

Private networks in the NBN era

Peter Choquenot
ATI Australia

or

**Bandwidth for all
and cheap as chips?**

Peter Choquenot
ATI Australia

Summary

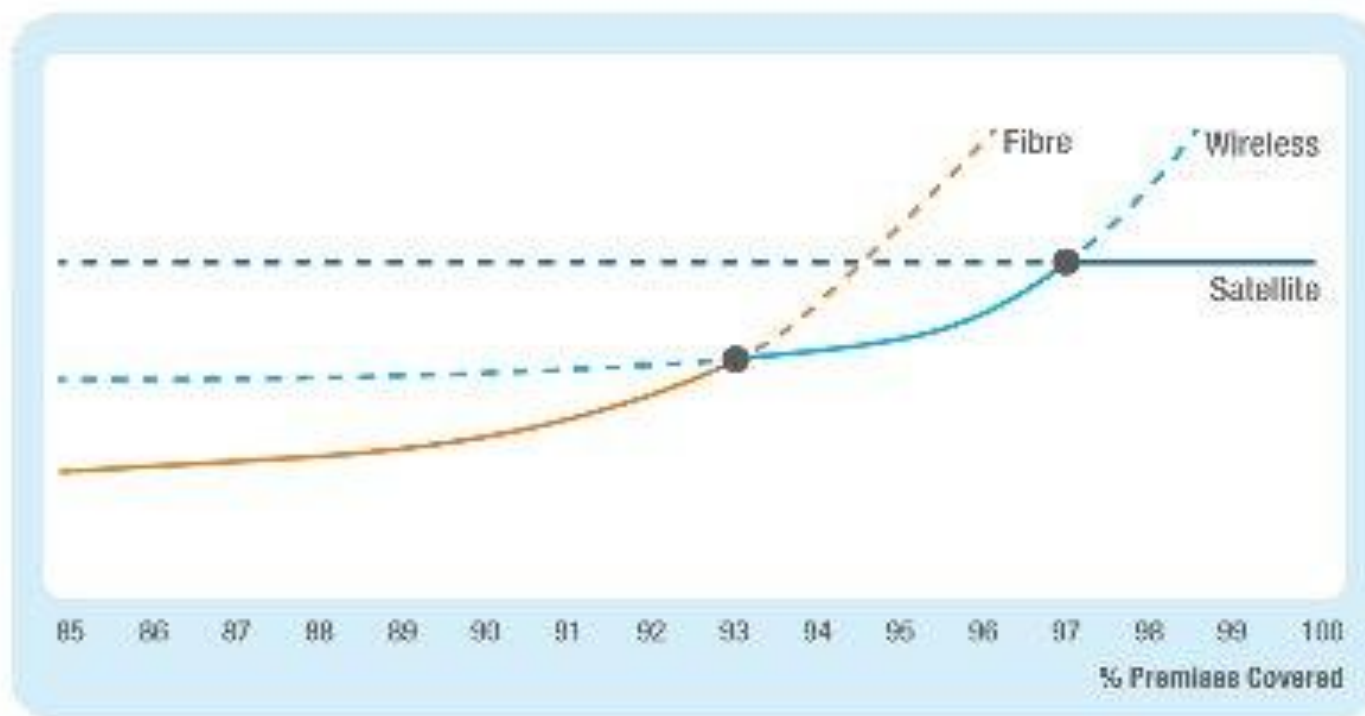
- What is the NBN and what will it deliver?
- How does a private network fit in with NBN services?

NBN Summary*

Fibre (towns with 1,000+ premises)	90-93%	20,700,000-21,400,000
Fixed Wireless	4%	920,000
Satellite	3-6%	690,000-1,380,000

