IEEE Summit Report on Internet Governance

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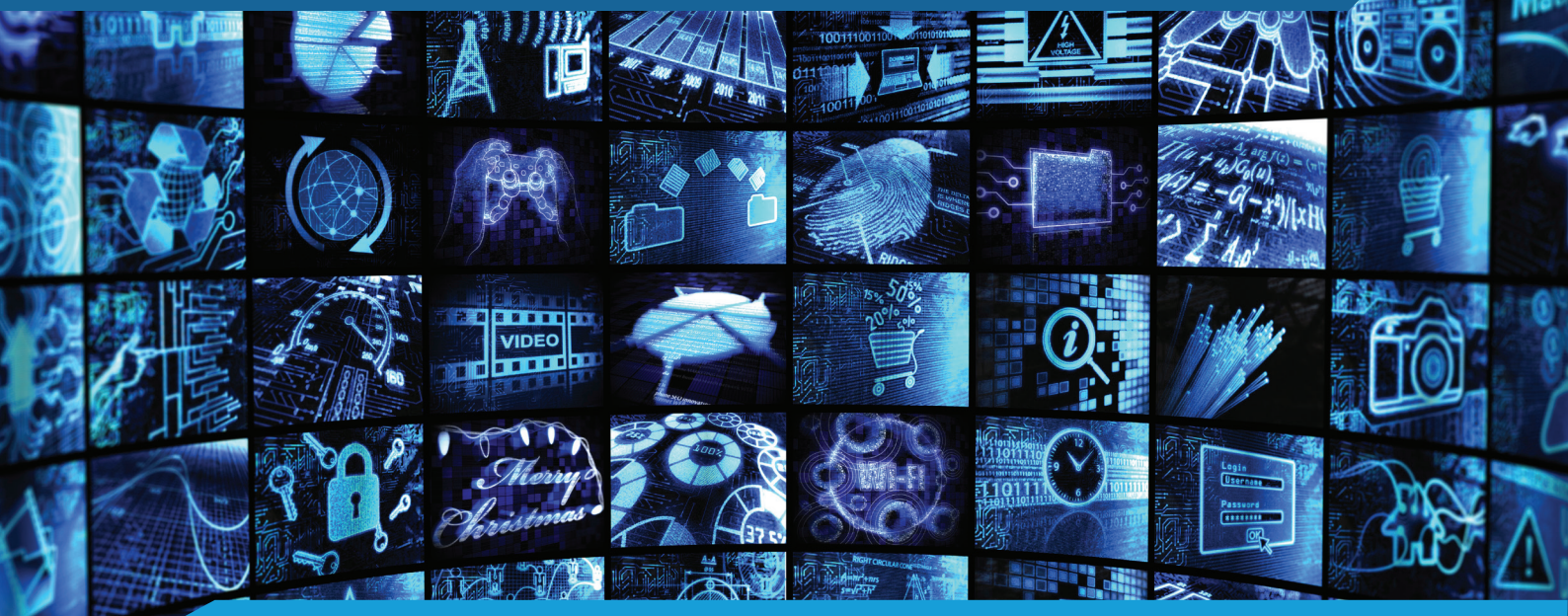

