

IPv6 Diffusion Status in Asia (APNIC Stats)

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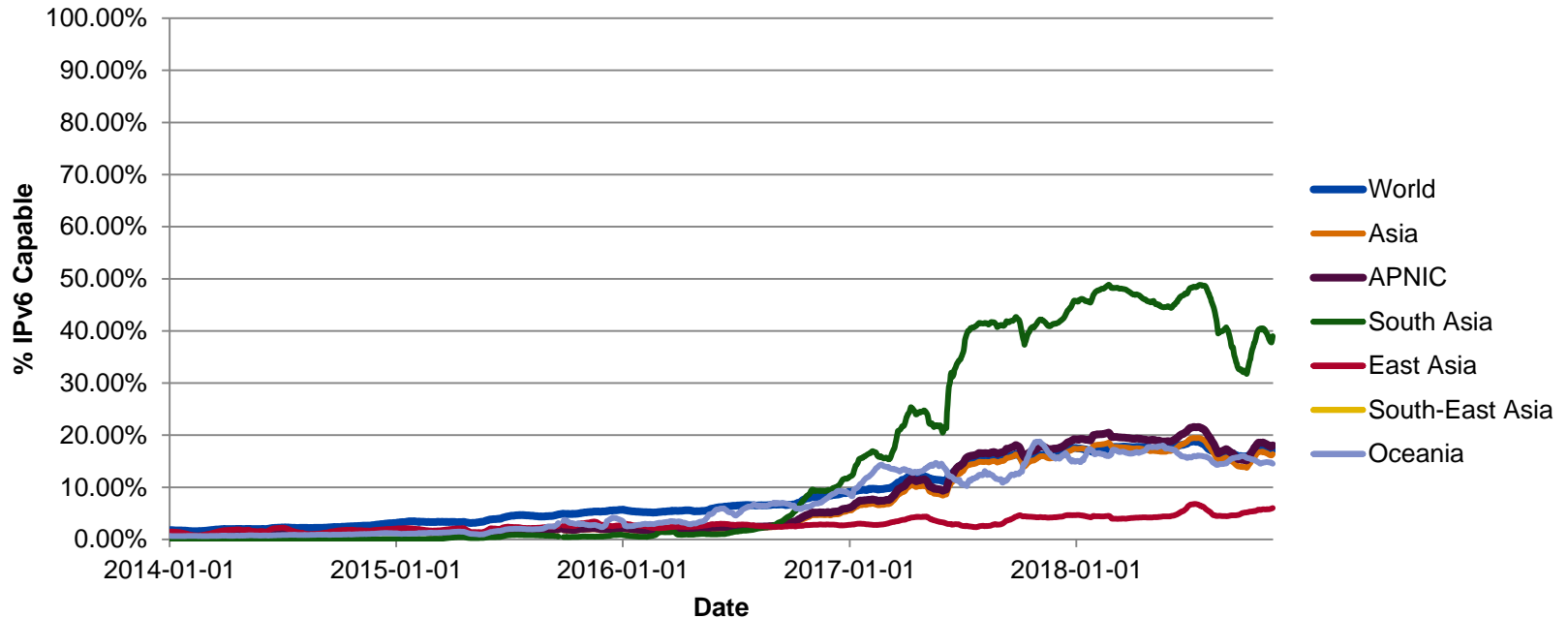
Summary

- Recap: how we measure
- World & Asia-Pacific overview
- APNIC region member economies
 - Economies and eyeball share charts

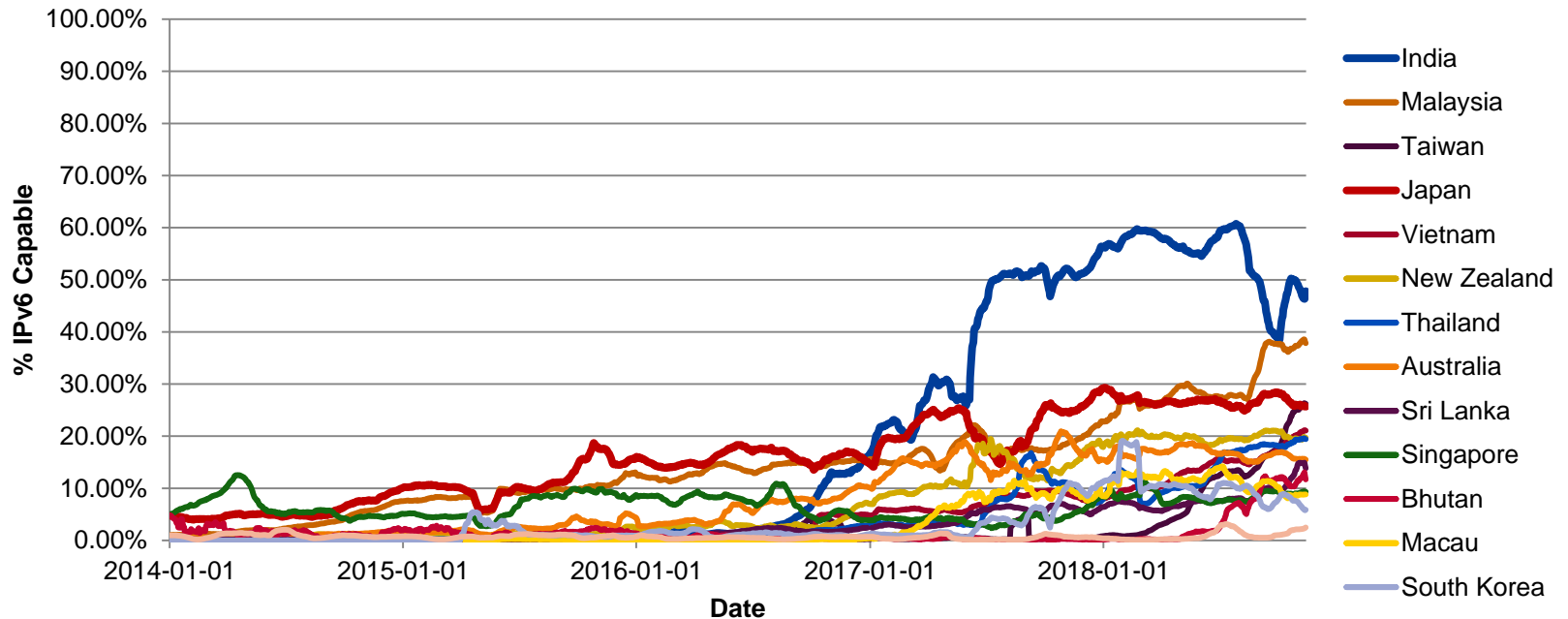
How we measure

- HTML5 adverts lodged through google advertising worldwide
 - Desktop, tablet and mobile
 - Random placement, we adjust for known World relative populations
 - (UN & ITU data) per economy adjustments
 - Per-ASN, we cannot yet correct for anomalies in measurement
 - Eyeball-share figures rough guide only
- DNS driven random test (unique label per tested advert presentation)
 - 3 tests of A, AAAA or A/AAAA to test IPv4, IPv6, dualstack
 - Also other tests in DNSSEC, X509, “we measure lots of things”
- Linode, 4 nodes (US, DE, SG, BR) with steerage to closest node
 - Linode covered by Hurricane Electric but some known path issues (KR, CN)
- 15,000,000 tests per day worldwide

