Australia Site Report

Sean Crosby
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CoEPP

ARC Centre of Excellence for
Particle Physics at the Terascale

- Supports ATLAS VO
- Tier 1 site is TRIUMF (Canada Cloud)
- 10Gb WAN link through Seattle
- Aim to, and delivering, 2% of ATLAS compute
- 3 full-time sysadmins
- 1000 cores
- 920TB storage (in main DPM pool)
- Support 100 researchers (Academics, Postdocs, PhD and Masters)

- DPM 1.8.8/SL6
- 9 disk servers
- Each FS is 10TB
- 2x10GbE to switch (most compute nodes 1GbE)

- Standalone head node
- 10GbE
- SRMv2.2, xrootd, rfio, gsiftp, webdav, dpm, dpns
- Provides storage for physical cores (on our network), and Cloud cores (see later)
- Database on dedicated DB server
- Everything but the DPM config is puppet controlled (still using YAIM because of dependencies)

- Now part of ATLAS FAX
  - apart from bug in N2N plugin, working great
  - no noticeable change to load on disk servers
- Added two test beds (serving real data) – more on it later
- Educated our users to use xrootd when possible in their Tier 3 code

- Following on from last year, our cluster is still heavily unbalanced
  - Every year we drain the oldest disk servers, and the data drains nearly directly to the newest
  - Nearly all writes heading for the 2 newest disk servers

- Large amount of dark data remains
 - waiting on Rucio dumps and tools to identify where the data is

- ## We are part of Webdav federation with all other Canadian sites

- Federation running using UGR (based on dmlite) – Fabrizio will talk more on it
- Current purpose is to use it for data inputs for Cloud computing sites – UGR has a GeoIP option to select closest replica. 3 ATLAS cloud sites in CA.
- A few problems with Australia
  - Our SE falls out of the Federation regularly due to unknown reasons
  - We also see SSL connect errors when connecting remotely (fine locally)
  - More diagnosis needed

- Also need to fix ATLAS pilot to work with Federation – should be simple enough
- Great work by Ryan Taylor (UVIC) and Fabrizio in helping to identify new features we'd like in the UGR

- We now have a full year of monitoring of DPNS, DPM, GridFTP performance, using the lcgdm-nagios plugins

