

# Net Neutrality – Revenge of the Telcos?

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## Bitten anyone today?



## What this talk isn't about

- Competition law
  - Except a bit on cartels
- Abuse of a dominant position
  - Except how it affects BT
- Technical interfaces
  - Unless you count PHORM
- Lessigian pronouncements
  - About end-to-end principles
- Fr'dom
  - Whose freedom of speech? US debate

## What you will learn?

- Net neutrality is about convergence
  - Old argument and players, new issue
- NN is going to be different in Europe
  - US debate focuses on monopoly power
- NN is already in place in Japan
  - Where it is a key plank of Next generation Access
- NN is about politics not economics
  - Who gets what and how?
- NN is NOT going away
  - Its just beginning – all Internet filtering affects NN

## Net neutrality is about convergence

- Old argument and players, new issue
- Argument: who wins?
- Telcos:
  - add value through network management and Quality of Service
- Content:
  - add value through network pull, advertising and micropayment
- Arguments rehearsed from:
  - 1950s: spectrum use for broadcast
  - 1970s/1980s: cable TV
  - 1990s: satellite (cf. Sky and live football)
  - 2000s: mobile and NOW Internet

## Net Neutrality in the US

- US debate focuses on monopoly power
  - Madison River (2005) Vonage VOIP blocking by telco
- Results from overturning of
  - Communications Deregulation (sic) Act 1996
  - in Trinko/BrandX decisions 2004/5
- As a result, Title II authority for FCC removed
- All networks are Title I 'information services'
  - not common carriers
- Concern about duopoly power
  - between cable and telcos

## Common carriage reintroduced?

- Not a new idea: 1999 Lemley and Lessig
  - "The end of end-to-end" re. AT&T/MediaOne
- 2003: Wu terms Internet non-discrimination
  - 'network neutrality'
- Many disagree:
  - computer scientists like Farber, almost all economists,
  - Telecoms lawyers such as Yoo and Werbach (who insists its about interconnection), copyleftist Sandvig
- Continued in FCC hearing at Harvard Feb. 2008
  - Where Comcast booked out the front 3 rows!

## European networks are different

- Local loop unbundling Regulation 2000
  - Together with cable separation from telcos
  - means there is competition in most urban markets
- Significant Market Power regime
  - Specific requirements on incumbents
  - In 7 (formerly 18) markets pre-defined by EC
- Slow change towards MORE regulation
  - Functional separation, international roaming
  - Discussion around revision to 2002 package in 2008/9
- Litigants not a major issue at European level
  - many national regulators tied up in appeals

## European content is VERY different

- Content in US
  - Google, Amazon, eBay/Skype, Microsoft, Yahoo!
  - Commercial dispute hidden as 'fr'dom' argument
- European Public Service Broadcasters (PSBs)
  - 'Must carry' on cable (and satellite?)
  - Due prominence on TV guides
  - Definition in European Broadcasting Union
  - Includes some commercial broadcasters

## BBC iPlayer

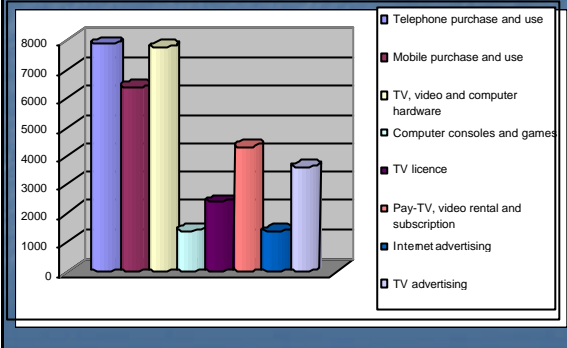
- 'Death Star' for ADSL networks
  - Distributed by rubbish P2P Kontiki service
  - DRM available only on Windows Media
  - Also 4Play and other PSB services
  - Overwhelming networks from Xmas 2007



## European policy question

- 'Neutrality' for PSBs or everyone?
  - PSBs will not pay extra for higher bandwidth
  - Consumers are licence-fee payers
  - Parliamentarians are interviewees
- Its not blocking VOIP but 'Eastenders'
- UK consumers pay
  - £10 for broadband
  - £10.50 licence fee
  - £35 Sky
  - Problem!

