EGEE Operational Procedures

(Contacts, procedures, certification)

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Based on a presentation held in South Africa at the Meraka Institute, CSIR campus, Pretoria

www.eu-egee.org

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Introduction

- **Extract from SA1 Operational Procedures Manual:**

"Staff within SA1, responsible for the daily operations of the EGEE grid, are broken up into the following areas:

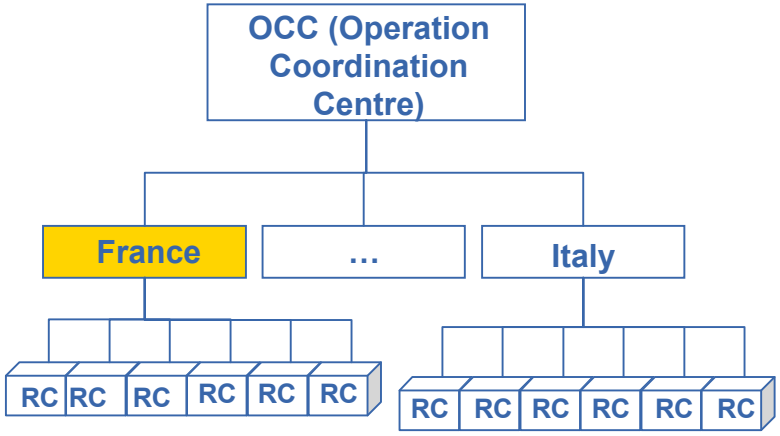
Operations Team – COD and support tools developers
Regional Operations Centre – ROC Managers, ROC support staff
Resource Centres (sites) – local support, site admins

The Operations team is responsible for detecting problems, coordinating the diagnosis, and monitoring the problems through to resolution. This has to be done in cooperation with the Regional Operations Centres to allow for a hierarchical approach and overall management of tasks."

(https://twiki.cern.ch/twiki/bin/view/EGEE/EGEEROperationalProcedures)

Regional Operation Centre: role

- **Site representative of a region/federation**
  - assistance to sites/RC in the region
  - site middleware deployment coordination
  - communication channel between project and sites
- **Regional security management**
- **Regional monitoring**
- **Incident support and follow-up**
- **Sites certification**
- **Users training**



ROC: French example

- Communication channel
- Incident support and follow-up
- Site creation
- Accounting

ROC FR ex.: communication channel

- **Internal**
  - Visio conferences (15 days)
    - French participants (SA1, NA4, RAG, etc.)
    - circulation of news
      - *exploitation coordination*
      - *minutes of EGEE meetings*
      - *etc.*
    - exchange area between French participants to EGEE
      - *specific topic meetings: security, certification authority, MPI, GGUS…*
  - Mailing list EGEE SA1-Fr
- **External**
  - “ROC Managers’ meeting” phone conference (15 days)
  - “WLCG Weekly operation meeting” (weekly)
    - weekly report about French site status
  - “All ROC managers meeting” (~ 3-4 months)

ROC FR ex.: incident support and follow-up

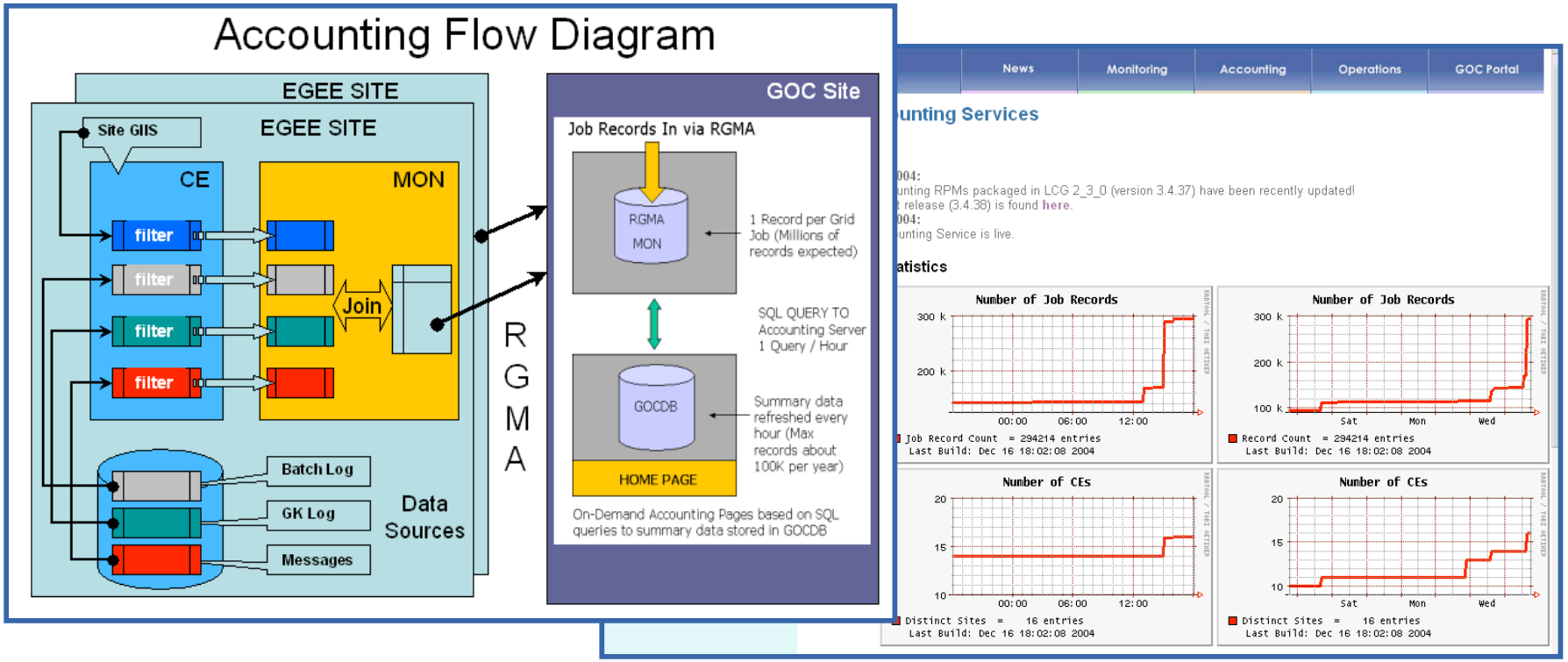
- **Support given by ROC is directly done through GGUS (Global Grid User Support) portal: http://gus.fzk.de**
  - ROC assigns GGUS ticket to concerned site support
  - Site support team need to be registered as “ROC support staff”
  - ROC is notified about tickets updates and can intervene when it is necessary
- **Interface between local helpdesk and GGUS is in progress**
- **Use of a specific mail address to be notified**
  - 4 people behind
  - first reader takes care of the ticket replying and/or assigning it to expert

