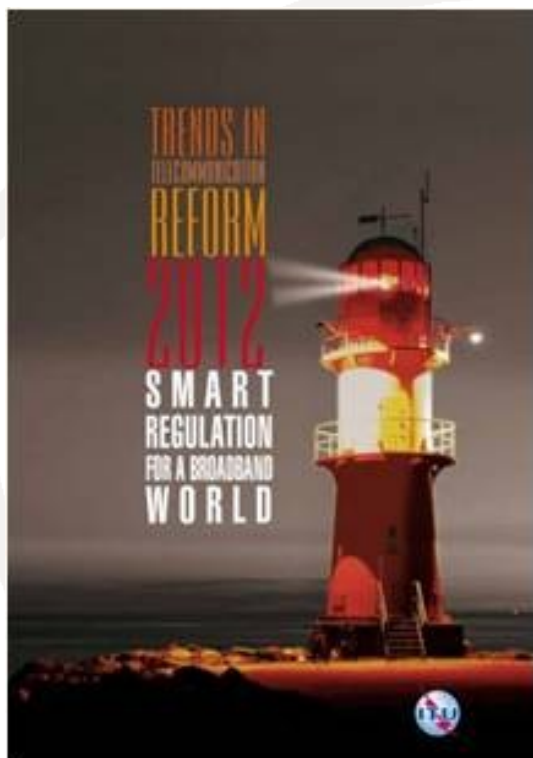


Open Access Regulation in the Digital Economy

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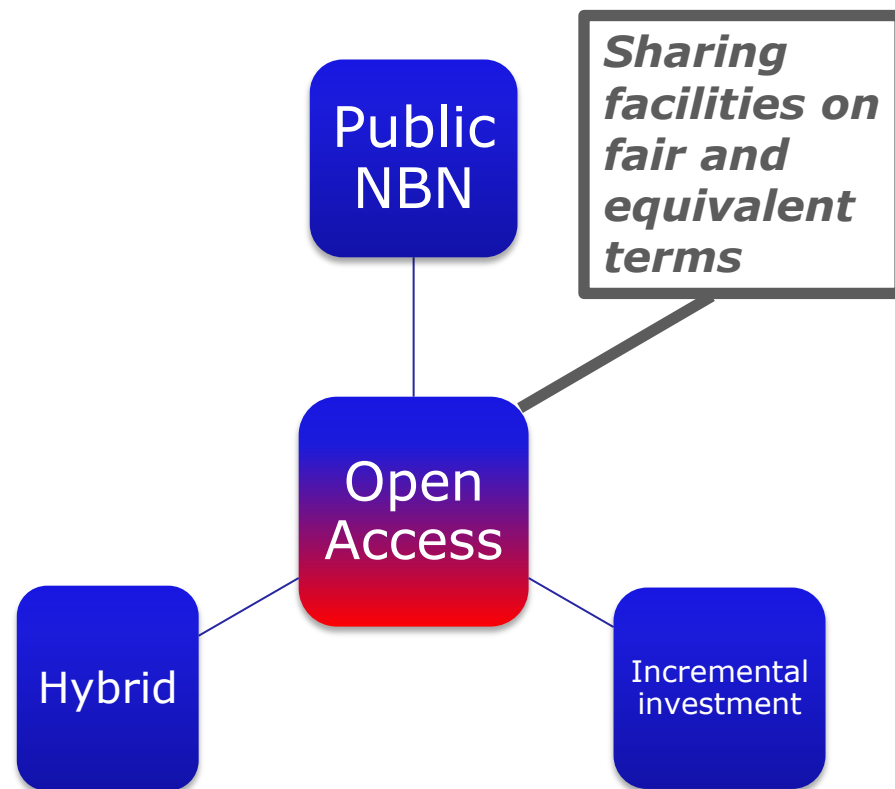


Agenda

- The need for open access
- What does open access mean?
- Access to network infrastructure
- Access at the transport layer
- Access to digital content and applications
- Conclusions

