



EGI Hands-On Training for AEGIS Site Administrators School of Electrical Engineering of the University of Belgrade

# Grid Operations tools and procedures

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EGI-InSPIRE RI-261323



### Overview

- EGI Wiki
- GOCDB
- Operations Portal
- Accounting Portal
- GStat
- GGUS
- AEGIS Website
- AEGIS Helpdesk
- NGI AEGIS SAM Instance
- NGI AEGIS MyEGI Portal
- AEGIS centralized apel service
- AEGIS CA
- AEGIS mailing lists
- EGI Operations Procedures





- General Wiki available for EGI community.
- Covering all aspects of EGI:
  - Projects
  - Technology
  - Operations
  - User community
  - Security



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# EGI Wiki [2]

https://wiki.eg	gi.eu/wiki/Main_Page		☆ ▼ C	t 🚼 ₹ aegis ca	a	۹) 🍙			
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	Page Discussion	Read	View source	View history		Go Se			
261	Main Page								
le intin	Welcome to the EGI.eu wiki.								
lavigation fain page community portal	This wiki is available for the EGI community. Write access is restricted - only users with account limited to specific groups, see Community Portal. Some of the NGIs within EGI are also using		ingle Sign On <del>(</del>	a system can log i	in. Write access fo	or certain namespaces i			
Current events Recent changes	EGI Areas	Projects							
andom page elp	Technology  • Technology Coordination Board	<ul><li>Virtual Team Projects</li><li>EGI-InSPIRE</li></ul>							
olbox	<ul> <li>EGI Software Provisioning</li> <li>Defining a roadmap for a federated virtualised Infrastructure</li> </ul>	<ul> <li>Project Deliverables and Milestones</li> <li>Quality Assurance process for deliverables and milestones</li> <li>Document and Presentation Templates</li> </ul>							
/hat links here elated changes	Operations		anagement Bo						
pload file	Enter the <b>operations wiki space</b> for documentation, procedures, and more information on EGI Operations.	Project Administration Committee     EC Review Planning							
ermanent link	It also provides links to the EGI Operations Boards (OMB, OTAG, OAT) and related agendas.	<ul> <li>EScience</li> <li>Non-Lead E0</li> </ul>							
rint/export	User Community	Photo Libra							
eate a book wnload as PDF intable version	Enter the user community wiki space for documentation, procedures and more ifnormation on EGI User Community. • User Community Board								
	EGI Champions programme	• 5th EGEE U	ser Forum at U	ppsala, Sweden -	12-15 April 2010				
	Technical Outreach to New Communities	<ul> <li>International 2010</li> </ul>	Super Comput	ing 2010 (ISC10)	at Hamburg, Gerr	nany - 31 May - 3 June			
	Enter the Technical Outreach space for documentations, procedures and more information on the outreach to New Communities.	EGI-InSPIRE	photos						





- Grid Configuration Database (GOCDB) contains general information about the sites participating to the production Grid.
- Accessed by all the project actors (endusers, sitemanagers, NGI mangers, support teams, VO managers), by other tools and by third party middleware in order to get Grid topology.

# GOCDB [2]



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	Service Endpoints	Name		Sites	Description	E-Mail	
	Add <ul> <li>Add Site</li> <li>Add Site</li> </ul>	Here.	AsiaPacific	65 Sites	Regional Operating Centre fof Asia Pacific	roc@lists.grid.sinica.edu.tw	
	Add Service Group     Add Service Endpoint	Ø	CERN	20 Sites		egee-roc-cern@cern.ch	
	Add Downtime     Downtimes		EGI.eu	15 Sites	EGI.eu Operations Centre hosting central operations tools	operations@egi.eu	
	Recent & Planned     About GOCDB4		NGI_AEGIS	9 Sites		ngi_aegis-grid-management@ipb.ac.rs	
	Oc, Help & Support	۰	NGI_AL	1 Site		nfrasheri@fti.edu.al	
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		333	NGI_BG	9 Sites		bg-ngi-manager@bas.bg	
	User Status Registered as: Vladimir Slavnic		NGI_BY	6 Sites	National Grid Infrastructure for Scientific Research in Belarus	belarus-ngi-management@newman.bas-net.by	
	View Details		NGI_CH	8 Sites		ngi-contact@swing-grid.ch	
	Manage Roles	1	NGI_CYGRID	2 Sites		cygrid_admin@mail.cs.ucy.ac.cy	
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#### EGI Hands-On Training for AEGIS Site Administrators

# GOCDB [3]



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#### EGI-InSPIRE RI-261323

#### EGI Hands-On Training for AEGIS Site Administrators



- Consists of web pages providing information to various actors (NGI Operations Centers, VO managers) along with related facilities, such as:
  - Regional dashboard
  - VO registration tool
  - Security dashboard
  - Broadcast and downtime system

## **Operations portal** [2]



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#### EGI Hands-On Training for AEGIS Site Administrators



- The accounting infrastructure is a complex system that involves various sensors in different regions, all publishing data to a central repository.
- The data is processed, summarized and displayed in the accounting portal.
- Portal acts as a common interface to the different accounting record providers.
- Presents a homogeneous view of the gathered data.