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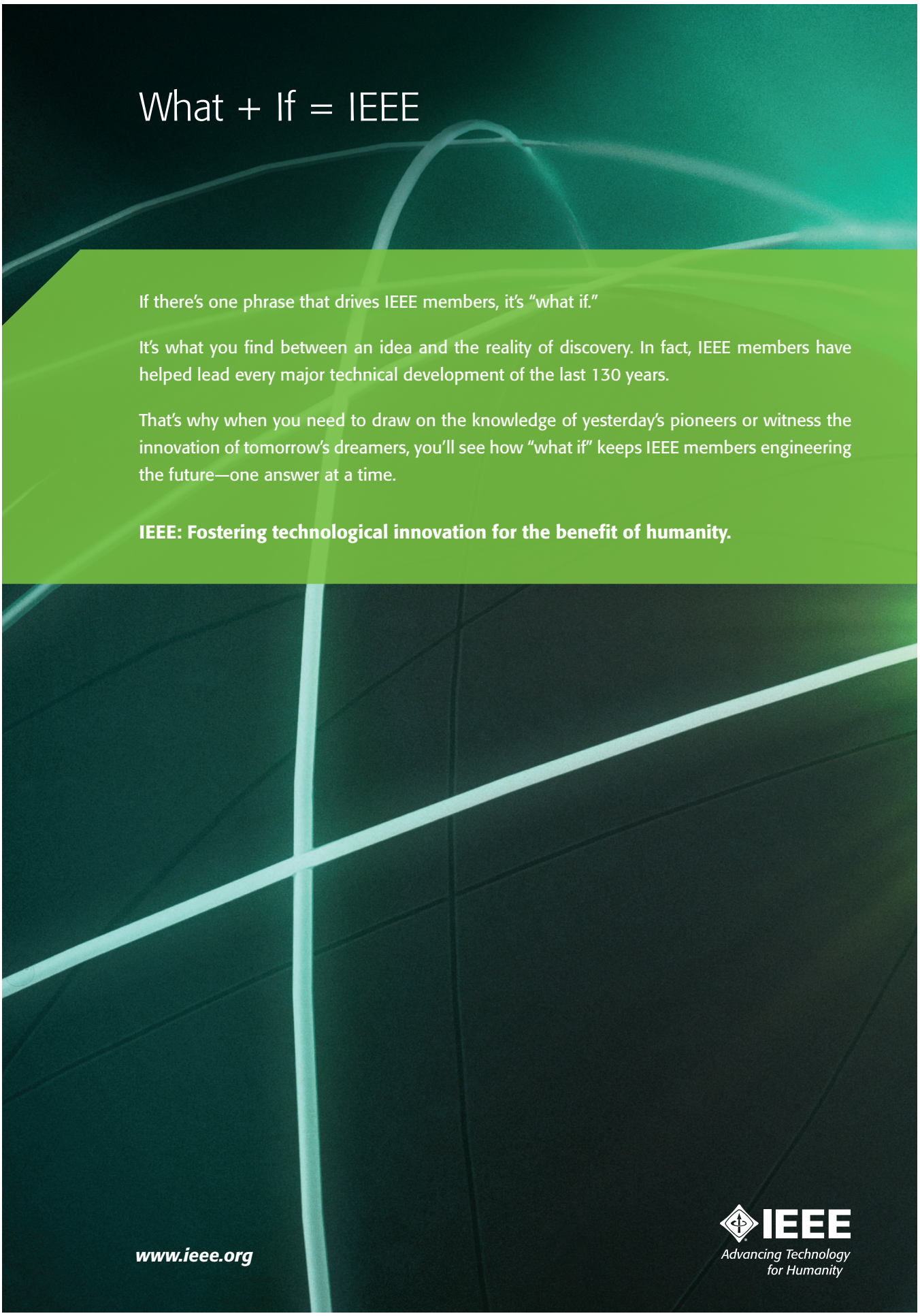
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This report was independently commissioned by IEEE for the purpose of offering an overview of the dialogue that took place during the IEEE Summit on Internet Governance in December 2014. The report contains the views and interpretations of the author, and in this respect, does not represent an IEEE summary of the IG Summit.

Opening remarks

Prof. Roberto de Marca

IEEE President & CEO.

Opening the Summit, IEEE President and CEO Professor Roberto de Marca, began by telling the audience that "few technologies have changed the world as much as the Internet." He added that the next stages of Internet governance would now be shaped as much by politics as technical experts.

"The course of this evolution and growth will be affected by the decisions of governments as much as by the creativity of technologists.," he said.

Referring to recent remarks made by US President Barack Obama describing the Internet as a public utility, Professor de Marca emphasised the need for the Internet's governing structure to be "democratic and fair..to allow less developed countries to develop."

He also stressed that the future success of the Internet depended on "whether businesses and consumers can have trust in the structure…an elusive but crucial goal."

Professor de Marca then gave the floor to Dr Vinton G. Cerf, one of the founding fathers of the Internet, for the Summit's key-note speech.

To view the full content of the Opening remarks: https://www.youtube.com/watch?v=OSTDYZSU7Z4

Keynote address

Dr. Vinton G. Cerf

Vice President and Chief Internet Evangelist, Google.

In a wide-ranging address, the rapid growth and evolution of the Internet, its future governance and the main challenges facing it, were the main themes addressed by Dr Cerf, and many of them served as recurring themes that would be addressed by each of the summit's three discussion panels.

He described the Internet as "a global and collaborative eco-system..that is ignorant of national boundaries." The world of the Internet was 'post Westphalian', he said, a reference to the peace treaty struck between France and the Habsburg family which established the sovereignty of nation-states.

"Today the Internet does not recognise national boundaries..and that was very deliberate in the original design of the network," said Cerf, adding that one of the results of this was that "that things that happen on the net are all of our responsibility no matter where they happen."

"It is clear that the rule-making process is anything but simple"

Meanwhile, the modern Internet of many layers was an aspect of the web which should be preserved by policymakers, argued Cerf.

"The layered architecture of the Internet has given us freedom to expand the network…we can add new functionalities by adding new protocols," he commented, adding that the commonly understood names such as domains, and IP addresses should remain unchanged to avoid any unnecessary fragmentation.

