



Net Neutrality

A solution in search of a problem?

Net Neutrality and the Quest for Sustainable Internet

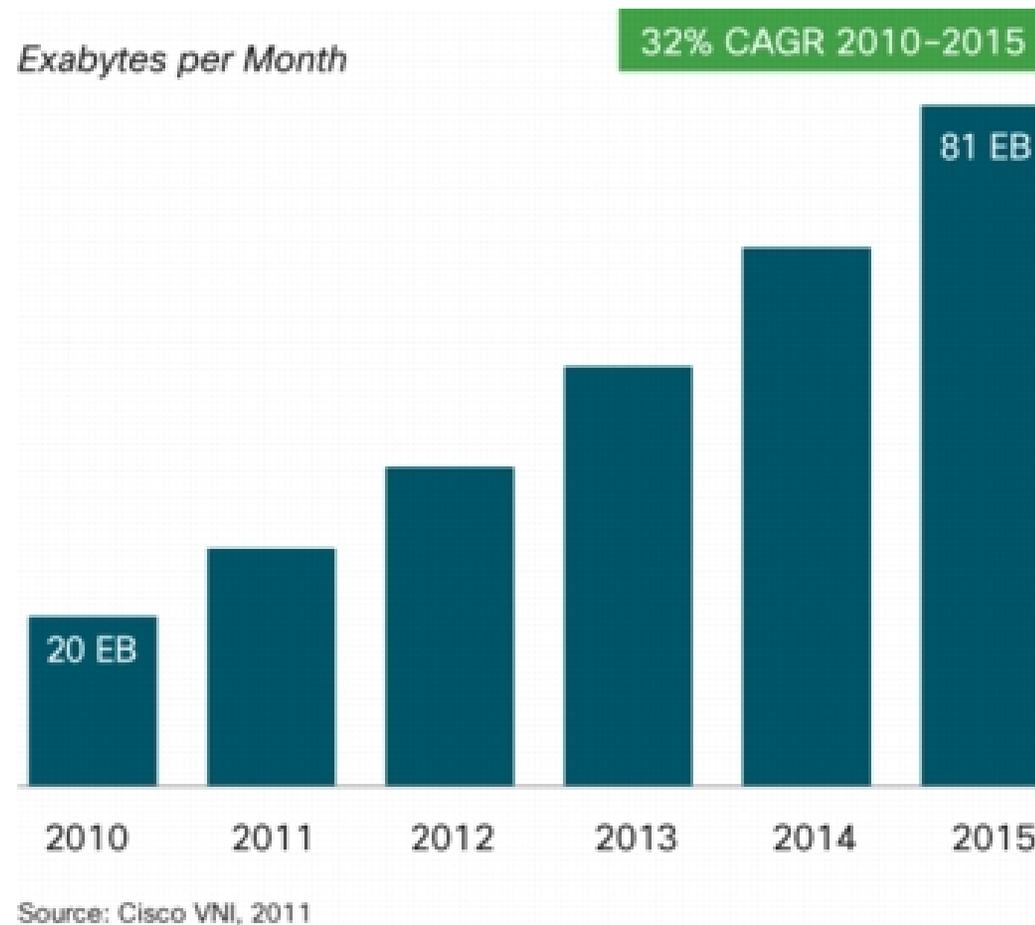
Bucharest – June 5, 2012

Veronica Bocarova – Cullen International

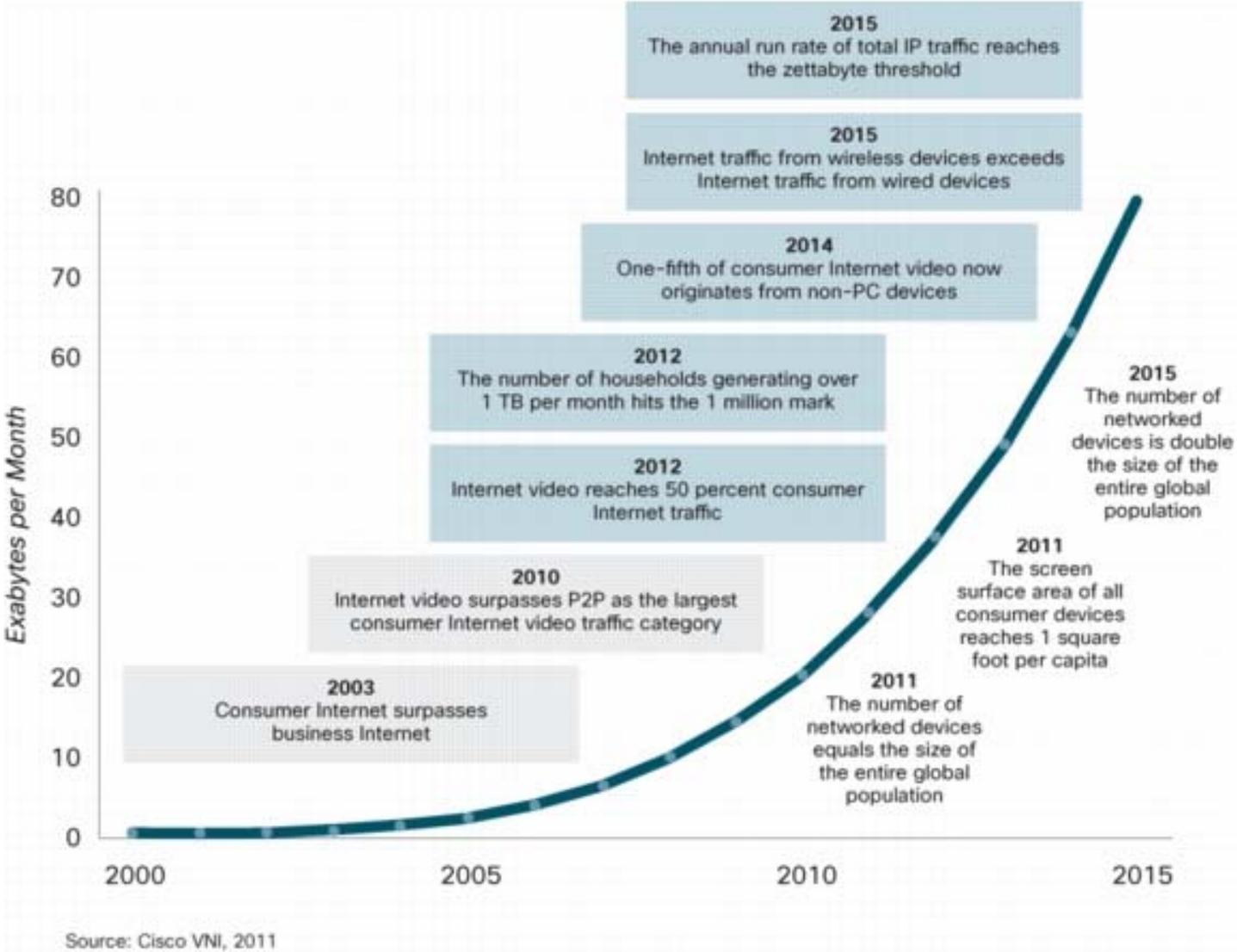
What is net neutrality?