ROC-FR ex.: site creation

- **Site candidate needs to contact its ROC**
- **ROC publish site candidature:**
  - creation of a new entry in the GOC DB
    - site status: “Candidate to production”
    - fact sheet to be filled by the new site
      - *site name on grid, site support and security contacts, etc.*
    - operational worksheet of site
      - *information system ldap URL of site, grid node list, “scheduled downtime” declaration, etc.*
      - ⇨ *used by grid tools: monitoring, information system, etc.*
      - ⇨ *to adapt functions of site status*
  - invitation to join SA1-Fr : visio conference, mailing list, etc.
- **Site deploys and configures the middleware,**
  - with ROC help if needed
  - can use tools provided by the project to test a site
    - **SAM Admin's Page :** https://cic.gridops.org/index.php?section=roc&page=samadmin
- **On site demand, ROC certifies the site**
  - use of tests framework provided by the project
    - **Service Availability Monitoring (SAM)** : https://lcg-sam.cern.ch:8443/sam/sam.py
  - when everything is OK, ROC pushes site in production
    - site status: “Certified for production”
- **If needed, ROC can take out of production a site changing its status in GOC DB.**

ROC FR ex.: accounting

- **Accounting**
  - http://www3.egee.cesga.es/gridsite/accounting/CESGA/egee_view.html
  - based on R-GMA (Relational Grid Monitoring Architecture)
  - deployed on every RC/sites



ROC in EGEE

- **Source: GIIS monitor** (data retrieved on 29th April 2008)

ROC	Sites	Countries	Estimation Total CPU
CERN	14	8	8779
UKI	25	2	10985
Italy	36	1	7615
GermanySwitzerland	17	2	12686
France	14	1	16167
SouthEasternEurope	40	9	3782
CentralEurope	25	8	5297
NorthernEurope	28	9	4191
AsiaPacific	22	10	3490
SouthWesternEurope	20	2	2418
Russia	16	1	1657

