

Research Computing

ARC Centre of Excellence for Particle Physics at the Terascale

Australia Site Report

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Goncalo Borges

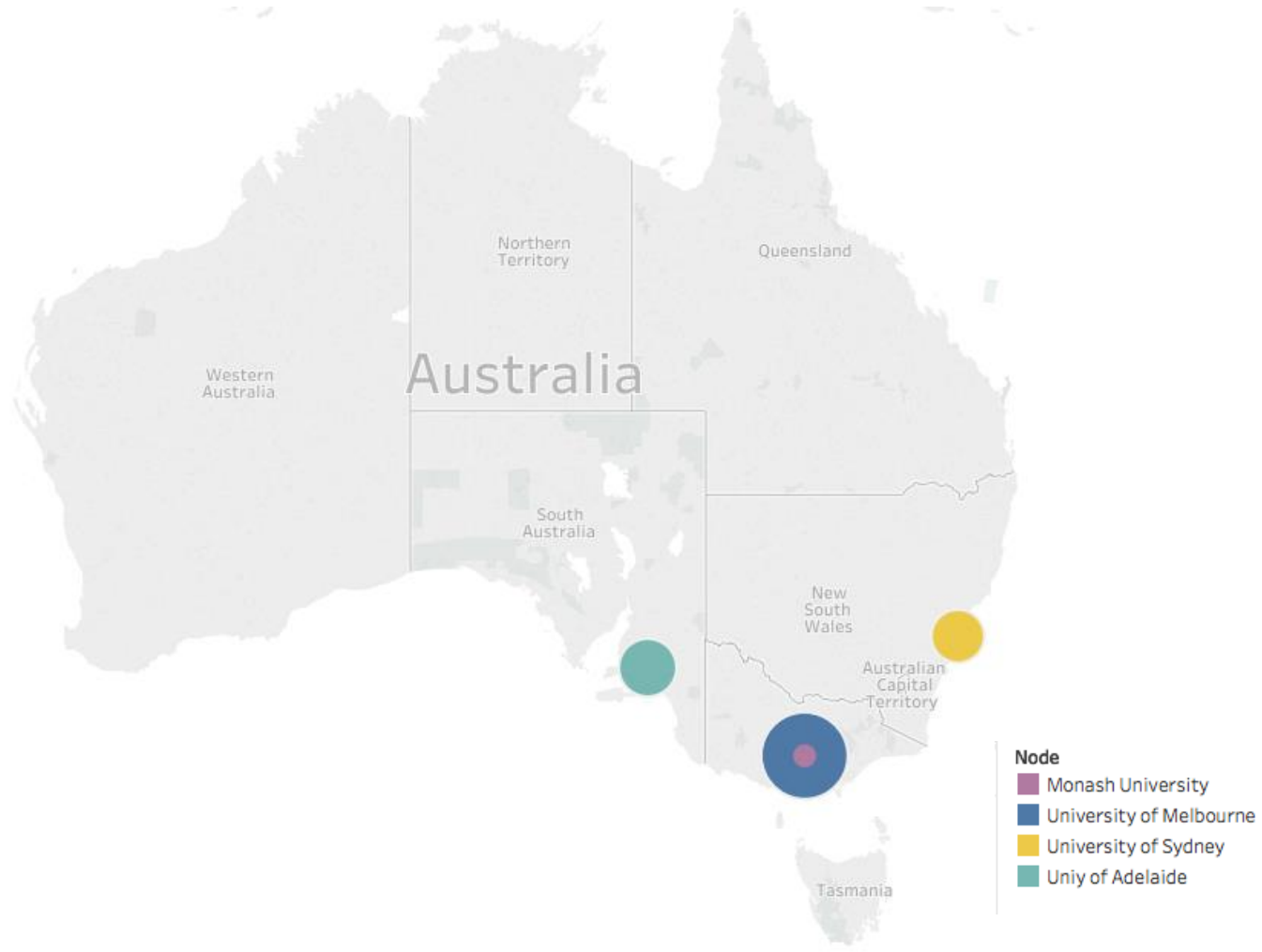
Sean Crosby

Jeremy Hack

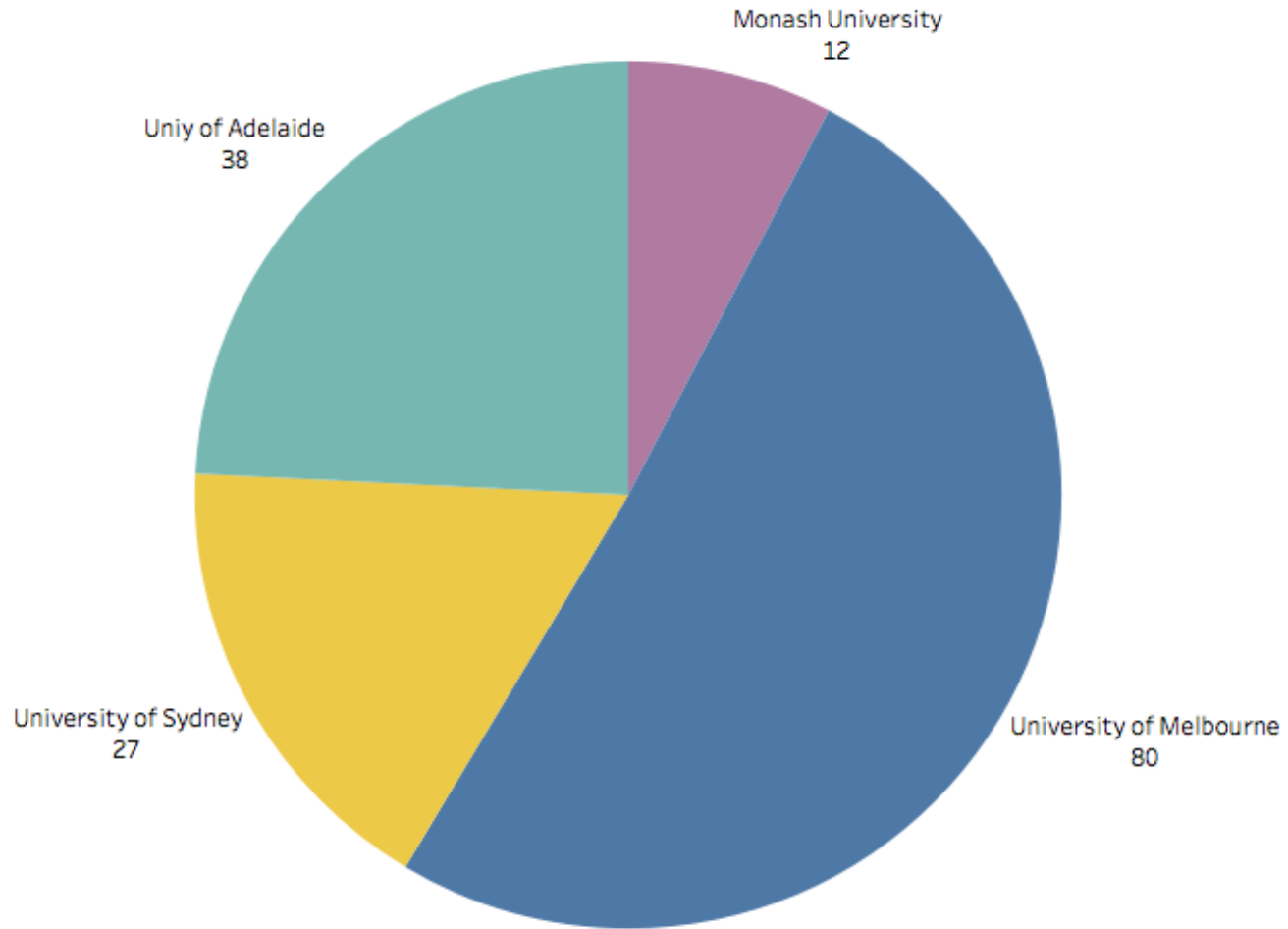
