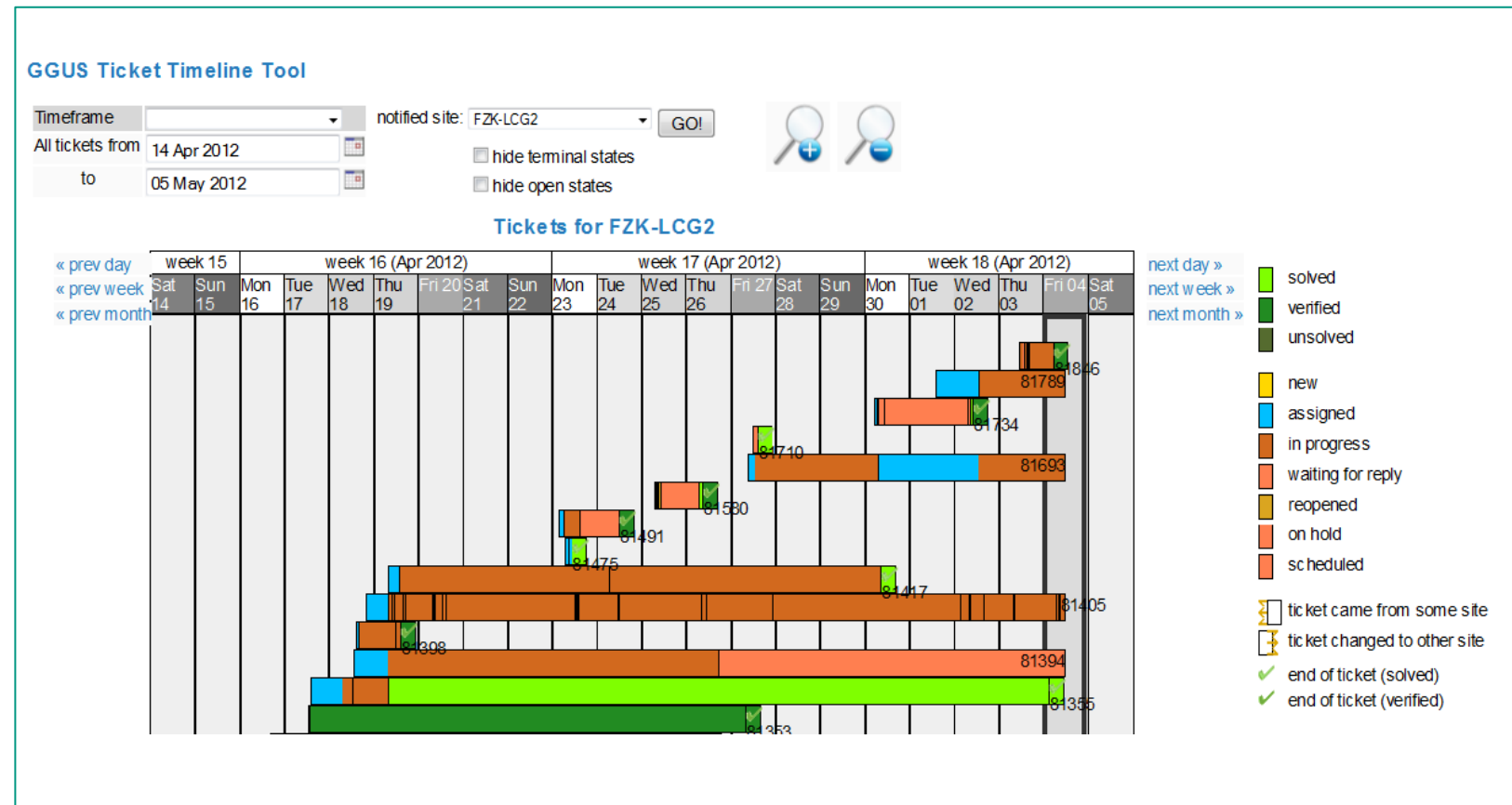
- Implementation of „**Report Generator**“ started
- Start using **SVN** for software versioning
- Start using **rpm packages** for updates

2011

- **Unattended tickets** discussed in weekly phone conferences
- Savannah replaced by JIRA
 - GGUS shopping list migrated to JIRA
 - Savannah tickets imported in JIRA
- CERN SNow interfaced with GGUS

2012 – Ticket Timeline Tool

- “Ticket-Timeline-Tool” implementation
- Username and password since early beginning
- **X509** required for registration now
- Discussions on other authentication methods
 - SSO accounts
 - SAML/Shibboleth
- **High availability** requested for GGUS

