KEEPING THE INTERNET
OPEN • INNOVATIVE • FREE

www.cdt.org

CENTER FOR DEMOCRACY
& TECHNOLOGY

1634 I Street, NW
Suite 1100
Washington, DC 20006

P +1-202-637-9800
F +1-202-637-0968
E info@cdt.org

# REVISIONS TO THE INTERNATIONAL TELECOMMUNICATION REGULATIONS THREATEN THE INTERNET'S ROLE IN ECONOMIC DEVELOPMENT AROUND THE GLOBE

**October 11, 2012**

Proposed revisions that would bring Internet issues under the ITU treaty on telecommunications would impose regulatory burdens that could slow economic development, particularly in the developing world, widen rather than shrink the digital divide, and undermine burgeoning and innovative businesses and markets around the globe.

In December 2012, the International Telecommunication Union (ITU) will meet in Dubai at its World Conference on International Telecommunications (WCIT) to revise the International Telecommunication Regulations (ITRs), a treaty dating from 1988 that established a framework for the interoperability and interconnection of international telecommunications traffic.

The Member States (governments) of the ITU are currently drafting revisions to the ITRs, many of which could negatively impact the functioning of the Internet and therefore limit the key role it is having in driving global growth. CDT believes that these revisions could slow economic development, particularly in the developing world, widen rather than shrink the digital divide, and undermine burgeoning and innovative businesses and markets around the globe.

## The ITRs and the Internet

The original purpose of the ITRs was for "promoting the development of telecommunications services" and "facilitating global interconnection and interoperability... as well as the efficiency, usefulness and availability to the public of international telecommunications services."[1] In effect, the ITRs were to establish a regulatory environment that would facilitate growth in international telephony.

However, today's Internet is very different from the telephone network of 1988. The differences between the two are neatly summarized by Milton Mueller at the Internet Governance Project:

> *The existence of treaty-based telecommunication regulations [ITRs] administered by an intergovernmental organization [ITU] made sense in a world where telecommunications were provided by state-owned monopolies. Negotiating telecommunication interconnection across*

[1] The ITRs are available here: http://www.itu.int/council/groups/cwg-wcit12/index.html.

*national authorities was very much like negotiating a mutual passport/visa recognition agreement. Also, many governments had their own incompatible technical standards and a single, national telecommunication standards body as well, so having an intergovernmental organization around to negotiate international compatibility made sense.*

*The world of the Internet is very different. It is a world of liberalized trade in services, of transnational services and corporation, of dozens if not hundreds of private-sector voluntary technical standards forums, a world of multiple, competing private network operating entities, most of them no longer state-owned, and millions of Internet-based services riding on and crossing over those multiple platforms.*[2]

And yet, when the proposed revisions to the ITRs are looked at in detail, many appear to be written with the aim of reining in this new communications medium through shackling it to the regulatory environment of the old telecommunications world. These proposals would inhibit the functioning, availability, and reach of the Internet. Should they be adopted, the consequences for the Internet, and therefore for economic development around the globe, will be significant.

## The current structure of Internet governance

The Internet is not ungoverned. To the contrary, it has developed and flourished within a policy framework based on competition, global voluntary standards developed by non-governmental bodies, and international traffic exchange based on peering agreements between private companies. Different bodies with different competencies address Internet governance issues: for example, the Council of Europe has developed a convention on cybercrime that is open globally to signature by any country. The Internet Engineering Task Force, an open non-governmental body, develops key technical standards, including those to strengthen network security. ICANN oversees the allocation of domain names, deferring to national governments to set rules for their country code top level domains. Any one of these institutions may need to be improved, but the system has facilitated the spread of the Internet at a pace far more rapid than that of any other technology in history.[3]

The current Internet governance system values transparency and openness to participation from a full range of stakeholders. This multi-stakeholder model strives to ensure that policy is not developed by governments alone - far from it. Instead, the multi-stakeholder model seeks to enable civil society representatives, technologists, engineers, and industry to all have the opportunity to participate with an equal voice alongside governments in the development and implementation of policy that affects the Internet.[4]

In contrast, decision-making at the ITU is controlled by governments and the ITRs, instead of being voluntary, are a binding treaty.

