

Nov. 15, 2010

# gLite workload management

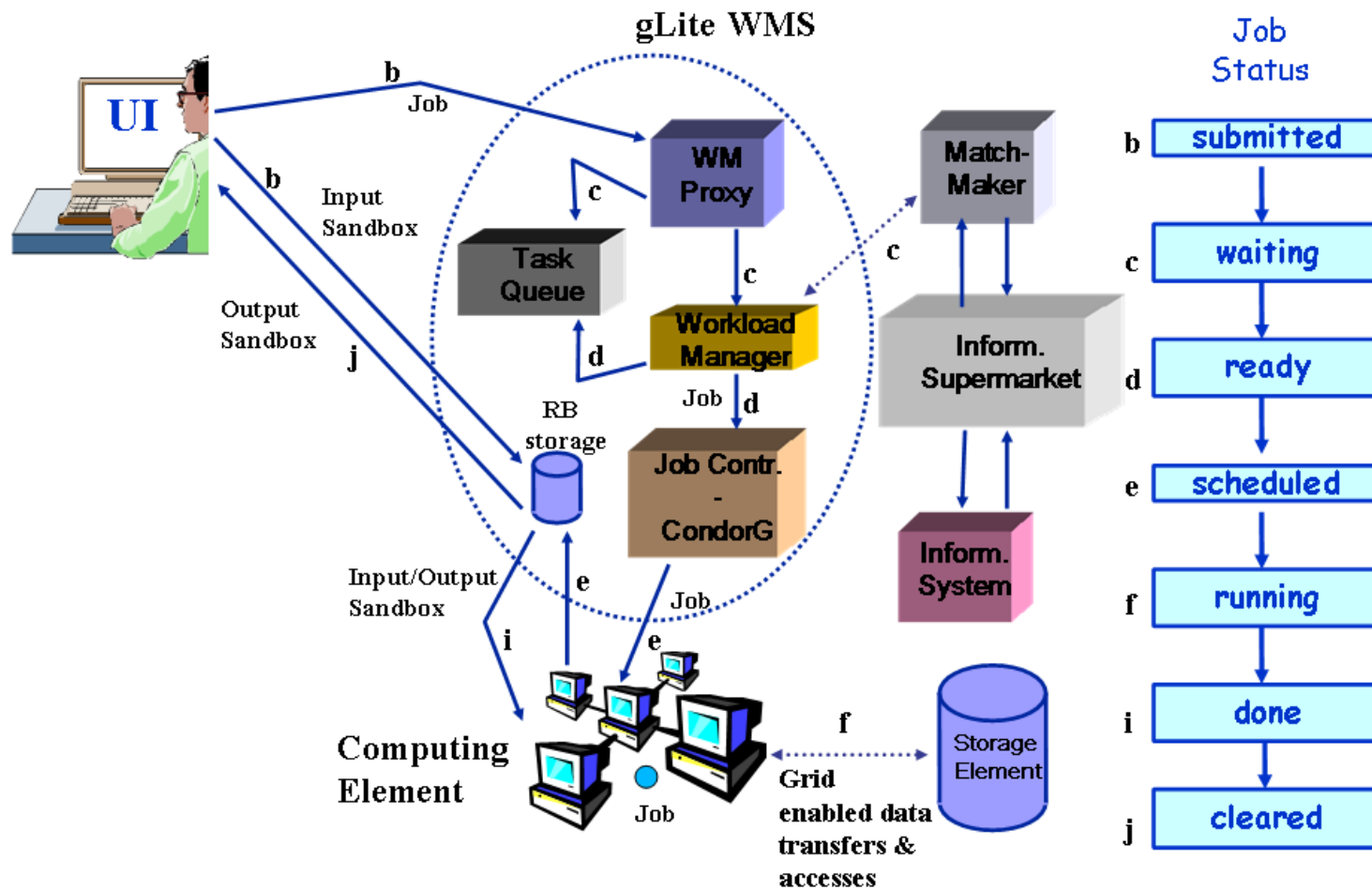
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- gLite job workflow
- JDL
- Advanced job types
- Job submission
- User's job check list
- Useful links