# Accounting Portal [2]



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- GStat displays information about Grid services, the Grid information system itself and related metrics.
- GStat provides a method to visualize a Grid infrastructure from an operational perspective based on information found in the Grid information system (BDII).



# GStat [2]

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GGUS [1]

- Global Grid User Support (GGUS) system
- Primary mean by which users request support when they are using the grid
- The GGUS system is the main support access point for the EGI project
- The GGUS system creates a trouble ticket to record the request and tracks the ticket from creation through to solve



# GGUS [2]

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- AEGIS Grid Initiative website
- Contains all important information concerning AEGIS infrastructure and aegis VO

# AEGIS website [2]





#### EGI-InSPIRE RI-261323



- Regionalized instance of GGUS Helpdesk
  - https://helpdesk.aegis.rs
- Interfaced with main GGUS instance (<u>https://ggus.eu/</u>) through NGI\_AEGIS support unit.
- Ticket submission is available through web interface and e-mail (helpdesk@aegis.rs).



NGI_AEGIS Helpdesk +		
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NGI_AEGIS	<u>My dashboard</u> <u>Edit user data</u> <u>Monitor</u> <u>Create news entry</u> <u>Home</u> <u>Submit ticket</u> <u>Search ticket</u> <u>Support staff</u> <u>Contact</u> <u>Legals</u>	
Tickets	Latest news	
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Tickets from Vladimir Slavnic (access via certificate)         ID       Status       Date       Info         P84       closed       2012-10-16       EMI 1 WMS job submission problems to         P78       on hold       154:45:56       Decommissioning of Resource Centre AEGIS07-         P75       closed       2012-08-31       org.egee.ATPSync is failing at NGI_AEGIS         P73       closed       2012-07-06       Unable to register new vo.aginfra.eu VO         P71       verified       2012-06-06       Problems with VO env.see-grid-sci.eu         PShow my complete ticket list (open/closed/subscribed)       .       Search ticket database         Open tickets of all users       ID       VO       Info	Maintenances No news at the moment.	
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#### EGI-InSPIRE RI-261323

#### EGI Hands-On Training for AEGIS Site Administrators

### AEGIS Helpdesk [3]

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	Notification on	● solution ○ every change	CC to:			
	Ticket information  * Short description  * Describe your problem: 3000 characters left					
	Affected VO:	other	VO specific problem?	⊖yes ⊙no		
	Type of problem:	please select	÷			
	Affected site:	please select	Priority:	less urgent +		
	Assign ticket directly to (please note)		÷			
	Upload attachment	Bro	owse			

#### EGI-InSPIRE RI-261323



- Service Availability Monitoring (SAM) system is used to monitor the resources within the production infrastructure
  - <u>https://tomtools.cern.ch/confluence/display/</u>
     <u>SAMDOC/SAM+Public+Site</u>
- SAM monitoring data is used for calculation of availability and reliability of grid sites.



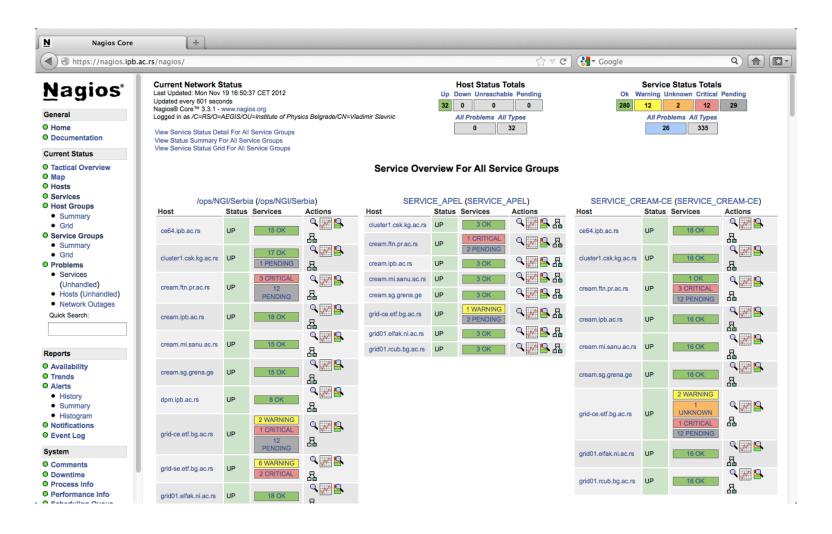
### NGI AEGIS SAM Instance [2]