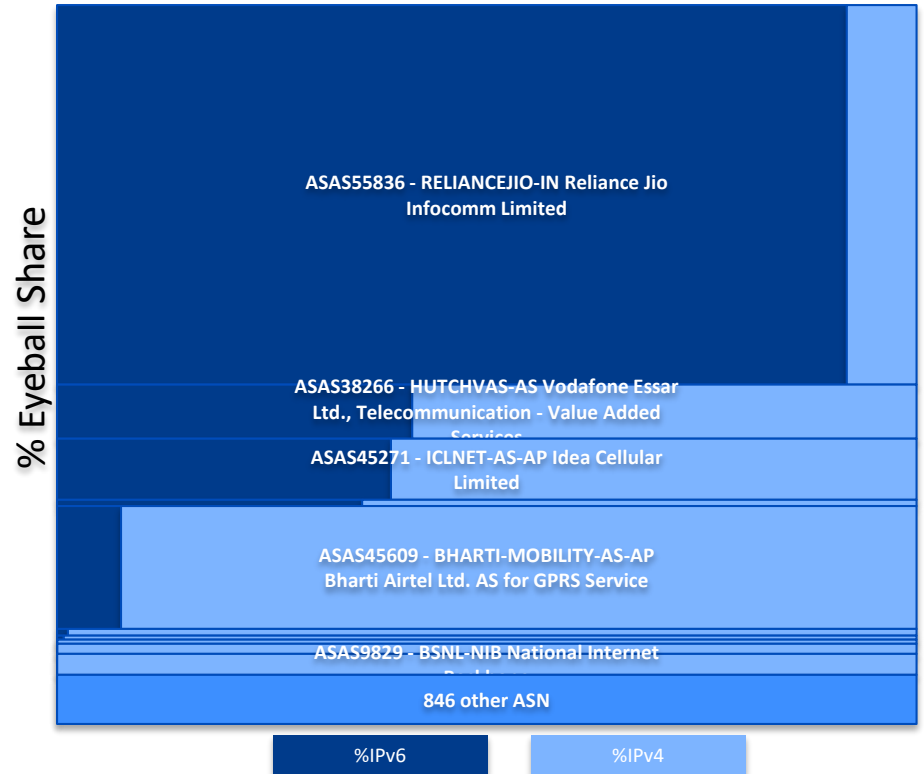
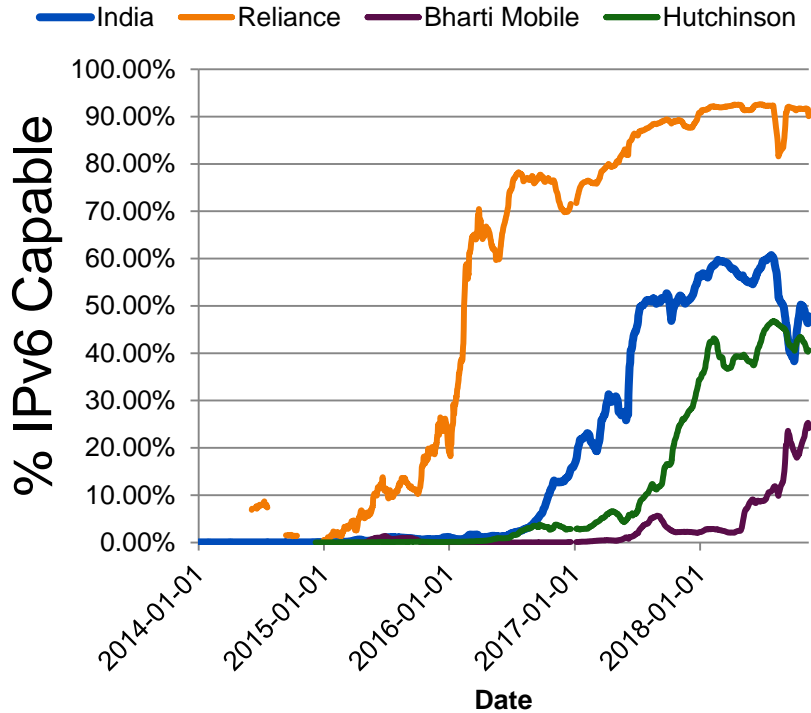
World, Asia, APNIC, sub-regions



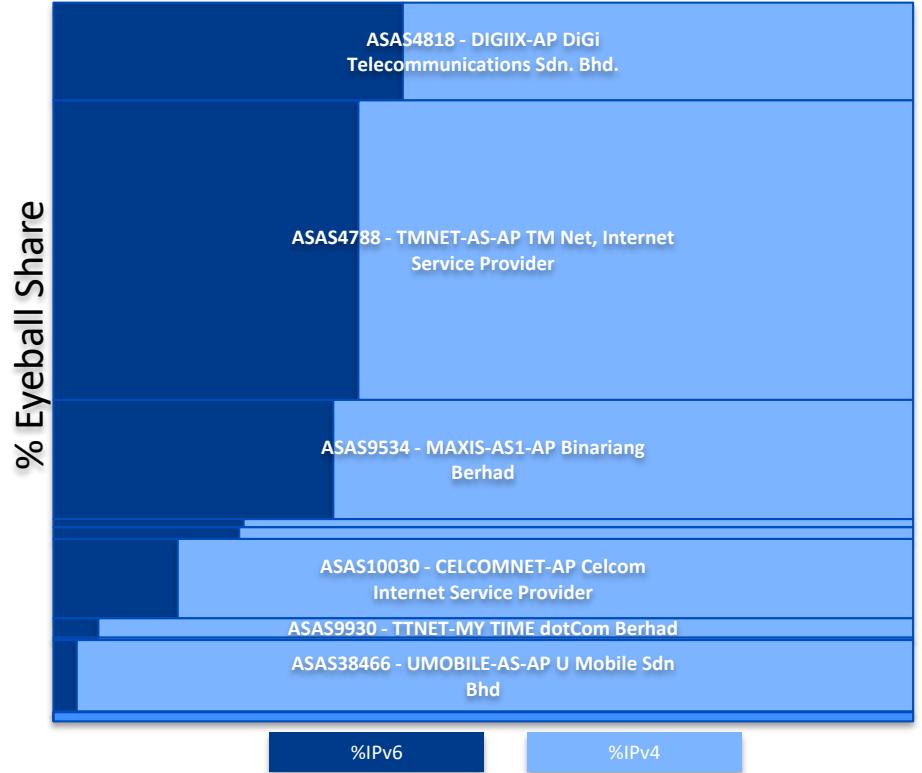
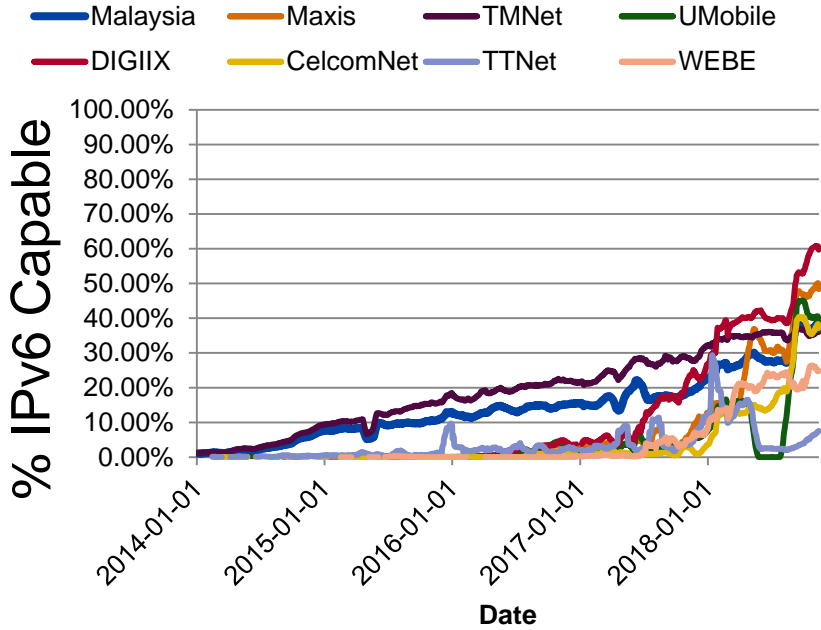
APNIC Member economies with significant deployments



