

The GENIUS Grid Portal

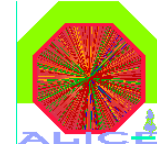
Roberto Barbera

(*)work in collaboration with A. Falzone and A. Rodolico



Outline

- Introduction
- Grid portal architecture and requirements
- GENIUS: current status and supported applications
- Future developments



The Grid metaphor



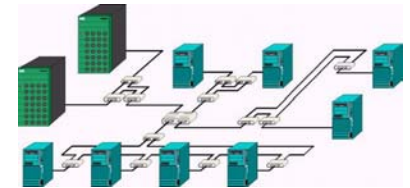
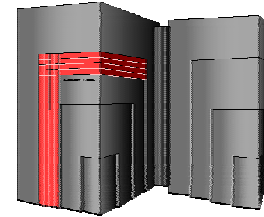
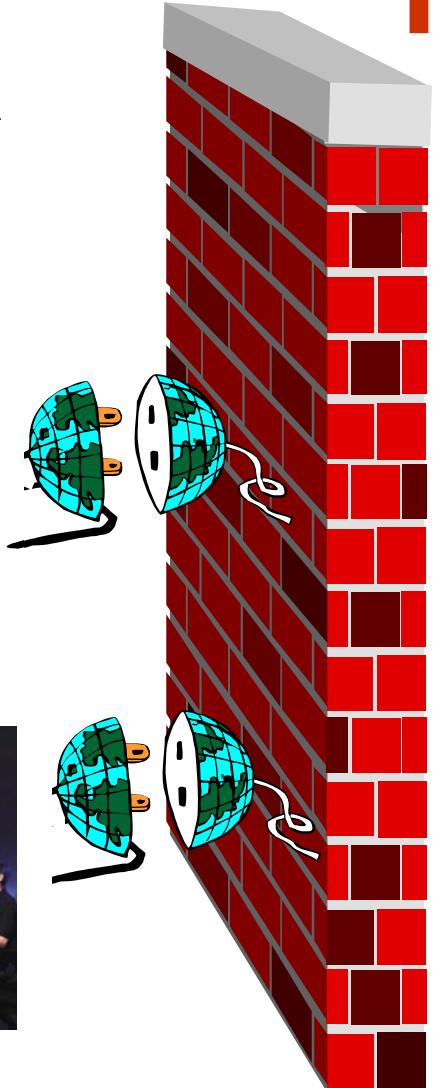
Mobile Access



