



**NORDUGRID**

*Grid Solution For Wide Area  
Computing and Data Handling*

# **ARC Information system Benchmark with aCT**

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# Outline

- Benchmark setup
- Problems encountered
- Non-interesting results

# Benchmark setup

- Iridium cluster @Lunarc, Lund
- Frontend: virtual machine with ARC 4.2 from nordugrid repos (just discovered today :( )
  - 16 cores virtual machine
  - local physical disk for controldir
  - Shared filesystem for session and log files
- Nodes: 16 cores 64GB
  - aCT running in one of the nodes
- Test job: prime numbers from arctest
- Limit: 50000 jobs of which only 32 in the LRMS (it's a production cluster)
- Jobs submitted via aCT to the EMIES interface
- Jobs submitted via aCT to the gridftp+LDAP interface

# Problems encountered

- Issues with certificates on the aCT machine
- ACT could not find the proxy when submitting due to ARC codebase - took some time to figure out due to a delegation error issue
- Broken gridftp submission due to ARC 4.2 timeout
- Distracted or too busy sysadmin (yes, me)
- Bogus ulimit on frontend or buggy virtio
- Performance poorly designed
- Needs something better than gnuplot

# Results? after 4 days - Gm-jobs:

Jobs total: 87738  
ACCEPTED: 0 (0)  
PREPARING: 25055 (24727)  
SUBMIT: 0 (0)  
INLRMS: 32 (0)  
FINISHING: 0 (0)  
FINISHED: 62651 (0)  
DELETED: 0 (0)  
CANCELING: 0 (0)  
Accepted: 25087/50000  
Running: 32/32  
Total: 87738/60000  
Processing: 328+0/10+1

real 4m48.970s  
user 3m7.443s  
sys 1m3.836s

# Results? after 4 days

- GMJobsInfo Average running time: 150.366308083663
  - But increases with time (depending on number of jobs), from 1 sec to 250
  - #jobs/time is not recorded (yet)

- Successful CEinfo.pl complete scans:

Started: 1790

Finished: 771

Incomplete: 1019

Won't finish anymore after:

```
[2015-06-02 11:39:31] GMJobsInfo: VERBOSE: Found 0 jobs  
in /home/jobstatus/accepting
```

```
[2015-06-02 11:39:31] GMJobsInfo: VERBOSE: Found 25087  
jobs in /home/jobstatus/processing
```

```
[2015-06-02 11:45:50] GMJobsInfo: VERBOSE: Found 62651  
jobs in /home/jobstatus/finished
```