- The ability of end-users to **access** and **distribute information** or run **applications** and **services** of their choice (Article 8(4)g FWD)
- The principle that all electronic communication passing through a network is treated equally, i.e. independent of (i) **content**, (ii) **application**, (iii) **service**, (iv) **device**, (v) **sender address**, and (vi) **receiver address**. Sender and receiver address implies that the treatment is independent of end user and content / application / service provider (BoR (10) 42, September 2010)

As internet traffic grows...



and applications become more diverse...



...while traditional revenues are under pressure....



Industry response...

1. Invest in network capacity
(for a fair return!!!)



2. Cope with traffic exceeding maximum capacity



Why traffic management ?

Coping with **growing volumes of traffic** while maintaining the **best possible QoS** for end users



For vertically integrated ISPs, **discrimination** against a competitor in a **downstream market**

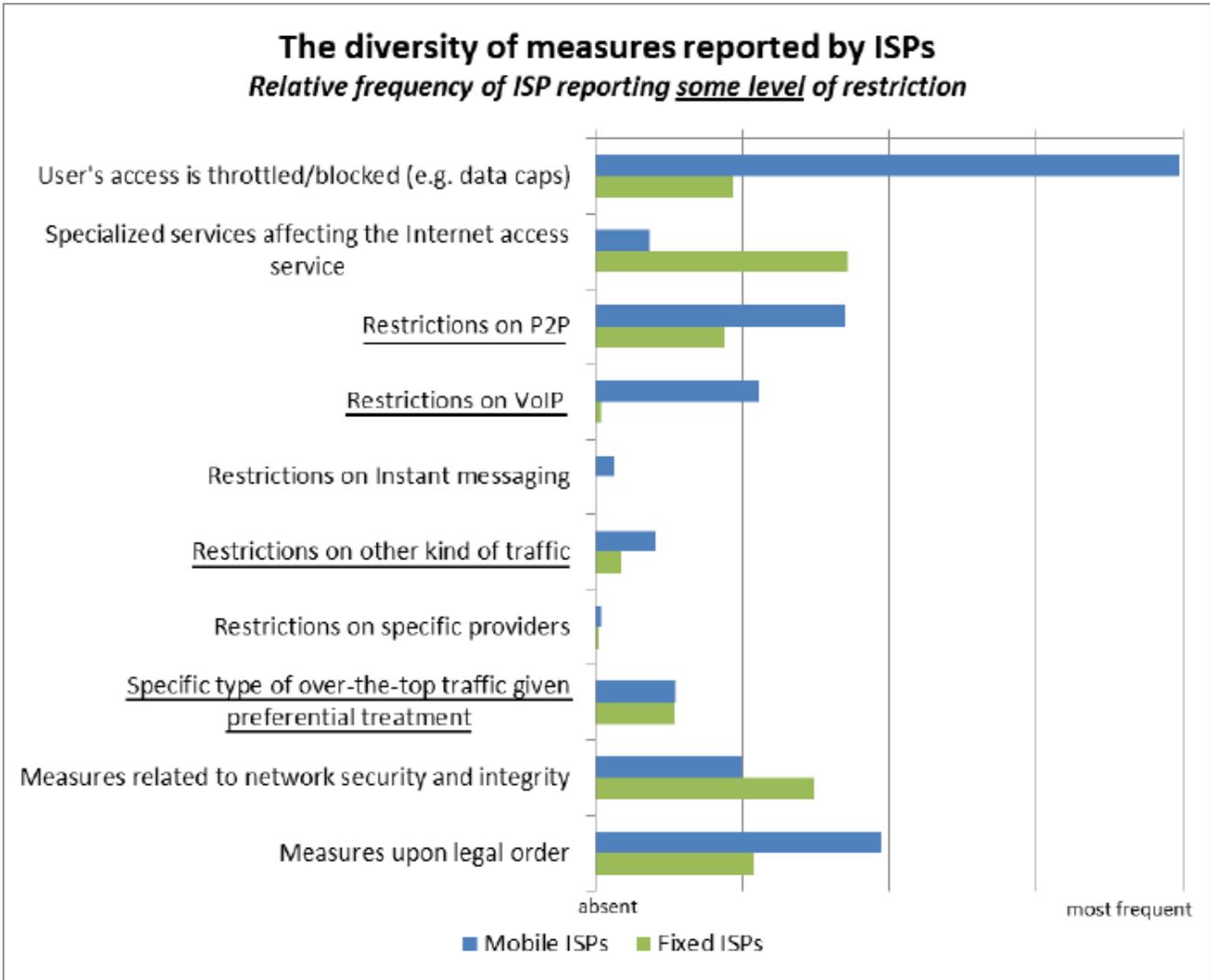
OR



Traffic management in the EU

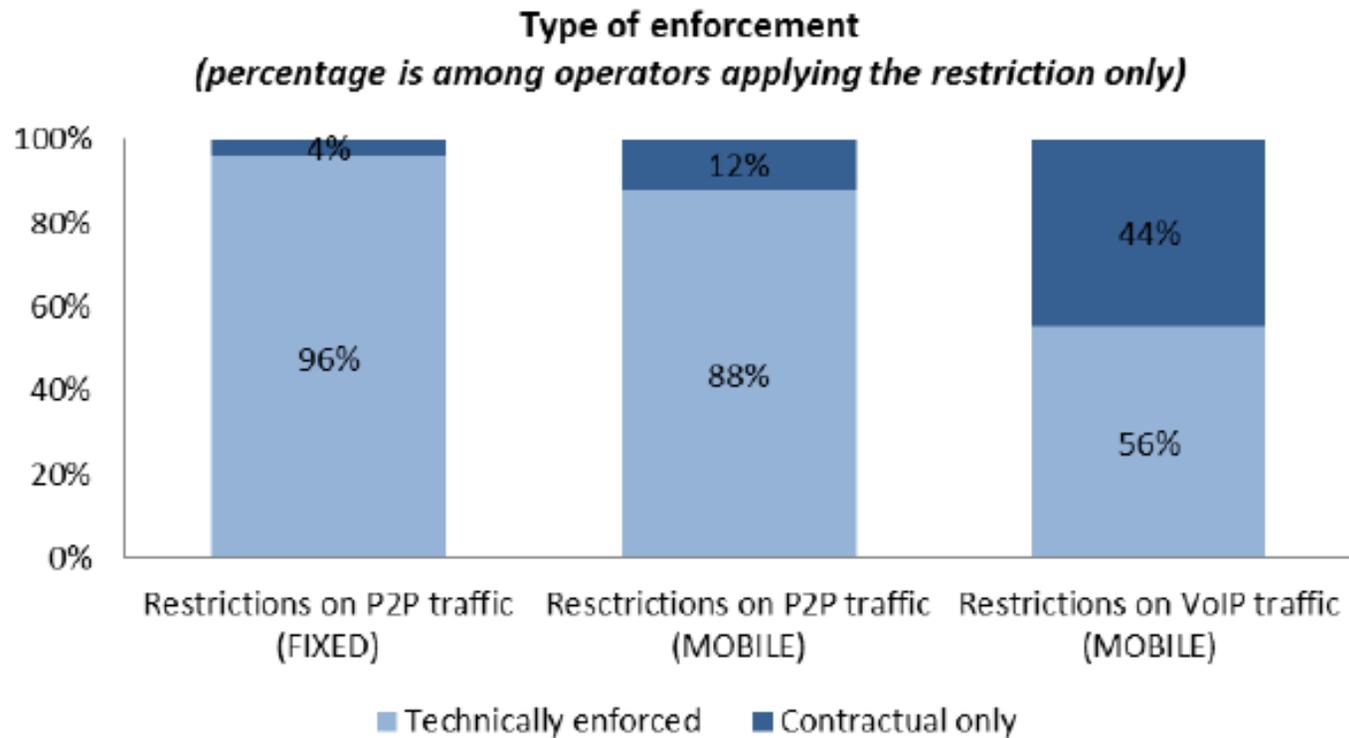
- BEREC investigation – December 2011
- Responses by **266 fixed** and **148 mobile** operators
- **140m fixed** broadband subscribers and **200m active mobile** Internet subscribers
- Common practices:
 - Blocking of VoIP
 - Throttling and/or blocking of P2P traffic
 - Congestion management
 - Security and integrity (control of “spam”)
 - Managed (specialised) services – VoIP, IP TV, VoD
 - Data caps and “fair use” policies
 - Legal requirements

