

International Telecommunication Union  
Workshop on Promoting Broadband  
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Efficient Broadband Markets

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# What is Necessary for Broadband to Succeed?

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- Consumer demand
- Availability of service

# How can service be made available at affordable prices?

- Real competition
  - Or at least the threat of competition
    - Lessons from Korea, Canada, Denmark, Belgium, USA
- Separation (divestiture) of telephony and cable TV network operations
- Incentives for broadband deployment
  - Or at least remove disincentives
- Support for appropriate loop length and technical innovations

# Efficient Markets Require...

- Appropriate incumbent regulation
  - WTO Telecoms Treaty Regulatory Reference Paper requires regulation of major suppliers
- Competitor access to the last mile
  - And therefore access to end-users
- Availability of high speed transport
  - Leased line (private line) provision

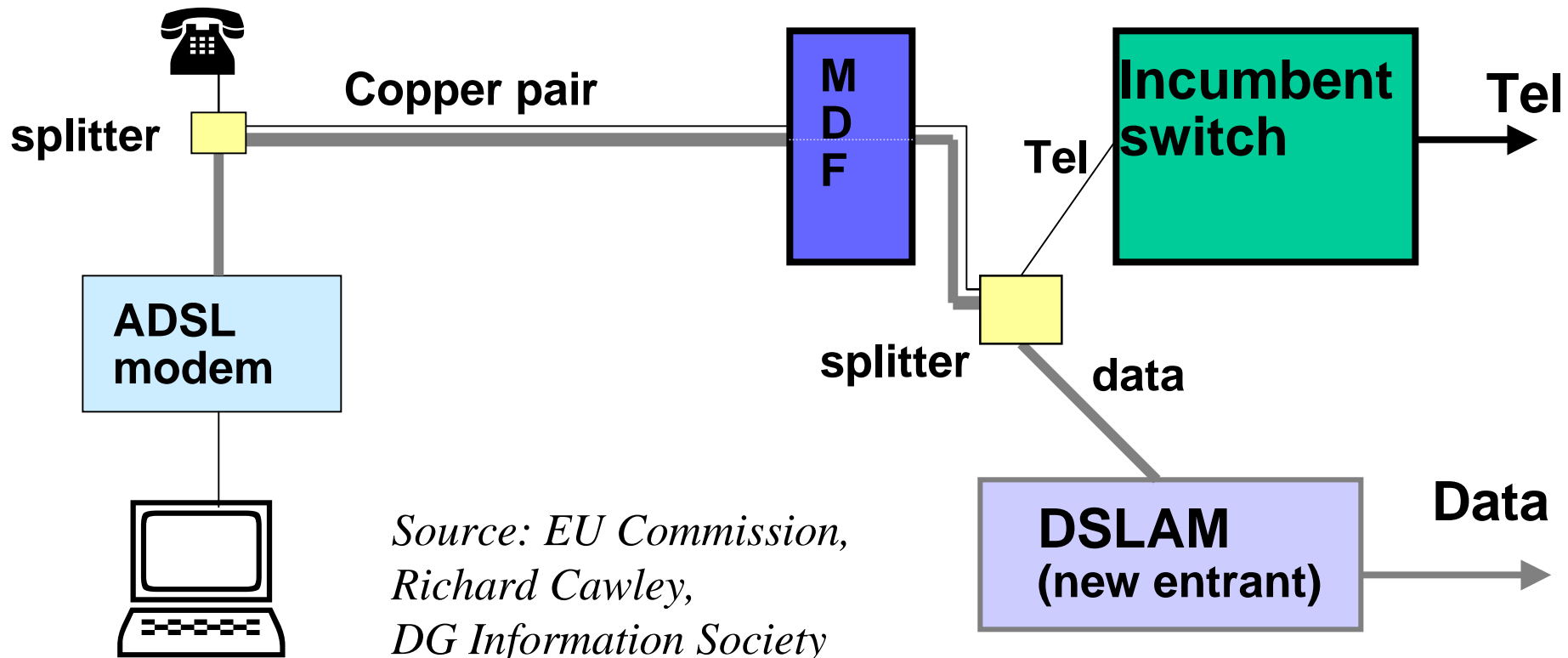
# Broadband Paths

- CATV
  - Cable modem service
- DSL
  - Telephony copper loops
- Fibre to the end-user