Last site report for this session



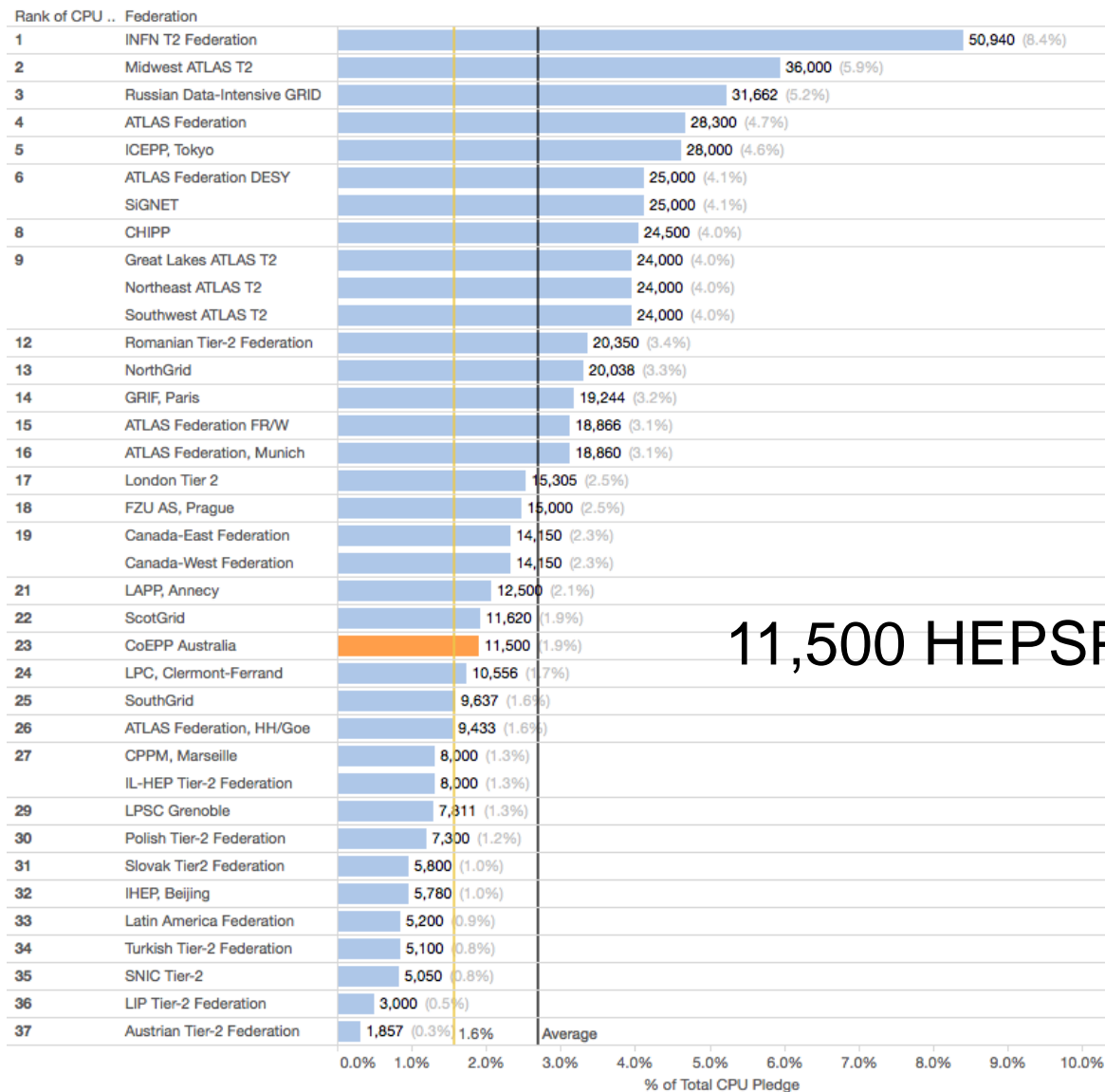
Reminder: CoEPP



CoEPP Node Sizes

