

# Table of Contents

<b>Batch , Signals and gLite WMS.....</b>	<b>1</b>
Batch Systems.....	1
gLite WMS jobWrapper.....	1
Experimentation.....	1

# Batch , Signals and gLite WMS

Most batch systems before killing a job for what ever reason including exceeding requested resources send some warning signals. Since the gLite 3.1 WMS was released various signals are caught by the JobWrapper to try and provide a log to the user.

## Batch Systems

Batch	Signals	Notes
Torque	SIGTERM sleep 2s SIGKILL	The time can be increased with a server <b>kill_delay</b> configuration
LSF	SIGINT sleep 10s SIGTERM sleep 10s SIGKILL	Can be configured
SGE	SIGKILL	Anything can be introduced such as a SIGTERM and delay via a <b>termination_method</b> configuration.
Condor	SIGTERM sleep ? SIGKILL	There seems to be configuration but am unsure what default is.
SLURM	SIGTERM sleep 30s SIGKILL	<b>KillWait</b> configurable in slurm.conf

## gLite WMS jobWrapper

From WMS 3.1 traps were added to the job wrapper scripts to do sensible things when various signals are received. See [BUG:17509](#) and currently [PATCH:2597](#).

SIGNALs	glite 3.1	gLite 3.2
SIGTERM	fatal_error	fatal_error
SIGXCPU	fatal_error	fatal_error
SIGINT	fatal_error	fatal_error
SIGQUIT		fatal_error

When a **fatal\_error** is executed:

1. "Job has been terminated by the batch system (SIGTERM)" is outputted to the maradona log.
2. "Job has been terminated by the batch system (SIGTERM)" is submitted to the L&B service.
3. In the case of WMS 3.2 an attempt is made to return the Output Sandbox.
4. An attempt is made to return the maradona output.
5. It exits so as to return an "Abort" to the user as the job status.

## Experimentation

Submitting 20 jobs to 30 minute queue at Glasgow containing a 45m sleep job.

- All the jobs are now in state "Aborted" and were put there at 30 minutes it seems by the wrapper script.
- All the jobs failed to get Maradona's log back.

- All the jobs but two contained in the login and book keeping a **Job has been terminated by the batch system (SIGTERM)** record.

Presumably 2 seconds is long enough most of the time to send an L&B message. After setting the kill\_delay to 10s at Glasgow then all 20 jobs come back with an Abort and all have the "Job termination" message. Arranging for all sites to increase this parameter makes sense. It is an incredibly simple change to make. PATCH:2935 [↗](#) requests this change for YAIM.

It's still the case that maradona scripts failed to get back though even with the 10 second delay.

-- SteveTraylen - 23 Mar 2009

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