eGee

Enabling Grids for E-sciencE

South-West Regional Operations Centre: Operation and management as part of the EGEE Grid infrastructure

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Information Society and Media

Enabling Grids for E-sciencE

- **EGEE operations overview and contribution of ROC-SWE to the global operation:**
    - *GOC: Grid Operations Center.*
    - *Infrastructure Monitorization.*
    - *CIC On Duty: COD.*
    - *Global Grid User Support: GGUS.*
    - *Accounting.*
    - *Production infrastructure.*
    - *Pre-production and middleware certification tests.*
    - *Global Virtual Organizations.*

- **Local operation and management:**
    - *Regional site certification and monitoring.*
    - *Site administration and user support.*
    - *Regional Virtual Organization.*
    - *Authentication and authorization.*

- **References.**

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- **EGEE: 92 partners in 32 countries:**
- **+230 institutions (Resource Centers: RC's) in 50 countries.**
    - Integrates National and Regional Grids.
- **High coordination effort:**
    - Split into 12 Federations (comprises 1 or more countries), each with one Regional Operation Center (ROC's).
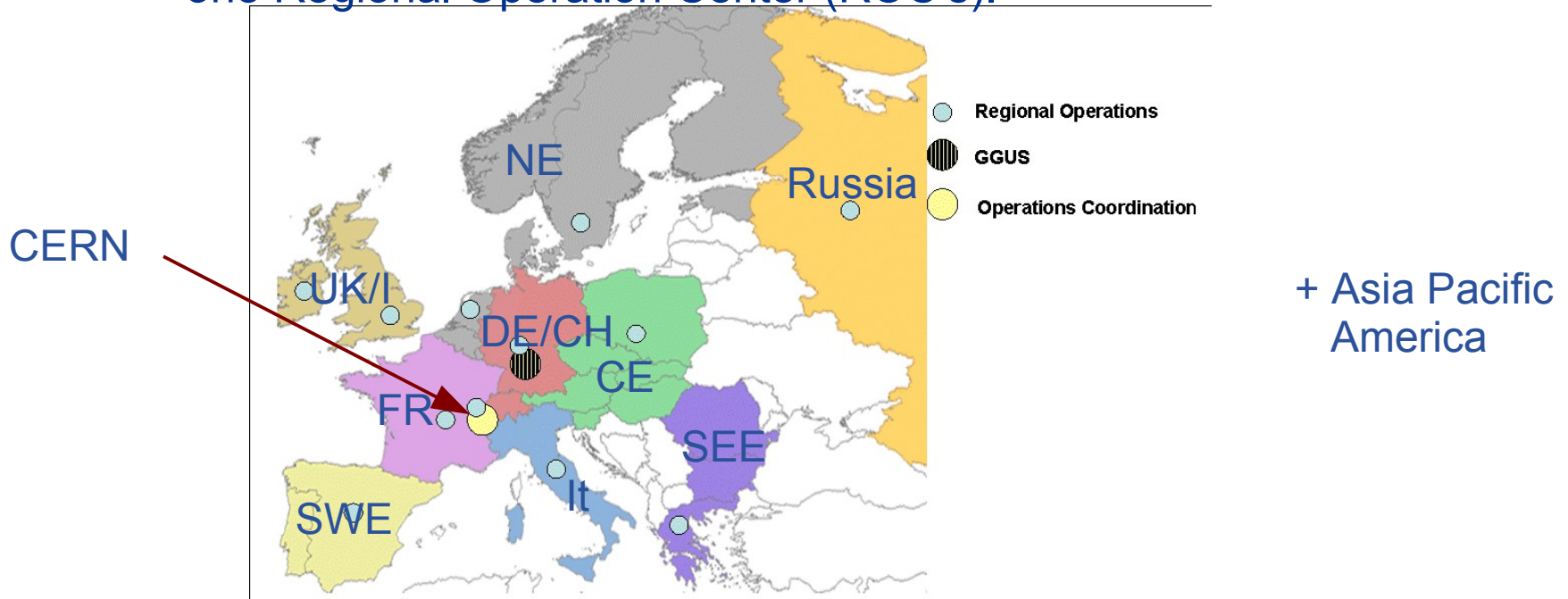
+ Asia Pacific America

Real Time Monitor

- **Members are Portugal and Spain.**
- **Distributed ROC:**
  - LIP Lisbon is the Portuguese partner
  - CESGA, CSIC (IFCA and IFIC), PIC, RED.ES and TID are the Spanish partners.

