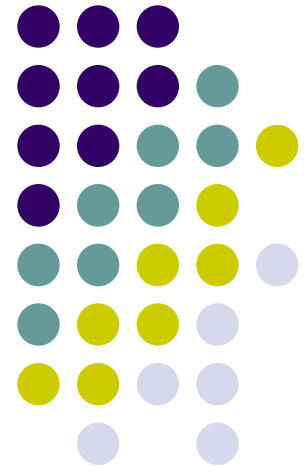
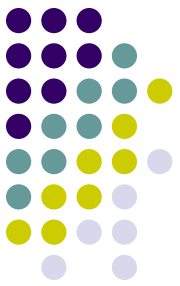


Net Neutrality as Global Principle for Internet Governance

Dr. Milton Mueller
XS4All Professor, Technology University of Delft
Internet Governance Project





A global issue

- Net neutrality (NN) transcends domestic telecommunications policy
 - The term and norm is diffusing globally
 - Applicable to global coordination (ICANN)
 - Relevant to international trade in digital products and services
- Can serve as a “globally applicable public policy principle”
 - Tunis Agenda paragraph 70
- Recognition that NN is still more a norm than a well-defined regulatory policy

Defining Net Neutrality



- Nondiscriminatory, universal access to Internet resources
 - Opposition to vertical leverage by carriers
 - Resistance to efforts by states to block or filter traffic
 - Resistance to third-party efforts to impose liability and responsibility on the network
- Disagreement with definitions focused on “tiering” of bandwidth
 - “All packets must move at the same speed”???
 - Bandwidth management can be an extension of vertical leverage but need not be

Elements of Net Neutrality

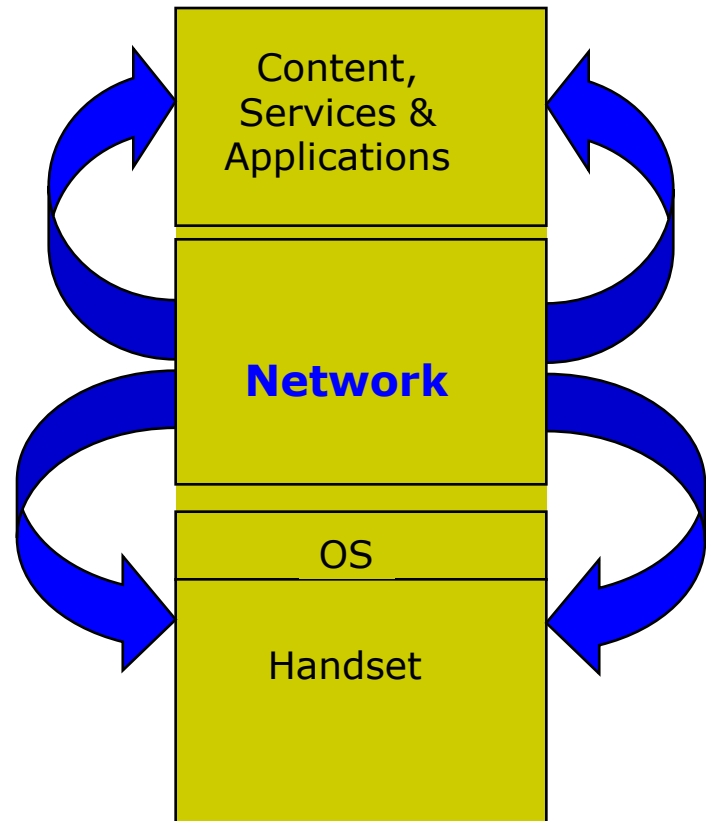


- The Economic case
 - Vertical integration and tying
 - Insufficient by itself
- The Freedom of Expression case
 - End user control, not intermediary or state
 - Prevent third party exploitation of ISPs as chokepoints
 - Content can still be prohibited or regulated
- The Innovation case
 - A more open market vs. central planning/gatekeeper
 - More direct relations between suppliers and demanders

As an Economic Issue, NN is about “vertical leverage”