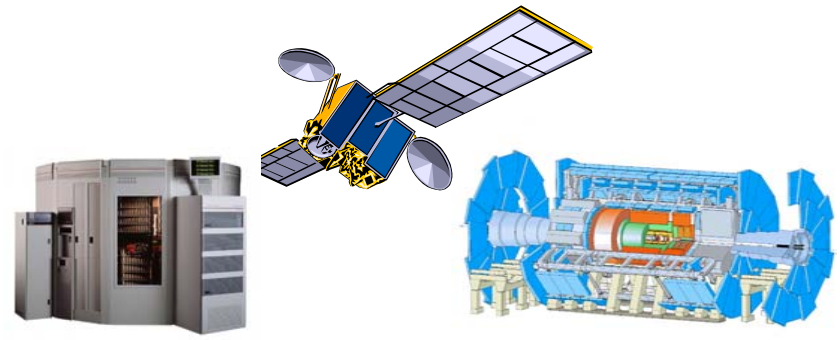
Workstation



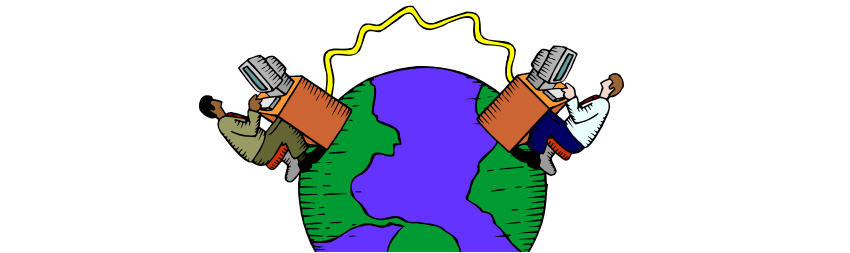
Visualising



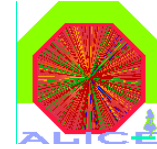
Supercomputer, PC-Cluster



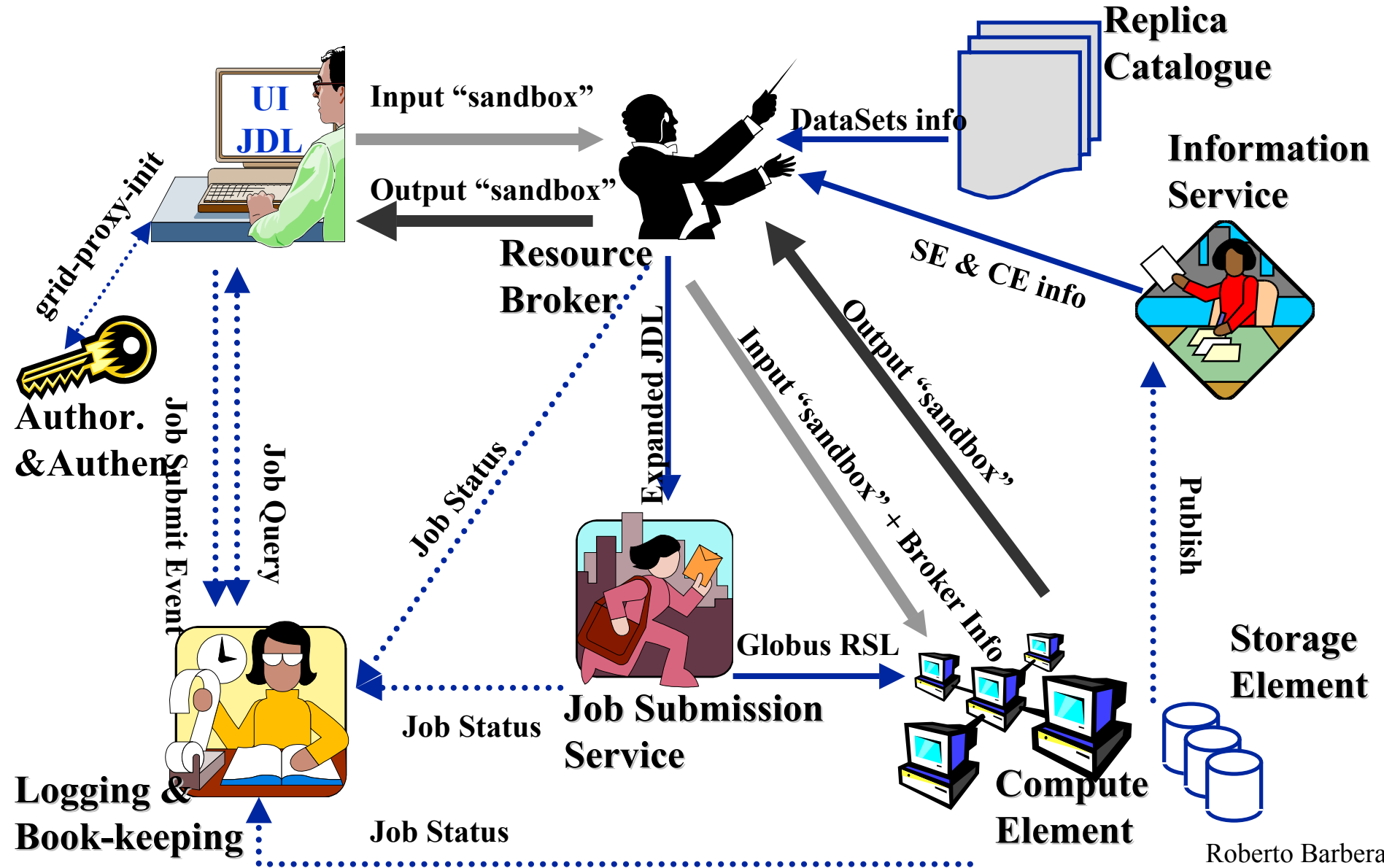
Data-storage, Sensors, Experiments

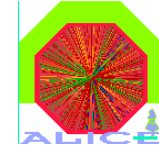


Internet, networks

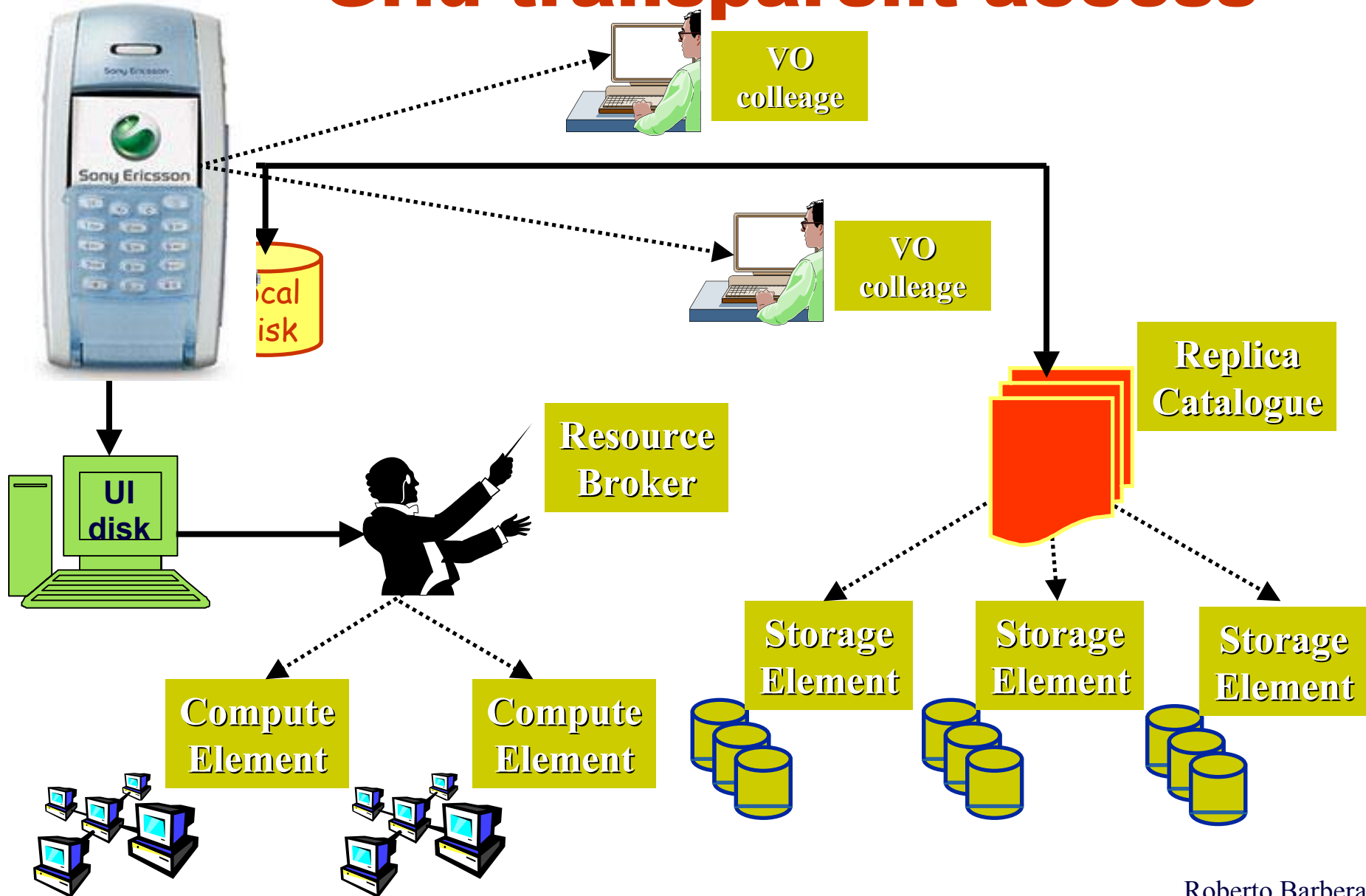


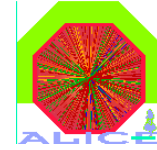
DataGrid job submission work-flow





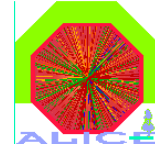
Grid transparent access





A web portal: why and how ?

- It can be accessed from everywhere and by “everything” (desktop, laptop, PDA, WAP phone).
- It can keep the same user interface to several back-ends (grid “dialects” \Leftrightarrow command-line UI’s).
- It must be redundantly “secure” at all levels: **1)** secure for web transactions, **2)** secure for user credentials, **3)** secure for user authentication, **4)** secure at VO level.
- All available grid services must be incorporated in a logic way, just “one mouse click away”.
- Its layout must be easily understandable and user friendly.



A little bit of history

● 1998-1999

- graphic interface to LSF (multi) clusters for ALICE jobs

● 2000-2001

- simple but effective web portal to submit ALICE jobs to the grid using EnginFrame and GLOBUS

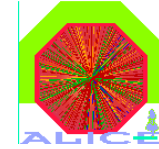
● 2002-now

- official grant of the INFN Grid Project to collaborate with NICE srl to integrate in a web portal all services offered by the DataGrid middleware; adoption/contributions by other experiments



Università di Catania and INFN Catania - Italy

ALICE Collaboration and DataGrid Project



GENIUS®

Grid Enabled web eNvironment for Independent User job Submission

<https://genius.ct.infn.it>

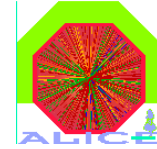


INFN/NICE collaboration

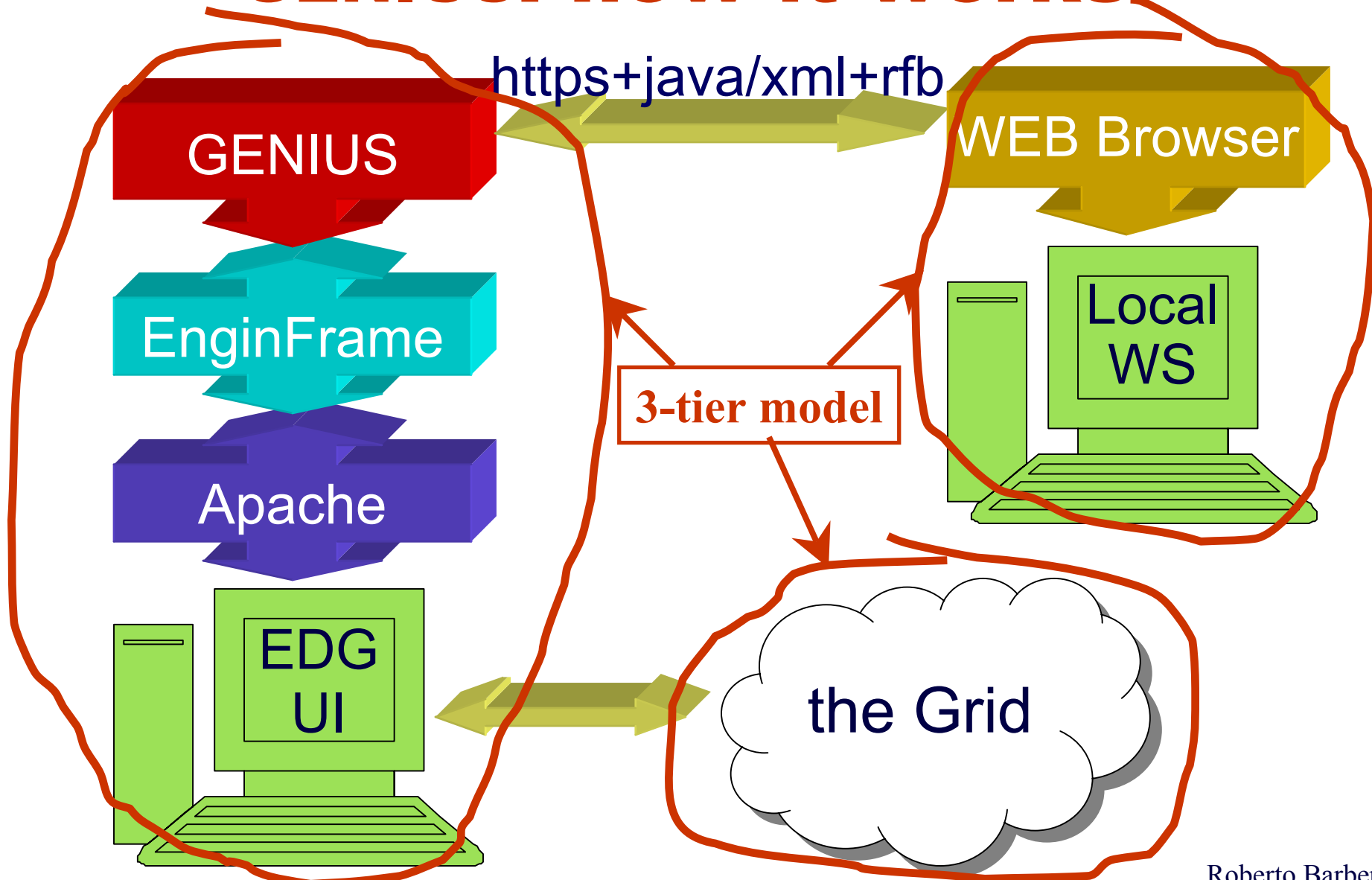
GENIUS web portal

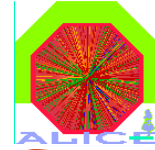
Applications' specific layer





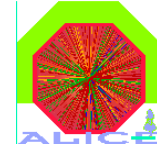
GENIUS: how it works



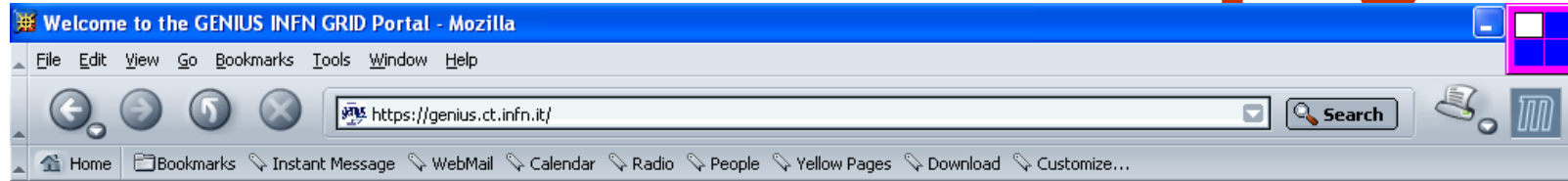


EnginFrame in brief

- Standards-based GRID portal
 - Java, Tomcat, Apache, XML/XSL → GridML
- Solves back-end integration problems
 - **Visual rendering** for most Grid objects
 - jobs, job arrays, hosts, services, databases, etc.
 - **Multiple Grid technologies** support
 - EDG, GLUE, Globus, Condor (soon)
 - **Authentication delegation** (GSI, MyProxy, NIS, NT, Kerberos V, ...)
 - **Data management**: UL/DL + remote (multi-) file browsing
 - **Integration** with interactive apps
- **End-user oriented focus!**
 - application integration



GENIUS: the main page



Grid Enabled web eNvironment for site Independent User job Submission

Welcome to GENIUS 2.8.0

[Important Notice](#)

GENIUS User's Guide ([doc](#), [pdf](#), [ps](#), [ps.gz](#))

[New Grid Authentication with MyProxy](#)

[GENIUS MyProxy Server Installation](#)

[GENIUS CVS Available](#)

[GENIUS FAQs](#)

[GENIUS Mailing List](#)

[GENIUS Mailing Archive \(Help on Majordomo Commands\)](#)

[GRID MOVIE](#)

[Useful Links](#)

[Credits](#)

This portal is best viewed with Mozilla 1.5.

Netscape (4.79, 4.80, 6 and higher) and Internet

Explorer (5 or higher) can also be used.

The use of any other web browsers could induce some

visualization mismatches and is not currently suggested.

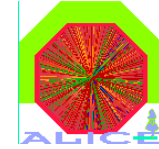
GENIUS is based on Apache 1.3.27 and OpenSSL 0.9.7b.