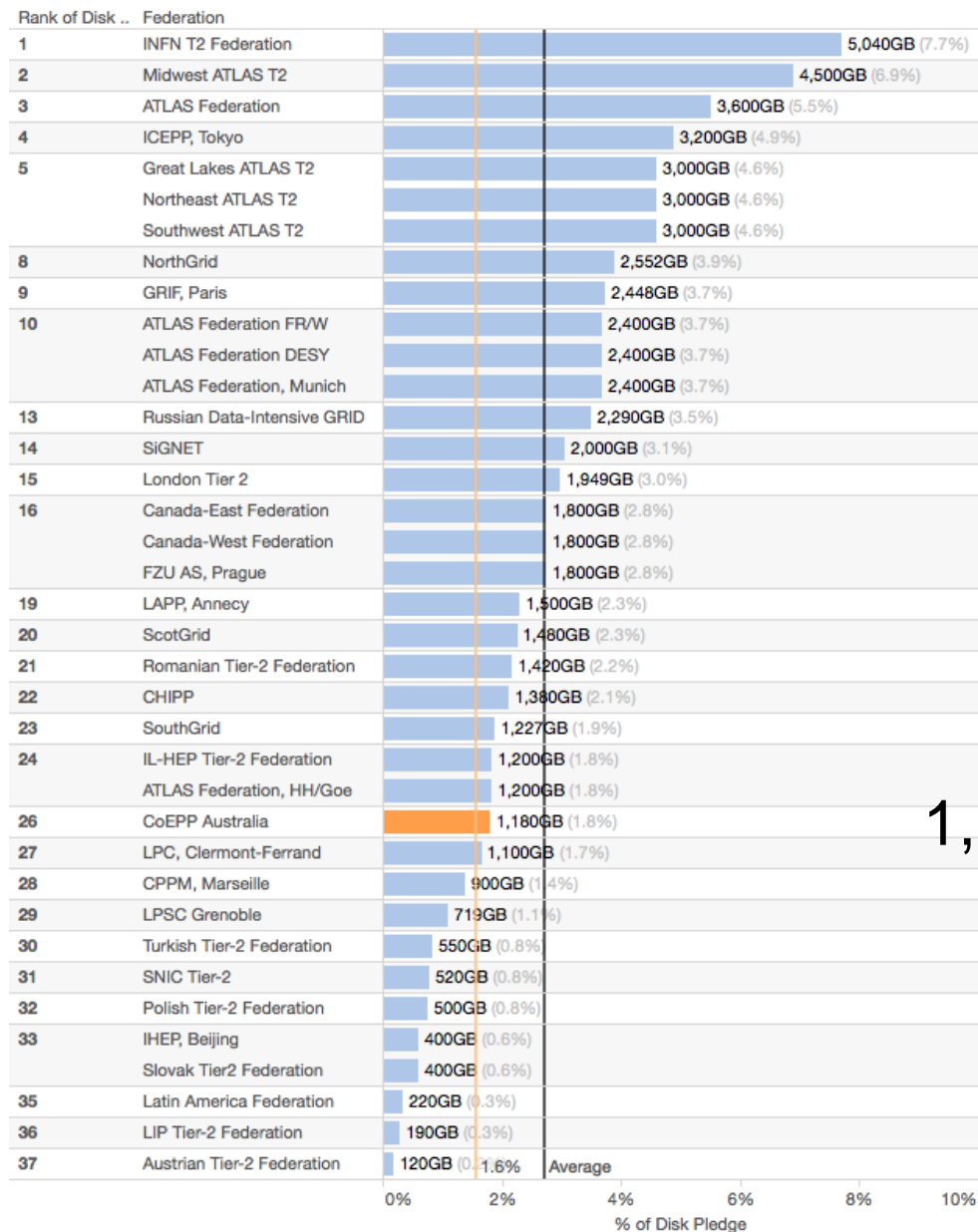


Australia's rank in ATLAS T2 CPU Pledge



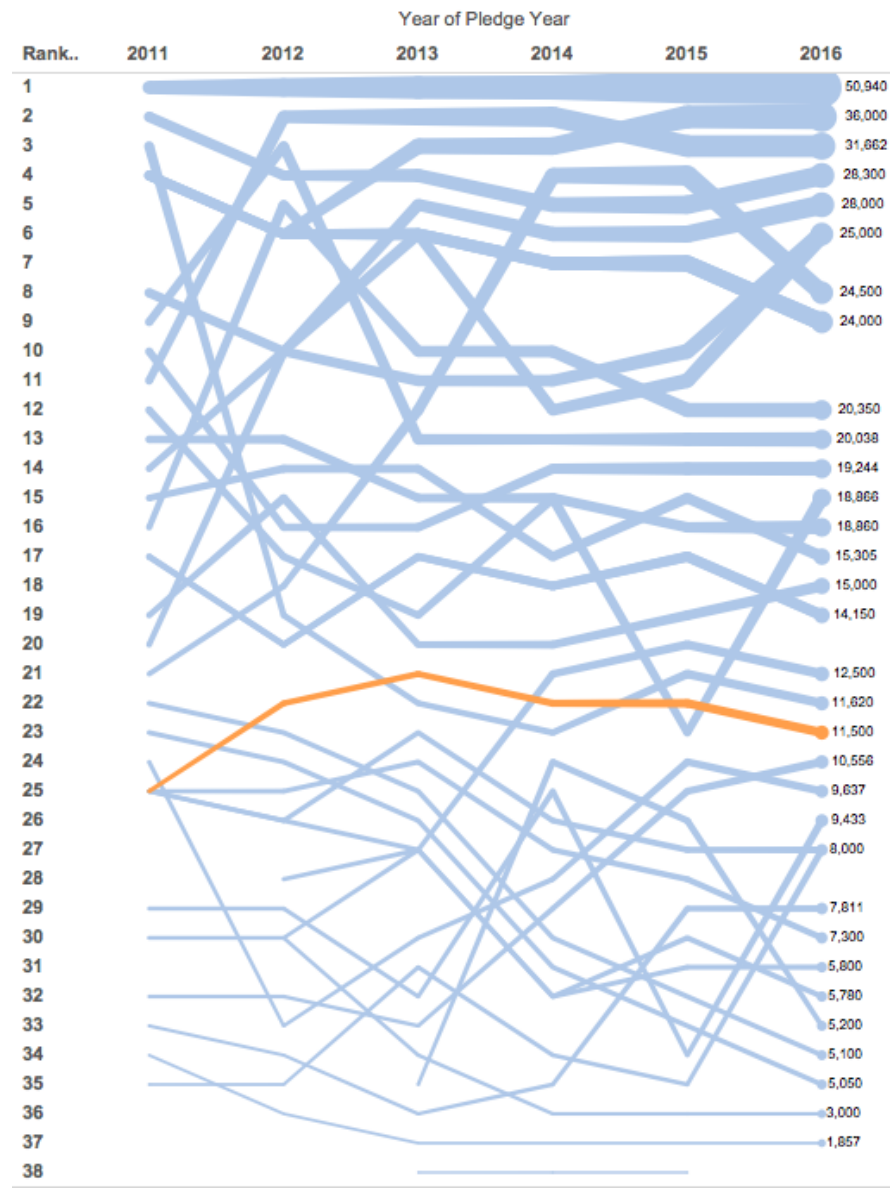
11,500 HEPSPPEC (1.9%)

