

'Regulating NGAs: European experience'

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Next Generation Networks

Core

- uses IP
- combines PSTN and specialised networks
- cost-reducing
- few regulatory problems – enhances competition

Access

- versatile; delivers many services
- high speed
- other characteristics (symmetry, reliability, latency)

What counts as an NGA?

They are high speed broadband networks

Including,

- replacement for copper network
 - fibre to the node/cabinet
 - fibre to the home/premises (P2P, G-PON, multi-fibre)
- upgraded cable networks, eg. DOCSIS 3.0
- high speed fixed or mobile wireless services (3G, Wi-Max, LTE)?
- *Historically, mobile speeds are 10% of fixed level and 4 years behind*

The legacy of current generation broadband

- 110+ million fixed subscribers in EU
- 15% of these cable
- DSL subscribers split equally between incumbent and entrants
- More than half of entrants use unbundled loops (problem as NGAs' architecture sometimes does not accommodate LLU)
- In some countries a growing number of broadband subscribers use wireless (44% in Austria, 25% in Ireland)

What Triggers NGA Investment?

- ▶ Competitive rivalry
- ▶ Certain regulatory deal offering adequate (non truncated) return.

The role of competition in NGA investment:

Under monopoly:

return = extra revenue + operational cost savings –
annualised capital costs + scrap value of copper

Under competition:

As above:

- + revenue captured from competitors
- + revenue defended from competitors

Some evidence on access policies

- ▶ Grajek and Roller(2009): end-to-end competition encourages investment by fixed line incumbents and access regulation discourages it; access regulation discourages investment by individual entrants, but encourages it by all entrants.
- ▶ Wallsten and Hausladen (RNE, March 2009): high levels of LLU are accompanied by low levels of alternative infrastructure; fibre broadband connections are lower where unbundled lines are more numerous; when entrants provide broadband over their own facilities, they are more likely to build their own fibre.
- ▶ Harvard review (2010) for FCC favourable to access regulation, but results widely disputed.

Different geographies, different remedies

3 areas:

- Potentially competitive
- Non-competitive
- Non-commercial

Potentially competitive areas

How many competitors are enough to justify forbearance?

Precedents include

- 2 fixed + wireless (US)
- 4 fixed (UK wholesale broadband notification)
- Commission approach to multi-fibre (see below)

Depends on market stage: fierce competition may erupt for new customers, but risk of long term collusion is high.

Is it safe to abandon access regulation entirely, as in the US?

If not, access regulation is needed

Regulatory solutions in commercial but non-competitive areas

- ▶ Incumbents must be bought out of the option of delay by a regulatory concession, such as:
 - ▶ a higher rate of return
 - ▶ a different pricing rule
 - ▶ **access only to more 'challenging' access products**
 - ▶ restricted or delayed availability of high speed access products

Regulation: The Commission's (2nd) Draft Recommendation on Regulating NGAs

Identifies duct and other forms of passive access

Maintains cost-based prices for existing assets

Allows risk premium for new assets (is this enough?)

Promotes co-operation via multi-fibre and other forms of
co-investment

Relaxed approach to State aids for NGAs outlined in
accompanying Commission paper.

Alternative NRA views of the NGA elephant

1. The Netherlands: cost-plus regulation of KPN/Reggiefiber combined entity to provide FTTP, in urban/subscriber areas, on top of its FTTN roll-out.
2. France: multi-fibre in large buildings, and duct access, will produce end-to-end competition
3. Spain: cost-oriented bitstream up to 30 Mbps. Access to ducts and sub-loop at cost for FTTN. No regulation of FTTP.
4. UK: mandatory access to active and passive elements, but no explicit price control on bitstream.

The elephant (II)

4. Switzerland: Swisscom, in competition with cable and utility companies, proposes an expensive 4-fibre co-operative FTTH roll-out, on top of its FTTN plans.
5. Finland: fibre backbone up to 100 Mbps to within 2 kms of 99% of homes by 2015. Local communities decide how to reach core fibre network – FTTH or LTE.
6. Sweden: municipal electricity companies provide competition, but access imposed on incumbent.
7. Italy: current plans, in separated environment for TI , not fully developed; a 3-firm co-investment plan was recently announced.

Private co-investment options

- ▶ Vertical: retailers co-invest in networks, as means of ameliorating hold-up problem; difficult to finance
- ▶ Horizontal: lead investor leases, as in Swisscom solution (see above), or joint venture (eg. 3 operators in Italy); problem of conflicting interests.

Government participation

- ▶ Has the capacity to solve the timing dilemma
- ▶ **The 'Southern hemisphere model' is to have a comprehensive national broadband plan, which in Australia involves assimilating the incumbent in a public operator or supplanting it in a competitive struggle**
- ▶ **The 'Northern hemisphere' model is to mobilise limited central or local government funds to assist or finance local operators.**

NGAs and the separation debate .