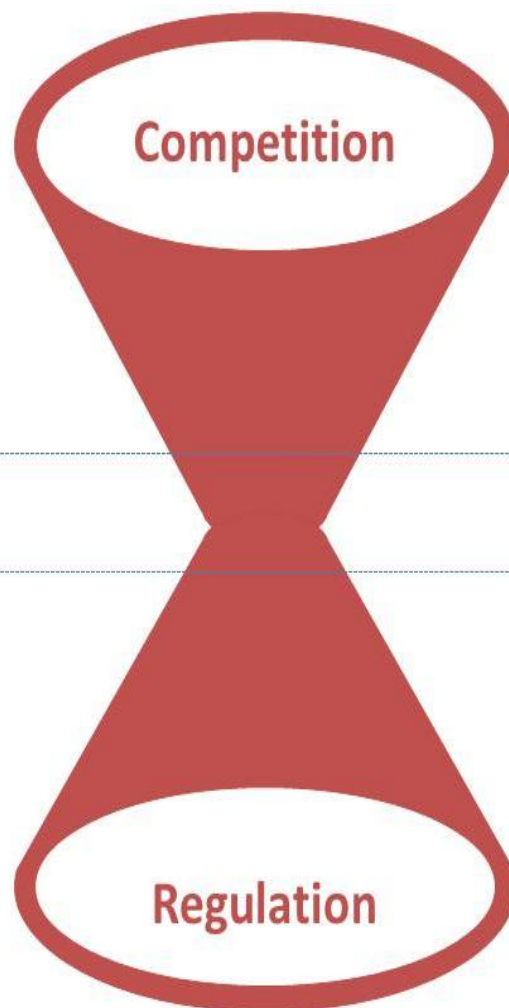
All strategic options for handling the bandwidth explosion require open access

1. Major investment in National Broadband Networks (NBN) for end-to-end fibre
 - New publicly funded companies (e.g. Australia, Singapore)
2. Incremental private investment
 - Peel back SMP regulations to provide investment incentives to existing players (e.g. EU, Hong Kong)
3. Hybrid solutions
 - Public (donor) money in backbone with incentives for private investors (e.g. New Zealand, Tanzania, Mozambique)