Australia's rank in ATLAS T2 Disk Pledge

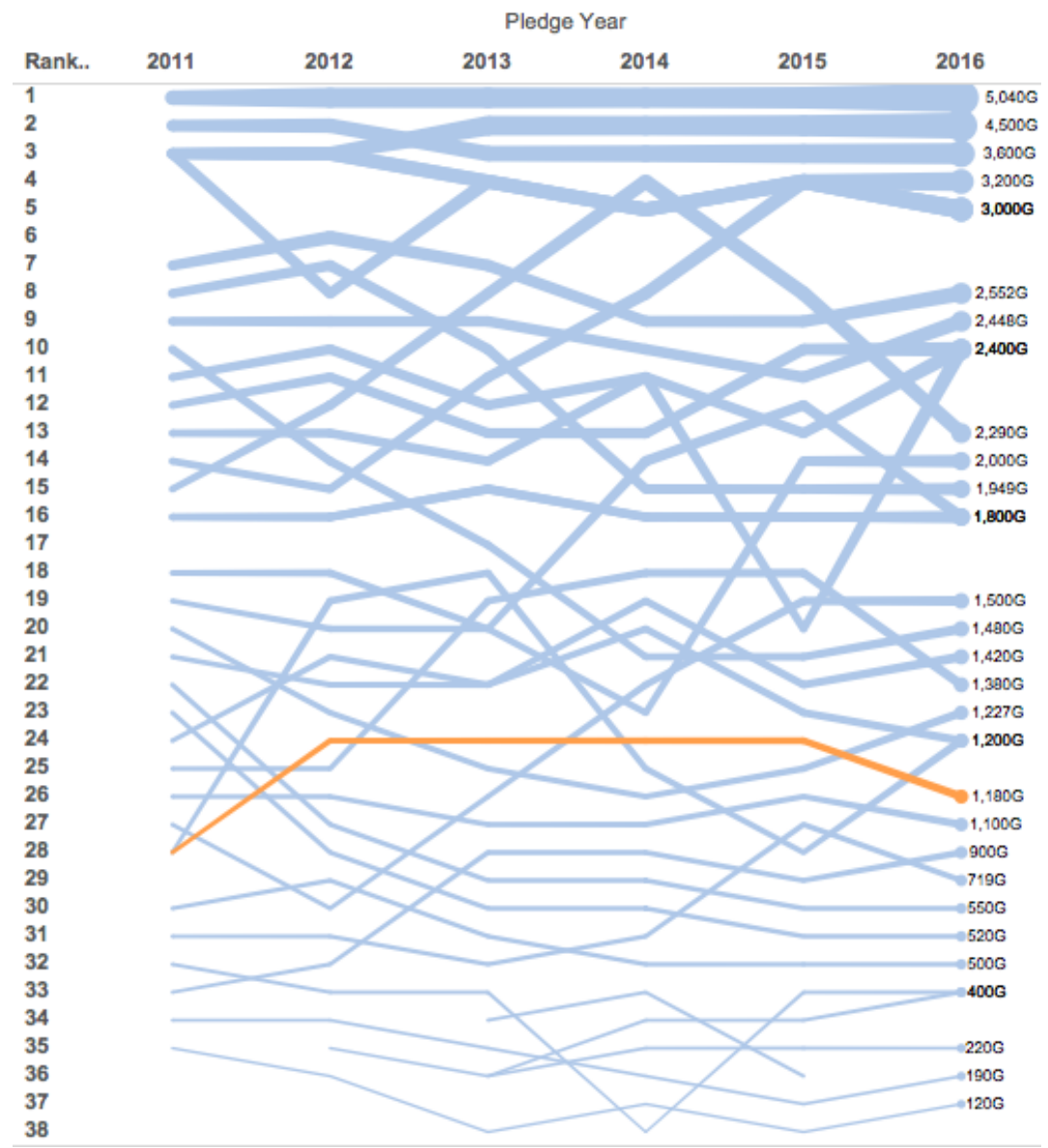


1,180 TB (1.8%)

ATLAS Tier 2 Federation CPU Pledges Rankings 2011-2016



ATLAS Tier 2 Federation Disk Pledges Rankings 2011-2016



- 11,500 HEPSPEC compute
 - No new purchases
 - Allocated nodes from T3 cluster to T2
- 1180TB Storage (DPM)
 - Increased by 230TB (replaced 200TB)
 - 7 x Dell R730XD (rather than MD1200)

WLCG - Tier-2 Accounting Report
October 2015 - September 2016

COUNTRY	FEDERATION	2015 CPU Pledge (HEPSPEC06) AVG.	pledge inc. efficiency (HEPSPEC06-Hrs)	by TIER2 and VO					Total	used as % of pledge
				SITE	alice	atlas	cms	lhcb		
Australia	AU-ATLAS	11100.00	97,502,400	Australia-ATLAS		81,626,145			81,626,145	83.72%
				Total		81,626,145			81,626,145	
				WallClock * #Cores		98,351,064			98,351,064	100.87%

- 100.87% of Australia's ATLAS Pledge
 - At times 14,700 Max HEPSPEC given to Tier 2 (~130% of Pledge)

- 98% CPU increase on 2016 pledges
 - Fixed hardware budget
 - Should be able to meet ATLAS request
 - donations (IBM MPI cluster)
 - shared federal allocations (Cloud)
 - drop down to our M&O of 1.6% (cmp ~2%)
 - at a cost to local T3 resources
 - Centos 7 HS06 increase from 5% to 9%

