SkyGrid Prototype - "Cloud-friendly Grid platform"

CERN openlab Summer Students
Lightning Talks Sessions

Dimitrios Sarigiannis
supervised by: Andrey Ustyuzhanin
The Project Challenge

› Prototype project for SHIP grid-cloud framework
› Support for private clouds
› Support arbitrary container configuration
› Integration with book keeping system
Overall Solution
Overall Solution
Overall Solution
Overall Solution

1. User
2. Client
3. Queue of tasks
   (MS) Meta-Scheduler

DATA CENTERS

HADOOP YARN

(SAM) Superior Application Master

(RM)

Containers

Jeeves

docker

Wooster
Overall Solution
Overall Solution
Overall Solution

Job Descriptor

Jeeves

0. Job Descriptor parsing
1. pull image
2. create working directory
3. run image with working directory mounted
4. collect files
5. send files to a file system (HDFS)
6. report status
Overall Solution
My Contribution

https://github.com/anaderi/skygrid
The Project Impact

› Run event simulation and event processing using grid interface to cloud technologies

› Support for virtualization and hence, ability to run jobs in almost arbitrary environment

› Quick navigation to the output of the jobs using indexes

› evaluation of the system on ShiP-specific tasks (MC production)
SkyGrid Prototype - "Cloud-friendly Grid platform"

CERN openlab Summer Students Lightning Talks Sessions

Dimitrios Sarigiannnis