

Net neutrality-related excerpts from industry submissions in response to ICASA’s [Notice of Public Inquiry into the State of Competition in the Information and Communications Technology Sector March 2014](#)

<p>Broadband Infraco</p>	<p>7.1 Broadband Infraco understands net neutrality as meaning: The setting of the terms, conditions and prices set by broadband Internet service providers restricting their ability to use innovative network management technology, provide appropriate levels of quality of service, and deliver new features and services to meet evolving consumer needs, effectively treating all Internet traffic equally.</p> <p>7.2 Net neutrality opponents recommend legal and regulatory restrictions on broadband Internet access services to effectively mandate the terms, conditions, and prices set by broadband service providers. They argue that net neutrality would restrict their ability to use innovative technology to manage their networks, provide appropriate levels of quality of service, and deliver new features and services to meet evolving consumer needs.</p> <p>7.3 Supporters of net neutrality believe, on the other hand, that greater regulation is needed to prevent service providers from limiting bandwidth or services and creating two classes of Internet experience. Net neutrality advocates are of the opinion that net neutrality would prevent phone and cable firms from discriminating “both technically and financially” against companies providing online services. “Instead of permitting individualized bargaining and discrimination, they says, the commission’s (Federal Communications Commission) rules should protect users and Internet companies on both fixed and mobile platforms against blocking, discrimination, and paid prioritization”.</p> <p>7.4 The effect of net neutrality would allow the content of paying customers to be delivered at much higher quality of service levels than content from non-paying customers.</p> <p>7.5 In South Africa, traffic prioritisation is not new. Since the launch of ADSL, traffic shaping has been implemented, with unshaped data accounts available at a higher price. In the past South African consumers had to pay more for unshaped data and therefore better service levels on some traffic.</p> <p>7.6 The new FCC (American) model places pressure on companies to pay for prioritised traffic to ensure better service levels to consumers who use their products.</p> <p>7.7 The principle of net neutrality would, in our view, restrict the operators’ ability to effectively manage their networks in the best interests of their customers. A tiered system of broadband service provisioning is commercially and technically preferable because it incentivises network operators to optimise their investment and infrastructure deployment, management and maintenance.</p>
<p>Cell C</p>	<p>No specific submissions on Net Neutrality.</p>
<p>eTV</p>	<p>No specific submissions on Net Neutrality.</p>

Institute of Information Technology Professionals South Africa (IITPSA)	<p>No specific submissions on Net Neutrality.</p>
Internet Solutions	<p>This non-discriminatory requirement inherent in the concept of Net Neutrality is what fundamentally drives competition and innovation of those that make use of those services, as all players and new entrants to a market are operating on an equal playing field. All of 18 these principles are well understood, and well tested. The key issue for ICASA to address is to unequivocally define the access network as part of the greater telecoms network, that it is regulated according to the same principles. By doing so, ICASA will ensure competition and innovation in the access network provisioning space, as subscribers to the service can select a network provider on its specific merits and price point, and not on the (possibly non-optional) bundling of additional services. At the same time, consumers and businesses can choose from a range of information service providers that compete based on affordability, quality of service and innovation.</p> <p>A proposed approach to regulating for Net Neutrality is to return to the basic principles of “common carrier” regulation:</p> <ul style="list-style-type: none"> • The intent of the “common carrier” principle is to allow companies, in this case network operators, to build businesses in a stable and dependable regulatory environment. In return, they serve the public good by providing services on a non-discriminatory basis to those that wish to use those services for their private or business requirements. • The benefits to telecoms companies of being regarded as “common carriers” is that they are given latitude by government to do things that most other companies cannot, such as trench cables over public land, install base stations and cabinets, buy and use spectrum, even demand access to private property to build network infrastructures (S21, 22 of the ECA). • The access network must be considered as being of the “common carrier” category, as while the access network includes the “last mile” that may be a dedicated connection between a telco’s fixed line streetside cabinet or base station and the specific subscriber’s premises. It is a fundamental part of the network’s capability to deliver connectivity to the rest of the Internet. <p>With this in mind, telecoms companies cannot have it both ways, to be regulated as common carriers in the backbone, but not on the access network. In all cases, the access and distribution network (physical and IP layer) must be considered separately from service layer (any application running over connection), as “common carrier” benefits are a prerequisite to build a large scale physical network, but are not a prerequisite to provide an over-the-top service. In US telecoms policy parlance, they describe these two respectively as “telecommunications services” and “information services”.</p> <p>Essentially, by allowing network operators to mix and match services provided under “common carrier” and non-common carrier regimes allows them to cherry pick which regime suits them better, whether or not it is in the interests of the public good or competition. In effect, explicitly defining the access network as part of the “common carrier” regime of the core and distribution network (i.e. mandated non-discriminatory access), in effect brings about Net Neutrality with the overwhelming benefits. This policy has already demonstrated in improving competition,</p>

