Australian Government
Australian Trade Commission

Innovation Series – Digital Economy

Australian Open National Broadband Network

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Overview

- **A** • Global developments
- **B** • Australia's National Broadband Network
- **C** • The NBN and trans-sector services
- **D** • Investment opportunities

Introducing myself

International consultant:	Broadband Smart Grids Trans-sector
BuddeComm:	CEO
Smart Grid Australia:	Founder and Executive Director
Global Smart Grid Federation:	Founding Board Member
UN:	Special advisor to the ITU/UNESCO Broadband Commission for Digital Development
Clients:	International investment houses Government Industry

Australian Government

United Nations Educational, Scientific and Cultural Organization

newzealand.govt.nz

Global developments - Government

- The internet has changed the telcoms business environment and the vertical integrated model is under pressure
- Telcos slow to adjust to new digital media competition

- x40 Governments see broadband as essential infrastructure (ITU)
- Acknowledged that fast broadband enables e-health, e-learning, smart grids, smart transport, public safety, digital economy and digital media

GOVERNMENT LEADERSHIP IS IMPERATIVE FOR TRANS-SECTOR TRANSFORMATION

Global Developments – Broadband social and economic benefits

- Positive correlation between broadband penetration and **GDP growth** in 120 countries
  - 1980-2006: GDP growth of 1.2% for each 10% of broadband penetration
- Positive correlation between broadband penetration and **labour productivity growth rate**

Broadband penetration	Labour productivity growth rate
1%	0.02%
5%	0.07%

- EU: Broadband job growth 2006-2015 projected at 2,112,000 new jobs
- USA: 40 million households not using broadband has a negative revenue impact of US$55 billion per year

Source: OECD

Global Developments – Facilitating a Digital Economy

- The digital economy needs high speed infrastructure on a utilities basis
- NBN infrastructure builder does not necessarily reap the greatest reward

INFRASTRUCTURE NOT A TELECOMS ISSUE

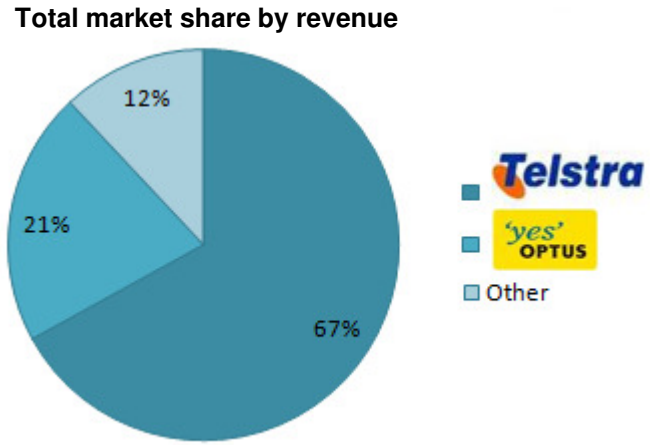
- Conflict of interest between a vertically integrated telco and the need for low cost infrastructure for the digital economy

Lead-up to the NBN in Australia

- Telstra privatisation (regional and competition issues)
- Telstra's initial FttH proposal – 50% coverage and $85 for 512kb/s
- New Labour government elected in 2007
- Structural separation and NBN Legislation passed in 2011