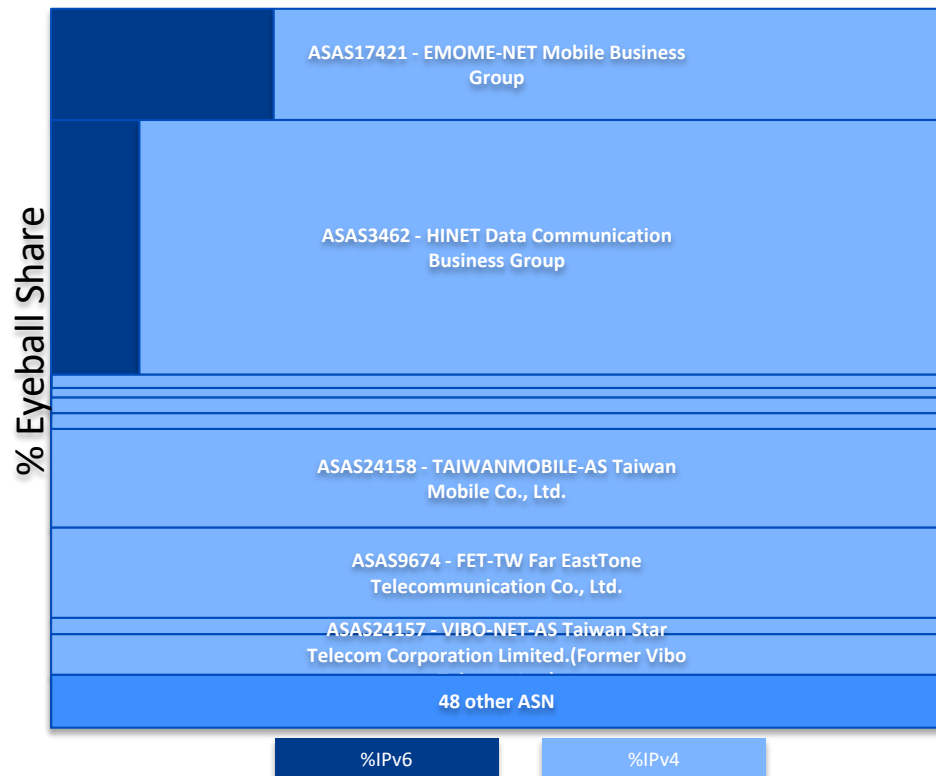
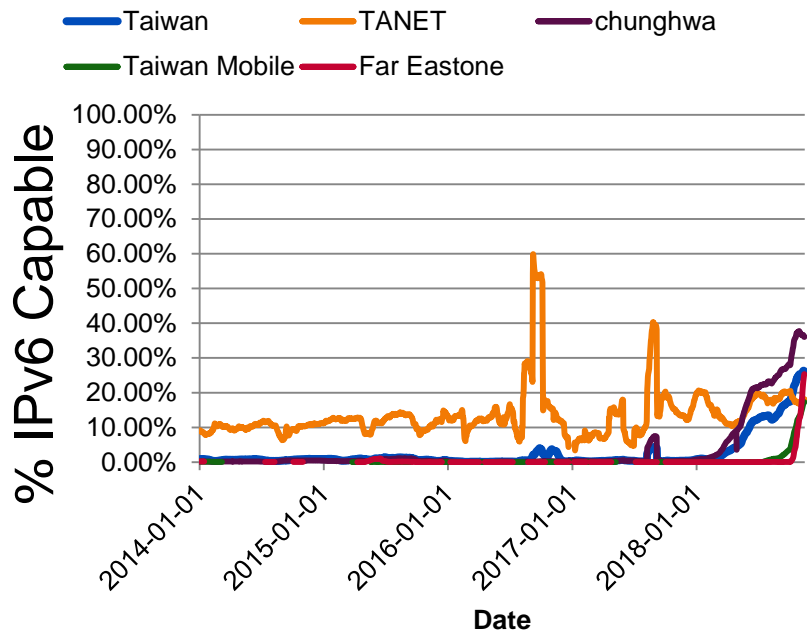
India



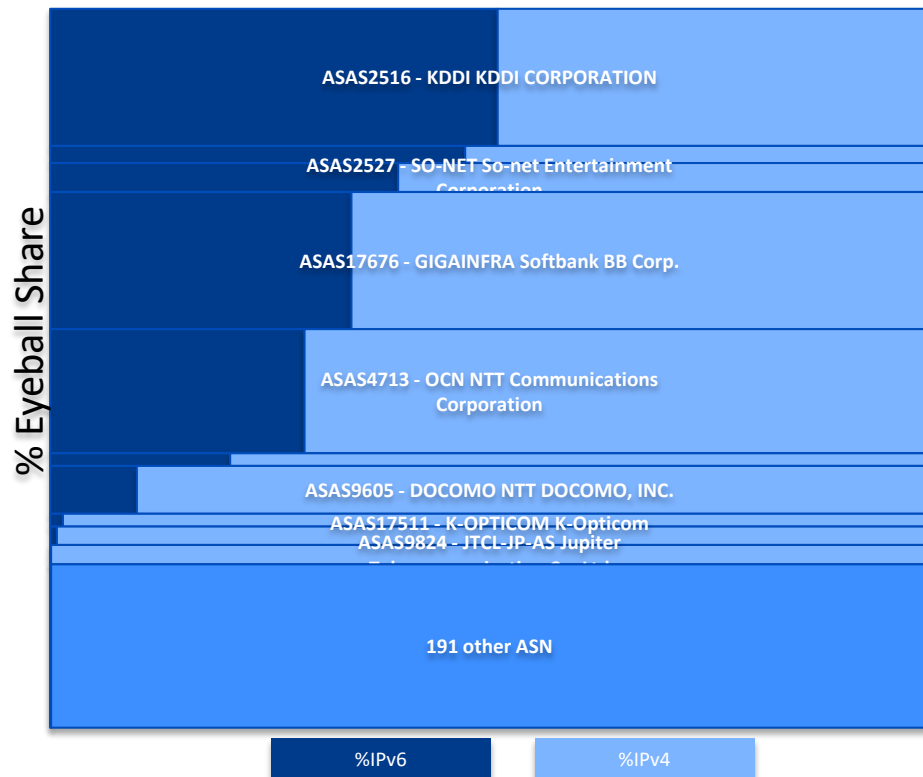
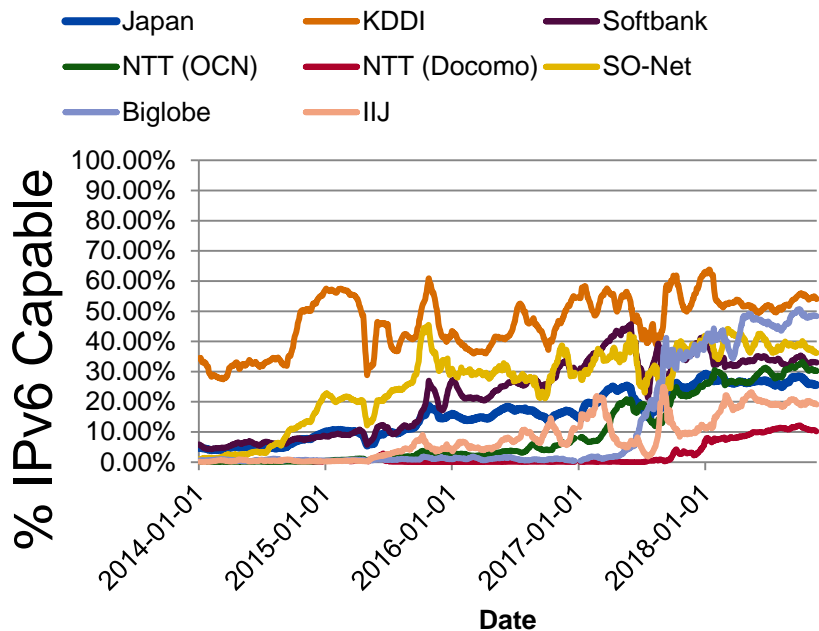
Malaysia



