

Grid Job Lifecycle



Outline

- ❑ Job scheduling overview
- ❑ JDL
- ❑ WMS
- ❑ Information Service
- ❑ Job life cycle

Animation – WMS with status

- http://moo-inst.sara.cloudlet.sara.nl/moo/wms_with_status.html

Job Description Language (JDL)

- ❑ A file describing what to execute on the grid
- ❑ **Contains**
 - Application to run
 - Application parameters
 - WN requirements
 - Run time
 - stdout & stderr
 - In- & output sandbox

```
Executable="run.sh";  
StdOutput="stdout.txt";  
StdError="stderr.txt";  
InputSandbox={"run.sh"};  
OutputSandbox={"stdout.txt", "stderr.txt"};  
CPUNumber=6;  
Requirements=(  
  (other.GlueCEPolicyMaxWallClockTime > 300 )  
);
```

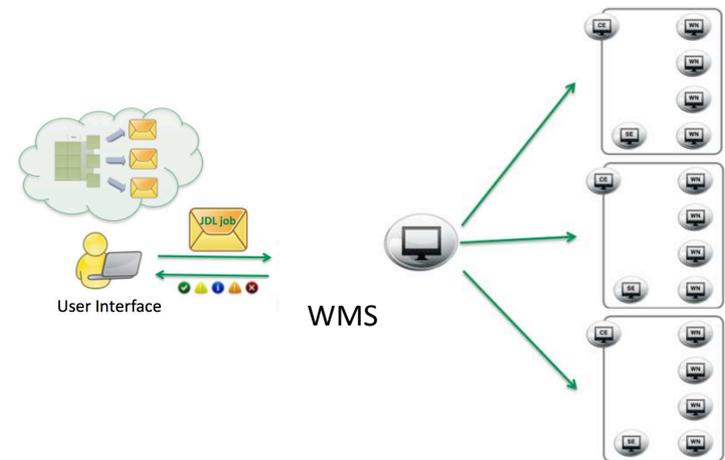
Workload Management System

□ Job handling

- Task distribution to CEs
- Logging and Bookkeeping service
- Output provision

□ Match-making

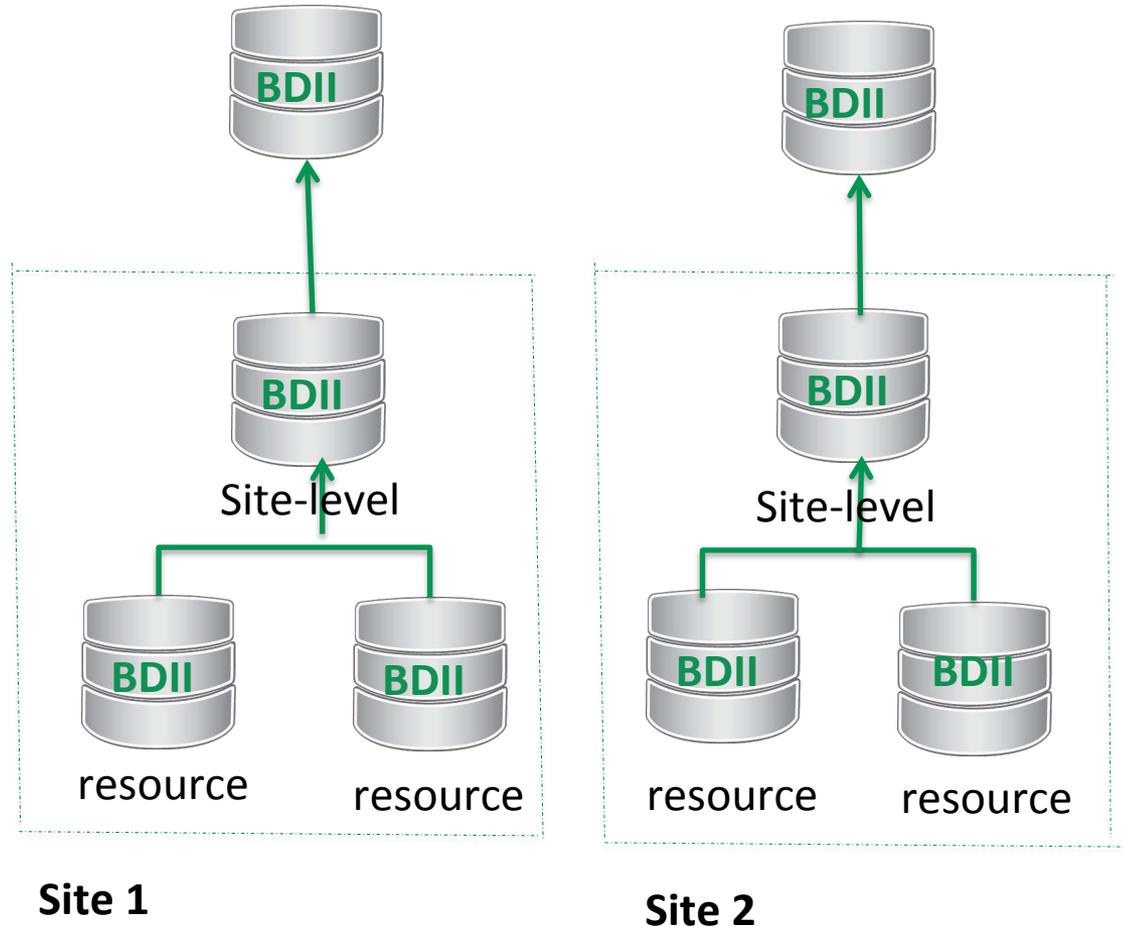
- CE must fulfill the JDL requirements
- Effective scheduling to Grid queues
- Load balance



