
Internet Society

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Introduction

The Internet Society (ISOC), a Sector Member of the International Telecommunication Union Development Sector (ITU-D), is pleased to submit this contribution to the sixth World Telecommunication Development Conference (WTDC-14). We are committed to collaborating with partner organizations in every region of the world in order to increase access to the Internet and spur innovation, economic and social development. The Internet Society believes in a global, inclusive Internet that enables participation and innovation from all parts of the world. We look forward to participating in the WTDC to set priorities for the work of the Sector for the next four years.

Internet Development Progress

Since WTDC 2010, annual growth rates for Internet access have continued to climb, particularly in developing regions. An increasing amount of this access is coming via broadband technology, providing the advantages of faster download speeds and always-on availability to the Internet. In developing countries, yearly growth rates in mobile broadband access exceed 100% and outpace those of developed countries. Not only is broadband access to the Internet rising steeply, but the traffic per connection also is rising in all regions, suggesting that users are increasingly availing themselves of the wide range of content and applications related to education, business, quality of life, and engagement with governments.

Developing countries are increasingly some of the first adopters of new technology - moving to wireless services for voice and for broadband. For example, Rwanda has a bold plan to deploy 4G LTE Internet to 95% of citizens by 2016¹. The same also is true for services – in the financial sector, for example, unbanked citizens in countries such as the Philippines and Kenya depend on mobile money instead of traditional cash payments. Likewise, entrepreneurs in developing countries can now use online services for research, to raise money, and to sell the resulting innovative products and services. According to the World Bank², greater global connectivity is transforming the global workforce and creating new opportunities for entrepreneurship, commerce and investment. Where entrepreneurs have the ability and freedom to innovate, new enterprises can create jobs and increase local productivity. Important initiatives like the ITU's m-Powering Development Initiative now seek to harness the tremendous potential of mobile access technologies in order to unleash innovation across all sectors of society (health, finance, agriculture, etc).³

Despite these positive signs, there is still much work to be done to bring the benefits of the global information society to all citizens of the world. Indeed, to create opportunities, the world needs to come together to support the deployment of and access to new access technologies such as advanced wireless broadband. Together, we need to improve the efficiency of traffic exchange within countries and across borders, build human capacity, improve network resiliency and enable access to hosting infrastructure for content and cloud applications.

A Commitment to Development

From its very beginnings, the Internet Society has been focused on Internet development. Early ISOC pioneers focused their efforts on facilitating technical infrastructure development and human capacity in

¹ <http://www.rdb.rw/media-centre/press-releases/rwanda-partnership-to-build-the-future-of-broadband-services-in-rwanda.html>

² <http://documents.worldbank.org/curated/en/2013/09/18221189/connecting-work-information-communication-technologies-help-expand-employment-opportunities>

³ <http://www.itu.int/en/ITU-D/Initiatives/m-Powering>

emerging economies, and trained experts and global leaders who launched some of the first Internet connections in their countries through our Developing Country Workshops. We are proud to say that many of those participants are now Internet leaders in their local communities. Since 2008, for example, ISOC has trained more than 900 people in 16 countries across Africa in network management and system administration, the domain name system, Internet exchange point (IXP) development, and peering and interconnection.

ISOC's approach to development has been driven by five core values.

- Internet development is fundamentally about people. Shared knowledge and collaborative relationships are the drivers of successful Internet deployments, not technology alone.
- In order to create lasting impact, development activities must encourage self-sustainability in local communities and technology implementations through local partnerships.
- Local actors must be empowered to make informed choices about how best to use and apply a broad range of networking techniques, applications, and technologies to suit their local situations. We have observed that the imposition of prescriptive solutions does not support long-term Internet development.
- Development activities should promote information and experience sharing locally as well as facilitate the participation of local experts in global activities that influence future Internet development.
- Policymakers have a key role to play by promulgating policy and regulatory approaches that enable Internet growth and deployment. Government decisions should be based on sound information and, wherever feasible, encourage multi-stakeholder approaches and input.

