

Comparing Regulation Across Asia-Pacific

Singapore's Nationwide Broadband Network

Presented by: Mr Harinderpal Singh Grewal
Cluster Director (Resource & Interconnection Management)
Info-Communications Media Development Authority of Singapore (IMDA)

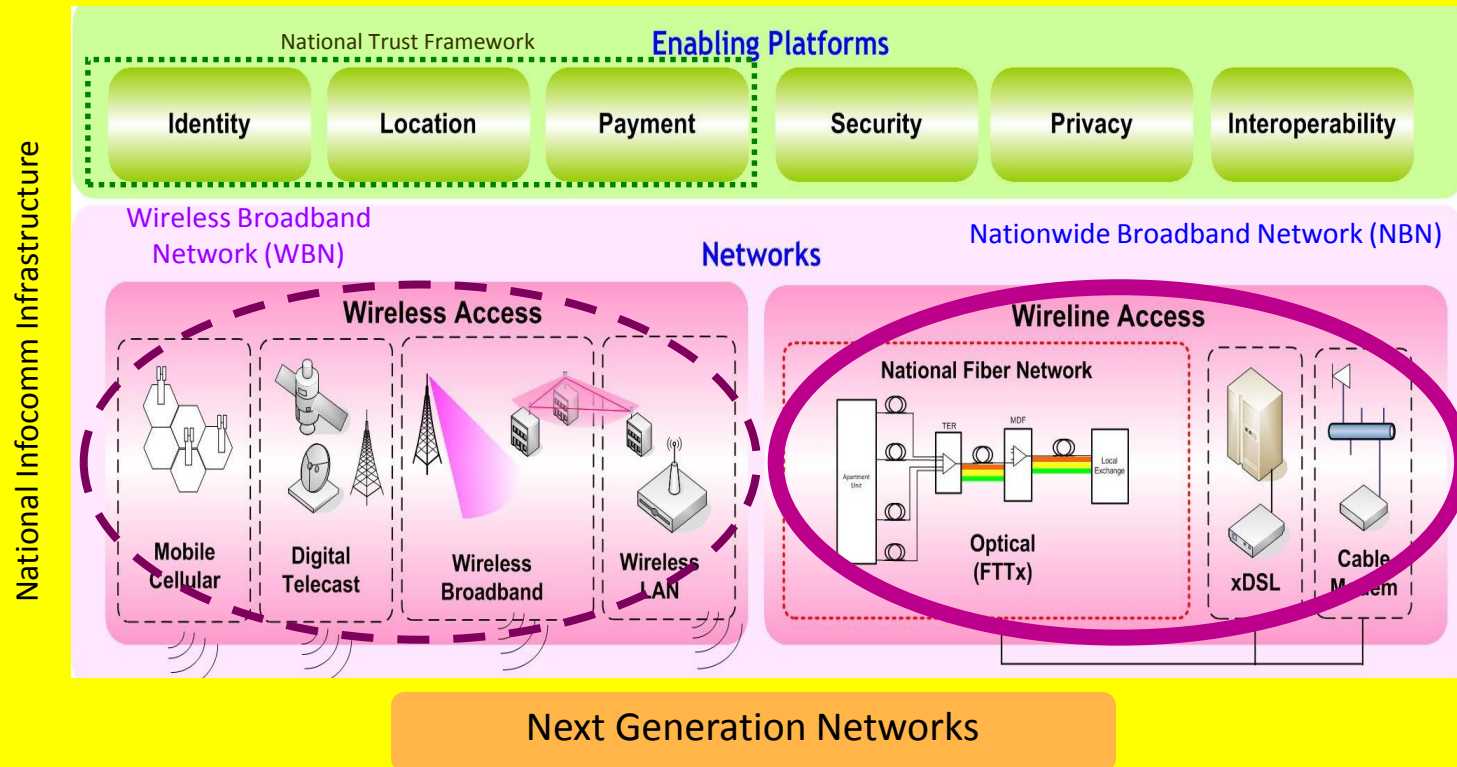
26 April 2017

Agenda

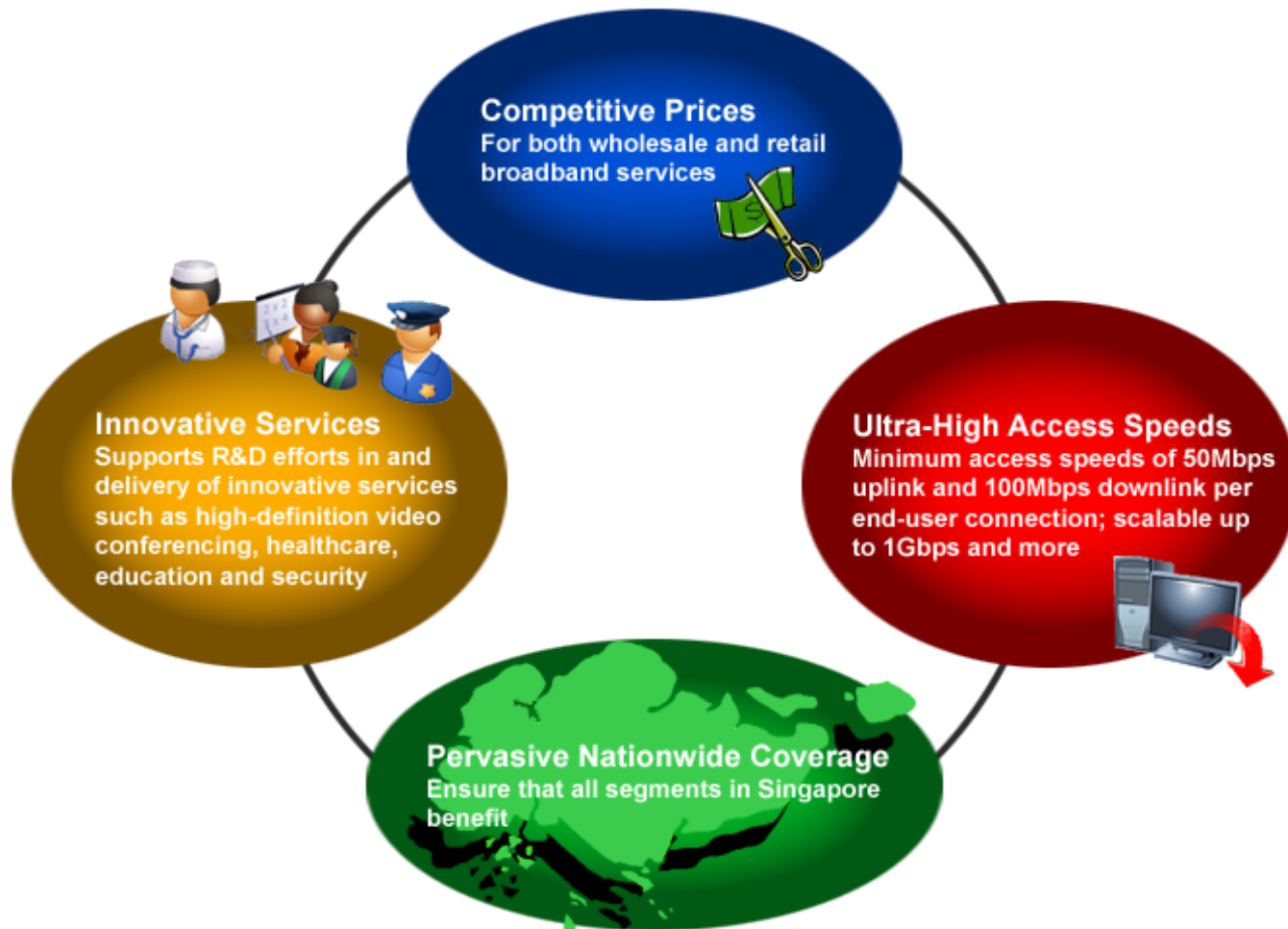
- **Introduction**
- **Why Open Access**
- **Role of the Grant**
- **Coverage Obligations**

