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Net Neutrality and Mandatory Network-Sharing: How to disconnect the continent

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Abstract

A lively debate emerged on the proposed "Connected Continent" legislative package presented by the European Commission in September 2013. The package contains a proposed rule on the 'open Internet', which was heavily discussed in European Parliament hearings in early December. This commentary argues that while the proposed rule is in principle balanced and appealing, it is utterly impractical due to the enormous uncertainty that its application would entail. At the same time, the rule is very far from what neutrality proponents have argued for almost a decade: rather than the place for internet freedom, it would transform the Web into a place requiring constant micro-management and tutoring of user behaviour. Both arguments lead to the conclusion that the current proposal should be at once reformed and analysed under a more holistic lens. On the one hand, Europe should launch an ambitious project for the future, converged infrastructure by mobilising resources and reforming rules to encourage investment into ubiquitous, converged, 'always on' connectivity. On the other hand, enhanced legal certainty for broadband investment could justify a more neutrality-oriented approach to traffic management practices on the Internet. The author proposes a new approach to Internet regulation which, altogether, will lead to a more balanced and sustainable model for the future, without jeopardising user freedom.

The "Connected Continent" package presented by the European Commission on 11 September 2013 promises a significant change of direction compared to the previous e-communications framework adopted at the EU level in 2002 and revised in 2009, but also significantly complemented by additional layers of regulation (e.g. on international roaming) over time. The Commission attempts (for the third time, after 2001 and 2006-07) to acquire a stronger control over remedies proposed by national regulators, and to foster more pan-European coordination in the award of spectrum in key bands (such as the 700Mhz and 800Mhz bands). Both proposals are likely to meet substantial hostility in the European Parliament – where the package has been recently discussed in public hearings both by the ITRE and the IMCO Committees – and most notably in the Council, which can easily be defined as the strongest opposition to further delegation of regulatory competences to the EU level in this field. And at the same time, even before being diluted during the legislative procedure, both proposals already appear too 'shy' to really trigger the shift of gear that Vice President Neelie Kroes has announced for the remainder of her mandate.

Against this background, remarkable prominence has been given to a proposal contained in the package, which addresses with more emphasis than before, the issue – once

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termed as "irrelevant" for Europe – of net(work) neutrality, i.e. the principle based on which Internet Service Providers (ISPs) should not be allowed to inspect the packets of data (bits) that flow on their networks, and accordingly should not be able to block any application or content (with the exception, widely recognised, of spam filtering), and should not be allowed to prioritise or degrade the speed of any packet. Likewise, ISPs, under mandatory net neutrality regulations, would not be allowed to create 'toll lanes' on the Internet by offering guaranteed Quality of Service (QoS) to some application or content providers in exchange for a fee: as a result, forms of product differentiation such as those available in many other sectors (think about the various levels of service offered by airlines, or by express couriers) would not be allowed on the Internet, at least at the infrastructure layer (see Renda, 2010b).

Endorsing this principle, many argue, would be the first and foremost pillar that guarantees that the Internet remains 'open', i.e. an environment in which end users can access any content, any time, anywhere and from any device without being inspected or manipulated by their ISPs. This, in turn, is said to represent an essential precondition for the Internet to allow freedom of expression and pluralism: not only the possibility of shaping or blocking traffic might lead ISPs to place in a 'dirt track' applications that do not have enough resources to acquire minimum, guarantee quality of service; but the possibility of inspecting packets of data might also easily offer an opportunity to exercise censorship and jeopardise the extraordinary potential of the Internet as a means of enhancing democracy.

Following these considerations, countries such as the Netherlands, France, Slovenia and – to a more limited extent – the United States have adopted legislation that seeks to carve in stone the principle of net neutrality, thus making it almost impossible for a network operator to manage traffic on its own infrastructure. However, other countries (e.g. the UK) have taken a completely different approach, claiming that the creation of 'toll lanes' (termed specialised services) on the Internet might provide ISPs with an opportunity to monetise their investment in new, high-speed networks.

Net neutrality in the Connected Continent: Five syndromes to avoid

In this fragmented regulatory scenario, the European Commission has proposed a rule that seeks to strike a balance between these opposing stances. On the one hand, the Connected Continent package recognises that net neutrality is "what keeps the Internet open", and as such should be the default principle for all ISPs in the EU28. On the other hand, however, the proposed rule leaves the door open to the creation of 'specialised services' through agreements between ISPs and application/content providers, under the condition that such services "do not disrupt the open Internet". This, in turn, means that national regulators should monitor Internet traffic and enforce remedies whenever they see that ISPs are degrading the level of service for the end users on the 'open Internet' below a certain level of quality.