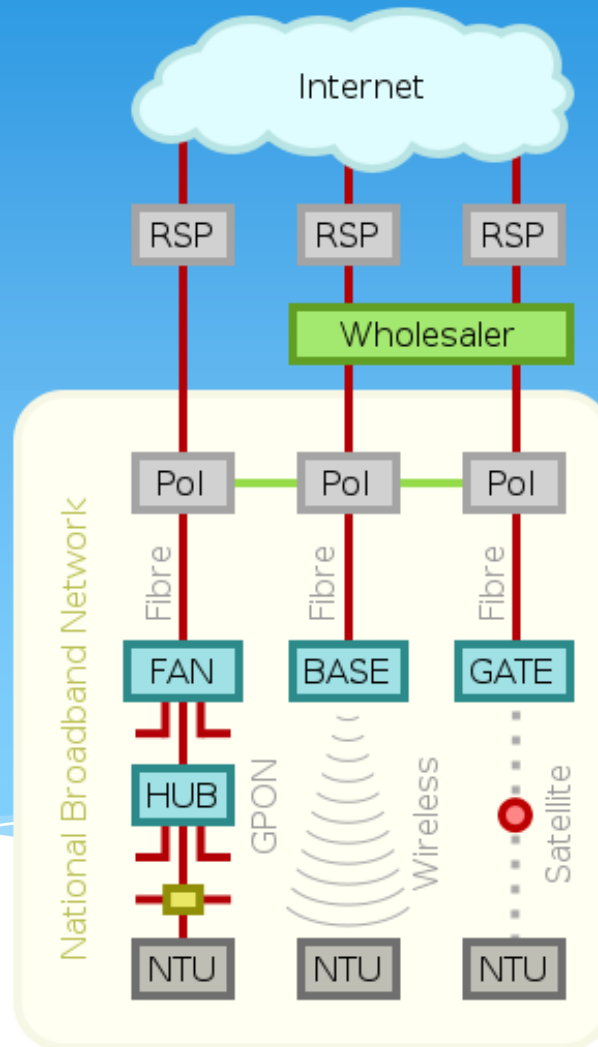
*Mike Quigley - 2012

Estimated Net Marginal Cost by Platform



Illustrative Only

NBN Architecture



NBN Interface Speeds*

Fibre	1,000 Mbps ????
Fixed Wireless	25/5 Mbps
Satellite	6/1 Mbps moving to 25/5 Mbps

Your experience depends on some factors outside our control, like your equipment quality, software, broadband plans and how your service provider designs its network.

*NBN web site

Capacities of the NBN Co Access Technologies



Technology	Spectrum (MHz)	Down Capacity (Mbps)	Up Capacity (Mbps)	End-Users	Down Capacity per User (kbps)	Up Capacity per User (kbps)
GPON Fibre (OLT)	N/A	40,000	40,000	4,000	10,000	10,000
Fixed Wireless (sector)	20	40	9	60	660	150
Satellite (spot beam) avg	550	700	200	2,000	350	100

NBN Uncontended Speeds*

Fibre	10/10 Mbps
Fixed Wireless	660/150 kbps
Satellite	350/100 kbps

* Mike Quigley - 2012

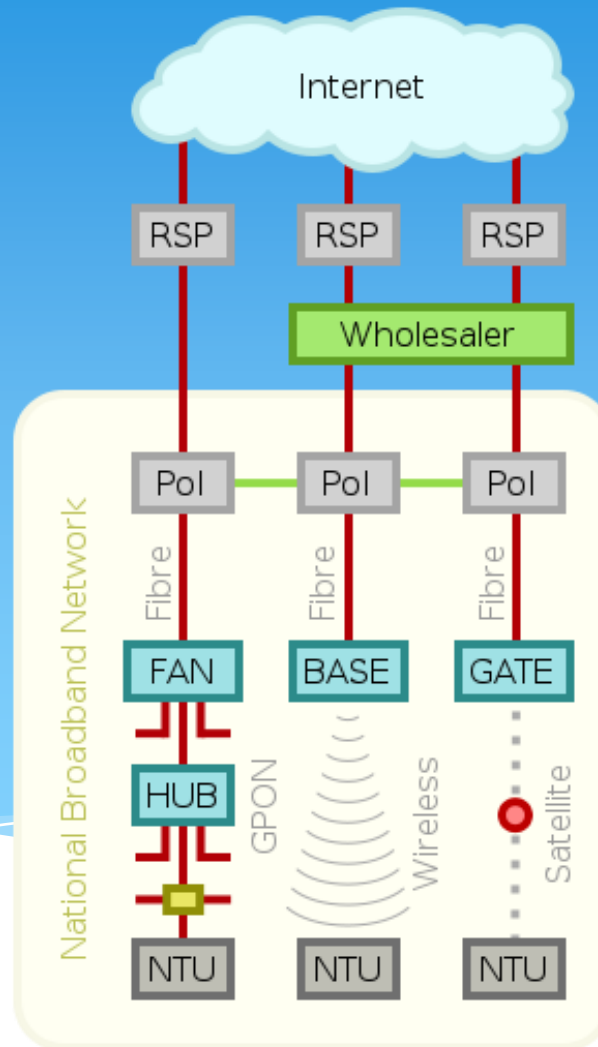
Costs

- No published rates for full throughput private network links....or discussion on if/when!
- Extrapolation from high capacity internet links:
 - 100/40 Mbps, 1 Tbyte, \$165 p.m. per service*
 - 100/40 Mbps, 375 Tbyte, \$62k p.m. x2 per link?**