	driving innovation and allowing small players and start-ups to compete and grow.
ISPA	<p>How will issues of net neutrality come into play?</p> <p>35. What does “net neutrality” mean?</p> <p>35.1. There is currently no uniform definition of the term “net neutrality”.</p> <p>35.2. ISPA has stressed transparency in offerings to customers, and the industry should support choice for consumers as being key elements of Internet access provision.</p> <p>35.3. Shaping bandwidth is a normal part of network operations at different levels, and is to a significant extent a normal day-to-day part of running Internet networks.</p> <p>35.4. The key is that this is done transparently so that it is clear to the consumer what is being purchased.</p> <p>35.5. To this end ISPA has developed a terminology guideline document which seeks to clear up terms used to describe services. This is included as Appendix A to this submission.</p> <p>36. ISPA’s position can be summarised as follows:</p> <p>36.1. There must be fair and open competition in the provision of Internet access and content services. Rules should primarily relate to a prohibition on unfairly prioritising your own network traffic over those of other network operators. Existing competition law in SA and the fundamentals of the ECA can be used to deal with anti-competitive practices.</p> <p>36.2. Customers should always be in a position to make an informed choice. Customers should always be aware of the specification of the service they are being provided.</p> <p>36.3. If a customer wants an ISP to provide services which are prioritised in some way, there should not be regulations which prevent an ISP from offering that as a service.</p> <p>36.4. If a content distributor wants to allow an ISP to offer better access to their services, with the customer’s permission, then the market should also support that. Some content providers take steps to move content close to consumers, and this can be very useful in terms of quality of service experienced by users.</p> <p>36.5. A service provider needs to have some flexibility when it comes to building a network.</p> <p>36.6. Prioritising of certain content is less of an issue if it isn’t happening at the expense of deprioritising other content.</p> <p>36.7. There is already an increasing trend towards zero-rating certain services and – to the extent that the benefits to consumers of doing so outweigh potential anti-competitive effects – this should be accommodated.</p> <p>37. ISPA does not believe that there is currently a case for any regulatory intervention regarding net neutrality but that the Authority should strive</p>

	<p>to reach an understanding of the underlying forces which are shaping the debate in other jurisdictions.</p> <p>38. In this regard ISPA notes that “net neutrality” has become a major issue in the United States because of the effective monopoly (duopoly in some areas) in the provision of cable access services and the dominance of the cable providers in the Internet access market as a whole. ISPA does not believe that the manner in which the issue is being addressed in US is particularly helpful in the local market, which is at a different stage of development and which has a different set of fair competition issues.</p> <p>Certainly there are currently far more important (and manageable) issues to be addressed in South Africa.</p>
<p>MTN</p>	<p>Network neutrality as a concept has acquired two distinct meanings in the public debate.</p> <p>Unfortunately it is not clear from the very short reference to “net neutrality” what ICASA’s understanding is of the concept or what ICASA sees as net neutrality. Consequently, MTN had to take a broad approach to answering the question.</p> <p>One meaning of net neutrality is focused on the regulation of bandwidth. Some advocates of net neutrality are worried about attempts by broadband Internet suppliers to depart from the traditional best-effort packet forwarding and wish to prevent network operators from differentiating the speeds with which packets are delivered. The second approach focuses on universal access to the resources connected to the internet. It is derived from the end-to-end principle and seeks to prevent the blocking of access to web sites by network operators, and their establishment of walled gardens or similar kinds of limits on the content, applications and services that can be accessed by Internet users.</p> <p>MTN maintains that bandwidth management is not network neutrality. However, for some, network neutrality means the opposition to any form of differentiation of a network operators bandwidth. MTN address both interpretations below -</p> <p>Given the wide variety of services and applications that can be delivered over broadband Internet, carriers are beginning to consider business models that differentiate the speed or priority with which packets are delivered. It has been argued before the US Congress, that the heart of the Internet protocol is the agreement that all data packets will be passed through without regard to which application created them or what's inside of them. This reliable, uniform treatment of packets is precisely what has made the Internet a marketplace of innovation so critical to an economy, thereby implying that the Internet protocol itself somehow embodies an agreement to treat all packets equally. But this is misleading and inaccurate. The TCP/IP protocols define an address space and a manner in which to assign information into packets, assign addresses to them, and reassemble them at the destination.</p> <p>The protocols don’t care whether someone reads what is inside the packet or makes a routing priority decision based on the header information or the payload along the way;</p> <p>TCP/IP continues to work as designed irrespective of whether that happens.</p> <p>In fact, prior to the issue of net neutrality, Internet Engineering Task Force (IETF) working groups were creating “quality of service” protocols such as “Diffserv”, which were designed to differentiate between packets based on the type of service involved. Today, virtual private networks (VPN’s) carve out special “tunnels” for the exclusive use of heavy users, either for traffic prioritization or security purposes. In addition, Akamai and similar network management firms offer their clients faster content delivery by removing critical traffic from best-effort routing and moving it onto routes that are prioritized. One critical addition is that the content delivery networks (CDNs) distribute content to caches sitting on the network edge.</p>

