



First Latinamerican Grid Workshop, 15-20.11.2004

Enabling Grids for
E-science in Europe

www.eu-egee.org

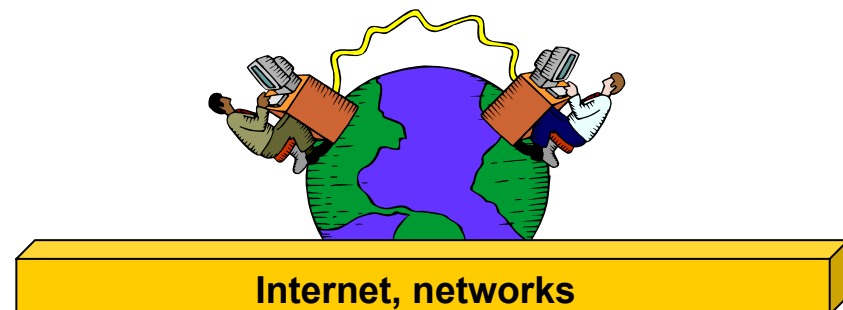
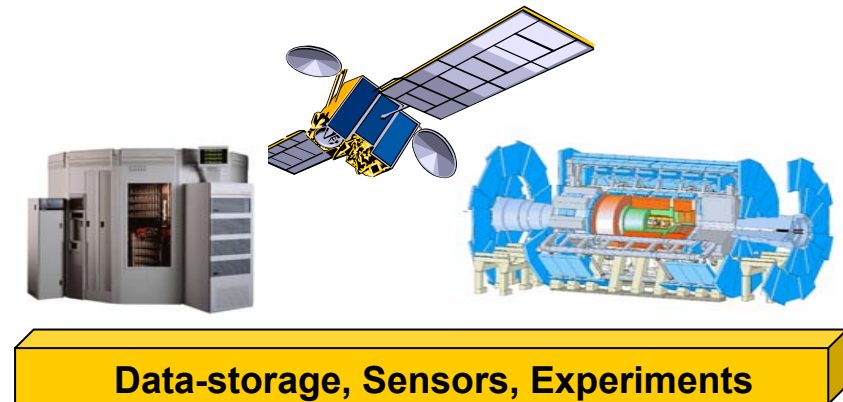
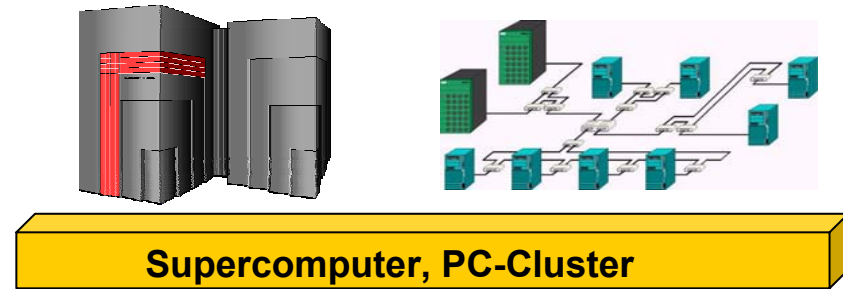
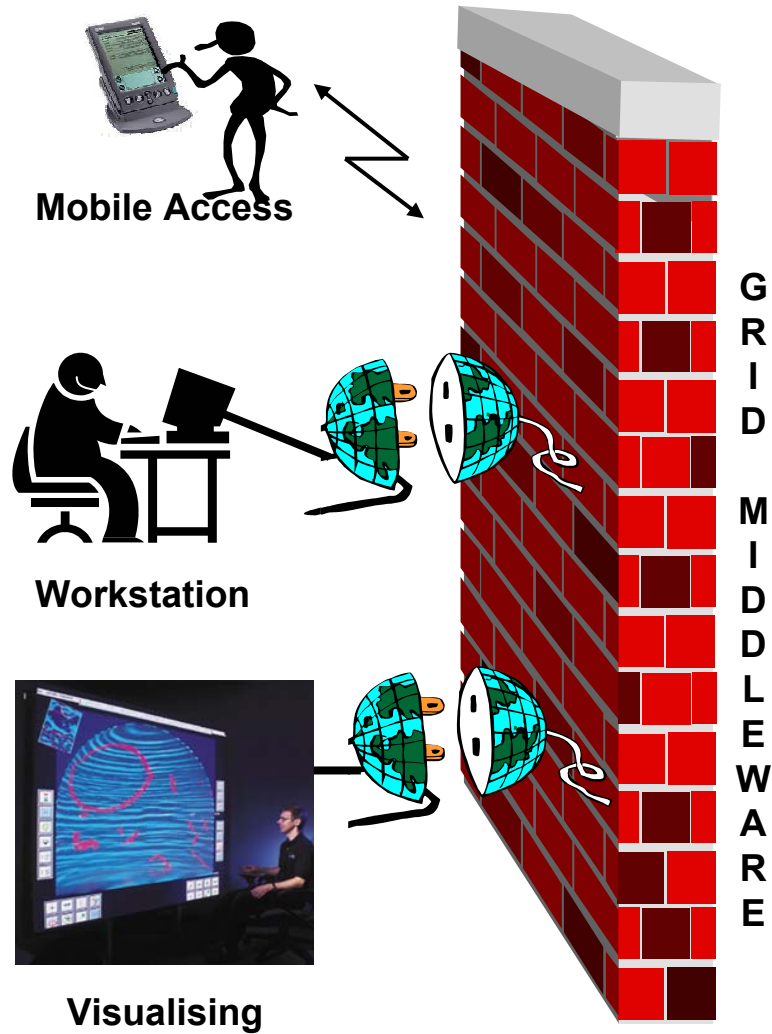
The GENIUS portal