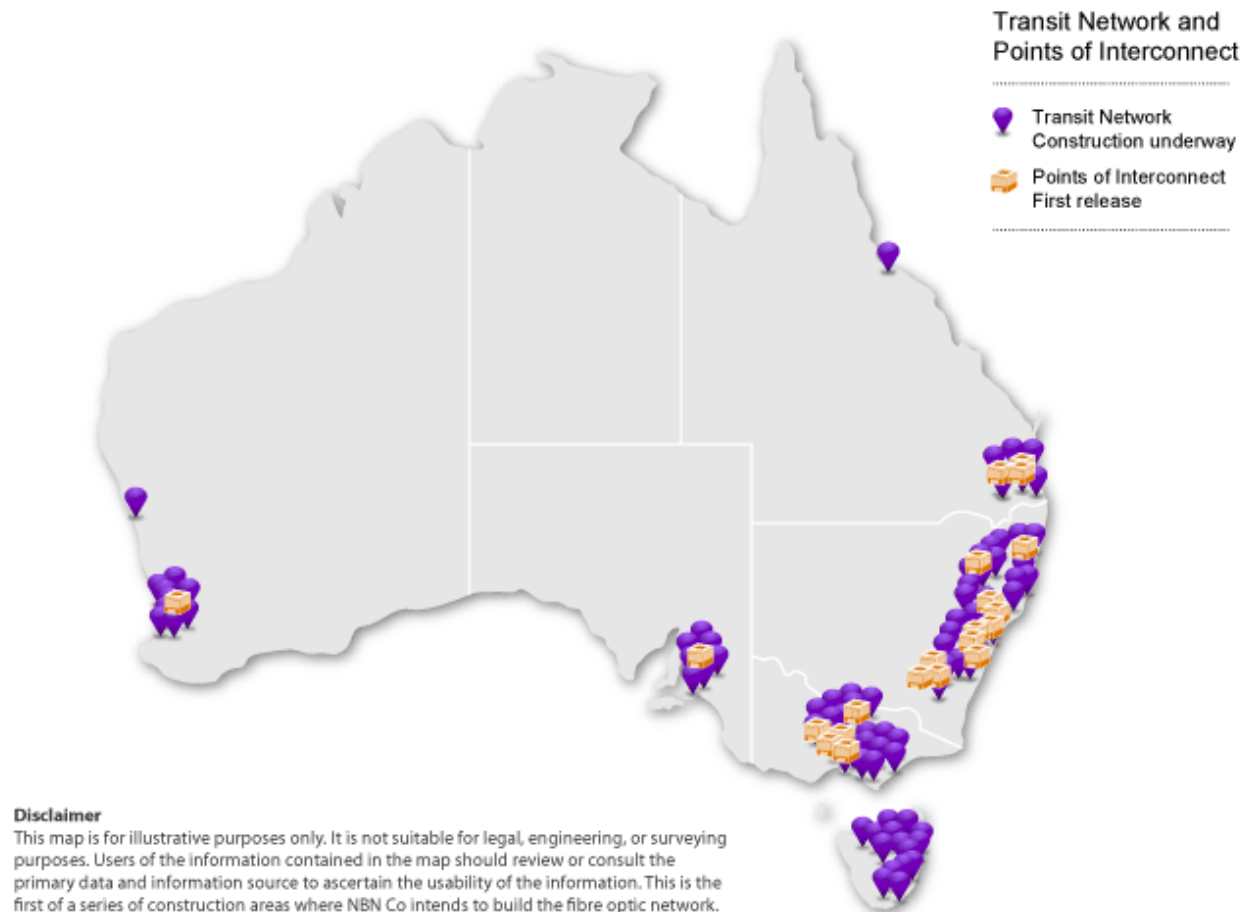
*Internode March 2013

**Linear extrapolation

NBN Architecture



Where are the Pols?



