

Choice & Neutrality

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Thursday at 1:30pm

An Internet-Wide Analysis of Traffic Policing

T. Flach et al.

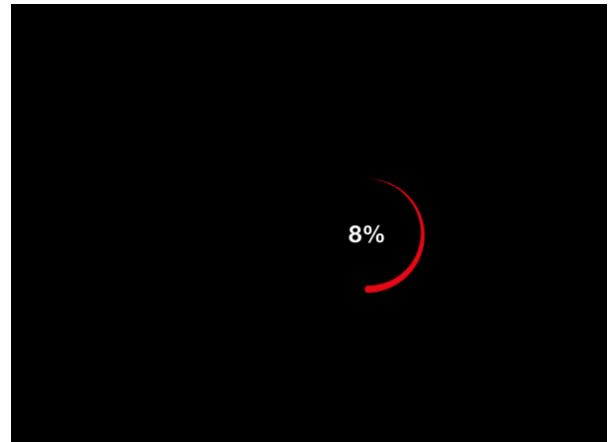
Neutral Net Neutrality

Y. Yiakoumis et al.

The Deforestation of L2

J. McCauley

Why Should We Care?



Increased Demand of the Internet

Sandvine Report 2008

43.26% Web

22.31% P2P

Video dominates the Internet

Video consumes large bandwidth

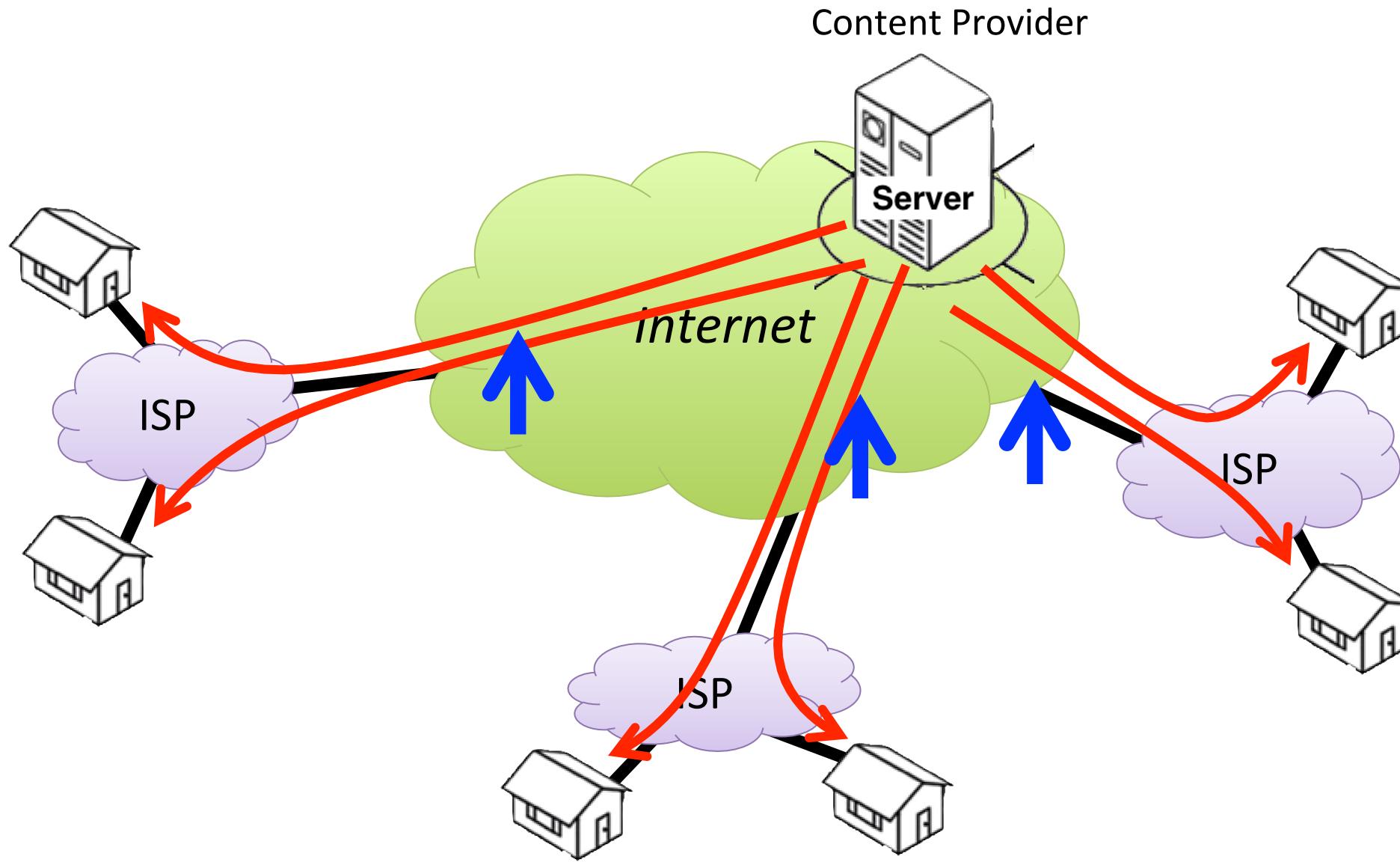
All Others

Internet traffic has increased >5x in 5 yr

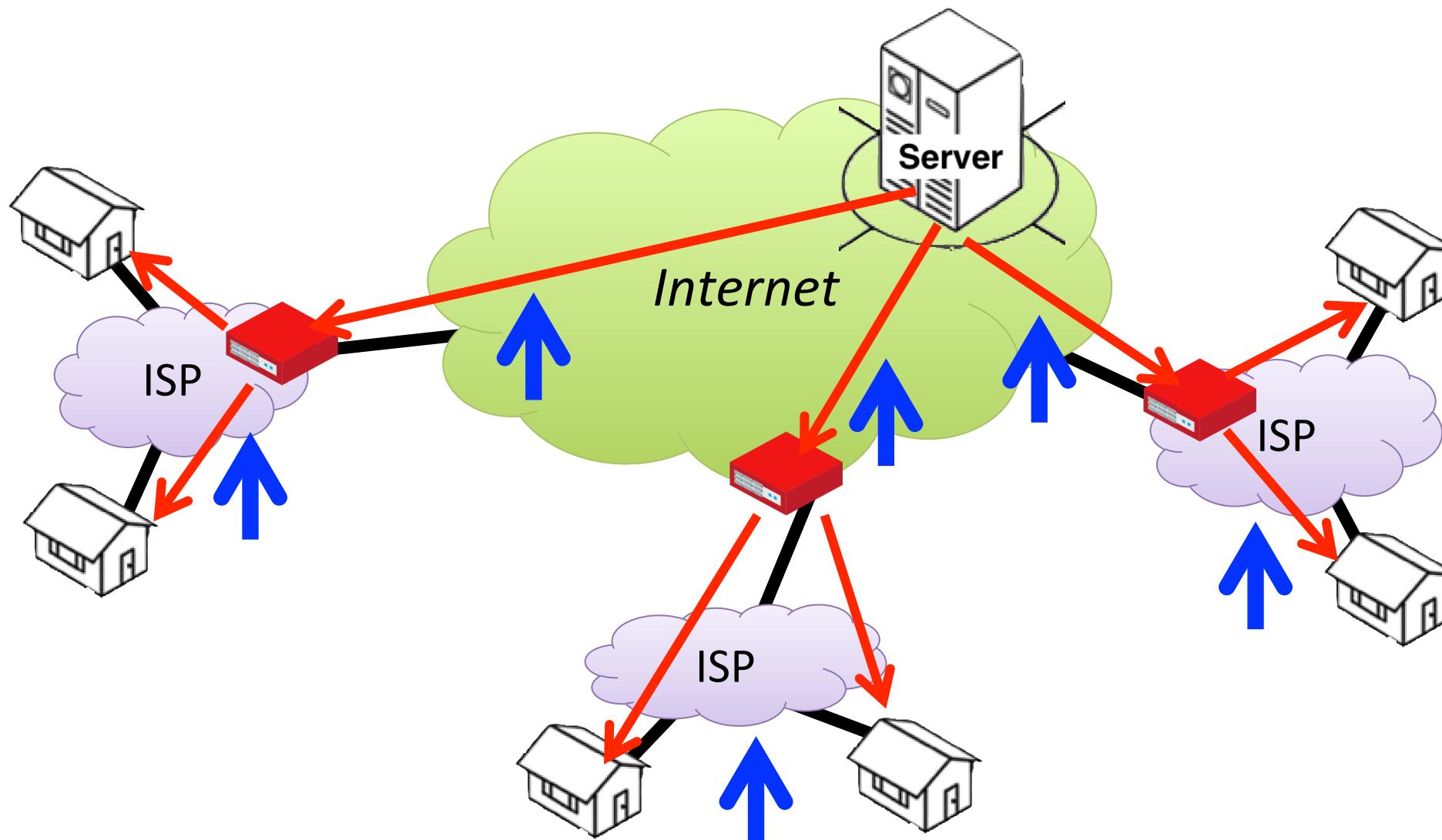
Sandvine Report 2016