---

[2] *Available* at http://www.internetgovernance.org/2012/06/07/threat-analysis-of-wcit-part-2-telecommunications-vs-internet/.

[3] See CDT, *Governance of Critical Internet Resources: What Does "Governance" Mean? What Are "Critical Internet Resources"?* (Nov. 2007), https://www.cdt.org/files/pdfs/20071114Internet%20gov.pdf.

[4] See CDT, *The ITU's WCIT Negotiation: Internet Governance, or Just Governing the Internet?* (June 2012) https://www.cdt.org/policy/itus-wcit-negotiation-internet-governance-or-just-governing-internet.

## The Internet, as currently governed, is contributing significantly to economic development

To understand what is at risk at the WCIT, it is essential to understand the Internet's role in driving growth and economic development.

Comprehensive data clearly demonstrates the positive impact that the Internet is having on developing nations. The World Bank's 2012-2015 Strategic Report outlines the scope of the impact of ICTs and the Internet:

> *Information and communication technologies (ICTs) have great promise to reduce poverty, increase productivity, boost economic growth, and improve accountability and governance. That promise only grew when ICTs underwent a revolution in the 2000s. Nearly 5 billion people in developing countries now use mobile phones, up from 200 million at the last decade's start, and the number of Internet users has risen 10-fold. People across the globe do much more than chat and play games. They learn where best to fish and what market to sell their produce in. They trace cattle from pastures to supermarkets. They report illegal logging and misuses of local budget. They pay bills, send money back home, and receive cash transfers. They do business on mobile phones. They use ICTs to prevent violence against women—and community radio to empower them. They get state-of-the-art schooling online. They remotely monitor and switch on irrigation pumps.*[5]

The ITU notes in its 2011 ICT Facts and Figures that:

> *Over the last five years, developing countries have increased their share of the world's total number of Internet users from 44% in 2006, to 62% in 2011. Today, Internet users in China represent almost 25% of the world's total Internet users and 37% of the developing countries' Internet users.*[6]

Data from Analysys Mason shows that there has been a 33% annual growth rate in Internet users over the past decade in Africa, and 17% in both Asia and Latin America. Across the globe, the number of mobile broadband users exceeds that of fixed broadband users, with growth rates in Africa eclipsing all other regions. Internet bandwidth serving Africa has grown from 1.21 Gbit/s in 2001 to 570.92 Gbit/s by 2011.[7] And the costs of accessing the Internet are dropping: according to the ITU, fixed broadband prices dropped 52.2% between 2008 and 2010.[8]

In its January 2012 report *Online and upcoming: The Internet's impact on aspiring countries*, McKinsey looks at 30 developing countries ("aspiring countries"), those "having the economic size and dynamism to be significant players on the global stage in the near future and achieve

---

[5] *Available at* http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/WBG_ICT_Strategy-2012.pdf.

[6] *Available* at http://www.itu.int/ITU-D/ict/facts/2011/index.html.

[7] Analysys Mason, *Internet Global Growth: Lessons for the Future* (Sep. 2012), http://www.analysysmason.com/Research/Content/Reports/Internet-global-growth-lessons-for-the-future/Internet-global-growth-lessons-for-the-future/.

[8] ITU, *Facts and Figures* (2011), http://www.itu.int/ITU-D/ict/facts/2011/index.html.

levels of prosperity approaching those of the advanced economies."[9] McKinsey analyzes the Internet's impact on their economic growth and prosperity:

> *From 2005 to 2010, the number of Internet users in aspiring countries has grown at about 25 percent per year (from 319 million users to 974 million users), approximately five times the growth rate of developed countries. The share of Internet users in aspiring countries has consequently increased from 33 percent in 2005 to 52 percent in 2010 and is forecast to further increase to 61 percent by 2015.2 Looking forward, Internet use in aspiring countries is expected to grow at a rate of 11 percent per year, over ten times as fast as in developed countries.*