Access to this higher priority and caching technology does come at a premium.

Services that are popular enough (based on distributed consumer uptake) will utilise a CDN service to optimise service delivery to the benefit of the consumer. Under the net-neutrality proposal (i.e. all data treated equally arrangement) this would not be possible as smaller firms would not be able to access expensive CDN infrastructure and are disadvantaged. As such, under a purely net neutral network all of this infrastructure would be removed. The result would be a breakdown of the internet's global backbone as it would need to carry this huge static content from source to destination, without any intermediaries to minimise this impact.

Furthermore, if we want to encourage a faster and more capacious broadband Internet it makes sense to encourage network operators to try to gain a competitive advantage by offering faster speeds for a higher price. In addition, bandwidth differentiation also might make service cheaper by reducing the amount of capital investment required to expand infrastructure (Houle, Ramakrishnan, et al, 2007).

To imply that the differentiation of bandwidth or management of bandwidth would divide the user experience of the internet between rich and poor ignores the fact that the public Internet is and will continuously be characterized by huge differences in the levels of bandwidth consumed by households, businesses, hosting providers and web-based service providers.

Indeed, there would be no broadband Internet at all if some people weren't allowed to pay more than dial-up subscribers for the higher speeds of cable modems, DSL or fibre.

It is true that anti-competitive abuses of bandwidth tiering are possible. However, the argument holds that without neutrality rules, network operators could use packet-inspection technologies to favour the transmission of their own content and applications, or those of their affiliates. These concerns are real and important. But they are relevant only insofar as bandwidth management techniques are part of a strategy of vertical integration by network operators into content and applications, or when they are used to censor or block access to Internet resources. In other words, the issue is not bandwidth differentiation per se, but rather anti-competitive discrimination.

There are many real incidents of Internet blocking and censorship by network operators and governments. The most famous example is probably the Madison River case, in which a regional telephone company in the United States used port blocking to prevent its subscribers from using Vonage's voice over Internet protocol (VoIP) service.

In addition to interference with content and applications by private players, governmental blocking and filtering of Internet content has become increasingly common, even in some nominally democratic countries. This view of Net neutrality does not necessarily mean that any and all restraints on content and expression must be eliminated. It simply asks that public Internet service providers not be used as the chokepoints to impose them.

Possession, production and publication of illegal content can still be punished, but a net neutrality principle requires that we confine that regulation to the responsible users and avoid, or minimize, interfering with universal Internet connectivity in our attempt to do that.

This view of net neutrality also permits blocking of users or domains that disrupt or impair the technical functioning of the network, such as illegal spam sites or generators of DDoS attacks. These kinds of activities are, quite literally, "crimes against the network." They threaten the very freedom of access a net neutrality policy is intended to defend, and thus it is legitimate to suppress them. Whereas the bandwidth-oriented approach to net neutrality is grounded in a belief in the inherent ills of market-driven service differentiation, the access-oriented approach welcomes competitive