Roberto Barbera
University of Catania and INFN

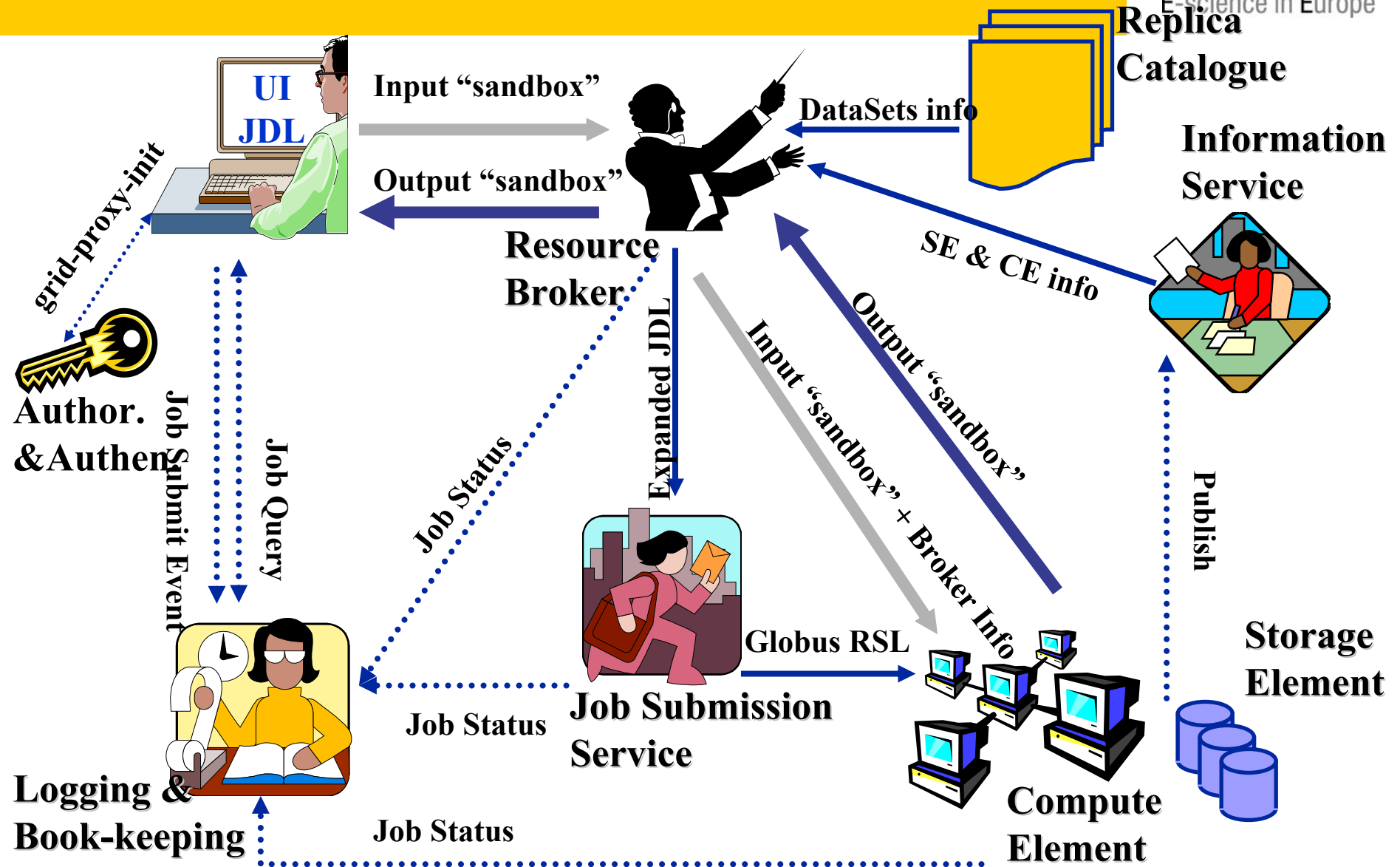


EGEE is a project funded by the European Union under contract IST-2003-508833

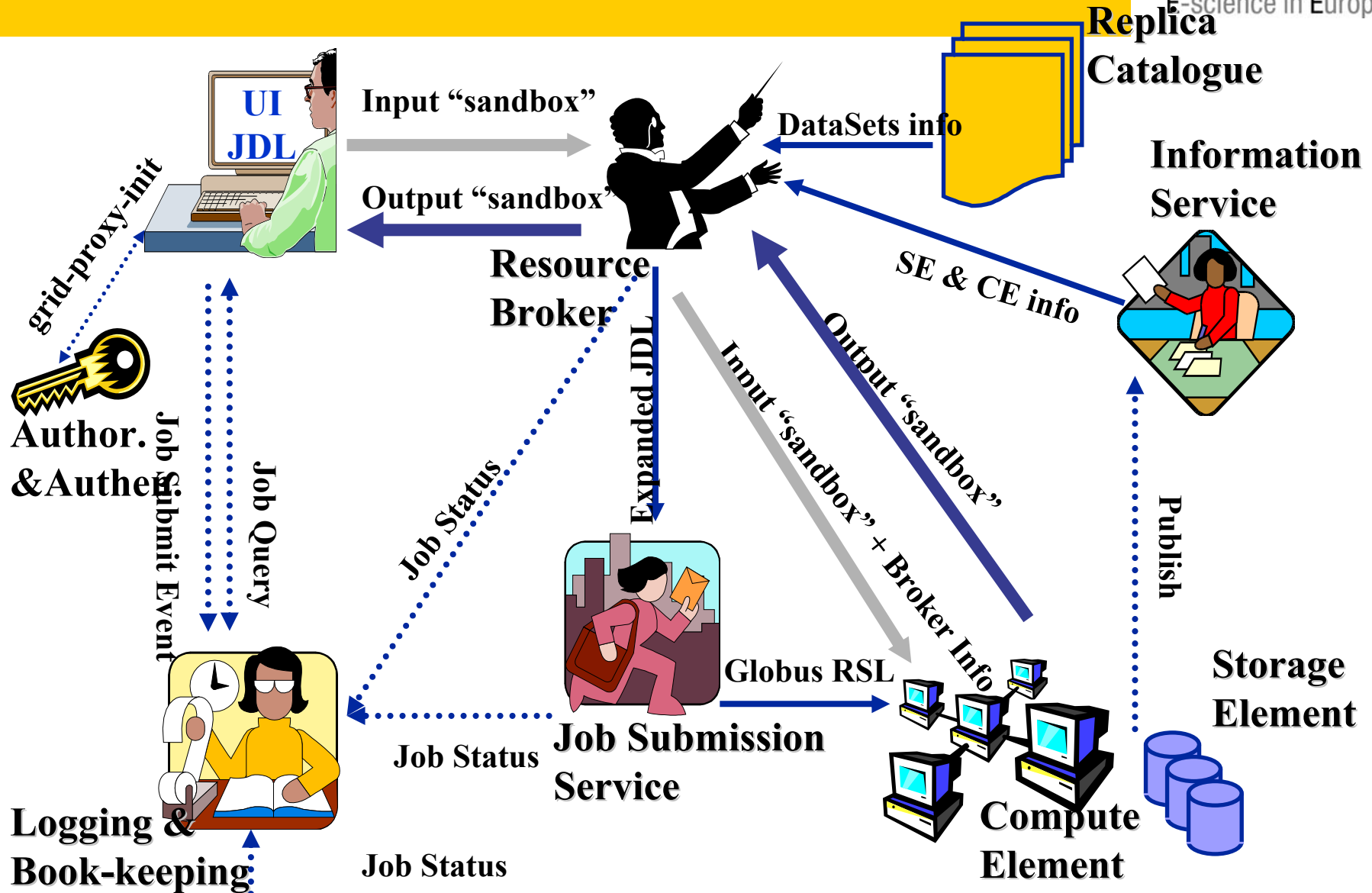
The Grid metaphor



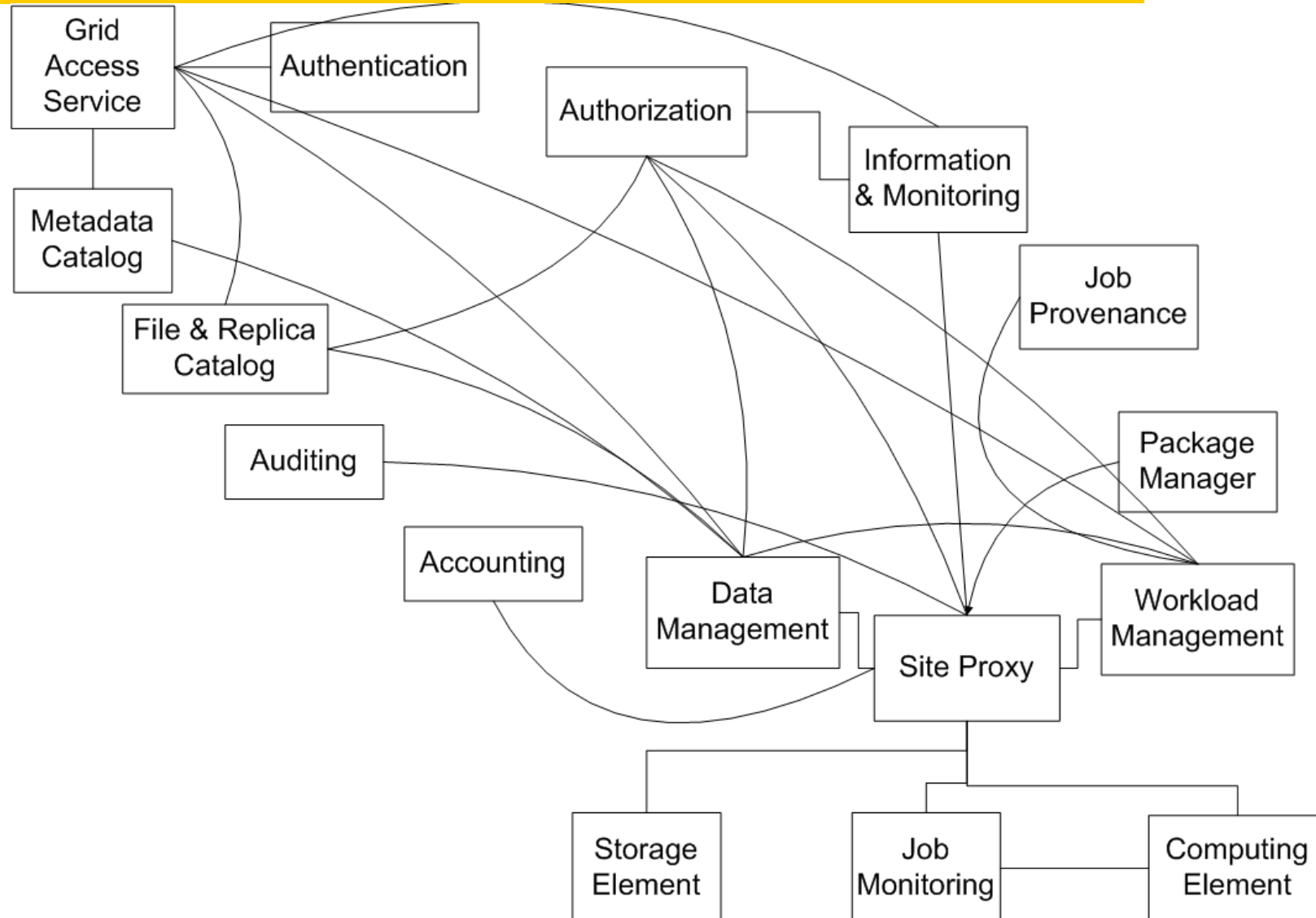
A typical job workflow



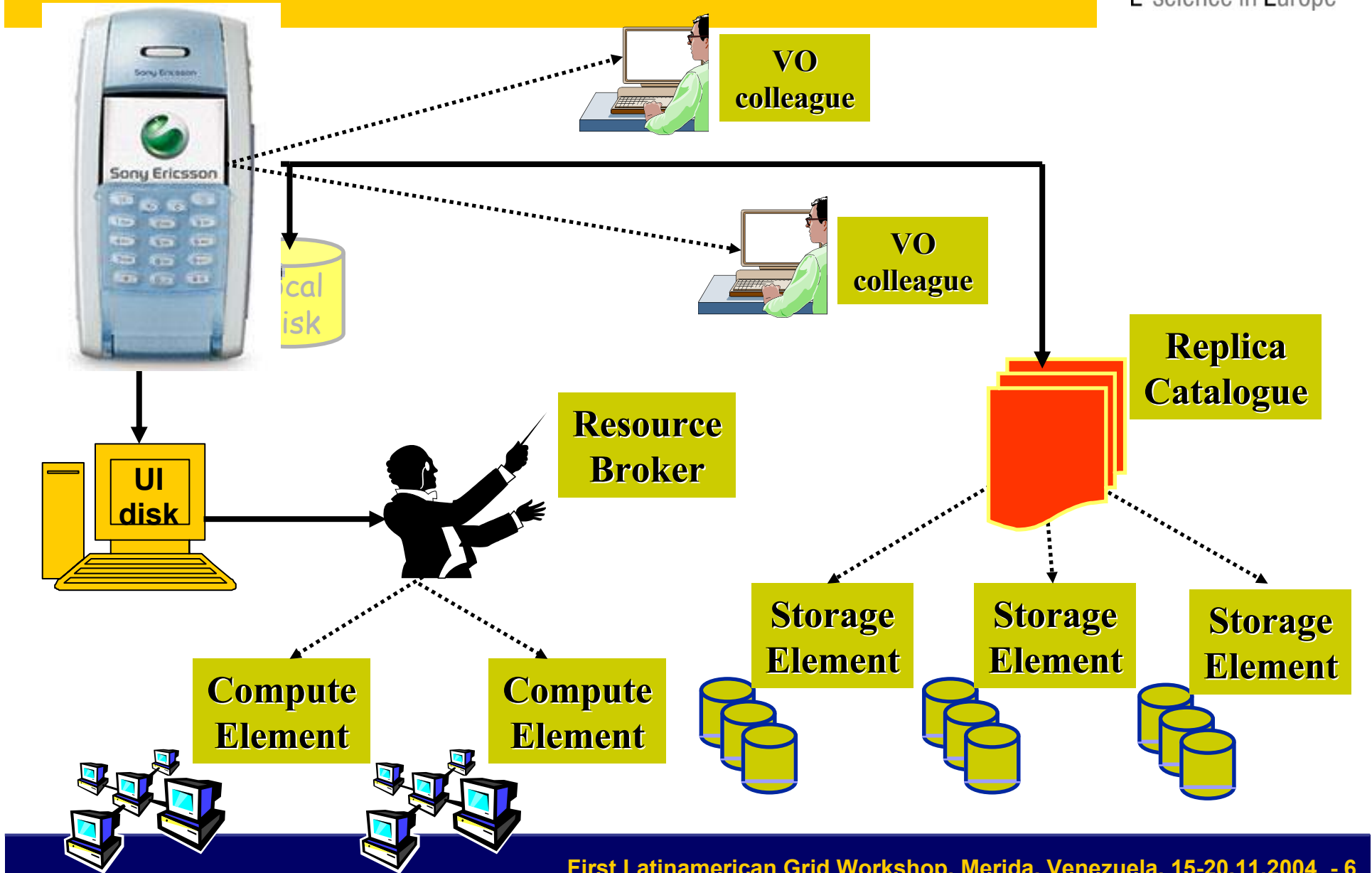
A typical job workflow



Typical grid services (gLite/ARDA)



The transparent grid access



A grid portal: why and how

- It can be accessed from everywhere and by “everything” (desktop, laptop, PDA, cell phone).
- It can keep the same user interface to several back-ends.
- 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.

