



COEPP

ARC Centre of Excellence for
Particle Physics at the Terascale

Australia-ATLAS Networking and LHCONE

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Networking in datacentre

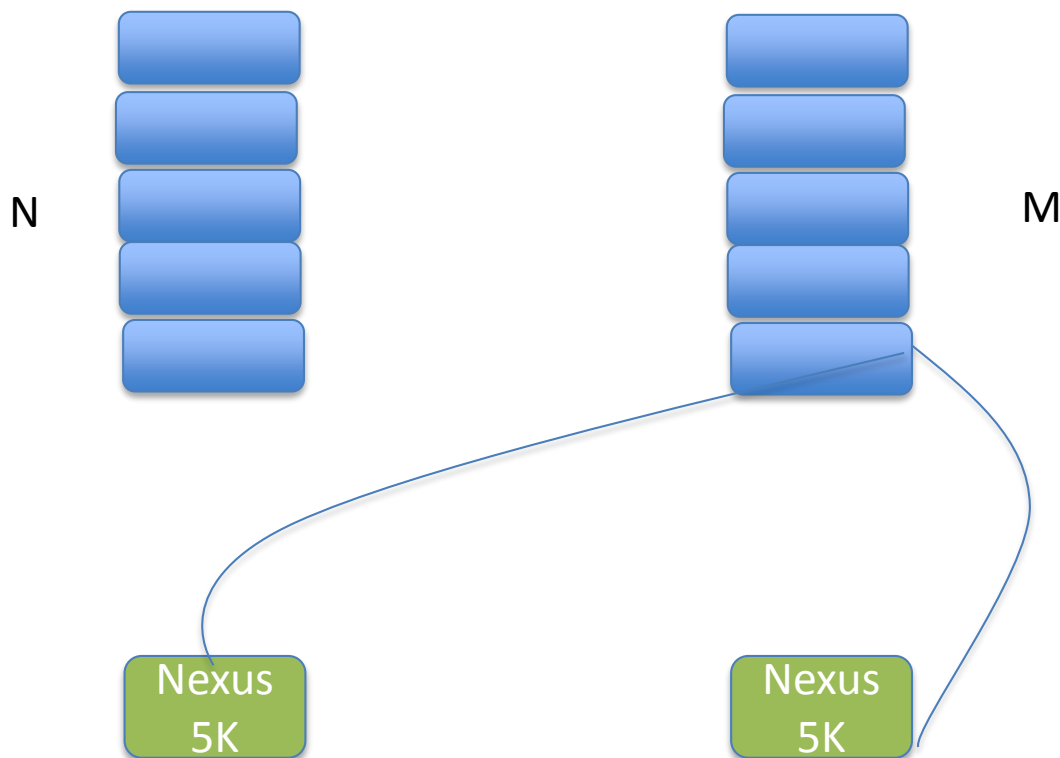


Cisco 3750

2x6 Fibres

Cisco 5K FEX

Networking in datacentre



6 fibres between each rack
and each networking rack

By default, 4 are patched

We have ability to dual-home
our servers, but we don't
normally do it

QL11 (Front)	
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37	
36	[4300] BERNOULLI (POWEREDGE ...
35	[4298] EINSTEIN (POWEREDGE R...
34	[4299] CURIE (POWEREDGE R630)
33	[4301] BRAHE (POWEREDGE R630)
32	[3205] CHEF (POWEREDGE R720XD)
31	
30	[2989] RCCEPHMON1 (POWEREDGE...
29	[507] TG12 (POWEREDGE 1950)
28	[505] TG11 (POWEREDGE 1950)
27	[3592] PS-LATENCY (POWEREDGE...
26	[3593] PS-BANDWIDTH (POWERED...
25	[3580] TOKEN (POWEREDGE R620)
24	[3579] CLYDE (POWEREDGE R620)
23	[2985] TACHIKOMA (POWEREDGE ...
22	[2986] TACHIKOMA STORAGE 1 ...
21	
20	
19	
18	
17	[2983] SHEILA (POWEREDGE R720)
16	
15	[2947] IKE (POWEREDGE R620)
14	[2843] RCPERF (POWEREDGE R620)
13	[2839] MOSES (POWERSVULT MD3...
12	
11	[3578] AGH3 (POWEREDGE R620)
10	[2842] MRHAT (POWEREDGE R620)
9	[2840] MRHAT-STORAGE1 (POWER...
8	
7	[2841] MRHAT-STORAGE2 (POWER...
6	
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1	

