

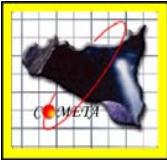


Grid2Win: Porting of gLite middleware to Windows platform

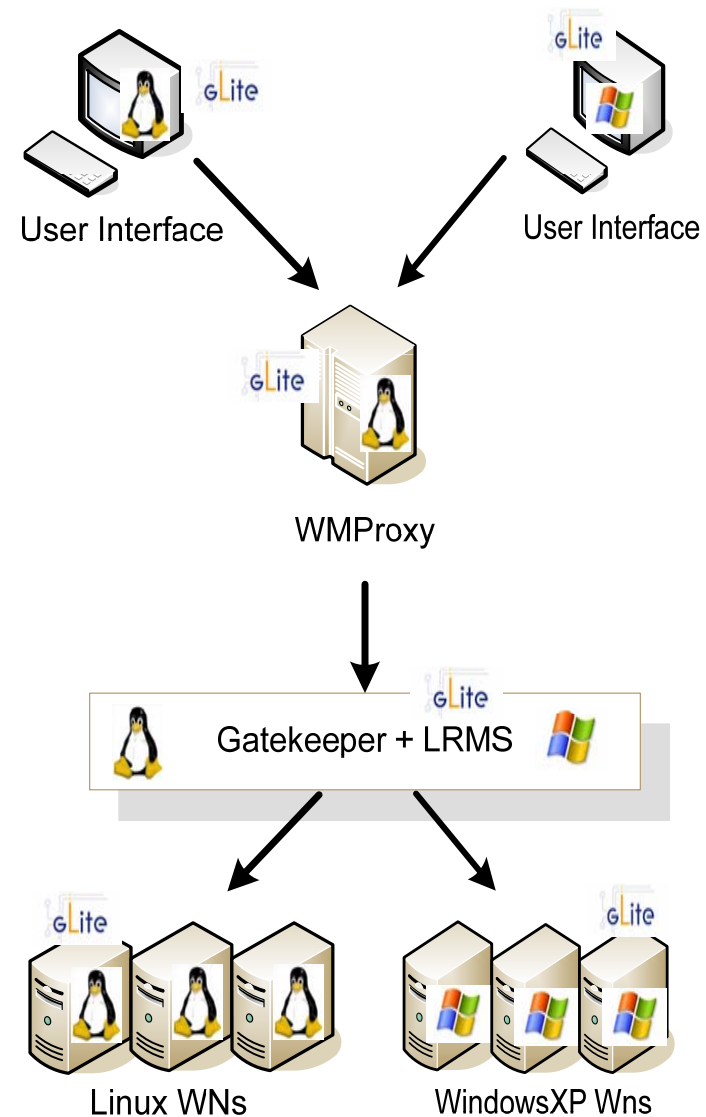
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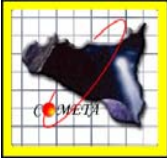


- **Aims**
- **What and how we did**
- **Porting strategy**
- **Current porting status**
- **What we need now**



- **Presently on gLite**
 - Grid users use the gLite middleware from Linux-based User Interfaces via CLI
 - (almost) All gLite resources are Linux-based
 - **This implies**
 - Grid users need to be trained
 - Only Linux-based applications can be deployed onto the Grid
- ↓**
- **Porting of gLite to Windows**
 - User Interface
 - Computing Element (farm)





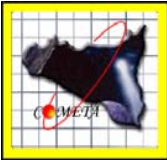
What we did (LCG 2.7)

- **User Interface**

- Client tools **Done !!!**
 - Grid Security Infrastructure (GSI)
 - Workload Management (edg-WL)
 - Data Management Service (DMS)
 - Information System (BDII)
- Grid2Win Graphical User Interface **Beta release**