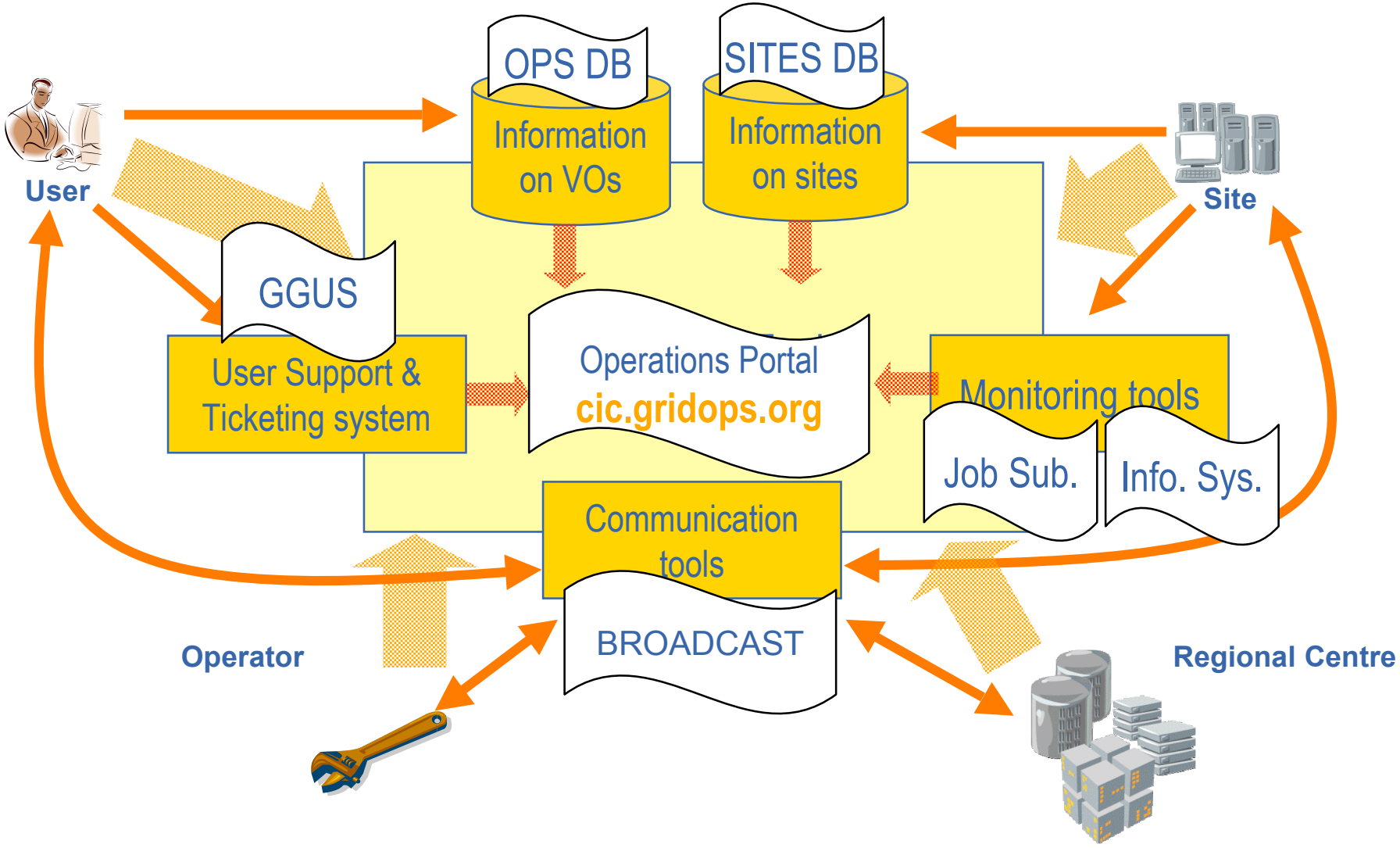
GOC DB

- https://goc.gridops.org/

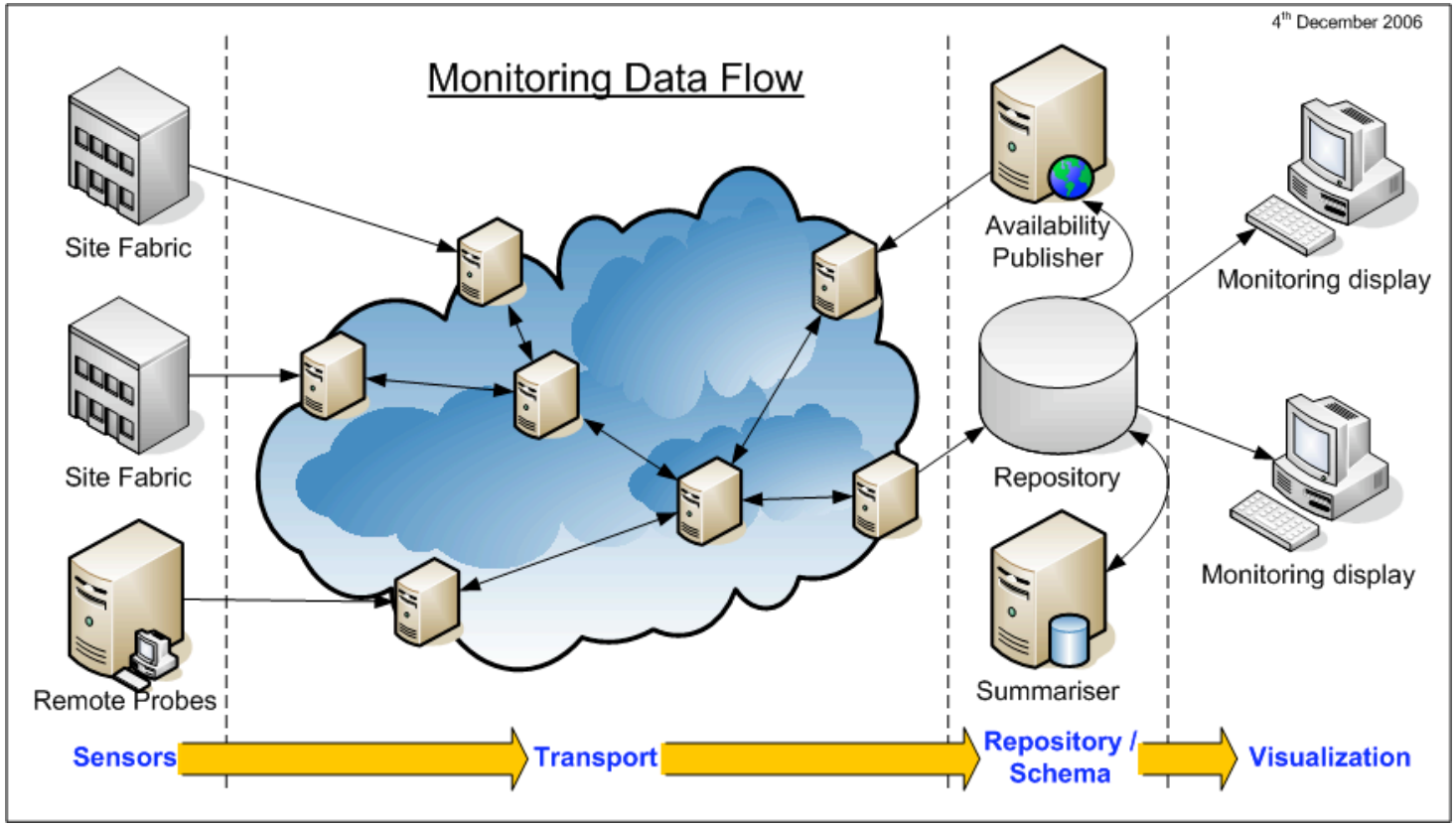
- **Central repository of site information (a.k.a. Grid Operations Centre) developed and operated by Rutherford Appleton Laboratory (RAL), UK.**
- **Keep a central repository of information on the components of the grid**
  - Site registry (name, location, contact information, administrator contact, security contact, …)
  - Site status (candidate, uncertified, production, suspended, …)
  - History of scheduled unavailability of the site
  - Grid services operated by the site: computing elements, storage elements, file catalogue services, virtual organization management services, resource brokers, etc.
  - Services that sites want to be monitored by the grid operators
    By default, all nodes in a production site are monitored.

- **Updating this information is a shared responsibility between the site operator and the federation manager**

Daily operations



Site monitoring



Site monitoring

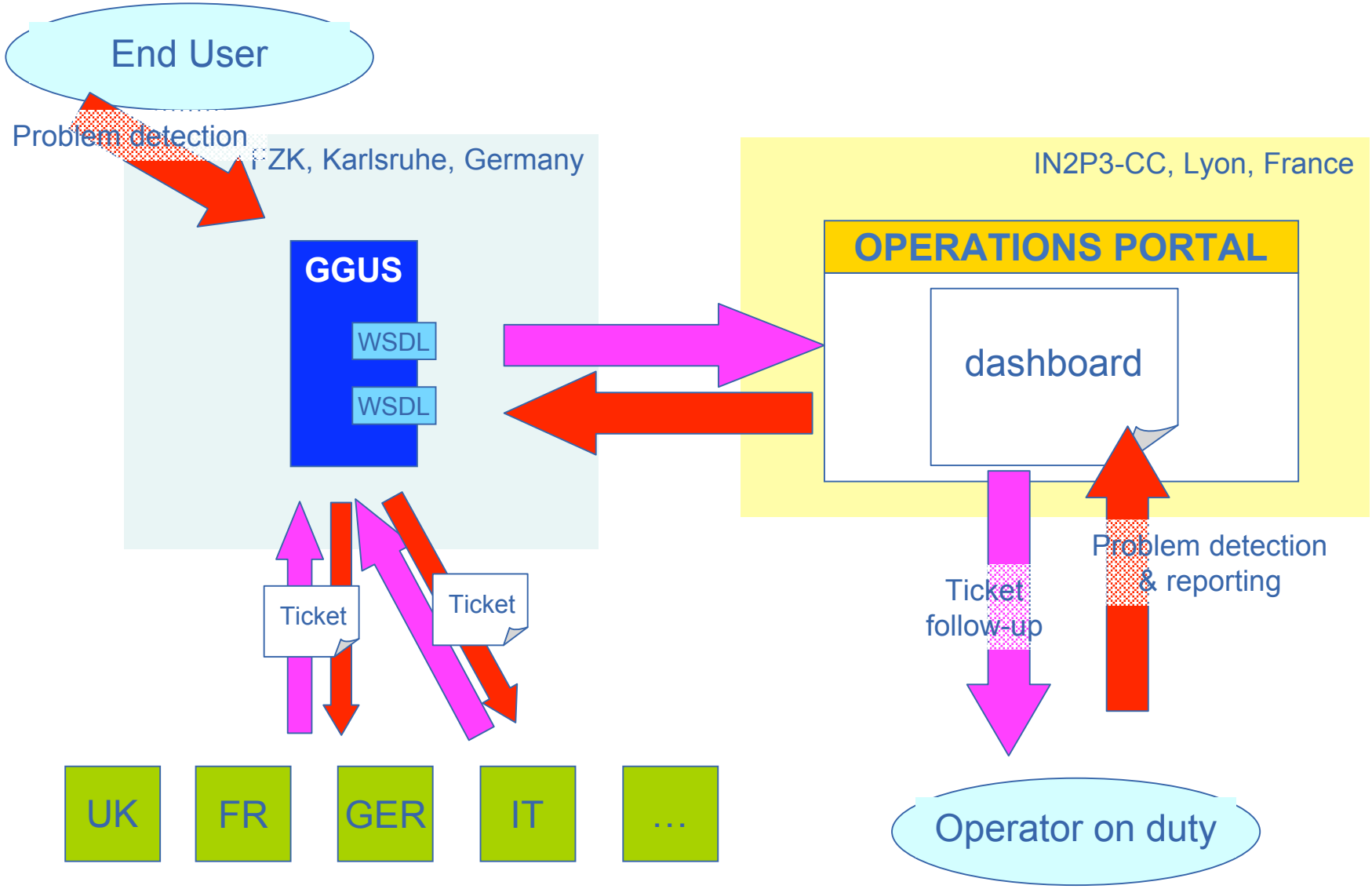
- **Grid operators have a global view of the status of the infrastructure**
  - Service of probes sent to every site to check it on a regular basis
  - Service for regularly testing the consistency of the dynamic information published by the site in the grid information system
  - Information on the result of those tests is available to grid operators, site managers and end-users
  - Virtual Organization managers can use this information to select a set of sites they intend to use
  - Monitoring services developed and operated by CERN, Academia Sinica (Taiwan), GridPP (UK) and INFN (Italy)