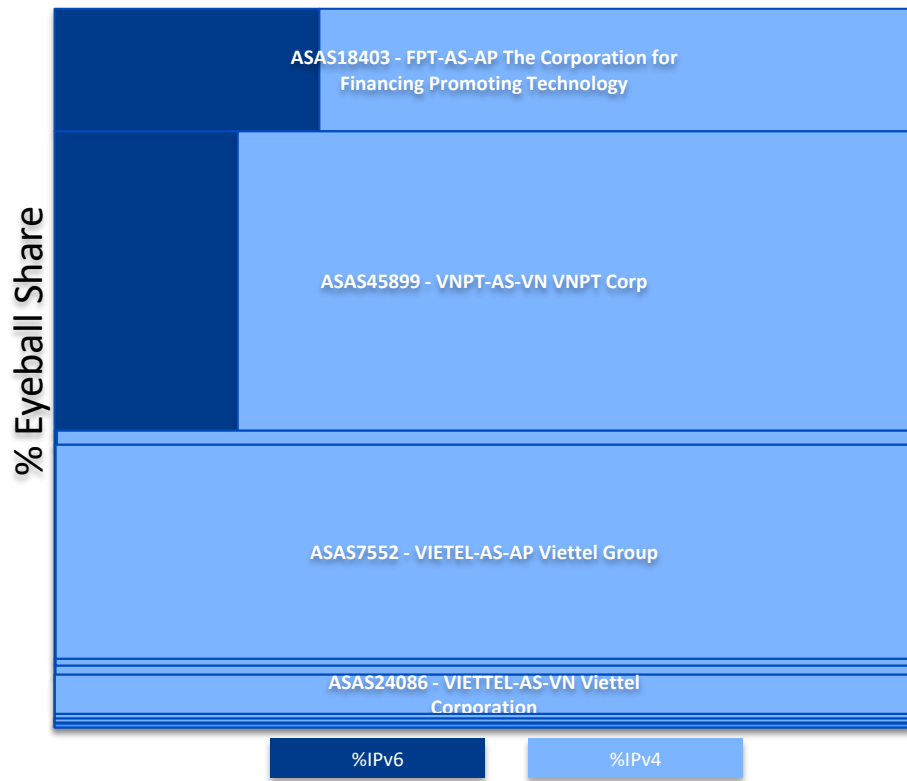
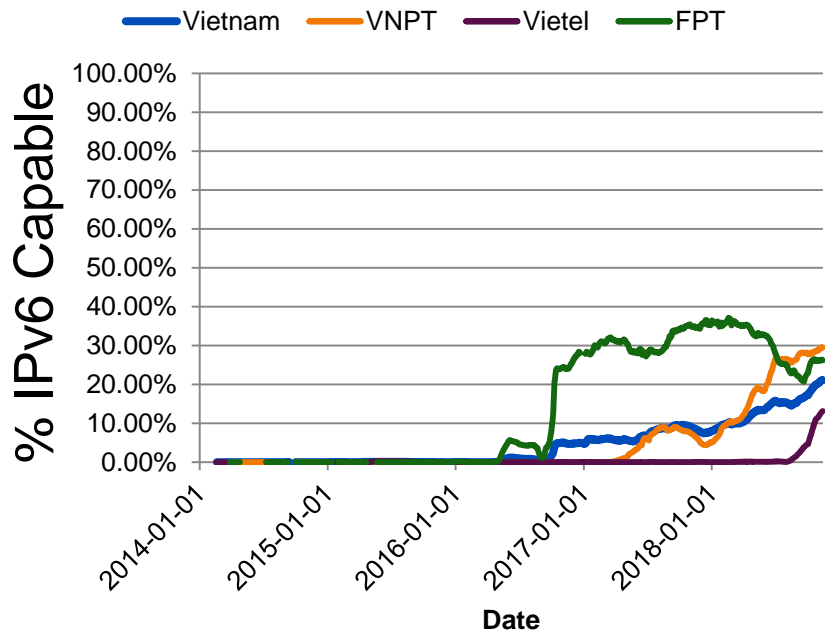
Taiwan



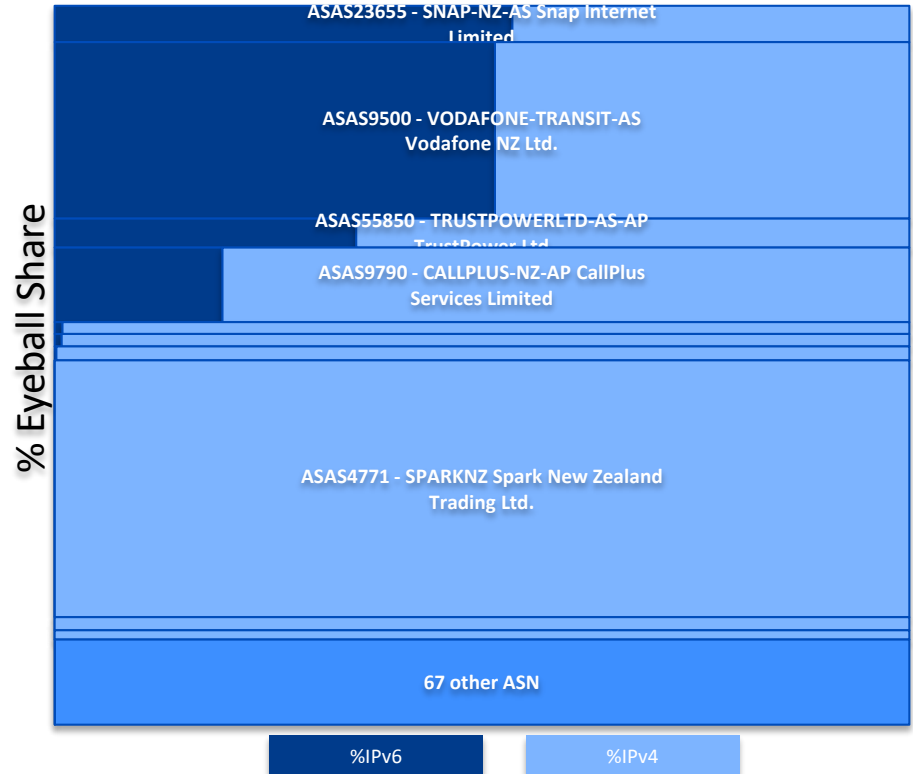
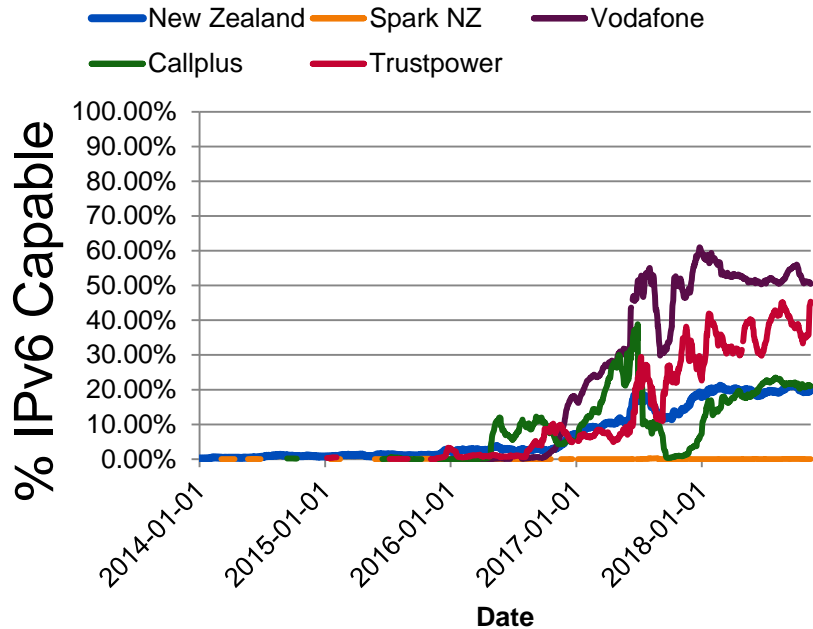
Japan