Last update: **Thu 4 Dec 2003**

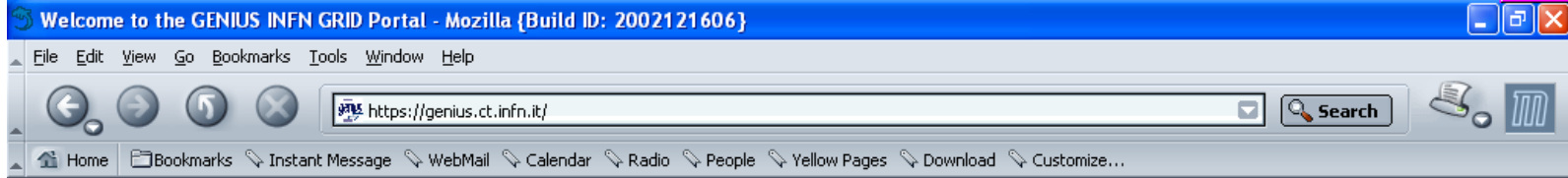
- File Services
- Security Services
- Job Services
- Data Services
- Info Services
- Monitoring Services
- Interactive Services
 - Grid Settings
 - Set VO
 - Current VO Services
 - Statistics
 - Logout

powered by
[EnginFrame 3.2](#)

compliant with
[EDG 2.0](#)
[LCG-1](#)
[GRID.IT](#)



GENIUS show: grid authentication



Grid Enabled web eNvironment for site Independent User job Submission

Login to the GRID

Username:

MyProxy Passphrase:

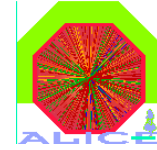
Validity (hours):

- Job Services**
- up
 - Single Job
 - Multi Job
 - ▶ List Available Resources
 - ▶ Job Editor
 - ▶ Job GUI
 - ▶ Close Job GUI Session

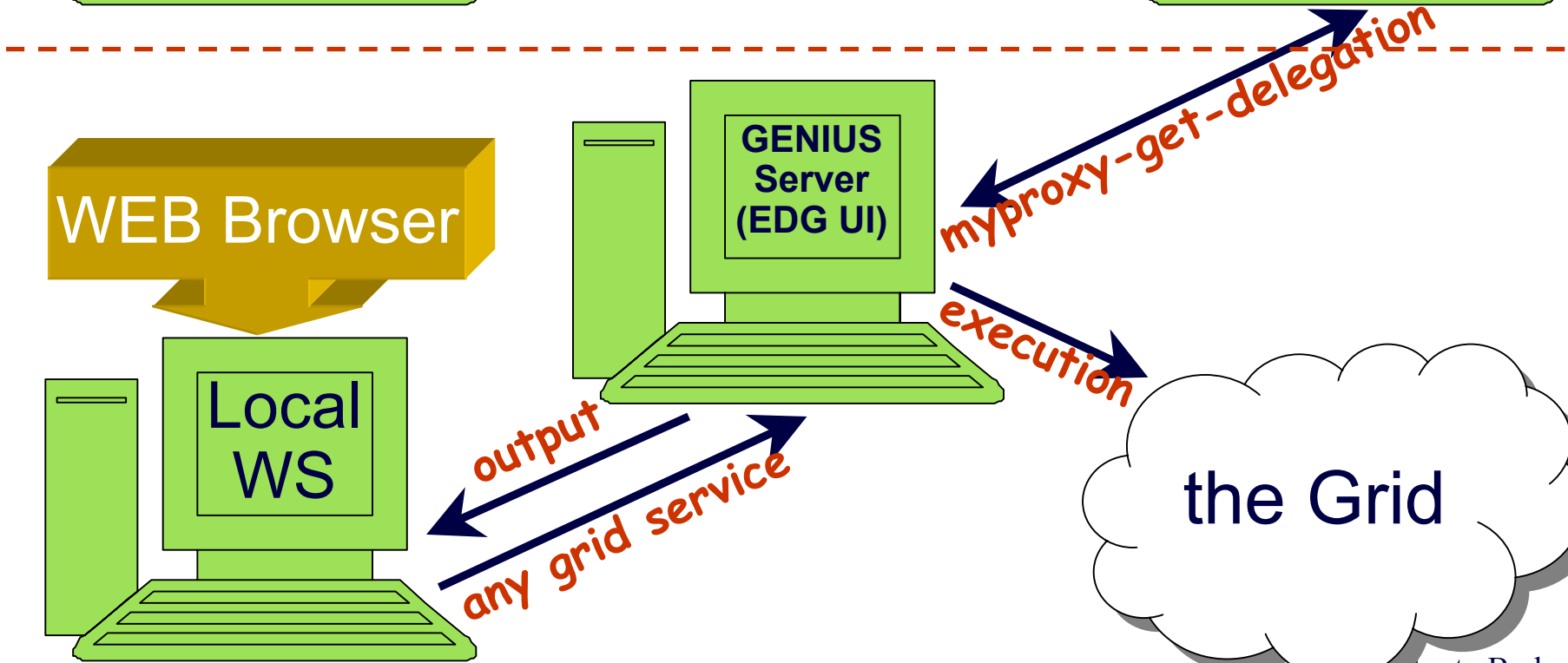
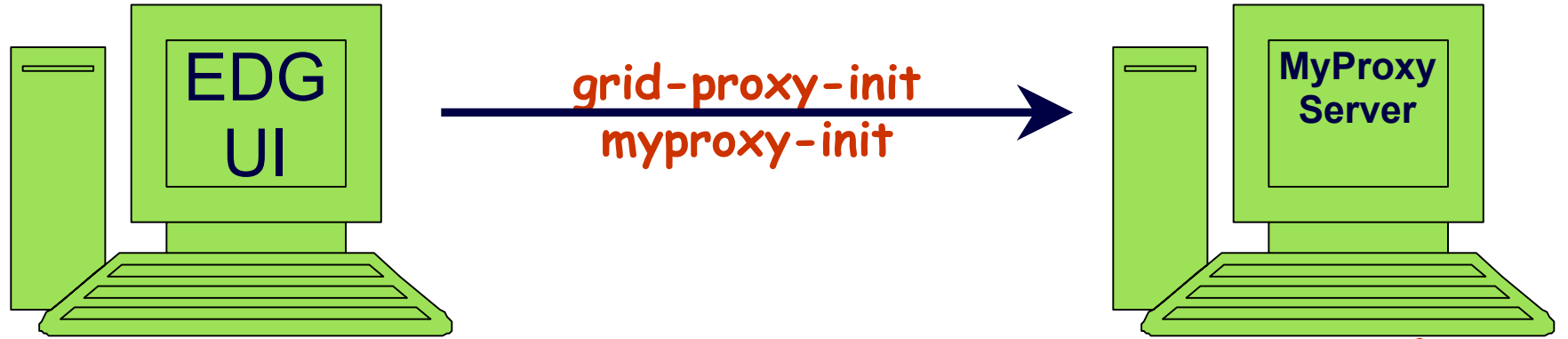
powered by
[EnginFrame 3.2](#)

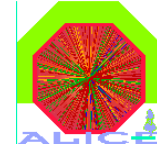
compliant with
[EDG 2.0](#)
[LCG-1](#)
[GRID.IT](#)

MyProxy authentication !



Grid authentication with MyProxy








GENIUS/AFS interface (BaBar)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

https://grid1.fe.infn.it/ Search

Home Bookmarks Red Hat, Inc. Red Hat Network Support Shop Products Training

Grid Enabled web eNvironment for site Independent User job Submission

Current RB: cnaf1 Current VO: babar Your Data Statistics Logout

[AFS Authentication](#)

With this service you may obtain a valid AFS token on SLAC domain according to BABAR submission policies.

AFS username

AFS password

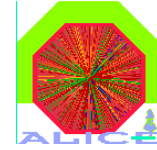
INFN
Istituto Nazionale di Fisica Nucleare

BABAR Production up

- ▶ AFS Authentication
- ▶ AFS Unlog
- ▶ Job Submission
- ▶ Job Queue
- ▶ Job Get Output

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based on
[EDG 1.4.x](#)

Document: Done (0.086 secs)



GENIUS: remote file browser



Grid Enabled web eNvironment for site Independent User job Submission

RB: **cnaf_lcg** Change RB... VO: **alice** Change VO... RLS: **INFNLCG1** Change RLS... [Your Data Logout](#)

Job Submission

Please, select a JDL file to submit. You may also choose a Resource

JDL File

Remote File Browsing - Mozilla [Build...]

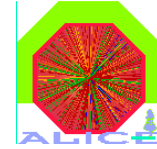
NIKHEF-vo.conf	526
NIKHEF.conf	553
OFFICES.OBJ	3,351
VEHICLES.OBJ	3,014
alice.tar.gz	28,869
alice_rc.conf	413
alice_rc_def.conf	413
alice_rc_hbt_production.conf	422
alice_rc_hbt_production_mss.conf	423
alice_rc_mss.conf	414
aliroot.jdl	1,644
authentication.log	294
csound.jdl	807
csound.orc	2,633
csound.sco	2,491
defcity.nov	1,951

Path: /home/barbera

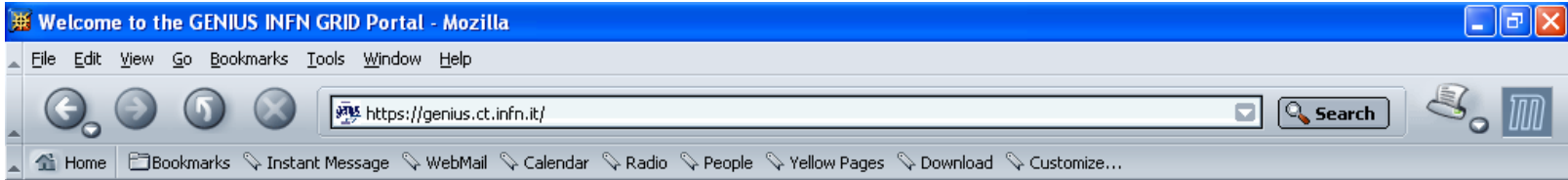
Selected: aliroot.jdl

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compliant with [EDG 2.0](#), [LCG-1](#), [GRID.IT](#)



GENIUS: VO Selection



Grid Enabled web eNvironment for site Independent User job Submission

RB: catania_gridit

VO: alice

RLS: GRIDIT

Your Data

Logout

Set VO

With this service you can select the Virtual Organization you belong to."

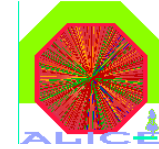
Virtual Organization (VO): ALICE (currently selected)

Set

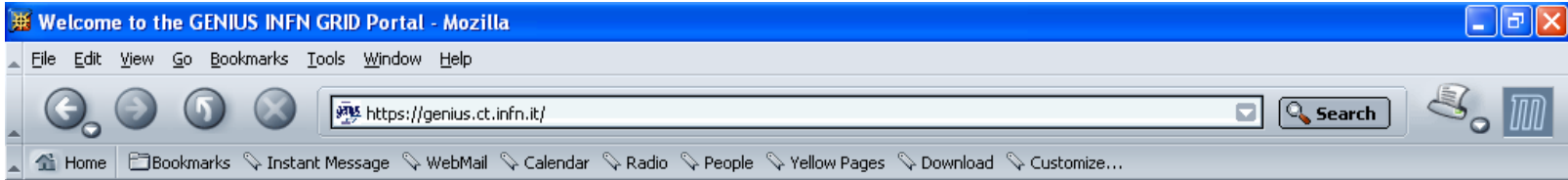
- ALICE (currently selected)
- ATLAS
- BABAR**
- Biomedical
- CMS
- D0
- DIANE
- Dissemination
- Earth Observation
- ITeam
- LHCb
- THEOPHYS
- TUTOR
- VIRGO
- WORLDGRID
- WPSix

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compliant with
[EDG 2.0](#)
[LCG-1](#)
[GRID.IT](#)



GENIUS: RB Selection



Grid Enabled web eNvironment for site Independent User job Submission

RB: catania_gridit VO: alice RLS: GRIDIT Your Data Logout

Grid Settings

With this service you can select the Resource Broker and the Replica Location Server you want to use.

