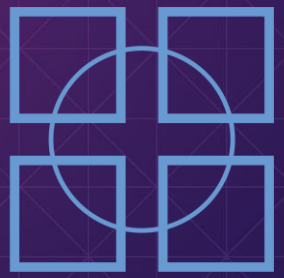


CLUSTERVISION

Innovation in cluster deployment and management

Presented by Heather L Stephens

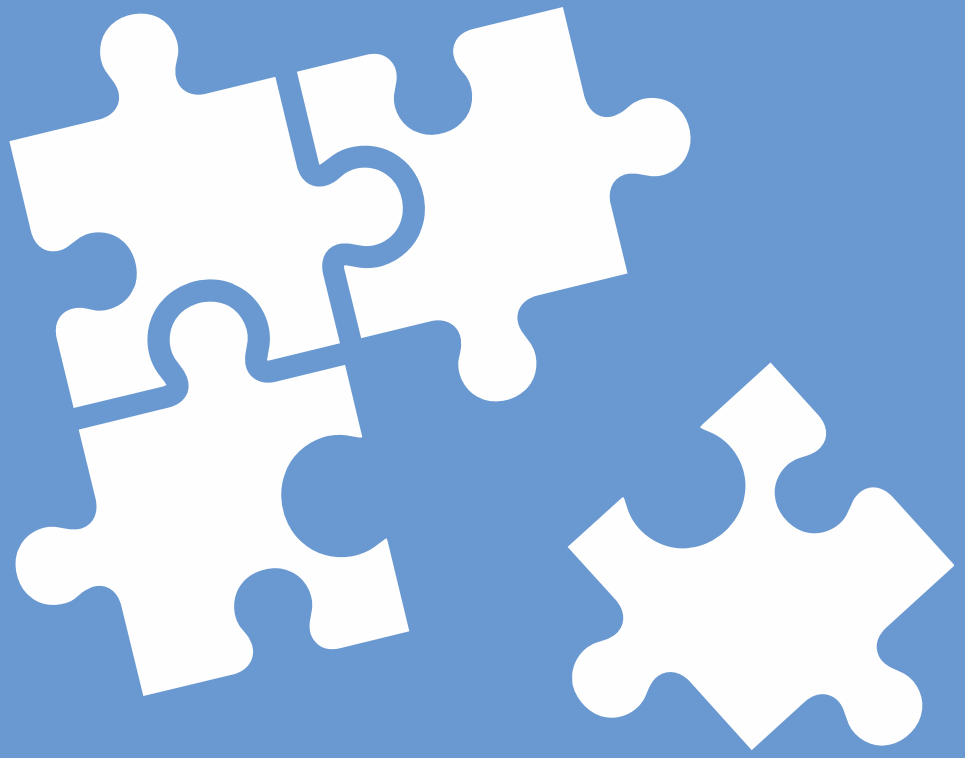
Computing Insight UK, 13 December 2018

Manchester Central

ClusterVision designs, builds, and manages HPC clusters

High Performance Computing accelerates scientific discovery

CLUSTERVISION



How can we consistently deploy and manage highly customised HPC clusters?

- Vendor agnostic
- Flexible and modular
- Compatible with industry standards
- Ease of use