The GENIUS hourglass model

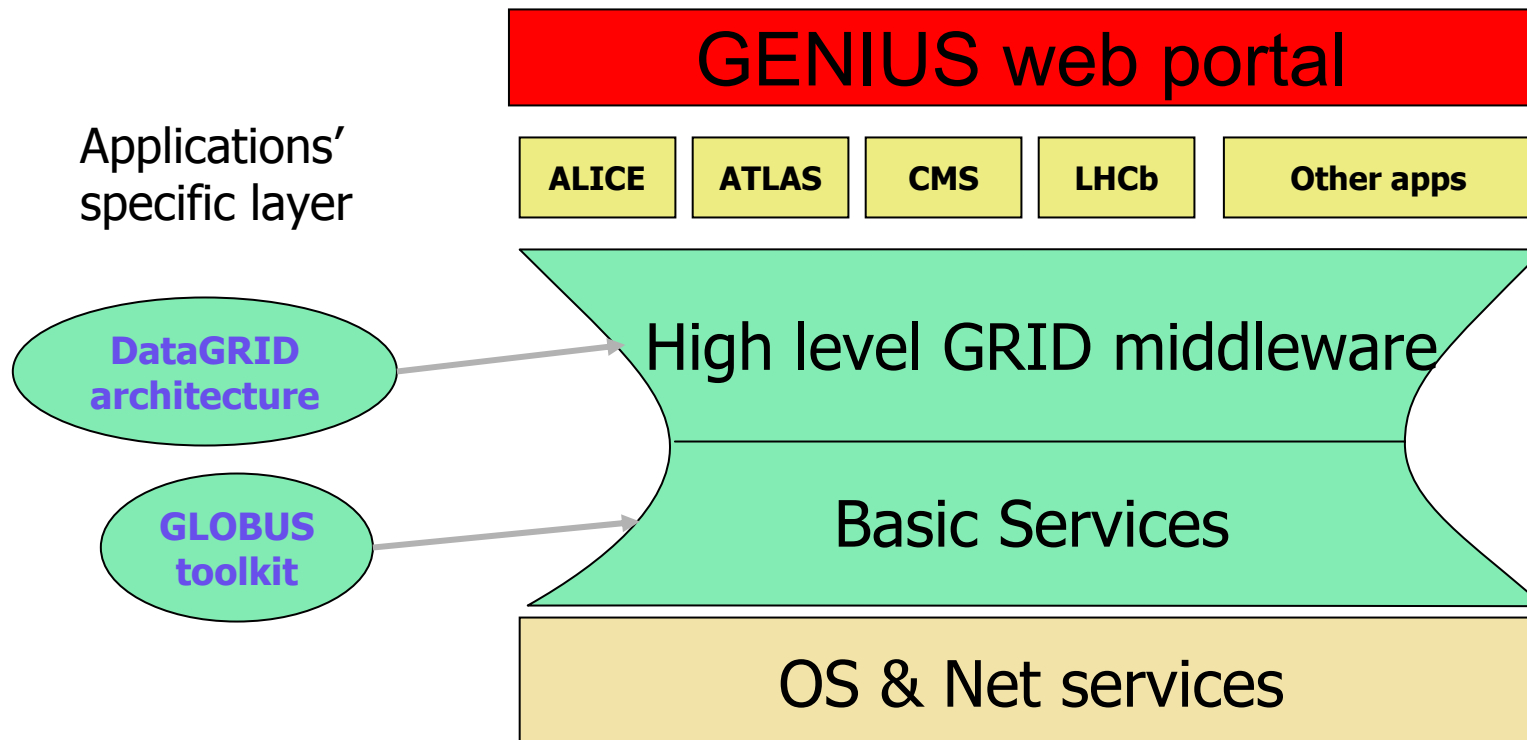


GENIUS[®]

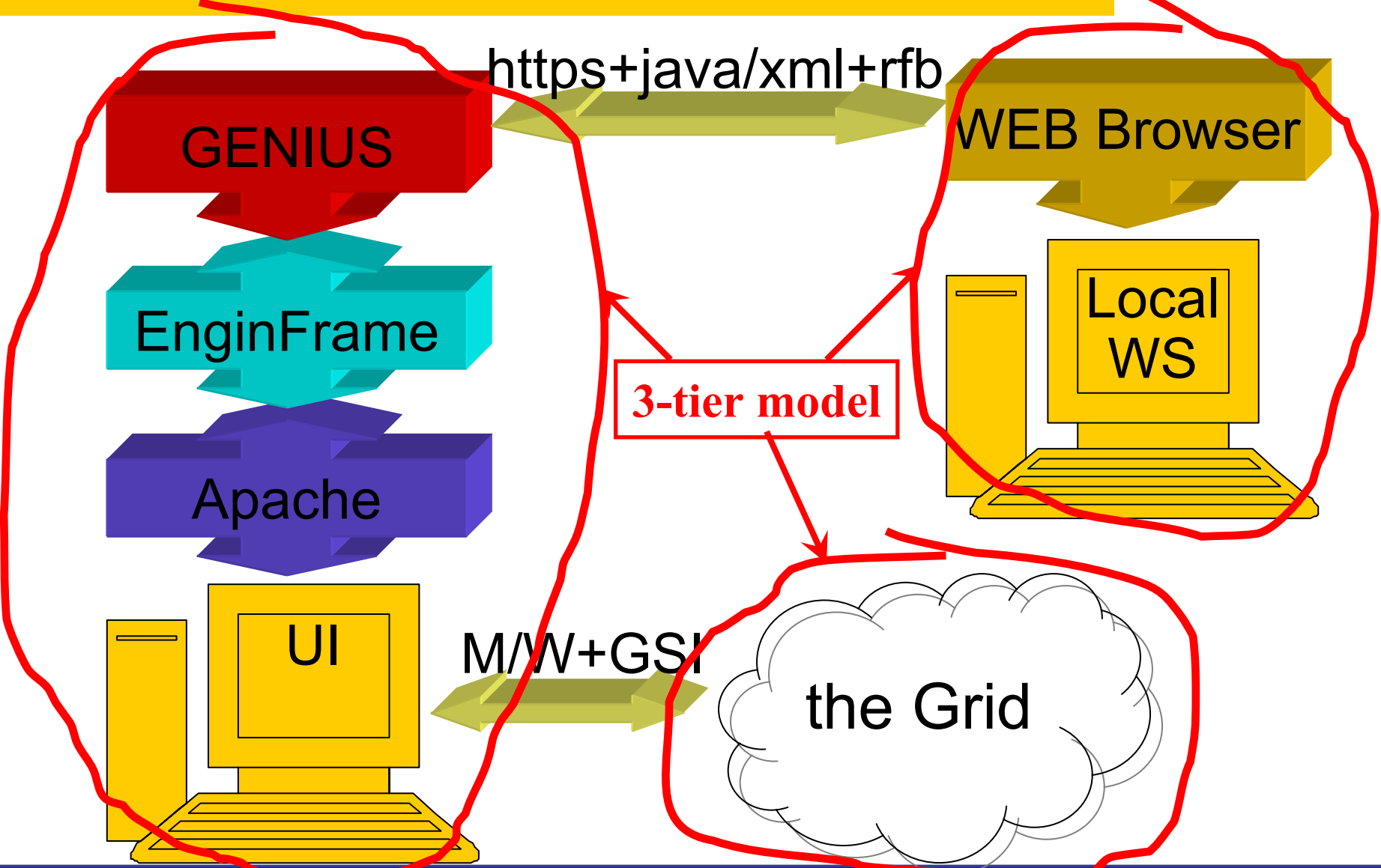
(Grid Enabled web eNvironment for
site Independent User job Submission)

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

INFN/NICE collaboration



GENIUS: how it works



GENIUS home page (<https://grid-tutor.ct.infn.it>)



GENIUS file services (1/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

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Istituto Nazionale di Fisica Nucleare

EnginFrame

genius

eGEE
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Grid Enabled web eNvironment for site Independent User job Submission

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

File Services

- up
- Create a File
- View a File
- Edit a File
- Rename a File/Directory
- Delete a File/Directory
- Create a Directory
- Upload a TAR ball
- Upload a file
- Show the Environment

powered by
[EnginFrame 3.2](#)
compliant with
[LCG-2](#)
[GRID.IT](#)

View a File

With this service you may view a file in your home directory.