Resource Broker (RB):

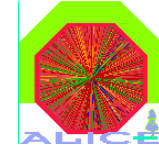
Replica Location Server (RLS):

- CATANIA GRIDIT (currently selected)
- CERN EDG
- CNAF EDG
- NIKHEF EDG
- RAL EDG
- CNAF GRIDIT
- BARCELONA LCG
- BUDAPEST LCG
- CERN-1 LCG
- CERN-2 LCG
- CNAF LCG
- MOSCOW LCG
- RAL LCG
- TAIPEI LCG
- VALENCIA LCG
- FZK LCG

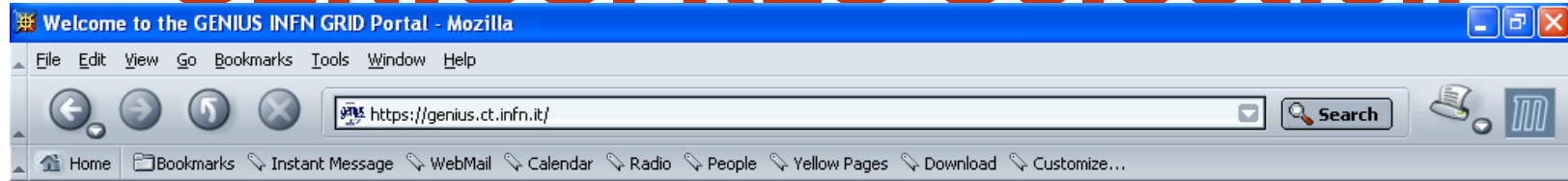
- File Services
- Security Services
- Job Services
- Data Services
- Info Services
- Monitoring Services
- Interactive Services
 - Grid Settings
 - Set VO
 - Current VO Services
 - Statistics
 - Logout

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compliant with EDG 2.0, LCG-1, GRID.IT



GENIUS: RLS Selection



Grid Enabled web eNvironment for site Independent User job Submission

RB: catania_gridit

VO: alice

RLS: GRIDIT

Your Data

Logout

Grid Settings

With this service you can select the Resource Broker and the Replica Location Server you want to use.

Resource Broker (RB):

CATANIA GRIDIT (currently selected)

Replica Location Server (RLS):

GRIDIT (currently selected)

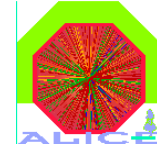
Update

- GRIDIT (currently selected)
- INFN EDG
- EDG
- ALICE LCG
- ATLAS LCG
- CMS LCG
- LHCb LCG

- File Services
- Security Services
- Job Services
- Data Services
- Info Services
- Monitoring Services
- Interactive Services
- Grid Settings
- Set VO
- Current VO Services
- Statistics
- Logout

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EnginFrame 3.2

compliant with
EDG 2.0
LCG-1
GRID.IT



Graphic job description (1)





Welcome to the GENIUS INFN GRID Portal - Microsoft Internet Explorer

File Modifica Visualizza Preferiti Strumenti ?

Indietro Cerca Preferiti Multimedia

Indirizzo: https://grid009.ct.infn.it

Google Cerca nel Web Cerca nel sito PageRank Info sulla pagina Su Evidenzia

Grid Enabled web eNvironment for site Independent User job Submission

Contents:

Job Name /home/barbera/alitest.jdl

Job Type Job Definition 1 Job Definition 2 Job Data Requirements Rank

Executable /bin/sh Remote

Arguments start_aliroot1.sh 3.02.04 3.07.01

Standard Streams

StdInput Remote

StdOutput aliroot1.out Add to Output Sandbox

StdError aliroot1.err Add to Output Sandbox

Input Sandbox

Add

start_aliroot1.sh
rootrc
grun.C
Config.C

Remove

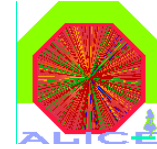
Clear

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Applet JDLEJApplet started

Internet

In collaboration with DATAMAT, Italy



Graphic job description (2)




In collaboration with DATAMAT, Italy

Welcome to the GENIUS INFN GRID Portal - Mozilla [Build ID: 2002121606]

File Edit View Go Bookmarks Tools Window Help

https://grid003.ct.infn.it/ Search

Home Bookmarks Instant Message WebMail Calendar Radio People Yellow Pages Download Customize...

Grid Enabled web eNvironment for site Independent User job Submission

Disconnect Options Clipboard Send Ctrl-Alt-Del Refresh

Job Submitter - VO: vo_template

Job Edit Checkpoint Credential Help

NS1 NS2

Network Server Info

or - VO: vo_template

point Credential Help

Glue

JDL Editor - NS1 - Job1

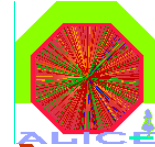
Job Help

Type	Definition 1	Definition 2	Input Data	Output Data	Requirements	Ra
Virtual Organisation	vo_template					
Executable						<input type="checkbox"/> Remote
Arguments						
Standard Streams						
StdInput						<input type="checkbox"/> Remote
StdOutput						<input type="checkbox"/> Add to Output Sandbox

played Jobs

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EnginFrame 3.2
based on
EDG 2.0

https://grid003.ct.infn.it/infn.grid.xml?_uri=/infn.grid/job-gui






GENIUS multi-jobs (1)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

https://grid002.ct.infn.it/

Home | Bookmarks | Red Hat, Inc. | Red Hat Network | Support | Shop | Products | Training

Grid Enabled web eNvironment for site Independent

Current RB: cnaf1 Current VO: alice

[Job Submission](#)

Please, select the name of the group containing the jobs that you want to submit.
If it is a new group, choose the JDL(s) files relative to the jobs.
Then select the number of cycles of multi-job submissions that you want to submit.

Job Group Name:

JDL File(s):

Multi-Job Type:

Submission Cycles:

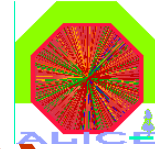
Remote File Browsing - Mozilla

<input type="checkbox"/>	aliroot_3.07.01_100.jdl	1,348
<input type="checkbox"/>	aliroot_3.07.01_halfjdl	1,136
<input type="checkbox"/>	aliroot_allen.jdl	878
<input type="checkbox"/>	aliroot.jdl	1,136
<input checked="" type="checkbox"/>	aliroot.jdl	58
<input type="checkbox"/>	aliroot.jobgrp	26
<input type="checkbox"/>	aliroot.jobgrp1	26
<input type="checkbox"/>	aliroot.jobgrp2	58
<input type="checkbox"/>	aliroot.jobgrp3	0
<input type="checkbox"/>	aliroot1.in	542
<input checked="" type="checkbox"/>	aliroot1.jdl	1,136
<input type="checkbox"/>	aliroot_1_2_testjdl	8,886
<input type="checkbox"/>	aliroot_3_07_01_100-100_1.job	93,531
<input type="checkbox"/>	aliroot_3_07_01_100-100_1.status	68,962
<input type="checkbox"/>	aliroot_3_07_01_100-100_1.submission	223,494
<input type="checkbox"/>	aliroot_3_07_01_100-500_1.job	

Path:

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Document: Done (0.614 secs)






GENIUS multi-jobs (2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

https://grid002.ct.infn.it/ Search

Home Bookmarks Red Hat, Inc. Red Hat Network Support Shop Products Training






Grid Enabled web eNvironment for site Independent User job Submission

Current RB: cnaf1 Change RB... Current VO: alice Change VO... Your Data Statistics Logout

Job Queue

#	Job ID	Last Update	Destination	Status	Action
6	101034221235397	Mon Apr 28 10:10:47 2003	testbed008.cnaf.infn.it:2119/jobmanager-pbs-short	Done	
5	101006217282260	Mon Apr 28 10:11:25 2003	testbed008.cnaf.infn.it:2119/jobmanager-pbs-short	Waiting	Cancel
4	100945216753071	Mon Apr 28 10:11:08 2003	testbed008.cnaf.infn.it:2119/jobmanager-pbs-short	Waiting	Cancel
3	100924216171847	Mon Apr 28 10:10:41 2003	boalice4.bo.infn.it:2119/jobmanager-pbs-workq	OutputReady	Get Output
2	100907215699490	Mon Apr 28 10:10:55 2003	testbed008.cnaf.infn.it:2119/jobmanager-pbs-long	Done	
1	100850215199506	Mon Apr 28 10:11:24 2003	testbed008.cnaf.infn.it:2119/jobmanager-pbs-long	Waiting	Cancel

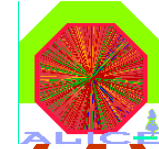


Multi Job

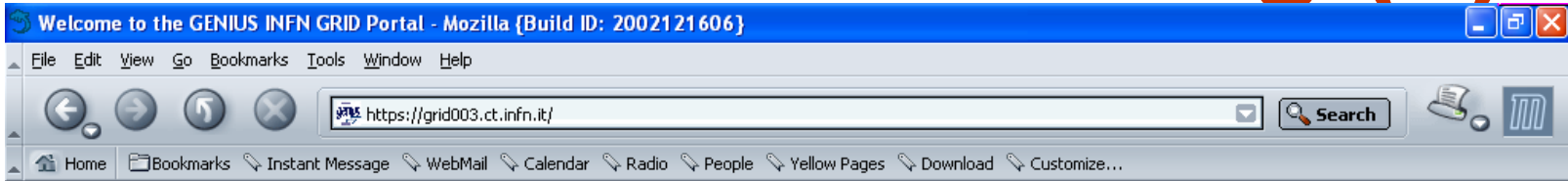
- up
- Job Submission
- Job Queue
- Job Data
- Clean Job Queues

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based on
EDG 1.4.x

Document: Done (15.884 secs)



GENIUS: file browsing (1)



Grid Enabled web eNvironment for site Independent User job Submission

RB: cnaf_edg Change RB... VO: alice Change VO... RLS: INFNEDG Change RLS... Your Data Logout