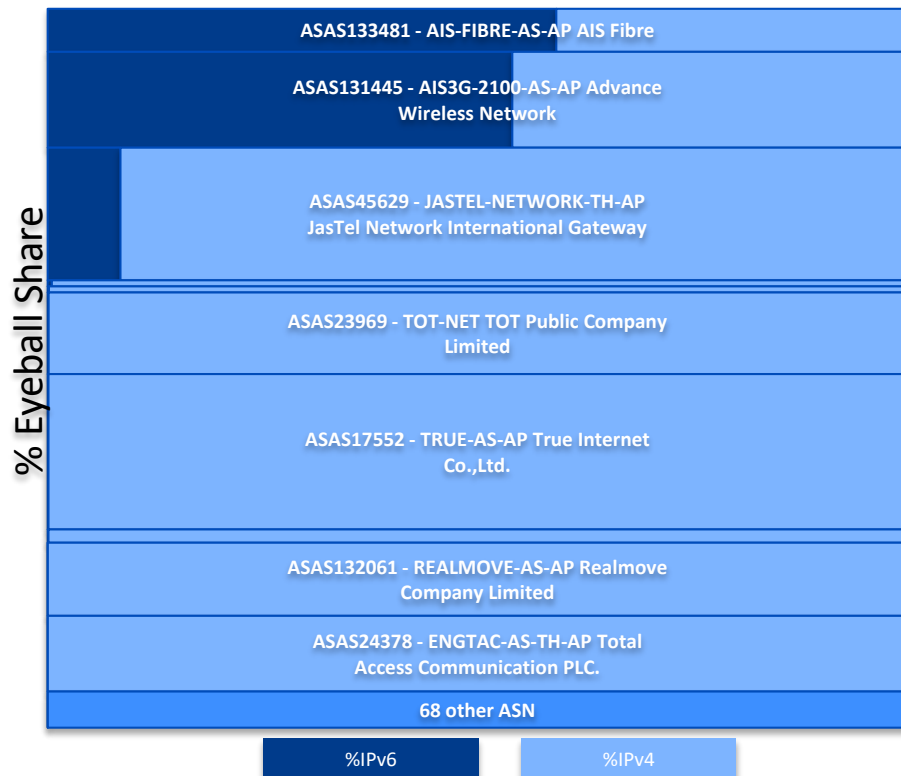
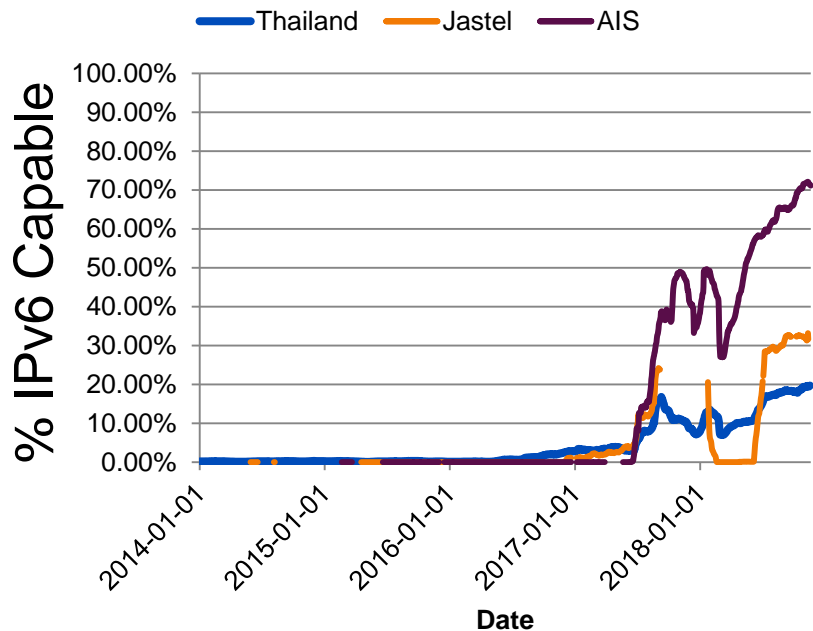
Viet Nam



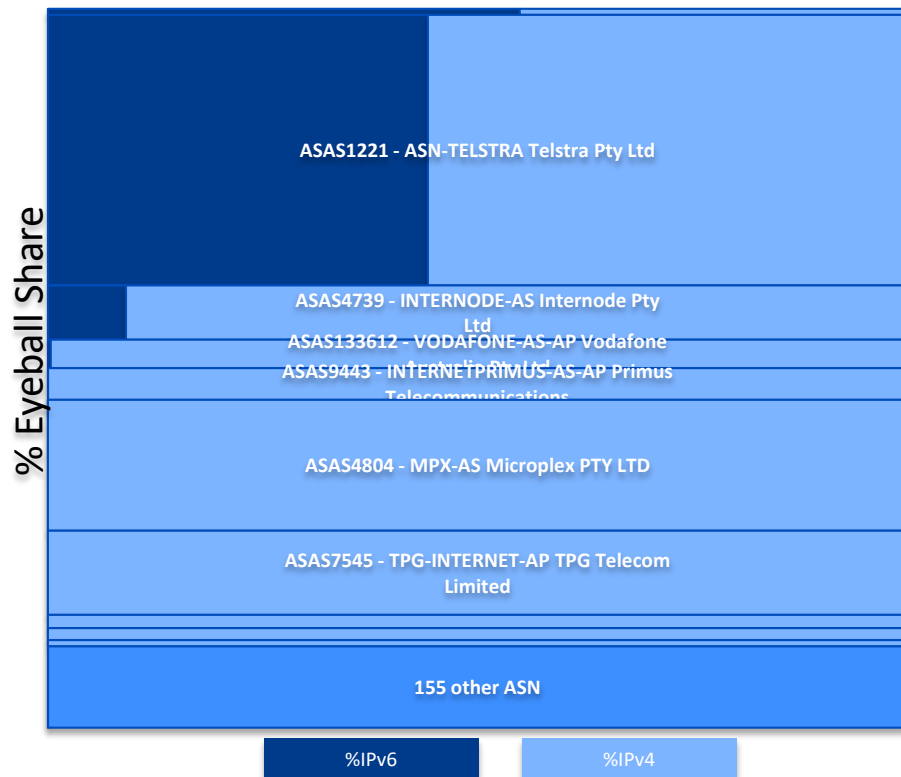
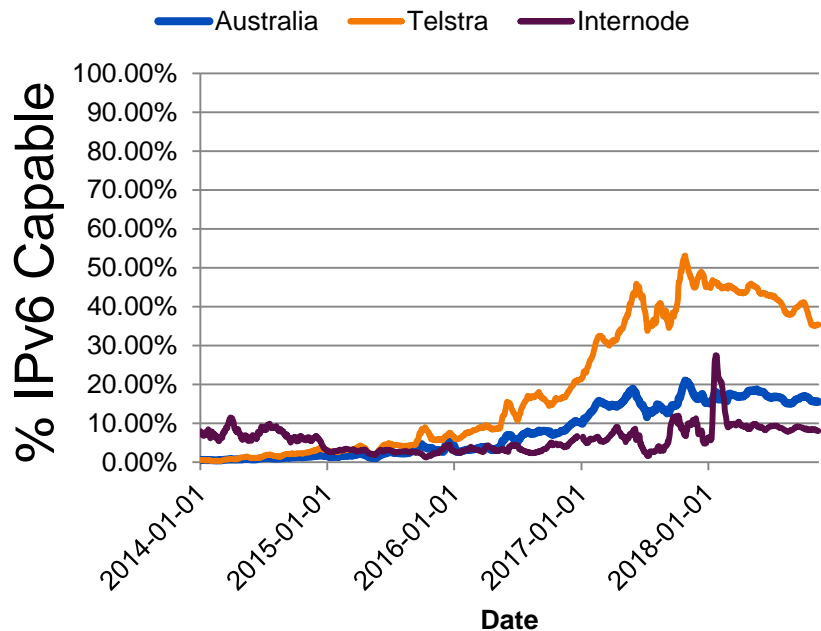
New Zealand