Select File to View

Remote File Browsing - Mozilla

alice_rc_mss.conf	414
aliroot.jdl	1,644
aliroot...	1,136
authentication.log	294
csound.jdl	807
csound.orc	2,633
csound.sco	2,491
defcity.pov	1,951
demtools.jdl	1,158
dna.pov	4,731
edg_wl_ui_gui_log4j.log	0
edglog.log	1,050
file_09003.txt	14
golden_CO.dem	1,098,752
grand_canyon_AZ.dem	1,160,192

Path: /home/barbera

Selected: aliroot.jdl

GENIUS file services (1/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

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Grid Enabled web eNvironment for site Independent User job Submission

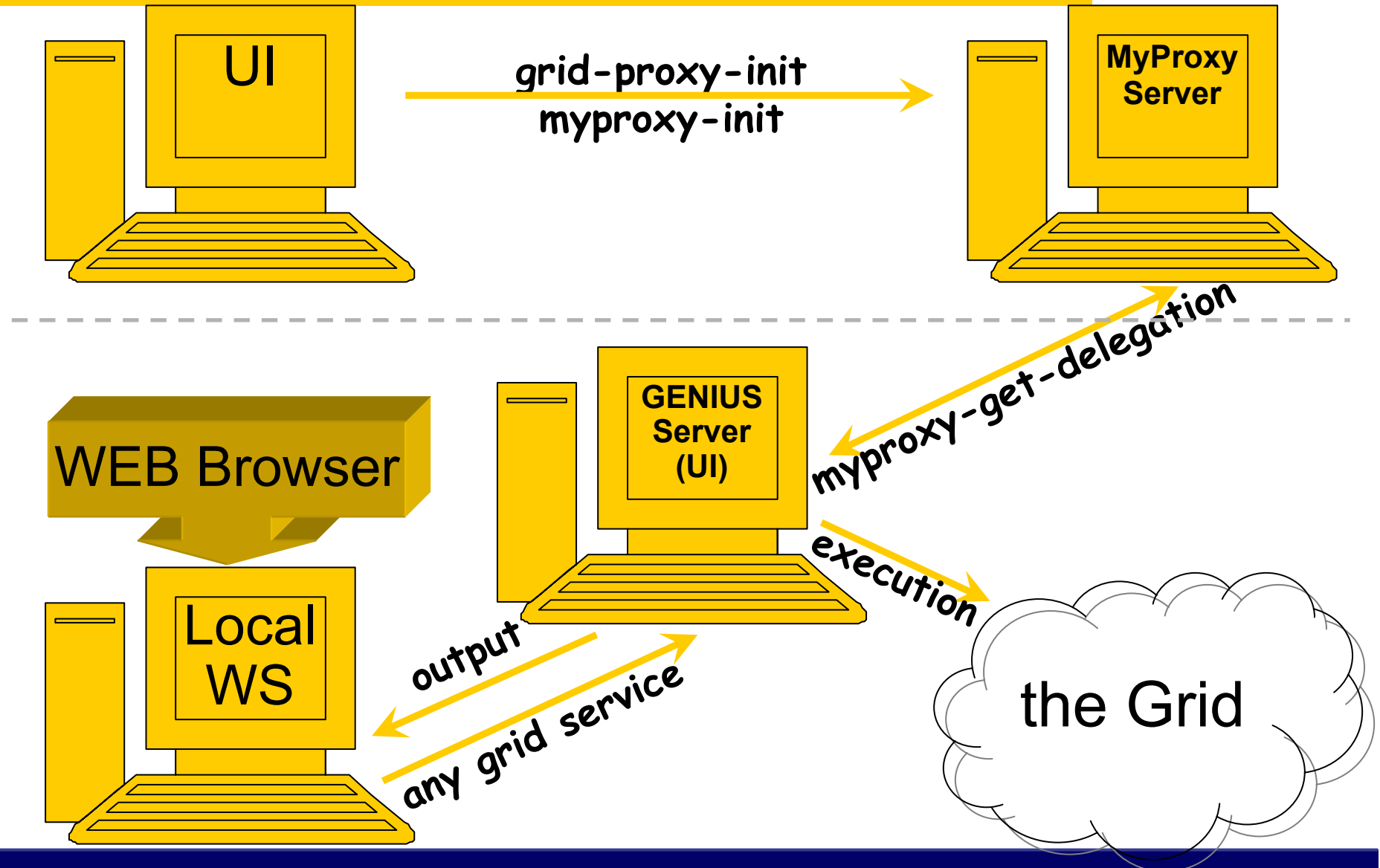
RB: catania_gridit VO: alice RLS: GRIDIT Your Data Logout

```
#####  
#####  
##                               ##  
## ----- Job Description for DEMTOOLS ----- ##  
##                               ##  
## author: roberto.barbera@ct.infn.it ##  
##                               ##  
#####  
#####  
Type = "Job";  
JobType = "Normal";  
Executable = "/bin/sh";  
MyProxyServer="lxshare0207.cern.ch";  
StdOutput = "demtools.out";  
StdError = "demtools.err";  
InputSandbox = ("start_demtools.sh","mount_sainte_helens_WA.dem","grand_canyon_AZ.dem");  
OutputSandbox = ("demtools.out","demtools.err","mount_sainte_helens_WA.ppm","mount_sainte_helens_WA.wr  
RetryCount = 7;  
Arguments = "start_demtools.sh";  
Requirements = Member("DEMTTOOLS-1.0",other.GlueHostApplicationSoftwareRunTimeEnvironment) || Member("D
```

GENIUS authentication with MyProxy

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, genius, and eGEE. A navigation menu on the left lists services such as File Services, Security Services, Job Services, Data Services, Info Services, Monitoring Services, and Interactive Services. The main content area includes a "Login to the GRID" form with fields for Username (barbera), MyProxy Passphrase (masked), and Validity (hours) (4), along with a "Login" button. The footer of the page states "powered by EnginFrame 3.2 compliant with LCG-2 GRID.IT".

Grid authentication with MyProxy



GENIUS grid settings (1/2)

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page features the INFN logo (Istituto Nazionale di Fisica Nucleare) on the left, and the EnginFrame, genius, and eGEE logos at the top. A navigation bar includes "RB: cnaf_gridit", "VO: alice", "RLS: GRIDIT", "Your Data", and "Logout". The main content area is titled "Grid Settings" and contains the following text: "With this service you can select the Resource Broker and the Replica Location Server you want to use. It is possible also to set the MyProxy Server on which you stored your temporary proxy to get from GRID Authentication." Below this text are three dropdown menus: "Resource Broker (RB): CNAF GRIDIT (currently selected)", "Replica Location Server (RLS): GRIDIT (currently selected)", and "MyProxy Server: grid001.ct.infn.it (currently selected)". An "Update" button is located below the dropdowns. A sidebar on the left lists various services, with "Grid Settings" highlighted. At the bottom of the sidebar, it says "powered by EnginFrame 3.2 compliant with LCG-2 GRID.IT".

GENIUS VO selection

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla" with the address bar set to "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, genius, and eGEE. A navigation bar displays "RB: cnaf_gridit", "VO: alice", "RLS: GRIDIT", "Your Data", and "Logout". The main content area is titled "Set VO" and includes the text: "With this service you can select the Virtual Organization you belong to." Below this is a "Virtual Organization (VO):" label, a "Set" button, and a dropdown menu. The dropdown menu is open, showing a list of VOs: ALICE (currently selected), GILDA, ATLAS, BABAR, BIO, Biomedical, CMS, D0, DIANE, Dissemination, Earth Observation, ITeam, LHCb, PANDA, THEOPHYS, TUTOR, VIRGO, WORLDGRID, and WPSix. A mouse cursor is pointing at the "ALICE (currently selected)" option. A left sidebar contains a menu of services such as File Services, Security Services, Job Services, Data Services, Info Services, Monitoring Services, Interactive Services, Grid Settings, Set VO, Current VO Services, Statistics, and Logout. At the bottom of the sidebar, it states "powered by EnginFrame 3.2 compliant with LCG-2 GRID.IT". The browser's status bar at the bottom shows "Done".

GENIUS graphic job editor (1/2) (work in collaboration with DATAMAT)

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla" with the address bar set to "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, genius, and eGEE. The main heading is "Job Editor" with the subtitle "Grid Enabled web eNvironment for site Independent User job Submission".

The interface includes a left sidebar with "Job Services" and a main content area for editing a job. The job name is "/home/barbera/alroot.jdl". The "Job Type" is "Job Definition 1". The "Executable" is "/bin/sh" with a checked "Remote" option. The "Arguments" are "script-short.sh".

The "Standard Streams" section includes:

- StdInput: [empty field] with a "Remote" checkbox.
- StdOutput: "alroot.out" with a checked "Add to Output Sandbox" checkbox.
- StdError: "alroot.err" with a checked "Add to Output Sandbox" checkbox.

The "Input Sandbox" section contains a list of files: "grun_3_09_06_hbt.C", "Config_HBT.C", "AliITSDigits2RecPoints.C", "AliITSTrackingV1.C", and "AliITSEndClustersV2.C". There are "Add", "Remove", and "Clear" buttons.