- Only a couple of issues caused by faulty disk server
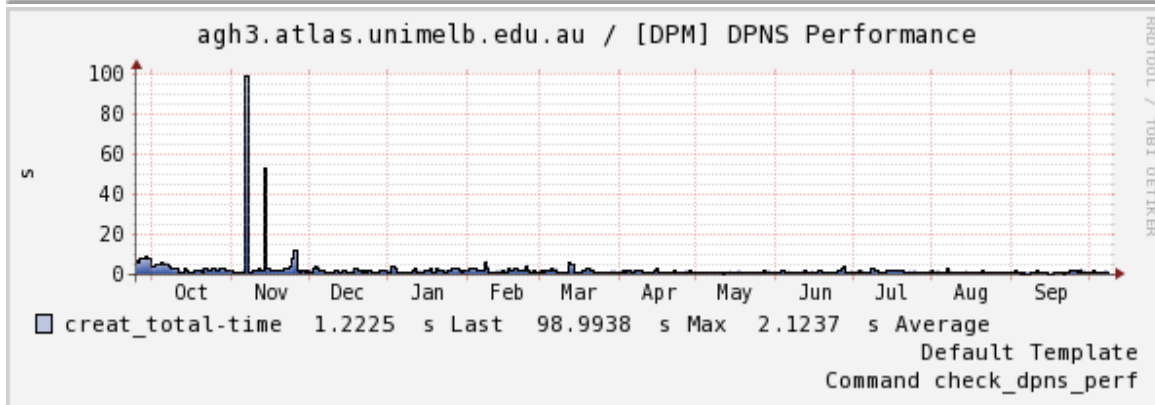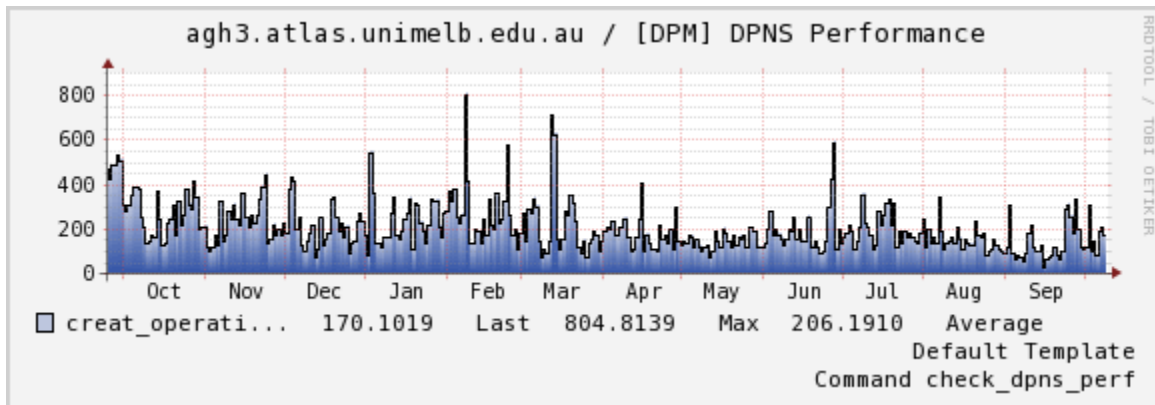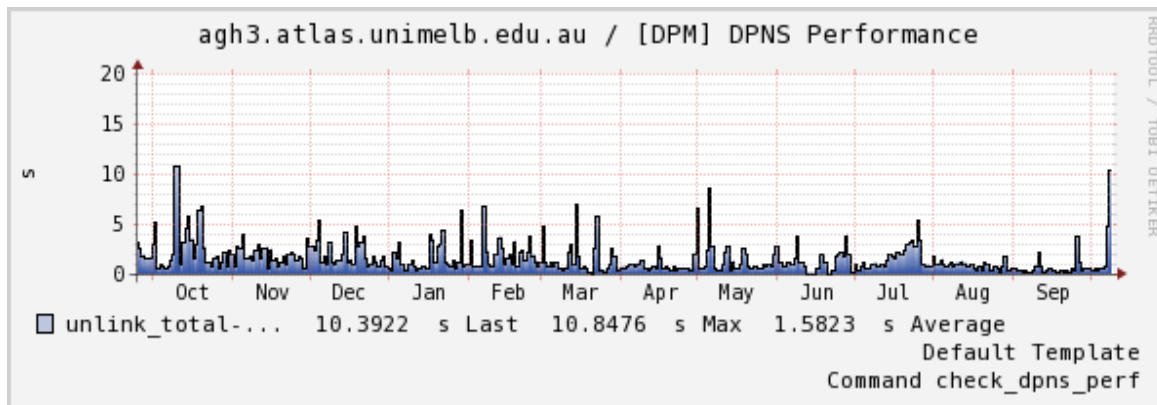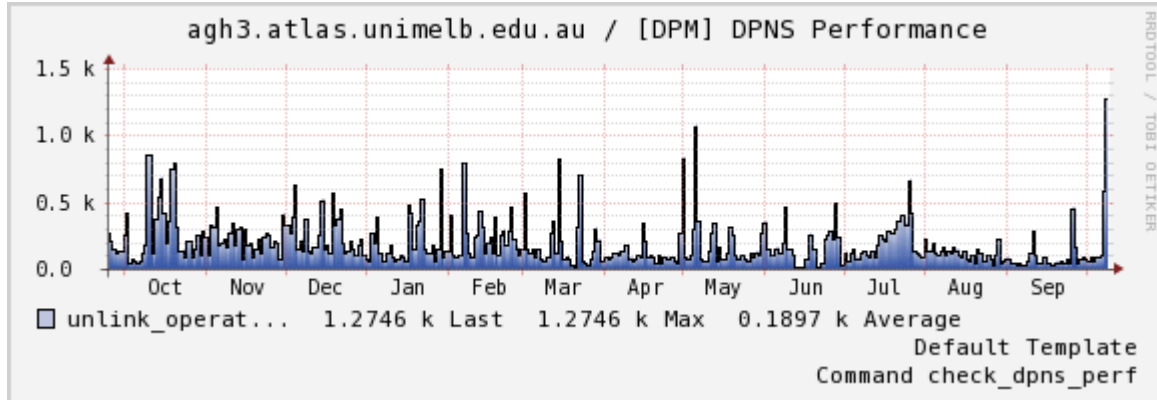
- Our 3rd sysadmin starts in November
  - Currently I am only sysadmin who knows DPM
  - Making docs in our internal wiki on common faults and error logs, and solutions
  - e.g.

    grep "Restarting query after lock wait timeout" /var/log/dpm/log

    grep "Host not known" /var/log/dpm/log

    grep -i mysql /var/log/d*/log
  - But, don't be afraid of

    grep SRM_FAILURE /var/log/srmv2.2/log
  - [SE][GetSpaceTokens][SRM_INVALID_REQUEST] httpg://agh3.atlas.unimelb.edu.au:8446/srm/managerv2: dpm_getspacetoken: Unknown user space token description
    - Actually a permission denied on space token
- Is it worth having it on main DPM website?

- 2 more DPM instances in Australia
  - b2se: used for Belle II compute cluster
  - coepp-dpm-01: will store replica of Belle I data

- coepp-dpm-01 is backed by 200TB of NFS storage
  - So far so good
  - Having problems with WAN connection, so performance testing not yet completed

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- Given 500TB of storage from federal government
  - wanted it accessible to Tier 3 users like regular space, as well as accepting transfers from Grid
  - running Ceph with CephFS
  - STORM provides Grid functionality
  - a few performance problems, but otherwise great

scrosby@unimelb.edu.au