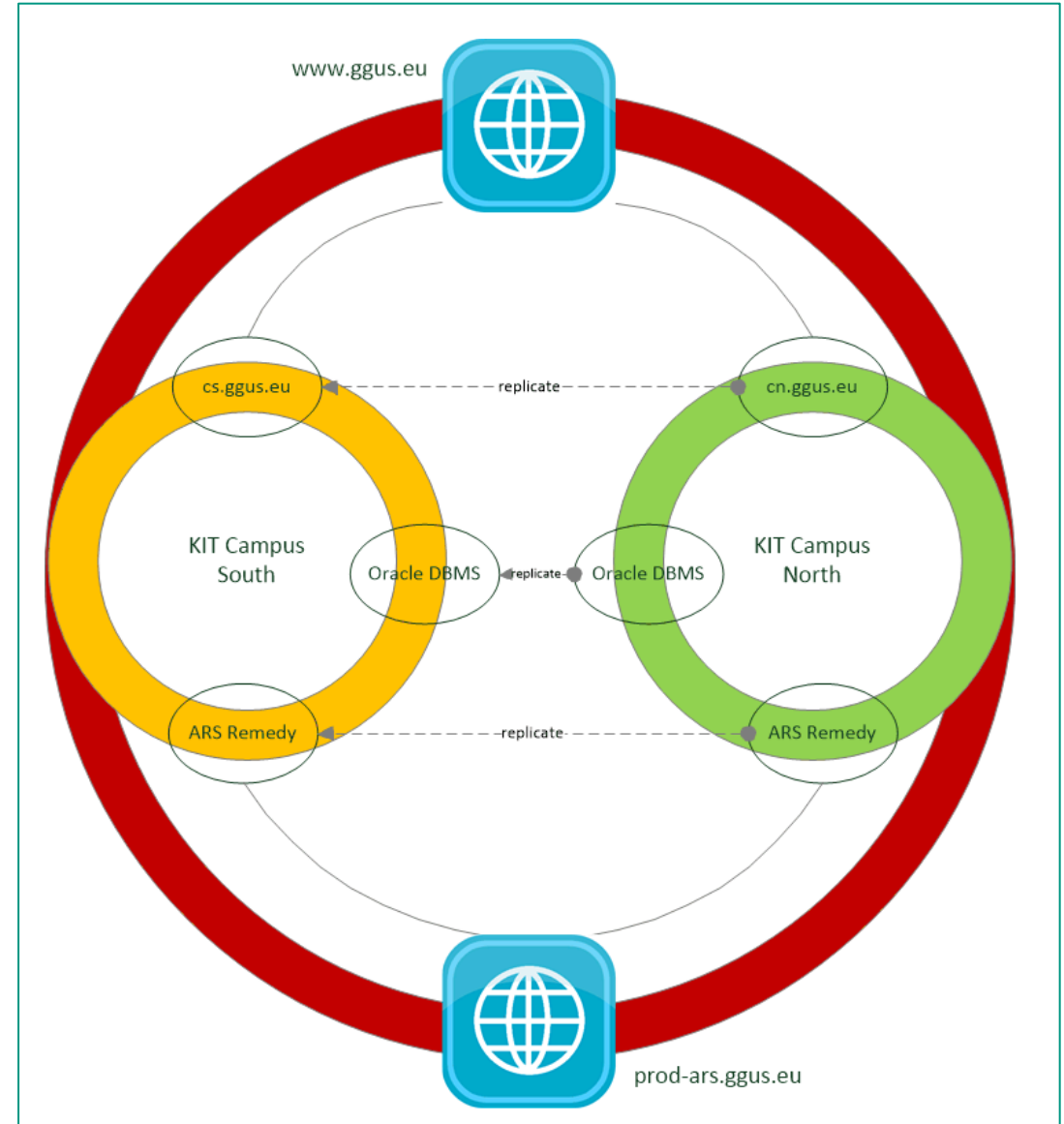


2013 – Ticket monitoring

- January 2013
 - **100.000** tickets in GGUS
 - **160** support groups
 - **48** VOs
- Established ticket **monitoring** processes
- Enhancement of „Report Generator“
- **SAML /Shibboleth** authentication available
- **Alarm** tickets process implemented
- Migration of GGUS code into xGUS framework completed

2014 – High Availability (HA)

- Implementation of HA solution finished
- Server administration taken over by GGUS developer team
- 15 ticketing systems integrated until 2014-04
- 5 other systems integrated, e.g. VOMS, VO Dashboards, Databases
- Bulk submission available -> **tickets to multiple sites**



2015 - The xGUS family

- 11 xGUS instances

- NGI_DE
- NGI_CH
- NGI_AEGIS
- NGI_SI
- NGI_IT
- ROC_IGALC
- ROC_AFRICA
- ROC_CHINA
- FRANCE_GRILLES
- MAPPER
- LHCOPN



2016–2017 - Virtualization and IPv6

- Moving servers to **ESX clusters**
- Only minor changes on application itself
- Adding or removing support units and VOs
- Keeping systems up-to-date
- Configure servers for **dual stack**
 - IPv4 and IPv6
- Integration in **EGI Check-In** service