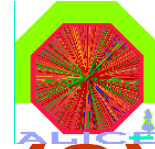
Current directory is /

- [daniprova](#)
- [data.out](#)
- [data.out1](#)
- [data.out2](#)
- [data.out3](#)
- [datatest](#)
- [datatest1](#)
- [edglog.log](#)
- [hostname.out](#)
- [job1](#)
- [ml-test-ct.rm](#)
- [pincotest.log](#)
- [pluto](#)
- [rb-AliITScustersV2_3.09.06_09001.root](#)
- [rb-AliITScustersV2_3.09.06_09002.root](#)
- [rb-AliITScustersV2_3.09.06_09004.root](#)
- [rb-AliITScustersV2_3.09.06_09005.root](#)

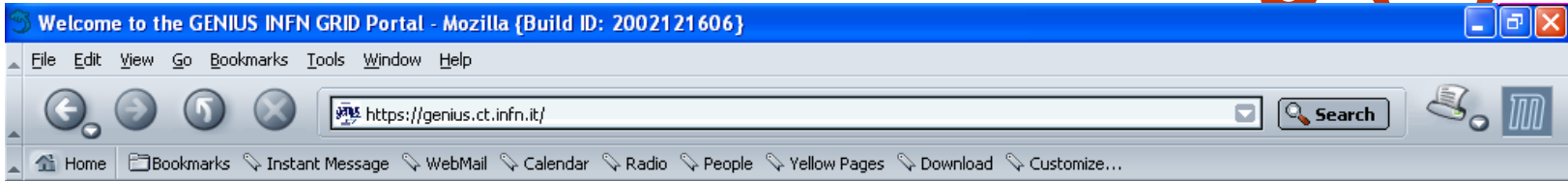
- Data Services
- up
- ▶ Publish a File
- ▶ Navigate RC

powered by EnginFrame 3.2

compliant with EDG 2.0 LCG-1 GRID.IT



GENIUS: file browsing (2)



Data Services

- up
- ▶ Publish a File
- ▶ Navigate RC

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compliant with
[EDG 2.0](#)
[LCG-1](#)
[GRID IT](#)



Grid Enabled web eNvironment for site Independent User job Submission

RB: [cnaf_lcg](#) Change RB... VO: [alice](#) Change VO... RLS: [INFNLCG1](#) Change RLS... [Your Data Logout](#)

You have selected the file **alberto.jdl**

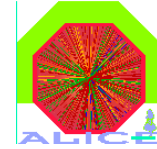
This logical file corresponds to the following SRM(s).

Click on the SRM(s) to view its properties.

⊗ <srm://grid005.ct.infn.it/flatfiles/alice/generated/2003/10/14/filea112b04c-fe64-11d7-981f-f48f62126d9c>

<srm://grid2.fe.infn.it/flatfiles/SE00/alice/generated/2003/10/14/file182d736a-fe66-11d7-8262-f8b287da970f>

⊗ = The Best Replica



GENIUS: file replication

Clipboard - IrfanView

File Edit Image Options View Help





https://genius.ct.infn.it/ Search

Welcome to the GENIUS INFN GRID Portal - Mozilla [Build ID: 2002121606]

File Edit View Go Bookmarks Tools Window Help

https://genius.ct.infn.it/ Search

Home Bookmarks Instant Message WebMail Calendar Radio People Yellow Pages Download Customize...

Grid Enabled web eNvironment for site Independent User job Submission

RB: cnaf_lcg Change RB... VO: alice Change VO... RLS: INFNLCG1 Change RLS... Your Data Log

Now you can choose the source Storage Element (FROM SE) and the destination Storage Element (TO SE).

FROM SE

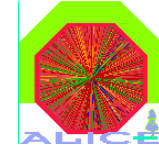
TO SE

LFN

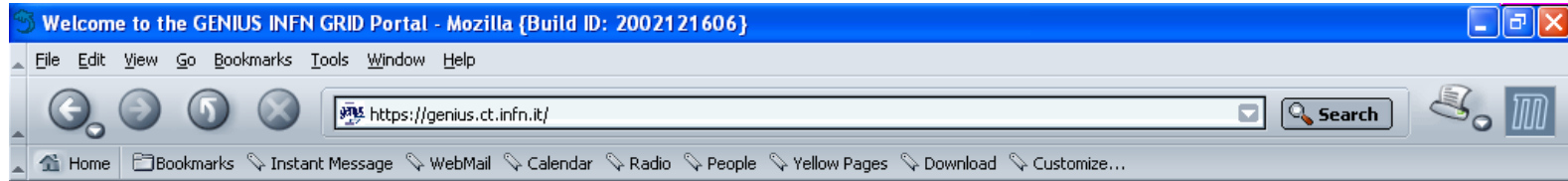
Replicate

- lcg002.inl.infn.it with 153800732 Mb of freespace on mount point /data_lcg1
- grid002.mi.infn.it with 16318632 Mb of freespace on mount point /flatfiles/SE00
- grid001.na.infn.it with 6707736 Mb of freespace on mount point /flatfiles/SE00
- grid023.pd.infn.it with 16285608 Mb of freespace on mount point /flatfiles/SE00
- gridit002.pd.infn.it with 33823260 Mb of freespace on mount point /flatfiles/SE00
- gridit014.pd.infn.it with 672730204 Mb of freespace on mount point /flatfiles/SE00
- grid008.to.infn.it with 32655704 Mb of freespace on mount point /flatfiles/SE00
- grid002.ts.infn.it with 35111220 Mb of freespace on mount point /flatfiles/SE00

1024 x 768 x 24 BPP Not a file 100 % Not a file / 2.25 MB Not a file



GENIUS: testbed navigation



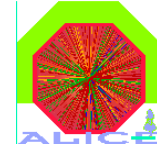
Grid Enabled web eNvironment for site Independent User job Submission

- Info Services
- up
 - ▶ Check Testbed
 - ▶ Explore Testbed

powered by
[EnginFrame 3.2](#)

compliant with
[EDG 2.0](#)
[LCG-1](#)
[GRID.IT](#)

- ibm140.cnaf.infn.it : 2170
 - mds-vo-name=local,o=grid
 - Mds-Vo-name=inf
 - Mds-Vo-name=gridit-infn-Inf
 - Mds-Vo-name=infn-bari
 - Mds-Vo-name=infn-catania
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-infinite
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-long
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-short
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-infinite
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-long
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-pbs-short
 - GlueClusterUniqueID=grid012.ct.infn.it
 - GlueSEUniqueID=grid005.ct.infn.it
 - GlueSLUniqueID=grid005.ct.infn.it
 - in=grid012.ct.infn.it/siteinfo
 - Mds-Vo-name=infn-ferrara
 - Mds-Vo-name=infn-Inf
 - Mds-Vo-name=infn-milano
 - Mds-Vo-name=infn-napoli
 - Mds-Vo-name=infn-padova



GENIUS: P2P services

Welcome to the GENIUS INFN GRID Portal - Mozilla {Build ID: 2002121606}

File Edit View Go Bookmarks Tools Window Help

https://genius.ct.infn.it/ Search

Home Bookmarks Instant Message WebMail Calendar Radio People Yellow Pages Download Customize...



Grid Enabled web eNvironment for site Independent User job Submission

Current RB: dissemination Change RB... Current VO: alice Change VO... Your Data Statistics Logout

GENIUS Chat Room for ALICE VO

Options Clear Font: monospaced 12 Users: 2

```

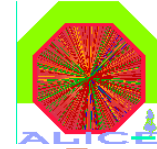
**
** Welcome on Chat Everywhere
** If you have any problem with this server, send a mail
** to roberto.barbera@ct.infn.it.
** You may type /help to see the available commands
**
<barbera> ciao
<falzone> buongiorno

```

barbera <input type="text" value="" /> <!-- Type here

P2P Services
up
Register
Access

powered by
EnginFrame 3.2
based on
EDG 1.4.x



GENIUS: GridICE monitoring

InterGrid Monitor Map - Mozilla

File Edit View Go Bookmarks Tools Window Help

http://datatag-nagios.pi.infn.it/main.php?VOname=WorldGrid

Home Bookmarks Red Hat, Inc. Red Hat Network Support Shop Products Training

△ CPU Load □ Memory ○ Disk Space

VO selected: **WorldGrid**

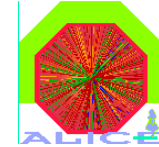
WorldGrid VO select

last update:
May 2, 2003
1:57 pm

Info received from grid-elements		
metric	usage	total available
cpu	1%	*
memory	19%	14492 MBytes
storage	78%	1858 GBytes

Info received from MDS	
Resource	total
Free CPUs	25
Total CPUs	31
Running jobs	6
Waiting jobs	134

Document: Done (28.558 secs)



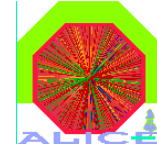
GENIUS: PDA version (1)

Home Page

Services

Remote file browsing

Remote file inspection



GENIUS: PDA version (2)

Job submission

Internet Explorer 11.32
https://grid003.ct.infn.it/pda/infnpd

genius

Job Submission
Please, select a JDL file to submit.

JDL: /home/barbera/csound.jdl
File: /home/barbera/aliroot.jdl
Next: /home/barbera/csound.jdl
RB: /home/barbera/demtools.jdl
/home/barbera/hostname.jdl
/home/barbera/hostname1.jdl
/home/barbera/interactive.jdl
/home/barbera/povray_defcity.jdl

Job monitoring

Internet Explorer 13.19
https://grid003.ct.infn.it/pda/infnpd

genius

Job Queue

#	4
Job ID	bYqRSTN1oW6xOuwzVkJRG
JDL Name	/home/barbera/hostname.jdl
Last Update	Thu Oct 9 07:52:14 2003
Destination	testbed001.cnaf.infn.it:2111 pbs-medium
Status	Done
Exit Code	0
Action	Get Output

RC browsing

Internet Explorer 11.24
https://grid003.ct.infn.it/pda/infnpd

genius

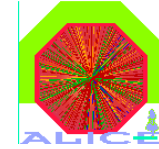
Current directory is /

- [daniprova](#)
- [data.out](#)
- [data.out1](#)
- [data.out2](#)
- [data.out3](#)
- [datatest](#)
- [datatest1](#)
- [edglog.log](#)
- [hostname.out](#)

GridICE integration

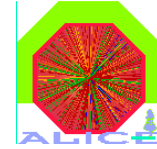
Internet Explorer 17.09
http://edt002.cnaf.infn.it:8081/grid

Site	Computing power	JOB Load
ba.infn.it	3064	0%
bo.ingv.it	4797	0%
ct.infn.it	2798	0%
fe.infn.it	21942	0%
lnl.infn.it	2903	0%
mi.infn.it	3972	0%
na.infn.it	n/a	n/a
pd.infn.it	60166	0%
to.infn.it	n/a	n/a
ts.infn.it	n/a	n/a



