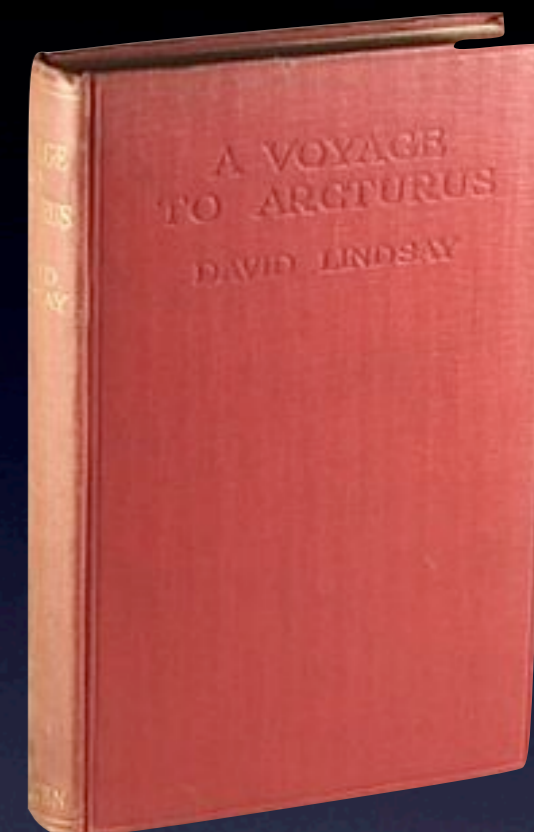# A Voyage to Arcturus

Amsterdam, CHEP 2013

Background

- A Voyage to Arcturus by David Lindsay

- Scottish Sci-fi published in 1920

- Influenced CS Lewis and Tolkien

"The lands through which the characters travel represent <u>philosophical</u> systems or states of mind, through which the main character, Maskull, passes on his search for the meaning of life." http://en.wikipedia.org/wiki/A_Voyage_to_Arcturus
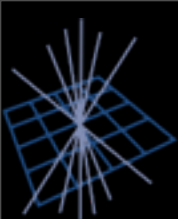
- Similar to running a Tier-2

Our Voyage @ Glasgow

- Glasgow is:

  - 4000 Cores and 1.5 PB of Storage

  - ATLAS, then other HEP experiments, then non-HEP groups

- Current Problems:

  - No standard deployment model for a Tier-2

  - Lots of software services to maintain
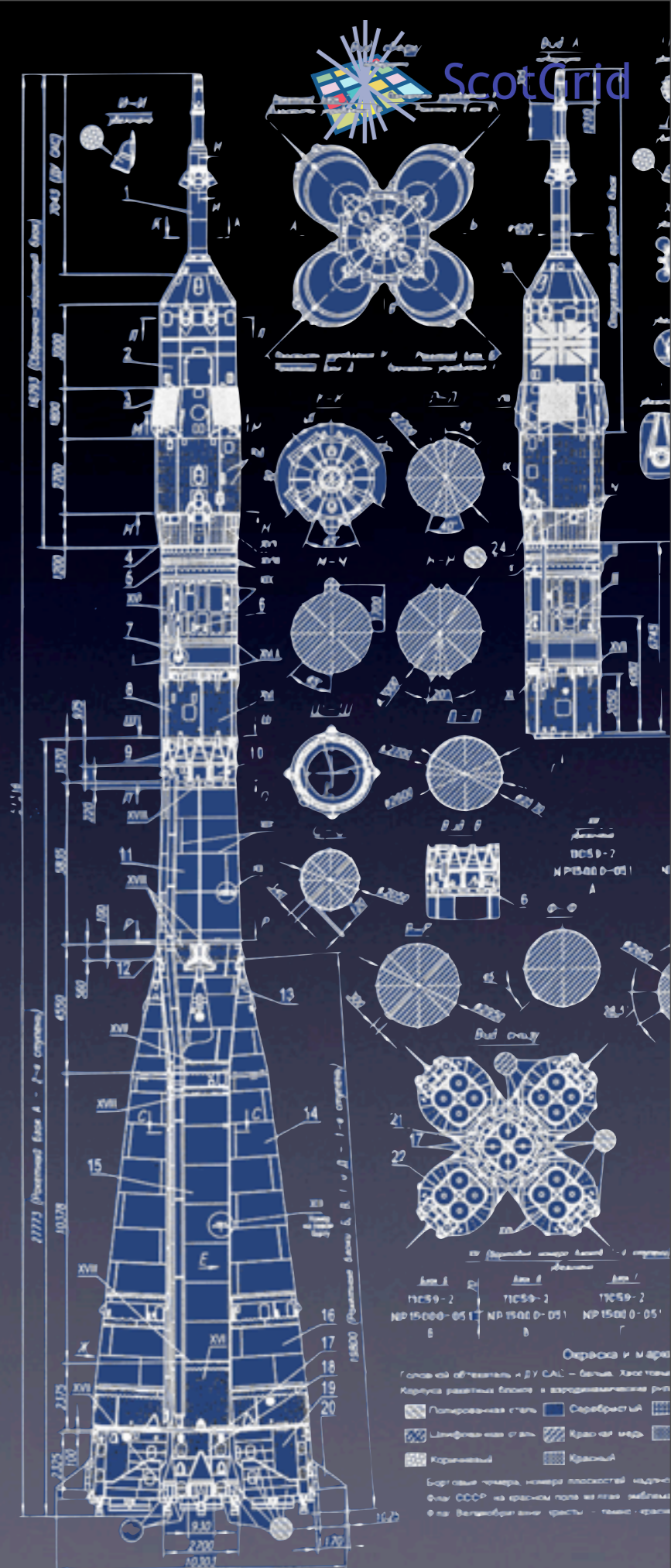
  - Ever shifting user requirements

