The regulation of next generation networks

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NGN – levels of demand?

- Enormous pressure from equipment manufacturers
- Considerable attention from the operators
  - really about next generation revenues
  - cautious on increased capital expenditure
- Some interest from regulators
- However, very little evidence of interest from:
  - residential customers:
    - multiple play in developed countries
    - 2G wireless in less developed countries
  - business customers:
    - IP-VPNs
    - nomadic Wi-Fi and ADSL

An enabling environment

- Setting the correct broad parameters
- Ensuring competition
- Encouraging investment
- Eliminating bottlenecks
- Allowing operators to take technological risks:
  - there may not be customers!
  - the next technology will arrive tomorrow
- Removing inappropriate obstacles:
  - but not vital and justified regulations
- Balancing interests of:
  - asset-based carriers
  - service providers
- Remembering this is all for the benefit of end-users

Second Network Operator

- One of the early models for liberalisation
  - Mercury and the figure of eight
- Now obsolete and discredited
- Failed to deliver the promised goals:
  - especially in local access networks
- Instead, success comes from opening markets to multiple (types of) players

Licensing flexibility

- Removing conditions that block the supply of services to customers
- Notably, allowing cellular wireless operators into:
  - fixed network services
  - international gateways
- Technology neutrality in spectrum licences
- Makes possible, but does not require:
  - CDMA on 450 MHz
  - UMTS on 900 MHz
- Not allowing 3GSM operators to take control of spectrum for DVB-H, WiMAX, etc.

Interconnection

- WTO commitments: Interconnection at any technically feasible point on the network at cost-oriented prices
- Technically simple voice interconnection
- However, complex payment issues:
  - international settlements
  - mobile termination rates
- Separate Internet model:
  - peering
  - transit
- Developing countries:
  - have taken a very long time to engage with this model
  - many have still to regulate national and international leased lines as essential inputs

Access on fixed networks

- Original policies were conceived for voice
- Extended to broadband:
  - the very long story of unbundling
- A pattern of embittered resistance by incumbent operators
- NGN re-opens the debate:
  - no quick or easy solution
  - points of presence may change dramatically
  - could take years and damaged competition

Access on mobile networks

- Operators oppose regulated access:
  - they claim markets are competitive
  - however, market power is highly concentrated
- Very few examples of negotiated access
- MNOs prefer to re-sell content to "their" customers
- Oligopolistic control of access network

> The obvious exception is the USA, where MVNO and cable/mobile deals have been struck.

Leased lines – tail circuits

- An ancient problem
- Still an *essential facility* today, for example, in:
  - Singapore
  - United Kingdom
  - United States of America
- Alternative providers have not yet managed to build significant local access networks
- No reason to expect this to change
- No reason it should be easier elsewhere

Collocation

- Rivals need to collocate equipment
- They need access to install and maintain
- They need space
- They need electricity (with back-up)
- They may need:
  - roof space for microwave antennae
  - street cabinets
- The equipment of all parties needs to be secure

Price regulation

- Benchmarking with other countries
- Selecting an appropriate model:
  - historic costs
  - Long Run Incremental Costs (LRIC)
- Identifying data requirements
- Obtaining pricing data from the operator
- Validating the data and the model
- Revising the model

Next generation regulation

- Regulation is characterised by:
  - enormous complexity
  - Aggressive Legal Manuoevring (ALM)
  - some very complex hypothetical economics
- What do we know works:
  - benchmarking
  - opening markets
  - technological neutrality
  - merger control

Degrees of separation

- Traditional forms of separation:
  - accounting separation
  - structural separation
- A new hybrid form of "operational separation"
- The United Kingdom developed this:
  - highly complex and poorly understood
  - application of competition law (Enterprise Act 2002)
  - unlikely to be easily applied elsewhere
- Appears very hard to justify
- May well remove the incentive for further investments in the local access network!

Consultation

- Preparing an analytical document
- Setting out the options
- Involving the general public
- Publishing a draft measure
- Making a reasoned case for the measure
- Reviewing the effects after a few years

How do you get anyone other than operators to participate?

Conclusions

- NGN is subject to considerable hype
- There is a tendency to conflate many current regulatory issues into NGN
- Instead, we need to sort out what is required to allow NGNs to be deployed:
  - not to over-encourage
  - not to damage competition
- We need to have a set of proven next generation regulatory tools

Issues

- How do we ensure future investment?
- How do we ensure competition?
- How do we achieve simplicity?
- Is 3G-LTE an NGN or is it 4G or 5G?
- Making sure we are ready for the next-NGN

Thank you

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