Cerf described the Internet as "an enabling architecture" adding that "this is something worth hanging on to because it allows new services and innovations to be introduced without limitations."

But he also cautioned against the possibility of the Internet becoming more fragmented, explaining that he and fellow Internet pioneer Bob Kahn had hoped that people would "take a piece of Internet and then try to connect with someone."

The Internet should be about freedom from harm as well as freedom of expression, association and access to information, he said, noting that "people expect that when using the Internet they are protected from harmful acts."

But he also stressed the need for citizens to be better educated about how to protect themselves online, a theme developed by other speakers later in the day. "We allow the good guys and the bad guys to use the Internet, so there needs to be collaboration between law enforcement," he commented.

We have to convince people that security hygiene is important. Brushing your teeth once in your life probably won't do you much good. Brushing your teeth every day is what is needed.

"It is clear that the rule-making process is anything but simple."

A point raised by Dr. Cerf, which became a recurring theme throughout the Summit's three panels, was that the history of the Internet was one in which new institutions and governing structures had gradually evolved into being rather than

being the result of politically driven regulation or design.

"It is entirely possible that new institutions will be created if they are needed, but we should only create them because their need has become apparent," he said, adding "that is the history of the Internet."

Meanwhile, future policy development needed all affected parties to be involved, he advocated - the multi-stakeholder approach, which was favoured by the European Union and which was backed by most of the day's speakers.

Dr Cerf added that it was "important to keep ICANN's responsibilities as they are" restricting the oversight of the California-based organisation, which has been tasked by the US government with the management of Internet addresses and managing domain space, since 1998.

In his concluding remarks, Dr Cerf addressed a question that was repeatedly posed to speakers throughout the Summit: can the Internet survive without a global consensus on the rules which govern it or different interpretation of such rules?

"Getting global consensus is really hard and we would hope that our systems are capable for surviving without consensus," commented Cerf. "There will be a lumpy kind of Internet if we cannot reach agreement but it will still work. It has to work even when it's broken."

To view the full content of the Opening remarks: https://www.youtube.com/watch?v=pfto-gn--2s

Q - How can we adapt to the Internet of things?

"It's not going to be easy to design systems that will handle literally billions of devices, maybe only hundreds of them per house, or per business or per automobile or even per person. We're going to have to figure out how to deal with scale, and how to deal with strong access control and how to deal with change…This is not going to be an easy architectural effort, so we have to pay attention to that otherwise this will not be a very safe system to use."

Panel 1 - Net Neutrality

Christoph Steck
Director Public Policy and Internet, Telefonica

Pastora Valero
Senior Director Government Affairs, CISCO

Matthieu Weil
CEO, Afnic

The net neutrality debate has rapidly become one of the most divisive arguments over future Internet Governance in both the EU and US. Although only two EU countries - the Netherlands and Slovenia - have national laws defining the principles of 'net neutrality', the issue has come before the EU institutions as part of the planned revisions to the bloc's telecoms legislation.

In April, a coalition of centre-left and liberal MEPs in the European Parliament formed a majority in favour of amendments to prevent Internet service providers from manipulating and blocking access to certain websites.

According to draft EU legislation agreed by MEPs earlier this year, the principle of so-called 'net neutrality' is that Internet traffic should be treated "equally, without discrimination, restriction or interference, independent of the sender, receiver, type, content, device, service or application." To some, the principle of 'net neutrality' is at the heart of open access to the Internet. Service providers argue that the principles should still allow them to offer services at different speeds and give them more flexibility in managing Internet traffic.

Evidence collected in 2012 by BEREC, the pan-European group of national Internet service providers, found that around one in five fixed lines and over one in three mobile servers were restricting access to, or blocking, sites like Skype, used by millions to make phone calls using the Internet.

In his opening remarks to start the debate, Telefonica's Christoph Steck contended that concerns about 'net neutrality' had been blown out of proportion.

"Is there really a huge problem with net neutrality in Europe? Are there really services being blocked? What services can you not access with your mobile phone?" he questioned.

"The debate in the US about net neutrality started over a lack of competition between access providers. A better solution would have been to introduce competition in terms of access..and say that we need competition…so that the operator could not be allowed to dictate what a consumer could receive or access."

"Today everybody has access to three or four different 4G providers. The competitive situation has totally changed in the past ten years, but the debate is still focused on a ten year old technological problem."

He also insisted that the question of net neutrality was "nothing else than competition policy" and should not be the subject of EU law. "Why do we say that there must be law on net neutrality when we support a multi-stakeholder approach elsewhere?"

Steck stated that despite services such as Skype and Whatsapp "directly

cannibalising core telco revenues, nobody has persistently blocked them."

"It is not in the interest of teleco companies to block services because that's how we make our money," said Steck. "The business model of the telco industry is now based on Internet access, charging for mobile Internet access and gradually less on phone calls and texts."

