Questions & Answers – Internet Economics

The first question:

Didn’t we think that the Internet is free?

– Well, sure, we have a bridge to the future to be sold!

The second question:

What is “Internet” and what should be accounted for?

– It’s a net of networks and it depends on who is counting.

The third question:

Who should pay the costs involved?

– What are you willing to pay? What will your customers be willing to pay? What will somebody else be willing to pay?

Additional Questions on Internet Economics

- Electronic Commerce ...
- Internet Commerce ...
- eCommerce ...
- eBusiness ...
- Internet Economics ...
- Net Economics ...
- Netnomics ...
- Webonomics ...

How to make money on the Net, the Internet?

Starting Point – Yesterday’s Internet

Problems – Next Generation Internet

Inventions in Telecommunications

- Oscillating needle telegraph experiments
- Early telegraphy (Morse code dots and dashes)
- Printing telegraph systems
- Baudot multiplex telegraph (6 machines on one line)
- First telephone channels constructed
- First carrier telephony
- Carrier telephony carries 12 voice channels on wire
- 60 voice channels over coaxial cable
- 600 voice channels over cable (T3) and microwave
- 3600 voice channels over cable and microwave
- 32000 voice channels over cable
- 108000 voice channels over cable
- Multimode optical fiber 45 Mbit/s
- Multimode optical fiber 140 Mbit/s
- Monomode optical fiber 555 Mbit/s
- Monomode optical fiber 555 Mbit/s (10 Gbit/s)
- Multimode optical fiber 155 Mbit/s
- Monomode optical fiber 155 Mbit/s
- DWDM optical fiber 3,2 Tbit/s
- DWDM optical fiber 3,2 Tbit/s

Year

- 1850
- 1860
- 1870
- 1880
- 1890
- 1900
- 1910
- 1920
- 1930
- 1940
- 1950
- 1960
- 1970
- 1980
- 1990
- 2000
- 2001

Bandwidth (bit/s)
Use of Protocols

IP is the only protocol that matters anymore!

Internet Interconnection Regimes

Source: Gartner Group

IP is the only protocol that matters anymore!

Pricing Issues in the ISP Business

1. Pricing Retail Internet Access
2. Interconnection Pricing
3. Settlements and Interconnection Pricing
4. Information Goods, Content, Internet Pricing

Peer-to-peer Systems

Scenario
- Peers (P) store objects (O) with names
- Peers want to lookup objects using their names
- Peers communicate via virtual links (L)

Issues:
- Model P2P incentives, introduce trust, and determine reputation

Electronic Payments

- Major factor: ability to buy, sell, and advertise goods and services to customers and consumers.
- Concern: need for low friction commerce transactions allowing quality and ease of use for consumers.
- Key requirements:
  - Easily customizable
  - Usable to build multiple payment applications:
    - Wireless payments
    - Person-to-person payments
    - Micro payments
  - Trusted and with configurable security degrees
  - Technology-wise up-to-date and simple

Evolution M-Commerce, 2002 – 2010, Europe

Usage (Penetration Rate) vs. UMTS Market Growth

Source: H+P, PwC
Basics of the IntEco Seminar

Introduction: Thursday, October 30, 2003
  – ETZ, F91, 13.15 – 15.00 hours.

Seminar: Thursdays starting from November 13, 2003
  – ETZ, F91, 13.15 – 15.00 hours.

Electronic Information:
  – News and possible updates.

Seminar Organization

Overview of Topics and Dates

| Talk 1: Metering and Accounting — Die Abrechnungsgrundlage. |
| Talk 2: Prepaid in mobilen Netzen – heute und morgen. |
| Talk 3: Accounting for Peer-to-Peer Services. |
| Talk 4: Impact of Mobile IP and IPv6 to e/m-Commerce. |
| Elenor Rosendahl |
| Talk 5: Analysis of Reputation Mechanisms in Peer-to-Peer Systems. |
| Marcel Rieser |
| Jan 8, 2003. |
| Talk 7: Service Differentiation Through Pricing in Peer-to-Peer Networks. |
| Michael Müller |
| Talk 8: Mobile Payments. |
| Markus Kalleola |
| Talk 10: Inhalte und Inhaltsanbieter im Internet. |

IntEco Topics

Investigation of two areas of the Internet Economy, relevant for the commercialization of the Internet:
  – Technology and services, foundations for economics:
    • Metering and Accounting
    • Accounting for Peer-to-peer
    • Reputation Mechanisms in Peer-to-peer
    • Mobile Payments
    • The Semantic Web
  – Economics and their technology implementation:
    • Prepaid Schemes in Mobile Environments
    • Impact of Mobile IP/IPv6 on E-/M-Commerce
    • The future of Open Source and Co
    • Service Differentiation through Pricing
    • Content and Content Providers

Important Dates and Information

Contact your supervisor by e-mail very soon after today.
Hand-in a draft text version to supervisor latest 14 days before your talk.
Optional hand-in of slides min. of 3 days before talk.
E-mail addresses suitable for all supervisors:
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