Nationwide Broadband Network

Realising the Leading National Infocomm Infrastructure



Desired Outcomes from NBN



Open Access: The Way Ahead

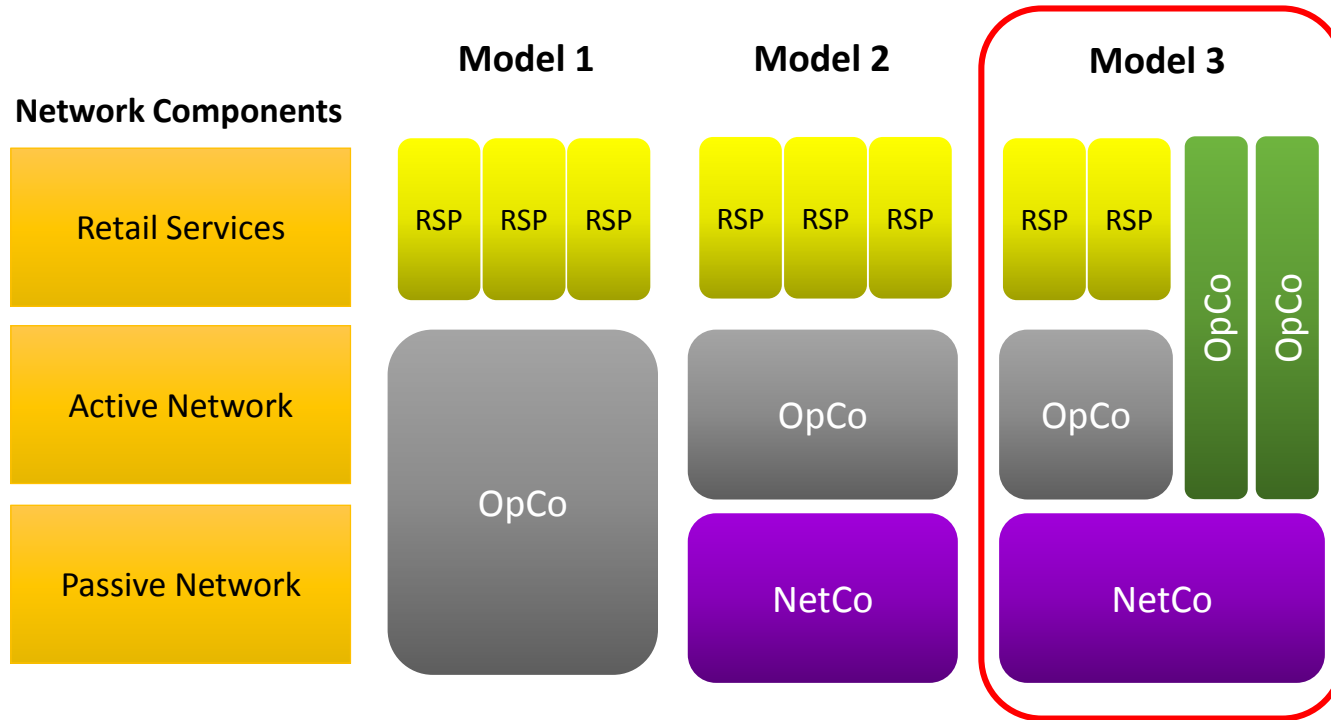
- **Key policy objectives of the NBN**

- Promote competition in fixed line telecommunications market
- Encourage Open Access environment
 - Industry players have more options to adopt models
 - To suit their businesses and respond to market needs
 - Lead to long-term competition and vibrancy in the industry
 - Consumers and businesses benefit from lower prices and innovative services

- **Decision to restructure industry undertaken after extensive study and year long consultation with Industry**

