

Pacific Telecommunications Council 2001

Honolulu, Hawaii, January 14-18, 2000

Analog Switch-Off

Spectrum Auctions in the Digital Age



Dr. Andreas Grünwald

Institute for Information, Telecommunications
and Media Law (ITM)

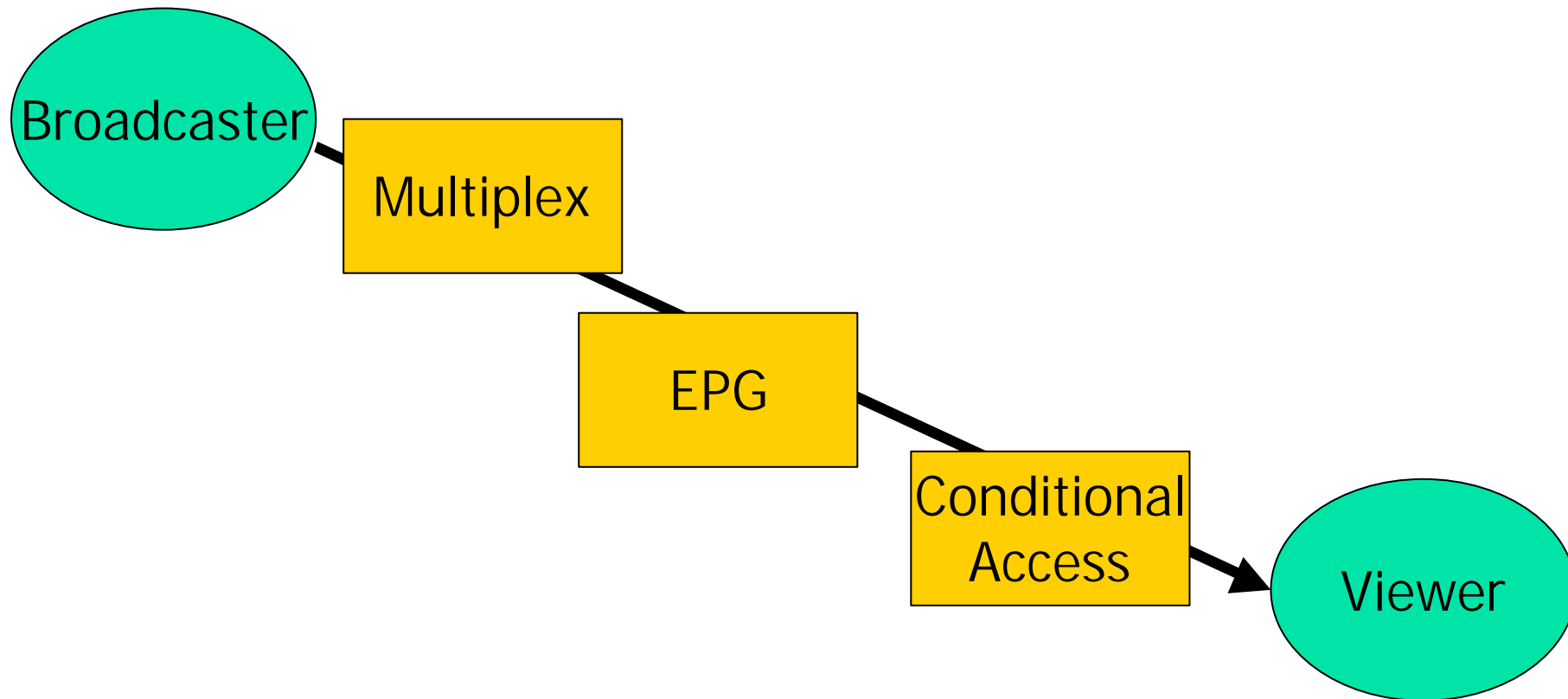
University of Münster, Germany