Ttps://nagios.ipp.	.ac.rs/nagios/			_				M	V G 🚺	• Google 🖌 🔟 🖿
Nagios* General • Home • Documentation	Current Networ Last Updated: Mon N Updated every 601 s Nagios® Core ™ 3.3. Logged in as /C=RS/ View History For all View Notifications Fo View Host Status De	Nov 19 16:4 econds 1 - www.na /O=AEGIS/ hosts or All Hosts	16:34 CET 2012 agios.org OU=Institute of Physics Belgrade/CN-	=Vlad	imir Si	lavnic	Up Down Unro 32 0	tus Totals eachable Pending 0 0 ns All Types 32		Service Status Totals       Ok     Warning     Unknown     Critical     Pending       280     11     2     13     29       All Problems All Types       26     335
Current Status	view Host Status De	all FOF All	nosis							
Tactical Overview     Map						Service	Status Details	For All Hosts	•	
Hosts     Services	Host ★+		Service **			Status **	Last Check **	Duration **	Attempt **	Status Information
O Host Groups	bdii.ipb.ac.rs	A start	org.bdii.Entries		₩^s	OK	11-19-2012 16:14:11	102d 6h 38m 2s	1/4	OK: time=0.48s, entries=3702
<ul> <li>Summary</li> <li>Grid</li> </ul>			org.bdii.Freshness		M.	OK	11-19-2012 16:32:41	21d 6h 31m 21s	1/4	OK: freshness=643s, entries=1
• Grid • Service Groups			org.nagios.BDII-Check	$\square$	×^s	OK	11-19-2012 16:42:32	21d 6h 55m 9s	1/4	LDAP OK - 0.006 seconds response time
<ul> <li>Summary</li> <li>Grid</li> <li>Problems</li> <li>Services</li> </ul>	ce64.ipb.ac.rs		hr.srce.CADist-Check-/ops /NGI/Serbia	?	6	ок	11-19-2012 16:10:50	349d 6h 18m 19s	1/2	n60.ipb.ac.rs: CA DIST OK - The official version is 1.50. Using AAACertificateServices to get CA distribution version. The following CAa have info file but CA certificate files is missing: HellasGridDemo. CA distribution is correctly installed.
(Unhandled) • Hosts (Unhandled)			hr.srce.CREAMCE-CertLifetime		ß	ок	11-19-2012 13:06:30	17d 3h 40m 7s	1/2	CERT LIFETIME OK - Certificate will expire in 200.86 days (Jun 8 08:38:17 2013 GMT)
<ul> <li>Network Outages</li> <li>Quick Search:</li> </ul>			org.sam.CREAMCE- DirectJobState-/ops/NGI/Serbia		ß	ок	11-19-2012 15:48:38	17d 2h 59m 54s	1/2	OK: DONE.
			org.sam.CREAMCE- DirectJobSubmit-/ops/NGI/Serbia	?	ß	ок	11-19-2012 15:48:38	17d 2h 58m 2s	1/2	OK: DONE.
Reports			org.sam.CREAMCE-JobState-/ops /NGI/Serbia		ß	ОК	11-19-2012 16:15:23	13d 8h 42m 18s	1/2	OK: success.
<ul> <li>Availability</li> <li>Trends</li> </ul>			org.sam.CREAMCE- JobSubmit-/ops/NGI/Serbia	?	ß	ок	11-19-2012 16:15:23	13d 8h 37m 18s	1/2	OK: success.
O Alerts			org.sam.WN-Bi-/ops/NGI/Serbia	?	ß	OK	11-19-2012 16:10:50	712d 17h 44m 50s	1/2	n60.ipb.ac.rs: OK: getCE: ce64.ipb.ac.rs:8443/cream-pbs-ops
History     Summary			org.sam.WN-Csh-/ops /NGI/Serbia	?	ß	ок	11-19-2012 16:10:51	712d 17h 44m 48s	1/2	n60.ipb.ac.rs: OK
Histogram     Notifications			org.sam.WN-Rep-/ops /NGI/Serbia	?	ß	ОК	11-19-2012 16:11:22	77d 6h 31m 5s	1/2	n60.ipb.ac.rs: OK: success.
Event Log System			org.sam.WN-RepCr-/ops /NGI/Serbia	?	ß	ок	11-19-2012 16:11:07	77d 6h 31m 17s	1/2	n60.ipb.ac.rs: OK: File was copied to SE dpm.ipb.ac.rs and registered in LFC prod-lfc-shared-central.cern.ch. CLI
O Comments			org.sam.WN-RepDel-/ops /NGI/Serbia	?	ß	ок	11-19-2012 16:11:22	77d 6h 31m 4s	1/2	n60.ipb.ac.rs: OK: Replicas for [ifn:/grid/ops/SAM/sam-lcg-rm-cr- n60 inb ac rs 121119151057 20021275] were deleted. CLI

