



Enabling Grids for E-scienceE

User Interface PnP – on VM - Live

(based on gLite UI 1.3 & LCG UI 2.6.0)

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www.eu-egee.org

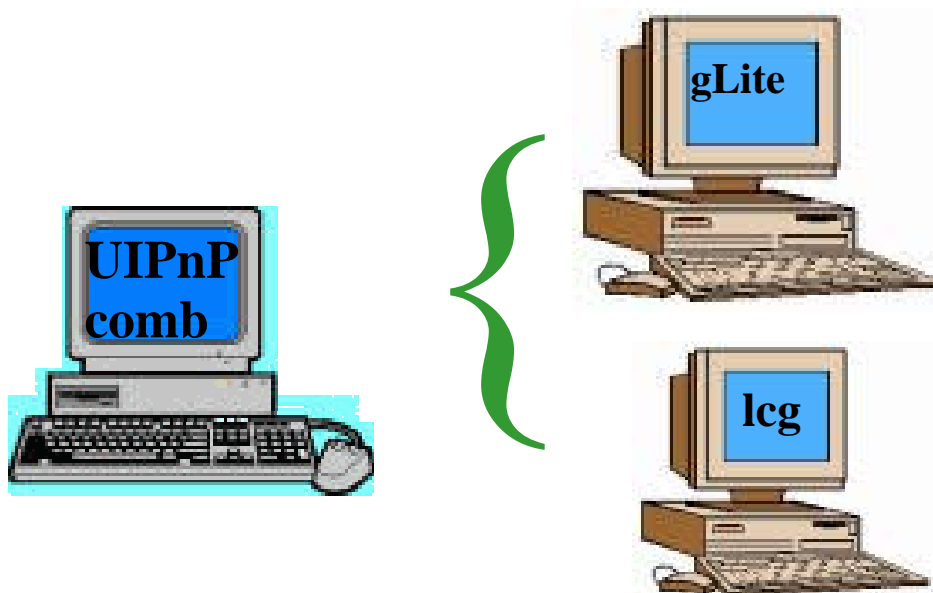


Information Society



- **Introduction**
- **Installation UIPnP Combined**
- **Configuration**
- **Introduction to UI on Virtual Machine (VM)**
- **Quick start to UI Live DVD**

The User Interface PnP “combined” is a combination of:
 gLite 1.3 UI
 LCG 2.6.0 UI



We 'll see that is possible to install gLite and LCG UI in the 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 .bashrc
- Sets a cron job to update the CRL's periodically

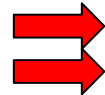
Into `$HOME/UIPnPcomb/glite/etc/` you can edit the file:
`glite_wmsui_cmd_var.conf`



```

[
  NSLoggerLevel = 6 ;
  ErrorStorage = "~/JobOutput" ;
  LoggingSyncTimeout = 10 ;
  DefaultVo = "gilda" ;
  OutputStorage = "~/JobOutput" ;
  DefaultLogInfoLevel = 1 ;
  DefaultStatusLevel = 1 ;
  ListenerStorage = "~/JobOutput" ;
  ...
]

```



DefaultVo: setting default VO

OutputStorage: default folder for the output of all jobs

Into `$HOME/UIPnPcomb/edg/etc/` you can edit the file:
`edg_wl_ui_cmd_var.conf`



```
[
...
OutputStorage = "~/JobOutput";
ListenerPort = 44000;
LoggingSyncTimeout = 30;
LoggingDestination = "grid004.ct.infn.it:9002";
NSLoggerLevel = 0;
...
DefaultLogInfoLevel = 0;
DefaultStatusLevel = 0;
DefaultVo = "gilda";
]
```

