

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

CSCS

Swiss National Supercomputing Centre



Scheduling and Queuing Systems

Moab for grid computing

Introducing Moab at CSCS

Miguel Gila

Workshop

What is Moab?

- Moab is a Policy-based meta-scheduler
- 'Talks' to PBS/Torque and schedules queued jobs
- Developed by the same people who created MAUI
- Moab configuration is very similar to MAUI

Why CSCS decided to move to Moab (I)

- In any job-oriented computing system the key element is the combination of Batch System and Scheduler.
 - CSCS was using Torque/MAUI
- We experienced severe problems with MAUI which made job scheduling unreliable.
 - MAUI development had been stalled for 10 years.
 - MAUI support was (is) non existent.
- At this point we had 3 options:
 - Replace MAUI with Moab and continue with current batch system (Torque)
 - Move the batch system and the scheduler to `pbs_pro`
 - Move to Sun Grid Engine

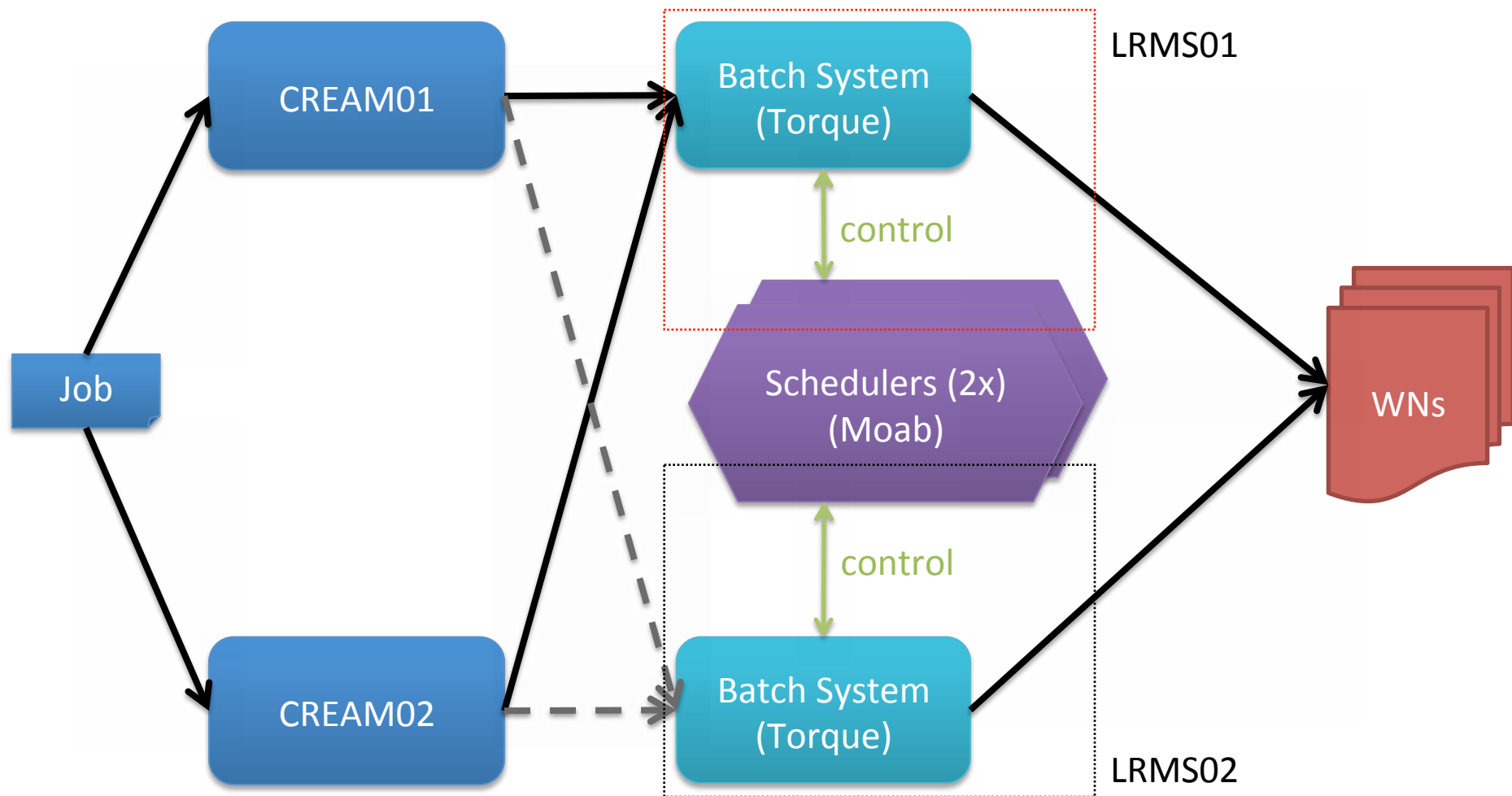
Why CSCS decided to move to Moab (II)

- Since we needed to fix it ASAP the option was clear: to continue with Torque and to replace MAUI with Moab.
- When contacting Adaptive Computing, they offered the possibility to help us configure it even before purchasing a license.
- After testing it, the quotation received was ‘reasonable’ and it included:
 - 3 years of full Moab and Torque support
 - Immediate access to Moab updates.
 - License for 266 CPUs with infinite cores per physical CPU.

Migrating from MAUI to Moab

- Product was evaluated for almost two months.
 - During this period Adaptive Computing Support helped us to configure it.
 - We configured the batch system and the scheduler in HA failover mode (Torque 2.5).
 - Shifting the scheduler from MAUI to Moab took just a few hours.
- Once we were totally satisfied with the solution, the license was purchased and applied in minutes.
- The whole process took 2-3 months.

Setup overview and HA failover



Conclusions

- With Moab we have managed to configure the batch system and the scheduler in HA failover mode.
- All in all, Moab has proven itself as a solid improvement over MAUI.
- Moab works well and it allows us to create more advanced and suitable configurations.
- Support team is very responsive.
- There are no available packages and installation is from [.tar.gz](#) files