- **15 certified RC's (sites): 13 Spanish, 2 Portuguese.**
- **3 candidate sites from Portugal (more expected soon).**

Real Time Monitor: SWE Federation

- **ROC-SWE operations and tasks are distributed among those partners:**
  - Certification of new sites:
    - *Support in the integration into the infrastructure.*
  - Negotiation of Service Level Agreements (SLA's) between RC's and VO's.
  - Represent the federation in high level bodies of EGEE:
    - *Escalate requests, problems, issues, etc., found by individual sites.*
  - Operate essential core services:
    - *RB's, LFC's, top BDII's, VOMS servers, etc..*
  - Provide monitoring, support and operational troubleshooting services.

- **GOC: Grid Operations Center:**
    - Monitoring.
    - Accounting (*See Pablo Rey's presentation at this conference*).
    - GOC Portal: Database with sites operational information, site administrators, contacts, services provided, etc.

- **CIC Operations Portal (and CIC On Duty COD).**

- **Global Grid User Support: GGUS.**

- **SAM:**
  - 1 job submission per site and per hour.
  - Check basic functionality, such as the ability to run jobs, store and replicate files, among other tests.
  - History of all tests are kept in a DB and can be viewed per site basis.

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- **SAM:**
  - 1 job submission per site and per hour.
  - Check basic functionality, such as the ability to run jobs, store and replicate files, among other tests.
  - History of all tests are kept in a DB and can be viewed per site basis.
- **GIIS monitor.**
  - Checks the information published by all sites:
  - Updated every 5 minutes.

	sites	countries	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	maxCPU	avgCPU
Total	237	50	36587	14388	18911	158356	13932.32	10182.05	41161	36672

Global Grid Tests

Service Duplicate Check: .

No duplicates found

Color Legend									
GSTAT	. OK	INFO	NOTE	WARN	ERROR	CRIT	MAINT		OFF
SFT	. OK	.	.	WARN	ERROR	CRIT	SchedDown		

Site List. sort by: siteName domain maxcpu status

No	Site Reports	GIIS Host	bnode	cernse	gperf	sanity	serv	serEntry	version	sclust	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	ma
1	AEGIS01-PHY-SCL	ce.phy.bg.ac.yu	ok	ok	ok	ok	ok	ok	GLITE-3_0_2	ScientificSL 4.4	100	60	37	16	0.04	0.09	100
2	ALBERTA-LCG2	lcgce02.nic.ualberta.ca	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 3.0.5	0	0	0	13332	3.46	2.37	170
3	AMD64.PSNC.PL	fangorn.man.poznan.pl	.	.	ok	ok	ok	ok	GLITE-3_0_2	SUSE LINUX 9.3	186	56	0	35552	4.26	0.25	186
4	Australia-UNIMELB-LCG2	lcg-compute.hpc.unimelb.edu.au	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 3.0.7	29	16	13	0	9.35	1.28	16
5	AUVERGRID	obsauvergridce01.univ-bpclermont.fr	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 3.0.5	54	1	53	7	11.04	0.06	56
6	BEgrid-KULeuven	kg-ce01.cc.kuleuven.ac.be	.	.	ok	ok	ok	ok	LCG-2_7_0	Scientific Linux 3.0.5	26	26	0	0	0.59	0.04	26
7	BEgrid-UGent	gridce.atlantis.ugent.be	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 4.4	216	68	93	93	0.18	0.18	217
8	BEgrid-ULB-VUB	gridce.iihe.ac.be	.	.	ok	ok	ok	warn	LCG-2_7_0	Scientific Linux 3	122	10	0	44440	4.52	24.46	124
9	BEIJING-CNIC-LCG2-IA64	ce-lcg.sdg.ac.cn	.	.	ok	ok	ok	ok	LCG-2_7_0	Scientific Linux CERN 3.0.4	32	27	1	0	0.01	0.10	32
10	BEIJING-LCG2	lcg002.ihep.ac.cn	ok	ok	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 3.0.8	28	28	0	0	1.39	1.57	28
11	BelGrid-UCL	ingrid.cism.ucl.ac.be	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux 3.0.8	73	73	3	0	15.62	8.78	73
12	BG-INRNE	ce1.inrne.bas.bg	ok	ok	ok	ok	ok	ok	GLITE-3_0_2	Scientific Linux 3.0.4	27	27	2	0	0.86	0.00	27
13	BG01-IPP	ce002.ipp.acad.bg	.	.	ok	ok	ok	ok	GLITE-3_0_2	Scientific Linux 3.0.5	10	6	4	62	0.88	0.12	10
14	BG02-IM	ce001.imbm.bas.bg	.	.	ok	ok	ok	ok	GLITE-3_0_2	Scientific Linux 3.0.5	16	10	6	25	0.02	0.03	16
15	BG04-ACAD	ce02.grid.acad.bg	.	.	ok	ok	ok	ok	GLITE-3_0_2	Scientific Linux 3.0.8	80	27	53	109	2.20	0.08	80
16	BG05-SUGrid	ce001.grid.uni-sofia.bg	.	.	ok	ok	ok	ok	GLITE-3_0_0	Scientific Linux CERN 3.0.8	26	21	5	0	0.02	0.05	26