- **Sites failing the tests receive a problem ticket**
  - Escalation procedure for solving site-related problems
  - Involves the regional operator and the site operator

- https://gus.fzk.de/

- **Central incident tracking tool developed/operated by Forschungszentrum Karlsruhe (DE)**
  - Unique channel for opening tickets (e-mail and web interface)
    - End-users : e.g. job submission failures, data transfer failed
    - Operators : e.g. job submission failures
  - Classification and 1rst assignment done by the Ticket Process Manager (TPM)
  - Tickets are assigned to support units - one per domain of expertise
    - Grid operators, applications, federations, m/w experts, …

GGUS: tickets workflow

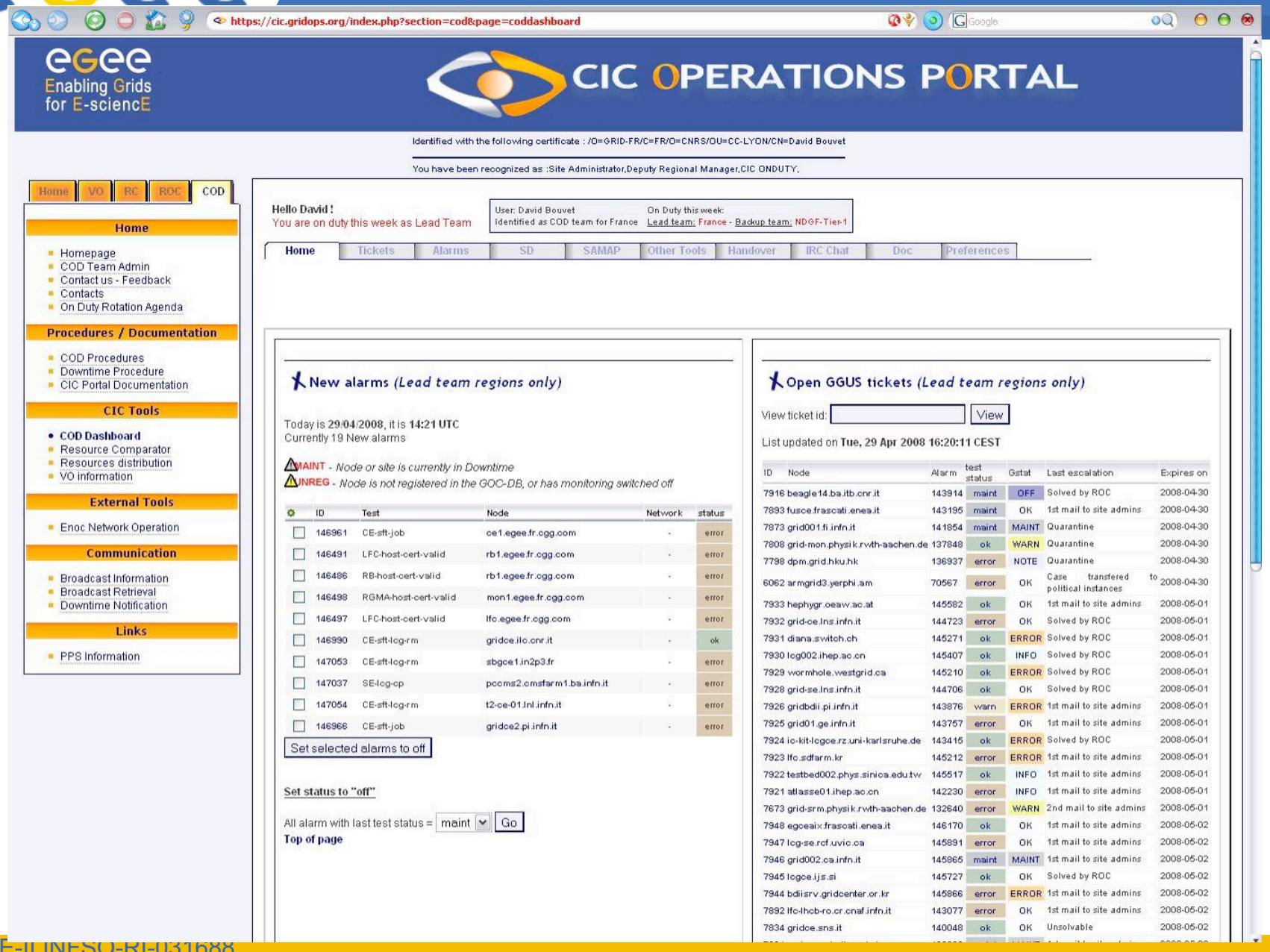


CIC portal: putting all together

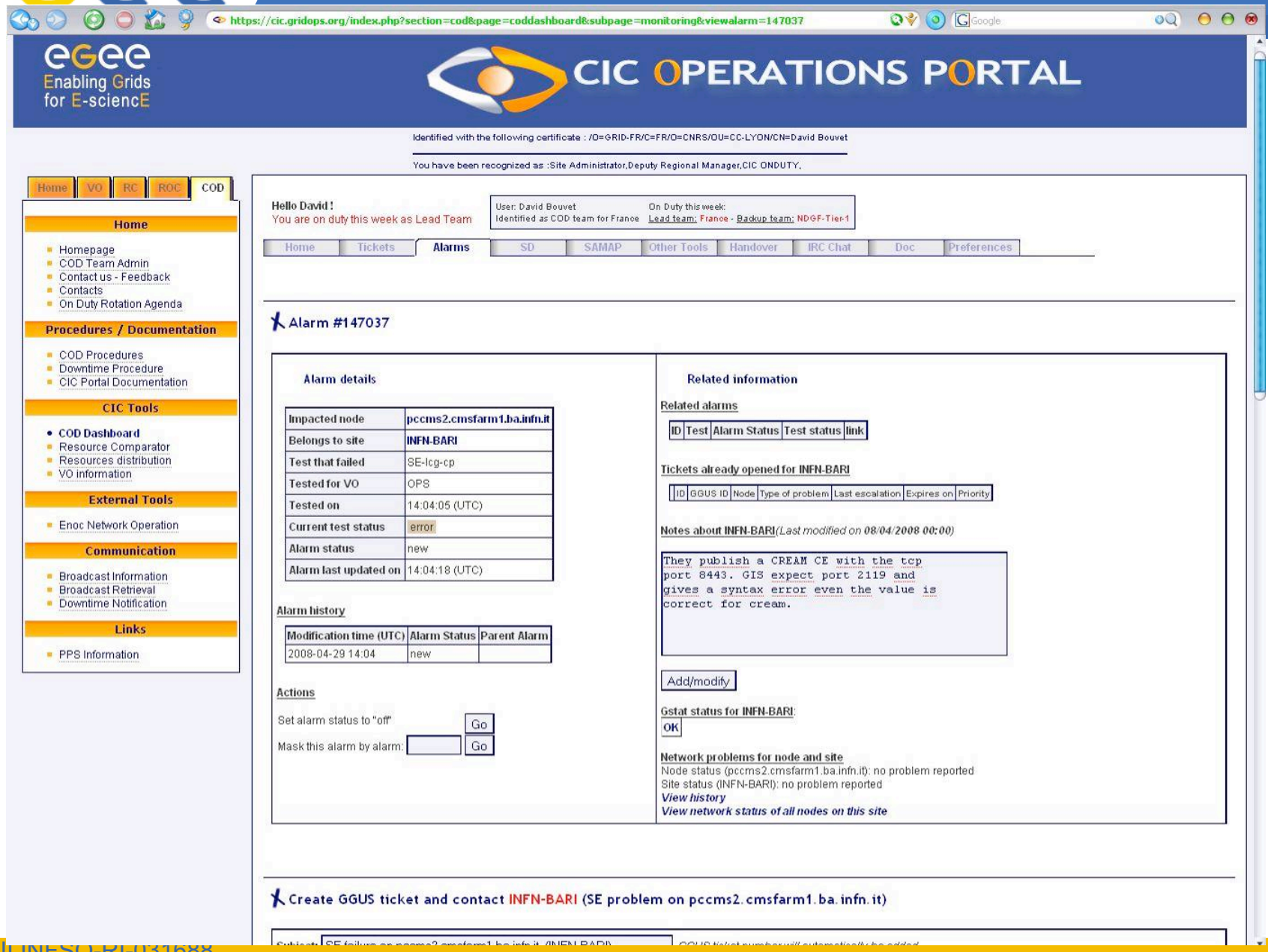
- http://cic.gridops.org/