- #1 ATLAS Tier 2 site since last HEPiX
 - 99.64% Availability
 - 99.85% Reliability

Site Availability using ATLAS_CRITICAL

From 2015/09 to 2016/09



- **CoEPP2 Beyond the Higgs**
 - Not funded in latest ARC round
 - Keep the team members in HEP computing field in Australia
 - Find the funds for continued hardware growth/renewal

- XenServer -> KVM
 - Dell PE R630 x 5
 - MD3600f -> local SSD
- DB server refresh
 - Dell PE R630
- CoEPP T3 refresh
 - R630 in Adelaide (KVM infrastructure)
 - R730 in Sydney (NFS Server)

- CEPH and CEPHFS
 - “Production” deployment (12 Servers)
 - Goncalo Borges presentation
- Puppet 3 to Puppet 4 migration
 - tested foreman
 - developed bootstrapping
 - getting ready for Centos 7 rollout
 - Sean Crosby presentation
- MPI cluster
 - IBM iDataplex (80 nodes, 36 with IB)

- GPU cluster
 - 5 x Dell R730xd (3 dedicated to HEP)
 - 2 x NVIDIA Tesla K80 GPU
 - 1.6TB NVMe Mixed-Use Card
 - collaboration with central university
 - authentication challenges
 - HTCondor to SLURM gateway?

- TORQUE/Maui -> HTCondor
 - prototype built
- SL6 -> Centos 7
- Home Directories – SSD? (pure storage)
- LHCONE - EOY
- Funding uncertainty
 - collaborations
 - projects / Jobs in 2018!!!!
- Questions?