- JDL file
  - attribute = expression;
- Simple example

```
[  
Type = "Job";  
Executable = "/bin/hostname";  
Arguments = "-f";  
StdOutput = "stdout.txt";  
StdError = "stderr.txt";  
OutputSandbox = {"stdout.txt", "stderr.txt"};  
]
```

- Additional attributes:

```
InputSandbox = {"test.sh", "fileA", "fileB", ...}
```

```
InputSandbox = {
```

```
"gsiftp://lxb0707.cern.ch/cms/doi/data/fileA", "fileB"};
```

```
VirtualOrganisation = "cms";
```

```
RetryCount = 0;
```

```
MyProxyServer = "myproxy.ipb.ac.rs";
```

- Requirements:

```
Requirements = other.GlueCEPolicyMaxCPUtime > 480 &&
```

```
other.GlueCEPolicyMaxWallClockTime > 720;
```

```
Requirements = other.GlueCEUniqueID !=
```

```
"ce-1.grid.seed:2119/jobmanager-pbs-gridbox";
```

```
Requirements = (other.GlueHostArchitecturePlatformType=="x86_64") ;
```

```
Requirements = RegExp("ce64.ipb.ac.rs*", other.GlueCEUniqueID);
```

- Job Collections
  - Type = "Collection";
- DAG jobs (Direct Acyclic Graphs)
  - Type = "Dag";
- Parametric jobs
  - JobType = "Parametric";
- Interactive Jobs
  - JobType = "Interactive";
- MPI Jobs (Message Passing Interface)

- Job control commands on UI:

```
glite-wms-job-list-match -a <jdl file>
```

```
glite-wms-job-delegate-proxy -d <delegID>
```

```
glite-wms-job-submit -a <jdl file>
```

```
glite-wms-job-status <jobID>
```

```
glite-wms-job-cancel <jobID>
```

```
glite-wms-job-output <jobID>
```

```
glite-wms-job-logging-info <jobID>
```

- To delegate a proxy

```
$ glite-wms-job-delegate-proxy -d <dlgID>
```

- Delegation of a proxy can be automated, using “-a”
  - Not a very good idea for submitting a lot of jobs – delegation of the proxy takes time, so using the one delegated can speed up the submission process for many jobs
- Listing CEs that match a job description

```
$ glite-wms-job-list-match -d <dlgID> <jdl_file>
```



- To submit a job:

```
$ glite-wms-job-submit -d <dlgID> <jdl_file>
```

```
$ glite-wms-job-submit -d <dlgID> -o <job_ID_file> <jdl_file>
```

```
$ glite-wms-job-submit -d <dlgID> -r <CE_ID> <jdl_file>
```

- Retrieving status of a job:

```
$ glite-wms-job-status <job_ID>
```

```
$ glite-wms-job-status -i <job_ID_file>
```

### Retrieving the output of a job

```
$ glite-wms-job-output <job_ID>
```

```
$ glite-wms-job-output -i <job_ID_file>
```

```
$ glite-wms-job-output -dir <path> <job_ID>
```

- Canceling a job:

```
$ glite-wms-job-cancel <job_ID>
```

```
$ glite-wms-job-cancel -i <job_ID_file>
```

1) Create JDL file

2) Create proxy

3) Delegate proxy

**glite-wms-job-delegate-proxy**

4) Check some CEs match your requirements:

**glite-wms-job-list-match**

5) Submit a job

**glite-wms-job-submit**

6) Do something else for a while! gLite is not written for short jobs!

7) Check job status - occasionally

**glite-wms-job-status**

8) When job is “done”, get output

**glite-wms-job-output**

- gLite user guide
  - <https://edms.cern.ch/file/722398//gLite-3-UserGuide.pdf>
- Quick user guide for submitting jobs
  - [http://wiki.egee-see.org/index.php/Quick\\_User\\_Guide\\_for\\_Submitting\\_Jobs](http://wiki.egee-see.org/index.php/Quick_User_Guide_for_Submitting_Jobs)