NSW Regional Pools

Albury
Coffs Harbour
Dubbo
Grafton
Nowra-Bomaderry
Tamworth
Wagga Wagga

Vic Regional Poles

Ballarat

Bendigo

Horsham

Shepparton

Traralgon

Qld Regional Pools

Bundaberg

Cairns

Mackay

Rockhampton

Toowoomba

Townsville

What does this mean?

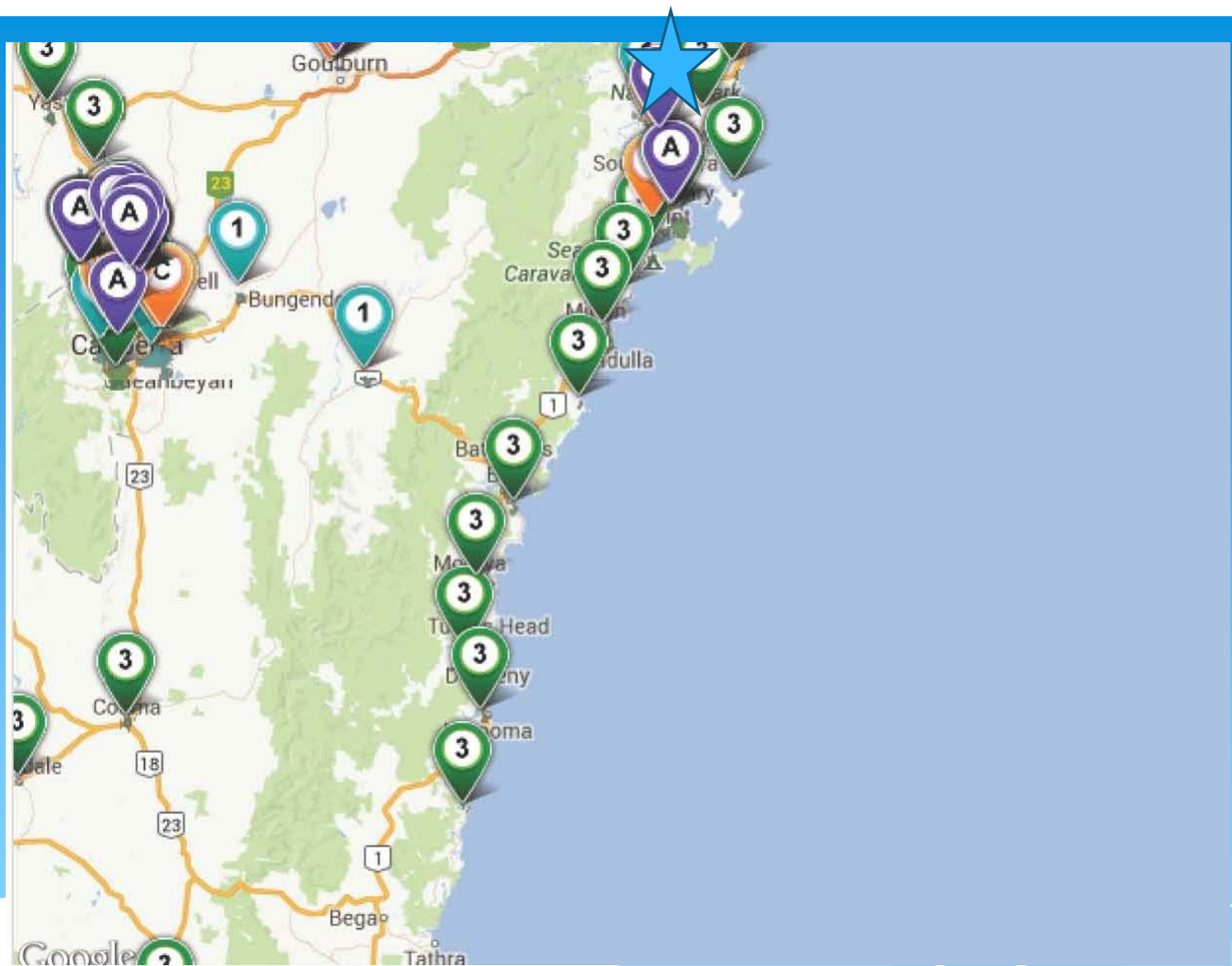
- The NBN is a distribution network providing between 350 kbps and 10 Mbps of uncontended throughput between each user and a local PoI
- The cost per user will be determined by the amount of traffic contracted, at the moment only internet type traffic is defined, not private network traffic required for high volume use
- Backhaul from the PoI to the service providers target network is not the responsibility of the NBN

