Speech to the Portfolio Committee on Communications

Honourable members
Honourable Chairperson and all members of the Portfolio Committee
The Internet Industry leaders present here this afternoon
Members of the mainstream media
Social media community
All

Good Afternoon

It is indeed a great honour for me to address this committee and thank you for giving me the opportunity to also be present here this afternoon.

Chairperson

Let me start by putting a disclaimer, in the event that if anyone here finds anything I will offensive, I apologise in advance. If there are children below the age of 16 years – this paper is not meant for them. If you don't like what I will say, please do not keep this in mind or brain. If you like it I thank you in advance for keeping an open mind. You may use this paper in any way you wish.

Just as an anecdote Chairperson, in travelling to today;s meeting I used Uber both in Gauteng and in Cape Town. This service would not be possible without the Internet. There are millions of applications created everyday. This is an area we need to invest in as a country. Our youth should be building Internet platforms and exporting them.

The Internet is a complex eco-system; Over the Top I or Telco OTT is a very small piece of it. I look forward to a discussion about the activities in the Dark Web. I ask those who think of regulating the Dark Web to please tell me where they will start. There are many more interesting OTT players in the Dark Web. This statement is not based on libertarian politics, but from a pragmatic technology perspective.

Chairperson, I will steer away from definitions because the use of the terms in instruments of governance such legislations, bills, policy direction, regulations, standards, enablers can be confusing at times. These instruments work together well when universal terminology is applied. The definitions of technology terms from institutions such as W3C, IETF, 3GPP, ITU, IEEE, ICANN, ISO, ETSI, IEC, and indeed many other similar institutions, are

changed regularly. The reason why these terms change is because of the changes in technology itself.

Sometimes we use meaning of these instruments interchangeably, which complicates the issue even further. The differences between the governance instruments that we're using in South Africa require regular updating at least twice a year.

The intersection between technology, economics, law, politics and geopolitics and social issues is what's driving change in these instruments. In the past, terms such as Morse code, key, telex, telegram were part of such instruments.

Today, these terms are located in the annals of museums and libraries. The terminology in the governance instruments of the 1990's and early 2000's must be moved to archives. If we don't standardize the glossary of terms with regards to the governance instruments I mentioned above, there is bound to be confusion about how the courts of law in South Africa address these disputes.

In addressing this topic, I'd like to make reference to the following: -

In the late 19th century, owners of big ice factories didn't realise that the use of gases such as ammonia, sulfur dioxide (SO_2) and methyl chloride (CH_3Cl) as refrigerants were about to disrupt their market, when inventors and entrepreneurs designed a small little cupboard using these gases that were able to cool and freeze food and other fresh products and other items. These conglomerates argued that the gas technology was dangerous for households. Why? Because they wanted to continue with the icebox model of cooling. Today in the 21st century we still use these refrigerators, and of course they've been significantly modernised and re-engineered over time. It was no surprise that ice factories were forced to close down.

Secondly, Organisations and people who were responsible for regularly filling up street lamps with ceresin argued that connecting the street lamp poles with electricity was dangerous and could kill communities living close to the lamps.

Today, around the world, most streetlights are powered by electricity, and there's a fast-growing move towards using solar or wind power. While ceresin on street lights was once big business, today there is no trace of it.

During the early 20th century, the technology industry was in a transition evolving from telegraph to telecommunications. Organisations that were dominant in the telegraph era believe telecommunications was going to destroy their business model and market structure. They argued that moving to telecommunications was undermining the investment that was deployed in the

late 19th century to early 20th century, a period of over 50 years. That telegraph technology can now only be found in museums. In fact it is a collectable antique.

The legislations of the last century cannot be applied in the 21st century. These legislations are the Radio Act of 1952 and the Post Office Act of 1958. The Telecommunications Act of 1996 and other subsequent legislations do not need to be reformed or amended, but rather repealed. These laws were designed for the voice and twisted copper period.

At the time of the introduction of mobile communications some fixed operators lobbied governments all over the world. That's because these operators believed that the introduction of mobile communications should be managed by them because it was part of their network.

Similarly the same fixed operators believed that they should manage and oversee the introduction of Internet services.

Today, as we navigate the second decade of the 21st century, copper-based telecommunication is being up rooted and sold to recycling plants. Optic fibre is replacing copper. The economics of fibre are very different to copper. Future legislation writers will find it difficult to define the word telecommunications; the word telecommunications is destined for archives.

Similarly copper-based DSL has replaced by optic fibre. DECT and X25 technology didn't survive

When entrepreneurs entered the under sea optic fibre market the business model too was changed.

Interconnect regimes and international accounting rate systems are being replaced by peering. Just to remind members that when COA–CAM, termination rate, fixed to mobile pricing and visa versa was determined – these projections were based on the fact that mobile users will constitute 20% of fixed line copper based communications. The weighted average was structured in favour of mobile operators. The same applies to SMS pricing. The 'sender takes all' principle was based on simplifying the termination pricing model.

There are naysayers who still argue that cloud is not safe, and that data must be located in some parts of the network. Any computer or device connected to the internet can be accessed from anywhere.

Transistor transformed the cathode ray-tube; similarly the Integrated Circuit (IC) transformed the transistor period. Today, we are moving towards the demise of Morse law. In complementary metal oxide semiconductor (CMOS)

fabrication, the International Technology Roadmap for Semiconductors (ITRS) is reaching **10 nanometer** (**10 nm**). The silicon is about to reach single nanometer structure.