We are Open Source

Innovation thrives in the open

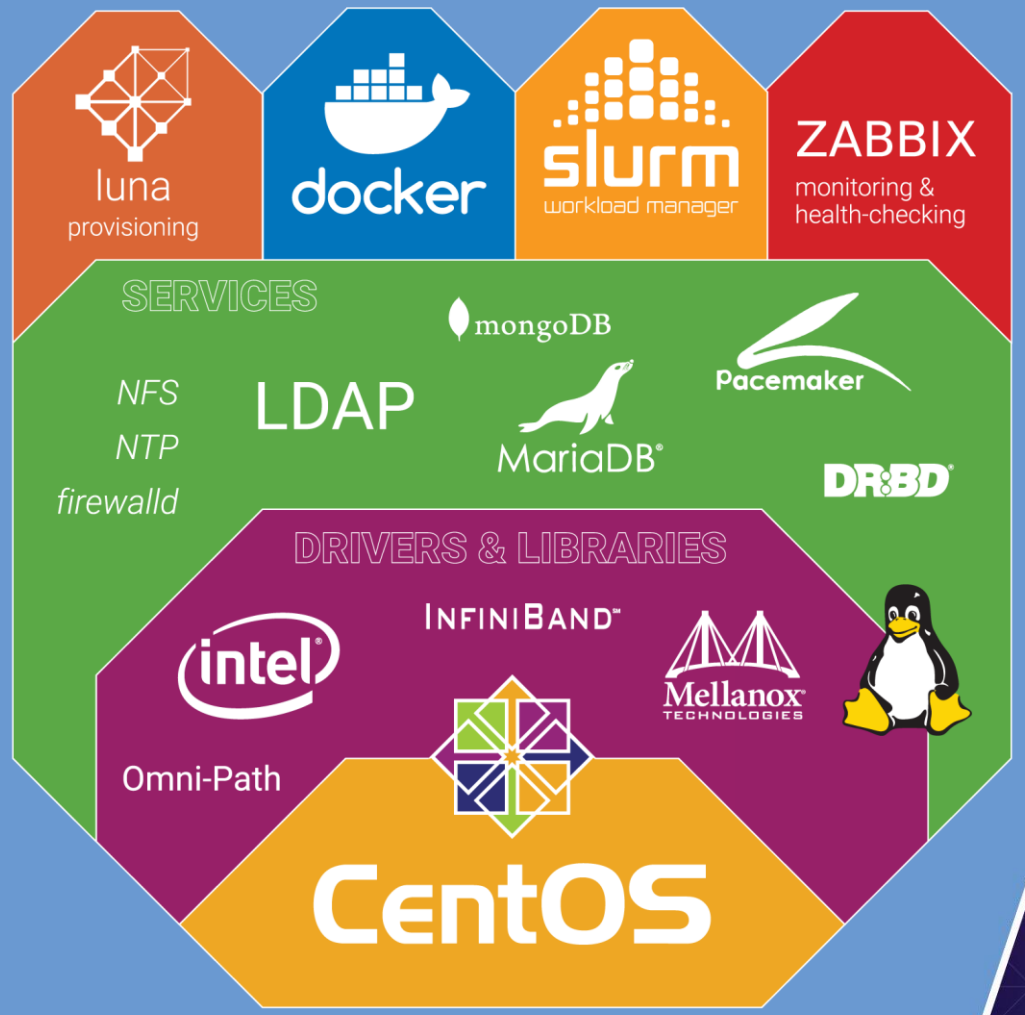
- Adaptable
- Freedom
- Compatible
- Secure and transparent
- Collaboration

CLUSTERVISION

trinityX

- 2nd major release
- Delivered 30+ clusters
- Including the AMD benchmark cluster hosted in Austin

TrinityX is our modular, flexible, open source HPC ecosystem



openstack.

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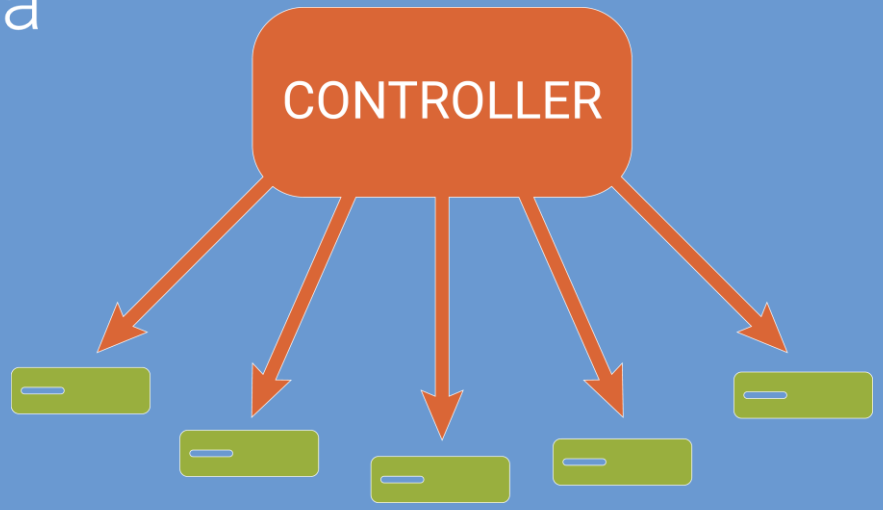
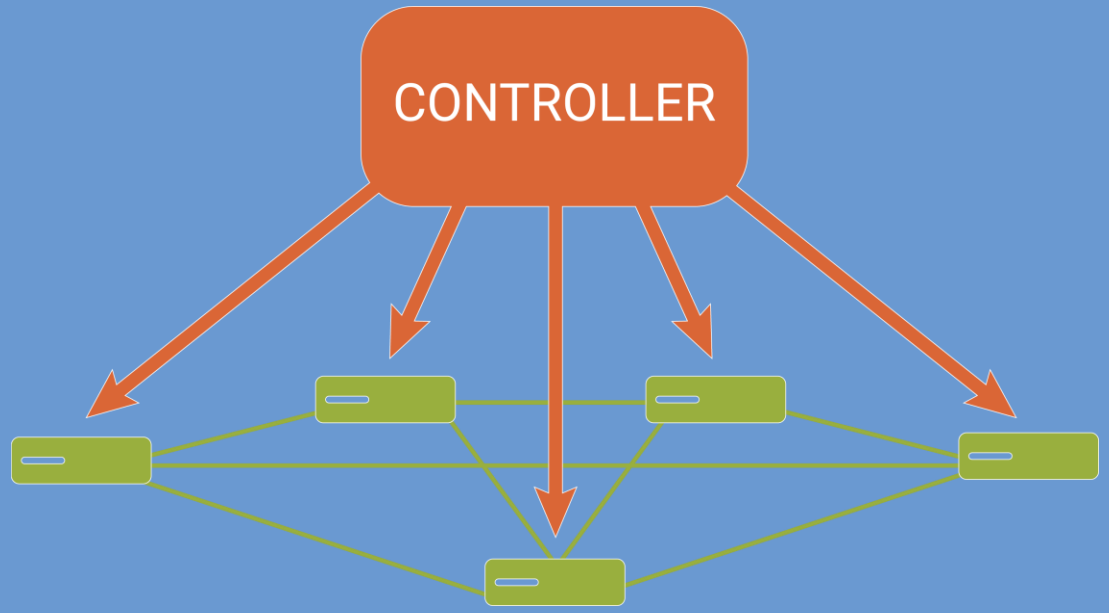
luna