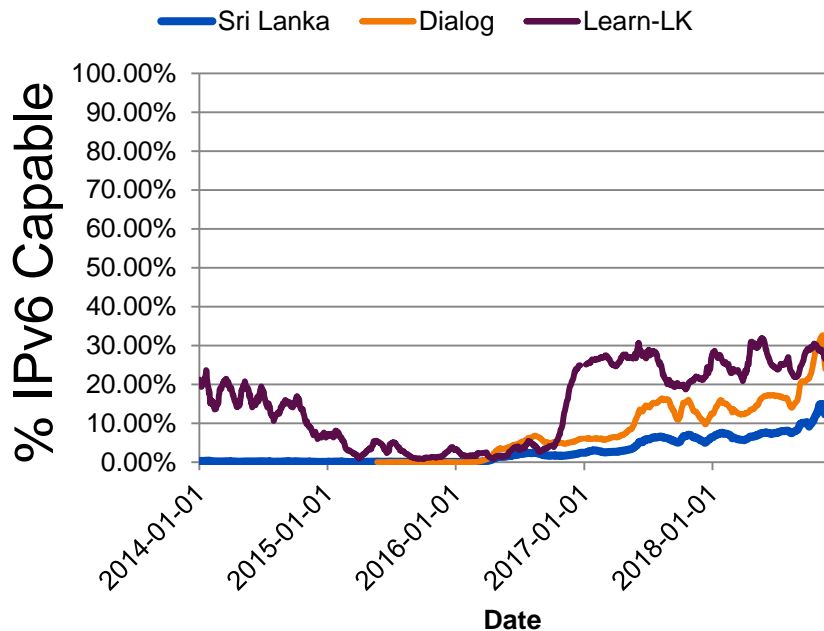
Thailand



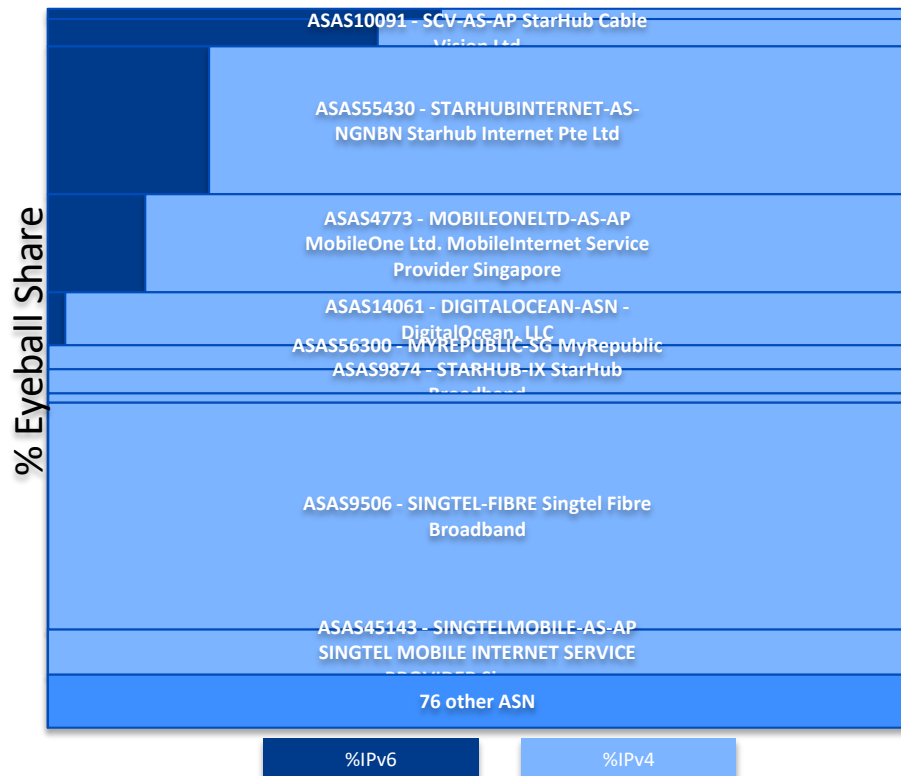
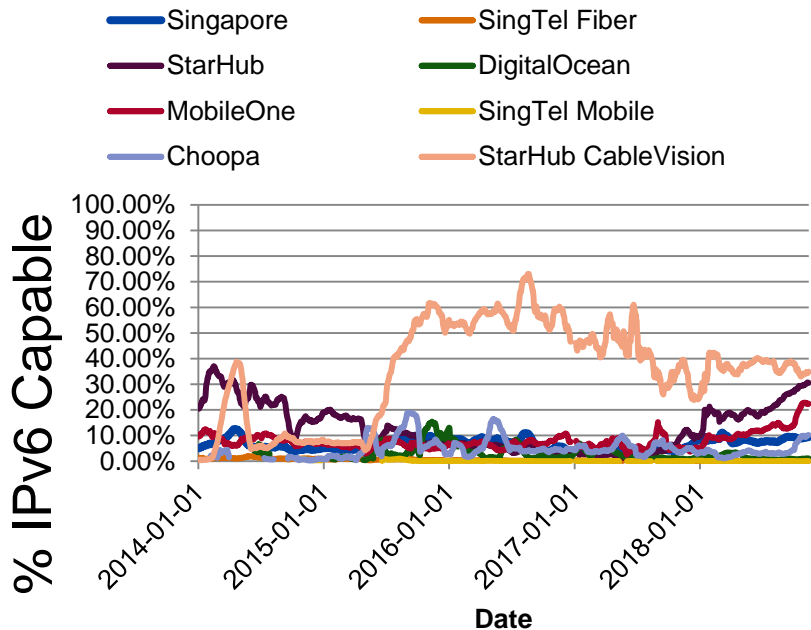
Australia