With the exception of some neutrality 'extremists', who do not recognise any merit in the creation of specialised services, to the majority of commentators the proposal looks balanced and commendable. Also the European Parliament's IMCO Committee, though replacing net neutrality with a reference to the "open Internet", is essentially in line with the Commission's approach. However, the proposal raises a number of concerns, which will have to be fully addressed already at the adoption stage, if the proposed rule is to generate any benefit for European net-surfers. I address these concerns below, by referring to five 'syndromes', which I call the 'first legislate, then think' syndrome, the Galileo syndrome, the Trabant syndrome, the 'keys and lamp post' syndrome and the Stockholm syndrome.

Syndrome no. 1: First legislate, then think

Good regulatory practice requires that legislators think about the ease of implementation of proposed rules in practice, before deciding whether to adopt them. Pity that this practice is very seldom followed in Brussels, also due to the fact that implementation, enforcement and compliance take place at a much later stage and under the competence of national authorities, rather than EU institutions. Accordingly, it is often the case that rules conceived as

theoretically optimal in Brussels become very impractical when it comes to interpretation and implementation.

The existing EU rules on net neutrality, included in 2009 in Arts 20 and 22 of the amended Universal Service Obligations (USO) Directive, are a good example of close-to-inapplicable provisions. First, Art. 20 of the USO Directive mandates that network operators that manage traffic should inform end users in a transparent way of the practices they adopt, so that users can make an informed choice when deciding whether to subscribe. However, the rule says nothing about the way in which consumers will be informed: a thick manual of traffic-shaping practices drafted by the company's engineers would not help the average end user very much, I fear. Economists have argued since the 1960s that consumers cannot be asked to gain full information about the specifics of a given service (George Stigler argued back in 1961 that "rational ignorance" is to be expected in these cases). Accordingly, a synthetic, easy-to-grasp way of signalling the amount and type of restrictions or shaping that occur on a given network should be elaborated and offered to consumers in the form of a 'traffic lights' system or similar arrangement. Legislators have not thought about this, nor has the industry come up with a proposal to address the problem, and the rule has remained to date almost unapplied.

Even more importantly, Art. 22 USO introduced the possibility for national regulators to intervene and impose a "minimum quality of service" level in case the quality of certain applications became unacceptable for end users, arguably due to traffic management practices. As a matter of fact, this rule is the predecessor of the current proposal to empower regulators to intervene whenever specialised services significantly impair the functioning of the 'open Internet'.

But what does it mean to significantly impair? And what does it mean to reduce the quality of service to an unacceptable level? Quality of service inevitably means a different thing for different services and for different users. Since the speed and quality of delivery depends on the congestion found by the packets of data on the network, quality will also change across the territory and will differ at any given moment in time in different postal codes, neighbourhoods, buildings. How can national regulators patrol the Internet and provide an instant interpretation of all cases in which a given service has become too slow or low-quality for the end users? And what is the threshold of speed and quality that should be applied?

In a nutshell, the existing rules are impractical and the newly proposed rule will face even bigger problems of implementation, interpretation, discretion at local level, further fragmenting regulatory approaches in the single market. This despite the fact that the Connected Continent package aims at further strengthening the Single Market. Accordingly, a key issue should be addressed by the EU institutions in charge of the dossier: since the current rules on net neutrality are almost impossible to apply, how are they going to fix the problem before they adopt the new proposal on specialised services?

Syndrome no. 2 (Galileo syndrome): You build the pipes, they call the tune?

A few years ago, in 2007, the European Parliament had to cast a dramatic vote in a tense session dedicated to the Galileo project, aimed at creating a satellite system that would support EU communications (the so-called 'European GPS'). The Parliament's vote was aimed at deciding whether the amount of public funding devoted to Galileo could be tripled compared to the original budget – this meant an additional €2.4 billion. What had happened? The story, in short, is simply explained: the private sector had initially declared its interest in joining the huge new project, aiming to develop enticing commercial services for consumers and secure long-term contracts for military applications. However, the European Commission had later informed them that, at least initially, no commercial services nor military applications were envisaged on Galileo, only civilian use – hence the decision to withdraw participation.