Image-based provisioning

Based on BitTorrent



Traditional deployment



With TrinityX & Luna using peer-to-peer transfer

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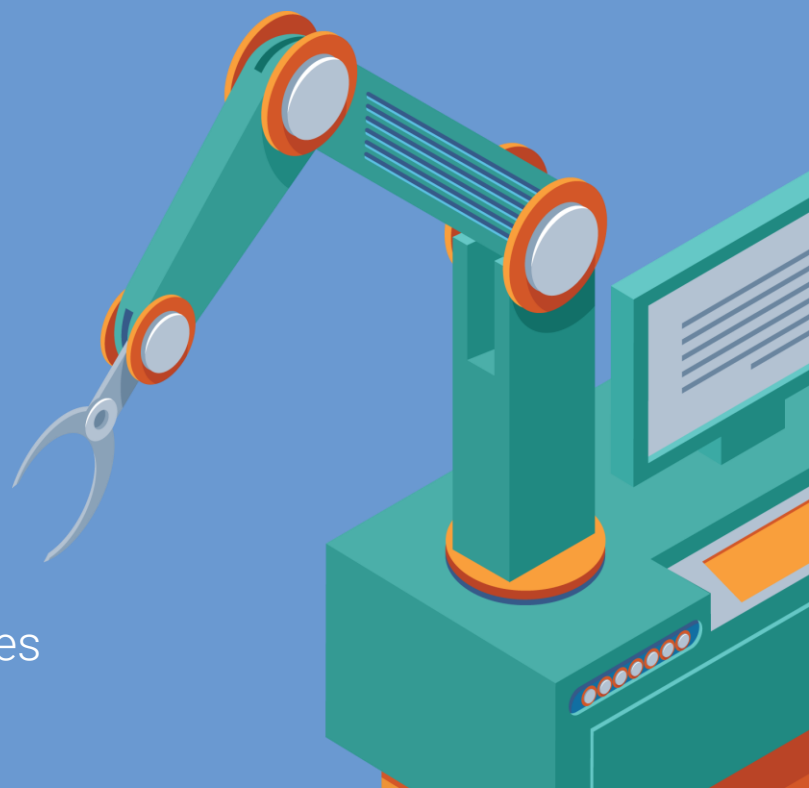
Boot your 500+ node cluster in 5 minutes

Configuration management via Ansible

- Provision servers
- Configure applications, databases, web-servers, switches
- Reboot, stop/start servers, VM
- Update software, firmware
- Run benchmarks
- Disaster recovery
- Make backups
- Automated configuration updates



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TrinityX in the cloud

We are working in partnership with Amazon Web Services on a cloud offering due out early next year

- Dynamic, heterogenous cluster in the cloud
- Or burst into a cloud to accommodate spikes in demand
- Now seeking pilot sites!

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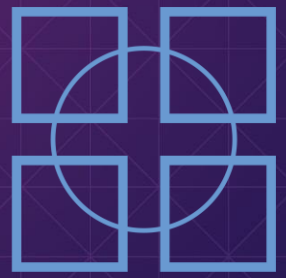
Roadmap

Enhanced support for ARM & Open Power	Provide the ability to analyze user jobs for efficiency
Automated backups	Software defined storage (ZFS)
Cloud bursting	Rack layouts / network visualization
Integrated singularity containers	Exascale support



CLUSTERVISION

Check us out on GitHub!

trinityX

Github.com/clustervision/trinityx

Github.com/clustervision/luna

luna