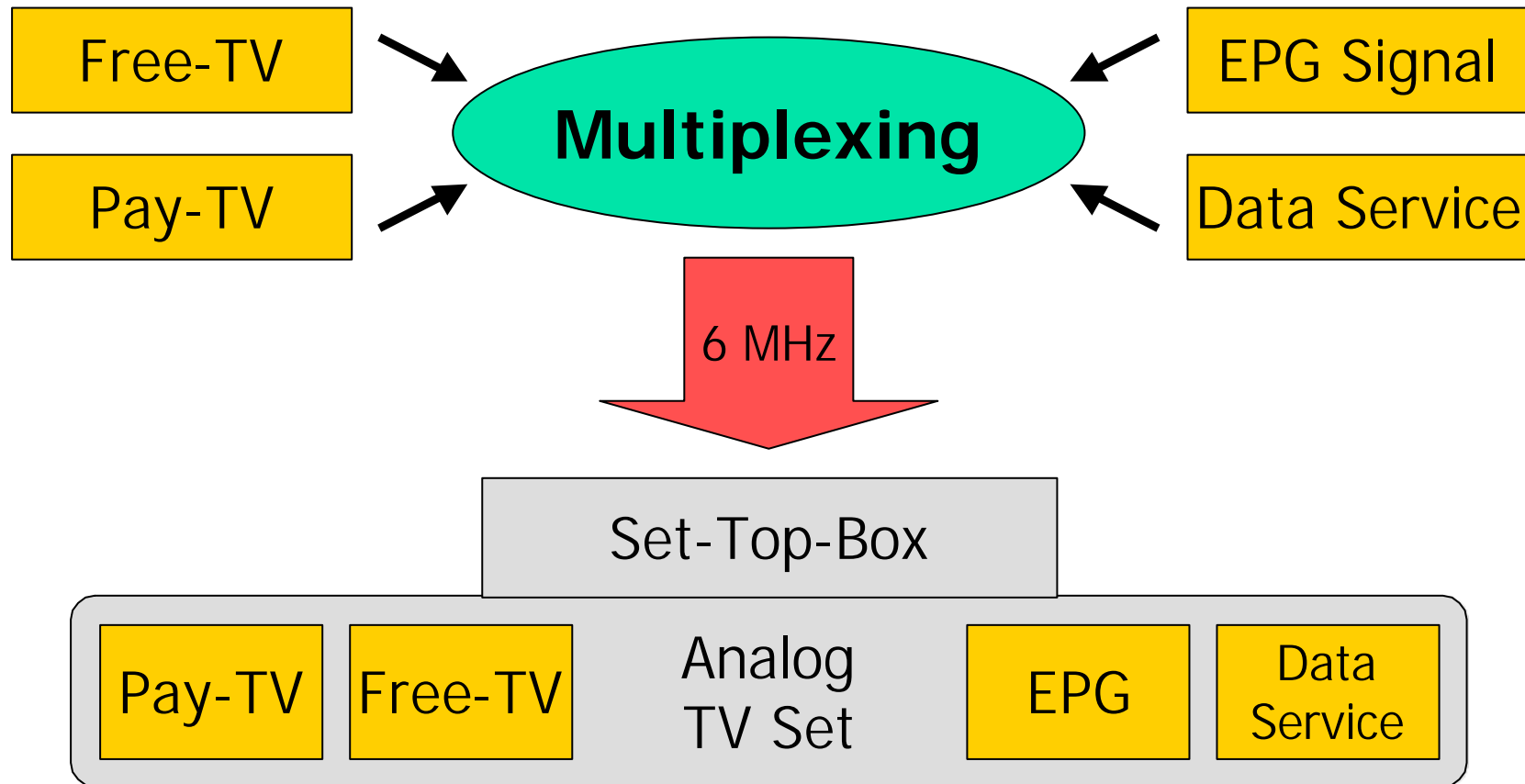
Outline

- Television's Turn to Digital
 - Digital Television Technologies
 - Advantages and Disadvantages
- Towards the Analog Switch-Off
 - The Need for Regulation
 - Current Regulatory Efforts
- The Case of Auctions
 - Use of Auctions to Regulate the Radio Spectrum
 - Advantages and Disadvantage