Traffic management practices



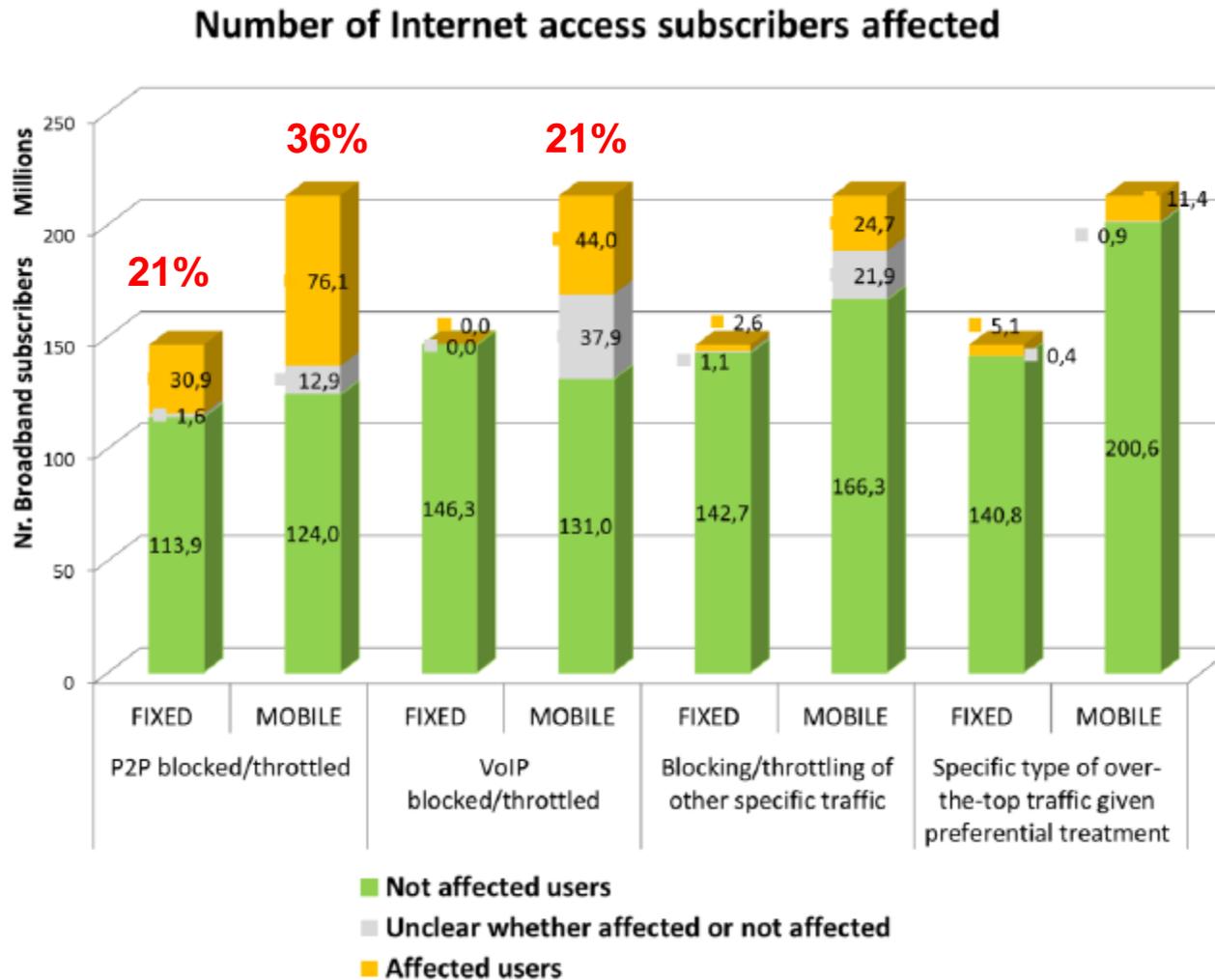
Source: BEREC

Restrictions on specific traffic



Source: BEREC

Restrictions on specific traffic



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Impact on end-users and competition?



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Impact on end-users and competition?

- What is the moral of this story?
- Where some see a case for restrictions, others see a market failure and opportunity to do business



Net Neutrality, restrictions and competition

Underlying assumptions to this happy story

➤ Competition



or



➤ Transparency



➤ Low switching costs



Competition - VoIP on mobile networks



- Mobile issue
- In most cases, at least allowed on premium packages

- SMS and



VoIP on mobile networks and revenues

- Currently, revenues of mobile operators are disproportionately tilted towards voice

Because:

- Voice is priced relatively high compared to data, with respect to the use of network resources

Because:

- Consumers are more inclined to pay for voice than for data
- Voice can be compressed at low bitrates (e.g. 6kbps)



VoIP on mobile networks and revenues

- Rebalancing of voice and data revenues is a huge challenge for the mobile industry and will take time



Traffic Management - transparency

Greater transparency towards

National NRAs



End-users



Plusnet UK ('Value' option)

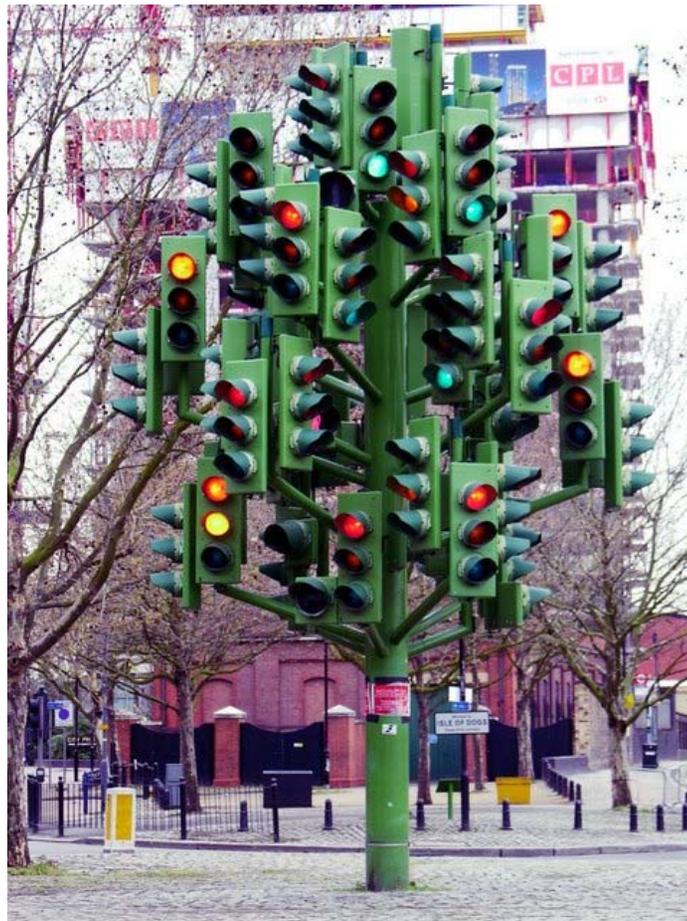


Ideal for web surfing and email. It's not suitable for frequent gaming, binary USENET, Peer-to-Peer, VPN, FTP or lots of music and video downloads.