- **Developed and operated by CC-IN2P3, failover instance at CNAF**
- **Web portal for integrating all the tools and sources of operations-related information into one single place**
  - Provides and maintains an integrated operations dashboard for grid on duty operator
  - Provides mechanisms for keeping information needed for appropriate hand over between operators on duty
  - Easy access to appropriate contact information on every actor involved in the operations of the grid
  - Provides communication tools

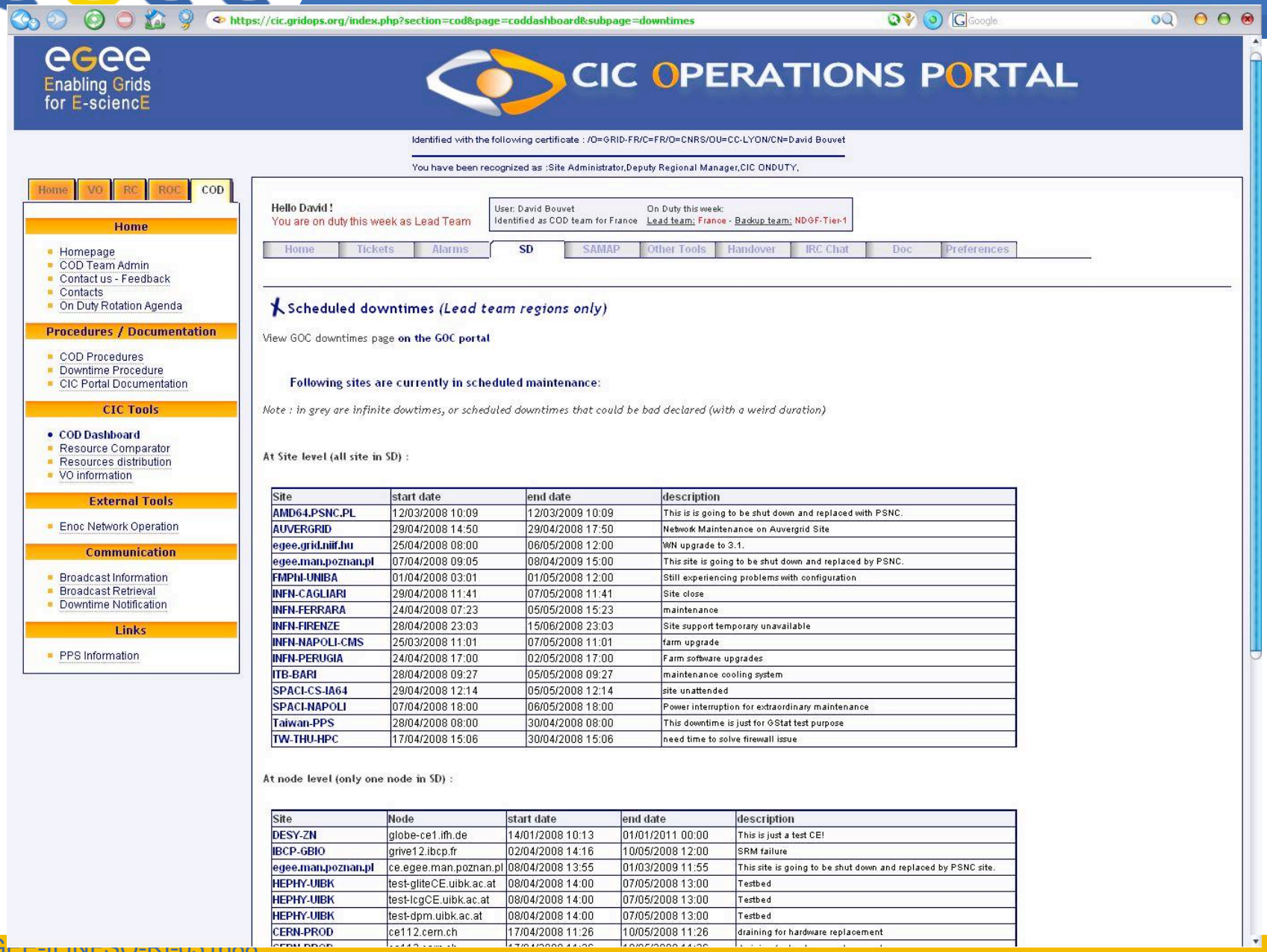
Alarms dashboard



Alarms details



Downtimes overview



https://cic.gridops.org/index.php?section=cod&page=coddashboard&subpage=downtimes

eGee Enabling Grids for E-sciencE

CIC OPERATIONS PORTAL

Identified with the following certificate : /O=GRID-FR/C=FR/O=CNRS/OU=CC-LYON/CN=David Bouvet