Cisco's Pastora Valero commented that net neutrality had become "an emotional, political and technical issue." But despite agreeing that competition policy could go "a long way" in resolving net neutrality questions, "the reality is that we have proposals on the table and we have to get them right."

Mathieu Weil, the third and final panellist, was the strongest supporter of EU-level law, albeit a reluctant one. "It is a political not just a business issue and it has to be dealt with on that side," said Weill, opining that "legislation is never the best solution but I've come to believe that in this case legislators have a rule to play in setting up some principles."

"The legislation should include a non-discrimination principle, and commitments to no blocking or throttling of sites, alongside a mechanism to resolve disputes between Internet Service Providers and Over The Top providers," he said.

"We also need to look at how providers can provide transparency on pricing as well as traffic management practices," he concluded.

Steck argued that "the real problem with net neutrality is that there are conflicts between YouTube and ISPs…I have limited sympathy for Google in this. These are big boys and normally they can solve their problems."

"There is a global consensus on no blocking and no throttling and I don't have any problem if that is enshrined in law," said Valero.

However, she qualified the role of 'reasonable" traffic management by providers needed to be "better understood and taken account of in rules."

In the European Parliament vote, MEPs also stripped down the list of "exceptional cases" drawn up by the Commission which would allow internet providers to block or slow down sites so that these practices could only be permitted to enforce a court order, preserve network security or prevent online congestion.

Valero criticised the position backed by the European Parliament as "a very strict non-discrimination principle in the Internet."

"We can only use traffic management for very narrow specific categories…even congestion must be classed as exceptional and/or temporary."

But despite the rising level of media coverage, the speakers suggested that there had been little discussion of net neutrality policy at the international level and still less progress. Matthieu Weil described it as "strange that there have rarely been international conferences at ministry level or summits dealing with net neutrality.

In summing up, there was a consensus among the panellists that the chances of a global agreement on net neutrality principles were slim but that the network could survive differing interpretations.

"Looking at things in a pragmatic way.. a majority chance is on the side of a fragmented approach to net neutrality," commented Weil, adding that "the network can survive but it's going to get more difficult to manage the network and to innovate."

"One of the basic assumptions about the Internet has been that code is law," noted Weil, "Now we can see that law creates codes as well, and that is increasing the complexity of the network."

Valero hinted that net neutrality was a "luxury problem" for some countries whose main priority was to boost connectivity. "I don't think we're going to have a global net neutrality solution or legislation…but the Internet will survive somehow," she said.

Agreeing a global compromise would be "very challenging," argued Steck, though he believed that "a lack of agreement will have very little effect on the market."

During one of the rounds of comments and questions from the floor, Vint Cerf drew attention to a problem called 'buffer bloat,' where a programme had reported that at the Internet exchange points there were evidence of visible variations in the traffic flows which could only be explained by one ISP failing to increase capacity at the place where the congestion showed.

"This could be conceived as anti-competitive and an area where a regulatory framework could be useful," said Cerf, describing it as "a fundamental problem because it goes to the speeds and congestion in the system."

In their final remarks, the panellists were asked to give their vision of what the Internet could and should look like in the future.

"One scenario is where we have a system of world guarders/gatherers," said Weil, "and the other is an interoperable world where somebody gets the power to capture users and someone is able to prevent this from being abused."

For his part, Steck remarked that the Internet needed to be "open, interconnected and trusted."

"What we risk (without trust) is that people will just stop using these services, when the Internet is the best chance that we have to make our world work better and our economies more competitive," he concluded.

To view the full content of the Panel I: https://www.youtube.com/watch?v=Fz8S5qtlMuQ

