

COEPP

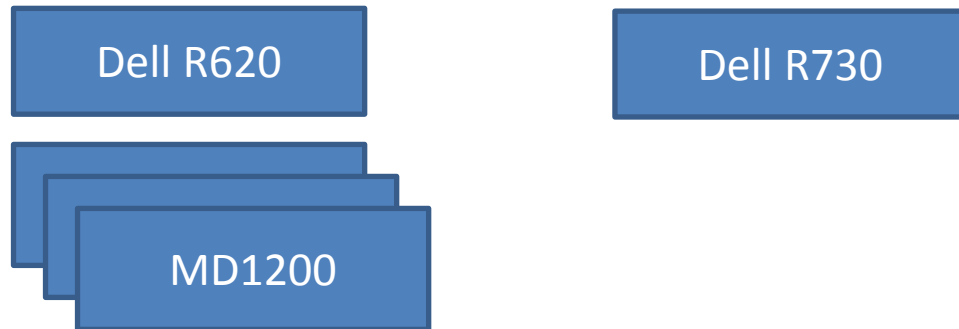
ARC Centre of Excellence for
Particle Physics at the Terascale

Australia Site Report

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DPM Workshop – 6 December 2015

- Supports ATLAS VO
- Tier 1 site is TRIUMF (Canada Cloud)
- 40Gb WAN link through Seattle
- Aim to, and delivering, 2% of ATLAS compute
- 3 full-time sysadmins
- 1000 cores
- 950TB storage (in main DPM pool)
- Support 100 researchers (Academics, Postdocs, PhD and Masters)

- DPM 1.8.9/SL6
- 12 disk servers



- Each drawer is a RAID-6 set
- Each FS is 10TB, made with LV's
- 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
- 7/12 disk servers are Puppet configured, rest are still “yaim” configured

- 2 more DPM instances in Australia
 - B2se (Melbourne): used for Belle II compute cluster
 - coepp-dpm-01 (Adelaide): will store replica of Belle I data
- coepp-dpm-01 is backed by 200TB of NFS storage
 - Following on from last year's report, still cannot do proper load testing on this host as site WAN connection is unreliable and underperforming

- So far (touch wood) this year, no HC exclusions
 - 9th highest A+R for all sites (including T1s) in WLCG
- Cleaned up “easy to find” dark data
 - Used the dmlite shell
 - Apart from speed, worked great and reliably
- Produced SE dumps for ATLAS to do SE checks of dark/missing data
 - Used `dpm_dump.py`

• Full year of FAX

```
** nfdump -M /opt/netflow/nfsen/profiles-data/RC/Outbound -T -R 2015/12/06/nfcapd.201512060120:2015/12/06/nfcapd.201512062045 -n 10 -s dstip/bps  
nfdump filter:
```

```
proto TCP and src port 1095
```

```
Top 10 Dst IP Addr ordered by bps:
```

Date first seen	Duration	Proto	Dst IP Addr	Flows(%)	Packets(%)	Bytes(%)	pps	bps	bpp
2015-12-06 00:55:15.804	55193.216	any	192.12.15.156	1571(8.3)	161.5 M(28.5)	241.5 G(28.9)	2925	35.0 M	1495
2015-12-06 01:06:20.013	53948.670	any	129.15.40.247	279(1.5)	132.5 M(23.4)	198.7 G(23.7)	2455	29.5 M	1499
2015-12-06 00:54:52.932	55140.775	any	192.12.15.101	1301(6.9)	98.9 M(17.5)	147.7 G(17.6)	1793	21.4 M	1494
2015-12-06 09:08:11.098	3793.018	any	144.206.237.86	3(0.0)	4.3 M(0.8)	6.4 G(0.8)	1126	13.5 M	1499
2015-12-06 00:56:55.643	55687.975	any	134.79.244.64	71(0.4)	5.2 M(0.9)	7.3 G(0.9)	92	1.0 M	1411
2015-12-06 01:19:32.413	41832.688	any	192.54.207.158	46(0.2)	3.4 M(0.6)	5.1 G(0.6)	80	970233	1499
2015-12-06 01:25:22.685	42525.090	any	206.12.1.201	47(0.2)	3.4 M(0.6)	5.1 G(0.6)	80	960812	1499
2015-12-06 01:16:32.106	53651.328	any	206.12.24.226	58(0.3)	4.3 M(0.8)	6.4 G(0.8)	79	952255	1499
2015-12-06 01:16:18.025	45755.678	any	142.150.19.11	50(0.3)	3.6 M(0.6)	5.4 G(0.6)	79	950056	1499
2015-12-06 01:08:26.900	43048.201	any	130.183.37.26	47(0.2)	3.4 M(0.6)	5.1 G(0.6)	79	949456	1499

```
Summary: total flows: 18916, total bytes: 837.1 G, total packets: 566.5 M, avg bps: 93.0 M, avg pps: 7867, avg bpp: 1477
```

```
Time window: 2015-12-06 00:49:39 - 2015-12-06 20:49:58
```

```
Total flows processed: 5609274, Blocks skipped: 0, Bytes read: 291776880
```

```
Sys: 0.629s flows/second: 8904980.6 Wall: 0.628s flows/second: 8921793.0
```

- Software upgrades

- Really not confident about upgrading DPM
- YAIM to Puppet changeover is one thing
- Not confident in version dependencies/YUM priorities/left over packages
- Hopefully changes after this week
- Will try to document all configuration files before change to make sure the upgrade is successful

- Decommission StoRM-based SE, and b2se
 - StoRM SE is used for a LOCALGROUPDISK for ATLAS
 - B2se is on 9 yr old hardware
 - Make coepp-dpm-01 support ATLAS, and migrate data from b2se to coepp-dpm-01
- Looking forward to dropping SRM
 - We have hit the maximum number of SRM thread limit many times this year

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