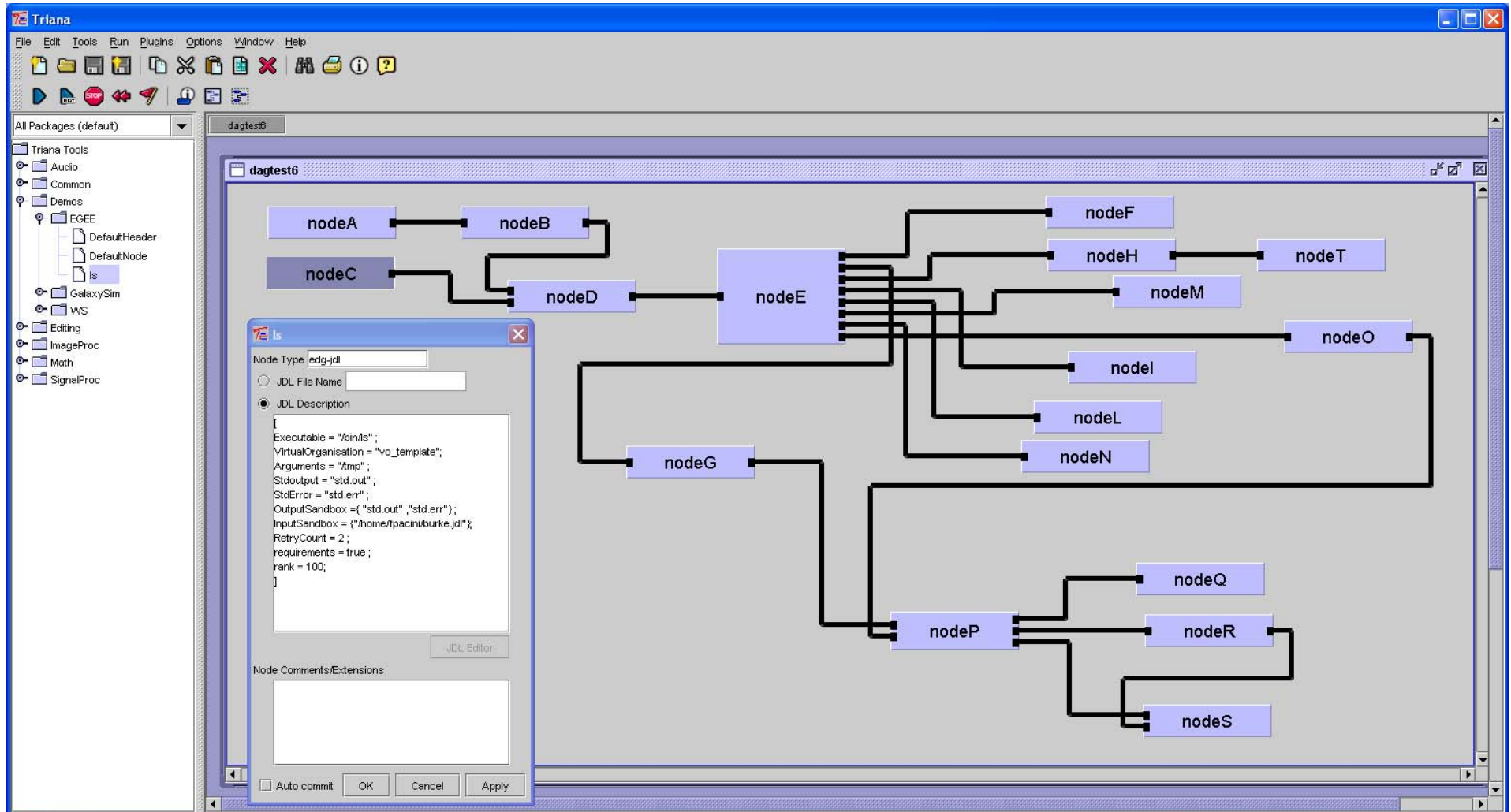
The "Output Sandbox" section is currently empty.

At the bottom of the browser window, a status bar indicates "Applet JDL Editor 1.0 started".

GENIUS graphic job editor (2/2) (work in collaboration with DATAMAT)

The screenshot shows a Mozilla browser window displaying the GENIUS INFN GRID Portal. The browser's address bar shows the URL `https://genius.ct.infn.it/`. The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), enginframe, genius, and eGEE. A navigation menu on the left lists 'Job Services' including 'up', 'Single Job', 'Multi Job', 'List Available Resources', 'Job Editor', 'Job GUI', and 'Close Job GUI Session'. The main content area is titled 'Grid Enabled web eNvironment for site Independent User job Submission'. It contains a file list with entries 'alroot.err', 'alroot.out', and 'galice.root', and buttons for 'Remove' and 'Clear'. Below this is a 'Reset' and 'View' button bar. A large text area displays job configuration details: 'Type = "Job"; JobType = "Normal"; Executable = "/bin/sh"; MyProxyServer="lxshare0207.cern.ch"; StdOutput = "alroot.out"; StdError = "alroot.err"; InputSandbox = {"script-short.sh", "rootrc", "grun_3_09_06_hbt.C", "Config_HBT.C", "AliITSDigits2Rec...'. At the bottom, a 'Choose Action' dropdown menu is open, showing options: 'Save Job Description file', 'Save Job Description file', and 'Save and Submit Job to RB'. The browser's status bar at the bottom indicates 'Applet JDL Editor 1.0 started'.

GENIUS graphic workflow editor (integration with TRIANA from GridLab Project, not yet fully functional)



GENIUS single job submission

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

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

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Grid Enabled web eNvironment for site Independent User job Submission

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

Now you may also choose a specific Computing Element for your job.

JDL File Selected: /home/barbera/hostname.jdl

Specify the CE Resource: Let the CATANIA_GRIDIT Resource Broker choose

- grid002.ca.infn.it:2119/jobmanager-lcgpbs-infinite
- grid002.ca.infn.it:2119/jobmanager-lcgpbs-long
- grid002.ca.infn.it:2119/jobmanager-lcgpbs-short
- grid002.pi.infn.it:2119/jobmanager-lcgpbs-infinite
- grid002.pi.infn.it:2119/jobmanager-lcgpbs-long
- grid002.pi.infn.it:2119/jobmanager-lcgpbs-short
- grid008.to.infn.it:2119/jobmanager-lcgpbs-infinite
- grid008.to.infn.it:2119/jobmanager-lcgpbs-lcg
- grid008.to.infn.it:2119/jobmanager-lcgpbs-long
- grid008.to.infn.it:2119/jobmanager-lcgpbs-short
- grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite**
- grid012.ct.infn.it:2119/jobmanager-lcgpbs-short
- grid20.bo.ingv.it:2119/jobmanager-lcgpbs-long
- grid20.bo.ingv.it:2119/jobmanager-lcgpbs-short
- gridba2.ba.infn.it:2119/jobmanager-lcgpbs-infinite
- gridba2.ba.infn.it:2119/jobmanager-lcgpbs-long
- gridba2.ba.infn.it:2119/jobmanager-lcgpbs-short
- gridit001.pd.infn.it:2119/jobmanager-lcglsf-infinite
- gridit001.pd.infn.it:2119/jobmanager-lcglsf-long
- gridit001.pd.infn.it:2119/jobmanager-lcglsf-short

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GENIUS single job queue

Welcome to the GENIUS INFN GRID Portal - Mozilla

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

Job Queue

#	Job ID	JDL Name	Last Update	Destination	Status
1	G0ECFDFOnNTBK2gOPAxrDg/home/barbera/hostname.jdl		Thu Apr 15 19:28:04 2004	gridba2.ba.infn.it:2119/jobmanager-lcgpbs-long	Scheduled

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compliant with
[LCG-2](#)
[GRID.IT](#)

GENIUS multi job submission

Welcome to the GENIUS INFN GRID Portal - Mozilla

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

Multi Job

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

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compliant with
[LCG-2](#)
[GRID.IT](#)

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: test-job-1

JDL File(s):

Multi-Job Type: Parallel

Submission Cycles: 5

Submit

Remote File Browsing - Mozilla

<input type="checkbox"/>	alice_rc_def.conf	413
<input type="checkbox"/>	alice_rc_hbt_production.conf	422
<input type="checkbox"/>	alice_rc_hbt_production_mss.conf	423
<input type="checkbox"/>	alice_rc_mss.conf	414
<input checked="" type="checkbox"/>	aliroot.jdl	1,644
<input type="checkbox"/>	aliroot.test.jdl	1,136
<input type="checkbox"/>	authentication.log	294
<input checked="" type="checkbox"/>	csound.jdl	807
<input type="checkbox"/>	csound.orc	2,633
<input type="checkbox"/>	csound.sco	2,491
<input type="checkbox"/>	defcity.pov	1,951
<input checked="" type="checkbox"/>	demtools.jdl	1,158
<input type="checkbox"/>	dna.pov	4,731
<input type="checkbox"/>	edg_wl_u...	0
<input type="checkbox"/>	edglog.log	1,050

Path: /home/barbera

OK Cancel

Select all Unselect all

GENIUS multi job queue

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, and eGEE. Below the logos, it says "Grid Enabled web eNvironment for site Independent User job Submission".

Navigation links include: RB: catania_gridit, VO: alice, RLS: GRIDIT, Your Data, and Logout.

Job Queue

#	Job ID	Last Update	Destination	Status	Exit Code	Action
6	-O11R41j0z0rQ9yk-h9WdQ	Thu Apr 15 19:29:11 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite	Running		Cancel
5	SPSM_X9bG1QIjday7ew8hA	Thu Apr 15 19:26:36 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite	Scheduled		Cancel
4	gEDcoARDsYJ3Afp9pFMizw	Thu Apr 15 19:29:10 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite	Running		Cancel
3	tRr2Va5JOtbqQ1AzvJApNw	Thu Apr 15 19:29:10 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-short	Running		Cancel
2	CCcFFOjj-44rMu63qS0Mjw	Thu Apr 15 19:29:11 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite	Running		Cancel
1	CCcFFOjj-44rMu63qS0Mjw	Thu Apr 15 19:29:11 2004	grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite	Running		Cancel

On the left sidebar, there are links for "Multi Job", "up", "Job Submission", "Job Queue", "Job Data", and "Clean Job Queues". At the bottom of the sidebar, it says "powered by EnginFrame 3.2 compliant with LCG-2 GRID.IT".

GENIUS data spooler (1/2)

The screenshot shows a Mozilla browser window displaying the GENIUS data spooler interface. The browser's address bar shows the URL `https://genius.ct.infn.it/`. The page header includes logos for **enginframe**, **genius**, and **eGEE** (Enabling Grids for E-science in Europe). Below the logos, the text reads "Grid Enabled web eNvironment for site Independent User job Submission".

The main content area features a table with the following headers: **RB: catania_gridit**, **VO: alice**, **RLS: GRIDIT**, **Your Data**, and **Logout**. A **Destroy** button is visible on the left side of the table. The table content includes a directory listing for "Directory contents - 20040415_212509_test-job-2/barbera_gEDcoARDsYJ3Afp9pFMizw".

RB: catania_gridit	VO: alice	RLS: GRIDIT	Your Data	Logout
csound.aiff	11,379,286	csound.out.txt	12,691	
csound.err.txt	175			

Below the table, a **RealOne Player** window is open, showing a video player for `csound.aiff` with a progress bar at 0:09 / 1:04. The player includes standard playback controls like play/pause, stop, previous, next, and volume.

The browser's status bar at the bottom shows the full URL: `https://genius.ct.infn.it/ef/download/csound.aiff?spooler=spooler:///opt/gen...olers/tmp1082057707024.ef&file=,barbera_gEDcoARDsYJ3Afp9pFMizw/csound.aiff`.

