Solving Big problems with OS: Condor

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WARNING !!
INAPPROPRIATE CONTENT:
BAD LANGUAGE, NUDITY
MAYBE EVEN CATS !!
PROCEED WITH CAUTION
I’m no SGE guy ...
Condor – Main features
Healthy project
Heterogeneous computing
Job Surveillance
Requirements
Fair use of resources
Checkpoints
Nested jobs (DAG)
Easy Licensing
... with Hadoop, MPI, OpenMP, GPU
Condor Flocking
Grid & Cloud Computing
VM Universe
Hooks & APIs
Flexibility
2

How Condor works
Management

[Hello, Dave]
* Hey!. I’m a 64K one!.
WANTED: Somebody to go back in time with me. This is not a joke. P.O. Box 322, Oakview, CA 93022. You’ll get paid after we get back. Must bring your own weapons. Safety not guaranteed. I have only done this once before.
Priority Management

YOU SHALL NOT PASS (IF YOU DON'T HAVE ENOUGH PRIORITY) !!!
Data Transfer
Job running
Job Monitoring
Job End

FINISH
#!/bin/sh
# I'm hola.sh
echo  Hola mundo desde `hostname`

#
# A Hello World .. In Condor!
#
# I'm hello.sub
Universe       = vanilla
Executable     = hola.sh
Log            = hola.log
Output         = hola.out
Error          = hola.err
Queue

Hello, World !!
condor_submit

-bash-3.2$ condor_submit hola.sub
Submitting job(s).
1 job(s) submitted to cluster 2043275.
-bash-3.2$
1500 executing jobs, 40000 in queue ... Lookin’ good
3 Condor Tweaks
Dynamic Partitioning
Long Jobs
Short Jobs
Big Jobs
Dynamic Checkpointing
Interactive Access
Future (always work in progress)
Hadoop Integration
Green Computing
Nobody’s perfect ....
- No MPI + Dynamic Partitioning (yet)
- No slot wise preemption
- HA tough as nails
The End
Conclusiones

Fly like a bird with Condor

Slides here: http://slideshare.net/ansanz

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Extra Bonus
I3A & Condor
Tissue Modelling
Rare Diseases
Crash test simulations
Heart complete sim.
Communication Systems
Dynamic gaming AI

Very easy
Easy
Normal
Hard
Impossible

By Andrei Bazavan
Autonomous robots

Fly like a bird with Condor

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