GO-Docker: Batch scheduling with containers
Olivier Sallou, Cyril Monjeaud

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**Jobs in containers**

Go-Docker is a batch scheduling job manager. It executes jobs in Docker containers, providing security/isolation of resources and access to a software catalog and multiple operating systems. For multi-user systems, it mounts user directories in the container and schedules jobs according to user requirements (cpu, memory, queues). Quota and priorities are managed at user and group level.

Software is in beta-test at GenOuest BioInformatics core facility, before production, with Apache Mesos.

**Implementation**

Go-Docker is built upon several components to orchestrate the job life cycle. Docker Swarm or Apache Mesos are in charge of the node management i.e the execution of the task on the available nodes).

The scheduler daemon manages tasks priority and submission based on requirements while the watcher daemons manage tasks supervision.

**Conclusion**

Go-Docker provides:
- secured job/interactive session control with isolation
- jobs live monitoring and past statistics
- optional root access to the container
- immediate access to different operating systems and a growing catalog of software (Docker registry)
- easy container usage with no super-user rights
- Web UI, CLI, REST interface