

**Rural/remote broadband access  
and its implications for the future of Universal Service**

OECD Porto  
26 October 2004

•  
Analysis  
•

# Possible reasons for telephony USO ?

- There are benefits to all if voice telephony is ubiquitous
  - Externalities in usefulness of telephony to everyone else
  - Some services can be most effectively provided by telephone
    - Access to emergency services
- Social exclusion would result if telephony was unaffordable
- Lack of rural telephony would drive urbanisation (e.g. via jobs)
- USO regimes were established in an era where the state ran the telephone system
  - Costs were low enough to be “ignored”
- USO ensured that newly privatised companies did not withdraw from uneconomic areas or customers

# Do any of these arguments hold for narrowband internet ?

- There are benefits to all if narrowband internet is ubiquitous
  - Externalities in usefulness of narrowband internet to everyone else
    - Email / IM
  - Some services can be most cost-effectively provided by narrowband internet
    - Email / IM
    - Certain transactional e-government services (licences, payments, tax filing)
- Social exclusion would result if narrowband internet was unaffordable
  - Homework at school
- Lack of rural narrowband internet would drive urbanisation (e.g. via jobs)
- We do have a rural narrowband internet USO

# Do any of these arguments hold for broadband ?

- There are benefits to all if broadband is ubiquitous
  - Externalities in usefulness of broadband to everyone else
    - Videotelephony
  - Some services can be most effectively provided by broadband
    - Telemedicine
    - Certain other e-government services ?
- Social exclusion would result if broadband was unaffordable
- Lack of rural broadband would drive urbanisation (e.g. via jobs)

# Why might broadband universal service become an issue ?

- Urbanisation and social exclusion arguments are not very strong yet, but they are politically resonant
  - It is unfashionable to admit that you can do \*a lot\* with narrowband and the postal system
  - Broadband is a process, so there is always someone to envy
- Rural areas are always served last as economies of density are very strong in access networks
  - High but not total coverage is an invitation to solve the coverage problem
  - High take-up levels make solutions more urgent (but more tractable)

# Voice over IP is important, but not yet a justification for broadband USO

- If we rely on VoIP we rely on broadband
  - Customers with no broadband will have less competitive markets
  - Implicitly, rural prices will be higher and choice lower
- We are not yet reliant on VoIP to keep incumbent telephony access services in check
  - Shared loop access means telephony is still there
  - Carrier select and CPS can provide alternative means of cheaper calls
- Regulatory and/or technical barriers might keep VoIP out of the access to “emergency services” markets

# Could broadband coverage have unforeseen effects on existing USO ?

- Loss of PSTN lines to mobile and broadband/VoIP could increase PSTN access line costs
  - However, DSL does not have the same impact as cable or FWA, due to its shared reliance on the copper loop, although
    - second lines disappear
    - Multi-line businesses buy SDSL instead of PR-ISDN
  - As DSL is currently the remote coverage technology of choice, the impact is dominated by Mobile substitution
- This causes a vicious circle driving customers away from PSTN and increasing the net costs of USO
  - Is there a need for USO in areas where there is vigorous competition from mobile and broadband ?
  - Can the net cost continue to be “ignored” ?

# What then should be our policy ?

- Encourage commercial deployment
  - BTs coverage plans show that even rural areas of developed countries are feasible and economic
- Encourage competition
- Encourage deployment of technologies which lower costs in rural areas
- Consider broadband interventions with few distortions
- Ensure a level regulatory playing field for VoIP
- Monitor the impact of new developments on the cost of USO

James Allen

[james.allen@analysys.com](mailto:james.allen@analysys.com)

Analysys Consulting Limited

24 Castle St, Cambridge

CB3 0AJ

[www.analysys.com](http://www.analysys.com)