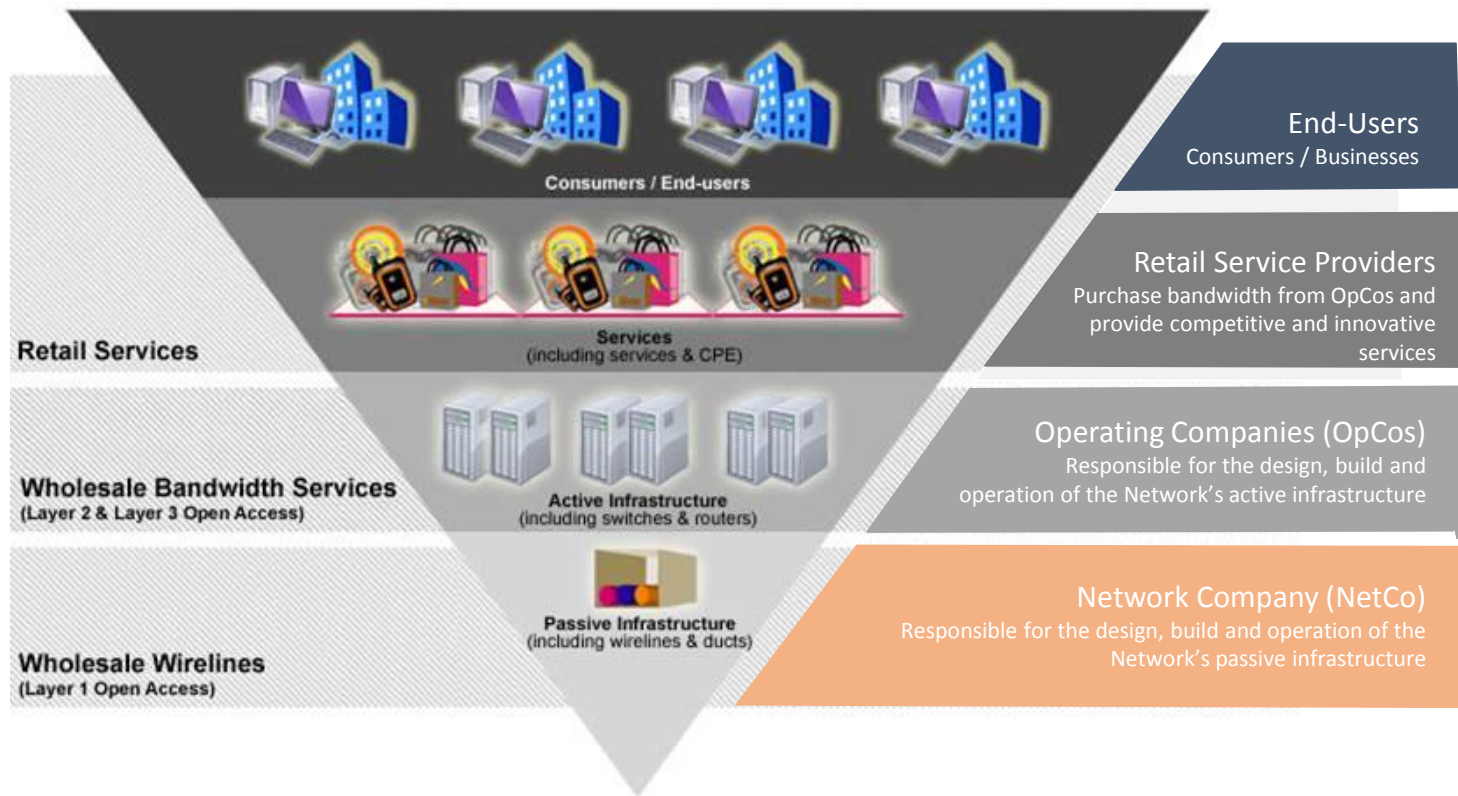
- IMDA studied overseas deployments with varying models of separation
 - Similar projects in United Kingdom, Canada, Sweden, Italy & Netherlands
 - Australia and New Zealand had also introduced separations to develop vibrant and competitive market

