



Enabling Grids for E-science

User Interface Plug&Play “combined”

(based on gLite UI 1.1 & LCG UI 2.4.0)

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***Retreat between GILDA and ESR VO on gLite,
Bratislava, 27-30.06.2005***

www.eu-egee.org

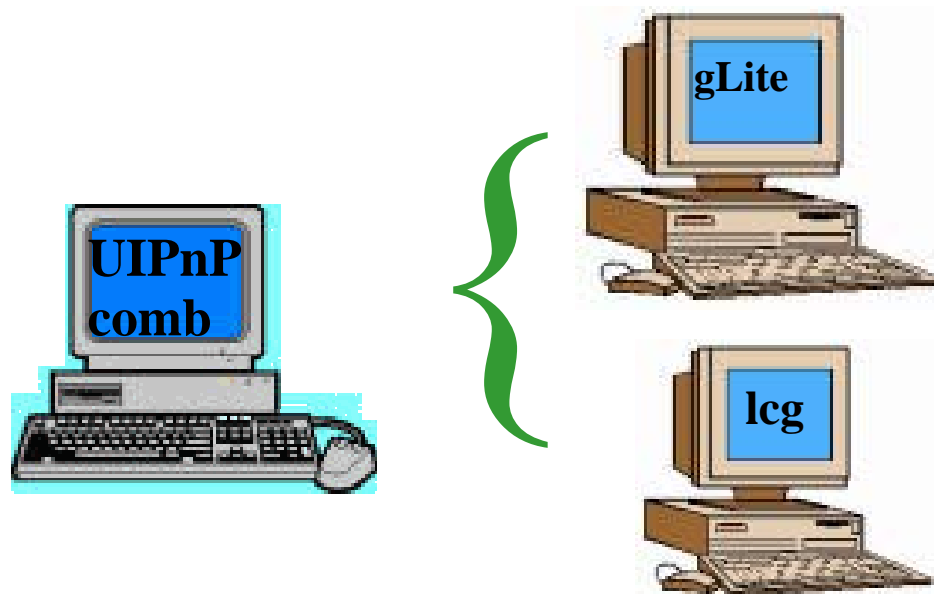


Information Society



- **Introduction**
- **Installation**
- **Configuration**
- **Job submission services**
- **Data management services**

The User Interface PnP “combined” is a merge of:
 gLite 1.1 UI
 LCG 2.4.0 UI



We 'll see that is possible to install gLite and LCG UI in same machine

The main reference to the UI PnP “combined” is:

<https://gilda.ct.infn.it/UIPnPcomb/>

(at this link you can find some documentation)

Login into your home dir and type following commands:

1) *wget* <https://gilda.ct.infn.it/UIPnPcomb/UIPnPcomb.tar.gz>

2) *tar zxvf UIPnPcomb.tar.gz*

3) *cd UIPnPcomb*

4) *source install.sh*

(For more details look at the **README** file)

The installation script:

- updates the CRL's if needed
- creates the .globus directory (where you have to insert your personal certificates)
- Creates the JobOutput directory (where the output of your jobs will be stored)
- Sets all the relevant environment variables in .bash_profile
- Sets a cron job to update the CRL's periodically

Into `$HOME/UIPnPcomb/glite/etc/` you can edit the file:
`glite_wmsui_cmd_var.conf`

```
[
NSLoggerLevel = 1 ;
ErrorStorage = "/tmp/glite/glite-ui" ;
LoggingSyncTimeout = 10 ;
DefaultVo = "gilda" ;
OutputStorage = "~/JobOutput" ;
rank = - other.GlueCEStateEstimatedResponseTime ;
DefaultLogInfoLevel = 1 ;
ListenerStorage = "/tmp/glite/glite-ui" ;
RetryCount = 3 ;
DefaultStatusLevel = 1 ;
requirements = other.GlueCEStateStatus == "Production" ;
LoggingTimeout = 10 ;
]
```