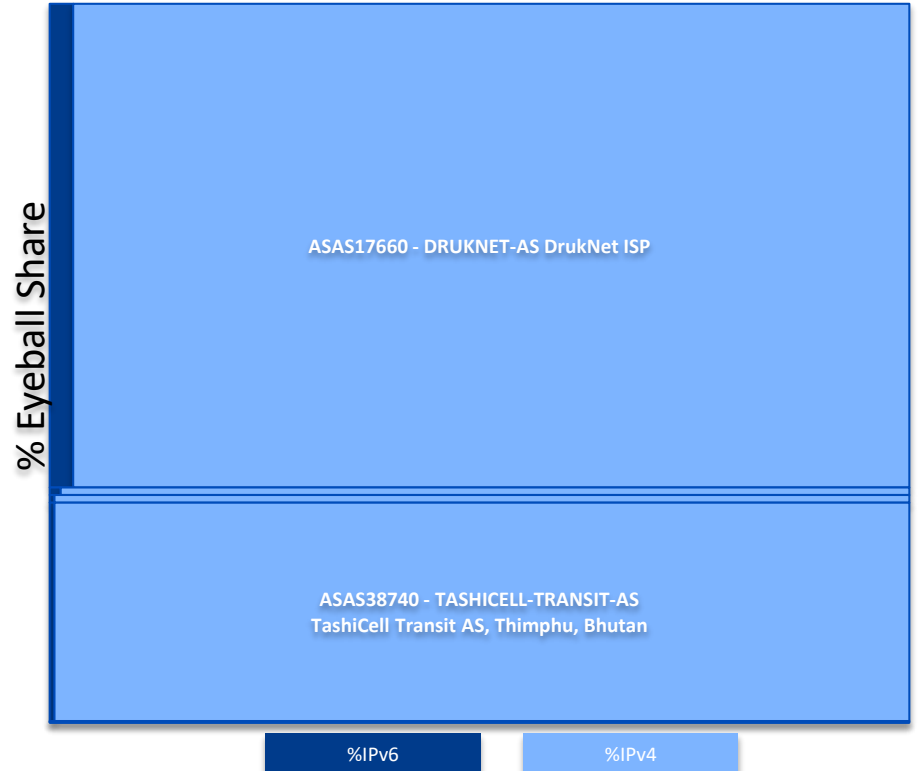
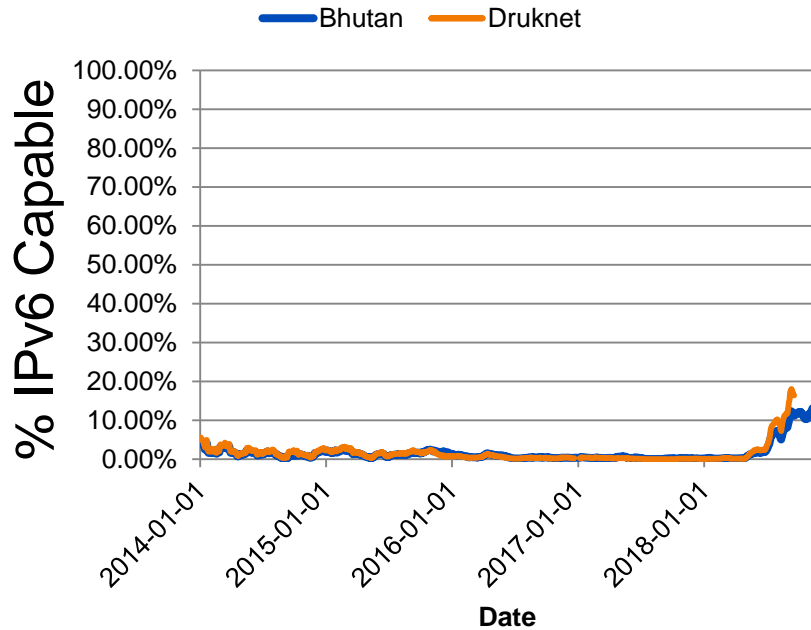
Sri Lanka



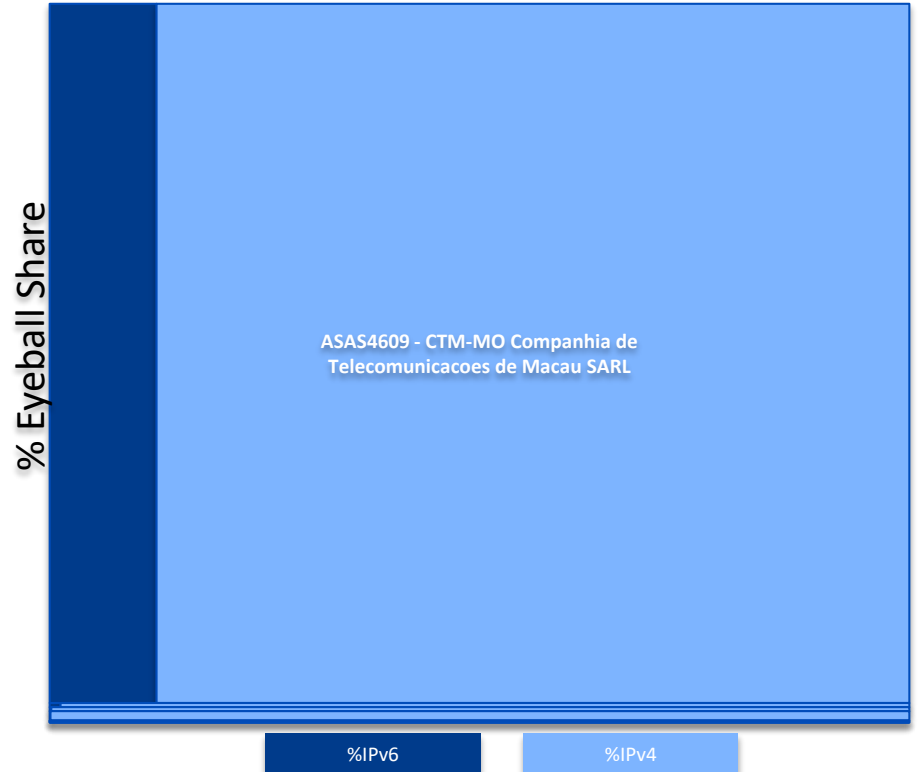
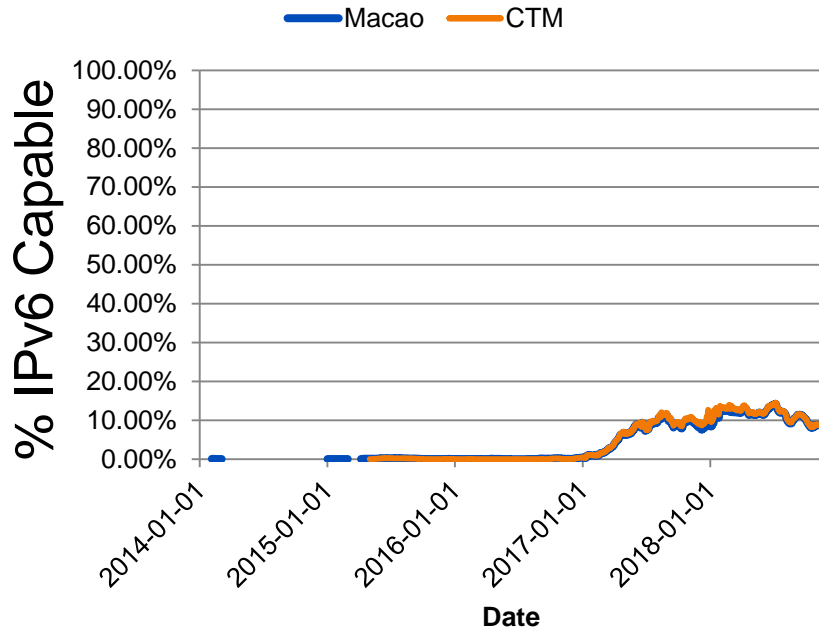
Singapore