GENIUS: PHONE version









Interactive analysis (via TightVNC)

Welcome at GENIUS INFN Portal - Netscape

File Edit View Go Communicator Help

Location: https://genius.ct.infn.it/

Members WebMail Connections BizJournal SmartUpdate Mktplace

Grid Enabled web eNvironment for site Independent User job Submission

up

- Open Desktop
- Close Desktop
- Set Desktop
- Password

powered by EnginFrame 3.2b5

Top view

Side View

Front View

All

START is on

PMD is on

PHOS is on

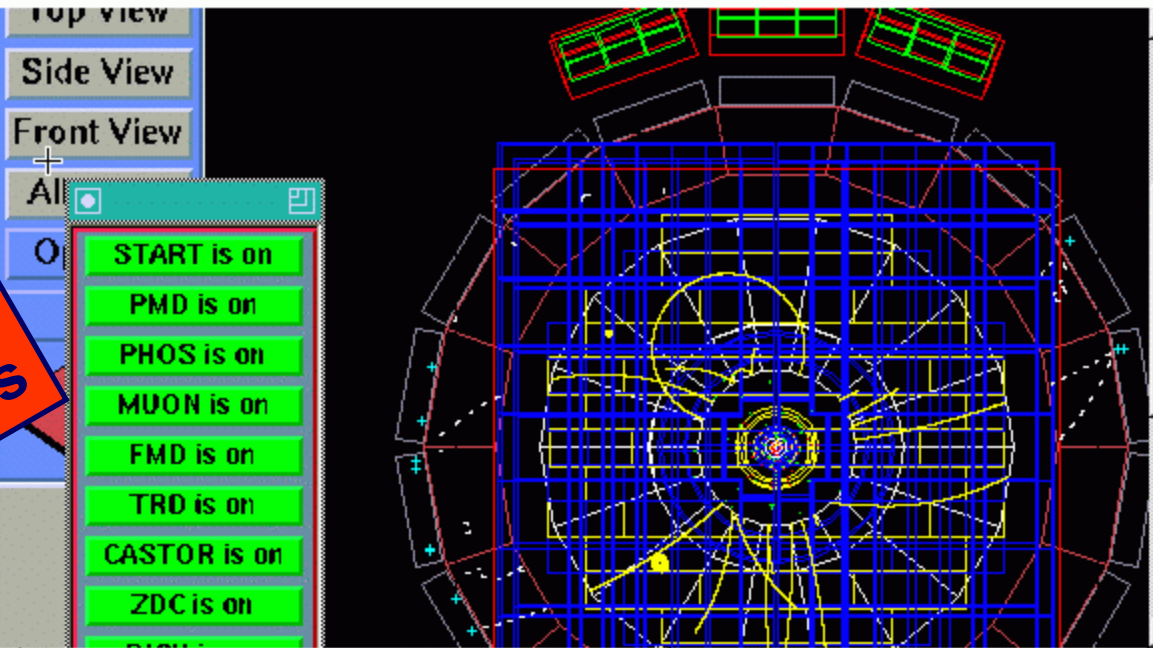
MUON is on

FMD is on

TRD is on

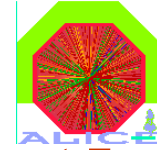
CASTOR is on

ZDC is on

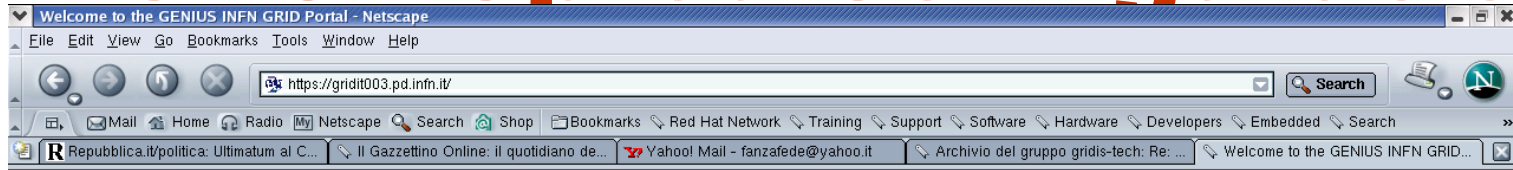






http://www.infn.it/grid

Exported by NICE to FERRARI Motors



CMS: CMSprod configuration



Grid Enabled web eNvironment for site Independent User iah Submission

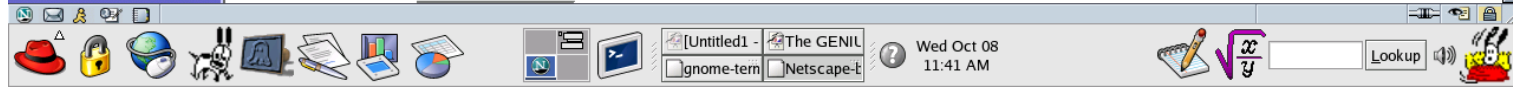
[Current RB: cnaf_lcg](#)
[Current VO: cms](#)
[Your Data](#)
[Statistics](#)
[Logout](#)

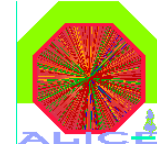
Pre release version

These value WILL NOT be checked by the system

Environment KIN: CMKIN_1_0_2_env.sh, SIM: cms133_env.sh
 CMS environment dir KIN: CMKIN_1_0_2/, SIM: CMSIM_133/
 Subdir for KIN
 Subdir for SIM
 Requirements

Kin ID for SIM
 Virtual organisation
 Retry count
 Default storage element
 Default storage element subdir

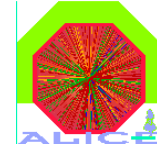




CMS: GENIUS/Boss interface

Current RB: cnaf_lcg				Current VO: cms			Your Data		Statistics		Logout
BOSS ID	JOB TYPE	DATASET	SUBMIT TIME	EXECUTION HOST	START TIME	STOP TIME	JOB STATUS	EXE STATUS	# EV.NTS	COPY STATUS	STORAGE ELEMENT
377	CMKIN	Play_Padova	2003/10/01 19:05:53	gridba2.ba.infn.it	2003/10/01 19:06:25	2003/10/01 19:07:22	finished	exit_status0	100	ok	gridba6.ba.infn.it
378	CMKIN	Play_Padova	2003/10/01 19:06:06	grid003.mi.infn.it	2003/10/01 19:06:31	2003/10/01 19:07:18	finished	exit_status0	100	ok	grid002.mi.infn.it
386	CMKIN	Play_Padova	2003/10/02 12:09:18	gridba3.ba.infn.it	2003/10/02 12:12:40	0	running	exit_status0	100		gridba6.ba.infn.it
387	CMKIN	Play_Padova	2003/10/02 12:09:31	gridba2.ba.infn.it	2003/10/02 12:17:45	2003/10/02 12:19:08	running	exit_status0	100		
388	CMKIN	Play_Padova	2003/10/02 12:09:45	grid001.mi.infn.it	2003/10/02 12:10:36	2003/10/02 12:11:14	finished	exit_status0	100	ok	grid002.mi.infn.it
389	CMKIN	Play_Padova	2003/10/02 12:10:11	gridit006.pd.infn.it	2003/10/02 12:11:06	2003/10/02 12:11:42	finished	exit_status0	100	ok	gridit002.pd.infn.it

BOSS ID	JOB TYPE	DATASET	SUBMIT TIME	EXECUTION HOST	START TIME	STOP TIME	JOB STATUS	EXE STATUS	COPY STATUS
379	CMSIM	Play_Padova	2003/10/02 09:29:40	grid003.mi.infn.it	2003/10/02 09:30:05	2003/10/02 09:41:20	finished	exit_status0	ok
380	CMSIM	Play_Padova	2003/10/02 09:29:52	grid001.mi.infn.it	2003/10/02 09:30:16	2003/10/02 09:36:13	finished	exit_status0	ok
402	CMSIM	Play_Padova	2003/10/03 09:43:17	grid003.mi.infn.it	2003/10/03 09:43:43	2003/10/03 09:52:42	finished	exit_status0	ok
403	CMSIM	Play_Padova	2003/10/03 09:43:29	grid001.mi.infn.it	2003/10/03 09:43:53	2003/10/03 09:54:50	finished	exit_status0	ok
427	CMSIM	Play_Padova	2003/10/04 10:33:36	grid001.mi.infn.it	2003/10/04 10:34:01	2003/10/04 10:42:03	finished	exit_status0	ok







BaBar: multi-job submission

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

https://grid1.fe.infn.it/

Home Bookmarks Red Hat, Inc. Red Hat Network Support Shop Products Training

Grid Enabled web eNvironment for site Independent User job Submission

Current RB: cnaf1
Current VO: babar
Your Data
Statistics
Logout

With this service you may submit an SP job.

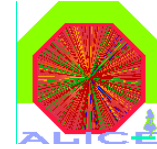
Job Group Name	<input type="text" value="todaytest"/>	(without blanks chars)
Start Run number [RUNNUM]	<input type="text" value="1962001"/>	i.e.: 1962002
End Run number [RUNNUM]	<input type="text" value="1962010"/>	i.e.: 1962010
Event number [NEVENT]	<input type="text" value="10"/>	
Conditions alias [CONDALIAS]	<input type="text" value="Dec2001"/>	
Generate [GENERATE]	<input type="text"/>	
U filter [UFILTER]	<input type="text"/>	
Bkg Input Collection [SimAppBkndInputCollection]	<input type="text" value="20011201-20011223r1V01"/>	
Bkg First Event [SimAppBkndFirstEvt]	<input type="text" value="1"/>	
Decay file [UDECAy]	<input type="text" value="B0B0bar_generic.dec (Default)"/>	

powered by [EnginFrame 3.2](#)
based on [EDG 1.4.x](#)

up

- ▶ AFS Authentication
- ▶ AFS Unlog
- ▶ Job Submission
- ▶ Job Queue
- ▶ Job Get Output

barbera






BaBar: multi-job queue

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

https://grid1.fe.infn.it/

Home Bookmarks Red Hat, Inc. Red Hat Network Support Shop Products Training

Grid Enabled web eNvironment for site Independent User job Submission

Current RB: cnaf1 Current VO: babar Your Data Statistics Logout

Job Queue

#	Job ID	Last Update	Destination	Status	Action
1962001	18551476569006	Fri Jul 11 18:59:49 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	Running	Cancel
1962002	18551477013695	Fri Jul 11 19:00:00 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output
1962003	18551478365445	Fri Jul 11 18:59:14 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	Running	Cancel
1962004	18551277467254	Fri Jul 11 18:59:14 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	Running	Cancel
1962005	18551277911265	Fri Jul 11 19:00:13 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output
1962006	18551075117877	Fri Jul 11 18:59:41 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output
1962007	18551176105390	Fri Jul 11 19:00:16 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output
1962008	18551075681605	Fri Jul 11 18:59:40 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output
1962009	18551074551606	Fri Jul 11 18:59:33 2003	grid0.fe.infn.it:2119/jobmanager-pbs-wn73	OutputReady	Get Output

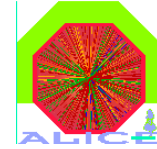
powered by
EnginFrame 3.2
based on
EDG 1.4.x

Document: Done (23.56 secs)



Università di Catania and INFN Catania - Italy

ALICE Collaboration and DataGrid Project







GENIUS app.: Earth Ob. app.