Enabling Grids for E-sciencE

- **Allows to check the resources used by each VO.**

- **Essential for the SLA's.**

- **Plot shows the number of jobs as a function of time in each SWE RC.**

- **EGEE Accounting portal hosted at CESGA**

- **CESGA coordinates the accounting enforcement task in EGEE.**

- **(More on Pablo Rey's presentation.)**
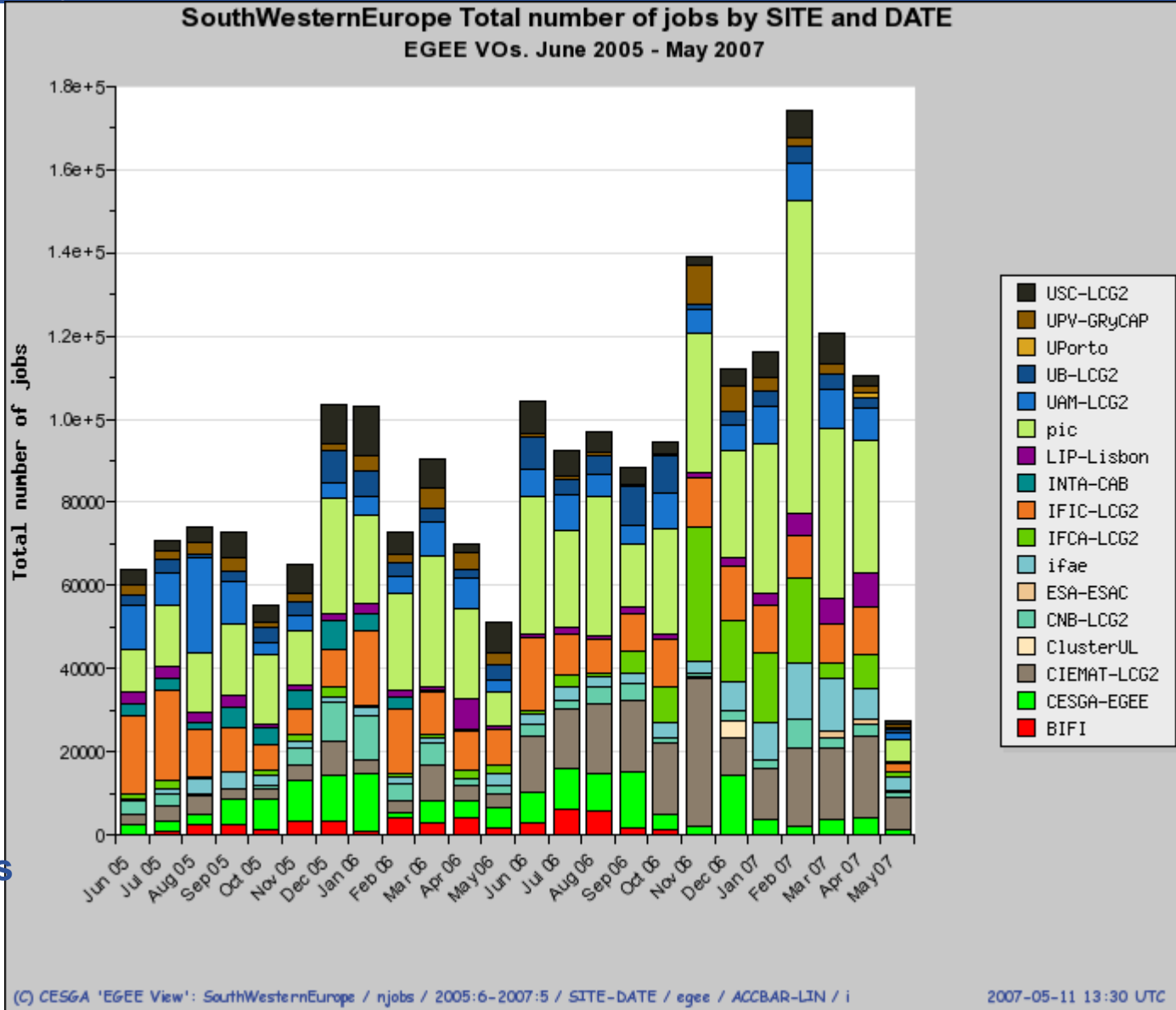
- ## GOCDB:

  – Contains information about all sites.

  – Site generic information, site administrators contacts and roles, node types.

  – Ability to schedule downtime or maintenance.

  – The ROC-SWE managers and deputies:

    ▪ Can add new Portuguese and Spanish sites.

    ▪ Set the status of sites (certification).

- **Management and operation: ROC's, RC's and VO's.**
- **Dashboard: Monitoring and alerting system of the infrastructure.**
  - Uses the GOC monitoring portal.
- **One team from Telefonica I+D performs the task of monitoring the Grid infrastructure and open GGUS tickets to sites with problems.**
- **11 teams rotate in a weekly basis to perform this task.**

Generally there are less than 10 tickets per week assigned to the SWE sites.
Average solution time are between 1 and to 2 days

- **Trouble ticketing system: global support for users and site administrators.**

- **First line support is performed by the Ticket Processing Manager (TPM).**

- **Used by the COD team to open tickets on sites with problems.**

- **Two TPM teams (from a total of 14). One from LIP Lisbon and another from IFIC and IFCA.**

- **The typical number of tickets opened per week in GGUS are between 80 and 90.**

Ticket ID:		Status:	open	Order tickets by	date of creation
Support Unit:	all	Priority:	all		descending
VO:	all	Type of problem:	all		
User:					
Keyword:		⦿ Timeframe	no		
Involved supporter:		⦾ All tickets from	17 April 2007		GO!
Assigned to person:		to	24 April 2007	new search with default values	
Special attributes (TPM/ENOC/WIKI)	TPM related	⦾ Untouched since	04 May 2007	▸ Old search engine	