# Broadband Paths (2)

- Wireless
  - 3G mobile telephony
  - Satellite
  - Wi-Fi
    - IEEE 802.11b
- Other means
  - Electric power lines

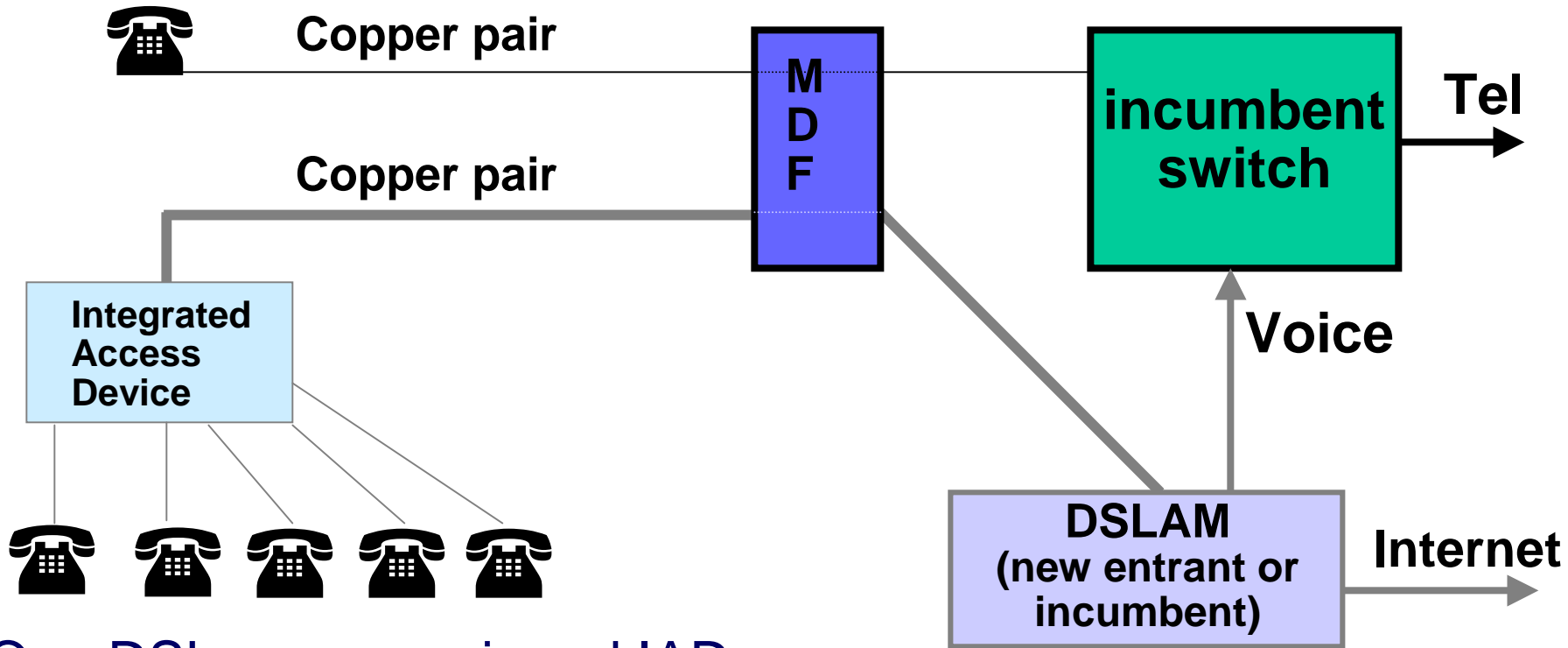
# Telephony/DSL Shared Access



*Source: EU Commission,  
Richard Cawley,  
DG Information Society*

# Voice Over DSL (VODSL)

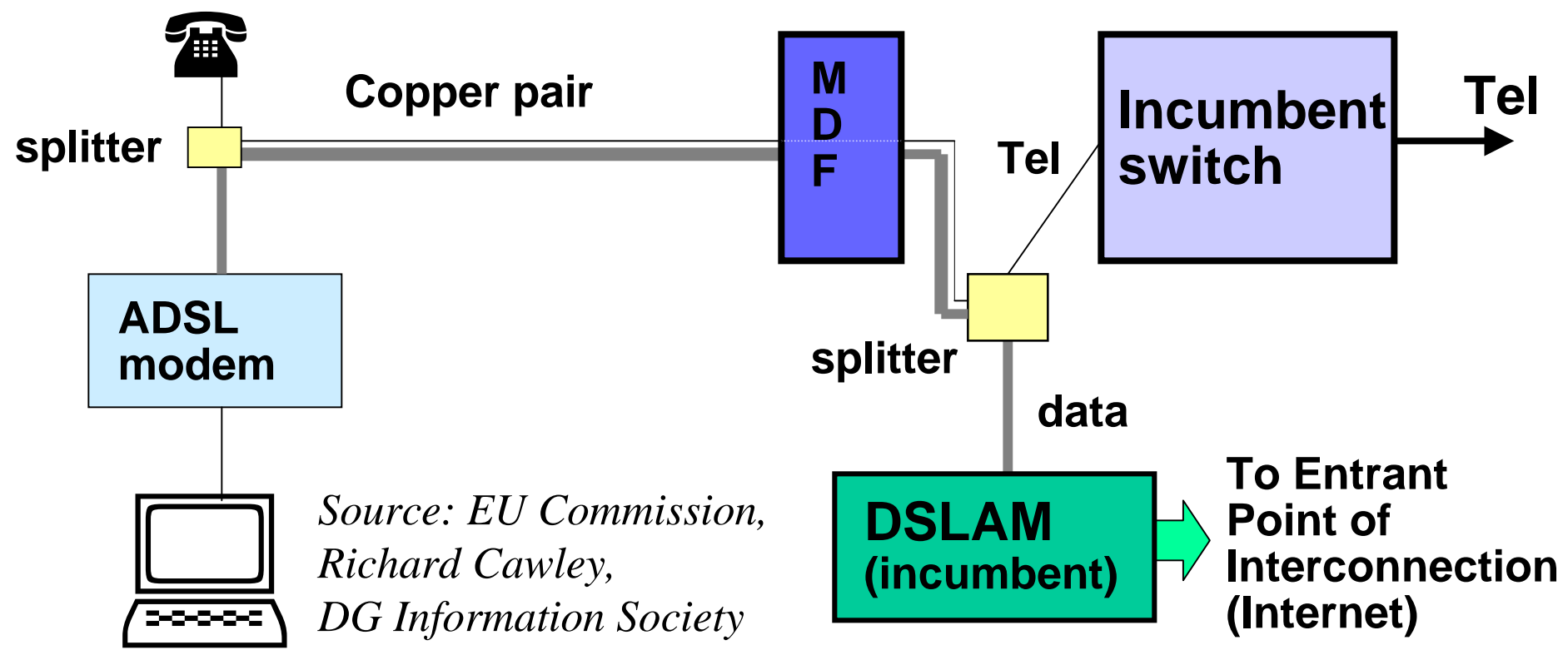
## Using DSL for Multiple Voice Lines



One DSL copper pair and IAD can support multiple voice lines



# Incumbent High Speed Bit Stream Service



*Source: EU Commission,  
Richard Cawley,  
DG Information Society*

# Unbundling for VODSL

- Equipment providers claim VODSL can support up to 24 voice lines per DSL line
- Deregulate/divest inside wiring
- Allow resale
- Access to numbering resources