Kbps	P2P	FTP	VPN	Gaming	YouTube	Download	Streaming	Other
12am-12pm	256	256	512	2Mbps	-	-	-	-
12pm-2pm	164	256	512	2Mbps	-	1Mbps	-	-
2pm-4pm	128	256	512	2Mbps	-	1Mbps	-	-
4pm-6pm	100	256	512	2Mbps	-	512	-	-
6pm-7pm	50	128	512	2Mbps	2.5Mbps	256	-	192
7pm-8pm	50	128	512	2Mbps	2.5Mbps	256	-	192
8pm-10pm	50	128	512	2Mbps	2.5Mbps	256	-	192
10pm-11pm	100	256	512	2Mbps	-	256	-	-
11pm-12am	128	256	512	2Mbps	-	512	-	-

Traffic Management - transparency

- Not all operators share the same enthusiasm for transparency

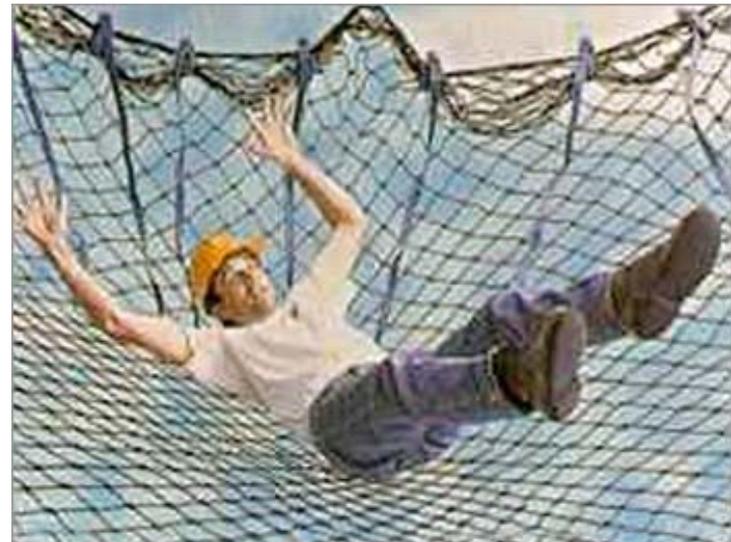


Net Neutrality and minimum QoS