GENIUS data spooler (2/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

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Grid Enabled web eNvironment for site Independent User job Submission

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

Destroy Directory contents - 20040415_212509_test-job-2/barbera_gEDcoARDsYJ3Afp9pFMizw

csound.err
csound.out

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
LCG-2
GRID.IT

Save As

Salva in: Desktop

- Documenti recenti
- Desktop
- Documenti
- Risorse del computer
- Risorse di rete

Nome file: csound.out Salva

Salva come: Text File Annulla

GENIUS RLS browsing (1/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

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Grid Enabled web eNvironment for site Independent User job Submission

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

Current directory is /

[alroot.test.jdl](#)

[fig1.gif](#)

[mr-10737-AliITScustersV2 3.09.06 05020.root](#)

[mr-10737-AliITStracksV2 3.09.06 05020.root](#)

[mr-10737-AliTPCclusters 3.09.06 05020.root](#)

[mr-10737-AliTPCtracksSorted 3.09.06 05020.root](#)

[mr-10737-AliTPCtracks 3.09.06 05020.root](#)

[mr-10737-galice 3.09.06 05020.root](#)

[mr-10737-itstracks 3.09.06 05020.root](#)

[mr-10737-run 3.09.06 05020.log](#)

[mr-11594-AliITScustersV2 3.09.06 05020.root](#)

[mr-11594-AliITStracksV2 3.09.06 05020.root](#)

[mr-11594-AliTPCclusters 3.09.06 05020.root](#)

[mr-11594-AliTPCtracksSorted 3.09.06 05020.root](#)

[mr-11594-AliTPCtracks 3.09.06 05020.root](#)

[mr-11594-galice 3.09.06 05020.root](#)

[mr-11594-itstracks 3.09.06 05020.root](#)

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https://genius.ct.infn.it/infn.grid.xml? uri=/infn.grid/navigate-rc-file-info&option=edq file_info&edq_file_info=alroot.test.jdl

GENIUS RLS browsing (2/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

File Edit View Go Bookmarks Tools Window Help

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

You have selected the file **aliroot.test.jdl**
This logical file corresponds to the following SRM(s).
Click on the SRM(s) to view its properties.

⊗ <sfn://grid005.ct.infn.it/flatfiles/alice/generated/2004-04-15/file/4bec6df-8ef3-11d8-9c65-b4d90db37641>

⊗ = The Best Replica

Data Services

up

Publish a File

Navigate RLS

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compliant with
LCG-2
GRID.IT

https://genius.ct.infn.it/infno.grid.xml? uri=/infno.grid/navigate-rc-file-view&option=edq_file_view&edq_file_view=aliroot.test.jdl

GENIUS data publication (1/3)

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, and GENIUS. Below the logos, it says "Grid Enabled web eNvironment for site Independent User job Submission". A navigation bar includes "RB: catania_gridit", "VO: alice", "RLS: GRIDIT", "Your Data", and "Logout". The main content area explains that users can publish local data on the Replica Catalogue. It includes three selection fields: "Choose SE", "Choose File/Directory", and "Choose Remote File/Directory". A dropdown menu is open for "Choose SE", showing a list of storage elements with their free space and mount points. The element "grid005.ct.infn.it with 2085822320 Mb of freespace on mount point /flatfiles" is highlighted. A "Publish" button is visible below the list. The browser's status bar at the bottom shows "Done".

powered by
[EnginFrame 3.2](#)
compliant with
[LCG-2](#)
[GRID.IT](#)

Choose SE:

Choose File/Directory:

Choose Remote File/Directory:

- gridba6.ba.infn.it with 1754428432 Mb of freespace on mount point /flatfiles/SE00
- boalice1.bo.infn.it with 70656764 Mb of freespace on mount point /flatfiles/SE00
- grid21.bo.infn.it with 24462836 Mb of freespace on mount point /flatfiles/SE00
- grid003.ca.infn.it with 147383508 Mb of freespace on mount point /flatfiles/SE00
- castortp.cnaf.infn.it with 100000000000 Mb of freespace on mount point /castor/cnaf.infn.it/grid/lcg
- castortp-cms.cr.cnaf.infn.it with Mb of freespace on mount point /castor/cnaf.infn.it/grid/lcg
- diskerv-cms-2.cr.cnaf.infn.it with Mb of freespace on mount point /storage/CMS1
- grid005.ct.infn.it with 2085822320 Mb of freespace on mount point /flatfiles**
- grid2.fe.infn.it with 24330836 Mb of freespace on mount point /flatfiles/SE00
- t2-se-02.lnl.infn.it with 1000530348 Mb of freespace on mount point /data1
- gridit01.na.infn.it with 871544828 Mb of freespace on mount point /flatfiles/SE00
- gridit002.pd.infn.it with 295715668 Mb of freespace on mount point /flatfiles/SE00
- cmsgridse.pg.infn.it with Mb of freespace on mount point /flatfiles/SE00
- grid001.pi.infn.it with 11508152 Mb of freespace on mount point /flatfiles/SE00
- t2-se-01.roma1.infn.it with 435560276 Mb of freespace on mount point /flatfiles/SE00
- virgo-se.roma1.infn.it with 14527264 Mb of freespace on mount point /flatfiles/SE00
- grid009.to.infn.it with 444383944 Mb of freespace on mount point /flatfiles/SE00

GENIUS data publication (2/3)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
Istituto Nazionale di Fisica Nucleare

EnginFrame

genius

eGEE
Enabling Grids for E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

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

Data Services

- up
- Publish a File
- Navigate RLS

powered by [EnginFrame 3.2](#)

compliant with [LCG-2](#) and [GRID.IT](#)

Choose SE: gridba

Choose File/Directory:

Choose Remote File/Directory:

Publish

File Upload

Cerca in: GRID-2004

- edgrev3
- egee
- egee-conf-1
- egee-na4
- egee-na4-web
- egee-posti
- egee-slides
- egee-ta
- etngrid2004
- firb2003
- genius
- genius-manual
- gpfs
- grid.ct
- grid-tutorials
- healthgrid-whitepaper
- incontro-referees-190304
- meeting-economist
- meeting-idc
- richieste
- borse-infn.pdf
- Convenzione_INFN-DMI.doc
- EGEE-contratti.xls
- na4-wbs.gif
- PON_436.pdf
- programma_dettagliato_borse2004.txt
- tb_infngrid_8-90104.ppt
- temborsetecnologi2004.doc
- Thumbs.db
- titoli_borse2004.txt

Nome file: na4-wbs.gif

Tipo file: All Files

Apri Annulla

Done

GENIUS data publication (3/3)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
Istituto Nazionale
di Fisica Nucleare

enginframe

genius

eGEE
Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

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

```
edg-replica-manager starting..
Issuing command : copyAndRegisterFile
Parameters:
file:///home/barbera/.genius/filestopublish/filetopublish
-1
lfn:na4-wbs.gif
-d
gridba6.ba.infn.it
Destination is a host : //gridba6.ba.infn.it
Call replica manager copyAndRegister function
Filesize to copy (MB) = 0.013323784
copy : From      : /home/barbera/.genius/filestopublish/filetopublish
copy : To        : gsiftp://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004-04-15/file9588a666-8
copy : Protocol  : gsiftp
copy : # streams: 1
Transfer took: 3818 ms.
Copy successful to : File name      = gsiftp://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004
File size         = 13971
File Owner        = -
Associated SE:
Created new entry for surl with logical name lfn:na4-wbs.gif
guid:9c991f27-8f17-11d8-b7be-a63a3c237fce
Copy and Registration successful.
```

GENIUS data replication (1/4)

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page features logos for INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, genius, and eGEE. A navigation menu on the left includes "Data Services", "up", "Publish a File", and "Navigate RLS". The main content area displays "Grid Enabled web eNvironment for site Independent User job Submission" and a status bar with "RB: catania_gridit", "VO: alice", "RLS: GRIDIT", "Your Data", and "Logout". A message states "You have selected the file **alroot.test.jdl**" and "Click on the SRM(s) to replicate it." Below this is a URL: <sfn://grid005.ct.infn.it/flatfiles/alice/generated/2004-04-15/file4bec6df-8ef3-11d8-9c65-b4d90db37641>. The footer of the browser window shows the full URL: "https://genius.ct.infn.it/infq.grid.xml? uri=/infq.grid/navigate-rc-file-replicate&option=edq file_replicate&edq file_replicate=alroot.test.jdl".

GENIUS data replication (2/4)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
Istituto Nazionale
di Fisica Nucleare

enginframe

genius

eGEE
Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

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

Data Services

- up
- Publish a File
- Navigate RLS

powered by
[EnginFrame 3.2](#)
compliant with
[LCG-2](#)
[GRID.IT](#)

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

FROM SE

TO SE

LFN

Replicate

- gridba6.ba.infn.it with Mb of freespace on mount point /flatfiles/SE00
- boalice1.bo.infn.it with Mb of freespace on mount point /flatfiles/SE00
- grid003.ca.infn.it with Mb of freespace on mount point /flatfiles/SE00
- grid2.fe.infn.it with 147383508 Mb of freespace on mount point /flatfiles/SE00
- t2-se-02.inl.infn.it with 147383508 Mb of freespace on mount point /data1
- griditse01.na.infn.it with 147383508 Mb of freespace on mount point /flatfiles/SE00
- gridit002.pd.infn.it with 2085822320 Mb of freespace on mount point /flatfiles/SE00
- with with 2085822320 Mb of freespace on mount point Mb
- cmsgridse.pg.infn.it with 2085822320 Mb of freespace on mount point /flatfiles/SE00
- grid001.pi.infn.it with 24330836 Mb of freespace on mount point /flatfiles/SE00
- t2-se-01.roma1.infn.it with 24330836 Mb of freespace on mount point
- grid009.to.infn.it with 24330836 Mb of freespace on mount point /flatfiles/SE00
- grid21.bo.inqv.it with Mb of freespace on mount point /flatfiles/SE00

Done

GENIUS data replication (3/4)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
Istituto Nazionale
di Fisica Nucleare