Bhutan



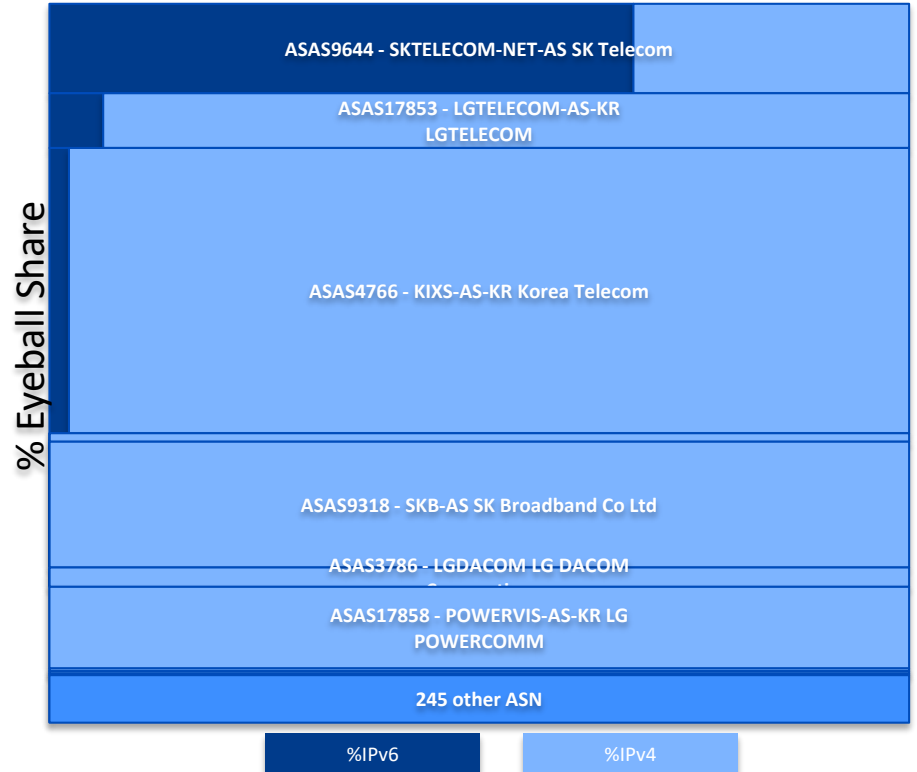
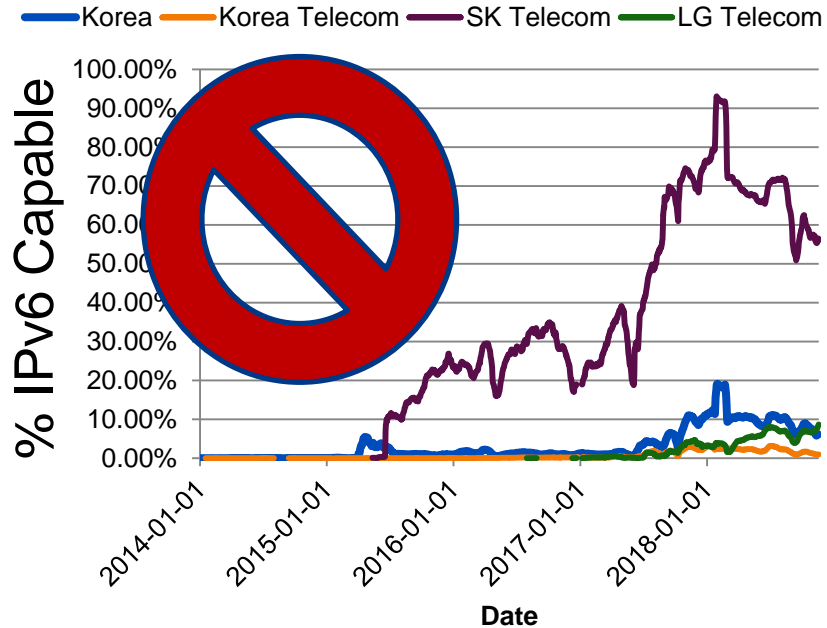
Macao



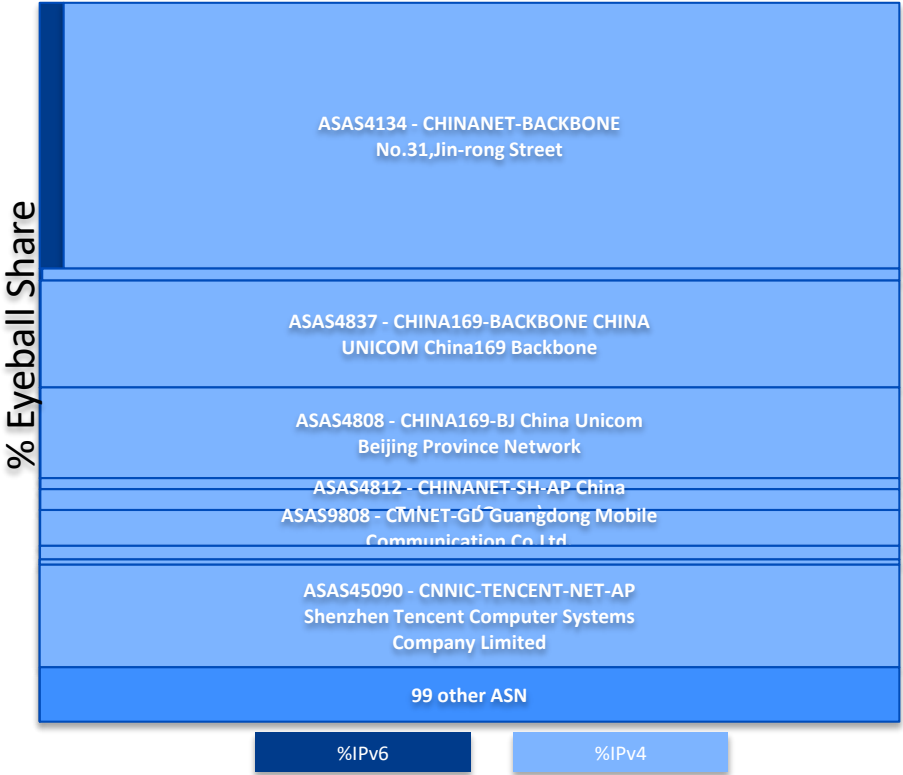
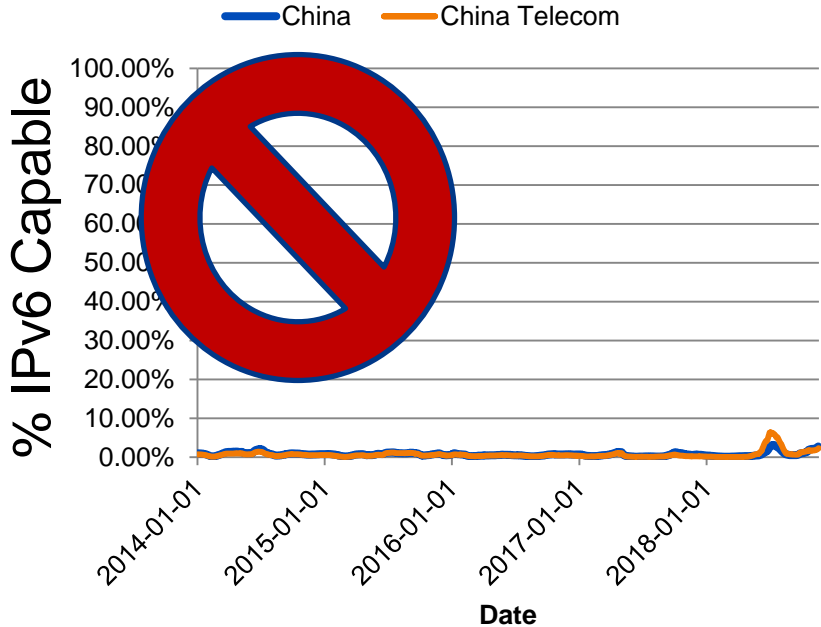
Two economies with significant mis-measure

- Korea
 - We under count SK Telecom.
 - They are market dominant in Mobile
 - Mobile is 50%+ of the market
 - However, we also know the broadband deployment to the home is IPv4
 - Old, un-upgradeable CPE and CAN network
 - Significant barriers to IPv6 without national-scale spend (\$billions)
- China
 - DNS and Great-Firewall effects measurement severely
 - We are re-designing measurement systems inside China (WIP)
 - IPv6 is now a 5 year plan commitment, needs measurement

Korea bad data



China bad data



Missing Economies

- NO significant deployment in
 - HK (!), KH, MM, LA, MN
 - PG, ID, PH
 - Pacific Island states, Micronesia, Polynesia
- Again, there is no single clear reason
 - HK is not low for capital investment
 - There are a lot of competitive forces in the ID market
 - Pacific Island states are receiving quite a lot of investment
- Maybe we're sending the wrong IPv6 investment signals?

Summary

- NO single unifying story about why V6 happens or doesn't happen
 - May relate to capital investment
 - May relate to sunk costs (broadband, MVNO/3G) being amortized
 - India is almost completely about a clean-build LTE deployment
 - SK Telecom, Telstra moving to 4G/LTE and IPv6 only aggressively
 - Some ISP just don't see a need to move
- There are significant market opportunities in our region
 - If you believe IPv6 is a signal of a modern, profitable network (Jio)
 - Look to the under-capitalized economies, and think about a deployment!