### UK Household Expenditure on Multimedia Equipment, Advertising, Services 2005 (£m)



### NN is already in place in Japan

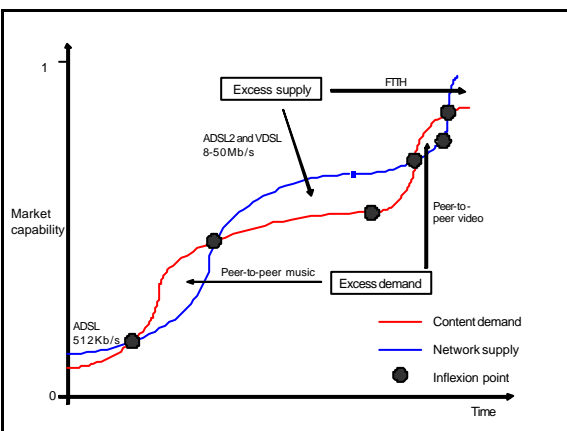
- ⌘ A key plank of Next Generation Access
- ⌘ Why?
  - ⌘ IPR lobby and broadcasters as resistant as US to P2P
  - ⌘ P2P is a real tsunami on 100Mbps networks
  - ⌘ Gaming and blogging (and manga) hugely popular
  - ⌘ But consumer protection vitally important
  - ⌘ NT&T has a 'holiday' to roll out fibre and
    - ⌘ is trying to look like a good guy
    - ⌘ with brutal competition in local loop from Softbank

### Not cool to copyright everything?



### NN is about politics not economics

- ⌘ Who gets what and how?
- ⌘ Two contrasting lobbies:
  - ⌘ Networks
    - ⌘ no incentive to invest and no profit on ADSL
    - ⌘ QoS necessary for video? NB: Joost
  - ⌘ Content
    - ⌘ believes itself to drive penetration and quality
    - ⌘ Networks' problem to charge higher
    - ⌘ Advertising and micropayment options for partnership cf. mobile model of walled garden



### They're all liars

- ⌘ Networks block BitTorrent
- ⌘ Claim they're not
- ⌘ When caught,
  - ⌘ claim its for traffic management on irregular basis
  - ⌘ Or its for anti-virus and other security reasons
- ⌘ And can degrade traffic subtly to avoid detection by content host
- ⌘ While advertising 'all you can eat' uncapped offers

## Content IS free riding

- BBC lobbied network users to
  - tell ISPs to switch on simulcasting
  - during World Cup 2006
- This would have cost ISPs a fortune
- A video bit is NOT a bit
  - That's why video providers use Joost and Akamai and Kontiki!
- P2P IS a bandwidth hog
  - 5% of users suck up 90% of bandwidth



## NN is NOT going away

- Its just beginning
- All Internet filtering affects NN
  - Including ISP spam filters
  - Porn filters unless end-user installed
  - Government-mandated retention and surveillance
  - Quality of Service on public Internet
  - Interconnection agreements between ISPs
- Net neutrality law could outlaw ISP traffic management?
  - Even if well-drafted

## Competition law

- Except a bit on cartels
  - If ALL networks had incentives to block P2P?
  - Traffic management as coordinated behaviour
  - Technical standards can break anti-trust law
  - Telecoms is rife with such practices
- Abuse of a dominant position affects BT
  - The incumbent has SMP and must be careful
  - So BT does not particularly degrade
  - But the mobiles do – except Hutchison 3
    - Exception that proves or disproves the rule?

## Technical interfaces

- Unless you count PHORM – BT, Virgin Media, TT
- PHORM is a means by which:
  - ISPs can install adware
  - to track your behaviour at the local exchange
  - Think Google on steroids, or Big Brother incarnate
  - It is opt-out except for Talk Talk
  - Its designed to replace content revenues
- So by eating Google's lunch, they can mane network profits
- While potentially designing in censorship which helps Home Office goals (and Cisco and China)
  - Does it break RIPA? Peter Sommer says so

## PHORM – the inevitable response to net neutrality?

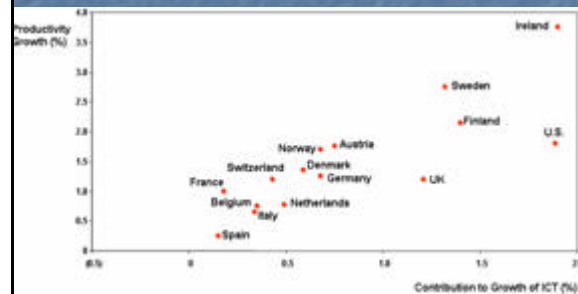
Telcos have to make more money somewhere!!!