282 Tickets found

Ticket-ID	Virt. Org.	Resp. Unit	Status	Date	Info
21823	dteam	TPM	new	2007-05-11	GridView : http://gridview.cern.ch/GRIDVIEW/same_...
21820	other	TPM	in progress	2007-05-11	Authorisation problem
21812	atlas	TPM	assigned	2007-05-11	Problem with atlas VO
21803	dteam	ROC_Italy	assigned	2007-05-11	Security Service Challenge (SSC_2) for ROC_Italy/I...
21776	dteam	ROC_Italy	assigned	2007-05-11	Security Service Challenge (SSC_2) for ROC_Italy/I...
21767	none	DPM	assigned	2007-05-10	dpm_seterrbuf() can cause problems
21761	none	ROC_CERN	in progress	2007-05-10	Sam and GlueCEAccessControlBase
21755	alice	Installation and Configuration/New Release	assigned	2007-05-10	myproxy-info take a long time and fails
21748	none	ROC_SW	in progress	2007-05-10	Bad storage size advertised?
21747	none	ROC_Italy	in progress	2007-05-10	Bad storage size advertised?
21745	none	ROC_CE	in progress	2007-05-10	Bad storage size advertised?
21744	none	TPM	in progress	2007-05-10	Bad storage size advertised?
21735	ops	GridView	assigned	2007-05-10	GridView: availability for FZK 7.-8.5. needs to be...
21731	none	DPM	assigned	2007-05-10	dpm_getpools() never returns if DPM isn't running
21729	dteam	DPM	assigned	2007-05-10	DPM 1.6.3 : dpm-drain unable to drain a filesystem
21728	atlas	ROC_North	assigned	2007-05-10	dq2_get times out when retrieving files from NDGFD...
21726	other	ROC_France	in progress	2007-05-10	failure of auger jobs at grid10.lal.in2p3.fr:2119/...
21723	dteam	ROC_Asia/Pacific	in progress	2007-05-10	FTS transfer - SRM problem on site TAIWAN-LCG2
21715	cms	VOSupport	assigned	2007-05-09	Fermi/Remedy - 96927 - user Vincenzo Miccio submit...

Enabling Grids for E-sciencE

- **Federation resources:**
  - 16 Computing Elements $\rightarrow$ ~1800 CPU's.
  - 19 Storage Elements $\rightarrow$ ~90TB (disk) ~300TB (MSS).
  - Supporting more than 30 VO's (both global and regional).
- **Core services (are distributed among RC's):**
  - 8 Resource Brokers: BIFI, CESGA, IFCA, 2 @IFIC, LIP and 2 @UAM
  - 5 top BDII (Information Index): BIFI, IFCA, IFIC, LIP and PIC
  - 2 LFC (central file catalogs): LIP and PIC
  - 4 MyProxy servers: IFCA, IFIC, LIP and PIC
  - 2 VOMS servers: IFIC and LIP
  - 1 FTS (File Transfer Service): hosted at PIC Tier1.

Enabling Grids for E-sciencE

- **Testing new releases and patches of the middleware:**
  - *Done deployment into the production infrastructure.*

- **Strong commitment:**
  - 5 ROC-SWE sites (out of a total of 28).

- **Procedures for PPS are:**
  - Deployment of new release within 3 working days after announcement.
  - Site administrators feedback to integration team and developers.
  - If deployment and first testing is successfully, the infrastructure is opened to application users for general testing.
  - After about 2 weeks in the PPS check if the release can be "safely" deployed into the production infrastructure.

- **Coordination of a task force to pre test the new releases for the PPS: LIP, CESGA and IFIC.**

- **Development and Integration work:**
  - Coordination and strong commitment for the integration of "*Sun Grid Engine*" batch system into the middleware, and subsequent support. (*Gonçalo Borges talk at this conference*): LIP and CESGA
  - Certification and development of a test-suite for the "Wokload Management System": IFIC.

- **Global EGEE VO:**
  - The ROC SWE hosts and manages the "*fusion*" VO.
  - The VO membership is managed by BIFI (Zaragoza).
  - The VOMS server is hosted at CSIC-IFIC (Valencia).
  - More than 30 members from UK, Ireland, Italy, France, Russia and Spain.

Virtual Organization Membership Service

The fusion VO

Administration » Users » List of users

ADMINISTRATION
USERS
LIST OF USERS
SEARCH FOR USERS
CREATE A NEW VO USER
GROUPS
LIST OF GROUPS
SEARCH FOR GROUPS
CREATE A NEW GROUP
ROLES
LIST THE ROLES
SEARCH FOR ROLES
ADD A NEW ROLE
GLOBAL ACL

There are 33 users in /fusion :