#### EGI-InSPIRE RI-261323



### NGI AEGIS SAM Instance [3]



#### EGI-InSPIRE RI-261323



### NGI AEGIS MyEGI Portal [1]

- Visualization tool to present a grid-aware view of the data collected by the Service Availability Monitoring framework.
- Features:
  - Services view to select services
  - Status view to see the status of latest metric results for a service
  - History view to navigate throughout the status of services overtime
  - Common filtering patterns for easy selection
  - <u>https://tomtools.cern.ch/confluence/display/SAM/MyEGI</u>



### NGI AEGIS MyEGI Portal [2]

) []	MyEGI	+		
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	myCO Home I G	GI aridmap Service Status		
		Sample Pages		
		Gridmap view Show a gridmap-style graph of the status at a given time for all the services in all the sites of a concrete region/tier.	Date: Thu, 30 Aug 2012 21:58:00 GMT Author: Wojciech Lapka Update-15 released	
		Service Status view Show a graph of the status of a services and metrics over time.	Date: Tue, 29 Nov 2011 21:27:02 GMT Author: Wojciech Lapka Update-14 released Date: Thu, 13 Oct 2011 07:03:23 GMT Author: Wojciech Lapka	
				j

Help | Tests | Test Web Services | Support | Change log | Web Services | About License: Apache 2.0 | Copyright: CERN



EGI-InSPIRE RI-261323

### NGI AEGIS MyEGI Portal [3]

MyEGI	+ rs/myegi/history/?facelist_values_regions=167%2C&facel	ist values Sites=&facelist values convice	as=&vn=37&v 🔿 🦉 🖓 🕶 Coopla	٩ 🝙 💽 -
my	eGI	ist_values_sites=@racenst_values_service		
Simpl	e/Advanced filters @	History		
	Regions, Sites and Hostnames		Attributes	
Reg	ions	Vo	Monitored Removed	
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Site	e	Profile	OK, WARNING, CRITICAL,	
	s ter search	ch.cern.sam-ROC		
Hos	tnames	Flavours	From 12-11-2012	
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		Apply!		
			Search by hostname:	
	bdii.ipb.ac.rs (Top-BDII)			
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	Nov 13, 21:58	Nov 15, 19:56	Nov 17, 17:54 Nov 19, 15:52	
	ce64.ipb.ac.rs (OPENMPI)			
	Nov 13, 21:58	Nov 15, 19:56	Nov 17, 17:54 Nov 19, 15:52	
	ce64.ipb.ac.rs (CREAM-CE)			
			•	
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	ce64.ipb.ac.rs (MPICH)			
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### NGI AEGIS MyEGI Portal [4]

MyEGI	.ipb.ac.rs/myegi/gridr						☆ マ C ] ( <mark>} -</mark> Goo	ogle	Q 🕋 💽 🗸
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	Simple/Advanced filters	5 @		Gridr	nap				
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				NGI_AE	GIS			N	
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							AEGIS	03-ELEF-LEDA	
							AEGI	S11-MISANU	

