
Customizable scheduler

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Outline

- XLAB's tasks
- What we have done so far
- Experiences with Kerrighed as user and as developer

XLAB's task for Kerrighed

- implementation of customizable SSI scheduler
- long-term scheduler + load-balancing scheduler
- very similar to what Louis is doing

Our contribution (long-term scheduler)

- define interface for Grid scheduler (monitor SSI, send jobs,...)
- support SAGA API for job submission, monitoring and control
- add job optimization functionality to SSI scheduler
- perhaps implement some AI method for load prediction

Our contribution (load-balancing scheduler)

- hot-pluggable interface for probing and analyzing capabilities of the monitor
- hot-pluggable scheduling algorithms
- extension of load balancing to be able to handle inter-resource dependencies (IPC, shared memory)
- extension of scheduling algorithms with feedback loops for self-adaptability

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What we have done so far...

- monitoring system with pluggable probes and analysers
- monitoring probes and modules implemented as Linux kernel modules
- easy addition of new probes and analysers

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Experiences with Kerrighed as a user

- many trials before successful compilation of Linux kernel and Kerrighed
- detailed description of “make menuconfig” for Kerrighed would be very helpful
- instructions for deploying Kerrighed should be reformatted into a checklist

Experiences with Kerrighed as developer (1)

- no experience with kernel programming whatsoever when started with Kerrighed
- slides from Kerrighed tutorial in Rennes very helpful
- simple tutorial kernel modules which demonstrate usage of different Kerrighed modules (container, comm, ...)

Experiences with Kerrighed as developer (2)

- perhaps Kerrighed reference manual where all the most important functions of Kerrighed API would be documented

Thank you for your attention!