

Latin America-EU Symposium on ICT Regulation

Net Neutrality EU, Latin America and US perspectives

Ivana Kriznic, Regulatory Counsel, Orange Business Services

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Net Neutrality

- The term “Net Neutrality” was coined in the United States. Exported to Europe, where the regulatory framework is very different from the US.
- In the US, at the beginning NN was all about public policy preventing an imminent threat of blocking or traffic degradation. The debate was about “users rights”. Since 2000 US adopted deregulatory policies justified by what was considered strong intermodal competition, telco vs. cable. In 2002 access to the Internet sold bundled with cable modem was exempted from regulation and in 2005 Internet access sold bundled with DSL was also exempted from regulation. In 2005 the FCC adopted four net neutrality principles, but no regulation.
- Problem was that no real-world problem emerged. The threat has remained theoretical for the most part. A few often cited cases, e.g. Madison River and Comcast in the US. No formal complaints in France or the United Kingdom. All resolved without NN regulation.
- Lately the NN debate has reached all levels of the Internet international value chain and the Internet economics. It is about the business models and the pricing rules.
- A positive outcome is the growing consensus among industry and regulators on providing consumers with better transparency and informed choices.



Net Neutrality – Traffic explosion

- Hungry-bandwidth usage by more powerful devices. Internet Protocol is designed to occupy all the available capacity.
- The number of Internet users has grown rapidly to 1.7 billion people in 2009, a quarter of the world's population. The strongest growth coming from emerging markets, Brazil has already more Internet users than any European country.
- More devices connected, smart-phones and Internet connectable terminals (televisions and game consoles).
- The huge traffic explosion has led to service problems due to congestion, financial problems related to network sizing, problems with the allocation of shared resources, and difficulties in establishing appropriate price structures.
- According to a study by Vodafone video services account for more than 70% of all the traffic on the consumer internet yet contribute to less than 10% of the revenues. 20 hours of video are uploaded to Youtube every minute. In 2008 file sharing and video on demand accounted for nearly three quarters of bandwidth but only 8% of revenues.
Disconnect between the prices paid and costs.

Net Neutrality – Mobile services

- The explosion is particularly notable in wireless. Google predicts that mobile data and Internet traffic will increase 66 times between 2008 and 2013 and that the US will run into a spectrum deficit in 2013. In the US, according to industry data, there are more than 639 mobile handset options from 32 different manufacturers, in addition to netbooks, laptops, e-readers and tablets.
- The Apple App Store launched in 2008 offers more than 250,000 applications, the Android market more than 130,000 and the Blackberry App World offers at least 10,000. Skype offers versions of its software on mobile operating systems for the iPhone, Symbian and Android phones but not for Windows Mobile due to technical issues. AT&T permits VOIP applications on all of its handsets.
- The issue is that applications providers or device manufacturers do not always have incentives to create software or hardware that uses bandwidth efficiently and some applications consume inefficient amount of bandwidth.
- The US recognizes the looming spectrum crisis and that wireless broadband networks may pose different network management challenges. For instance, absent network management as few as 5% of users can monopolize cell capacity.

Net Neutrality – Wholesale Interconnection

- Internet is a network of networks and interconnection is vital. Network congestion may also come from problems in the wholesale interconnection market.
- Traditionally wholesale interconnection has been based on either free peering or paid transit. Peering agreements are based on traffic balance, no payments, no guarantees of quality, rarely subject to formal contracts. Most carriers have published their public peering policies and the maximum allowance for traffic imbalance.
- If peering is not available due to asymmetric volumes, companies may agree on transit agreements with financial compensation.
- Content providers that own large networks are able to peer with major operators. Local networks are experiencing a growing asymmetry regarding the ratios of incoming/outgoing traffic.
- The unilateral and imbalanced increases in traffic by players higher up in the Internet value chain can not be resolved by traffic management alone and may require changes in the peering/transit agreements.
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Net Neutrality – Traffic Management