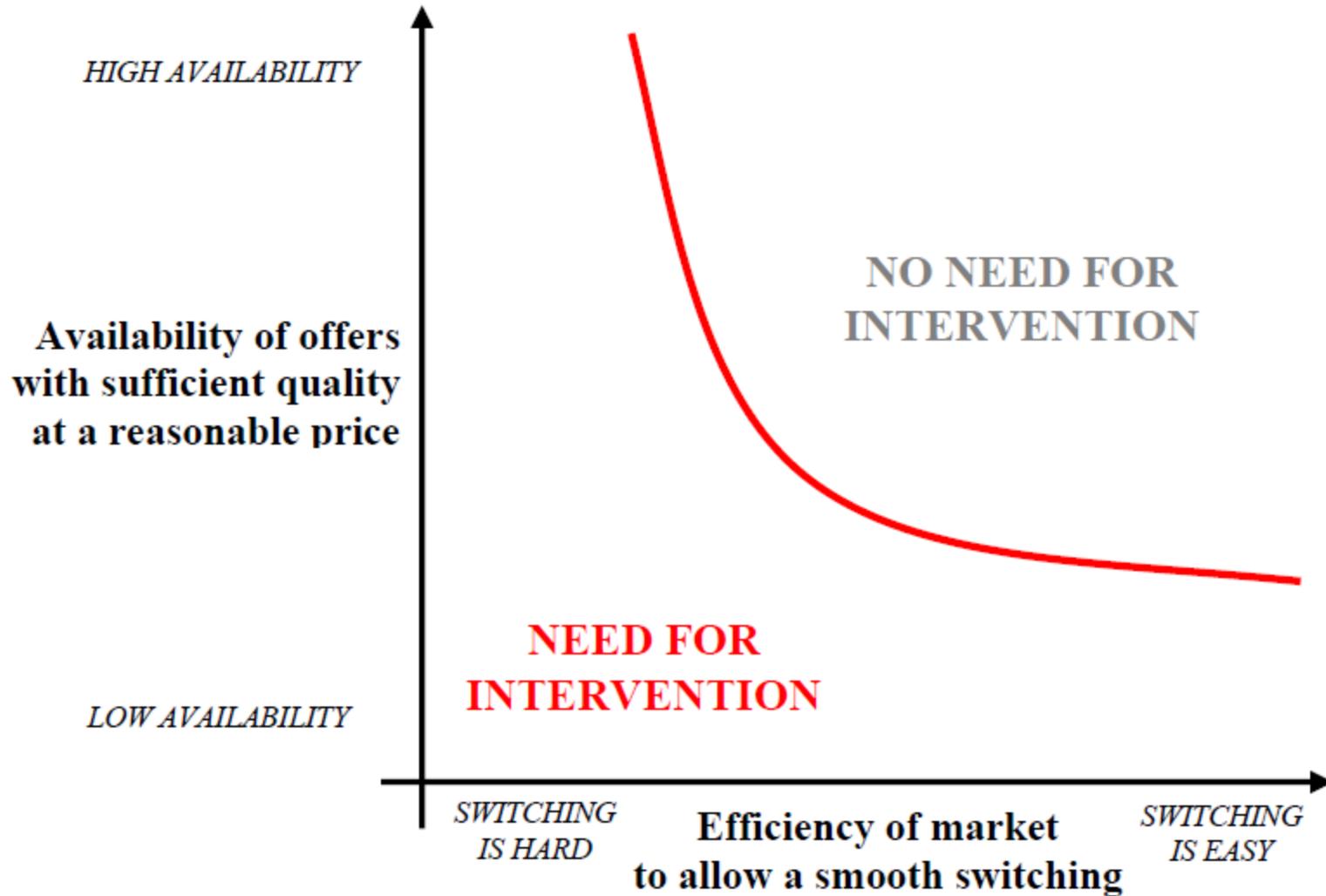


- When is regulatory intervention justified?

In order to prevent the degradation of service and the hindering or slowing down of traffic over networks, Member States shall ensure that national regulatory authorities are able to set minimum quality of service requirements on an undertaking or undertakings providing public communications networks (Art 23.3 - USD)



When is regulatory intervention justified?



Source: BEREC



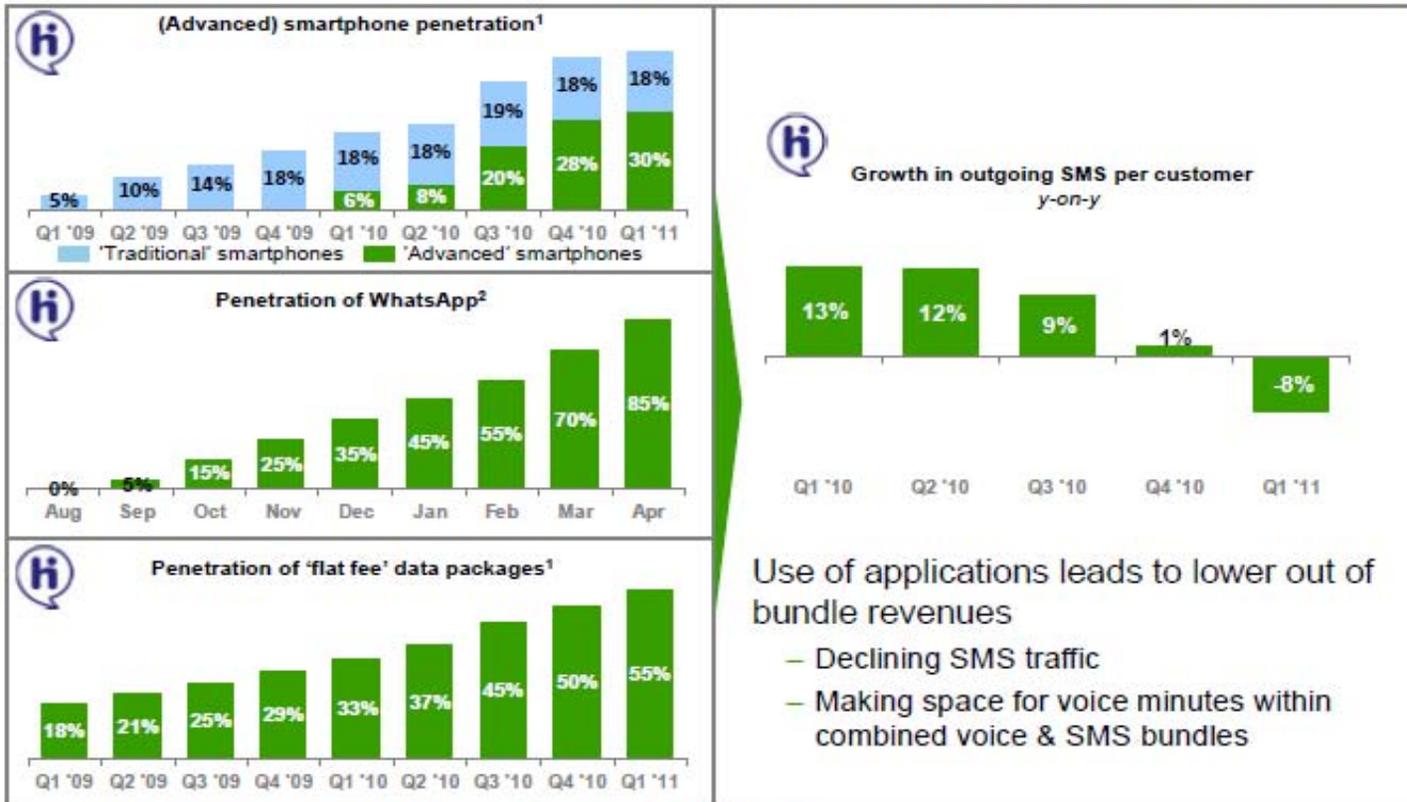
Net neutrality in the EU

Draft Dutch net neutrality law – (1)