QL11 (Rear)	
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5	
4	[2792] L11-M16-141 (N2K-C223...
3	
2	[2786] L11-L16-131 (N2K-C223...
1	

Equipment

Name: L11-L16-131
Vendor: CISCO
Model: N2K-C2232PP-10GE DC SW
Serial: SS115380PF7
Height: 1 RU
Install date: 2012-03-05
System: Q2.NETWORK.PROD
Support group: US - IS - TM - NETWORK

Comments:

Fault:

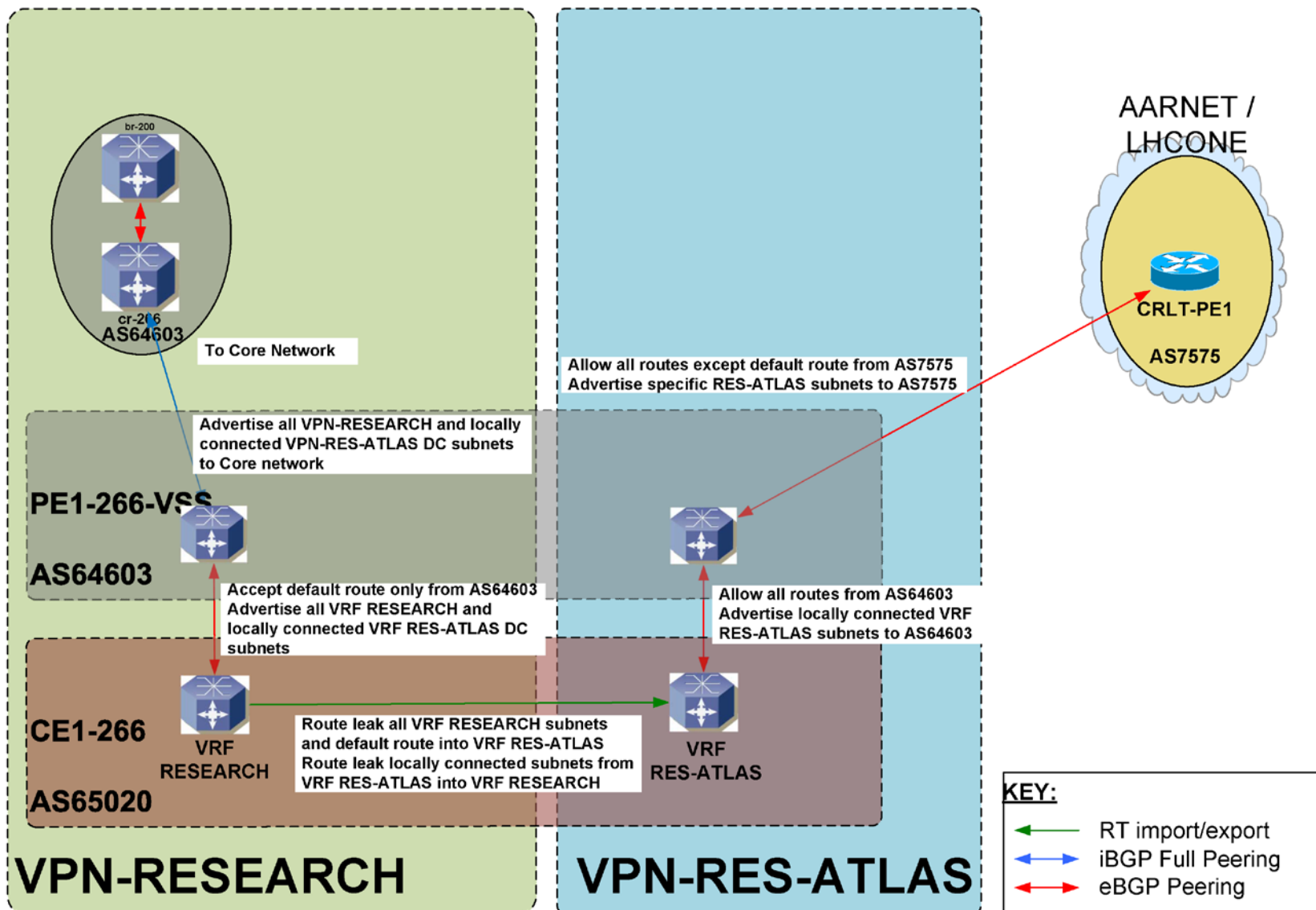
[EDIT](#)