Pastora Valero

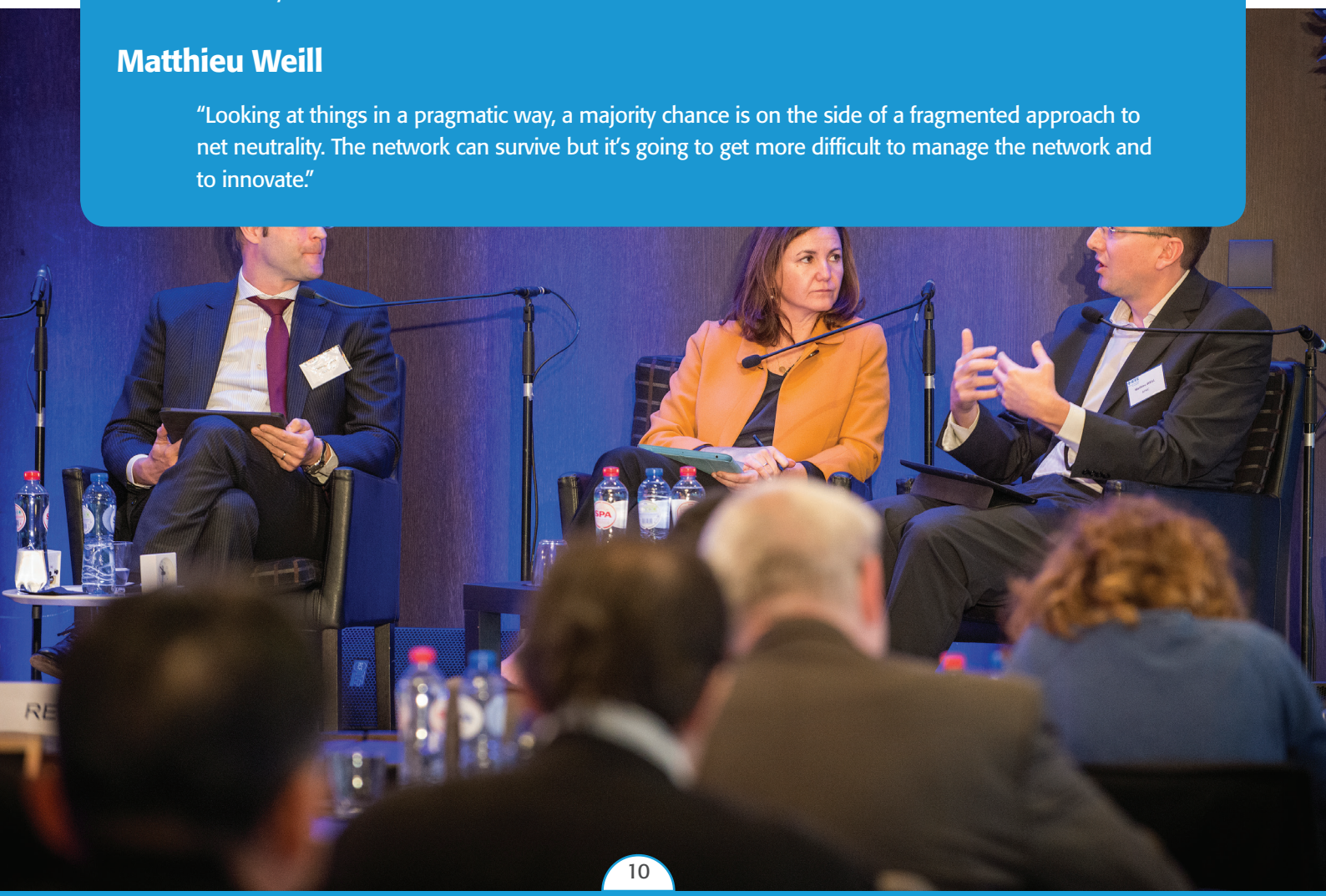
"Is net neutrality a luxury problem? When you talk to many ministers in Africa net neutrality is a luxury problem…they really want to have connectivity."

Christoph Steck

"We are defending the freedom to manage the Internet and to conduct normal business behaviour like everyone else."

Matthieu Weill

"Looking at things in a pragmatic way, a majority chance is on the side of a fragmented approach to net neutrality. The network can survive but it's going to get more difficult to manage the network and to innovate."



Panel 2 - Security vs. Privacy

Dr. Stephen Farrell
Research Fellow, Trinity College, Dublin

Prof. Dr. Udo Helmbrecht
Executive Director, EU Agency for Network and Information Security, (ENISA)

Kostas Rossoglou
Senior Legal Officer, The European Consumer Organisation, (BEUC)

James Waterworth
Vice-President, Computer and Communications Industry Association, Europe (CCIA)

The panellists opened the discussion by disputing the premise of the 'security vs privacy' question. "I would question the premise behind the panel," said Stephen Farrell. "It is just not the case that security vs privacy is a sensible proposition, it is just a false dichotomy. The idea that privacy is somehow contra to security on the Internet is bogus."

His stance was quickly backed up by Udo Helmbrecht who remarked that "privacy and security are not two sides of the coin."

To Kostas Rossoglou, who also agreed that privacy vs. security was a false dichotomy, "privacy can really contribute to security…and you really need both to get consumer trust."

"Security is part of the data protection package. We already have a framework where privacy and security exist together but it is true that in the name of security, privacy has been compromised," he said.

Rossoglou stated that data security and privacy should not form part of any trade agreement currently being negotiated by EU and US trade officials noting that "we have to work on making privacy rights more interoperable but this should be done outside the framework of the trade agreement. We do not have the same definitions of personal data. The concepts of privacy and data security and philosophies are very different."

He added that a first step would be for the US to ratify the Council of Europe convention which would immediately make the US privacy framework adequate.