*The Internet contributes an average 1.9 percent of GDP in aspiring countries—$366 billion in 2010. (In the report's nine focus aspiring countries) … the Internet has accounted for anywhere between 1 and 13 percent of GDP over the past five years.*

> *The economic impact on the SME sector has been positive in terms of creating jobs, too. We have found that the Internet created 3.2 jobs for every 1.0 job it reduced in the aspiring world—more than the 1.6 jobs created for every job lost in developed countries.*

The Internet is having an impact on developing countries all over the globe. According to Deloitte's December 2011 Access Economics report on *The Connected Archipelago: The role of the Internet in Indonesia's economic development*, the Internet is "beginning to transform the way much of the Indonesian economy and society work," showing that "the Internet accounts for 1.6% of Indonesia's gross domestic product (GDP). It is forecast to grow at a rate three times that of the overall economy over the next five years and is expected to account for at least 2.5% of GDP by 2016." To put this in context the Internet economy contribution to GDP in Indonesia is "above the value of liquid natural gas exports (1.4%) and three times the contribution of the electricity sector (0.5%)." The Deloitte report states that "Indonesia is well placed to enter a more sophisticated path of Internet growth."[10]

According to a 2012 World Wide Worx study entitled *Internet Matters: The Quiet Engine of the South African Economy*, the Internet economy contributes "2 percent to South Africa's gross domestic product (GDP). Moreover, this contribution is rising by around 0.1 percent a year, meaning it should reach 2.5 percent by 2016." E-commerce "is growing at a rate of around 30 percent a year, with the growth showing no signs of slowing down." According to the report, data shows that the Internet economy "was almost as large as the agricultural sector, which made up only 2.2 percent of GDP in the last quarter of 2011" and that over time it will approach "the size of the construction sector (an estimated R120-billion in 2011), suggesting this is potentially one of the new building blocks of the South African economy."[11]

Given the impact the Internet is having on global growth across all nations, including and most importantly for developing nations, governments should not adopt revisions to the ITRs that could inhibit the continuing economic contribution of this transformative tool.

---

[9] *Available at* http://www.mckinsey.com/client_service/high_tech/latest_thinking/impact_of_the_internet_on_aspiring_countries.

[10] *Available at* http://www.deloitte.com/assets/Dcom-Australia/Local%20Assets/Documents/Services/Corporate%20Finance/Access%20Economics/Deloitte_The_Connected_Archiplelago_Eng_Dec_2011.pdf.

[11] *Available at* http://www.internetmatters.co.za/report/ZA_Internet_Matters.pdf.

## Extending the ITRs to the Internet would mark a radical shift in Internet governance

A number of proposed revisions pending before the ITU seek to widen the scope of the ITRs through changing the definitions of its key terms. One approach is to redefine "telecommunication" by adding either "data processing" or "ICT(s)", both of which would broaden the ITRs well beyond traditional telecommunications. A second approach is to change the definition of "recognized operating agencies" (currently licensed telecommunications operators) to "operating agencies" so as to incorporate entities that provide content and services over the Internet, among many others. In both cases, redefining the ITRs would make the Internet subject to the ITU treaty provisions and therefore subject to the interpretation and implementation of those treaty provisions by Member State governments.

Other proposals aim at changing the economic arrangements that underpin the Internet. Most notably, proposals by the European Telecommunications Network Operators association (ETNO) seek to impose a cumbersome, costly and regulated "sender pays" international telecommunication interconnection model on the Internet, replacing the current practice of largely settlement-free peering (how network operators exchange of data traffic across the global Internet).[12] The ETNO proposals also seek to establish a two-tiered Internet by encouraging development of Quality of Service capabilities as well as "best efforts" delivery of traffic. This proposal would undermine the principle of Internet neutrality supported by many stakeholders, including governments, and likely limit the scope for action of national regulatory authorities.

