Migration of a computation cluster to Debian

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November 25th, 2012

Mini-Debconf Paris 2012
Outline

Context

Hardware

Existing software

Solution
Context

Institut de Génétique et Microbiologie (IGM):
- joint lab, CNRS & Université Paris Sud
- cluster part of the eBio platform, providing resources for scientists

Logilab:
- software services
- python specialist, Debian-based
- scientific computing / simulation
Hardware

Existing:

- 10 compute nodes
- 1 frontend
- 1 separate assembly node (lots of RAM and storage)
- 24-port 1Gb ethernet switch

New:

- 2 hosts for virtualization and storage
- 2 more storage bays
Existing software

- Based on RHEL5
- Sun Grid Engine (SGE) batch scheduler
- No shared storage
- No central management
Solution (2)

- One storage node using ZFS on Linux
- VM hosts for all services: provisioning, monitoring, frontend (submission host), databases, web server, ...
- Nodes reinstalled with FAI ([http://www.fai-project.org/](http://www.fai-project.org/))
- Configuration/deployment with Salt ([http://www.saltstack.org/](http://www.saltstack.org/))