Three possible layers of Open Access

Levels in OSI model



Layers in Open Access model

Layer 3: Services and Content

- Competitive supply with little need of open access rules

Layer 2: Transport

- Open access debatable

Layer 1: Infrastructure

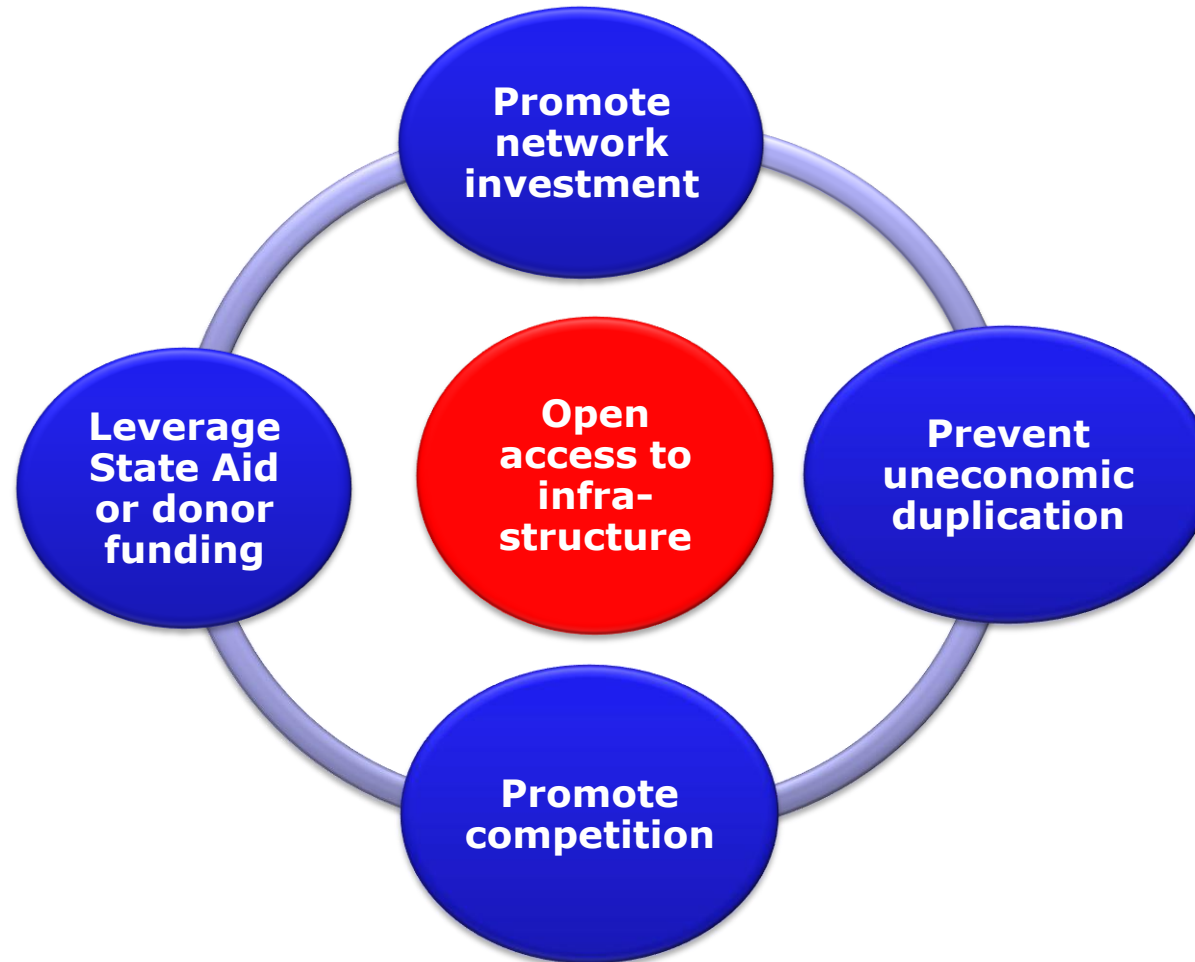
- Open access generally required, especially where state funded

Open access is critical for NBNs

...in order to encourage broadband deployment, preserve and promote the open and the interconnected nature of the public internet, regulators may consider mandating dominant providers of national broadband networks, including cable landing stations, to provide open access on a fair and non-discriminatory basis to their network and essential facilities for competitors at different levels of the networks. (GSR Guidelines 2010)

- With broadband networks there is a need to:
 - Accept that there likely will be SMP/dominance
 - Regulate for it by mandating open access

What can Open Access achieve?



Case study: Tanzania's ICT backbone

- \$200m investment based on Chinese loan finance
- Three interlocking fibre rings connected to submarine cable landing station
- Management by incumbent (TTCL) with SMP in provision of wholesale fixed network services.
- Regulated requirements for open access include:
 - Accounting separation with independent audit
 - Equivalence of access
 - Reference Offer setting out terms and conditions

Other examples:

- *Separation of active and passive infrastructure on Singapore NGN*
- *Access to cable landing station in Liberia*
- *Facilities sharing for network operators in Mozambique*

Source: INCM

Regulatory principles for Open Access to broadband infrastructure

DO NOT ...	DO ...	BUT WHAT ABOUT ...
Try to pick winners	Keep technology options open where possible	Government funding an NBN – doesn't it have to pick a broadband technology? What principles apply?
Aim for competition at all costs acting to keep competitors afloat	Accept there may be a new monopoly charter for broadband infrastructure	Does this include active rather than passive infrastructure (e.g. bitstream or lit fibre)?
Consider service competition inferior to infrastructure competition	Establish facilities sharing obligations on SMP operators	Fair terms given investment risk
Insist on applying costing methods (e.g. LRIC) developed for sunk cost networks	Reward first mover risk in a forward-looking fully allocated cost approach	A 96-core (minimum scale) fibre in which the owner needs 8 cores and another operator seeks 2 cores – what is the access price?