- Operators has always use traffic processing techniques at different layers on the network to improve the experience of all users and must continue to do so. Any new intervention in traffic management would be premature.
- Currently regulatory framework in Europe is sufficient to deal with any issues that the traffic practice management may arise. Competition law is an efficient tool to prevent any potential anti competitive practice. The revised eCommunciations framework gives NRAs additional tools (when transposed into national laws) to avoid the risks of blocking sites or applications.
- Issue is not traffic management but efficient use of capacity. Without a price signal for Internet use which covers network capacity costs, any increase in capacity will lead to an equivalent increase in traffic demand, or the exclusive benefit of the providers and users that are likely to occupy bandwidth.
- An appropriate economic signal for access at the wholesale access level would create incentives for efficient capacity use.

Net Neutrality – Managed services

- Managed or specialized services are designed to provide guarantee characteristics as stated in contractual agreements. Examples are IPTVP, VOIP, telemedicine, smart grid. Also services designed to meet business customers specific needs including security, quality and reliability.
- In the US, the opportunity to compete for additional revenues streams from differentiated services was necessary to support a business case for fiber deployment. Same in Europe where the development of broadband Internet access was driven by revenues from triple play packages offered by ISPs.
- Progress made on networks to improve managed services has also been beneficial to Internet access. AT&T and VZ contend that the Internet services offered over the new fiber networks (U-verse and FIOS) are more robust that under the old DSL platforms.
- In the EU there is no need for additional measures on managed services within the eCommunications framework.

Net Neutrality – Value chain

- ✓ Operators (Telecommunications carriers and Internet Service Providers)
- ✓ Information Society Service Vendors (upstream / over the top)
- ✓ Terminal manufacturers
- ✓ End users



Net Neutrality – Internet Ecosystem

- Neutrality has to be ensured throughout the value chain, including content, applications and devices.
- Some leading content and applications providers have the financial resources to prioritize their traffic, for instance by rolling out private networks for their exclusive usage, these networks are not open to other operators. Content providers can also buy CDNs from third parties like Akamai or Limelight.
- Some of parts of the Internet chain are consolidated in a few players that are not covered by the eCommunications ex-ante regulation. For instance, according to a study by Vodafone, there is consolidation in the following parts of the chain: operating systems, smart-phones, search, games consoles, music and video. In 1999, Google captured only 4% of global search revenues, today Google has two-thirds of the market. In social networking, Facebook did not exist in 2003. Five years later, it held 23% of the market.

Net Neutrality – Access Traffic Economics

- Proposals for service providers to contribute to the network cost generated by their traffic.
- Contribution should be reasonable, equivalent to the level of the variable cost of the service and proportional to the level of traffic generated.
- The party best placed to understand the price signal and to control the volume of traffic generated to pay. Ultimately consumers do not have control over the traffic they receive.
- Devices which enable content viewing which uses large amount of bandwidth capacity should also contribute to a fair remuneration of the network resources that they use.
- If appropriate Internet traffic economics cannot be implemented traffic management role in providing quality to all customers will become even more critical.

Net Neutrality - Transparency

- Agreement on the need for transparency and informed consumers' choice.
- Critical in developing markets with nascent competition or regulatory frameworks.
- According to BEREC the majority of NRAs have received complaints about the difference in advertised and actual speeds.
- A definition of minimum quality of service requirements may be too prescriptive. Caution for regulators not to take on the role of network engineers.
- Transparency and consumer choice could be a priority for regulators in Latin America.

Net Neutrality – International

- Premature to consider regulatory intervention with respect to NN in Europe. Besides, concerns regarding impact on EU competitiveness before adopting any new regulation and potentially increasing regulatory pressure on European operators.
- In the United States, FCC may have to reclassify Internet access as a regulated telecom service to have authority on NN. After mid term elections political environment is not favorable to NN for fears of negative impact on investment and jobs loss.
- Latin America? Chile has recently issue a NN law, but requires implementation by Subtel. Proposal for NN legislation in the Mexico Senate. Users can benefit from greater transparency and information.