	<p>markets and innovation.</p> <p>Further to this it appears that respected regulators in both the US and the UK support the view that the management of bandwidth by operators who supply broadband is not deemed to be defined as “net- neutrality”.</p> <p>Accordingly, MTN is in line with the position taken by both the FCC and OFCOM regarding the concept of net neutrality, in that it can result in a de-investment in infrastructure from network operators. The concept limits the network operator’s ability to monetise a massive investment and hence would deter the operator from making that required investment in the sector. Further, with the exponential growth of data traffic being experienced globally, so too does the capital investment in the networks to cater for this need. Subsequently, the pricing for the traffic needs to be transferred to either the consumer or a service provider all whilst the consumer is demanding lower pricing.</p> <p>MTN supports the idea of an open internet where no service need be concerned of censorship of their service. However, due to the vast investment MTN has made in broadband infrastructure to enable South Africans to communicate, MTN should be able to monetise that investment in ways that don’t disadvantage smaller players. With that recommendation in mind MTN proposes the following:</p> <ul style="list-style-type: none"> • To ensure effective competition the operators should adhere to principles of transparency to ensure that consumers can make informed decisions; • Subsequently, MTN suggests that the management of such a task is left to the market within an open competitive environment. This approach would minimise the effort in regulating the issues of blocking and discrimination as it would be in the operator’s best interest to provide access to services the consumer demands; and • To allow the operators to still remain innovative and ensure returns on the investments made without prejudicing any services through the imposition of a minimum quality of service. This would safeguard the best effort access commonly associated with an open internet whilst still allowing the network operators the freedom to monetise their investments as desired.
Multichoice	No specific submissions on Net Neutrality. Did not engage with substantive issues at all.
Neotel	<p>With regards to the impact of net neutrality and disruptive technologies on the competitive landscape, Neotel respectfully submits that while net neutrality is an issue that should be of concern to the Authority, it is not an issue that currently has any significant impact within South Africa. The history of telecommunications is a history of disruptive technologies, and the players that are best able to exploit new technologies succeed.</p> <p>Briefly, this is the essence of competition, and the ability to deploy new technologies should generally not be restricted, unless they infringe in some way on the legal rights of existing providers.</p> <p>The impact of net neutrality and disruptive technologies on the competitive landscape</p> <p>79. While net neutrality is an issue that should be of concern to the Authority, it is not an issue which currently has any significant impact within South Africa. The conflicting pressures from content providers and service providers on the Internet that is being felt in North America and in Europe, in particular, are not being felt in South Africa. In general, South African service providers generally adopt an approach that is supportive of net neutrality, and there are no sizeable content providers (other than the obvious global players such as Google) in the market, and hence there</p>

	<p>are not currently attempts to limit end users' access to some content in favour of other content.</p> <p>80. The stance taken by regulators elsewhere has been to strike a reasonable balance between users paying for what they use, including better access to some content (such as unshaped broadband), while not limiting the ability of any content provider to reach any user within these constraints. To argue that all users should get the same service, regardless of the cost to implement, is not logical or economically sound. However, service providers should also not be able to restrict access to some content in favour of other content, i.e., all content should be treated equally.</p> <p>81. The history of telecommunications is a history of disruptive technologies, and the players that are best able to exploit new technologies succeed. This is the essence of competition, and the ability to deploy new technologies should generally not be restricted, unless they infringe in some way on the legal rights of existing providers. For example, the ability to deliver Voice over IP, while extremely disruptive to the traditional voice industry, is not something that telcos should be protected from. As with other technologies, the effect of Voice over IP has been to create a more competitive voice market, including driving incumbent telcos to be more efficient.</p>
<p>South African Broadcasting Corporation (SABC)</p>	<p>No specific submissions on Net Neutrality.</p>
<p>South African Communications Forum (SACF)</p>	<ul style="list-style-type: none"> • SACF members noted ICASA's comments during the pre-meeting briefing concerning the confusion in determining a net neutrality definition and strategy in the USA, and the contrasts with the approach adopted by the EU nations. The members also noted ICASA's efforts to define a "net neutrality" regulatory initiative for South Africa, as part of this inquiry process to set a future enabling competitive environment; • Some SACF members advised caution against defining a rigid net neutrality regime, noting that some of the implications surrounding net neutrality would be difficult to deliver effectively given South Africa's relatively underdeveloped broadband infrastructure, especially in the fixed broadband domain. SACF members also noted the recent concerns expressed by some EU operators on the rigid approach adopted by the EU, noting their concern that such rigidity is inconsistent with most existing national broadband networks that could suffer severe congestion if strict net neutrality was enforced. SACF members also noted ICASA's thinking on net neutrality and further believe that deeper consultation with the industry is needed before final conclusions are reached. • Other SACF members believed that irrespective of the limited national broadband capacities and coverage, net neutrality definitions and rules must nevertheless be developed in advance so as to steer the broadband sector towards the desired capacity and quality of service levels. One leading SACF member thought that South Africa is in a different space to the USA, which is a uniquely "American problem seeking a solution". • Some SACF members held the opinion that the principles of net neutrality could be further promoted through early allocation of high demand spectrum that would enable operators to provide broadband services that were better able to meet customer demands and expectations. • SACF members noted a major misunderstanding by ICASA on the question of mobile telephony services having moved to an all-IP platform