EnginFrame

genius

eGEE
Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

[RB: catania_gridit](#) [VO: alice](#) [RLS: GRIDIT](#) [Your Data](#) [Logout](#)

```
edg-replica-manager starting..  
Issuing command : replicateFile  
Parameters:  
lfn:alroot.test.jdl  
-d  
gridba6.ba.infn.it  
Destination is a host : //gridba6.ba.infn.it  
Call replica manager replicatefile function  
Finding best replica of : lfn:alroot.test.jdl  
'Best' with respect to : gridba6.ba.infn.it  
Filesize to copy (MB) = 0.001083374  
copy : From      : gsiftp://grid005.ct.infn.it/flatfiles/alice/generated/2004-04-15/filef4bec6df-8ef3-1  
copy : To        : gsiftp://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004-04-15/file2d3deece-8  
copy : Protocol  : gsiftp  
copy : # streams: 1  
Transfer took: 1857 ms.  
Copy successful to : File name      = gsiftp://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004  
File size          = 1136  
File Owner         = -  
Associated SE:  
sfn://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004-04-15/file2d3deece-8f18-11d8-937c-eda3d7e  
Replication successful.
```

GENIUS data replication (4/4)

The screenshot shows a Mozilla browser window titled "Welcome to the GENIUS INFN GRID Portal - Mozilla". The address bar contains "https://genius.ct.infn.it/". The page content includes logos for INFN (Istituto Nazionale di Fisica Nucleare), enginframe, genius, and eGEE. A navigation bar contains links for "RB: catania_gridit", "VO: alice", "RLS: GRIDIT", "Your Data", and "Logout". The main content area displays a message: "Grid Enabled web eNvironment for site Independent User job Submission". Below this, it states "You have selected the file **alroot.test.jdl**" and "This logical file corresponds to the following SRM(s)". Two SRM links are provided, each preceded by a radio button icon. A legend indicates that the radio button icon represents "The Best Replica".

powered by
EnginFrame 3.2
compliant with
LCG-2
GRID.IT

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

You have selected the file **alroot.test.jdl**
This logical file corresponds to the following SRM(s).
Click on the SRM(s) to view its properties.

sfn://grid005.ct.infn.it/flatfiles/alice/generated/2004-04-15/file4bec6df-8ef3-11d8-9c65-b4d90db37641

sfn://gridba6.ba.infn.it/flatfiles/SE00/alice/generated/2004-04-15/file2d3deece-8f18-11d8-937c-eda3d7a23460

= The Best Replica

GENIUS information services (1/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
Istituto Nazionale
di Fisica Nucleare

EnginFrame

genius

eGEE
Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

Info Services

- up
- Check Testbed
- Explore Testbed

powered by
[EnginFrame 3.2](#)

compliant with
[LCG-2](#)
[GRID.IT](#)

ibm140.cnaf.infn.it : 2170

- mds-vo-name=local,o=grid
 - Mds-Vo-name=inf
 - Mds-Vo-name=inf-bari
 - Mds-Vo-name=inf-bologna
 - Mds-Vo-name=inf-cagliari
 - Mds-Vo-name=inf-catania
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-long
 - GlueCESEBindGroupCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-short
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-long
 - GlueCEUniqueID=grid012.ct.infn.it:2119/jobmanager-lcgpbs-short
 - GlueClusterUniqueID=grid012.ct.infn.it
 - GlueSEUniqueID=grid005.ct.infn.it
 - GlueSLUniqueID=grid005.ct.infn.it
 - GlueServiceURI=ldap://grid005.ct.infn.it:2136
 - in=grid012.ct.infn.it/siteinfo
 - Mds-Vo-name=inf-ferrara
 - Mds-Vo-name=inf-lnl
 - Mds-Vo-name=inf-napoli

GENIUS information services (2/2)

The screenshot shows a Mozilla browser window titled "LDAP Explorer - Mozilla". The address bar contains the URL: `https://genius.ct.infn.it/LDAPExplorer/rindex.php?host=ibm140.cnaf.infn.it&port=2170&dn=GlueCEUniqueID%3Dgrid`. The main content area displays a list of LDAP attributes and their values, each in a text input field:

- GlueCEUniqueID* = `grid012.ct.infn.it:2119/jobmanager-lcgpbs-infinite`
- GlueCEInfoGatekeeperPort* = `2119`
- GlueCEInfoHostName* = `grid012.ct.infn.it`
- GlueCEInfoLRMSType* = `pbs`
- GlueCEInfoLRMSVersion* = `OpenPBS_2.4`
- GlueCEInfoTotalCPUs* = `112`
- GlueCEStateEstimatedResponseTime* = `0`
- GlueCEStateFreeCPUs* = `100`
- GlueCEStateRunningJobs* = `0`
- GlueCEStateStatus* = `Production`
- GlueCEStateTotalJobs* = `0`
- GlueCEStateWaitingJobs* = `0`
- GlueCEStateWorstResponseTime* = `0`
- GlueCEPolicyMaxCPUTime* = `172800`
- GlueCEPolicyMaxRunningJobs* = `4`
- GlueCEPolicyMaxTotalJobs* = `999999`
- GlueCEPolicyMaxWallClockTime* = `259200`
- GlueCEPolicyPriority* = `1`
- GlueCEAccessControlBaseRule* = `VO:alice`
- GlueCEAccessControlBaseRule* = `VO:alice`

At the bottom of the window, there are five buttons: "New/Add", "Modify", "Delete", "Rename", and "Reset".

GENIUS monitoring services

INFN - GridICE - Grid Monitoring Service - Mozilla

http://ed002.cnaf.infn.it:5000

GridICE the eyes of the Grid

Site view VO view Geo view Grid

Select Site

Site	Slot#	SlotFree	SlotLoad
ba.infn.it	189	186	1%
bo.infn.it	30	30	0%
bo.ingv.it	24	24	0%
ca.infn.it	15	12	20%
cnaf.infn.it	-	-	-
cr.cnaf.infn.it	3162	2137	32%
ct.astro.it	0	0	-
ct.infn.it	336	300	10%
fe.infn.it	48	18	62%
le.infn.it	0	0	-
lnl.infn.it	144	115	20%
mi.infn.it	126	126	0%
na.infn.it	72	72	0%
oat.ts.astro.it	6	6	0%
pd.infn.it	198	198	0%
pg.infn.it	12	6	54%
pi.infn.it	21	15	28%
pv.infn.it	18	18	0%
roma1.infn.it	90	87	3%
to.infn.it	104	24	76%
ts.infn.it	6	6	0%
TOTAL	4601	3380	17%

Network Topology (trace.txt.datagrid.pcp)

Applet NetBird started

GENIUS interactive services (1/2)

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

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Enabling Grids for E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

Disconnect Options Clipboard Send Ctrl-Alt-Del Refresh

barbera@genius:~

```
csound.orc test-ist2003-1_02102003_095622
csound.sco test.jdl
defcity.pov test.sh
dentools.jdl test1.txt
dna.pov test10tris_23012004_172110
edg-1.4 test2.txt
edg_wl_ui_gui_log4j.log
edglog.log
file_09003.txt
generated
golden_CO.dem
grand_canyon_AZ.dem
grun_3_09_06_hbt.C
grun_4_01_00.C
hadrontherapy.jdl
genius:> ned hadrontherapy.jdl
bash: ned: command not found
genius:> nedit hadrontherapy.jdl
bash: nedit: command not found
genius:> nedit
bash: nedit: command not found
genius:> emacs hadrontherapy.jdl
genius:> emacs hadrontherapy.jdl
```

emacs@genius.ct.infn.it

```
File Edit Options Buffers Tools Help
type = "Job";
JobType = "Normal";
Executable = "/bin/sh";
MyProxyServer="lxshare0207.cern.ch";
StdOutput = "hadrontherapy.out";
StdError = "hadrontherapy.err";
InputSandbox = {"hadrontherapy.sh","macro.mac"};
OutputSandbox = {"hadrontherapy.err","hadrontherapy.out","picco.dat","disA
","disEn.dat"};
RetryCount = 7;
Arguments = "hadrontherapy.sh";
Requirements =
Member("GEANT4-6",other.GlueHostApplicationSoftwareRunTimeEnvironment) && d
GlueCEPolicyMaxCPUTime>100 && other.GlueCEStateStatus == "Production" && ot
lueHostNetworkAdapterOutboundIP ;
#CEId = other.GlueCEUniqueID == "grid012.ct.infn.it:2119/jobmanager-pbs-inf
";
```

powered by
[EnginFrame 3.2](#)
compliant with
[LCG-2](#)
[GRID.IT](#)

Applet VncViewer started

GENIUS interactive services (2/2)

The screenshot shows a Mozilla browser window displaying the GENIUS INFN GRID Portal. The browser's address bar shows the URL <https://grid019.ct.infn.it/>. The page features several logos: INFN (Istituto Nazionale di Fisica Nucleare), EnginFrame, genius, and eGEE (Enabling Grids for E-science in Europe). The main content area is titled "Grid Enabled web eNvironment for site Independent User job Submission".

On the left side, there is a navigation menu under "Interactive Services" with options: "up", "P2P Services", "Open Desktop", "Close Desktop", and "Set Desktop Password". Below this, it states "powered by EnginFrame 3.2 compliant with LCG-2 GRID.IT".

The central part of the page displays a 3D visualization of a particle detector structure. The visualization is split into four views: "Previous", "Top View", "Side View", and "Front View". A "Pick" button is located at the bottom left of the visualization area. The "Previous" view shows a 3D wireframe of the detector. The "Top View" and "Side View" show 2D projections of the detector. The "Front View" shows a 2D projection of the detector from the front. A status bar at the top of the visualization area indicates "Alice event 0, Run:0" and "Nparticles = 1394 Nhits = 293362".

On the right side, there is a vertical list of detector components, each with a green "is on" status indicator:

- VZERO is on
- EMCAL is on
- START is on
- PMD is on
- PHOS is on
- MUON is on
- FMD is on
- TRD is on
- ZDC is on
- RICH is on
- TOF is on
- TPC is on
- ITS is on

The browser's status bar at the bottom shows the URL https://grid019.ct.infn.it/infn.grid.xml?_uri=/infn.grid/open-desktop.

GENIUS P2P services

Welcome to the GENIUS INFN GRID Portal - Mozilla

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...