User			
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Isabel Campos Plasencia	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Alfonso Tarancon Lafita	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Jose Miguel Reynolds Barredo	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Jose Luis Velasco Garasa	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Ruben Valles Perez	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Guillermo Losilla Anadon	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Luis Antonio Fernandez Perez	edit	remove	manage attributes
/C=KR/O=KISTI/OU=NFRC/CN=Insik Choi	edit	remove	manage attributes
/O=GRID-FR/C=FR/O=CEA/OU=DRFC/CN=Bernard Guillerminet	edit	remove	manage attributes
/C=ES/O=DATAGRID-ES/O=BIFI/CN=Andres Cruz Flor	edit	remove	manage attributes
/DC=es/DC=irisgrid/O=ucm/CN=joseluis.vazquez	edit	remove	manage attributes
/DC=es/DC=irisgrid/O=ucm/CN=ruben.santiago	edit	remove	manage attributes
/DC=es/DC=irisgrid/O=ucm/CN=eduardo.huedo	edit	remove	manage attributes
/C=UK/O=eScience/OU=Culham/L=IT/CN=krishan purahoo	edit	remove	manage attributes
/O=GRID-FR/C=FR/O=CEA/OU=DAPNIA/CN=Selim Seddiki	edit	remove	manage attributes
/O=GRID-FR/C=FR/O=CEA/OU=DAPNIA/CN=Pierrick Micout	edit	remove	manage attributes
/C=IT/O=INFN/OU=Personal Certificate/L=ENEA-INFO/CN=Giovanni Bracco	edit	remove	manage attributes
/C=IT/O=INFN/OU=Personal Certificate/L=ENEA-INFO/CN=Carlo Scio	edit	remove	manage attributes
/C=UK/O=eScience/OU=Culham/L=IT/CN=sven wiesen	edit	remove	manage attributes
/DC=es/DC=irisgrid/O=ucm/CN=rafael.gil	edit	remove	manage attributes
/C=UK/O=eScience/OU=Culham/L=IT/CN=antti salmi	edit	remove	manage attributes

Enabling Grids for E-sciencE

- **The procedures for new sites to integrate the Grid infrastructure are:**
  - RC responsible of the new site should contact the ROC SWE operations partners:
    - *LIP for Portuguese sites, and PIC for Spanish sites.*
  - ROC provides all information and documentation needed to start the installation of the site.
    - *Administration support is provided by e-mail, through the help-desk or personally.*
  - ROC performs all tests necessary for a fully functional site.
    - *In a successful case, the site can be added and tagged as certified in the GOCDB, which means final integration in the Grid infrastructure.*
  - From here on, it's the site administrator responsibility to monitor and manage the local infrastructure.
    - *If COD tickets are opened for the site, they should be taken care of with high priority asking for ROC help if needed.*

Enabling Grids for E-sciencE

- **Helpdesk hosted at IFIC:**
  - First line support for local grid users and site administrators.
  - Allows to tag and solve local/regional problems.
  - Interfaced to GGUS:
    - Problems raised by local users can be escalated to GGUS.
    - External users can assign GGUS tickets in case of problems related to SWE sites.

- **Support is also provided through regional mailing lists.**

You are logged in as Mario David (**home** | **control panel**)

EGEE-SA1-SWE > SERVICES > Support > SWEdesk System

ID	GGUS ID	Site	supporter	Short Description	User	Priority	Created	Status	Time
745	21746	pic	lcg.support@pic.es	Bad storage size advertised?	Goncalo Borges	less urgent	10/05/07	assigned	
744	21748	IFIC-LCG2	lcg.support@ific.uv.es	Bad storage size advertised?	Goncalo Borges	less urgent	10/05/07	assigned	
743	21732	UB-LCG2	Ricardo Graciani Diaz	CE failure on lcg-ce.ecm.ub.es (UB-LCG2)	cicuser	urgent	10/05/07	assigned	
736	21167	pic	lcg.support@pic.es	gCE failure on ce05.pic.es (pic)	cicuser	urgent	25/04/07	in progress	
732	21069	toGGUS	amoros@ific.uv.es	[PPS] gLite job submission problem at ce01.ific.uv.es	alessandro paolini	very urgent	23/04/07	assigned	
724	20872	pic	lcg.support@pic.es	FTS transfer - SRM problem on site PIC	Sara Bertocco	urgent	17/04/07	in progress	
633	17931		Goncalo Borges	Problem with dcache	Stanislav Spasov	top priority	29/01/07	waiting for reply	
608	15337	LIP-Lisbon	grid.admin@lip.pt	job managers make the CE hang	Helene Cordier	very urgent	08/11/06	waiting for reply	