Port	Type	Dest equip	Dest Port
1/ 1	sfp+		
1/ 2	sfp+	rcperf	PCI e3 Port 1
1/ 3	sfp+	mrhat	PCI e3 Port 0
1/ 4	sfp+	mrhat	PCI e3 Port 1
1/ 5	sfp+	ike	PCI e3 Port 0
1/ 6	sfp+	ike	PCI e3 Port 1
1/ 7	sfp+		
1/ 8	sfp+	sheila	PCIe3 Port1
1/ 9	sfp+		
1/10	sfp+	sheila	PCIe3 Port0
1/11	sfp+	chef	ETH1
1/12	sfp+	agh3	ETH1
1/13	sfp+	clyde	ETH1
1/14	sfp+	rcperf	PCI e3 Port 0
1/15	sfp+	token	ETH1
1/16	sfp+	clyde	ETH2
1/17	sfp+	token	ETH2
1/18	sfp+	ps-latency	ETH1
1/19	sfp+	ps-bandwidth	ETH1
1/20	sfp+	brahe	GB1
1/21	sfp+	curie	GB1
1/22	sfp+	einstein	GB1

Management network (TOR) routed by building switch (Catalyst 6500)

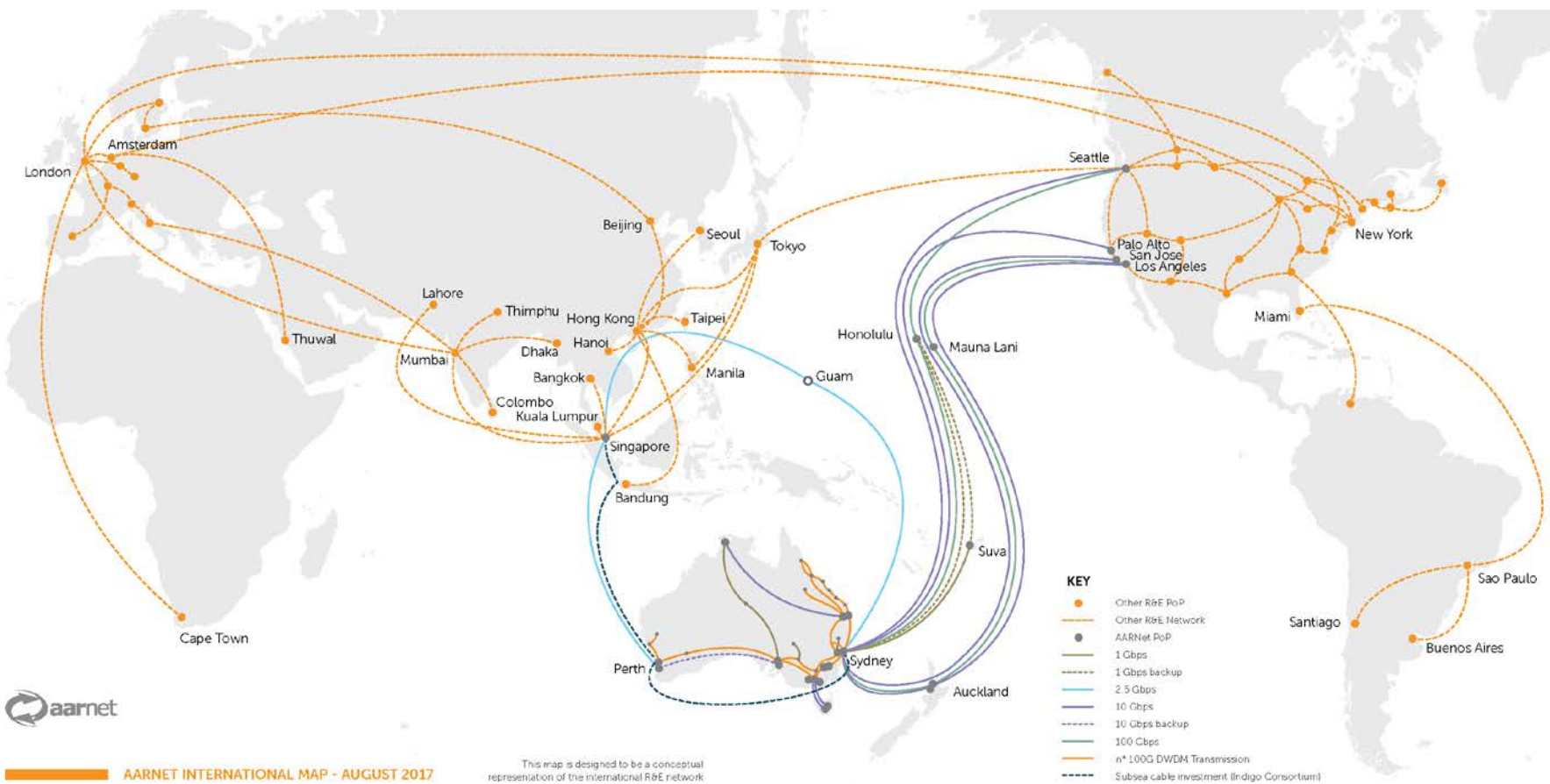
Nexus 5K's routed by a pair of Nexus 7K's