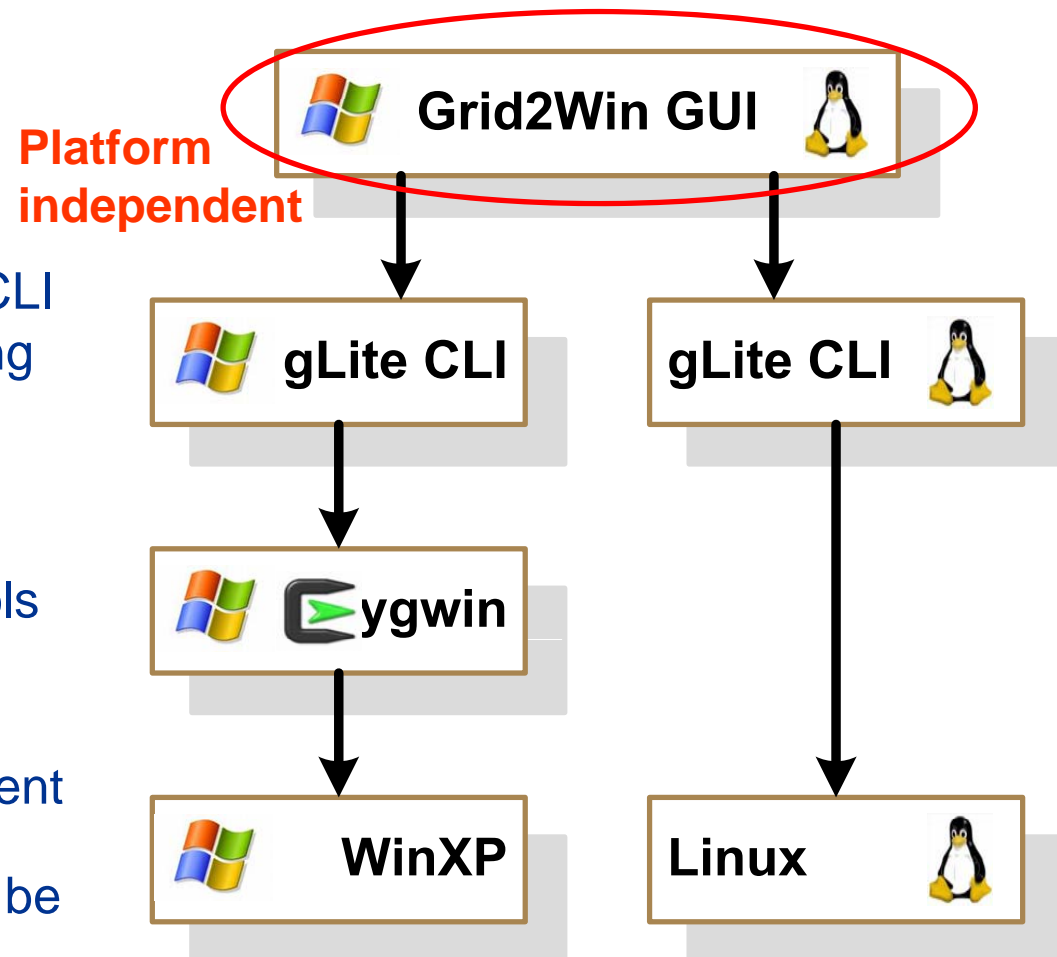
- **Computing Element**

- Monitoring
 - Grid Resource Information Index (GRIS) server
- Torque/MAUI (PBS) **Done !!!**
 - Linux head node
 - Windows XP Worker Nodes
- Microsoft Compute Cluster Server (CCS) **Alpha**
 - Linux auxiliary node
 - Windows XP CCS farm



Porting strategy

- **Grid2Win GUI**
 - wxWindows
 - Cross platform
 - Open source
 - Independent of underlying CLI
 - Installer 11Mbytes (including the cygwin DLL)
- **gLite Command Line Interface**
 - Recompiled via Cygwin tools under Windows XP
- **Cygwin**
 - Emulates POSIX environment on Windows
 - Only the Cygwin DLL must be installed



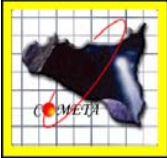


Grid2Win GUI snapshot

The screenshot displays the Grid2Win User Interface with the following components:

- Menu:** File, Security Handling, Job Handling, Options, Help
- Toolbars:** Submission, Storage, InfoSys, Resources, Settings, Terminal, Docs, Submit
- Local File System Browser:** Shows the directory structure of the local system, including folders like cygwin, 5.8, arr, bin, dev, etc, home, and pippo. The pippo folder contains various subfolders and files.
- Submitted Job List:** A table listing submitted jobs with columns for Job Id, Status, Exit C..., Reason, and Destination.
- Grid Output Panel:** A text area showing the output of a job, displaying the time 21:54:24 and the name gilda.
- Status Bar:** Shows "WinGridUI operational but not logged in. Create your proxy" and "VO: gilda".