James Waterworth also agreed that "privacy and security must go together and that's what policy makers should be striving for." He questioned whether the Snowden revelations had led to a widespread lack of public trust in the protection of personal data and security online.

"There isn't a lack of trust," he said, noting that the number of Internet users had increased by more than 3 billion in 14 years. "People have welcomed and are ready to use this technology..and this should be the baseline for any discussion on privacy and security."

However, both Waterworth and Rossoglou agreed that the Snowden revelations had demonstrated the need for greater legal oversight and control over the use of personal data.

"The operation of many of the law enforcement agencies outside of any legal framework has got to stop," said Waterworth. "This does not mean that there should not be co-operation between law enforcement and the private sector. There is a very good case for it, but it needs to be put under an appropriate oversight regime," he added.

Companies with too much power?

"I have the feeling that companies are hiding behind the NSA," said Rossoglou, who questioned why firms were "collecting all this data in the first place."

"In terms of their privacy guidelines. Google and Facebook have some of the worst in the market but they are still among the most popular. They are not treating consumers with the respect they deserve, and there is a problem if they are not respecting or complying with the law," he said, emphasising that "there is a role for policymakers to impose sanctions on these companies and give them the very clear message that they have to change."

Meanwhile, Professor Helmbrecht argued that power had gradually shifted from churches in the Middle Ages, to nation states in the modern era, and was now in the hands of companies who were difficult to regulate.

"You cannot do what we did in the past - regulation for everything - it is very difficult in cyberspace to do this."

However, James Waterworth disagreed with the analysis and the comparison between the data collection practices of private firms, a practice he regarded as valuable, and those of the security services.

"I take issue with the confluence of companies collecting data and the NSA…they are separate things," he said, adding that "companies are collecting data which they are legitimately allowed to do.

"What we need is a framework that prevents those who have the power to do something less savoury with it from doing something less savoury with it," he argued.

"Companies are collecting this data and doing something with it is not inappropriate and indeed is advantageous."

Indeed, estimates by the European Commission suggest data held by companies on EU citizens was worth some €315 billion in 2011 and is likely to increase to €1 trillion by 2020.

Responding to the 'right to be forgotten'

In a judgement by the European Court of Justice in May, the Luxembourg-based court concluded it was reasonable to ask search engine Google to edit searches based on a person's name if the data is irrelevant, out of date, inaccurate, or an invasion of privacy.

Since then, Google has received more than 200,000 requests for items to be deleted from search results of which it has already removed more than 41 percent. In November, the EU's main privacy regulatory body, the article 29 working party, recommended that requests by EU citizens that they should be removed from search engine results following a right-to-be forgotten request could be extended worldwide.

The question posed to the panel was what does it mean for our cyberspace?

Kostas Rossoglou opened the discussion by describing the ruling as "a straightforward interpretation" of the EU's 1995 directive on data protection. "In Europe we have a number of enforceable rights: for example the right to access and correct my data is already part of the framework. The problem is that there is no compliance or enforcement of this right. Companies have not been doing this for the past twenty years."

"The ruling is not a right to be forgotten," he contended.

Dr Farrell described the 'right to be forgotten' as "nonsensical." "It's like trying to break the laws of physics," he says. "Once the bits are copied you can't un-copy them."

But neither Dr Farrell nor James Waterworth viewed the ECJ ruling and its implementation as a threat to the Internet.

"In terms of the mechanisms we use to improve security. There are some potential ways that interoperability could be damaged," noted Farrell, "but talk that it could damage the Internet is not quite scaremongering but not reality based."

"It's working itself out but will be messy and bumpy," said Waterworth, noting that a recent judgement by a Canadian court had, like the ECJ, ruled that websites should delete offending material anywhere in the world.

"Either we will need to deprive some people of information that they would otherwise be able to access or we may have to move to a system of geo-blocking," he said.

But Waterworth stated that decisions on whether a piece of information was relevant or fell under the remit of a 'right to be forgotten' had to remain in the hands of courts rather than companies.

"Companies should not be deciding on whether something is libellous or freedom of speech," he said, describing the potential of companies to act as censors as "worrying."

Visions for the future

Professor Helmbrecht called for greater 'socialisation' of consumers about online risks, pointing to the number of people who walk away from their computer without leaving a screen saver on. How can people be educated enough to build privacy and security into new products?

The Internet of the future should be "open, global, unfragmented," said James Waterworth, adding that "the key thing for us Europeans is that this is going to be an enabling thing and that we happen to be pretty good at this. The EU is a net

ICT exporter; more than half of the countries that have hosted billion dollar ICT industries are European.