DefaultVo: setting default VO

OutputStorage: default folder for the output of all jobs

Into `$HOME/UIPnPcomb/glite/etc/` you can define your VO and RB/LB:

1. create a folder with same name of the VO
2. configure the file `glite_wmsui.conf` getting template from `$HOME/UIPnPcomb/glite/etc/vo_template`

```
[  
VirtualOrganisation = "gilda";  
NSAddresses = {"glite-rb.ct.infn.it:7772"};  
LBAddresses = {"glite-rb.ct.infn.it:9000"};  
MyProxyServer = grid001.ct.infn.it;  
]
```

In this file are defined :

- name of the VO
- hostname and port of the Resource Broker and Logging&Bookkeeping
- hostname and port of the MyProxy Server

Setting the endpoint for the Fireman Catalog Into `$HOME/UIPnPcomb/glite/etc/services.xml`

```
<services>
<service name="gildaCatalog">
<parameters>
→ <endpoint>https://grid017.ct.infn.it:8443/gilda/glite-data-catalog-service-fr-my
sql/services/FiremanCatalog</endpoint>
<type>org.glite.FiremanCatalog</type>
<version>2.0.0</version>
<status>0</status>
<statusmessage>OK</statusmessage>
</parameters>
</service>
</services>
```


Setting the endpoint of the gLite I/O Client

Into `$HOME/UIPnPcomb/glite/etc/glite-io-client.properties.xml`



```
<?xml version="1.0" encoding="UTF8"?>
<service>
  <components>
    <component name="io-client">
      <init>
        <param name="Server">
          <value>glite-se.ct.infn.it</value>
        </param>
        <param name="ServerPort">
          <value>9999</value>
        </param>
        <param name="EncryptName">
          <value>true</value>
        </param>
      </init>
    </component>
  </components>
</service>
```

As first step you have to put your certificates in **\$HOME/.globus** directory

and set the permission of your certificates with:

- **chmod 644 usercert.pem**
- **chmod 400 userkey.pem**

If you have the certificate in p12 (or pfx) format (e.g.: mycert.p12) do:

- **openssl pkcs12 -nocerts -in <mycert.p12> -out userkey.pem**

Enter Import Password : <password used for export the certificates from your web browser>

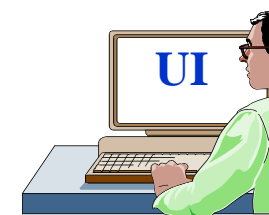
MAC verified ok

Entert PEM pass phrase: <password used for to create the private key>

Verifying Entert PEM pass phrase: <confirm the password>

- **openssl pkcs12 -clcert.pem -nokeys -in mycert.p12 -out uscert.pem**

Enter Import Password:



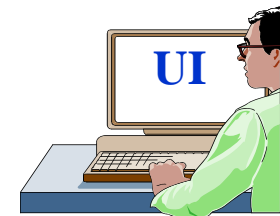
grid-proxy-init

Your identity: /C=IT/O=GILDA/OU=Personal
Certificate/L=INFN Sezione di Catania/CN=Passaro
Gianluca/Email=gianluca.passaro@ct.infn.it

Enter GRID pass phrase for this identity: **<password
your private key>**

Creating proxy Done

Your proxy is valid until: Mon Mar 21 23:57:06 2005



```
myproxy-init -s grid001.ct.infn.it -l <username>
```

Your identity: /C=IT/O=GILDA/OU=Personal Certificate/L=INFN

Sezione di Catania/CN=Passaro

Gianluca/Email=gianluca.passaro@ct.infn.it

Enter GRID pass phrase for this identity:

Creating proxy Done

Proxy Verify OK

Your proxy is valid until: Mon Mar 28 12:59:22 2005

Enter MyProxy pass phrase:

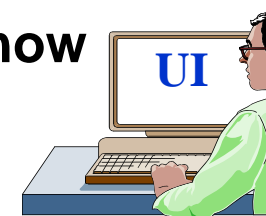
<setting the password for myproxy initialized and different from private key>