Current trends amongst early adopters

Use of applications lead to accelerating decline in SMS & out of bundle revenues



Source: KPN presentation, May 2011

¹ Based on postpaid customers of Hi brand (youth), considered early adopters

² Based on Android phones only, KPN management estimate; postpaid customers of Hi brand (youth), considered early adopters

Net neutrality in the EU

Draft Dutch net neutrality law (2)

KPN admits using **DPI**, plans to charge consumers for using WhatsApp → The Netherlands to adopt first EU net neutrality law:



Net neutrality in the EU

Conclusions

- Quite **early** to draw conclusions: EU level measures have **not yet been implemented** in most Member States.
- Except for the Netherlands, **no Member State** appears to lay down **net neutrality by law**.
- Discussions are focused on **practical implementation** (transparency, data limits, QoS)



Net neutrality in the EU

Conclusions



“I am in favour of an open Internet and maximum choice. That must be protected. But you don’t need me or the EU telling you what sort of Internet services you must pay for”



Net neutrality in the EU

Open issues

- Is an average able to obtain and understand relevant information?
- Fast and limited Internet vs slow and full Internet?
- How easy is it to switch between ISPs in practice?
E.g. in rural areas?





Thank you!

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When regulation is no longer...

...in the hand of regulators



Mobile industry CSR

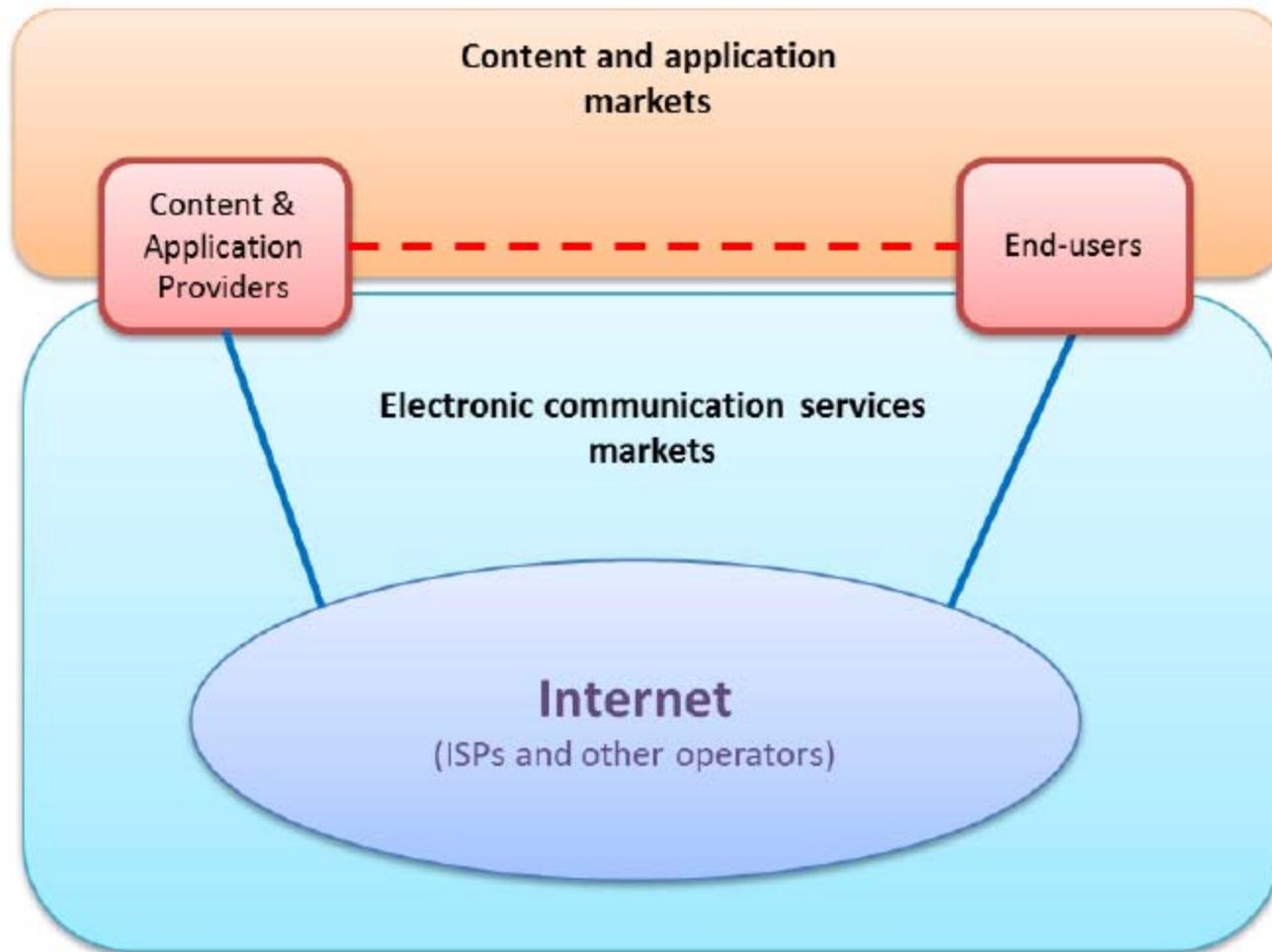
- **Some homework to do**

‘A larger proportion of European respondents in the [September 2011] survey appears to have lowered the industry’s score on several key metrics ... sentiment, trust, privacy and security’

GSMA’s www.mobilereputationindex.com



Two-sided markets



Two-sided markets

- Are content providers such as Google and YouTube... free riders?



