



DIRAC testbed

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Outline



- **Bulk Job Submission**
- **Parametric Job Submission**
- **Submitting job with Input file from File Catalog**
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Bulk Job Submission



submit the same job n-times

- Tested via CLI
- Parameters setting mandatory
- Parameters: string or number

Parameters as number

```
JobName = "hello";  
Executable = "hello_world.sh";  
Parameters = 20;  
ParameterStart = 1;  
ParameterStep = 1;  
InputSandbox = {"hello_world.sh"};  
StdOutput = "StdOut";  
StdError = "StdErr";  
OutputSandbox =  
{"StdOut", "StdErr"};
```



Bulk Job Submission



submit the same job n-times

- Tested via CLI
- Parameters setting mandatory
- Parameters: string or number

Parameters as string

```
JobName = "hello";  
Executable = "hello_world.sh";  
Parameters =  
{"first", "second", "third", "fourth", "fifth",  
"sixth", "seventh", "eighth", "ninth"};  
InputSandbox = {"hello_world.sh"};  
StdOutput = "StdOut";  
StdError = "StdErr";  
OutputSandbox = {"StdOut", "StdErr"};
```



Bulk Job Submission



PROBLEM:

bulk submission hard-code limited up to 20

- Max 20 job per submission
- Limit imposed to avoid abuse (e.g. a user can easily submit 1M of jobs just by some mistake)
- Two solution found to overcome this limitation



Bulk Job Submission



First solution:

- 1) change `MAX_PARAMETRIC_JOBS` in
`DIRAC/WorkloadManagementSystem/Service/JobManagerHandler.py`
- 2) restart the
`WorkLoadManagement_JobManager` service
 - 1) Enter as dirac user
 - 2) `source /opt/dirac/bashrc`
 - 3) `runsvctrl t`
`/opt/dirac/startup/WorkloadManagement_JobManager/`



Bulk Job Submission



Second solution:

- We are using DIRAC v5r13p2
- In DIRAC v6 MAX_PARAMETRIC_JOBS will be configurable by admin
- the parameter is global
- The parameter can be overridden per group
- This feature will be implemented in future versions



Parametric Job Submission



job submission passing parameters to executed script

- Tested via CLI
- Parameters: string or number
- Tested up to 30 parameters
- %s Argument taken from Parameters

parametric_job_submission.jdl

```
JobName = "job_%s";  
Executable = "echo_call.sh";  
Arguments = {"1st_param 2st_param  
another_param yet_another_param $HOSTNAME  
$USER $PWD %s"};  
Parameters = 20;  
ParameterStart = 1;  
ParameterStep = 1;  
InputSandbox = {"echo_call.sh"};  
StdOutput = "StdOut%s";  
StdError = "StdErr%s";  
OutputSandbox = {"StdOut%s","StdErr%s"};
```

echo_call.sh

```
#!/bin/bash  
echo $@
```




Input file from catalog



- No correlation found between CE and SE
- Input file from catalog automatically downloaded before job starting
- Can DIRAC be constrained to execute jobs near data?



Input file from catalog



- InputSandbox
 - Download files before job starting
 - Files from local
 - Entire Directory from local
 - Files from Catalog
 - NO Directory from catalog
 - **NOT PARSE InputSandbox**



Debug Info



- DIRAC store log info on
`/opt/dirac/runit/<System Name>/<Service Name>/log/current`
- Launching commands fvia CLI, to obtain a more verbose output use
`<command> -o LogLevel=DEBUG <...>`
or
`<command> -o LogLevel=VERBOSE <...>`



BACKUP SLIDES



ToDo list



- Bulk submission via webportal
- Properly DIRAC SE working automatic check
- More test on File Catalog (sometime not working properly)
- install “test” setup using a more updated version of DIRAC
 - We are using release v5r13p2
 - Last release is v6r0-pre4
 - some problems are fixed ?
- Save output on File Catalog
- Save Output on specific SE
- **Suggestions ?**



URL



- **SuperB**
 - testbed wiki:
http://mailman.fe.infn.it/superbwiki/index.php/Distributed_Computing/Dirac_testbed
 - Webportal:<https://bbrbuild01.cr.cnaf.infn.it:8443/DIRAC/>
- **DIRAC team:**
 - 1) **GitHub:** <https://github.com/DIRACGrid> (updated)
 - 2) **twiki@CERN:** <https://twiki.cern.ch/twiki/bin/view/LHCb/DiracProject>
 - 3) **Official site:** <http://diracgrid.org/>
 - 4) **User Forum:** <https://groups.google.com/forum/#!forum/diracgrid-forum>
 - 5) **Developer Forum:**
<https://groups.google.com/forum/#!forum/diracgrid-develop>
 - 6) **Jabber Chat Room:** [diracgrid@conference.jabber.org](https://conference.jabber.org/jabber/#/diracgrid)



Storage Elements in DIRAC



- BARI-INFN
- CALTECH
- CNAF
- FERRARA-INFN
- GRISU-UNINA
- GridPP
- LAL-USER
- NAPOLI-INFN
- OXFORD
- PADOVA-INFN
- PISA-INFN
- ProductionSandboxSE (configured @ CNAF)
- RAL-PPD-GRID
- ULTRALIGHT-USER
- UVIC