INFN
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di Fisica Nucleare

enginframe

genius

eGEE
Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

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

GENIUS Chat Room for ALICE VO

Options Clear Font: monospaced 12 Users: 1

```
**
** 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> hello everyone !
```

barbera <--Type here

Powered by [Chat Everywhere](#)

Applet Chat started

GENIUS for PDA (1/2)

Home Page

Internet Explorer 9.46
https://grid003.ct.infn.it/pda/

INFN enginframe
genius Data GRID

Grid Enabled web eNvironment for site
Independent User job Submission
Welcome to GENIUS 2.7.0
[Click to Enter](#)

NEW [Known Limitations for PDA](#) NEW
[Important Notice](#)
[New Grid Authentication with MyProxy](#)

Services

Internet Explorer 16.56
https://grid003.ct.infn.it/pda/infnpd

genius

- File Services
- Security Services
- Job Services
- Data Services
- Info Services
- Monitoring Services
- Change RB
- Change VO
- Change RLS
- Browse Statistics
- Logout

Remote file browsing

Internet Explorer 10.06
https://grid003.ct.infn.it/pda/infnpd

genius

View a File

With this service you may view a file in yo
home directory.

File to View

or

Select

File to View

- alice_rc_hbt_production.conf
- alice_rc_hbt_production_mss.conf
- alice_rc_mss.conf
- aliroot.jdl
- authentication.log
- csound.jdl
- csound.orc

Remote file inspection

Internet Explorer 10.07
https://grid003.ct.infn.it/pda/infnpd

genius

File: /home/barbera/aliroot.jdl

```
Type = "Job";
JobType = "Normal";
Executable = "/bin/sh";
MyProxyServer="lxshare0207.cern.c
StdOutput = "aliroot.out";
StdError = "aliroot.err";
InputSandbox = {"script-short.sh"
OutputSandbox = {"aliroot.err","e
RetryCount = 7;
Arguments = "script-short.sh";
AliceSoftware = Member("ALICE-3.0
MaxCPUTime = other.GlueCEPolicyMa
MaxMemory = other.GlueHostMainMe
```

GENIUS for PDA (2/2)

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
/home/barbera/demtools.jdl
/home/barbera/hostname.jdl
RB: /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	bYqRSTNJoW6xOuwxVkrG
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 /

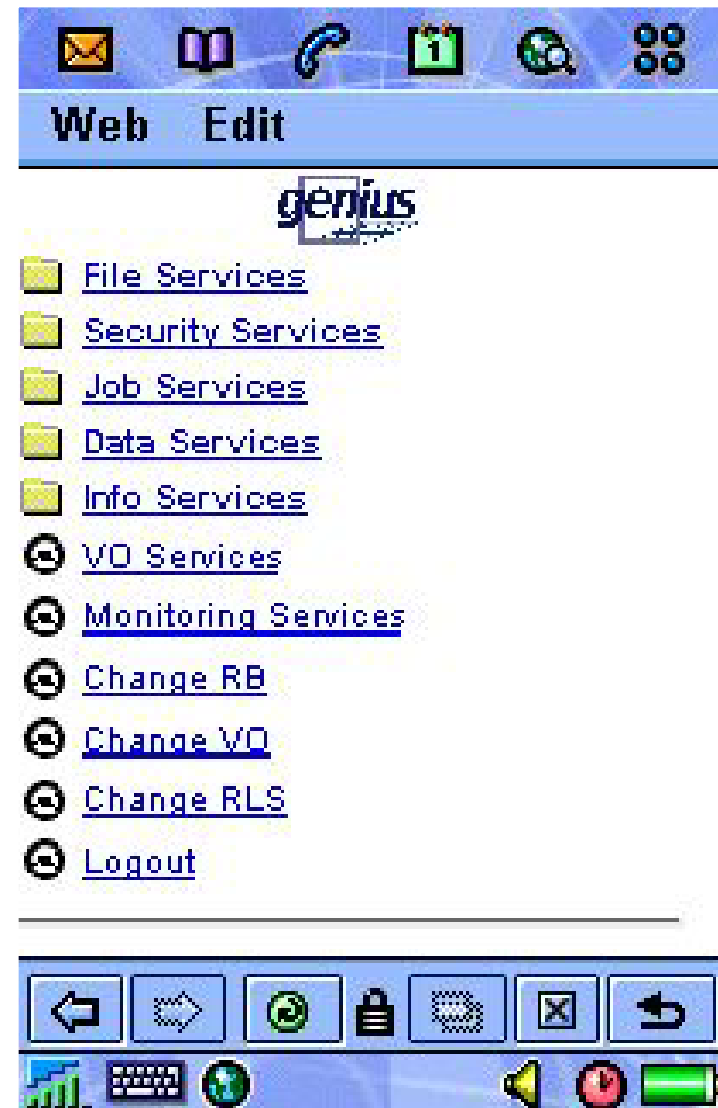
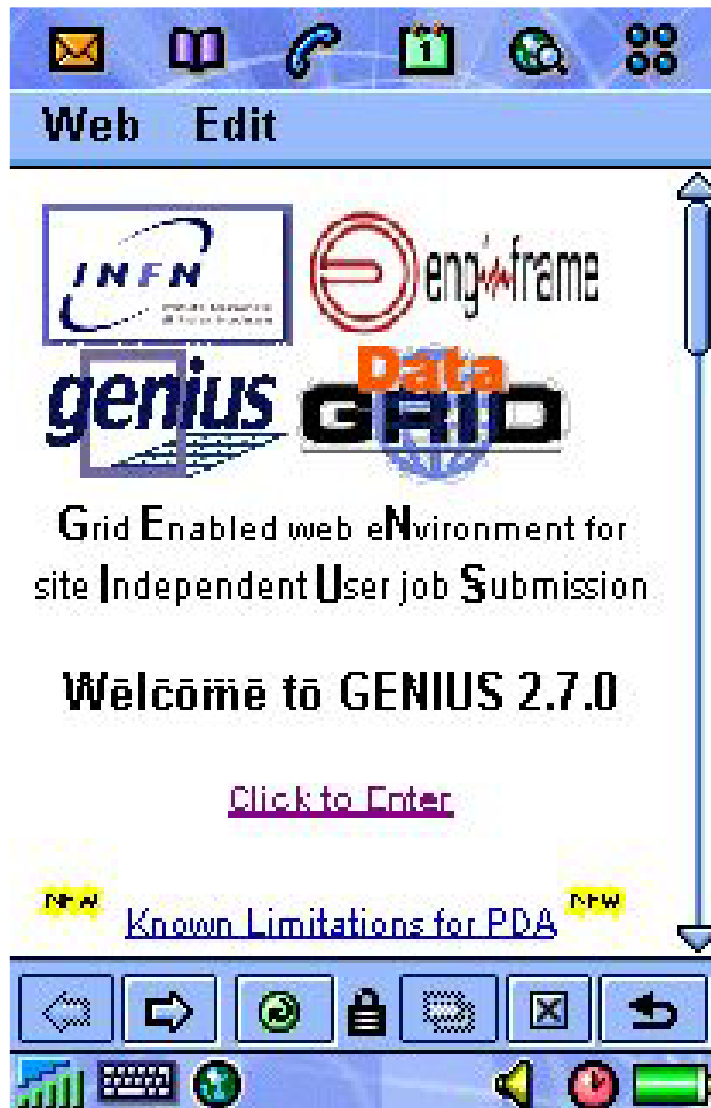
- [daniprova](#)
- [data.out](#)
- [data.out1](#)
- [data.out2](#)
- [data.out3](#)
- [datatest](#)
- [datatest1](#)
- [edglog.log](#)
- [hostname.out](#)

GridICE integration

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

Site	Computing power	JOB Load
ba.infn.it	3064	0%
bo.infv.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 for cell phone



GENIUS 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)
 - Web guided workflow description (in collaboration with GridLab)
 - P2P services available
 - PDA and cell phone versions available
 - Transparently compliant with EDG2.1, EGEE-0 and Grid.it middlewares/VO's
 - Interfaced to many generic applications

GENIUS installation (1/3)

- To install GENIUS on an User Interface machine you need a server certificate (in order to sign https connection) and a **free** EnginFrame license
- The user **efadmin** must be present in the system
- GENIUS is downloaded from a SSH CVS server
- GENIUS should be installed under **/opt/genius**
- GENIUS installs with **/opt/genius/genius_install.sh** (just one command!)
- GENIUS starts/stops with the command **/etc/rc.d/init.d/genius start|stop**

GENIUS installation (2/3)

- `ls -l /opt/genius`

```
drwxr-xr-x  2 root  root    4096 Apr 15 13:19 CVS
drwxr-xr-x  8 nobody nobody  4096 Apr 15 13:19 JSDK2.0
drwxr-xr-x 18 root  root    4096 Apr 15 13:20 apache
drwxr-xr-x  3 root  root    4096 May  3 16:47 bin
drwxr-xr-x 17 root  root    4096 Apr 15 13:20 ef
lrwxrwxrwx  1 root  root    36 Apr 15 13:21 etc -> /opt/genius/ef/plugins/infgrid/etc/
-rwxr-xr-x  1 root  root   4512 Oct 14  2003 genius_install.sh
drwxr-xr-x  4 root  root    4096 Apr 15 13:20 include
drwxr-xr-x  9 root  root    4096 Apr 15 13:20 j2sdk1.4.0_01
lrwxrwxrwx  1 root  root    13 Apr 15 13:21 jdk -> j2sdk1.4.0_01
lrwxrwxrwx  1 root  root    7 Apr 15 13:21 jsdk -> JSDK2.0
drwxr-xr-x  4 root  root    4096 Apr 15 13:20 lib
drwxr-xr-x  5 root  root    4096 Apr 15 13:20 man
drwxr-xr-x  7 root  root    4096 Apr 15 13:20 mrtg
drwxr-xr-x  9 root  root    4096 Apr 15 13:20 openldap
drwxr-xr-x  8 root  root    4096 Apr 15 13:20 openssl
drwxr-xr-x  4 root  root    4096 May  5 11:10 vnc
```

GENIUS installation (3/3)

- Configuration files
 - `/opt/genius/etc`
- XML files
 - `/opt/genius/apache/htdocs`
- Action procedures (shell scripts, etc.)
 - `/opt/genius/ef/plugins/infngrid/bin`

GENIUS FAQ's...and answers (1/2)

- **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.

GENIUS FAQ's...and answers (2/2)

- **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 LCG2/EGEE-0 middleware, it can be very easily interfaced to others.

- **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.