Job Id	Status	Exit C...	Reason	Destination
https://glite-rb.ct.infn.it:9000/K4ipeGjIL_Mh68__OODUMA	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/k8mKI3Bx5i9I3JpQBWI_6w	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/e-T8ENh1yJM0aBKoWU7f4w	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/bNyNDTIFtn0wHNpLyJlSDQ	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/4R80XopKwnnXjKp82HVsQ	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/P4hxLZtzHPL55rdGuHftxA	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/Da4B9iWv7-2VznJCaYmPCg	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/8q3xqwedI6NvRsKuAkZw4Q	Unknown	Unknown	Unknown	Unknown
https://glite-rb.ct.infn.it:9000/Dh31UTILVsIHKNLsA5bphA	Unknown	Unknown	Unknown	Unknown
https://glite-rb.ct.infn.it:9000/MN_arZhAj-CVG3_HJaxivA	Unknown	Unknown	Unknown	Unknown
https://glite-rb.ct.infn.it:9000/C8X2gHsrC8Q5sGDhgVbFzQ	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/2MpzDrkcm562RdZZkqCIw	Ready	0	unavailable	win-ce-01.trigrid.it
https://glite-rb.ct.infn.it:9000/g9Z1Xk3vqOCBMePCLRDcQ	Cleared	U	user retrieved output sandbox	iceage-ce-01.ct.infn.it
https://glite-rb.ct.infn.it:9000/MmWgJKNY947o5SpqNF9Veg	Cleared	0	user retrieved output sandbox	grid010.ct.infn.it
https://glite-rb.ct.infn.it:9000/lutNAfxModJroTTfcEvLPA	Cleared	0	user retrieved output sandbox	grid010.ct.infn.it
https://glite-rb.ct.infn.it:9000/GKEOSFQCININFxXbNtyf3Ig	Running	0	Job successfully submitted to Globus	grid010.ct.infn.it
https://glite-rb.ct.infn.it:9000/HWmm20hwdDMrtDjyWYQN4A	Scheduled	0	Job successfully submitted to Globus	ce-nano-37.to.infn.it



Ported command lines (LCG 2.7)

- **Grid Security Infrastructure**

- Credentials management with VOMS extensions
 - voms-proxy-* commands

- **Workload Management**

- Job submissions and output retrieving
 - edg-job-* commands

- **File Transfer**

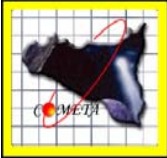
- Secure transfer with credential management
 - GSIFTP (globus-url-copy)
 - RFIO commands (rf*)

- **Data Management**

- File Catalogue Browsing
 - lfc-* command
- Data Movement and Replication
 - lcg-* commands

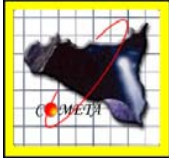
- **Information System**

- LDAP queries
 - lcg-info
 - lcg-infosites
- LDAP Explorer integrated within Grid2Win GUI



What we need from now on

- **Release**
 - Work over release 3.1 of gLite
- **CVS**
 - Have access to the head breanch of gLite to all open source code
 - Make some adjustments to the original source code to make it fully portable to Cygwin
- **Microsoft collaboration**
 - To integrate CCS
 - To write a .NET release of the GUI
- **ETICS**
 - How to integrate Grid2Win in ETICS
- **Collect proposal of collaboration from EGEE activities**



References

- **The Grid2Win project Homepage**

<http://gilda-forge.ct.infn.it/projects/grid2win/>

- **The Grid Group of INFN-Catania Homepage**

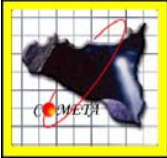
<http://grid.ct.infn.it>

- **The Cygwin Homepage**

<http://www.cygwin.org>

- **The gLite middleware Homepage**

<http://www.glite.org>



Questions ?