The Galileo syndrome reminds us of the tendency of EU policymakers to assume that private players will do things just because they have the responsibility to do them, and not because a suitable business case for certain investment exists. Similarly, the debate on net neutrality and, more generally, on the EU Digital

Agenda has often taken investment incentives for granted. On the contrary, however, the EU is currently in a situation of profound *impasse* for what concerns the deployment of new, high-speed, high-capacity broadband infrastructure, whether fixed or wireless. This mostly occurred due to the application of a rule conceived for narrowband telecoms (mandatory sharing of the network infrastructure with new entrants) to the broadband world, *before* the infrastructure was actually built. Today, Europe finds itself with very limited coverage of very-high-speed broadband, and the need to provide telecommunications operators with some incentives to deploy optical fibre networks.

Faced with this emergency situation, the Commission turned to its net neutrality proposal as one of the only opportunities left to allow some monetisation of the upcoming investments in optical fibre. The rationale is easy to understand: if internet providers know that they will be able to charge application providers for quality of service when setting up so-called 'specialised services', then they will count on an additional source of revenue, and might eventually decide to deploy high-speed broadband; otherwise, full net neutrality will leave us with a simple dilemma: to build networks, share them with new entrants at regulated prices and make them available for free to application providers that compete with them in some services (SMS, voice calls); or to leave things as they stand, and enjoy the current situation a bit longer. What would you choose?

Syndrome no. 3 (Trabant syndrome): Is standardisation synonymous with democracy?

Another problem that emerged in the net neutrality debate in Brussels is the tendency to equate neutrality and democracy with standardisation of services. From consumer organisations to Members of the European Parliament, the temptation to advertise a fully "open" and "neutral" Internet as something that would serve the interest of the end users seems too strong to resist. The underlying idea is that, if bits are not discriminated on the Internet, end users will have the possibility to access all services and content they wish, through any device, anywhere, any time. In my opinion, under current conditions this assumption is heroic at best. To the contrary, a fully standardised, neutral, unmanaged Internet would serve users' interests just as the grey "Trabant" served consumer preferences in Eastern Germany under the Communist regime. Since no one should be discriminated against, let's give a bad, affordable car to everybody, with no possibility of upgrade.

Likewise, the absence of traffic management on the Internet and the absence of specialised services in the future means that all traffic, regardless of its need for timely delivery, will face the same traffic jam. It also means that consumers who wish to use the internet for very light applications (e.g. social networking) will subsidise heavy Internet users, since there is limited possibility to charge separately for bandwidth-intensive uses. And it also means that some services – from remote health monitoring to IPTV – will never take off due to the impossibility to guarantee any minimum quality of service. Quality will always depend on how much traffic there is on the information superhighway: no toll lanes, no guaranteed arrival time. How do you like it?

One potential counter-argument is that even with neutrality obligations for ISPs, the Internet will remain an extraordinarily lively playground in which application and content providers will manage to engage in product differentiation for the benefit of the end users. I turn to this issue in the next section.

Syndrome no. 4 (Keys and lamp post syndrome): What about other layers of the Internet?

A recurrent fallacy occurs when policymakers craft legal rules without adopting a holistic, comprehensive view of the problem. This reminds me of the man that was found looking for his car keys under a lamp post at night: when asked whether he had lost his car keys nearby the lamp post, he replies "no, but this is the only place where there is some light!"

If the ultimate problem that would trigger mandatory net neutrality obligations is that end users are entitled to a non-manipulated content and non-filtered applications, then policymakers should realise that the real restrictions to applications and content take place at higher

layers of the Internet architecture, where platform competition leads to reductions of interoperability, most often to the benefit of the end user. For example, applications that run on Apple's iOS are not portable to the Android ecosystem, and neither platform communicates with Windows. Apple has for a long time refused to accept Adobe Flash applications based on security and quality concerns: this means that Apple users will not have access to a number of applications powered by Flash.

In a nutshell, the application layer of the Internet is increasingly non-neutral: a recent paper co-authored by one of the inventors of the internet, David Clarke, shows clearly that the architecture of the 'network of networks' has become a conglomerate of sometimes open, sometimes proprietary platforms that are interlinked –. almost the opposite of neutrality. Is this a problem? Not necessarily, since the possibility to fence, at least partly, one's own ecosystem provide more incentives to invest in new platforms. Imposing neutrality and interoperability obligations on, say, Apple will probably be welfare-reducing for consumers in the long run. Is this a problem for innovation and entry of new players (the so-called "next Facebook" argument)? Again, no: the current rhetoric in Brussels is that only the open Internet will enable ease of entry for European start-ups. But in reality, some of the most successful start-ups in recent years in Europe – for example, Rovio entertainment – have found their way towards consumers through Apple's App Store, not exactly the open internet. All this since it is in the interest of large platform operators to exploit indirect network externalities and provide to their end users the largest possible variety of applications and content.