Kostas Rossoglou said that the Internet's new rules regime should clearly denounce mass surveillance, and involve "a due process principle applied online." while Professor Helmbrecht said that there was a need for more and competitive ICT security companies in Europe.

To view the full content of the Panel II: https://www.youtube.com/watch?v=ifxiY1jpovg

Kostas Rossoglou

"People cannot be consumers for 24 hours a day... it is the responsibility of companies to comply with the law and make my life easier."

Stephen Farrell

"One of the things about the Internet is that none of us are in control."

James Waterworth

"The problem of misusing data is primarily an issue for governments."

Udo Helmbrecht

"Look at how many people walk away from their computer without leaving a screen saver on. We are not socialised enough about risk."

Panel 3 - The Future of Internet Governance

Mark Raymond
Wick Cary Assistant Professor of International Security, University of Oklahoma

Megan Richards
Principal Adviser in DG CONNECT of the European Commission

Jean-Jacques Sahel
Vice-President Stakeholder Engagement for Europe (ICANN)

Oliver Süme
President, EuroISPA

In March 2014 the US Department of Commerce signalled that it wanted to scale down its role in Internet governance, outlining its plans to end its contract with the Internet Corporation for Assigned Names and Numbers (ICANN), which has been charged with managing domain names since the late 1990s.

For its part, in a paper entitled "Europe's role in shaping the future of Internet governance." The previous European Commission headed by Jose Manuel Barroso signalled its support for an international group to replace the California-based ICANN. Other governments and analysts have mooted the possibility of a international forum based loosely based on the model of the UN security council.

Since ICANN's inception in 1998, the Internet has grown from a community of around 150 million users, primarily based in Western Europe and North America, in 1998 to over 3 billion.

The role of ICANN, together with the growing complexity of Internet governance and its politicisation both before and in the wake of the Snowden revelations, were examined by the panellists.

A more politicised Internet

To Mark Raymond, assistant professor at the University of Oklahoma, consumers are "no longer happy to leave (Internet governance) to the experts." It is "too important to leave to engineers," he added.

"There is a rising level on contention (in governance)," which had evolved from being "technical to highly politicised."

He also expressed concern that failure to reach a consensus on the rules governing the Internet could also have implications for attempts to agree on global standards in other areas of policy.

"There is a risk that Internet Governance is a canary in a coal mine," commented Raymond, worrying that failure to reach international agreement "may indicate that we can't agree on governance in other international policy fields."

Megan Richards, Principal Advisor in the European Commission's DG CONNECT, opened her remarks by comparing the process of Internet rule-making to the Internet itself that involved "many layers and rules within rules."

The other 4 billion potential users of the Internet are absolutely essential and the participation of developing countries will become increasingly important. If technical standards don't work then neither will the Internet. There is no international regulation of the Internet. There are a whole series of rules at the EU/national level.

ICANN's Jean-Jaques Sahel commented that the "complexity is because no one person controls the Internet," adding that the Internet and its governance were the product of the gradual evolution of a 'network of networks'…little by little in

the 1970s and 80s we saw scientific and research institutes working together and agreeing standards by consensus."

The Snowden revelations

The revelations about mass surveillance of the Internet by US intelligence services by Edward Snowden hit the whole model of Internet governance "very hard.. because people began to ask 'who can control it'?" said Oliver Süme.

Indeed, there is evidence that the scandal has had a detrimental effect on the online economy. The US cloud industry faces up to €25.8 billion in lost revenues, according to a report by the Washington-based think tank, the Information Technology and Innovation Foundation.

But there was disagreement between Richards and Raymond on the severity of the public response to the revelations detailing the extent of US government surveillance of individuals and institutions by the NSA whistle-blower.

Raymond pointed to the rejection of the anti-counterfeit treaty Acta, which was vetoed by the European Parliament in July 2012 following a succession of public protests against the agreement because of fears that it would lead to greater powers for Internet Service Providers to cut Internet access to individuals caught pirating copyrighted music and films, as having had a greater impact on public consciousness.

"You actually got mass public protests in response to Acta but not Snowden…I'm a bit disappointed by that, but maybe people don't care," he commented. "It may be that public trust in the Internet boils down to whether it works."

In contrast, Megan Richards described the public reaction to the revelations as "extremely big... much greater in Europe than in the US."

"In Europe there was a huge reaction and rightly so, because the German chancellor was bugged," she said.

Raymond replied that his interpretation was that the public reaction to the Snowden scandal was largely limited to political elites.

Who should run the net?

Back in February, former Digital Agenda Commissioner Neelie Kroes called for "a timeline to globalise ICANN," while a report published by the Commission warned that the web should not be allowed to "unravel into a series of regional or national networks" and argued that greater international balance within the existing structures could increase the legitimacy of current governance arrangements.