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

- Into `$HOME/UIPnPcomb/lcg/etc/` you can define your VO and RB/LB:
 - create a folder with same name of the VO
 - configure the file `glite_wmsui.conf` getting template from `$HOME/UIPnPcomb/lcg/etc/vo_template`



```
[
VirtualOrganisatio_cmd_var.conf = "gilda";
NSAddresses = "grid004.ct.infn.it:7772";
LBAddresses = "grid004.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 endpoints for the Fireman Catalog, File Transfer Service, Channel Management etc ... Into **\$HOME/UIPnPcomb/glite/etc/services.xml**

<service name='gildaCatalog'>

https://grid017.ct.infn.it:8443/gilda/glite-data-catalog-service-fr-mysql/services/FiremanCatalog

<service name='gildaFts'>

https://fts.ct.infn.it:8443/gildav/glite-data-transfer-fts/services/FileTransfer

<service name='gildaFPS'>

https://fts.ct.infn.it:8443/gildav/glite-data-transfer-fps/services/FilePlacement


<service name='gildachannel'>

https://fts.ct.infn.it:8443/gildav/glite-data-transfer-fts/services/ChannelManagement

<service name='gildaSEIndex'>

https://grid017.ct.infn.it:8443/gilda/glite-data-catalog-service-fr-mysql/services/SEIndex

Setting the endpoint of the gLite I/O Client Into `$HOME/UIPnPcomb/glite/etc/glite-io-client.properties.xml`

```
<service>
  <components>
    <component name="io-client">
      <init>
        <param name="Server">
          <!--value>glite-se-test.trigrad.it</value-->
           <value>egee015.cnaf.infn.it</value>
          <!--value>glite-se.ct.infn.it</value-->
        </param>
        <param name="ServerPort">
          <value>9999</value>
        ...
      ...
    </service>
```

> voms-proxy-init --voms gilda

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

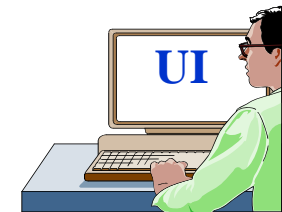
Enter GRID pass phrase:

Creating temporary proxy Done

Contacting voms.ct.infn.it:15001 [/C=IT/O=GILDA/OU=Host/L=INFN Catania/CN=voms.ct.infn.it/Email=emidio.giorgio@ct.infn.it] "gilda" Done

Creating proxy Done

Your proxy is valid until Wed Jan 4 10:40:56 2006



> **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:

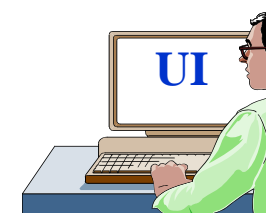
CEId

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:

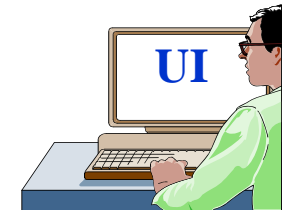
CEId

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

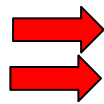
cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long

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

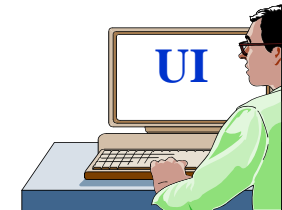
Logging to host glite-rb.ct.infn.it, port 9002

JOB SUBMIT OUTCOME

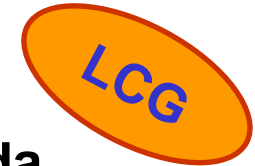
**The job has been successfully submitted to the Network Server.
Use glite-job-status command to check job current status. Your job
identifier is:**



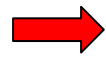
- <https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>



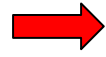
> **edg-job-submit --vo gilda hostname.jdl**



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



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



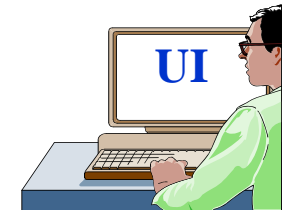
Logging to host grid004.ct.infn.it, port 9002

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_jobld) is:



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



> glite-job-status

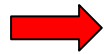


<https://glite-rb.ct.infn.it:9000/3WFTTW3ph3SZm7t1UqWSyQ>



BOOKKEEPING INFORMATION:

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



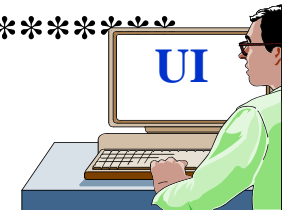
Current Status: Done (Success)

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>

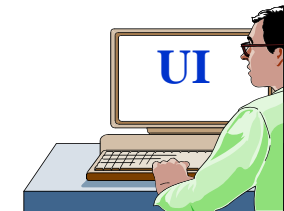
Current Status: Done (Success)

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

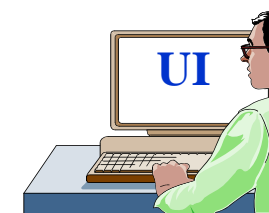
Output sandbox files for the job:

- <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>)

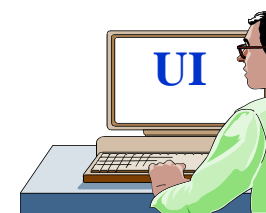
JOB GET OUTPUT OUTCOME

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



- Set the following environment variables to specify the catalog type and its location:
 - export LCG_CATALOG_TYPE=lfc
 - export LFC_HOST=lfc-gilda.ct.infn.it
 - export LFC_HOME=/grid/gilda/



> lfc-ls -l