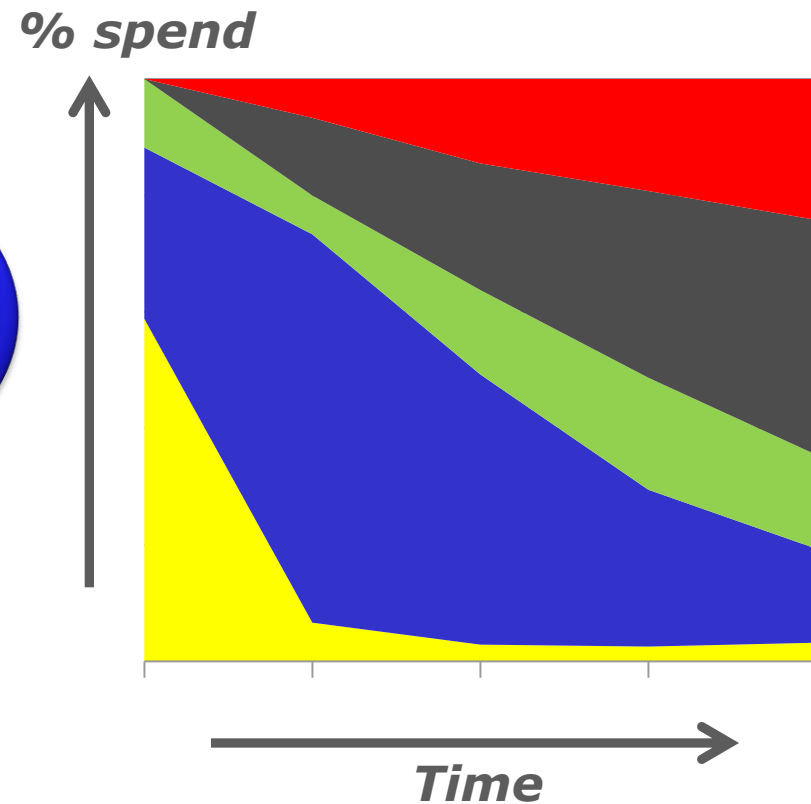
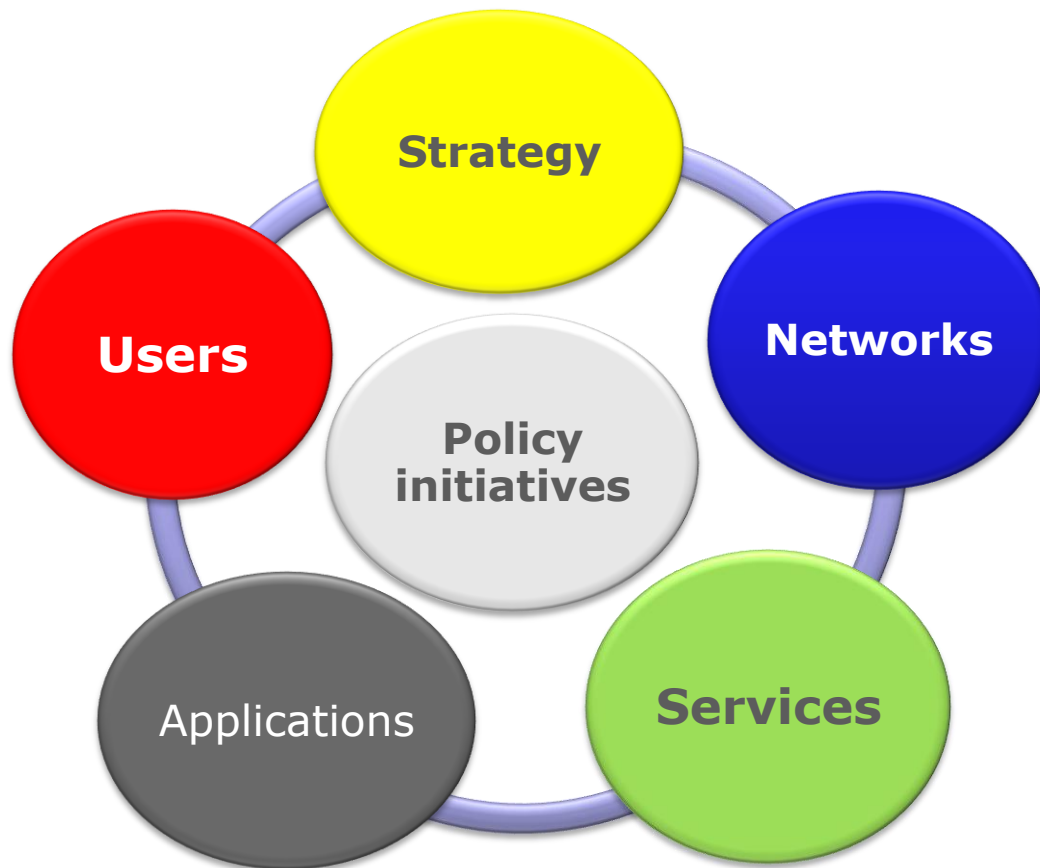
Is Open Access to transport (“net neutrality”) necessary or desirable?

