



9th Annual Global LambdaGrid Workshop
Daejoen, 27-29th October 2009

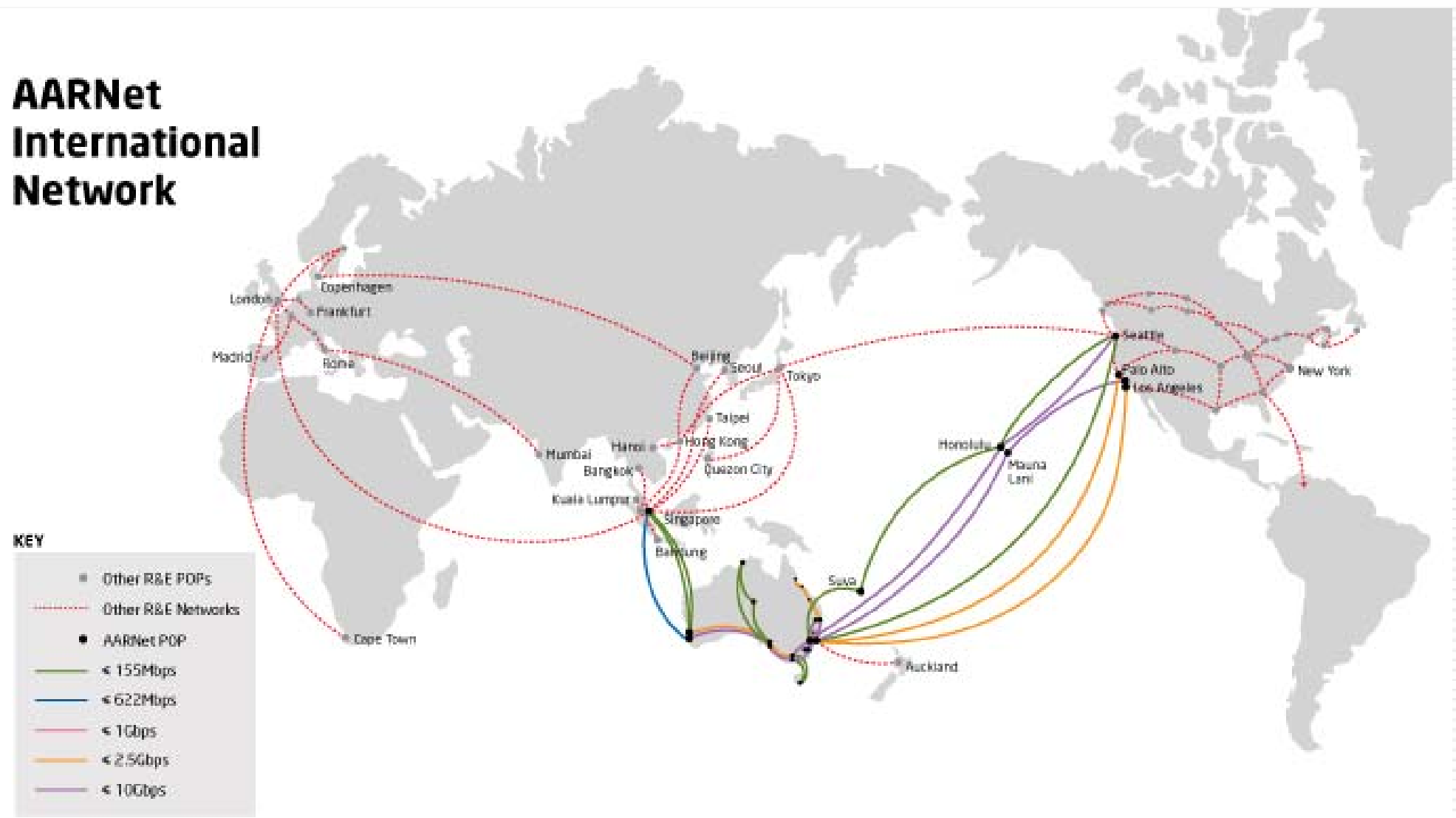
AARNet GOLE Update

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AARNet – Australia's NREN

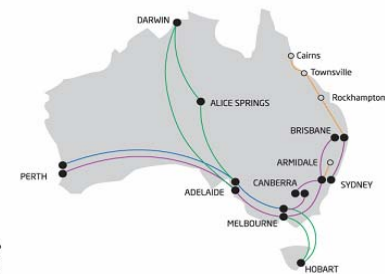
AARNet International Network



Domestic Footprint



AARNet National Network 2006



- AARNet POP
- < 155 Mbps
- < 622 Mbps
- < 2.5 Gbps
- < 10 Gbps

Optical Network

- Cisco ONS 15454 MSTP
 - 32 DWDM Channel System
 - 3 channels lit today
 - 1 x 10G IP National IP network
 - 2 x STM-64 National TDM (SDH) Network
- Cisco ONS 15454 MSPP
 - GFP 1G LightPath
 - CE-1000-4 Line Cards
 - Over 75 point to point circuits
- SCCN STM-64 to Hawaii and Los Angeles (CENIC)

IP Network

- 10G IP Backbone
- Juniper M320 IP Core
- Cisco 7304 for 1G Access Cisco 7604 for 10G Access
- IP Peering
 - ~232 Peering Adjacencies
 - PacWave (Seattle and Los Angeles), PAIX, LAIX, Any2 (LA), SOX (Singapore)

LightPath Activities

- **First 4k Super High Def video stream delivered via AARNet3.** Delivered from QCIF to the SuperComputing2008 venue (Houston, TX) during the SuperComputing2008 Bandwidth Challenge. Performed in conjunction with UQ and QCIF (20 November 08).
- **EN4R support during International Year of Astronomy launch, 15-January-09.** High-profile event connecting 17 telescopes worldwide, witnessed by international dignitaries at Paris venue. 33 hour continuous observation; Mopra, Parkes and Mt Pleasant (Hobart) participating. 100% uptime during experiments.
- **“Towards SKA Readiness” event at UWA (11th March '09),** where demonstrated 10Gbps-ready eVLBI correlation at Curtin University, and highlighted the road towards SKA readiness. The effort involved deployment of a multiple-lightpath EN4R network to the event location.
- Very high quality vision links to Concord Repatriation Hospital, NSW, were installed for a surgical demonstration on April 2nd, part of the **109th Annual Meeting of the Japanese Surgical Society.**
- 22 June total solar eclipse (which was visible in Japan, but not in Australia) was broadcast from **Keio University in Japan to Questacon**, to an audience of high school science students. HD moving imagery encoded as JPEG2000 was transmitted, alongside with a “regular” video stream was projected into a GeoDome

Going Forward

- Fibre build business is still booming
 - Over 120 construction projects
 - Metro, urban, regional
 - 100's of meters to 100's of kilometres
 - CSIRO/ATNF & ASKAP (SKA Pathfinder) - ~400Km fibre build
- Continuing a DWDM regional spur (Bathurst to Sydney) ~350Km
- Investigating the 40G and 100G networking for:
 - MPLS Backbone (L3VPN and L2VPN/VPLS)
 - IP network capacity upgrades to support 10G IP customers

AARNet Network Roadmap



The End

