

# The Network Neutrality Debate – An Overview

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IETF 75, Technical Plenary

July 30, 2009

# What is network neutrality?

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Technology enables network providers to control applications and content

# Goals of the Talk

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- Framework for understanding the debate

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- Overview of main positions and arguments

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- 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

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## **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 ...

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- ... may be framed as user rights ...



# A rule against blocking is at the core of all network neutrality proposals ...

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## 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

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- 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 ...

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- 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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# 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?

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## 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?

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- ... or „is the Internet different?“

# What is the role of competition?

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- ... or: „are there alternatives to regulation?“

# Framework

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## I. Proposed Rule

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Does the proposed rule prohibit „discrimination“?

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

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- ... or „does the proposed rule prevent QoS?“

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

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- 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?

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- ... 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?

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- nobody
- only their own access customers
- access customers and application/content developers (but needs to be non-discriminatory)
- whomever they want to

# Framework

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## I. Proposed Rule

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## II. Proposed Exceptions

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# Does the proposed rule allow blocking/discrimination for security?

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- e.g., denial of service attacks, viruses, spam

# Does the proposed rule allow blocking/ discrimination during times of congestion?

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- ... 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?

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- 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

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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

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



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Questions?

Comments?

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