Other proposals seek to expand the ITRs to issues of cybersecurity, cybercrime, information security, and even privacy, issues that are already being addressed by other international and regional bodies.[13]

## WCIT proposals would increase costs and impede Internet development, blunting its contribution to economic growth

Imposing more regulation on the Internet will add significant costs to subscribers and to service, application, and content companies, discouraging innovation and investment. Burdensome regulation could limit the Internet's performance, reach, and availability. As VONEurope has warned:

> *… several proposals on the table would extend international multilateral treaties to online communications, adding additional heavy layers of bureaucracy and related costs, notably technical changes, national adaptations including content and law enforcement aspects, etc. all of which would be both burdensome and generally undesirable.*[14]

---

[12] *See* CDT, *ETNO Proposal Threatens to Impair Access to Open, Global Internet* (June 2012), https://www.cdt.org/files/pdfs/CDT_Analysis_ETNO_Proposal.pdf.

[13] CDT, *Security Proposals to the ITU Could Create More Problems, Not Solutions*, (Sep. 2012), https://www.cdt.org/files/pdfs/Cybersecurity_ITU_WCIT_Proposals.pdf.

[14] VONEurope, *Comments on the WCIT-ITRs Discussions* (Sep. 2012), http://www.scribd.com/doc/105236256/VON-Europe-Comments-on-WCIT-ITRs-Discussions.

## The ETNO proposals

CDT's analysis shows that, while the ETNO proposals will certainly benefit large, incumbent telecommunications operators in their effort to obtain additional revenue from content and platform providers, they will do very little to expand Internet access in countries that need it most.[15] Indeed, the ETNO proposals risk harming Internet users, especially those in less developed countries, undermining their right to access information, ideas, and knowledge and limiting their ability to offer their own content and services in the global online marketplace. They will likely hinder the ability of Internet users to access the full range of information, services, and tools available online because Internet service and content providers, among others, may be reluctant to serve certain users due to higher costs.

International analysts agree. For example, in the LIRNEasia report *A Giant Step Backwards or the Way Forward*, Rohan Samarajiva concludes that the proposal to move to a "sending party pays" model for Internet traffic will harm the developing world:

> *Access to content would become more expensive if content providers must pass along costs. Content providers may respond by terminating connections with operators, especially in countries with populations that have limited buying power and access to payment mechanisms. The Internet would be "balkanized" by cutting off some countries from large swaths of content. Loss of this access to content and applications, given the role played by the Internet in supporting these countries' transitions from low-income to middle-income economies, could cost them billions of dollars in lost growth.*[16]

As communications become more costly, the consequences will be significant for economic development. Costs will most likely be passed on to subscribers in some form or another, making Internet access more expensive, inhibiting its growth and slowing adoption. There is increasing concern that these costs would be disproportionately borne by developing nations, and particularly those with burgeoning digital economies, as Samarajiva notes:

> *Because the digital economy is a general growth driver in developing countries, slower Internet adoption stands to ripple through the economy as a whole. It is well accepted that broadband growth is correlated to economic growth, though there may be differences of opinion regarding the extent of the contribution at different stages of development. The corollary is that if broadband growth slows or reverses, there is bound to be negative effects on economic growth.*[17]

The impact will be felt across economies and business sectors. Today, the Internet is an unprecedented driver of business around the globe, from micro enterprises to global conglomerates. However, the revisions to the ITRs will likely create new barriers to enterprising innovators and content providers seeking to leverage the Internet to reach customers, build sustainable scale, and compete nationally, regionally, and internationally. As Dondi Mapa, President of the InfoComm Technology Association of the Philippines, puts it so eloquently:

---

[15] *See* CDT, *ETNO Proposal Threatens to Impair Access to Open, Global Internet*, *supra* n. 12.

[16] *Available at* http://lirneasia.net/2012/09/harm-caused-by-ill-thought-out-wcit-proposals-to-developing-world/.