They can only do so by recreating the walled garden – they think

## Lessigian pronouncements

- ⌘ About end-to-end principles
  - ⌘ Larry believes in this stuff – truly believes
  - ⌘ LaLe Land
- ⌘ Dave Clark, IETF guru – it's a DESIGN principle
  - ⌘ Accuses Lessig of 'Talmudic' extension into theology
- ⌘ How much innovation happens at the edge?
  - ⌘ Most: Benkler (Wealth of Nations), Lessig (The Future of Ideas), Web2.0, etc.
  - ⌘ None: AT&T circa 1950
  - ⌘ Mixed: the majority of us – Hollywood, Bollywood, Holyrood, Robin Hood

## Relation between Productivity Growth and ICT 1996–2002



## Freedom

- ⌘ Whose freedom of speech?
  - ⌘ US debate – 1<sup>st</sup> Amendment commercial speech
- ⌘ Safer ground for law profs?
- ⌘ But on what basis can filtering be allowed?
  - ⌘ Public and national security
    - ⌘ Google/China argument
    - ⌘ Goldsmith/Wu/Reidenberg v. Separatists
    - ⌘ BUT also Audio Visual Media Services Directive (2007-19-12)
  - ⌘ Personal security
    - ⌘ Almost all network engineers v. some lawyers
  - ⌘ Intellectual property
    - ⌘ Hollywood Code v. Silicon Valley code
  - ⌘ Tollbooths
    - ⌘ Obama/Clinton v. McCain and many Democrats

## A Real Framework for Analysis

- ⌘ Consumer and competition harm
  - ⌘ Misleading advertising
  - ⌘ Deceptive trade practices
  - ⌘ Styming competition in downstream market
  - ⌘ Vertical integration
- ⌘ Freedom of speech and innovation
  - ⌘ UCC – allowing consumers access for their content
  - ⌘ P2P – future of distribution
  - ⌘ PSBs – distribution of publicly funded and meritorious content

## Further Technical Concerns

- ⌘ Broadband bottlenecks
  - ⌘ Low and asymmetrical speeds
  - ⌘ Funding Next Generation Access
  - ⌘ Locked closed walled gardens esp. mobile
- ⌘ Adware and alternative funding
  - ⌘ PHORM – paying via advertising
  - ⌘ Get Google and Akamai! Locally cached content

## Further public policy concerns

- ⌘ Digital rights management and privacy
  - ⌘ ISPs under seige by record and film companies
  - ⌘ End of anonymity or start of mass encryption
  - ⌘ File sharing and its uses
- ⌘ Security and serious crime
  - ⌘ Blocking BitTorrent to block viruses and spam
  - ⌘ Filtering content for terrorism/paedos/offence
  - ⌘ New anti-xenophobia requirements?
  - ⌘ Audio Visual Media Services Directive

## What does the law do?

- Framework and Access Directives 2002
  - But focussed on interconnection & network operators and abuse by dominant operators
- Electronic Privacy Directive 2002
  - Focussed on spam and adware
- Framework Agreement on Information Systems Security
  - And RIPA and Data Retention Directive
  - And Articles 12-15 E-Commerce Directive
- Interoperability Requirements and Universal Service
  - Potential: 'Must carry' obligations and FRAND requirements
- AVMS implementation
  - How to apply to Internet video

## What do regulators do?

- Pass the buck
- Telecoms problem? NO
- Broadcast problem? NO
- Internet problem? We don't regulate it
- Security problem? Pass it to Home Office
- Technical problem? Co-regulation
- PSB problem? Parliament and DCMS
- Broadband problem? DBERR
- Competition problem? Ofcom and EC
- Consumer problem? Ofcom and OFT – and ASA

## Why won't it go away?

- Because it's the chicken and egg problem
- Content is king, carriage is king?
- Networks depend on finances from consumers and content
- Networks are common carriers?
- Speech is qualified?
- Someone should write a book about it.

To quote famous Glaswegian Alan Brazil:

"They're all a bunch of tubes"