- Datacentre network broken into 2 VRF's (VM's on the 7K)
 - VPN-UNIMELB (Enterprise apps, IPAM)
 - VPN-RESEARCH
- Critical infrastructure (e.g. IPAM) routed leaked into VPN-RESEARCH
- Other inter-VLAN traffic exits/enters Cisco Fusion firewall
- Research traffic bypasses Fusion to exit Unimelb network



AARNET NATIONAL MAP - AUGUST 2017

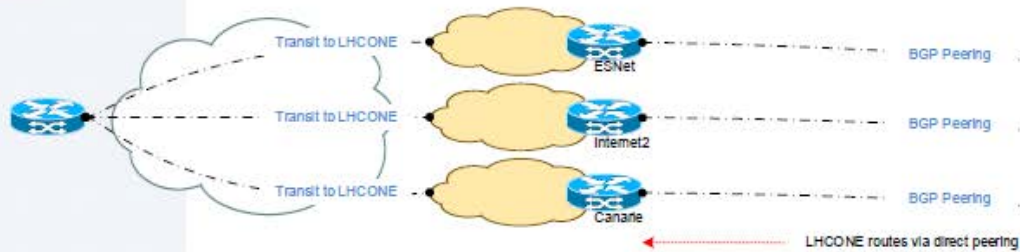




AARNET INTERNATIONAL MAP - AUGUST 2017

This map is designed to be a conceptual representation of the international RRE network

LHCONE Network



UniMelb Network



2 x 10Gbps Etherchannel



AARNetNTU

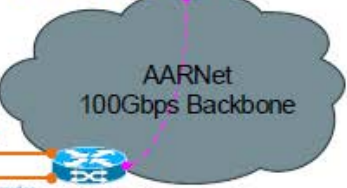
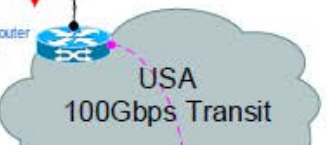
2 x 10Gbps Etherchannel Core Connect

LHCONE vLAN

CRLT PE core router

LHCONE routes via L3VPN

Seattle border router



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