[17] *Id.*

> *"The Internet has become a 21st-century trading route. … Regulating the Internet's openness may take away the innovation, creativity and dynamic growth that has contributed immensely to the global economy, and has helped shape the economies of developing countries like India and the Philippines."*[18]

Limiting the Internet's potential through revisions to the ITRs is contrary to the interests of developing nations and threatens the huge opportunity that the Internet offers for facilitating economic development. The revisions that seek to merge the Internet into a telephony-based regulatory framework dating from 1988 will fundamentally change the nature of the Internet, to its detriment. While ETNO's motivations are clear – a return to the days of large controlling telecommunications providers – governments need to think more carefully and holistically about the revisions: they need to take into account the importance of the catalysing role the Internet has on the economies of all nations, and particularly developing nations, as the data shows.

Analysys Mason conclude in their report that

> *... the Internet has grown so quickly and adapted to change so frequently because of, and not in spite of, this lack of traditional regulation. The [ITR] … proposals that seek to alter the Internet's financial arrangements would likely result in less investment in infrastructure, increase cost to consumers, and less efficient routing of traffic.*[19]

## Cybersecurity proposals

The same is true of the cybersecurity proposals. Clearly, cybersecurity concerns should be addressed, but doing so through the ITRs is neither the most effective nor the most efficient way of accomplishing this.[20] As mentioned above, cybersecurity-related revisions to the ITRs will have an impact on the way the Internet functions, and therefore the extent to which the Internet will contribute to economic development. Inhibiting the Internet through broad and intrusive cybersecurity related revisions would be unfortunate, as McKinsey conclude:

> *… it is our view that the power of the Internet to drive growth and prosperity far outweighs the risks and concerns, and so these concerns should not be an excuse to limit the growth and use of the Internet.*[21]

For example, some Member States have called for the ability to determine how traffic is routed into their country and impose regulations on routing to increase security and prevent fraud. Such proposals could undermine the decentralized nature of the network and lead to choke-points in the flow of Internet traffic. Knowing how packets are routed and between which senders and recipients, is fundamentally contrary to the way the Internet works and its underlying principles of routing efficiency and user privacy. Implementation of such measures

---

[18] *Available at* http://www.mb.com.ph/articles/374545/wires-crossed.

[19] Analysys Mason, *Internet Global Growth*, *supra* n. 7.

[20] There are many other mechanisms for addressing cyber-security issues. For more detail see: Emma Llansó, "ITU Ill-Suited to Regulate Cybersecurity (Sep. 2012), https://www.cdt.org/blogs/emma-llanso/0609itu-ill-suited-regulate-cybersecurity.

[21] McKinsey report, *supra* n. 9.

would also require substantive network engineering changes, not only creating new costs but also threatening network efficiencies and performance benefits.[22]

## I. Conclusion

Analysys Mason rightly call the Internet "the most successful and vibrant communications network for economic growth" ever developed.[23] At the WCIT in Dubai in December, the future of that network may be decided. Only governments will decide which revisions will be adopted. Their decisions could inhibit the growth and impact of the Internet.

Governments meeting at the WCIT should review each of the proposed revisions to the ITRs with the future development of their respective countries and regions in mind. Member States must ask whether proposed revisions will promote innovation or hinder it? Will they reduce the cost of access or increase it? Will they allow the Internet to continue contributing to economic growth or will they saddle it with regulatory burdens suited to the technology of the last century?

Certainly, the Internet faces challenges, some of which are especially acute in developing countries. However, the ITRs, as an international treaty, are not the right tool for meeting those challenges.

The proposed revisions to the ITRs could fundamentally change the way the Internet functions, undermining the operating principles that have underpinned its success to date. ITR revisions that imperil the Internet imperil economic development, something that nations, and particularly developing nations, cannot afford.

**For further information:** contact Emma Llansó, ellanso@cdt.org or Matthew Shears, mshears@cdt.org.

[22] CDT, *Security Proposals to the ITU Could Create More Problems, Not Solutions*, *supra* n. 13

[23] Analysys Mason, *Internet Global Growth*, *supra* n. 7.