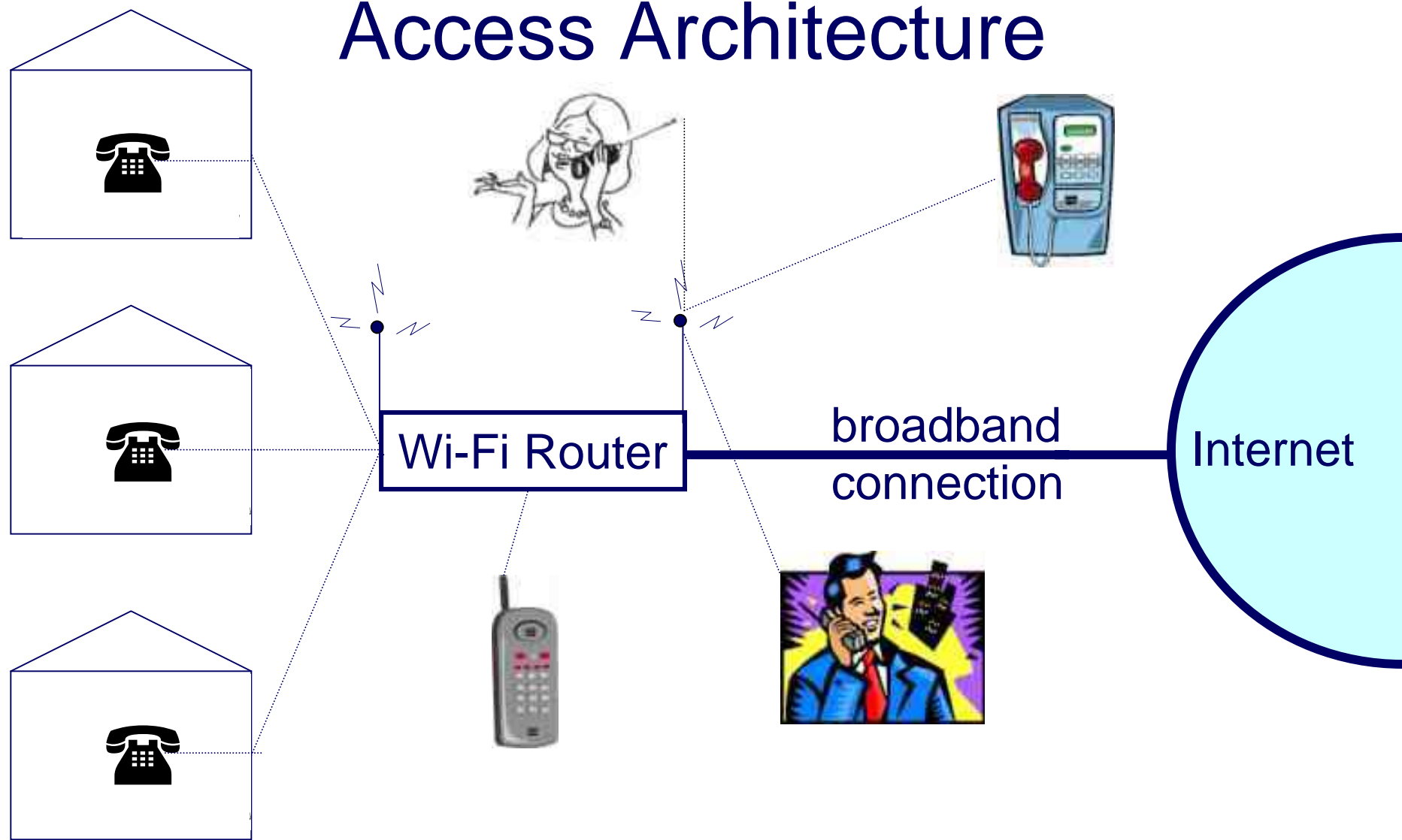
# Unbundling for VODSL (2)

- Wholesale rates
  - Loop, co-location and transport prices
    - Avoidance of price squeeze
    - Major supplier non-discrimination required by WTO Telecoms Treaty Regulatory Reference Paper
  - Bit-stream access
- Neighborhood associations or small business as telcos

# Universal Service Obligations and Funds

- Use USO/funds or development funds to establish micro-telcos
- Use vouchers or telco-credits to give consumers real choice

# Wireless (Wi-Fi) Access Architecture



# Conclusion

- Competitive markets ensured by regulation will lead to speediest and most efficient broadband deployment
- Innovative uses of broadband may assist telecommunications development and deployment

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