```

...
-rw-rw-r--  1 4401      4400          0 Jun 21 09:40 tutor02-rel-pippo-pluto
-rw-rw-r--  1 4401      4400          0 Jun 21 09:39 tutor14
-rw-rw-r--  1 4401      4400          0 Jun 21 09:40 tutor16-mytxt
-rw-rw-r--  1 4401      4400          0 Jun 21 09:32 unitprot-ibcp02
-rw-rw-r--  1 4401      4400          0 Jun 21 09:36 uploadfile
-rw-rw-r--  1 4401      4400          0 Jun 21 09:36 uploadfilelfn
-rw-rw-r--  1 4401      4400          0 Jun 21 09:38 user.example
-rw-rw-r--  1 4401      4400          0 Jun 21 09:38 user.example2
-rw-rw-r--  1 4401      4400          0 Jun 21 09:40 valencia15.ejemplo
-rw-rw-r--  1 4401      4400          0 Jun 21 09:40 valencia15.example
...

```

For to Copies a local file to gLite I/O Server and to update the File Catalog

```
> glite-put filename.txt lfn:///filename.txt
```

```
[glite_put] Total 0.00 MB   |=====| 100.00 % [0.0 Mb/s]
```

Transfer Completed:

LFN : /filename.txt

GUID : 001b482e-c538-13be-b4f6-c1ced02ebee

SURL : srm://egee016.cnaf.infn.it:8443/srm/managerv1?SFN=/dpm/cnaf.infn.it/home/gilda/filename.txt

Data Written [bytes] : 29

Eff.Transfer Rate[Mb/s] : 0.000007