Your proxy is valid until: Mon Mar 28 13:00:24 2005

Enter MyProxy pass phrase:

Verifying password - Enter MyProxy pass phrase:

A proxy valid for 168 hours (7.0 days) for user gpassaro now exists on grid001.ct.infn.it.



voms-proxy-init -voms EGEE

**Your identity: /C=IT/O=INFN/OU=Personal
Certificate/L=Catania/CN=Gianluca Passaro**

Enter GRID pass phrase for this identity:

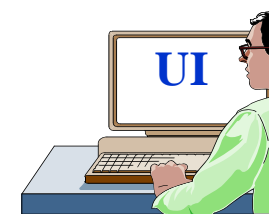
Creating temporary proxy Done

/O=dutchgrid/O=hosts/OU=nikhef.nl/CN=kuiken.nikhef.nl

/C=NL/O=NIKHEF/CN=NIKHEF medium-security certification auth

Creating proxy Done

Your proxy is valid until Fri Jun 10 02:25:46 2005



glite-job-list-match --vo gilda hostname.jdl

**➔ Selected Virtual Organisation name (from --vo option): gilda
Connecting to host glite-rb.ct.infn.it, port 7772**

COMPUTING ELEMENT IDs LIST

The following CE(s) matching your job requirements have been found:

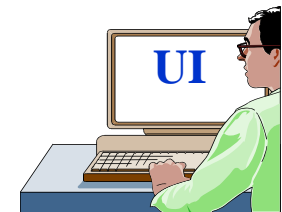
CEId

cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-infinite

cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long

cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short

...



edg-job-list-match --vo gilda hostname.jdl

Selected Virtual Organisation name (from --vo option): gilda



Connecting to host grid004.ct.infn.it, port 7772

COMPUTING ELEMENT IDs LIST

The following CE(s) matching your job requirements have been found:

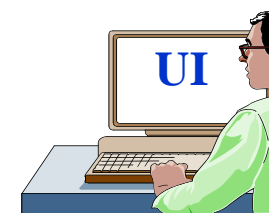
CEId

cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-infinite

cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long

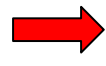
cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short

...

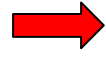


glite-job-submit --vo gilda hostname.jdl

Selected Virtual Organisation name (from --vo option): gilda



Connecting to host glite-rb.ct.infn.it, port 7772

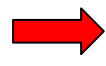


Logging to host glite-rb.ct.infn.it, port 9002

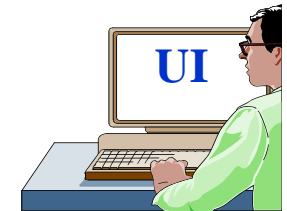
JOB SUBMIT OUTCOME

The job has been successfully submitted to the Network Server.

Use glite-job-status command to check job current status. Your job identifier is:

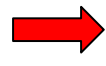


- <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>

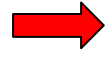


edg-job-submit --vo gilda hostname.jdl

Selected Virtual Organisation name (from --vo option): gilda



Connecting to host grid004.ct.infn.it, port 7772

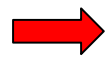


Logging to host grid004.ct.infn.it, port 9002

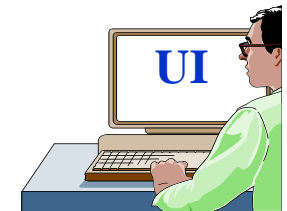
JOB SUBMIT OUTCOME

The job has been successfully submitted to the Network Server.