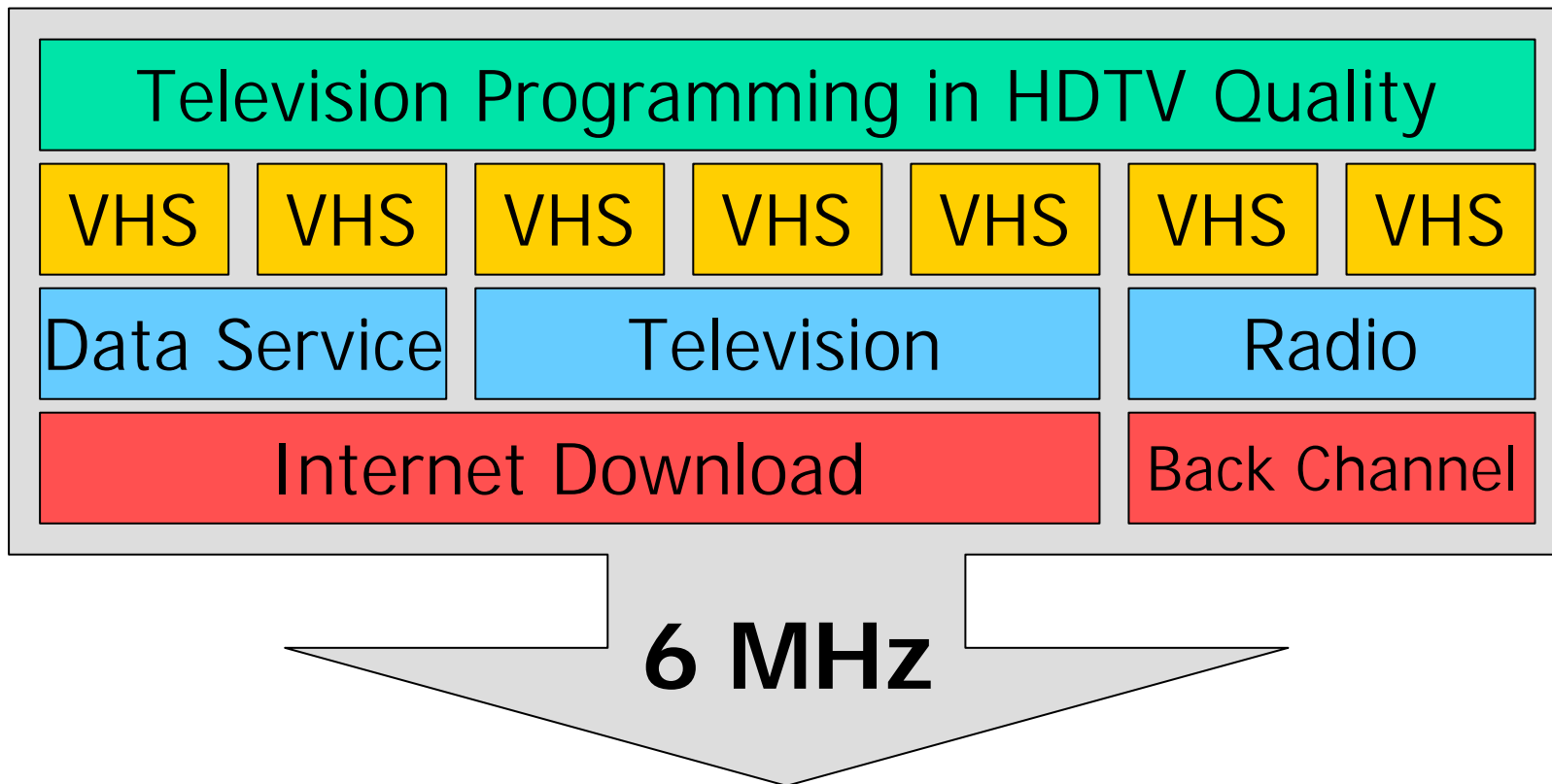
Digital Television (1)



Digital Television (2)



Digital Television (3)





Digital Television (4)

- Disadvantages of DTV
 - Technological difficulties
 - Network costs
 - Replacement of analog TV sets by digital equipment
 - Consumer costs



Digital Television (5)

- Advantages of DTV
 - Spectrum Efficiency
 - Enhanced Distribution Models
 - Convergence
 - „T-Commerce“



Analog Switch-Off (1)

- The Need for Regulation
 - Scarce Terrestrial Frequencies
 - Limited Simulcast Capacities
- Regulatory Goals
 - Ensuring a smooth transition
 - Establishing a clear legal framework
 - Fostering the market development



Analog Switch-Off (2)

- Australia

- Mid 2000 to Jan 2001: DTV field testings
- 1 Jan 2001: DTV transmission starts in metropolitan areas
- Until 1 Jan 2004: regional areas to follow
- From 1 Jan 2003: HDTV quotas become effective
- 2008: Switch-off and return of additional channels



Analog Switch-Off (4)

- The U.S. Scenario
 - Analog Switch-Off in 2006, if at least 85% of households have gone digital
 - 1997: Every existing broadcaster is given an extra 6 MHz of spectrum
 - Limited Simulcast Requirements
 - 2006: Return of additional frequencies
 - 03/2001: FCC auctions analog spectrum



Spectrum Auctions (1)

- New Zealand
 - Radiocommunications Act of 1989
 - Property rights in radio spectrum
 - Management rights
 - Licenses
 - „Vickery Auction“
 - Sealed Bid
 - Second Price



Spectrum Auctions (2)

- United States
 - FCC has auctioning power since 1993
 - Auctioning becomes mandatory for radio and television frequencies in 1997
 - C-Block Auction in 1996
 - Entrepreneurs Block
 - Followed by controversial discussion
 - Over \$ 20 billion raised thus far



Spectrum Auctions (3)

- Advantages
 - Speed
 - Transparency
 - Promoting Efficient, High-Value Use
 - Preserving the Public Interest (?)
- Disadvantages
 - Indifferent Criteria
 - High Financial Investments Required



Conclusion

- DTV to Replace Analog Broadcasting
- Analog Switch-Off Requirements:
 - Detailed Spectrum Planning to Overcome Scarcity Problems
 - Consistent Legal Framework to Ensure a Smooth and Quick Transition
- Use of Spectrum Auctions Should be Considered as Part of Switch-Off Scenario



Further Information at ...

www.tkr-newsletter.de

(International Mailinglist)

www.switch-off.com

gruenwald@digital-law.net