Kroes said the issue of Internet Governance was likely to rise up the political agenda in the upcoming years which would be "make or break years for deciding for what sort of Internet we want to have," she said, adding that "Europe must play a strong role in defining what the net of the future looks like."

However, the Commission has shown no indication that it supports greater government involvement in Internet Governance, instead continuing to favour the so-called "multi-stakeholder" approach in which governments, industry, academics, and campaign groups, collaborate on the network's functioning.

"Do we keep the loose architecture, multi-layered approach, or move towards a single governing body?" was one of the questions posed to the panellists.

In response, Oliver Süme led the panellists in rejecting the need for either new governing bodies or a single governing body. "Internet governance is not a question of bodies, but more a question of mechanisms and processes and the accountability of processes.There is always the question about how we implement things," he said.

"One of the key strengths of the Internet is because it doesn't have a central point of failure," added Jean-Jacques Sahel. "There are clearly areas where you need multi-lateral agreements but standards should be dealt with by technical experts.

"To a certain extent politicisation is welcome…politicians have to know what's going on and be engaged," said Richards, adding that "raising awareness is absolutely essential as is making governments aware of the stakes and what is going on."

But she also commented that most technical standards were "rightly carried out by the private sector."

She also refuted the idea of a single governing body, explaining that "I can't think of a single body that could do the work" and reiterated support for the multi-stakeholder model, although she questioned how this structure would continue to work for an Internet of up to 7 billion users and with many more products and applications available.

"The idea of the network of networks working together is absolutely essential, but can this model continue when we have 7 billion users and many more things and applications?"

"I don't think we need new institutions but there are two candidates for processes," commented Raymond. "We may need a new process to decide on

how to switch capacity and when there are problems we need to build a process to resolve them," he said.

Sahel said that it was possible that the contract could be extended but that ICANN hoped to set out a blueprint for a "mechanism that is going to replace US government oversight" before moving on to work on a review of ICANN's accountability and governance.

A failure to reach a new agreement on Internet governance "technically would not be a disaster but would be politically," said Richards. Citing the importance of digital ICT growth to the European economy, she stated that the EU could "play a role as an honest broker."

Failing less badly

In their final remarks, Jean-Jacques Sahel expressed concern that "as a European all the rhetoric I hear is negative…all I'm hearing about a fortress Europe attitude to the Internet." while European politicians were not doing enough to promote the bloc's industry.

"Businesses get a knock on the door from politicians saying 'I want to regulate you'…that's the fault of politicians who need to up their game, and need to champion their businesses," he remarked.

The online economy is one of the fastest growing sectors in Europe and its share of the bloc's economic output is forecast to increase from 3.8 percent in 2010 to 5.7 percent in 2016, according to a report by the Boston Consulting Group.

The final word was left to Mark Raymond who prophesised that the future of Internet governance would be "a long string of high profile, completely innovative and surprising ways to fail."

> "If the question is 'are we likely to do global consensus-based rule making and do it well'—the answer is no…that's why the tolerance for lumpiness is so important. The higher we can get that tolerance for lumpiness the more leeway it gives us to fail on rule making, because we're going to continue to fail on rule-making…we just have to find a way to fail less badly."
>
> "The next thing is to create a global rule making process that is a resilient as possible in the face of repeated colossal failure."

To view the full content of the Panel III: https://www.youtube.com/watch?v=A3MbBlC7vEA

Megan Richards

"Internet rule-making is like the Internet itself. There are many layers, it is very technical, and there are rules within rules." "If technical standards don't work then neither will the Internet."

Oliver Süme

Internet governance is not a question of bodies but more a question of mechanisms and processes and the accountability of processes."

Jean-Jacques Sahel

"One of the key strengths of the Internet is because it doesn't have a central point of failure."

Mark Raymond

"ACTA (Anti-Counterfeiting Trade Agreement) demonstrated that there are public constraints to policy, but I was surprised that there was not more public protest following the Snowden coverage. What if we can't persuade people to care?" "The reality is that people cared more about ACTA than about their data being used by governments."

Conclusion

What does the future hold for the Internet and its future governance?

Some of the foremost experts in the technologist community appear comfortable that a system which has seen its network of users increase from 150 million to nearly 4 billion in less than two decades will not collapse any time soon even if policy-makers are unable to resolve their differences.

As to whether we are likely to see global agreement on the likes of net neutrality, controls over data collection and its use by companies and governments, or the general governance of the Internet any time soon - the jury is out, but seems to be leaning towards the 'No' camp.

If Dr. Vinton G. Cerf's model of a 'network of networks' is a guide, the Internet will continue to adapt as it evolves. New institutions, rules and frameworks will emerge as and when they are needed. The result of this may well be that the future Internet is more 'lumpy' but not necessarily more fragmented.