Changes
○○

Monitoring
○○○○

The Move
○○

Site Plans
○○

The Future
○○

Summary
○○

Plan B
○○

Edinburgh Site Report

Summary of recent Changes

What's changed since the last F2F?

- RDF is Working!
- No. Really. It's in production and has data on it.

- Hosted a DUNE workshop
- Improved monitoring (using docker+ansible)
- Running more services on our HV
- Increased the number of CPU hours we burn
- Almost setup a Tier3
- Almost went IPv6 and then had to revert
- ZFS keeps our old storage alive and I forecast into 2020+

Upcoming Changes

Some of the most important upcoming changes for us are:

- Moving our Gitlab instance from Physics to University service
- Hardware migration at ACF
- Office move in JCMB in early 2019
- Finish deploying local compute resources

- Loss of experience/manpower

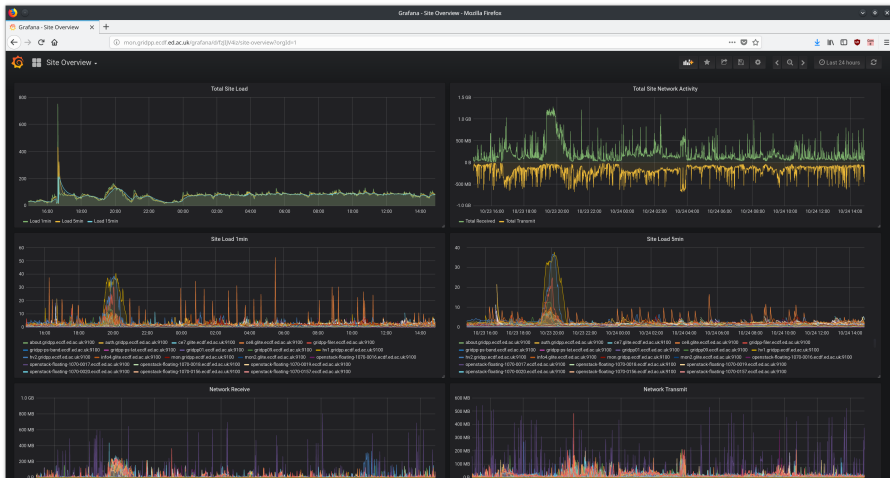 Andy will be moving to a new job in 2019.
  Good Luck!

Changes
○○

Monitoring
●○○○

The Move
○○

Site Plans
○○

The Future
○○

Summary
○○

Plan B
○○

RDF Storage

It's being used!
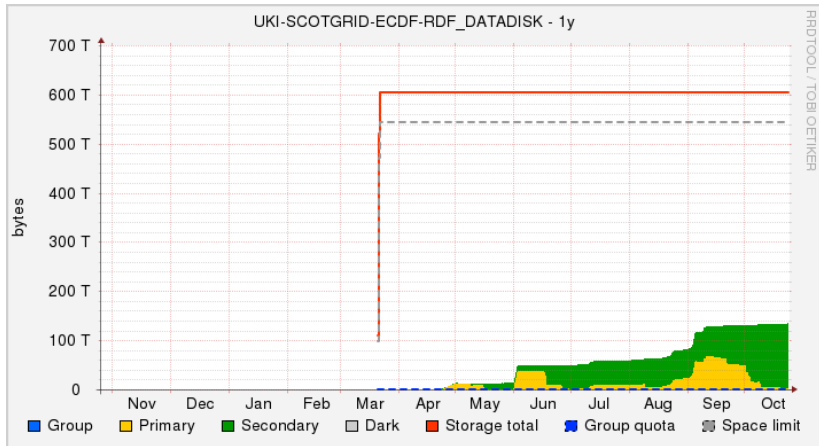
Although, we'd be happier if this was being used more.

Changes
○○

Monitoring
○●○○○

The Move
○○

Site Plans
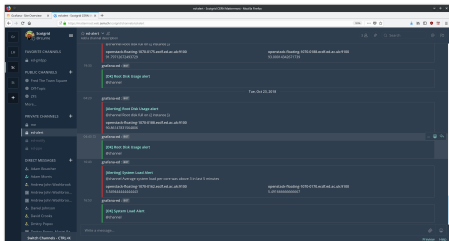○○

The Future
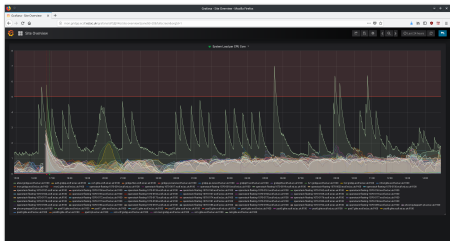○○

Summary
○○

Plan B
○○

Pretty Plots!

Some nice plots from our Grafana site monitoring.

Automatic Alerting!

We now have automated alerting setup within Grafana to auto-detect problems and alert us via mattermost.

PLOT ALL THE THINGS!

More Plots!