The next generation semiconductor technology will allow us to choose options such as Graphene, Quantum tunneling and molecular electronics. This is not science fiction. We need to model our enabling legislation taking these developments into consideration.

The Internet is neither telecommunications nor telegraph. It is the Internet.

The Internet is here to stay, and, the sooner we embrace it, the better. The Internet has no borders nor jurisdiction; it does not belong to any single stakeholder. We cannot apply telecommunications regulatory models to the Internet. In addition, we cannot be govern or regulate the Internet like we did telecommunications.

The Internet governance model has been and will always be driven by a multi-stakeholder model. The sooner we embrace this model as a country the earlier we'll attract Foreign Direct Investments (FDI) in the cyber space which we desperately need.

Mote critically, modern Internet and cyberspace is the driver of trade commerce and e-government. We need to embrace crypto currencies and become the hub of such technologies.

The same applies to electromagnetic frequency spectrum. This resource is not land nor ocean, and unlike hectares or acres cannot be further divided as it were done during the telecommunications environment. Today electromagnetic frequency spectrum should be allocated dynamically using software.

Chairperson

We should be setting a date when feature phones are not be allowed in our market. This is possible. Also, the concept of set top box and digital migration is late; it's much more cost effective, forward-looking and technology correct to invite digital television manufactures into South Africa.

Television, the radio receiver, personal computer, mobile device, a car and other devices will all be driven by operating systems, native software or HTML. The Internet of Things (IoT) and industrial Internet is what we should be discussing and finding ways to enable.

In 2012 I predicated that voice communications would be free by 2018/ 2019. I was wrong; it's free today. No one is using circuit-based switching today. Open flow protocol and Software Defined Networks (SDN) with high-speed data pipes are replacing even Internet Protocol, routers and switches with controllers. Server virtualisation and Network Function Virtualisation (NFV) is what will bring big data closer

By the way this architecture is applicable to Content Delivery Networks (CDN) or broadcasting, as some will call it. Today, you can virtualise even mobile base stations.

Unicode and natural language processing toolkits are freely available on the Internet.

One way of bridging the digital divide is to convene communities- both urban and rural - to address the issues of language on the Internet. It is important for the Internet sector to work with the Pan South African Language Board to develop lexicography and terminology that will be available in all languages. These are important issues that must be addressed.
Universal language on the Internet is just as important as is access.

Chairperson

Telecommunications legislation, policy directions, regulations, enablers do not apply in the Internet universe. In the age of SDN, NFV, CDN and Open-Flow protocol separating content from the Internet is like removing a soul or character from a body. How do you define statutes communications and telecommunications to be different things and yet you still want to talk about broadband!

As an industry we request you, the Portfolio Committee, Parliament and Government to look at what is today defined as digital and cyber.

One other example is State Information Technology Agency (SITA). Today there is no one in the world who has a monopoly or exclusivity in providing IT services. This model is contrary to South Africa's WTO commitments.

There are three important parts when crafting a legislation or bill
(1) Definitions and terms
(2) Objectives;
(3) Provisions

To regulate these three, one must be clear and derive clarity from policy. No one can regulate without a structured legislation.

The other critical issue is interrelationship between legislation. The Internet touches almost every aspect of development, life and society. For example, in the theatre of war, there's now a new domain called cyber warfare. Nations, states and terror groups now use the Dark Web. How do you regulate this part of the Internet? Others have tried and failed

As the WiFi community, we encourage self-regulation in order to ensure that there is electromagnetic frequency spectrum harmonization. As the WiFi community, we also advocate for common currency. We enable the Internet of Things and OTT and easy access. The more apps that are developed the more digital the economy will look. Honourable members, we therefore request you do not allow cyber-squatting, IP v 4 hoarding and WiFi Access-Point squatting. These inhibit growth of the internet.

Drones or Unmanned Aerial Vehicles (UAVs) have IP addresses and use spectrum.

As I indicated earlier all things will be connected to the internet, these include, but are not limited to wearables, industrial machines, house-hold equipment, transportation systems, health devices and many many more. Voice-centric legislation cannot work in the age of connecting the Internet of Things.

We need to adopt to a culture of dialogue; a culture - or consensus - of rough consensus. This is the culture of the Internet community. We need to be part of the global dialogue. Internet governance requires conversations between stakeholders. There are resources where you can find this governance model. Please visit Netmundial-initiative.org where you'll find documents and resources that can help us navigate this journey towards a multi stakeholder model of Internet governance.

In conclusion

Digital divide in the digital age is more complex that ever before. Dealing with such issues require a dynamic approach. Digital inclusion is an integral part of economic development; it cannot be treated as a stand-alone.

The Internet does not see Mobile Operator, ISP, WiFi or fixed operator, the Internet does not differentiate. Only people differentiate things on the Internet.

What we need is a simple piece of legislation whereby all players are the same, treated the same, but based on market share. The Internet cannot be regulated. Only gates to the Internet can be enabled and not regulated.

The Internet will drive future jobs, we need to encourage cross border jobs- this is how we can deal with unemployment of our young people. Poverty eradication, economic development and digital inclusion can be addressed when we restructure our institutional framework to be 21st Internet and digital organisations.

Let's not be an ice factory or a ceresin provider; telegraph operator, or even an ICT organisation.

This is the Internet age…….the digital age.

Thank you honourable Chairperson