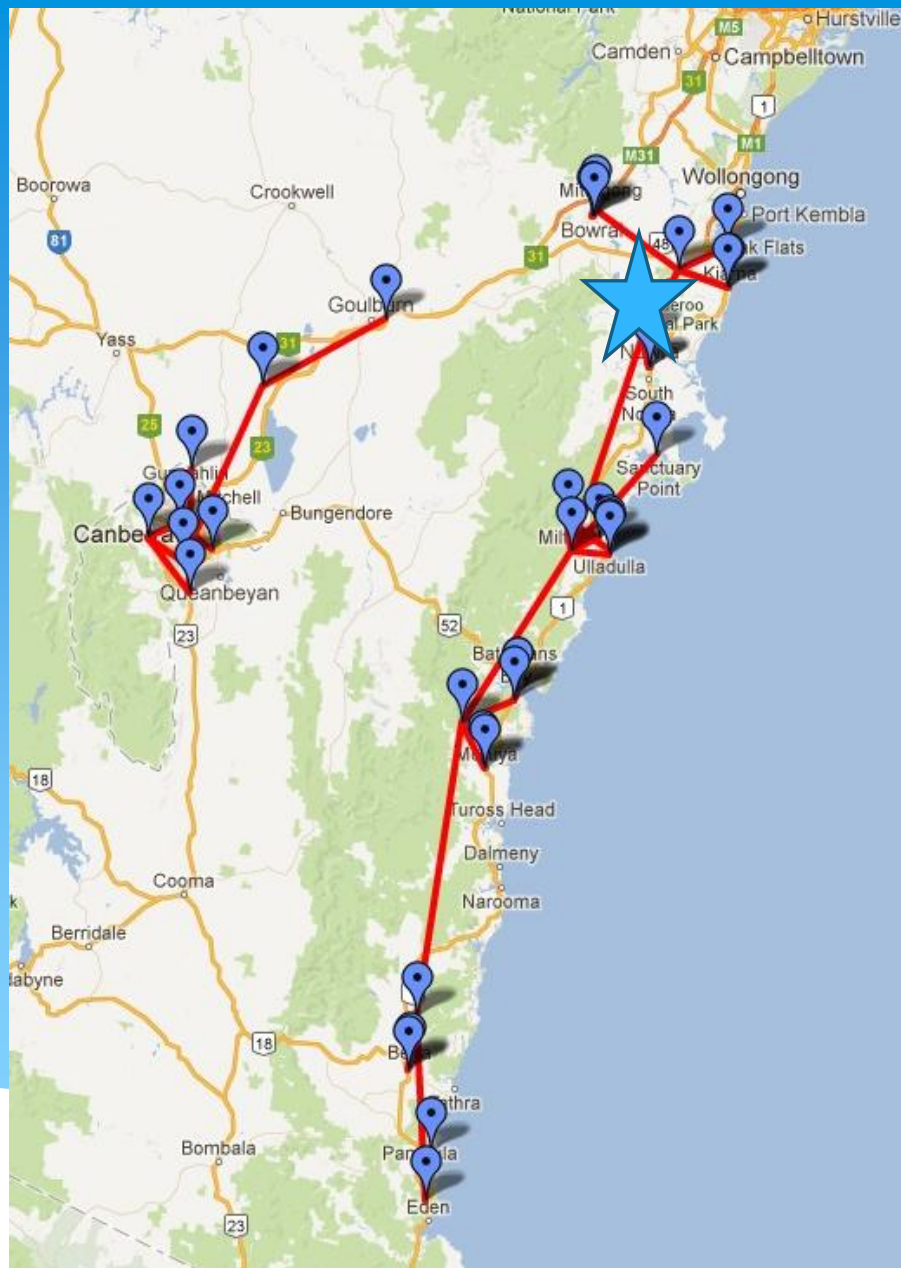
What backhaul options are available at the PoI?

- Telstra
- AAPT
- NextGen
- Private microwave (or fibre!)

Example Network

- South Coast NSW





Take Home Message

- There is no magic in the NBN, it is an effective distribution mechanism for internet, but probably not for private network traffic
- Cost effective private network options exist

Thank You

- Peter Choquenot
- peter.choquenot@ati.com.au
- 0409 289 366