Tier-2 Build Model

The Plan

- Standardise the build model for a Tier-2

- Automate everything that can be automated

- Look at what is actually trending in data centres and projects such as MESOS

- Use as much "Real World" OpenSource software as possible

- Monitor everything and choose what to visualise

The Ship

- SNMPv2 for system control

- Look at more than just "Puppet" for configuration

- Containers for software (We like Docker, so does Red Hat)

- Distributed storage such as HADOOP

- Do we need intelligent networks? (Possibly)

- Currently running on "Retired" production hardware independent of the production environment
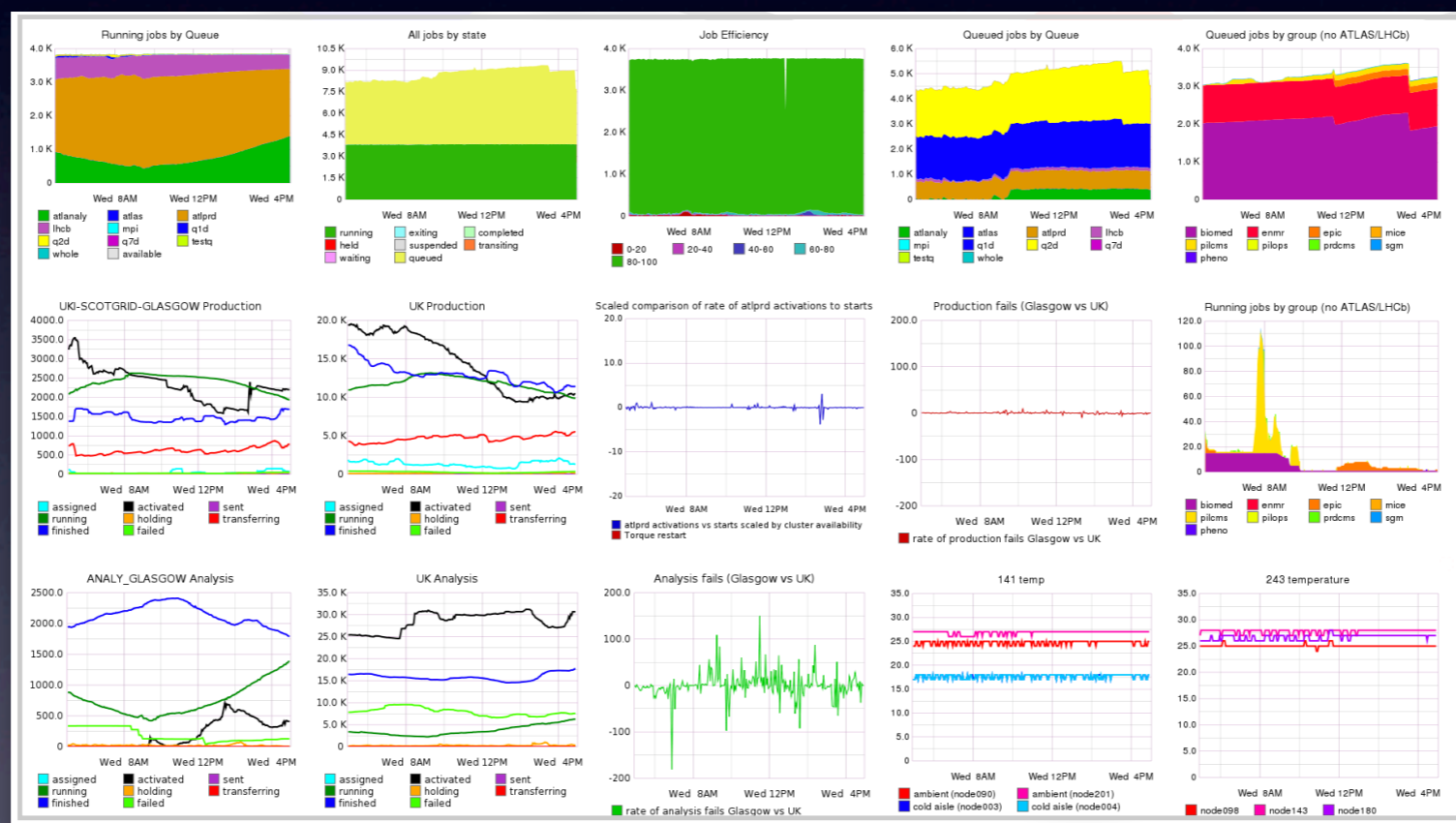
The Trip So Far

- Underway!!

- Need to reduce the dependency on "home brew" software.

- SNMP should be used more as it can be utilised to do clever things in a secure manner.

- HTCONDOR and ARC look to be the way forward

Actual outcomes

- Production monitoring via Graphite at Glasgow

- Combine all monitoring sources into a single view

- See poster by David Crooks et. al.,

https://indico.cern.ch/contributionDisplay.py?contribId=183&sessionId=9&confId=214784

Actual outcomes

- SNMP control mechanisms

- Pursuing Container environments in Docker to deliver production services

- Working with University Networks Team and Extreme Networks around the utilisation of Openflow and Policy based Routing

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Why do this?

- Standard model for delivery

- Allows for standardised interface into other potential resources

- Tried and tested software units

- Simplify Operational Support

Any Questions?

Thursday, 17 October 13