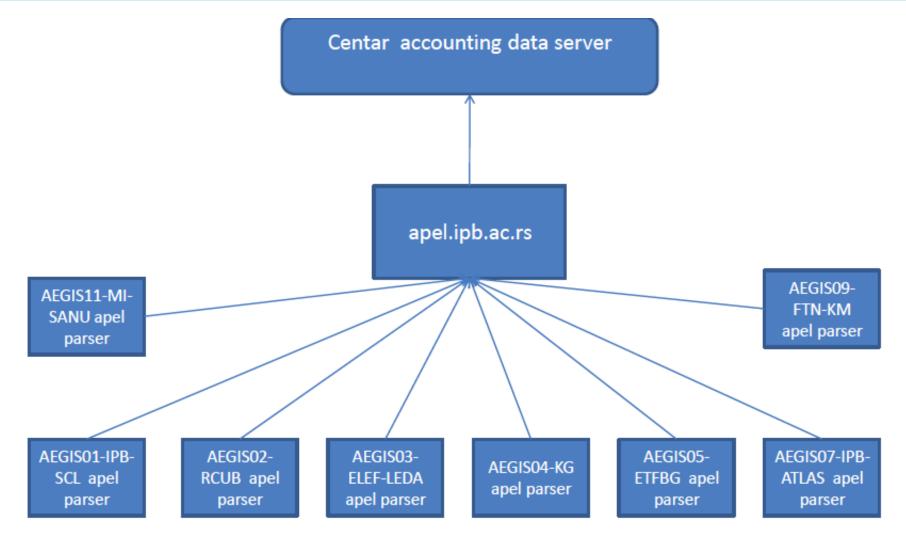
#### EGI-InSPIRE RI-261323



- Centralized APEL node :
  - apel.ipb.ac.rs
- All AEGIS Computing Elements are publishing to apel.ipb.ac.rs which is publishing accounting data to centralized server.



### AEGIS Centralized APEL service [2]



EGI-InSPIRE RI-261323

EGI Hands-On Training for AEGIS Site Administrators





- AEGIS Certification Authority was formed to faciliate PKI services for Serbian GRID community.
- AEGIS users can request personal, host and service certificates.
- This web site provides important CA and certificate information, as well as interface for submitting, issuing and revoking certificates.
- The AEGIS CA is operated by University of Belgrade Computing Centre (RCUB).



### AEGIS CA [2]

http://ca.aegis.rs/	+					
Ca.aegis.rs	☆ マ C 🚷 * aegis ca 🔍 🍙 🖾 *					
	SIS Certification Authority					
Home	News					
Policy Document						
CA Root Certificate	AEGIS CA root certificate has been updated to allow the use of new TLD for Serbia (.rs). Please use this link for additional information and instructions that should be followed by Serbian sites and users.					
Issued Certificates	Introduction					
Certificate Revocation Lists						
Instructions and Guides	AEGIS Certification Authority was formed to faciliate PKI services for Serbian GRID community. AEGIS is associated with SEEGRID2 and EGEE.					
Certificate Request	AEGIS users can request personal, host and service certificates. This web site provides important CA and certificate information, as well as interface for submitting, issuing and revoking certificates.					
CA/RA contact details	The AEGIS CA is operated by University of Belgrade Computing Centre (RCUB).					
Links and Repositories publishing AEGIS CA	AEGIS VO is the Virtual Organisation of AEGIS, which stands for Academic and Education Grid Initiative of Serbia. In order to become a member of AEGIS VO you must be affiliated with an academic, research, or education organisation which has signed the AEGIS Memorandum of Understanding or institution with a Grid site supporting AEGIS VO.					



English



### **AEGIS** mailing lists

- Various mailing lists dedicated to NGI AEGIS activities are created:
  - Grid support mailing list
  - Infrastructure mailing list
  - Security mailing list
  - Training mailing list
  - User support mailing list



- EGI Operational Procedures are prescriptive documents that describe step-by-step processes involving several partners
- The purpose of a procedure is define the related workflow.
- <u>https://wiki.egi.eu/wiki/Operations\_Procedures</u>



### EGI Operations Procedures [2]

- Examples:
  - PROC 09 "Resource Centre Registration and Certification" - Registration of a new Resource Centre in the GOCDB
  - SEC 01 "EGI Security Incident Handling`' The "Security Incident Handling Procedure" define site and incident coordinator responsibilities when handling Grid-related security incident. ALL EGI sites are required to follow this procedure to report and handle Grid-related security incident.



### Links [1]

- EGI Wiki <u>https://wiki.egi.eu/</u>
- EGI WIKI tools page <u>https://wiki.egi.eu/wiki/Tools</u>
- EGI WIKI operations procedures page -<u>https://wiki.egi.eu/wiki/Operations Procedures</u>
- GOCDB <u>https://goc.egi.eu/</u>
- Operational Portal <u>http://operations-portal.egi.eu/</u>
- Accounting Portal <u>http://accounting.egi.eu/</u>
- GGUS <u>https://gus.fzk.de/</u>
- Gstat <u>https://gstat.egi.eu/</u>





- AEGIS website <u>http://www.aegis.rs/</u>
- AEGIS Helpdesk <u>https://helpdesk.aegis.rs/</u>
- AEGIS Nagios <a href="https://nagios.ipb.ac.rs/">https://nagios.ipb.ac.rs/</a>
- AEGIS MyEGI Portal https://nagios.ipb.ac.rs/myegi
- AEGIS CA <u>http://ca.aegis.rs/</u>