- May not currently be an issue in developing countries where demand is low (*de facto* net neutrality)
- Traffic management is inevitable as demand outstrips supply
- Standard solution is to build more capacity, but long lead time and costs may exceed revenues
- Rationing approaches:
 - First come first served
 - Equal distribution
 - Prioritisation of certain traffic streams.
- “Net neutrality” = rights of all users to equal status and service quality
- It makes economic sense to offer different access terms to meet different end-user service requirements and value propositions:
 - Use propensity to pay as a means of raising funds for extension of coverage and expansion of capacity.

Is Open Access regulation important for digital applications and content?

- Where there is effective regulation of infrastructure, open access to content is not required
- Regulation at this level passes none of the three essential criteria for ex-ante regulation:
 - High barriers to entry
 - Lack of a trend towards competition behind entry barriers
 - Characteristics such that ex-post resolution is insufficient.
- Content regulation is primarily about national cultural, security and censorship goals
- Regulators should create an environment in which digital content and applications can prosper (working with government)
 - Can help reduce the need for public funding of the NBN

Regulatory initiatives for broadband become content-focussed over time



For illustration purposes only.

Sample policy initiatives from Malaysia

	Promotion	Universalisation
Strategy	FID 5-year plan	MyICMS886
Network	PPP for High Speed Broadband (>10Mbit/s)	Broadband (2Mbit/s) to the General Population (BBGP)
Services	Community broadband centres (CBC) and libraries	Mini CBC; affordable rural broadband packages
Applications	E-government, e-learning, e-healthcare	MY Creative Content
Users	ICT training to the public	1Malaysia Netbook programme

Data sourced from MCMC at: <http://academy.itu.int/moodle/mod/resource/view.php?id=16505>

Conclusions (1)

- Open access is critical for facilities which have the characteristics of economic bottlenecks
- In the digital economy the scale and scope of investment in national broadband networks means that these resources cannot be viably replicated, so open access is necessary
- There is further justification for open access here public funds are committed to broadband infrastructure investment to maximise the economic benefits across as broad a base of users and suppliers as possible
- The terms of open access must allow fair and equivalent access for all digital service providers, but they must also provide a reasonable rate of return for the infrastructure owner and manager.

Conclusions (2)

- Open access is not an economic requirement in the transport and content layers: competition can thrive in these layers if open access is ensured at the infrastructure level
- There remains an active role for policy makers and regulators, to create the environment in which dynamic digital content creation, dissemination and maintenance can thrive
- Countries with mandated open access to broadband infrastructure supported by Government-led initiatives to stimulate demand will be in the vanguard of the digital economy
- All of the above applies with greatest force in developing economies where competitive markets are more fragile and their future success is dependent on supportive policy and good governance.



*Thank you.
Discussion.*

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