You have been recognized as :Site Administrator,Deputy Regional Manager,CIC ONDUTY,

Home | VO | RC | ROC | COD

Home
- Homepage
- COD Team Admin
- Contact us - Feedback
- Contacts
- On Duty Rotation Agenda

Procedures / Documentation
- COD Procedures
- Downtime Procedure
- CIC Portal Documentation

CIC Tools
- COD Dashboard
- Resource Comparator
- Resources distribution
- VO information

External Tools
- Enoc Network Operation

Communication
- Broadcast Information
- Broadcast Retrieval
- Downtime Notification

Links
- PPS Information

Hello David !
You are on duty this week as Lead Team

User: David Bouvet
Identified as COD team for France

On Duty this week:
Lead team: France - Backup team: NDGF-Tier-1

Home | Tickets | Alarms | SD | SAMAP | Other Tools | Handover | IRC Chat | Doc | Preferences

Scheduled downtimes *(Lead team regions only)*

View GOC downtimes page **on the GOC portal**

Following sites are currently in scheduled maintenance:

Note : in grey are infinite dowtimes, or scheduled downtimes that could be bad declared (with a weird duration)

At Site level (all site in SD) :

Site	start date	end date	description
AMD64.PSNC.PL	12/03/2008 10:09	12/03/2009 10:09	This is is going to be shut down and replaced with PSNC.
AUVERGRID	29/04/2008 14:50	29/04/2008 17:50	Network Maintenance on Auvergrid Site
egee.grid.niif.hu	25/04/2008 08:00	06/05/2008 12:00	WN upgrade to 3.1.
egee.man.poznan.pl	07/04/2008 09:05	08/04/2009 15:00	This site is going to be shut down and replaced by PSNC.
FMPhI-UNIBA	01/04/2008 03:01	01/05/2008 12:00	Still experiencing problems with configuration
INFN-CAGLIARI	29/04/2008 11:41	07/05/2008 11:41	Site close
INFN-FERRARA	24/04/2008 07:23	05/05/2008 15:23	maintenance
INFN-FIRENZE	28/04/2008 23:03	15/06/2008 23:03	Site support temporary unavailable
INFN-NAPOLI-CMS	25/03/2008 11:01	07/05/2008 11:01	farm upgrade
INFN-PERUGIA	24/04/2008 17:00	02/05/2008 17:00	Farm software upgrades
ITB-BARI	28/04/2008 09:27	05/05/2008 09:27	maintenance cooling system
SPACI-CS-IA64	29/04/2008 12:14	05/05/2008 12:14	site unattended
SPACI-NAPOLI	07/04/2008 18:00	06/05/2008 18:00	Power interruption for extraordinary maintenance
Taiwan-PPS	28/04/2008 08:00	30/04/2008 08:00	This downtime is just for GStat test purpose
TW-THU-HPC	17/04/2008 15:06	30/04/2008 15:06	need time to solve firewall issue

At node level (only one node in SD) :

Site	Node	start date	end date	description
DESY-ZN	globe-ce1.ifh.de	14/01/2008 10:13	01/01/2011 00:00	This is just a test CE!
IBCP-GBIO	grive12.ibcp.fr	02/04/2008 14:16	10/05/2008 12:00	SRM failure
egee.man.poznan.pl	ce.egee.man.poznan.pl	08/04/2008 13:55	01/03/2009 11:55	This site is going to be shut down and replaced by PSNC site.
HEPHY-UIBK	test-gliteCE.uibk.ac.at	08/04/2008 14:00	07/05/2008 13:00	Testbed
HEPHY-UIBK	test-lcgCE.uibk.ac.at	08/04/2008 14:00	07/05/2008 13:00	Testbed
HEPHY-UIBK	test-dpm.uibk.ac.at	08/04/2008 14:00	07/05/2008 13:00	Testbed
CERN-PROD	ce112.cern.ch	17/04/2008 11:26	10/05/2008 11:26	draining for hardware replacement

Tracking incidents

Service Availability Monitoring - gRB

rb118.cern.ch - CERN-PROD (CERN)

2007/06/20 - 04:58:01

Tests Displayed
ops
gRB-host-cert-valid
show **ops** critical tests

Display limit (days): 5

ShowHistory

show	stat	description	sum
☑	NA	no status available	0
☑	OK	normal status	100
☑	INFO	useful information	0
☑	NOTE	important information	0
☑	WARN	subject may fail soon	0
☑	ERROR	subject has failed and problem is localized	1
☑	CRIT	subject has failed and problem is fatal	0
☑	MAINT	subject is under maintenance	0

ops tests

testname	desc	crit
cert	Test if the service host certificate is valid.	CT

No	Timestamp (submission time)	Status	ops
			cert
1	20-Jun-2007 04:14:13	OK	ok
2	20-Jun-2007 03:11:53	OK	ok
3	20-Jun-2007 02:18:42	OK	ok
4	20-Jun-2007 01:19:07	OK	ok
5	20-Jun-2007 00:23:30	OK	ok
6	19-Jun-2007 23:20:50	ERROR	error