A similar logic can be applied to search engines, a hot topic on which the European Commission seems determined to impose new forms of neutrality. The current Google antitrust investigation is leading the giant IT company to propose new ways of showing results to the end users, which are apparently more 'neutral' and echo the rather unfortunate 'ballot screen' imposed on Microsoft a few years ago after the 'Opera' investigation by the European Commission. Without entering into the merits of the Google investigation (I promise to get back to it soon in another piece), what stands out as the "elephant in the room" is that a neutral search engine is not going to be very useful for the end users. The fact that on the Internet "a wealth of information creates a poverty of attention" (Herbert Simon) determines the success of those companies, like Google, that can retrieve results that match the needs of its end users Forcing Google to behave 'neutrally' would mean asking the company to significantly worsen its product, to the benefit of nobody in the long run. Another case in which the 'Trabant syndrome' is likely to surface (I will get back to this issue in more detail in a future commentary in early 2014).

Syndrome no. 5 (Stockholm syndrome): I love my captor!

The debate on net neutrality started in the United States after the *Madison River* decision by the FCC and rapidly became an epochal battle to defend the rights of the end users to access all content and, as the flip side of the coin, not to be censored on the Web. The Dynamic Coalition for Net Neutrality, recently created at the Internet Governance Forum in Bali, approaches the neutrality problem from a fundamental rights perspective, defining neutrality as a key driver of freedom of expression. This is certainly a powerful argument: a 'dumb' network is one in which no one can inspect and block communications on the basis of their content, and as a result no one can block 'undesired' content. Not surprisingly, many governments around the world that exercise censorship on a daily basis (China, Iran, Pakistan and many others) would not want to see this form of neutrality endorsed at the international level, and this explains many of their attempts to increase government control of Internet governance (including, most notably, the proposals filed by Russia, China and other countries at the WCIT conference in Bali one year ago).

So far, so good: but is the Commission's proposal on net neutrality really endorsing this principle? To me, it appears as if the Commission is indeed proposing a different policy measure. It is like end users were told "since we want to make sure that no one controls you and discriminates against you, we will watch you constantly, every day, every minute, and will inspect all communications that flow to and from your IP address, so that – should quality go below

certain levels – national regulators will immediately intervene". How aligned with the original sentiments towards net neutrality is this approach?

In my opinion, the proposal would create a huge monitoring system for Internet traffic: in the Datagate era, it is ironic to see neutrality advocates support a proposal that enables even more patrolling of what end users do. As a result, the debate boils down to an uneasy dilemma: either ISPs will inspect you, or public authorities will – the same public authorities that have spied on you and e-tapped you for years, while defending net neutrality in international fora. Have we end users fallen in love with our captors, or what?

Away from rhetoric, into tragic choices: Connected Continent and the dynamic nature of the Internet

As clarified above, it is at once meaningless and impossible to discuss the proposed rule on net neutrality without considering at the same time the broader picture of the development of the Internet ecosystem in the EU, and the ease of implementation of the rule. First, looking at the ICT ecosystem, it is important to observe that the Internet has become a complex conundrum of various types of infrastructures and platforms that operate across the original architecture of the network of networks, and often violate the original principle of separation of layers (Claffy & Clark, 2013). The more complex and rich the Internet ecosystem becomes, the more end users seem to feel the need for someone to guide them through the Web – hereby the role played by gatekeepers and platform operators, which normally extensively violate the principle of neutrality on their platforms, most often to the benefit of the end users. This new ecosystem is key to the future of our economies: the more we delegate key daily activities to the 'connected infrastructure' (think about cloud computing, or smart cities), the more we need that infrastructure to be in place, always on and resilient. This calls for urgent action to stimulate the deployment of infrastructure in Europe.

However, current data are not very encouraging: not only does the deployment of high-speed fixed broadband seem too slow to meet the targets of the Digital Agenda, but revenues are steeply declining for EU telecoms operators, with an expected 10% reduction despite a projected 900% increase in Internet traffic in the 2006-16 decade, according to European Commission data. And also in the mobile sector, which will be a key driver of growth in the years to come, Europe is doing badly thanks to a killer mix of uncoordinated spectrum policy and lack of clarity and certainty as regards neutrality. According to a recent study by CTIA, "the level of wireless capital expenditures in the US grew more than 70% between 2007 and 2013, while declining in the EU". The difference in spending was such that "by the end of 2013, nearly 20% of US connections will be on 4G (LTE) networks compared to less than 2% in the EU". The gap in the speed of connection is already huge (US users surf at double the speed of EU users) and likely to widen in the coming years. And almost ironically, in the US mobile prices are sharply declining and the average revenues per minute is less than one-third that the European average. As a result, between 2007 and 2011, the US wireless industry gained almost 1.6 million new jobs while total private sector jobs fell by 5.3 million.