```
> glite-rm lfn:///filename.txt
```

Unlink Completed:

File : lfn:///filename.txt

Time [s] : 7.840000



To discover which SEs the user is allowed to use, you can use follow commands:

> `lcg-infosites --vo gilda se`

These are the related data for gilda: (in terms of SE)

Avail Space(Kb)	Used Space(Kb)	Type	SEs
912374468	32948	grid005.iucc.ac.il	
143547648	2472788	cn02.be.itu.edu.tr	
68300000	6830000	egee016.cnaf.infn.it	
....	



In gLite the Monitoring's System is R-GMA.

For to access in it, you run

> rgma

> select HostName, RunningJobs, TotalJobs, FreeCpus from GlueSE



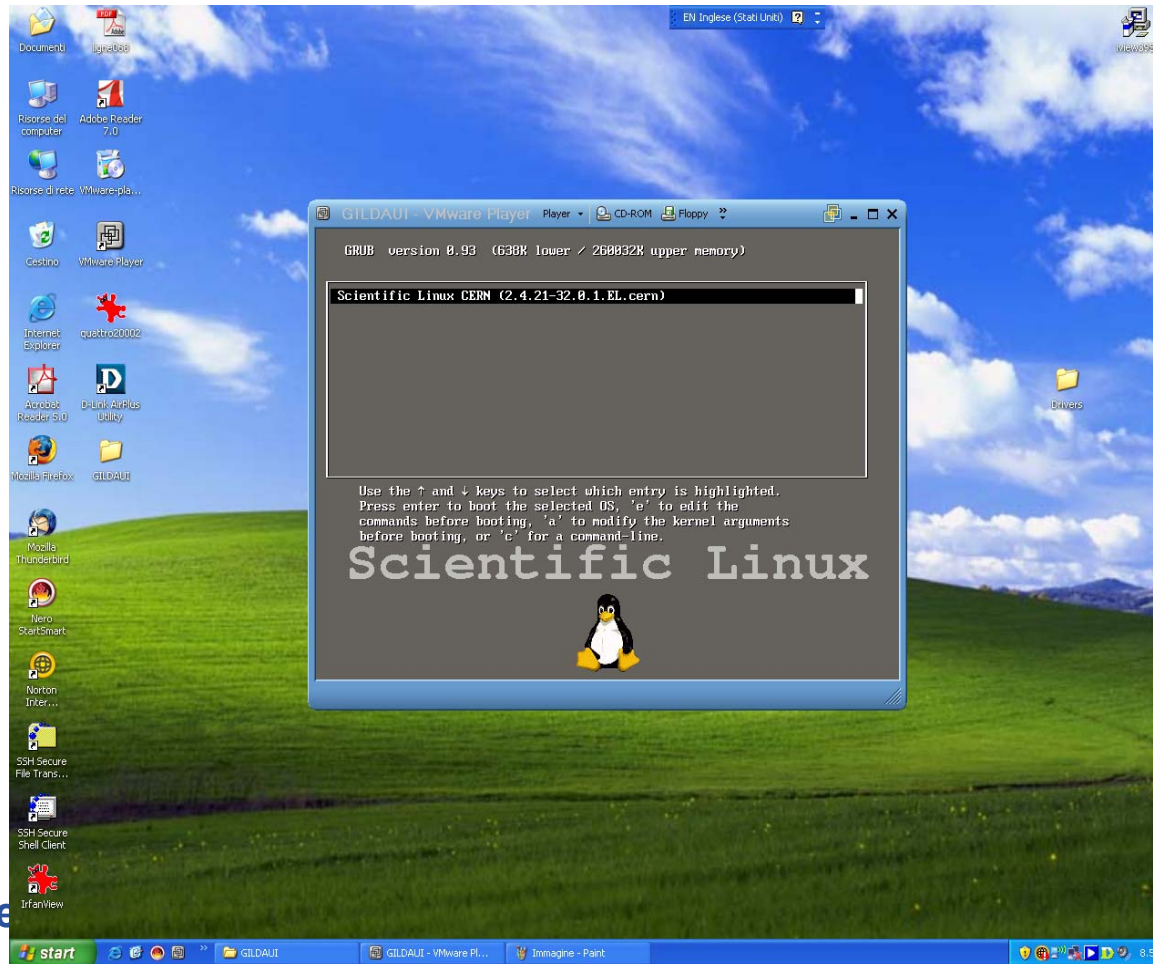
```