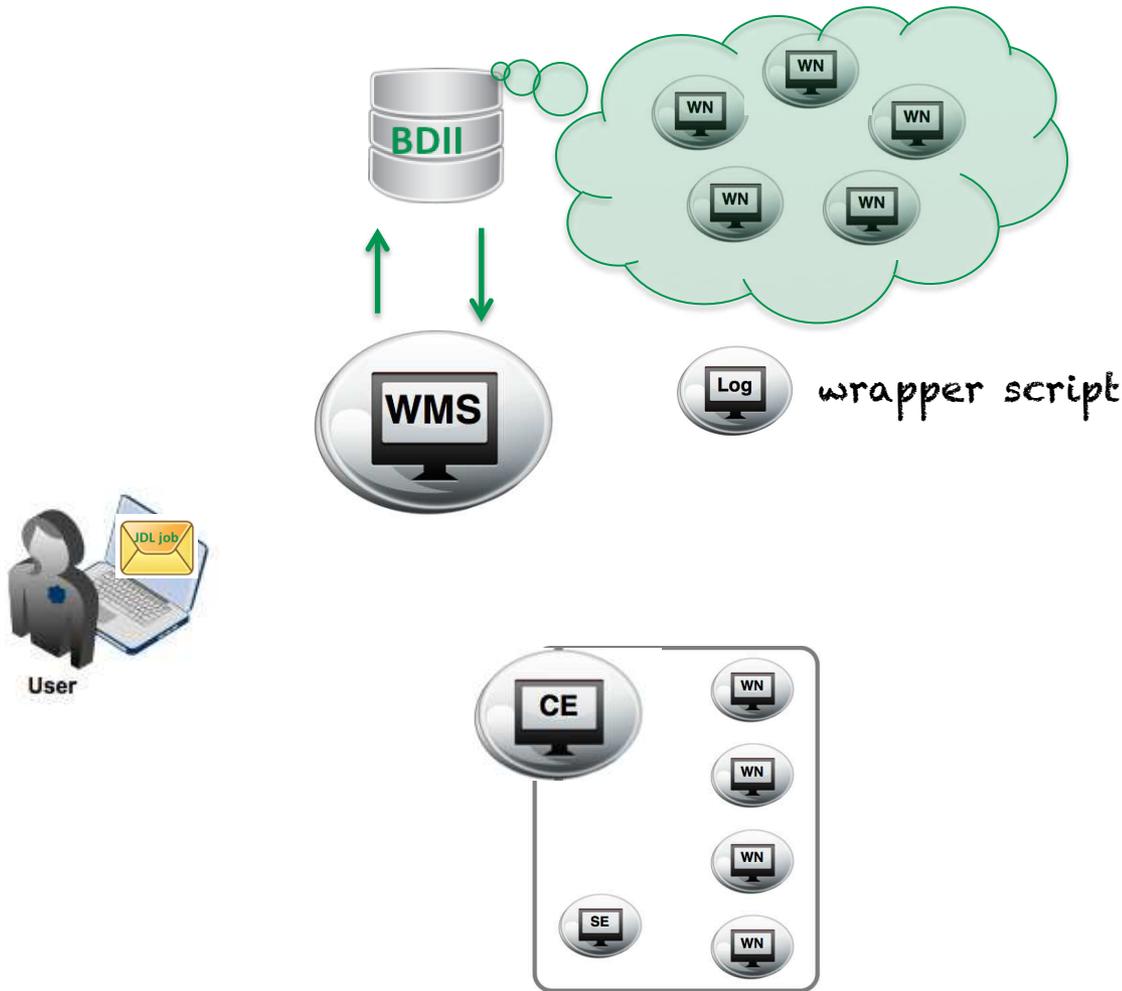
Information Service

Top-level BDII

- ❑ IS supplies information about status of grid resources
- ❑ BDII is an LDAP-based information system



Grid Job cycle



Job Status



Summary

- ❑ The WMS sends jobs to CEs
- ❑ CEs schedule jobs on WNs
- ❑ JDLs describe job parameters