



RIPE NCC Contribution to the ITU CWG-Internet's Open Consultation on Harnessing New and Emerging Telecommunications/ICTs for Sustainable Development

Summary:

In the context of supporting the use of new and emerging telecommunications/ICTs for ongoing and sustainable development, ITU members must prioritise strategies to ensure that the underlying telecommunications infrastructure – which to a large extent is the Internet – is itself sustainable and can facilitate the evolution of these new technologies for the benefit and inclusion of all people. Identifying, developing and prioritising public policy strategies to foster the rapid adoption of IPv6 would represent one of the most important contributions that ITU Member States and Sector Members could make in this effort.

The RIPE NCC appreciates the opportunity to contribute to the ITU Council Working Group on International Internet-related Public Policy Issues' open consultation on harnessing new and emerging telecommunications/ICTs for sustainable development.

The topic of new and emerging telecommunications/ICTs drives many of today's digital policy discussions and will be a central focus at the 2021 World Telecommunication/ICT Policy Forum. The RIPE NCC is pleased to see that the CWG-Internet is addressing the topic via this open consultation, in order that as many viewpoints from as broad a range of stakeholders as possible can be collectively considered.

The question of how new and emerging telecommunications/ICTs will impact our societies is itself complex and far-reaching, as these technologies have the potential to influence nearly every field of human endeavour. As one of the world's five Regional Internet Registries, the RIPE NCC's mandate is obviously far more narrow, with a particular focus on technical aspects of the Internet's operation; however, the opportunities that new and emerging telecommunications/ICTs can offer will not be achieved without the underlying Internet infrastructure in place to support it.

This is the position from which the RIPE NCC engages in these discussions, and we believe that it should also be the fundamental basis for the ITU community's engagement with this topic, in line with the ITU's core remit. That is, to support the development and maintenance of a well-functioning telecommunications/ICTs ecosystem that is accessible to all, informed by the goal of ensuring that the potential benefits of new and emerging telecommunications/ICTs can be fully realized and improve lives throughout the global community.

Seen in this light, there are specific issues of immediate significance that ITU stakeholders could productively engage with, particularly if we approach the use of new and emerging technologies with a view to furthering sustainable development and, specifically, working towards the Sustainable Development Goals laid out in the 2030 Agenda for Sustainable Development.

One of the most significant questions, in terms of the technical challenges and opportunities involved, is how to facilitate the widespread adoption of IPv6. This has been a focus point for many years, as the global community has sought to ensure that, with ongoing, sustainable growth, all people and societies will eventually have access to the Internet. New and emerging telecommunications/ICTs, with their demands for larger networks, greater data usage and connectivity for many, many more devices, simply serve to make the issue even more urgent.

At the same time, long-anticipated developments in the global IP address registry system are also adding to this urgency. As the available pools of unused IPv4 space held by the five Regional Internet Registries reach their end, the effects of not having achieved global, comprehensive migration to IPv6 are now becoming more acute, with the potential to negatively impact hopes for a sustainable, equitable model of Internet growth.

These effects include:

- **Financial barriers to new entrants to the market**
Many of those building new networks who wish to use IPv4 addresses will need to purchase those addresses from existing address holders, potentially hindering growth, innovation and new entrants to the industry;
- **An accelerating trend towards treating IPv4 addresses as an asset**
Not only does this give existing address holders an advantage over new entrants, but it creates significant new incentives for theft, fraud and hijacking in the registry space, with a corresponding need for increased investment in security and mitigation;
- **Exacerbation of existing digital divides between developed and developing regions**
The increased costs in establishing new networks and growing existing ones will be felt most harshly in developing areas still working to grow their networks and connect their populations.

Many governments and regulators have started to proactively tackle the IPv4 shortage and encourage the timely and efficient adoption of IPv6 to ensure they remain competitive as new technologies come online, and it is clear that emerging best practices in this space focus on the need to engage stakeholders across all sectors. While the practical work of widespread IPv6 adoption will fall to the network operators, there is an important role for governments and regulators to stimulate these developments and remove regulatory barriers that hinder adoption, and many national authorities have already begun to map the strategies most effective at achieving results.

In this context, some recent examples that could usefully be further explored include:

- The French regulator, Arcep, recently convened an IPv6 task force including interested stakeholders (network operators, hosting companies, businesses, etc.) that will work to accelerate the French Internet's adoption of IPv6;
- Driven by a consideration of the negative consequences of IPv4 address sharing for law enforcement and national security, the Belgian regulator, BIPT, worked closely with national Internet operators to reach an agreement limiting the use of carrier-grade NAT, which created a strong incentive to deploy IPv6 and resulted in Belgium

becoming a world leader when it comes to IPv6 use in the domestic Internet access market;

- The Saudi IPv6 Task Force, initiated by the country's regulator, CITC, has been operating for more than a decade, working with stakeholders across the country to deliver technical training, and the country has achieved a leading position in IPv6 implementation;
- The United Arab Emirates regulator, TRA, has just concluded an open consultation on developing its national roadmap for the ICT sector for the next 10 years, and the country currently ranks first in the Arab region in IPv6 adoption thanks to the regulator's close collaboration with ISPs and mobile operators.

The RIPE NCC believes that these kinds of open, collaborative initiatives are essential in building awareness, identifying barriers (including inadvertent regulatory barriers) to IPv6 adoption and sharing best practices among the diverse range of relevant technical, public and private sector stakeholders.

Working collectively via a multistakeholder approach to public policy-making, capacity building, and development initiatives is the most proven and effective way to ensure practical, positive and timely outcomes in Internet development and will be, ultimately, one of the keys to harnessing new and emerging telecommunications/ICTs for sustainable development.