

Grid services demonstration



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- How to use the Grid Services
 - Credential management
 - Resource discovery
 - Job submission
 - Job status check
 - Job output retrieval
 - Data management

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User Interface

- The user's access point to the Grid
- User accounts with personal certificate installed
- Permits user authentication and authorization
- Command Line Interface to access functionality of
 - Information System (IS)
 - Workload Management System (WMS)
 - Data Management system

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Credential Management

- Loading private key (PK) on UI
 - Secure copy (scp) on UI_node:~/globus/userkey.pem
- Proxy certificates
 - voms-proxy-init -voms <vo_name>
 - voms-proxy-info
 - voms-proxy-destroy
- "MyProxy server" functionality and usage
 - myproxy-init -s <myproxy_FQDN> -d -n
 - s: myproxy server hostname (use myproxy.grid.auth.gr)
 - d: associate user DN to proxy
 - n: no password (to allow WMS to perform renewal automatically)
 - myproxy-info -s <myproxy_FQDN> -d
 - myproxy-destroy -s <myproxy_FQDN> -d
- Deleting PK from UI
 - rm ~/globus/userkey.pem

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Resource Discovery

- `glite-job-list-match <file.jdl>`
 - Finds resources that match job requirements as specified in `file.jdl`
 - `file.jdl`: Job Description Language syntax
- `lcg-infosites -vo <vo_name> [ce/se]`
 - Retrieve information about computational or storage resources that belong to a particular Virtual Organisation
- `lcg-info [--vo <vo_name>] --list [ce/se]`
 - List either CEs or SEs satisfying a given set of conditions on their attributes



Job submission

- `glite-job-submit <file.jdl>`
- `glite-job-submit -o <jobID_file> <file.jdl>`
 - `file.jdl`: Job Description Language syntax
 - `o`: store the jobID in this file for better job management



Job status check

- `glite-job-status <jobID>`
 - `glite-job-status -i <jobID_file>`
- `glite-job-logging-info <jobID>`
 - `glite-job-logging-info -i <jobID_file>`
 - `i`: use the jobID(s) contained in `jobID_file` as input to the commands



Job output retrieval

- Once a job has completed execution, the output can be transferred on the User Interface:
 - `glite-job-output <jobID>`
 - `glite-job-output -i <jobID_file>`



Data Management

- Transferring a file on the Grid (lcg-cr)
 - `lcg-cr --vo <vo_name> -d <SE_FQDN> file:/<full_local_path>/<dtFile.txt>`
 - Outputs a GUID (Grid Unique Identifier for the uploaded file)
- Transferring a file from the Grid locally (lcg-cp)
 - `lcg-cp --vo <vo_name> <guid_string> file:/<full_local_path>/<fileName>`
 - Output only in case there is an error
- Replicating a file (lcg-rep)
 - `lcg-rep --vo <vo_name> -d <SE_FQDN> <guid_string>`
 - Output only in case there is an error



Data Management

- List replicas of a file (lcg-lr)
 - `lcg-lr --vo <vo_name> <guid_string>`
 - Outputs all replicas (in physical file name form) corresponding to the GUID
- Deleting a file from the Grid (lcg-del)
 - `lcg-del --vo <vo_name> <sfm_string>`
- Deleting all replicas of a file (lcg-del -a)
 - `lcg-del --vo <vo_name> -a <guid_string>`



Questions?

Thanks for your attention



Sources for more information

- g-Lite 3.0 User Guide
 - <https://edms.cern.ch/file/722398/gLite-3-UserGuide.pdf>
- JDL Attributes Specification
 - <https://edms.cern.ch/document/590869/1>
- MyProxy service: User Guide
 - http://www.grid.auth.gr/services/myproxy/user_guide.php
- Cyprus Grid initiative
 - <http://cygrid.org.cy/>
- EGEE project website for Cyprus
 - <http://grid.ucy.ac.cy/egee/>



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