- Discrimination by connectivity providers against competitors in vertically related segments of the market
 - Content, applications, services
 - Handsets
- Assumes market power over bandwidth supply



NN as Constraint on States



- The most serious deviations from the Net neutrality principle come from governments
 - Lists of blocked URLs
 - Discriminatory treatment of content of foreign origin
 - Attempts to intercept copyright protected content

Illegal content and NN: Blame and catch criminals, don't meddle with the network



- Consistent with NN
 - *Ex post* ban on hosting, producing, or publishing illegal content
 - Prohibit possession or access by users
 - Encouraging and allowing end users to install their own filters
 - Allowing private ISPs to filter when end users have competitive alternatives
- Inconsistent with NN
 - Requiring ISPs to block URLs or domains
 - Holding ISPs liable for third party content
 - Use of Deep Packet Inspection to enforce policy on packet movement



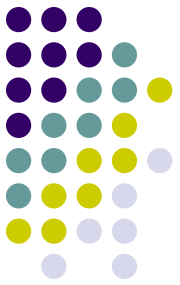
Why agree to these limits?

- Blocking lacks transparency and is prone to abuse. (Finnish case)
- It often acts as a substitute for real enforcement against actual abusers.
- It circumvents due process protections
- If there is going to be error (and there will be), err on the liberal side rather than oversuppression



Bandwidth management

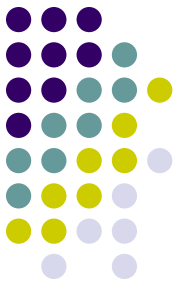
- Social movement in U.S. for NN makes carriers back away from vertical leverage over Internet content
 - Verizon and NARAL case; AT&T and the Pearl Jam concert (investor concern); dismissed as “errors,” “violations of company policy”
- Retreat to a more reasonable position: “network management”



Bandwidth wars

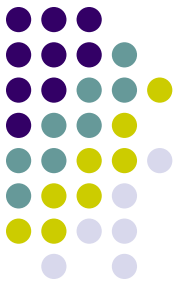
- Bandwidth is a scarce resource
- Carriers are faced with an increasingly heterogeneous set of applications and users
- P2P as the flash point
 - Comcast's disruptive techniques
 - BT's throttling back of P2P in its "User allowance guidelines and fair usage policy"

Complicated issue



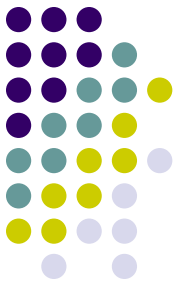
- Fuzzy line between rational resource management and discrimination or control
- Competitive alternatives the best protection
- Manage bandwidth via pricing, not technical manipulation of users

Policy and Bandwidth Mgmt



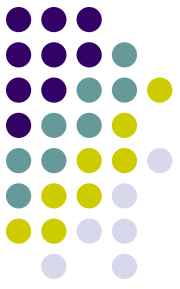
- Bandwidth management involves a dynamic substitute/complement relationship between:
 - Expanding spectrum resources available
 - Handset capabilities
 - Pricing plans
 - Data handling protocols
- If regulators intervene, it should be *ex post* based on clear cases of abuse, not *ex ante* based on architectural norms

Handsets and Wireless NN



- General trend away from handset control
 - Combination of market and political pressures
 - Subsidy burden (Sprint)
 - Android and Google's Open Handset Alliance
- Breakdown of wireless walled gardens
 - Broadband, unlimited data usage has no apparent vertically-imposed access restrictions

Telco schizophrenia: a mentality in transition



- Verizon wins national 20 Mhz block in 700 Mhz auction
 - Initiates ODI, says it will exceed FCC open access rules
 - “we can tap into a whole new stream of revenue growth. ...any device, any application, any content through any distribution model to get to the customer.”
- But, in discussing partnership with Vodafone:
 - [It] is not just ...for global roaming; it gives us a chance to do applications together, to purchase content together, to have those applications and content function the same way around the globe. It gives us a chance to bring devices to market together.”
- FiOS: local content development to fill the pipes

Conclusion