WTDC-14 Priorities:

It has been ISOC's experience that collaboration and cooperation through partnerships are essential. Policies that aim to be sustainable and effective must take into account the vital expertise of different stakeholders and organizations. The ITU-D has an important role to play within this development ecosystem. To carry out its role, the ITU-D should look to partnership opportunities.

In considering the role of the ITU-D for the next four-year cycle and in line with the Regional Priorities that emerged from the WTDC-14 Regional Preparatory Meetings, the Internet Society considers four main thematic areas as essential for ongoing work in the Sector both at a global and at Regional levels:

A. Enabling Environment; B. Cross Border Connectivity; C. Capacity Building; and, D. Emergency Communications and Network Resiliency.

A. Enabling Environment

Since 2010, major investments in infrastructure have occurred throughout the world. Investment in new submarine cables in Africa has exceeded USD 3.8billion in recent years.⁴ In Latin America, Internet Exchange Point (IXP) growth has been tremendous – 23 IXPs have been introduced since 2008.⁵ Unfortunately, improvements in infrastructure alone do not always result in lower prices or improved quality of service for end-users. As noted in the Tunis Agenda for the Information Society, an enabling environment is an essential component to bridging the digital divide and bringing about the benefits of connectivity to developing countries.

A report issued by ISOC in 2012⁶ examined the policy factors that impede the continued development of the Internet in Sub-Saharan Africa, despite significant increases in investment. We identified a set of critical steps that policymakers, regulators, and other officials can take to create an enabling environment for connectivity:

- **Removing roadblocks.** Policy-makers and regulators should remove roadblocks that deter investment in and use of terrestrial fibre, including: lack of liberalization; high cost of licenses; challenges accessing rights of way for deployment; and high taxes on equipment and services.
- **Promoting investment.** Governments should promote private-sector infrastructure investment, in order to offer regulatory certainty to investors. Public/private partnerships (PPPs) should be explored as a means of providing incentives to invest.
- **Transparency in policymaking processes:** Transparency is a critical element in policymaking, helping to ensure that policies that are developed benefit from meaningful and informed participation by local stakeholders, experts and communities. Predictable, transparent, and inclusive policymaking processes are indispensable tools to create an environment that promotes investment and innovation.

In addition to enabling the development of infrastructure to carry Internet traffic, ISOC is focused on the importance of developing local content hosting infrastructure. Local hosting lowers the cost and latency of accessing content, increasing access usage and creating a virtuous cycle of growth. Opportunities for the development of local hosting infrastructure should be explored.

B. Cross-Border Connectivity

- During Regional preparations for WTDC-14, many ITU Member States expressed concerns about the unique challenges that confront land-locked countries, and the need for a clear focus on facilitating cross-border connectivity⁷. Pacific Island and Caribbean countries continue to struggle to obtain affordable access to the global Internet while landlocked countries such as Burkina Faso,

⁴ See <http://manypossibilities.net/african-undersea-cables/>

⁵ New IXPs in Latin America since 2008 - Source LAC-IX: 18 in Brasil (<http://ptt.br/localidades/atuais>), 9 in Argentina (<http://ptt.br/localidades/atuais>), 1 in Bolivia (La Paz)]

⁶ <http://www.internetsociety.org/doc/lifting-barriers-internet-development-africa-suggestions-improving-connectivity>

⁷ WSIS 2005 Tunis Agenda, paragraph 21; WTDC 2010 Hyderabad Resolution 16; Plenipotentiary Conference 2010, Resolution 30

Bolivia, Chad, and Mongolia, have to overcome high costs to send traffic over expensive terrestrial fibre links. We believe that the ITU Global Symposium for Regulators (GSR) offers an important opportunity for a dynamic, open dialogue amongst regulators, industry leaders and experts on these critical issues. Specific steps can be taken to promote expanded cross-border connectivity including:

- **Forging Regional Partnerships:** Governments should agree on regional priorities for easing terrestrial-fibre border crossings and rights of way, and allow for faster licensing and simpler construction permits;
- **Encourage infrastructure sharing,** thus, maximizing the ability of new entrants to build networks;
- **Information sharing and investment promotion:** Work with international partners to encourage dialogue on cross-border connectivity and focus on new technologies;
- **Seek input from the private sector:** Ask for input from investors with first-hand experience as they can provide valuable information to governments about the challenges they have had rolling out infrastructure across borders.