Against this background, net neutrality seems to have become for Europe one of the only solutions left to trigger investment in new infrastructure without fully repealing its telecoms package, and avoiding a fight with member states on a fully centralised, and more dynamic, spectrum policy for mobile telephony. However, it is unlikely that the proposed rule will be easily applicable in practice, nor does it seem to be a suitable way to achieve the long-awaited single market for telecoms (Pelkmans & Renda, 2012). Hence, back to square one: how do we ensure that Europe gets back on track with broadband and, as a result, restores one of the key building blocks of future competitiveness?

To be sure, the answer cannot rely only on the trade-off between a largely inapplicable net diversity rule and a largely undesirable (if coupled with access policy) net neutrality rule. At the same time, the answer cannot rely only on competition law, and in particular on what Art. 102 TFEU prescribes in terms of abuse of dominance: the 'anticompetitive foreclosure' test current applied by DG COMP to exclusionary abuses is very difficult to interpret and apply to our case of blocking, or degrading the quality of,

applications and content. Thus, ironically enough, perhaps the main (if not unique) virtue of a mandatory net neutrality rule is that it provides more clarity and certainty than any net diversity rule, coupled with extensive monitoring and patrolling of QoS on the Internet.

Faced with this *impasse*, in my opinion the EU should attempt to shift gears by adopting a number of new, courageous initiatives. First, the EU should launch a 'grand project' on infrastructure, aiming at enhanced integration between existing large players in the fixed and wireless sector in Europe, and between them and other utilities (e.g. electricity companies, in view of the deployment of smart grids): this move should be coupled with a more flexible approach to wholesale access, with high-speed broadband being potentially exempt if the company respects basic canons of fairness in pricing and activism in new investment. This 'grand project' could be launched explicitly during the upcoming mid-term review of the Europe2020 strategy, together with other two large initiatives on education and employment (I will get back to this issue in a future commentary).

Second, priority given to infrastructure should also mean that EU budget resources and national funds should be reoriented towards infrastructure to a large extent. Third, the EU should multiply efforts to convince member states that the allocation of spectrum should be more centralised in certain bands (e.g. 700 MHz) and tightly coordinated in others (e.g. unlicensed spectrum for wi-fi) As I have already mentioned in past commentaries, a pan-European spectrum auction seems to be the only way for the EU to 'erase and rewind' after a decade of unnecessary, systematic fragmentation of the wireless market, and move towards the creation of pan-European, strong mobile operators that can negotiate more balanced conditions with giant mobile platform providers. Fourth, a list of reasonable traffic management and data management practices should be developed in cooperation with industry and in alignment with US rules (this is likely to become a hot issue during the TTIP negotiations): we cannot afford to keep divergent rules in the age of the global Internet and emerging new platforms. Fifth, the creation of separate networks that do not rely on the global Internet should be made possible (along the 'Comcast' model in the US), subject to clear competition rules.

Sixth, the application of competition rules and the interpretation of the concept of neutrality in cyberspace should be clarified through a joint communication of DG COMP and DG CONNECT, to be subject to extensive consultation. Otherwise, the net neutrality investigation and the Google investigation might end up leaving the whole Internet ecosystem in a state of uncertainty: internet providers, cloud providers, search providers, Operating Systems developers will not know whether, should they succeed in the market, a public authority will knock at their door with some intrusive requests that end up disrupting their business model.

Finally, ISPs should simply be made responsible for guaranteeing the speed they advertise, users should be empowered with measurement tools, and in case of gross, systematic deviation from the promised speed, they should be given speedy online redress procedures.

These rules, altogether and coupled with a pro-active approach to skills and employment, might lead Europe back on track in the global competitiveness race and will provide the Internet ecosystem with a long-awaited sense of legal certainty. This approach also does not require intensive monitoring and straight-jacketing of the Internet, nor acrobatic efforts to communicate to consumers which throttling measures are envisaged in a given network, and not even heroic definitions such as minimum QoS, disruption of the open Internet, and the sort. To be sure cyberspace will remain the domain of diversity – but this privilege will be left to those layers that have shown to be much less stable and more transient in the past years, compared with the more stable infrastructure layer.

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