Use edg-job-status command to check job current status. Your job identifier (edg_jobId) is:



- <https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA>



glite-job-status

➔ <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>

BOOKKEEPING INFORMATION:

Status info for the Job : <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>

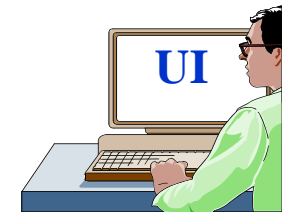
➔ Current Status: Done (Success)

Exit code: 0

Status Reason: Job terminated successfully

Destination: gilda-ce-01.pd.infn.it:2119/jobmanager-lcgpbs-short

Submitted: Thu Jun 9 15:09:13 2005 CEST



edg-job-status

➔ <https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA>

BOOKKEEPING INFORMATION:

Status info for the Job :

➔ <https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA>

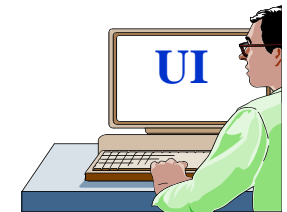
Current Status: Done (Success)

Exit code: 0

Status Reason: Job terminated successfully

Destination: cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short

reached on: Thu Jun 9 13:13:46 2005



glite-job-output

➔ <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>

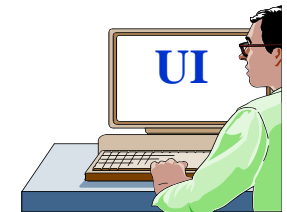
Retrieving files from host: glite-rb.ct.infn.it (for <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>)

JOB GET OUTPUT OUTCOME

Output sandbox files for the job:

- <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>
have been successfully retrieved and stored in the directory:

➔ /home/gianluca/JobOutput/gianluca_3WFTTW3ph3SZm7t1UqWSyQ



edg-job-get-output

➔ <https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA>

Retrieving files from host: **grid004.ct.infn.it** (for **https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA**)

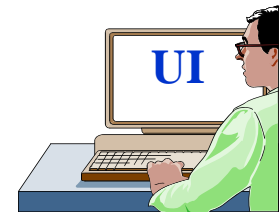
JOB GET OUTPUT OUTCOME

Output sandbox files for the job:

- **<https://grid004.ct.infn.it:9000/tnGRbee9lsxaVhqm4ebNRA>**

have been successfully retrieved and stored in the directory:

➔ /home/gianluca/JobOutput/gianluca_tnGRbee9lsxaVhqm4ebNRA



Now other commands :

lcg-infosite : Gives information about resource on the Grid
 e.g. : **CE and SE**

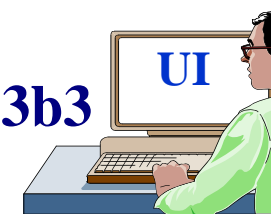
lcg-cr : Copies a file to a SE and registers the file in the LRC
 e.g. : **lcg-cr -vo gilda -d grid009.ct.infn.it -l**
file:/home/myhome/myfile

→ lfn:myfile

guid:b4ee51eb-b4b0-433f-ab9b-8107ef76d3b3 => myfile

lcg-rep : Copies a file from one SE to another SE and
 register it in the LRC.

e.g.: **lcg-rep -vo gilda -d grid009.ct.infn.it**
guid:b4ee51eb-b4b0-433f-ab9b-8107ef76d3b3



lgc-lr : allows to list all the replicas of files that have been successfully registred

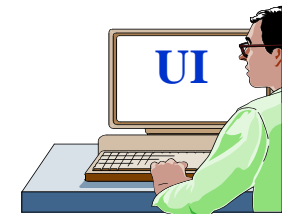
e.g. : **lcg-lr --vo gilda lfn:myfile**

lcg-cp : Copies aGrid file to a local destination

e.g. : **lcg-cp -vo gilda lfn:myfile
file:/home/myhome/myfile**

lcg-lg : Gets the GUID for a given LFN or SURL

lcg-lg -vo gilda lfn:myfile



lcg-del : Deletes one file (or one replica or all replicas)

If a **SURL** is provided as argument then that particular replica will be deleted :

```
lcg-del -vo gilda -s grid009.ct.infn.it  
guid:b4ee51eb-b4b0-433f-ab9b-8107ef76d3b3
```

If is provided **-a** as argument then all replicas will be deleted :

```
lcg-del -vo gilda -a  
guid:b4ee51eb-b4b0-433f-ab9b-8107ef76d3b3
```