Possible Industry Models



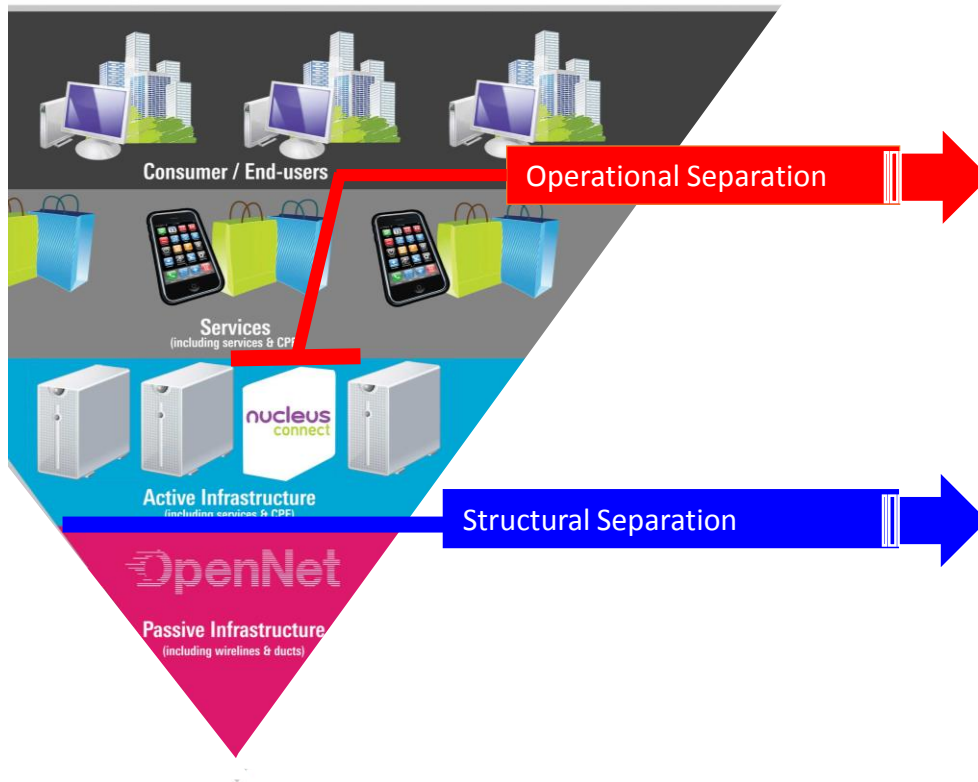
Open Access

NBN Industry Structure



Open Access Industry Structure

Highlights of the RFP



■ Key OpCo Obligations

- **Operational Separation**
- Price Control via Interconnection Offer (ICO)
- Universal Service Obligation (USO)
- Licence period of 25 years
- **Government Support**
 - Grant of up to S\$250m

■ Key NetCo Obligations

- **Structural Separation**
- Price Control via ICO
- USO
- Licence period of 25 years
- **Government Support**
 - Grant of up to S\$750m

Managing the NBN Companies

- **Contractual Oversight**

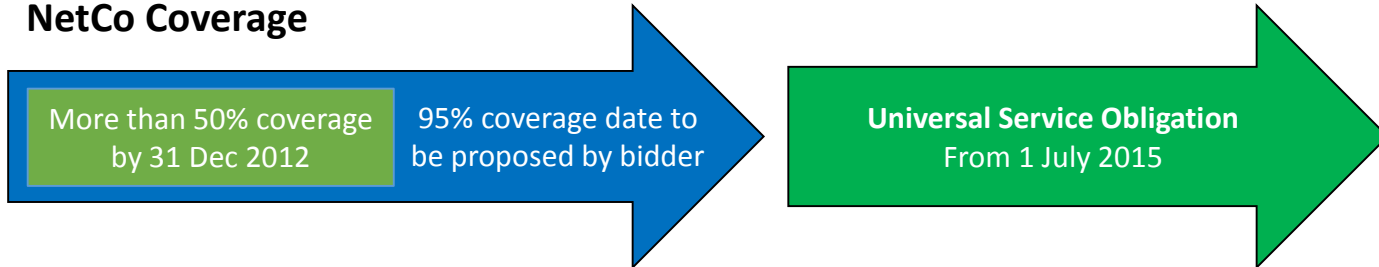
- Fibre-to-the-home (FTTH) rollout and adoption obligations, for which financial support is provided
 - NetCo: Pervasive and timely fibre roll-out
 - OpCo: Fibre adoption targets