	<p>– they have not. Given the rapidly growing demand for mobile data services, fuelled by the poorly developed fixed broadband infrastructure, there is most certainly data off-loading onto IP infrastructure, but the basis for South Africa’s mobile services remains circuit switched and not packet switched. Migration of the national mobile telephone networks and services will be immensely costly and time consuming, irrespective of the advantages offered by convergence and its FMC variant: all legacy mobile networks and user terminals would need to be replaced. Data services accessed via smart phones and tablets over 3G infrastructure are not representative of full convergence onto IP platforms – they comprise advanced data services derived from legacy circuit switched infrastructure.</p>
<p>Telkom</p>	<p>THE IMPACT OF NET-NEUTRALITY</p> <p>Net neutrality is a catch-all phrase which incorporates a number of dogmas. These include that:</p> <ul style="list-style-type: none"> A. there should be no Quality of Service (“QoS”) differentiation on the Internet, claiming that “all bits are created equal” and that this will lead to a “Tiered Internet; B. there should be no throttling of applications on the Internet (also known as shaping); C. there should be no blocking of lawful applications e.g. Port 80, VoIP; D. there should be no content filtering; and E. the Internet should be open to all Web Standards. <p>The concepts of Net Neutrality, Open Internet, Open Communication and Common Carrier (in the legal sense of the term) are often blurred. Many articles have attempted to define Net Neutrality and their pros and cons. Most of the debate, however, seems focused on items (1) through (3) in that order of precedence.</p> <p>Telkom concurs with those who advocate that the imposition of Net Neutrality, if permitted by law, would result in consumers having less choice and lower quality of service. For example:</p> <ul style="list-style-type: none"> a. Emergency applications will receive no preference over conventional traffic. A costly, fully separate network will need to be built to handle disaster situations. b. Socially beneficial content e.g. education, will queue behind commercial applications e.g. pornography - which themselves may not be subject to filtering. Advocates of Net Neutrality paint a perverse view of the world where telecoms companies cosy-up to fee paying content providers and in so doing neglect consumers. Yet, the business model of an ISP is based on the premise that consumers will access the content they want at an acceptable quality. Consumers are more likely to welcome any efforts from telecommunications companies to have content providers pay for the bandwidth upgrades to their networks (as per the United States), in South Africa the entire Internet experience is funded by subscription fees from consumers. <p>ISPs aggregate internet bandwidth (of their consumers) to negotiate lower transmission prices and then seek to prevent abuse by instituting “Fair Usage” policies of shaping and capping. Without these policies it would be technically impossible to enforce fair usage and the estimated 2% of bandwidth users, namely “Bandwidth Hogs” (who are effectively cross subsidised by others consumers). These policies keep cost per user lower. It</p>

	<p>is necessary to create a “Tiered Internet” based on the argument that consumers themselves are tiered in their appetite for bandwidth.</p> <p>On the matter of network prioritization, telecommunication companies across the world, including South Africa, are employing Quality of Service (“QoS”) Standards created by the Internet Engineering Task Force (“IETF”) standards organisation since. Companies have been selling IP-QoS virtual private networks (“VPNs”) in the corporate market since the 1990’s. This has allowed companies to accrue the savings of VoIP through “toll-bypass” i.e. placing their Enterprise VoIP applications into VPNs. Without QoS, VoIP can only work reliably (due to jitter concerns) if network utilizations remain below 5%. Doing away with</p> <p>QoS would mean that companies would no longer be able to use the other 95% for e-mail and other corporate applications, and would have to pay for the spare capacity on the network.</p> <p>Consequently proponents of Net Neutrality are misguided, and the current practices of telecommunications operators prioritising and throttling traffic are in the consumers’ best interests – if one product does not meet the requirements of a consumer, there are always others which are better tailored to meet their needs.</p> <p>Lastly, there are no provisions in the EC Act that would support the introduction of a “Net Neutrality Framework”. The provisions in the EC Act, which speak to non-discrimination, are sufficient to ensure consumer protection without the unintended consequences that would result from imposing net neutrality.</p>
<p>Vodacom</p>	<p>Vodacom supports an open Internet, and enables many Internet services to work better over its network For example, Vodacom may improve customer experience of the Internet by making video work better on small screen mobile devices, or prioritise time sensitive services, such as VOIP, over those where some delay does not matter, such as receiving an e-mail. Vodacom is also able to make Internet services cheaper by managing different services across a finite amount of network capacity while maintaining quality. Overly onerous net neutrality rules can restrict these benefits and there is no apparent reason to Vodacom why restrictive regulation would be desirable or relevant in South Africa.</p>