+-----+-----+-----+-----+
| Name   | HostName       | RunningJobs | TotalJobs | FreeCpus |
+-----+-----+-----+-----+
| long   | egee008.cnaf.infn.it | 0           | 0         | 1        |
| infinite | egee008.cnaf.infn.it | 0           | 0         | 1        |
| short  | egee008.cnaf.infn.it | 0           | 0         | 1        |
| short  | lxcde01.pd.infn.it   | 0           | 0         | 1        |
| short  | glite-ce.ct.infn.it  | 0           | 0         | 1        |
| infinite | glite-ce.ct.infn.it  | 0           | 0         | 1        |
| long   | glite-ce.ct.infn.it  | 0           | 0         | 1        |
+-----+-----+-----+-----+

```

7 Rows in set

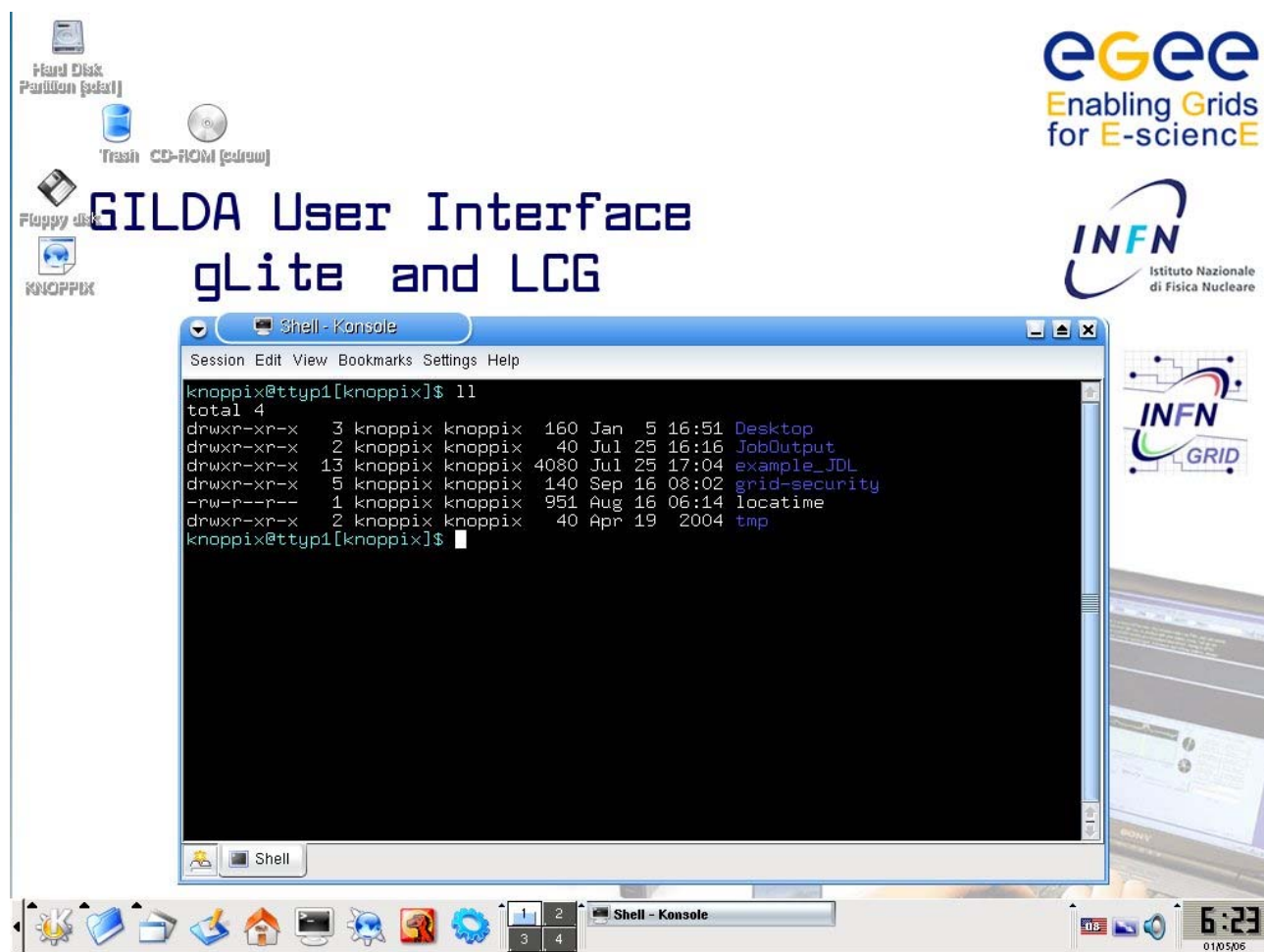
In order to allow to all windows's users to access to grid, we have created a User Interface into a Virtual Machine built with VMWare Workstation 5.0 and thank at the VMWare-Player tools, the users can to run a UI on Windows environment !



For more details

see [http://www.vmware.com/](#)

Another tool is the DVD Live based on knoppix 3.6 with UI glite 1.3 and LCG 2.4 that you can freely download at the following link: <https://gilda.ct.infn.it/live-cd/>



...Thanks for your attention.