- **Regulatory Regime**

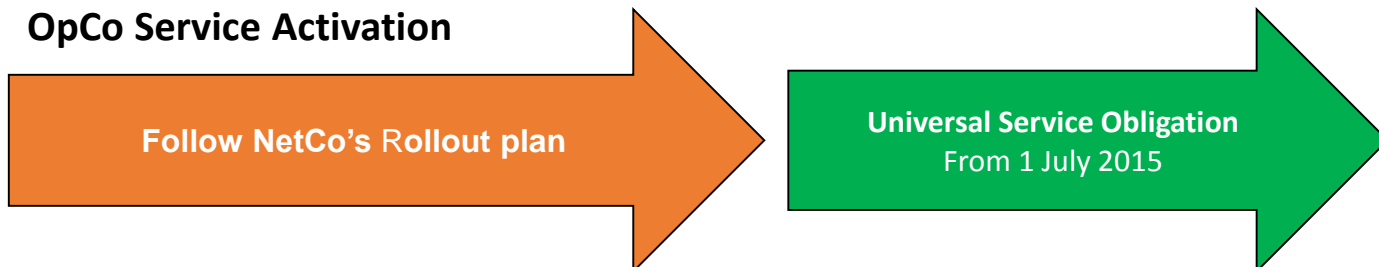
- Governs NetCo and OpCo obligations under their respective Licences
 - Overarching Regulatory framework
 - Facilities Based licence (FBO), Telecoms Act, Telecom Competition Code, etc
 - Interconnection Offer (ICO)
 - Commercial agreement between NetCo/OpCo and its Requesting Licensee
 - Operators can also have tailored arrangements through a Customised Agreement

Coverage Obligations & USO

NetCo Coverage



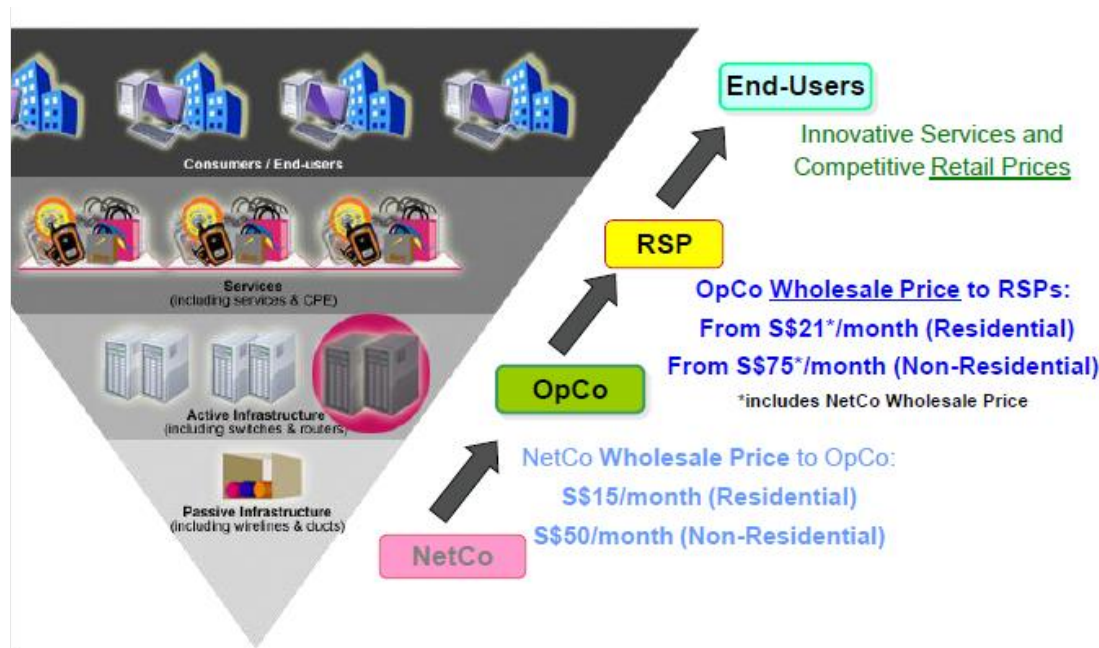
OpCo Service Activation



Interconnection Arrangements

- **NetCo and OpCo Interconnection Offers**

- Standard and comprehensive offer
 - No need for other licensees to negotiate
 - Facilitates entry into market
- Adoption of fair, reasonable and non-discriminating terms and conditions



Current Trends & Developments

- **Increasing demand for NBN services**
 - End-users having multiple fibre services
 - Migration of end-users from legacy copper and coaxial network
 - Customer churn between fibre service providers
- **Developments on NG-PON**
 - ITU-T recently approving G.989 series of standards for NG-PON2
 - Impact to Singapore's NBN
 - Considerations on enhancing the current GPON network

Thank you!

Any questions?