What I want to do to improve monitoring?

- Blackbox exporter to test for services being up/accessible!
- Automated local functionality testing
- mysqld exporter, because it looks nice and sensible
- Expand custom qsub exporter to track more data from the site
- Explore monitoring network usage vs port using some tool node/prometheus/(bro?)
- I would like to get a big display in Physics showing the computing resource usage.

Moving the kit

"We're only moving some storage, how hard can that be?"

Main changes this brings:

- Dropping from UPS to normal power (in 3 phases)
- New(*) 10G switch
- Managing our own iDRAC directly
- Revamped working relationship between us
  ACF/RS/networking

(*) Maybe, probably, either way we're refreshing the physical networking which
has grown organically

Changes
○○

Monitoring
○○○○

The Move
○●

Site Plans
○○

The Future
○○

Summary
○○

Plan B
○○

The Kit
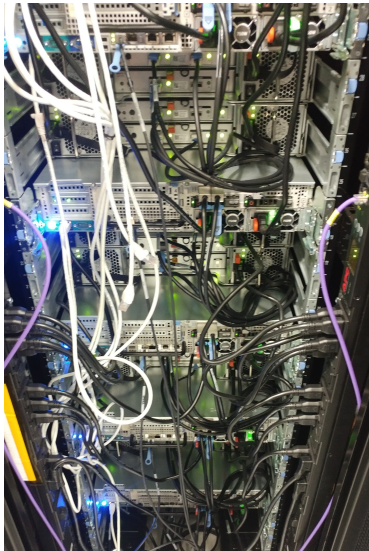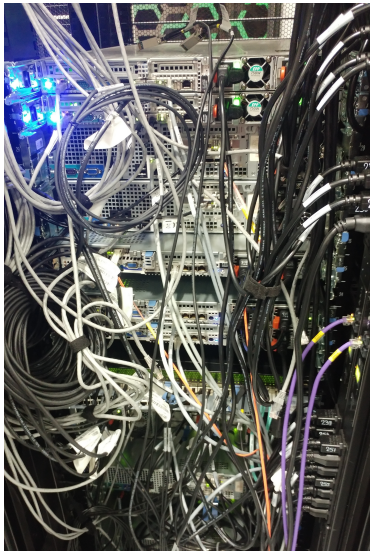
Site Plans

Some initial thoughts on the future of the site.

- IPv6 on our storage.
  Can do this in principle on our main storage, although we
  have no idea how the move will impact this.
  RDF on the other hand requires additional support, so-far
  we've put off requesting for this. Could we proxy?

- CentOS7
  Most of the site is CentOS7 with a few services still deployed
  on SL6. I'd like to try and re-deploy these in 2019 one at a
  time and in a semi-automated way.

Site Plans Cont

- Automation
  Being pragmatic I'm looking less to deploy Tier2 services with
  Ansible. Good documentation is essential but converting this
  all into a playbook takes time.
  Will look first to use automation to control different aspects
  of the site in a uniform way. Firewalls, Monitoring, Service
  Managment, Maintenance, etc.

- Hypervisors
  In a perfect world I would go away and re-deploy our
  hypervisors using libvirtd.
  IMO the cost of doing things manually is too high and has led
  to one accident a few months ago where we lost a VM.
  That being said they seem to be working well so changing this
  is not a high priority.

Plans for the future

- Focus on storage deployment/testing.
  Want to play with EOS, no set long term plan for DPM alternatives yet.

- Tier2 will run as long as there is money.
  Mostly CentOS7 with a SL6 testing queue for now.

- Old storage is very well managed by ZFS, it won't die.
  (although does require a little hand-holding at times)

- RDF Storage
  Have managed to put $\approx 1Pb$ of national storage on the grid, now it's there, does it scale?

The Future part2

- Containers?
  Speaking for myself I *really* like containers and would love to
  see a docker cluster which controls everything used by a T2.

- HPC/Tier3?
  We would like to continue trying to deploy singularity at
  HPC/Tier3 if there is the time/effort for this.

- Datalakes?

Changes
oo

Monitoring
oooo

The Move
oo

Site Plans
oo

The Future
oo

Summary
●o

Plan B
oo

Summary

- Interesting few months ahead in Edinburgh.

- Bit of a squeeze of doing more with less.

- Documentation has helped a huge amount and will continue to help.

- In 2019 aim to be fully virtualized with even better redundancy/monitoring.

Changes
oo

Monitoring
oooo

The Move
oo

Site Plans
oo

The Future
oo

Summary
o●

Plan B
oo

Backups

Plan B

When all else fails we will:

- Interactively pursue interoperable materials.

- Professionally revolutionize turnkey intellectual capital.

- Intrinsicly coordinate cross-platform networks.

- Collaboratively enhance performance based clouds.

Changes
○○

Monitoring
○○○○

The Move
○○

Site Plans
○○

The Future
○○

Summary
○○

Plan B
○●

Plan B