The Network Neutrality Debate – An Overview

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What is network neutrality?
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Technology enables network providers to control applications and content.
Goals of the Talk

- Framework for understanding the debate
Goals of the Talk

• Framework for understanding the debate

• Overview of main positions and arguments
Goals of the Talk

• Framework for understanding the debate

• Overview of main positions and arguments

• Relevance for IETF
  • Impact of potential rules on IETF standards
  • Potential new work
Framework

I. Proposed Rule
   1. Blocking
   2. Discrimination
      a. QoS
      b. Charging for QoS

II. Proposed Exceptions
   1. Security
   2. Congestion Management
A rule against blocking is at the core of all network neutrality proposals ...

• ... may be framed as user rights ...
A rule against blocking is at the core of all network neutrality proposals ...

FCC Internet Policy Statement, 2005

- "... consumers are entitled to access the lawful Internet content of their choice."

- "... consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement."

- "... consumers are entitled to connect their choice of legal devices that do not harm the network."
Scope

- Network neutrality rules only protect against blocking
  - of legal content and applications
  - driven by network providers' interests

- Network neutrality debate does not address
  - proper treatment of illegal content or applications
  - interference with users' Internet use driven by the state
Do network providers have an incentive to block?
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- Not always ...
Do network providers have an incentive to block?

• Not always …

• … but more often than you would expect:
  • to increase their profits
Do network providers have an incentive to block?

- Not always ...

- ... but more often than you would expect:
  - to increase their profits
  - to exclude unwanted content
Do network providers have an incentive to block?

- Not always …
- … but more often than you would expect:
  - to increase their profits
  - to exclude unwanted content
  - to manage bandwidth on their networks
If there is an incentive, should regulators care?
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Network neutrality proponents:

• Impact on application and content developers
• Impact on users
• Application innovation/competition, free speech
If there is an incentive, should regulators care?

Network neutrality opponents:

- Only anticompetitive behavior
- Role as editors
- Need to manage networks
- Competition solves the problem
If there is an incentive, should regulators care?

- ... or „is the Internet different?“
What is the role of competition?

• ... or: „are there alternatives to regulation?“
Framework

I. Proposed Rule

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Does the proposed rule prohibit „discrimination“?
How does the proposed rule define „non-discrimination“?

- ... or „does the proposed rule prevent QoS?“
How does the proposed rule define "non-discrimination"?

• treat every packet the same

• treat classes of applications the same

• users choose QoS, network provides QoS
If network providers can offer QoS, whom are they allowed to charge for it?

• ... or „to what extent does the proposed rule restrict network providers‘ business models?“
If network providers can offer QoS, whom are they allowed to charge for it?

- nobody
- only their own access customers
- access customers and application/content developers (but needs to be non-discriminatory)
- whomever they want to
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Does the proposed rule allow blocking/discrimination for security?

- e.g., denial of service attacks, viruses, spam
Does the proposed rule allow blocking/discrimination during times of congestion?

• ... or „to what extent does proposed rule restrict network providers‘ ability to manage congestion?“
Does the proposed rule allow blocking/discrimination during times of congestion?

- any congestion management is fine
- any congestion management is fine, as long as it is disclosed
- congestion management needs to be non-discriminatory, if possible
  - single out specific applications (clearly not o.k)
  - single out classes of applications (may be o.k.)
  - give users choice of prioritization (clearly o.k.)
Trade-Offs

Investment Incentives
Network Innovation
Costs of Regulation

vs.

Application Innovation
User Control
Internet’s Ability to Realize its Economic, Social, Cultural and Political Potential
Conclusion

- Framework
- Potential impact on IETF standards
- Regulation vs. competition plus disclosure
- Non-discrimination and user choice
Questions?

Comments?

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