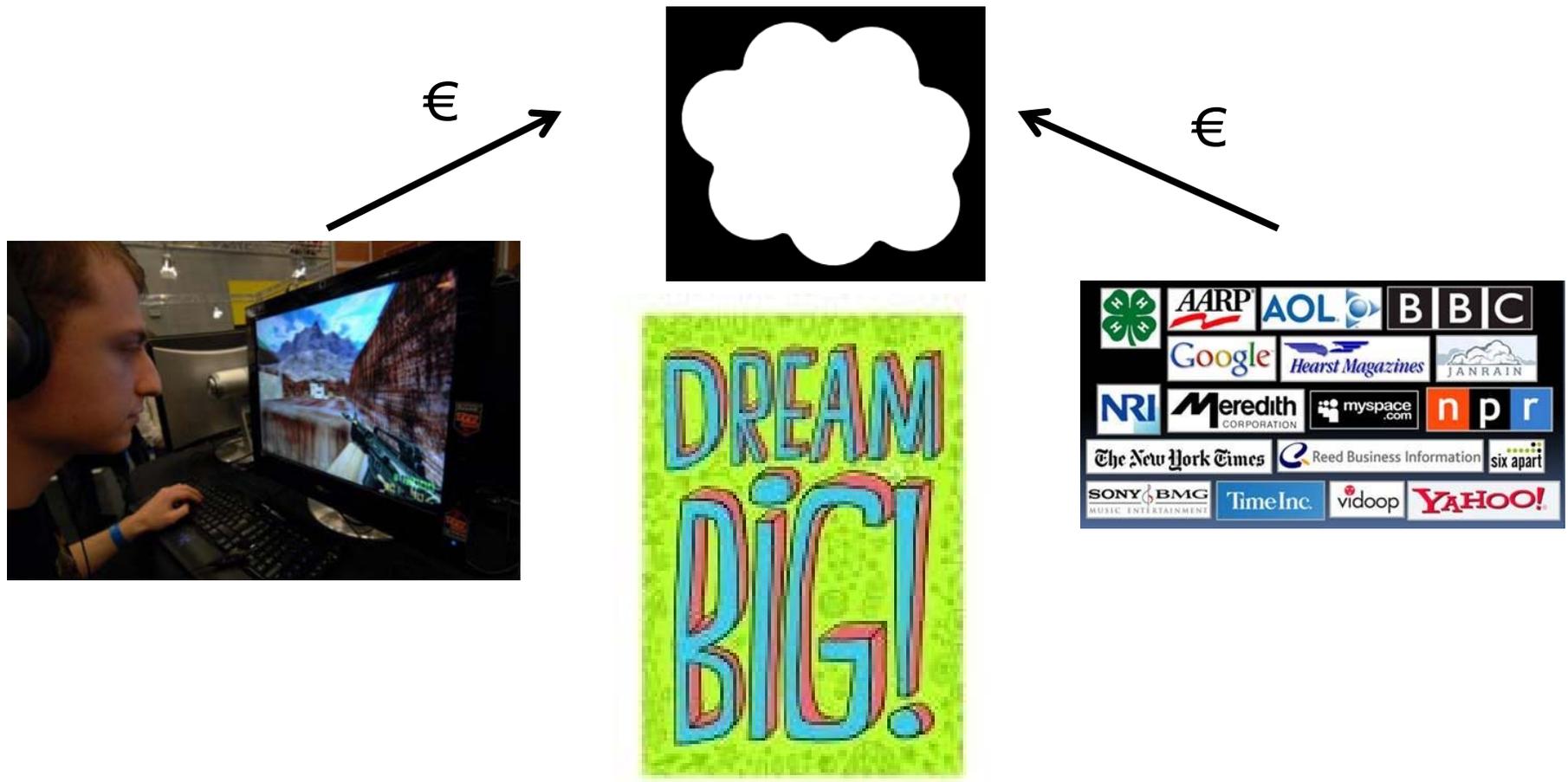
Two-sided markets

- Two-sided markets are economic platforms having two distinct user groups that provide each other with network benefits
- The economic viability of some business models rests on both parties paying for use of the platform:
 - credit cards – holder and shopkeepers
 - newspapers – subscribers and advertisers
 - operating systems – end-users and developers
 - video game consoles – gamers and game developers



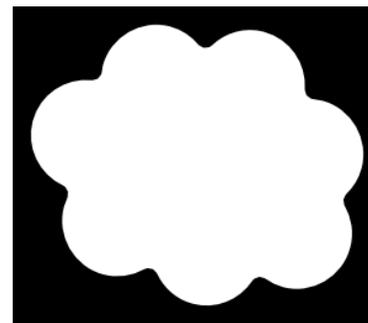
Two-sided markets and broadband networks

- Broadband networks can be seen as two-sided platforms

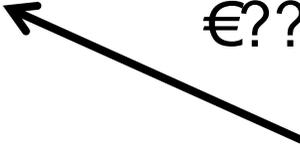


Two-sided markets and broadband networks

- How much can content providers contribute?



€???



Two-sided markets and broadband networks

- How much can content providers contribute?

European Telecom		
Year	Turnover	Investment
2009	€332bn	€40bn
2010	€329bn	€44bn
2011	€323bn	€47bn (est.)

Worldwide financials		
Year 2011	Turnover	Profit
Google	\$38bn	€10bn
Facebook	\$3.7bn	€1bn



Let's be realistic about how much free riders might contribute

ATKEARNEY

The Consumer Internet market generates revenues of US\$ 732 billion, mainly from Connectivity, Online Services and UI