Search Results: **8** Tickets

EGEE-SA1-SWE Partners: LIP | CIEMAT | CSIC | IFCA | IFIC | PIC | TID | RED.ES | CESGA | BIFI

EGEE-II is a project funded by the European Union under contract number INFSO-RI-031688
EGEE-SA1-SWE Web Page Created by IFCA
Created by IFIC

Enabling Grids for E-sciencE

- **Regional VO:** *"swetest"***:**
  - Intended for:
    - Testing purposes.
    - New users: not members of EGEE that want to start learning and testing their applications on the Grid environment.
  - LIP is the contact point for new Portuguese users and IFIC or PIC for new Spanish users.
  - There are presently 34 members of this VO.

- **Local (institutional VO):**
  - There are some institutes which operate local VO's intended solely for local users.

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Enabling Grids for E-sciencE

Virtual Organization Membership Service

The **swetest** VO

REQUEST TO ADMINISTRATORS
REQUESTING VO MEMBERSHIP
LISTING REQUESTS
CONFIRMATION OF THE EMAIL ADDRESS

Request to Administrators **»** requesting VO membership

VO User Registration Request

To access the VO resources, you must agree to the VO's Usage Rules. Please fill out all fields in the form below and click on the appropriate button at the bottom.

After you submit this request, you will receive an email with instructions on how to proceed. Your request will not be forwarded to the VO managers until you confirm that you have a valid email address by following those instructions.

IMPORTANT: By submitting this information you agree that it may be distributed to and stored by VO and site administrators. You also agree that action may be taken to confirm the information you provide is correct, that it may be used for the purpose of controlling access to VO resources and that it may be used to contact you in relation to this activity.

DN: /C=PT/O=LIPCA/O=LIP/OU=Lisboa/CN=Mario David

CA: /C=PT/O=LIPCA/CN=LIP Certification Authority

CA URI: http://ca.lip.pt/crl/crl.pem

Family Name: David

Given Name: Mario

Institute:

Phone Number:

Email: david@lip.pt

comment:

I have read and agree to the VO's Usage Rules

I DO NOT agree to the VO's Usage Rules

VOMS Admin 1.2.19
Release 1
Copyright © 2005 CERN, ELTE

You are logged in as "/C=PT/O=LIPCA/O=LIP/OU=Lisboa/CN=Mario David" certified by "/C=PT/O=LIPCA/CN=LIP Certification Authority".

- **In order to be members of a VO, the user has to "own" a valid X.509 certificate:**
  - This certificate "acts" as the *"identity card"* of the user on the Grid environment.

- **The issuance of signed certificates is done by the Certification Authorities (CA's):**
  - There are typically one CA per country.
  - The Portuguese CA is operated by LIP.
  - The Spanish CA is operated by PK-IRIS GRID.

- **The CA's are members of a global entity called "IGTF":**
  - establishes the best practices to enable common trust of end users and resource owners.

- **One step to promote Grid technologies and their use by academic institutes, is costless certificates.**

Enabling Grids for E-sciencE

- **http://www.eu-egee.org/**
- **http://lcg.web.cern.ch/lcg/**
- **http://grid.ifca.unican.es/egee-sa1-swe/**
- **http://goc.grid-support.ac.uk/gridsite/gocmain/**
- **https://lcg-sam.cern.ch:8443/sam/sam.py**
- **http://goc.grid.sinica.edu.tw/gstat/**
- **https://gus.fzk.de/pages/home.php**
- **http://swegus.ific.uv.es/helpdesk/**
- **http://swevo.ific.uv.es/vo/index.html**
- **http://ca.lip.pt** and **https://ca.lip.pt**
- **http://www.irisgrid.es/pki/**

- **EGEE project**
- **LCG project**
- **ROC-SWE**
- **Central GOC portal**
- **SAM tests web portal**
- **GIIS monitor**
- **GGUS ticket system.**
- **ROC SWE Helpdesk**
- **"swetest" VOMS server**
- **Portuguese CA**
- **Spanish CA**