2018–2019 – Sadest years

2018-07

- Helmut has a bicycle accident
- Never came back to work
- Died in April 2019 at the age of 56
- Evelina Buttita took over maintenance of web frontend

2019 – Decommission xGUS

- **Disabled** SOAP interface with
 - GRNET RT ticketing system

 - NGI_PL RT ticketing system

- **Decreasing usage** of xGUS instances
 - Majority of tickets replicated from GGUS

- Remaining xGUS instances **decommissioned**
 - NGI_AEGIS
 - NGI_SI
 - NGI_CH
 - NGI_DE
 - NGI_IT
 - FRANCE_GRILLES

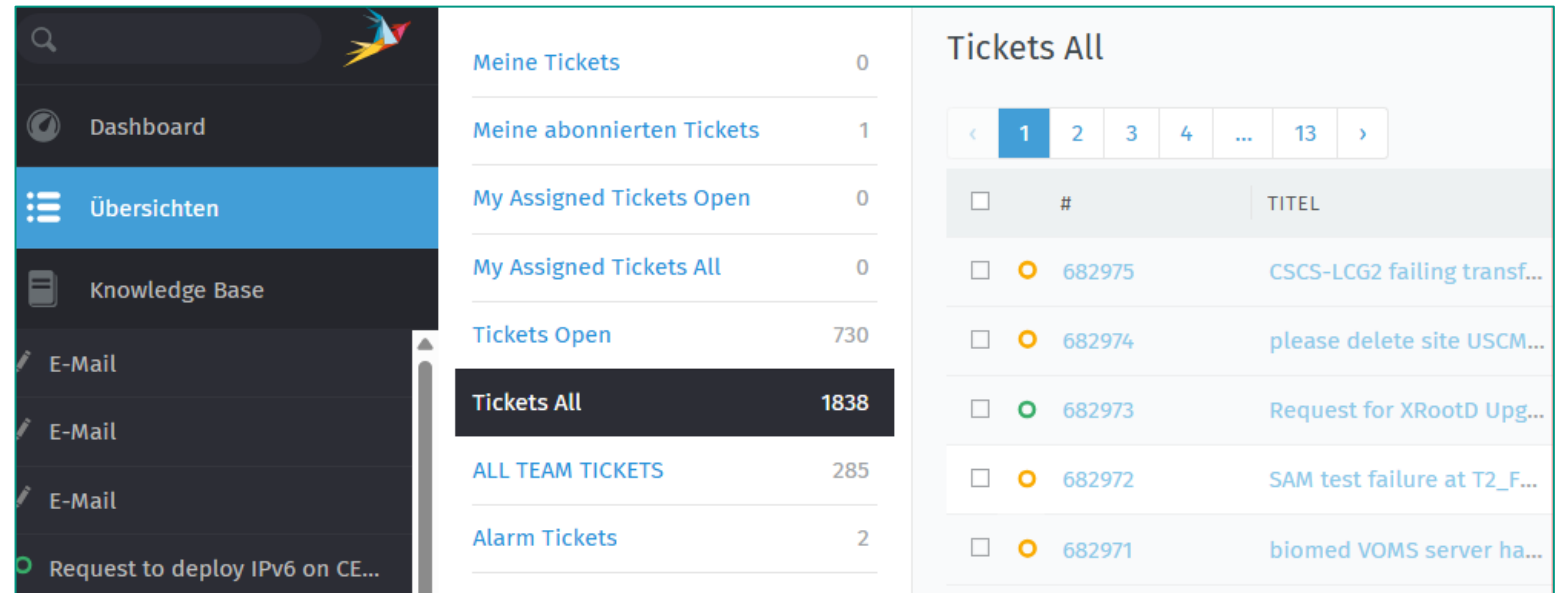
2020–2025

- Replaced diary fields by CKEditor
- Add / Remove / Rename support units
- Fix bugs
- Read-only version prepared

2025 – Migration to new platform

2025-02

- New GGUS went live
- Legacy GGUS in **read-only** mode
- ~ **170.000** tickets



The screenshot displays the GGUS ticket management interface. On the left is a dark sidebar menu with options: Dashboard, Übersichten (highlighted), Knowledge Base, and three E-Mail entries. The main content area is divided into two columns. The left column lists ticket categories with counts: Meine Tickets (0), Meine abonnierten Tickets (1), My Assigned Tickets Open (0), My Assigned Tickets All (0), Tickets Open (730), Tickets All (1838, highlighted), ALL TEAM TICKETS (285), and Alarm Tickets (2). The right column shows the 'Tickets All' view with a pagination bar (1-13) and a table of tickets.

<input type="checkbox"/>	#	TITEL
<input type="checkbox"/>	682975	CSCS-LCG2 failing transf...
<input type="checkbox"/>	682974	please delete site USCM...
<input type="checkbox"/>	682973	Request for XRootD Upg...
<input type="checkbox"/>	682972	SAM test failure at T2_F...
<input type="checkbox"/>	682971	biomed VOMS server ha...

Thank you