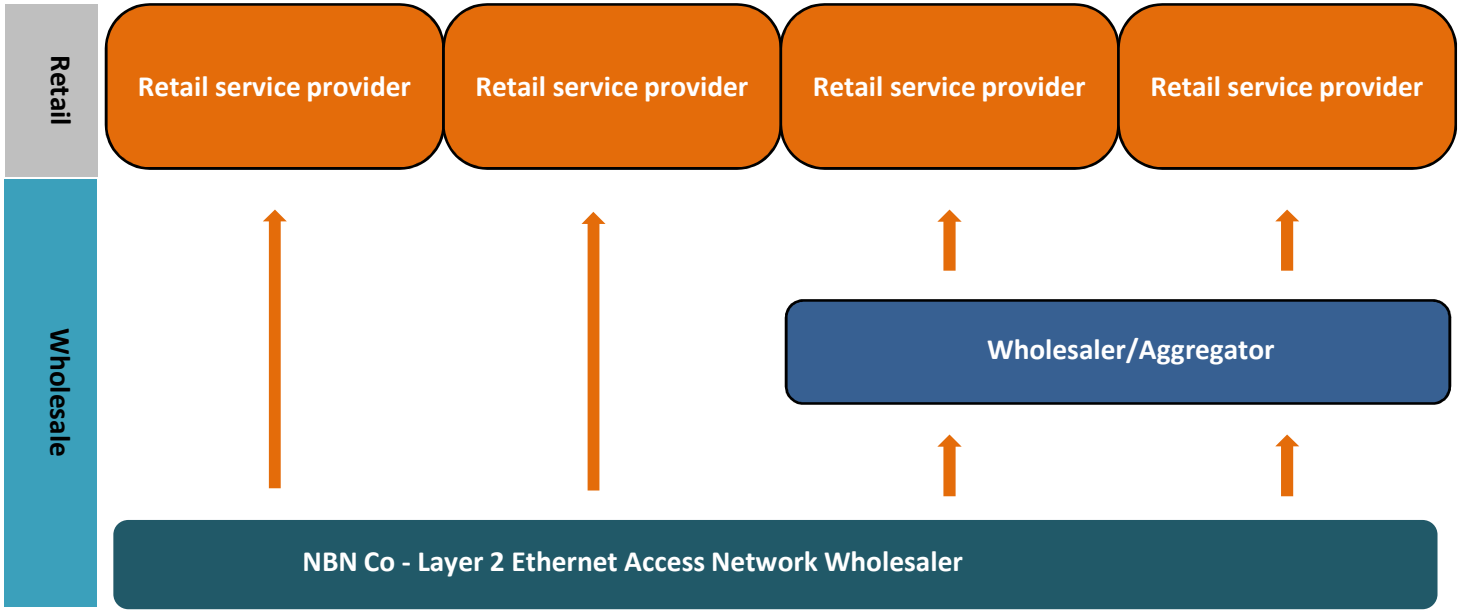
Industry profile:

- 200 competitors
- Telstra largest vertical integrated operator: fixed + mobile + broadband + Pay TV
- Telstra has 90% of all telco profit



The Australian solution: Step 1 - NBN Co

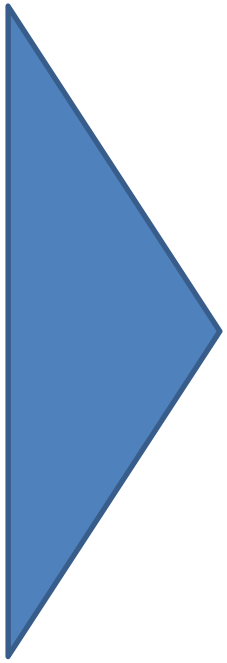
- NBN Co established in 2009
- AU$36 billion infrastructure plan released in December 2010
- Wholesale only with forecast IRR 7% per annum
- NBN Co is the owner of infrastructure



NBN enables a new service and industry structure

Old world

- Fixed-line voice and internet
- Legacy PSTN fixed-line network
- Dominant retailer and wholesaler
- Digital divide
- Basic telecommunications services
- Pricing – high compared to overseas with legacy constructs based on geography and usage
- Success factors – Network / infrastructure ownership