Welcome at GENIUS INFN Portal - Netscape

File Edit View Go Communicator Help

Location: https://genius.ct.infn.it/

Members WebMail Connections BizJournal SmartUpdate Mktplace

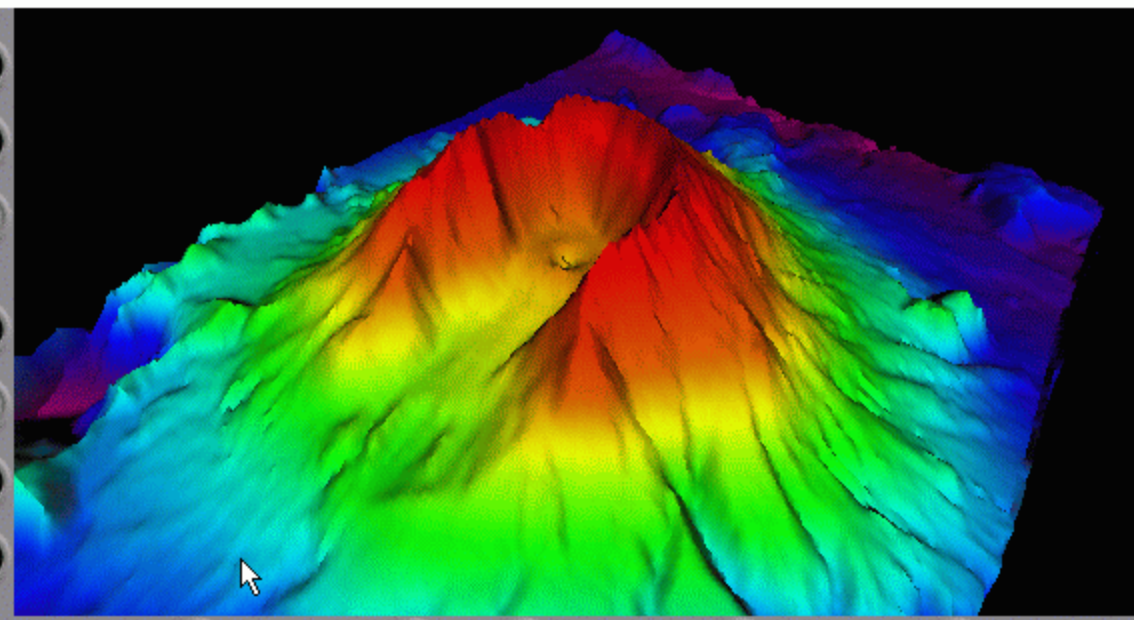





Grid Enabled web eNvironment for site Independent User job Submission

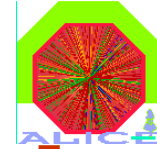
up

- ▶ [Job Submission](#)
- ▶ [Job Queue](#)
- ▶ [Job Output](#)
- ▶ [Job Data](#)
- ▶ [Clean Job Queues](#)

powered by
[EnginFrame 3.2b5](#)



Document: Done




GENIUS app.: 3D rendering

Welcome to the GENIUS INFN GRID Portal - Netscape

File Edit View Go Communicator Help




Go to: <https://genius.ct.infn.it/> What's Related



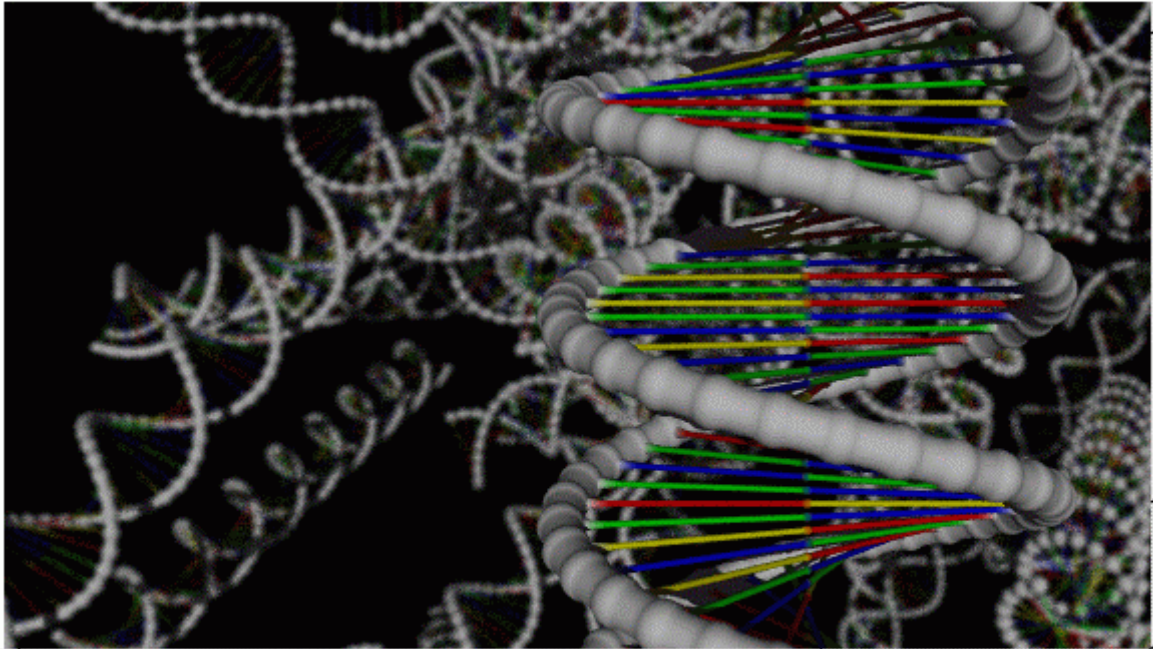
Single Job

- up
- ▶ Job Submission
- ▶ Job Queue
- ▶ Job Output
- ▶ Job Data
- ▶ Clean Job Queues

powered by
[EnginFrame 3.2](#)
based on
[EDG 1.2.x](#)

Grid Enabled web eNvironment for site Independent User job Submission

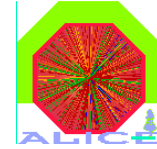


Document: Done



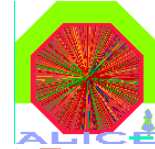
GENIUS app.: sound compiler

- The Sound Laboratory of the University of Salerno (D. Vicinanza and V. Cafagna) starts in September 2003 the first tests of sound production using GRID infrastructures
- A test installation of CSound has been performed in Catania and other EDG sites in Europe
- CSound is an *acoustic compiler*, running on Linux, Mac OS, Win, Unix: a software framework for sound production, acoustics experiments, electronic music composition
- Its philosophy is quite similar to packages like Povray: two ASCII files, named *orchestra* and *score*, containing the description of the virtual instruments (and audio post-processors like filters, resonators, ...) and of the musical events, are processed by CSound
- The computing phase take a time depending on the complexity of the score to be performed (spacing from some minutes to hours)
- The output is a high quality audio file (AIFF, WAV or SND allowed). Up to 100+ MB per minute of execution (comparable with HEP output files!)

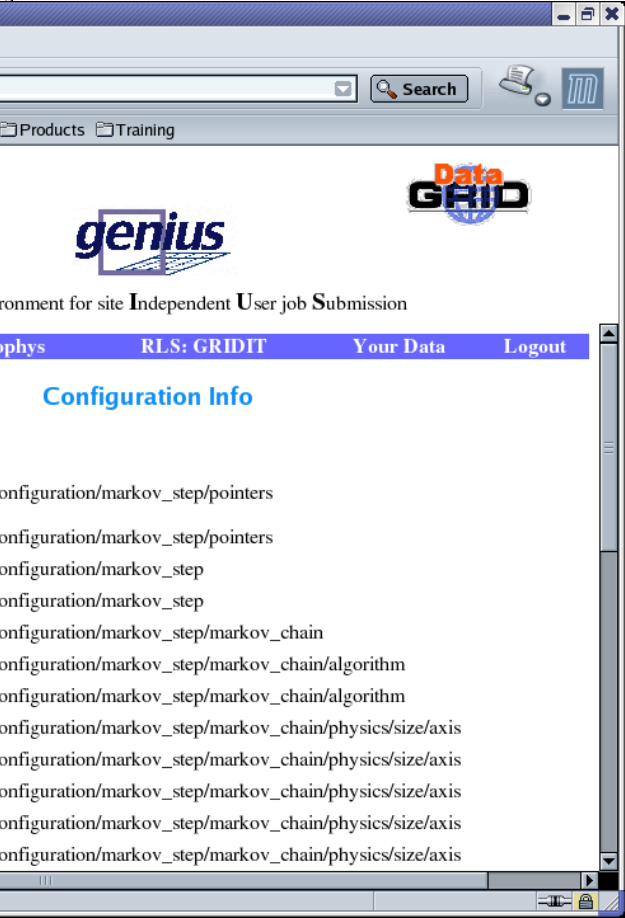
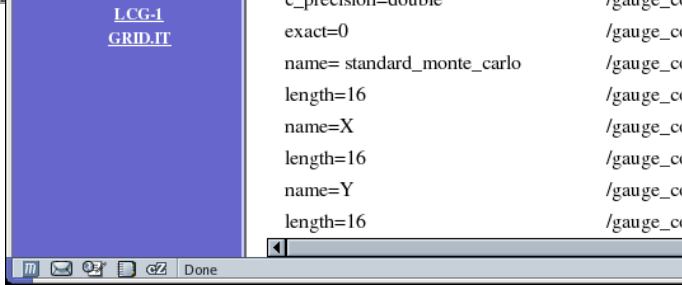
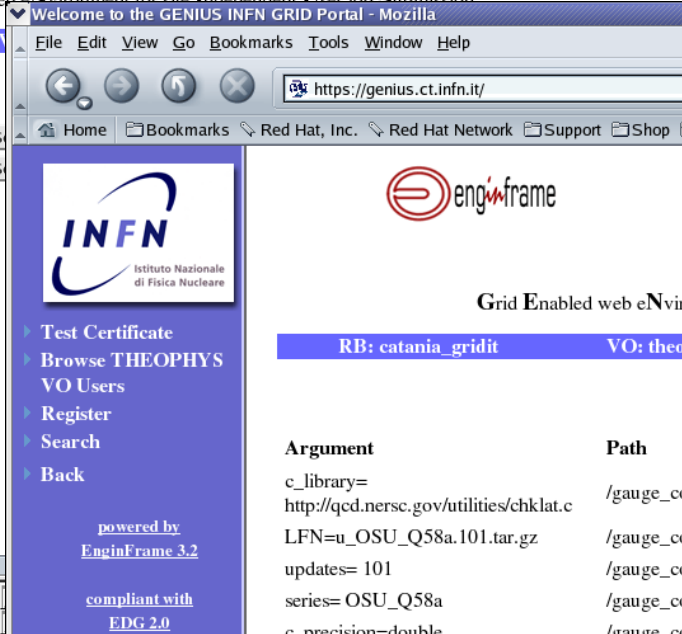
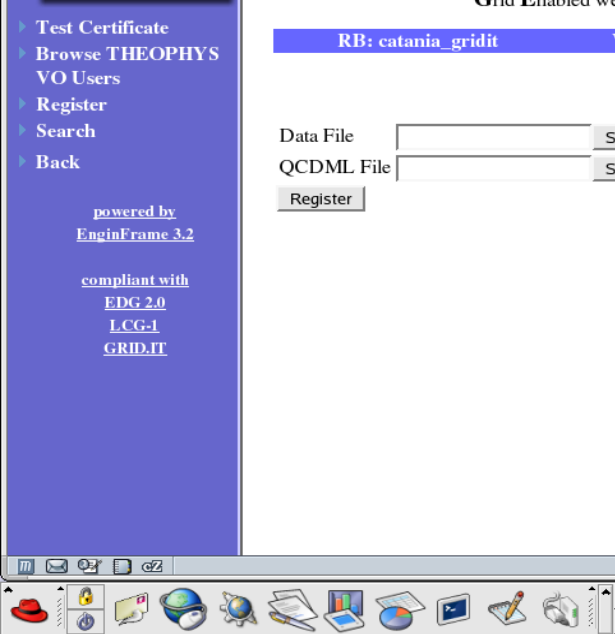


