eGee

Enabling Grids for E-sciencE

Status of Batch System integration Goals for end of project

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e-infrastructure

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CAPACITIES

Enabling Grids for E-sciencE

- Targets for the end of the project
- Current status of batch system support

We're currently looking at four batch systems (these are the ones that we either have to support, or we actually have people working on):

Torque From PBS pedigree. Vanilla batch system, de facto on grid infrastructure. Usually seen with Maui scheduler.

LSF High grade, but costs real money. Is a must-have, like Torque.

SGE (Sun) Grid Engine. Open Source, promising features.

Condor A.k.a. 'the Blob'. Can take any shape or form, including 'batch system' but treats concepts like queues a little bit differently than everybody else.

Total number of CPUs reported in production per type of batch system*:

LoadLeveler	
easy	
SGE	
condor	
BQS	
LSF	
PBS	
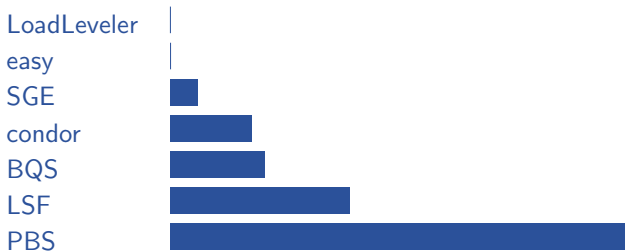
* Some double counting of CPUS could not be avoided. The data was taken with `ldapsearch -LLL -H ldap://bdii03.nikhef.nl:2170/ -x -b o=grid '(&(objectClass=GlueCE)(GlueCEStateStatus=Production))' GlueCEInfoLRMSType GlueCEInfoLRMSVersion GlueCEInfoTotalCPUs GlueForeignKey` and heavily post-processed.

We'd like these batch systems to work in combination with our premium offerings:

- LCG-CE on SL4/32
- CREAM CE on SL4/32
- CREAM CE on SL5/64

As a bonus, support for the following features would be very welcome:

- MPI
- parameter passing
- VOMS based priority scheduling

	LCG-CE SL4	CREAM SL4	CREAM SL5
Torque	OK	OK	#3439 rolling out
LSF	OK	OK?	#3403 with provider
SGE	OK	#3339 with provider	#3458 certified
Condor	OK*	#3514 in certification	—

* Production version of Condor-utils is a year old.

	Parameter passing	MPI	Job priorities
Torque	proof-of-concept	#3092, in certification	?
LSF	?	OK?	?
SGE	?	Feb 2010	?
Condor	?	N/A?	?

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Who is taking care of batch systems?

Torque CERN/Nikhef

LSF CERN/INFN

SGE CESGA + LIP

Condor PIC