New world

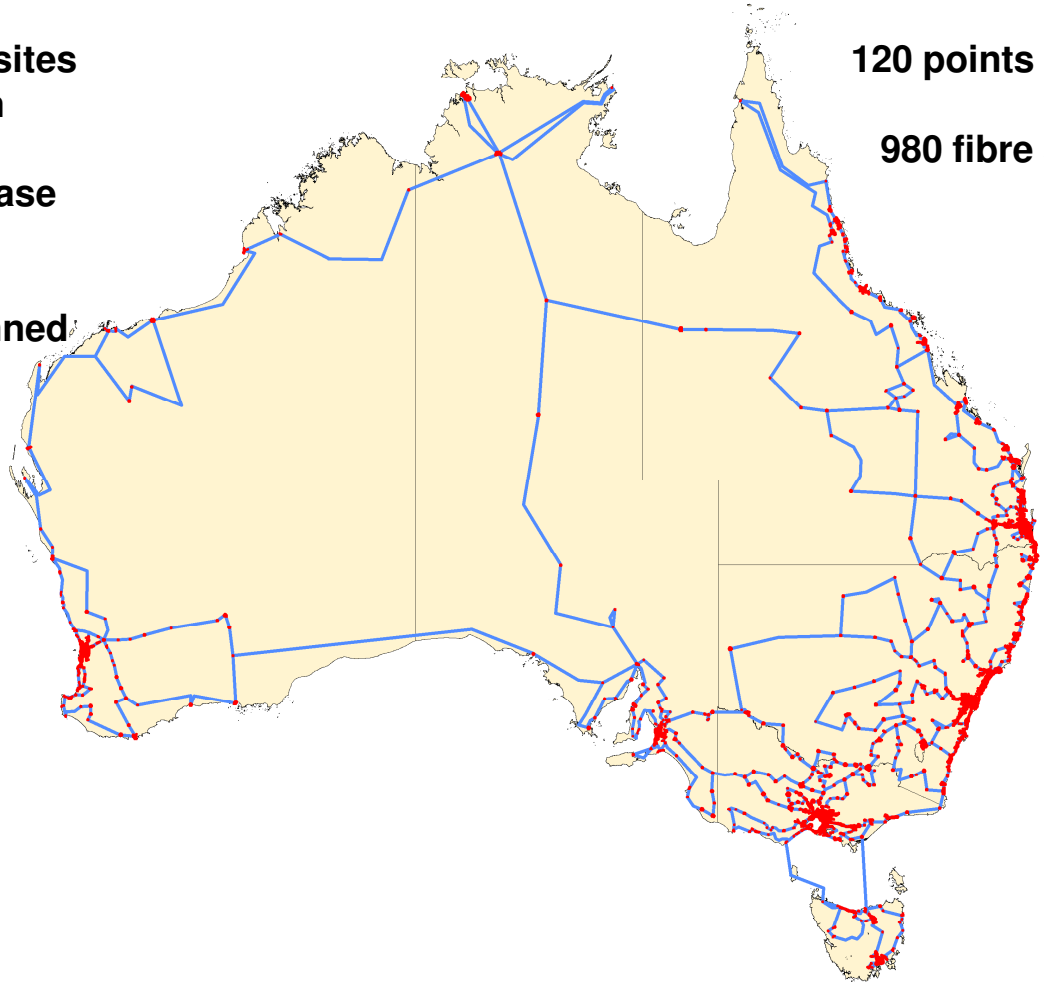
- National high-speed broadband, voice and video (IPTV / VoD / Media)
- Future proofed Fibre
- Open up competition
- Digital ubiquity
- Next generation of smart / social / productivity networks & applications
- Pricing – dramatic decrease driven by VoIP; affordable high bandwidth broadband for all. New models (Triple-play, content & advertising, energy, health, education & SaaS)
- Success factors – Customer relationship, services, innovation & applications

NBN Technologies and coverage

- x5 First Release sites under construction

- x19 Second Release sites announced

- x30 projects planned for 2011



120 points of interconnect

980 fibre serving areas

93% Fibre

Source: : NBN Co

NBN applications: Smart Grids

- Driven by Prime Minister – AU$100 million funding
- Consortium with Energy Australia
- Blueprint for national roll out
- The first 5 pilot roll outs of the NBN are all linked to Smart Grid rollouts
- Policy attention energy: renewables, EVs, smart meters, Grid IT

NBN applications: e-health and e-learning

- Healthcare needs to move towards e-health(aged care, post-surgery)
- Savings projections up to AU$10 billion – flow on effect to telecoms
- E-identifier facilitates e-health (AU$470 million)
- 17,000 GPs and 22,000 retirement villages
- Top down approach from schools and hospitals
- A laptop per child (AU$1 billion investment) – taken home after school – significant traffic flows

Conclusions and opportunities

- **Business models:** Structural separation

  Whole-of-infrastructure approach

  Trans-sector approach

  Applications

  Mini telcos (healthcare, media, education, energy)

- **Investments:** National broadband (utilities – construction)

  Value added infrastructure (middleware, cloud, digital economy)

  Social and economic infrastructure investments (trans-sector new revenue streams)

  Applications (social media, IP, mobility, GIS, location) – OTT
  Submarine cable (utilities)

BuddeComm resources and contacts

- **BuddeComm reports – special offer**

Australia - The National Broadband Network – 2011

(Publishing date February 2011 approx 205 pages)

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