C. Capacity Building

The spirit of entrepreneurship has always been at the heart of the Internet's growth. Individual creativity spurs new ideas, new uses of technology and new business models. Thus, training the next generation of experts and enhancing institutional capacity should be a key regional priority for WTDC-14 in order to grow skills and build technical experience to maintain core infrastructure. In our experience, building these communities of interest requires knowledge, trust and a set of common objectives. In this respect, we are especially proud of our efforts in the following areas:

- Providing Best Practice and Technical Assistance Workshops for IXP managers and operators, peering coordinators, and network managers on interconnection and traffic exchange related;
- In 2012 and 2013, in collaboration with the African Union, ISOC organized 21 IXP Best Practice workshops and 15 IXP Technical Assistance trainings;
- Encouraging the formation and sustainability of Network Operator Groups⁸ (NOGs) around the world;
- Enabling governments to discuss and understand technical issues such as DNSSEC and IPv6; and
- Deploying a new e-learning platform, *Inforum*, that scales and localizes Internet information and technology resources.

⁸ AFNOG in Africa, MENOG in the Middle East, SANOG in Asia-Pacific, ENOG in Europe, LACNOG in Latin America - these are forums for the exchange of technical information and discussion of operational issues amongst network operators.

The ITU-D has long offered a series of valuable training and development opportunities around the world. In particular, we note the important work of the ITU Regional offices in partnership with regional organizations around the world (APT, ATU, CEPT, CITEL, CRASA, CTU, ECOWAS, and SADC) to meet local needs in terms of training and knowledge sharing. The ITU Centres of Excellence and the ITU Internet Training Centers are equally important platforms for information sharing and education. These ITU-D programmes can inspire leadership, facilitate connections, and harness the potential of global communication for innovation, economic development, and social inclusion. We encourage the ITU to continue this work, and to use its capacity building programmes in a multistakeholder fashion –to exemplify how many other stakeholders can come together in pursuit of shared goals.

Capacity building to combat Spam: Capacity building and information sharing are essential components for improved security in the fight against spam. As recognized in WTDC-10 Resolution 45 (Hyderabad 2010), such efforts are best achieved in collaboration and partnership with experts and practitioners. In 2013 (and continuing in 2014), ISOC embarked on a project to build bridges and strengthen collaboration between the technical, industry and policy communities to address spam. A key objective is to ensure that policy makers particularly those in developing countries, are informed and engaged with existing communities of practice to address the security risks that come from unsolicited email that may contain malware, phishing and botnets. The result has been that this dialogue has fostered international cooperation among stakeholders to improve skills in developing and using spam and security migration strategies appropriate to the local context. ISOC is pleased that we have found synergies between our own efforts in this area and the work of the ITU, particularly in Africa and Latin America.

D. Emergency Communications and Resiliency

In 2013, there were more than 295 natural disaster events around the world. In a crisis situation such as a natural disaster, continuity and sustainability of communications is critical. We note that the Americas and Asia Pacific Regions both highlighted emergency communications as a key regional priority.

Continuity and resiliency is best achieved through carefully planned infrastructure development and diversity. The presence of multiple connections and different routes between key points ensures that traffic can "route around" network problems – for example, nodes that are "off the air" because of technical, physical, or political interference. We have seen instances all around the world where important resources remained accessible even when a country was impacted by disaster. Even though access from local, on-the-ground points may be impossible, it can be incredibly important for people and organizations outside the affected area to be able to access and use regional Internet services, applications and other resources.

To this end, solutions designed to achieve network diversity and resilience should preserve the fundamental principles of the open Internet: open standards, global reach, permission-free innovation, reusable technology building blocks, and voluntary collaboration. They should promote collective responsibility and collaboration, with clear lines of action in times of emergency. Given the ITU's ongoing work with respect to emergency communications, we believe that that additional focus should be given to encouraging network diversity and resilience as infrastructure is deployed.