GENIUS app.: L-QCD grid

- XML interpreter with HTML renderer for lattice QCD “configuration” files (several hundreds of MB each and several CPU days to be created!)
- Full set of data management services to publish, register and share configuration files among theoretical physicists belonging to the same VO
- The first prototype has been demonstrated at ACAT03 two weeks ago



GENIUS: L-QCD integration





Present status

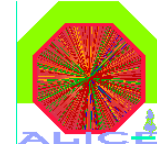
● Current implementation of **GENIUS** includes more than 100 services. Among them:

- grid authentication with MyProxy !
- several Resource Brokers, VO's and RLS available;
- full support for “interactive” and “parallel” multi-jobs
- web guided job description, submission and monitoring (in collaboration with DATAMAT)
- P2P services added
- PDA version available (runs also on last generation cellular phones, e.g. Sony Ericsson P800 and Nokia 3650)
- Transparently compliant with EDG2, LCG1 and Grid.it middlewares/VO's
- Interfaced to many generic applications and to the CMS and BaBar grid environments



Università di Catania and INFN Catania - Italy

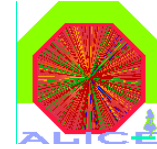
ALICE Collaboration and DataGrid Project



Grid activities at INFN Catania: dissemination & tutoring



**Almost 100 people trained so far to
use GENIUS and EDG middle-ware**

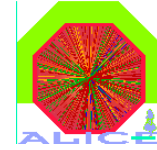


Future devel. and activities

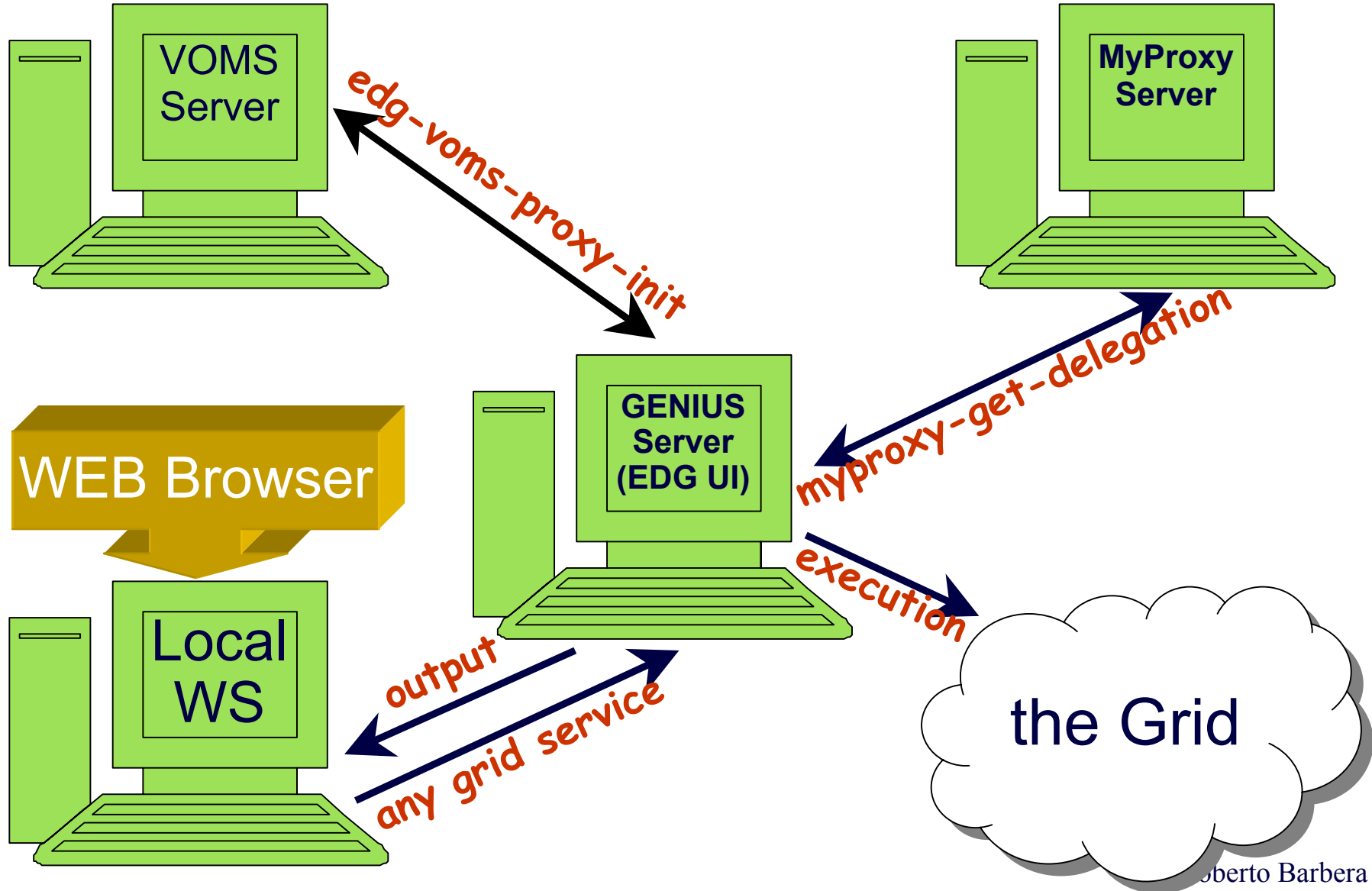
● GENIUS has been targeted as the grid portal for EGEE NA2 (dissemination/tutorials) and NA4 (generic applications) activities:

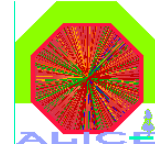
- Graphic creation/publication of new services
- Integration of VOMS/VOX and DGAS tools for AAA
- Integration of graphic job workflow creators (work already started in Catania)
- Customized version for the dissemination test-bed
- Integration with GAT from GridLab2 (EGEE NA5)
- Close look at the technology of portlets as containers of grid services (see how to match them with GENIUS services) → evolve towards OGSA/OGSI

● Reference portal for the INFN-INAF collaboration at Catania



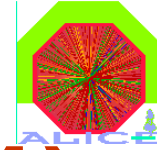
Future dev.: GENIUS-VOMS integration





Summary and conclusions

- GENIUS, notwithstanding its “youth”, is “well on track” and seems to have a recognized present and a promising future
- It tries to merge the concepts of “user portal” and “science portal” and can easily evolve into a graphic “problem solving environment”
- It is the most advanced suite “on the market” for transparent access to several grid middlewares
- GENIUS is not only intended for a scientist day-by-day use. It has expressly been included in the EU EGEE Proposal and Technical Annex as a dissemination and tutoring tool for non expert users (in the last months, during the Catania and Rome EDG Tutorials, almost 100 people have been trained to use it) and as the grid portal for generic applications



FAQ's...and answers (1)

Q: I want to use GENIUS. Do I have to pay for it ?

A: No. GENIUS is “open source” and the underlying portal framework EnginFrame is **free** for education and research communities.

Q: I want to use GENIUS. Do I need any software running on my laptop ?

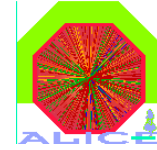
A: No client software needs to be installed apart from the web browser. GENIUS can really be accessed from everywhere.

Q: Do I have to be afraid about cached password sent over the web ?

A: Access passwords are securely “streamed” only when needed and then destroyed. Only temporary sessions are possible.

Q: Can new authentication methods implemented into GENIUS ?

A: Of course. Kerberos V is a good example. EnginFrame is compliant with Kerberos authentication and GENIUS with AFS.



FAQ's...and answers (2)

- **Q:** I want to add a new VO to GENIUS and customize new services for that VO. How can I do that ?
- **A:** A new VO can be added to GENIUS in just minutes. New VO specific services can be added just modifying only two files: an XML file and a shell script.
- **Q:** Can I use GENIUS to interface other m/w's ?
- **A:** Yes. Although GENIUS is currently based on the DataGrid middleware(w/ and w/o GLUE extensions), it can be very easily interfaced to others. A direct interface to the Globus Toolkit already exists and another one to Condor is in progress.
- **Q:** How can I start downloading/using GENIUS ?
- **A:** Go to the reference site <https://genius.ct.infn.it>, click on "GENIUS CVS available" and follow the instructions.