Home Back

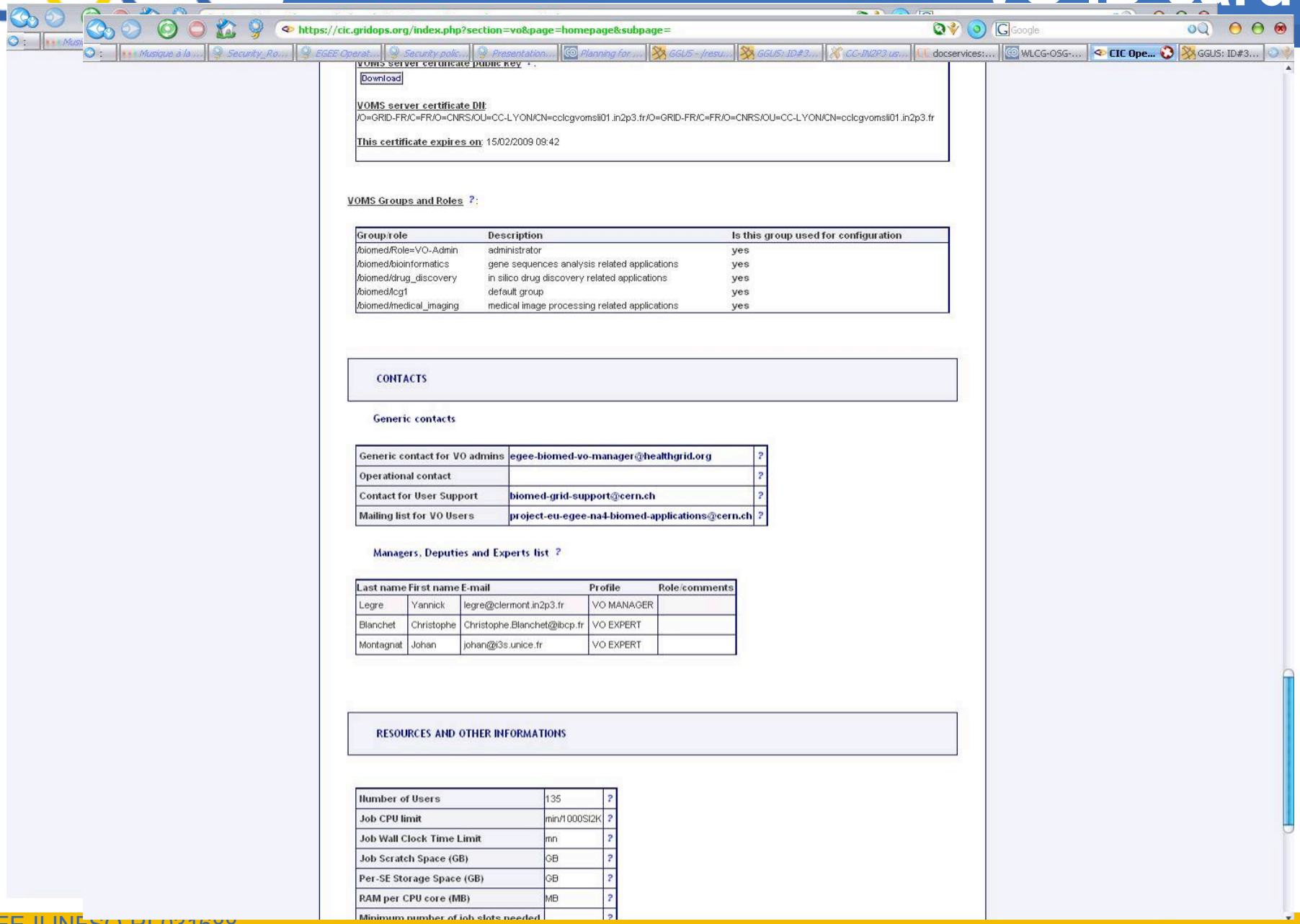
SAM test: *gRB-host-cert-valid*
Submitter VO: *ops*
Node: *rb118.cern.ch*
Execution time: *19-Jun-2007 23:20:50*

Current time: Tue, 19 Jun 2007 23:19:50 +0000

Checking rb118.cern.ch (128.142.173.154:2811) using GSIFTP protocol
Timeout after 60 seconds

Contact: SAM Support Mailing List (<sam-support@cern.ch>)
Last modified: May 24 2007, 16:28

VO ID card



https://cic.gridops.org/index.php?section=vo&page=homepage&subpage=

Download

VOMS server certificate DN:
/O=GRID-FR/C=FR/O=CNRS/OU=CC-LYON/CN=cclcgvomsli01.in2p3.fr/O=GRID-FR/C=FR/O=CNRS/OU=CC-LYON/CN=cclcgvomsli01.in2p3.fr

This certificate expires on: 15/02/2009 09:42

VOMS Groups and Roles ?:

Group/role	Description	Is this group used for configuration
/biomed/Role=VO-Admin	administrator	yes
/biomed/bioinformatics	gene sequences analysis related applications	yes
/biomed/drug_discovery	in silico drug discovery related applications	yes
/biomed/lcg1	default group	yes
/biomed/medical_imaging	medical image processing related applications	yes

CONTACTS

Generic contacts

Generic contact for VO admins	egee-biomed-vo-manager@healthgrid.org	?
Operational contact		?
Contact for User Support	biomed-grid-support@cern.ch	?
Mailing list for VO Users	project-eu-egee-na4-biomed-applications@cern.ch	?

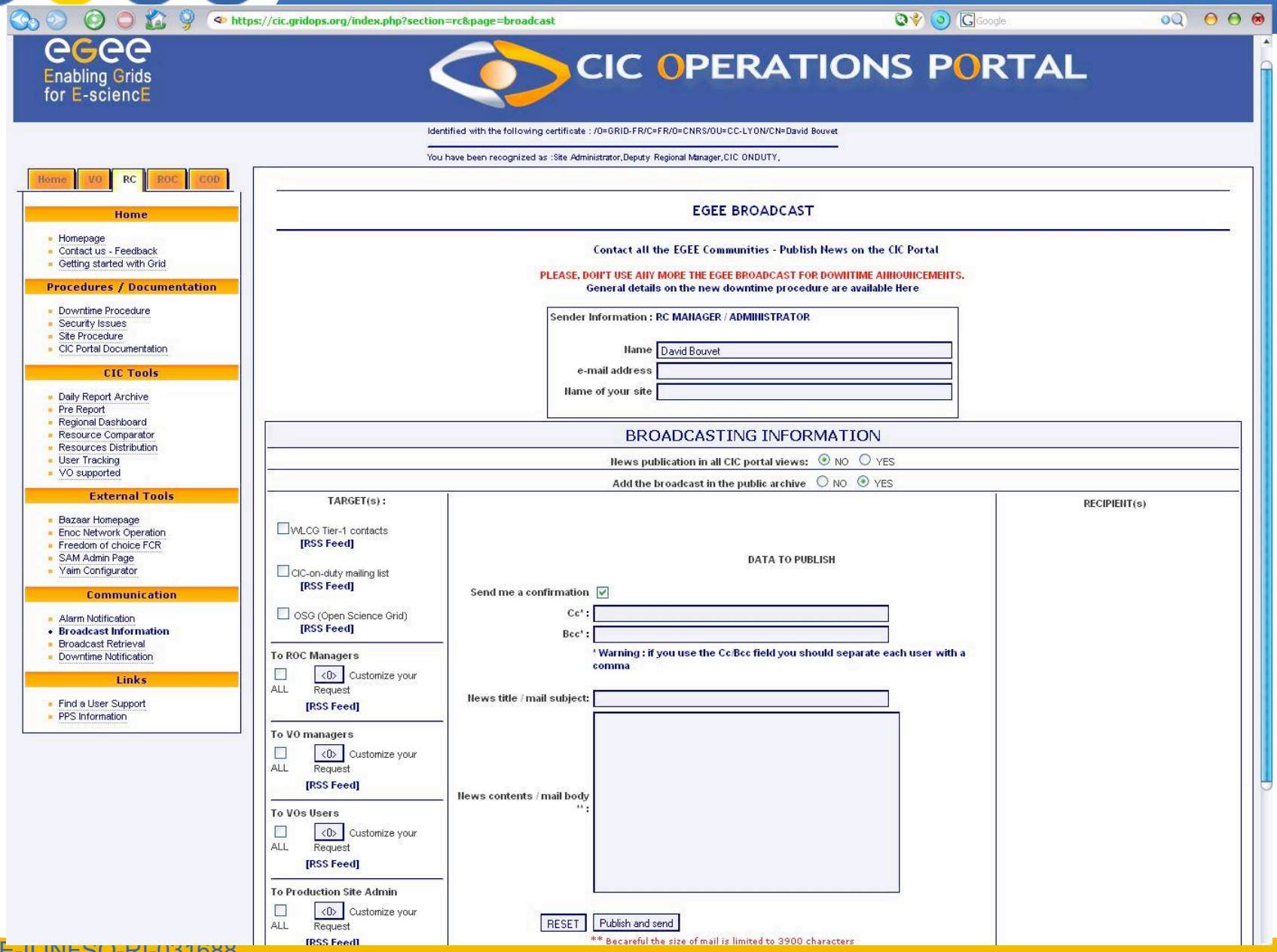
Managers, Deputies and Experts list ?