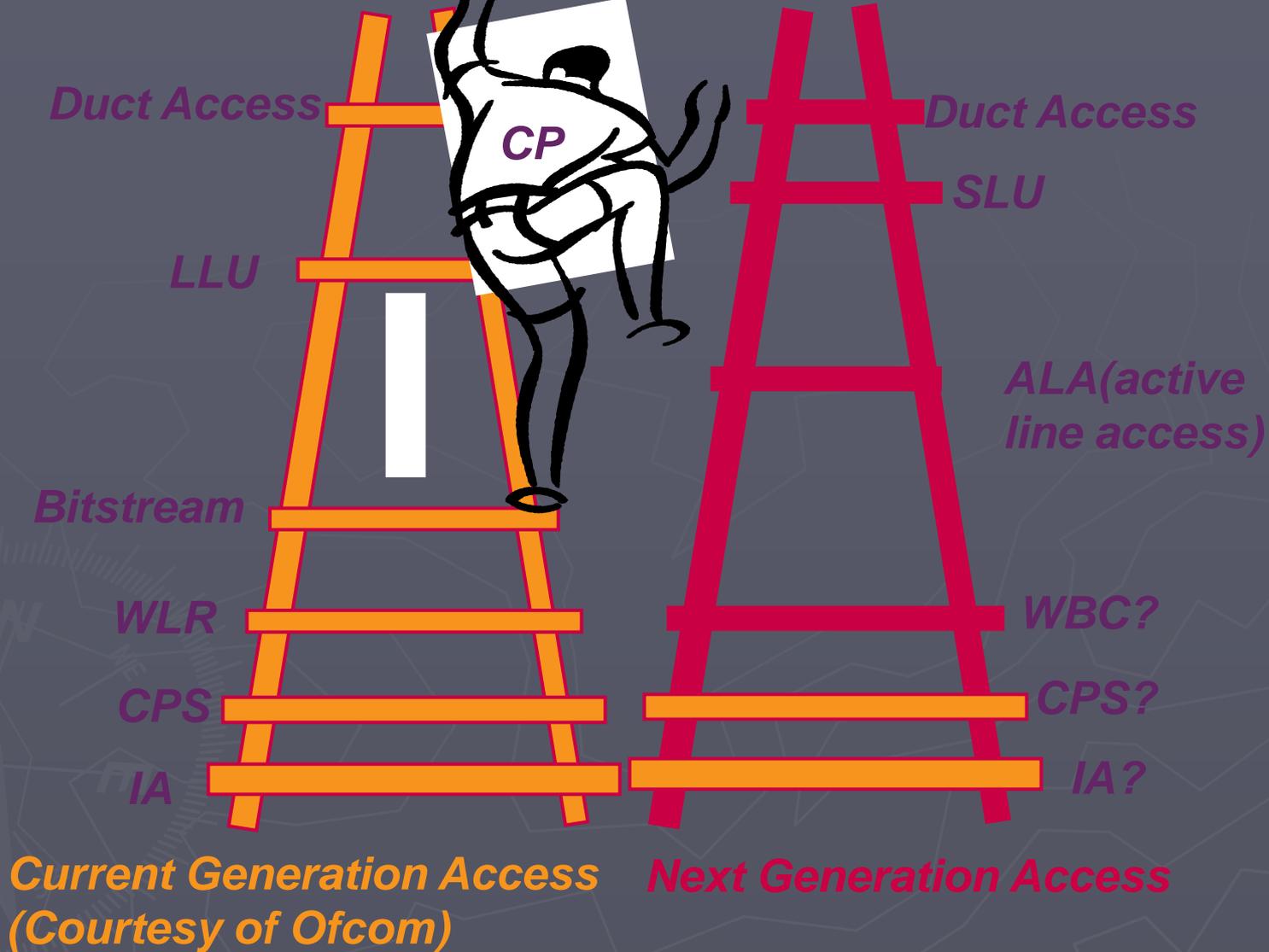
Pro separation

- Makes a fresh start and counters risk of non-price discrimination
- Network can be designed to deliver separation
- Necessary in govt. finance and some co-investment options

Anti separation

- Costly
- Cuts access provider off from end users
- Unnecessary if NGA is designed transparently
- Makes investment co-ordination difficult

Switching on and turning off? The LLU legacy



Conclusions

- ▶ Access regulation is probably needed everywhere (US forbearance is not desirable)
- ▶ Some countries betting on access to passive assets
- ▶ Private co-investment models have advantages, but risk being high cost and freezing competition
- ▶ Temporary abatement of cost-based access normally required to encourage investment
- ▶ Public sector investment can bring investment forward, but national plans can be unaffordable and difficult.

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