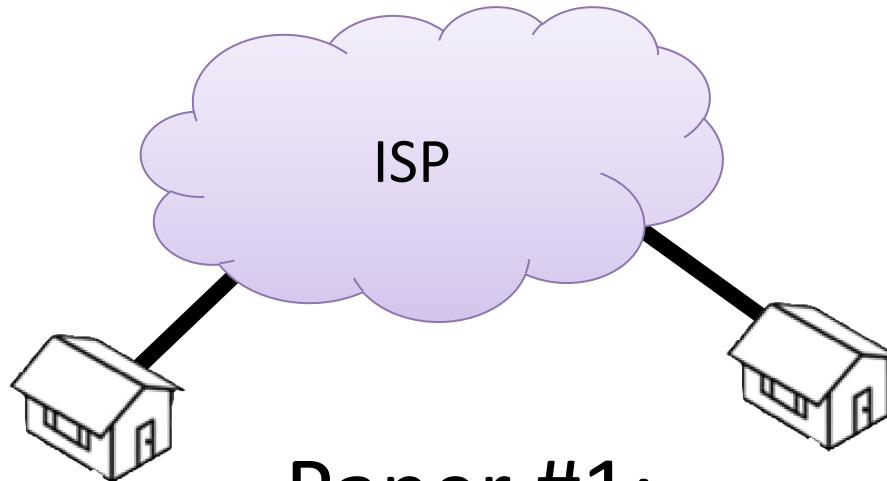
Netflix	35.15%
YouTube	17.53%
Amazon Video	4.26%
HTTP - OTHER	4.19%
DATA	91%
SSL - OTHER	2.68%
FACEBOOK	2.52%
BitTorrent	1.87%
All Others	1.72%

Content Distribution Networks (CDNs)



Content Distribution Networks (CDNs)





Paper #1: An Internet-Wide Analysis of Traffic Policing

Observation:

Many ISPs are policing users traffic

Questions To Answer:

(1) What are the implications on network?

(2) What is the impact on user?

(3) What can be improved?

Other Options for ISP

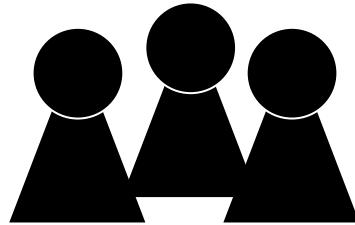
- Make the existing pipes bigger
- Install more pipes
- Both options are very expensive

**If using the existing (and limited) pipes,
how to maximize user experience?**

- Prioritize some traffic
- Zero-rating some traffic

Which traffic? Popular apps? Video?

Niche/New apps? Do users have a say here?



Paper #2

Neutral Net Neutrality

Questions To Answer:

(1) Why not let users decide?

(2) How? Lots of technical questions emerges!

How to express users' preference?

How to honor the preference in the network?

How to account for and validate the preference?

Curious about the Answers?

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Questions?