Last name	First name	E-mail	Profile	Role/comments
Legre	Yannick	legre@clermont.in2p3.fr	VO MANAGER	
Blanchet	Christophe	Christophe.Blanchet@ibcp.fr	VO EXPERT	
Montagnat	Johan	johan@i3s.unice.fr	VO EXPERT	

RESOURCES AND OTHER INFORMATIONS

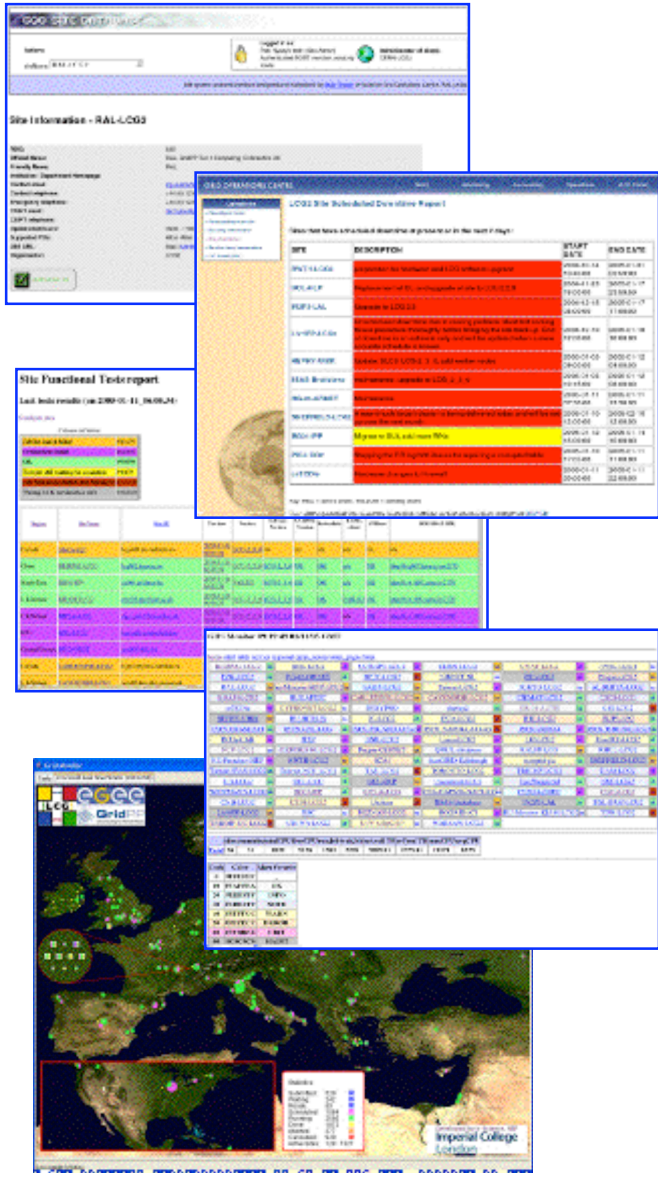
Number of Users	135	?
Job CPU limit	min/1000SI2K	?
Job Wall Clock Time Limit	mn	?
Job Scratch Space (GB)	GB	?
Per-SE Storage Space (GB)	GB	?
RAM per CPU core (MB)	MB	?
Minimum number of job slots needed		?

Broadcast tool



Useful links

- **COD operators**
  - weekly rota on ROC to give an operator team (CIC On Duty)
- **User support : GGUS**
  - https://gus.fzk.de/pages/home.php
- **Monitoring tools:**
  - CIC portal
    - http://cic.gridops.org/
      - *entry point to the other tools*
      - *integrated view for COD operator use*
  - Service Availability Monitoring (SAM)
    - https://lcg-sam.cern.ch:8443/sam/sam.py
  - Grid Operations Centre Core Database (GOCDB)
    - https://goc.gridops.org/
  - GIIS monitor (Gstat)
    - http://goc.grid.sinica.edu.tw/gstat
  - GOC monitoring tools
    - http://www.gridpp.ac.uk/wiki/Links_Monitoring_pages
  - GOC job real time monitor
    - http://gridportal.hep.ph.ic.ac.uk/rtm/
- **Accounting**
  - http://www3.egee.cesga.es/gridsite/accounting/CESGA/egee_view.html



ATLAS Dashboard

Cloud	Efficiency	Transfers: Throughput	Transfers: Files Done	Transfers: Datasets Done	Services: DQ	Services: Grid	Errors: Transfer	Errors: Local	Errors: Remote	Errors: Central
ASGC	63%	24 MB/s	2026	4			1206	0		
BNL	26%	8 MB/s	477	167			1343	0		
CERN	10%	0 MB/s	12	1			107	0		
CNAF	39%	23 MB/s	156	0			239	0		
FZK	90%	26 MB/s	4682	154			528	0		
LYON	76%	8 MB/s	1222	77			394	0		
NDGF	10%	9 MB/s	272	0			2412	0		
PIC	100%	4 MB/s	670	38			3	0		
RAL	0%	0 MB/s	0	5			3596	0		
SARA	20%	9 MB/s	354	0			1403	0		
TRIUMF	97%	3 MB/s	473	29			13	0		