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| **Agenda item: PL 1.4** | **Document C18/33-E** |
|  | **8 March 2018** |
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| Report by the Secretary-General  ITU INTERNET ACTIVITIES: RESOLUTIONS 101, 102, 133 & 180 | |

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| Summary  This report summarizes ITU’s activities related to Plenipotentiary Conference (PP) Resolution 101 (Rev. Busan, 2014), “Internet Protocol-based networks”; Resolution 102 (Rev. Busan, 2014), “ITU’s role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses”; Resolution 133 (Rev. Busan, 2014), “Roles of administrations of Member States in the management of Internationalized (multilingual) domain names”; and Resolution 180 (Rev. Busan, 2014), “Facilitating the transition from IPv4 to IPv6”.  Action required  The Council is invited to **note** the report. The Council is also invited to **endorse** the transmission of the report, along with the compilation of views of Council Member States and the related summary records with a cover note, to the United Nations Secretary-General.  References  *Plenipotentiary Resolutions* [*101*](http://www.itu.int/en/action/internet/Documents/Resolution_101_pp14.pdf)*,* [*102*](http://www.itu.int/en/action/internet/Documents/Resolution_102_pp14.pdf)*,* [*133*](http://www.itu.int/en/action/internet/Documents/Resolution_133_pp14.pdf)*,* [*180*](http://www.itu.int/en/action/internet/Documents/Resolution_180_pp14.pdf) *(Rev. Busan, 2014); Council Resolutions* [*1305*](http://www.itu.int/md/S09-CL-C-0105) *(2009),* [*1336*](http://www.itu.int/md/S15-CL-C-0113/en) *(mod 2015),* [*1344*](http://www.itu.int/md/S15-CL-C-0112/en) *(mod 2015); WTSA Resolutions* [*47*](https://www.itu.int/pub/T-RES-T.47-2016)*,* [*48*](https://www.itu.int/pub/T-RES-T.48-2016) *(Rev. Dubai, 2012)* [*49*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.49-2016)*,* [*50*](https://www.itu.int/pub/T-RES-T.50-2016)*,* [*52*](https://www.itu.int/pub/T-RES-T.52-2016) *(Rev. Hammamet, 2016),* [*58*](https://www.itu.int/pub/T-RES-T.58-2016)*,* [*60*](https://www.itu.int/pub/T-RES-T.60-2016) *(Rev. Dubai, 2012),* [*64*](https://www.itu.int/pub/T-RES-T.64-2016)*,* [*69*](https://www.itu.int/pub/T-RES-T.69-2016)*,* [*75*](https://www.itu.int/pub/T-RES-T.75-2016) *(Rev. Hammamet, 2016),* [*98*](https://www.itu.int/pub/T-RES-T.98-2016) *(Hammamet, 2016);* [*WTDC-17/Buenos Aires Action Plan Objective 3/Output 3.3*](https://www.itu.int/md/D14-WTDC17-C-0115/en) *, WTDC Resolutions* [*20, 30 , 63 (Rev. Buenos Aires, 2017*](https://www.itu.int/md/D14-WTDC17-C-0115/en)*), and* [*45*](http://www.itu.int/en/action/internet/Documents/Resolution_45_wtdc14.pdf)  *(Rev. Dubai, 2014); Council Documents* [*C14/40*](http://www.itu.int/md/S14-CL-C-0040/en)*,* [*C15/33*](http://www.itu.int/md/S15-CL-C-0033/en)*,* [*C16/33*](http://www.itu.int/md/S16-CL-C-0033/en)*,* [*C17/33*](https://www.itu.int/md/S17-CL-C-0033/en)*.* |

# 1. Introduction

This report describes ITU’s activities related to the Plenipotentiary Conference Resolutions 101, 102, 133, and 180 for the reporting period from Council 2017 till date.[[1]](#footnote-1)

# 2. Activities related to Internet Protocol (IP) networks, the development of next-generation networks (NGN) and future Internet, including policy and regulatory challenges

2.1 All ITU-T study groups continue their work in different areas of Internet, IPv4/IPv6-based networks, Internet-of-things, Internet naming and addressing, NGNs and their evolution, future network (FN), cloud computing, QoS, IPTV, and IP-based applications, uncertainty of origin, and international connectivity.

Till date, more than 260 new/revised ITU-T Recommendations and other texts have been approved since the last reporting period. Relevant recommendations can be found under the different ITU-T Study Groups (see [detailed list](https://www.itu.int/ITU-T/workprog/wp_search.aspx?isn_sp=3925&isn_status=-1,2&adf=2017-03-01&adt=2018-01-31&pg_size=100&details=0&field=acdefghijo)).

2.2 ITU-T SG3, under its Question 9/3 agreed on a [Technical Report](https://www.itu.int/dms_pub/itu-t/opb/tut/T-TUT-ECOPO-2017-PDF-E.pdf) on the Economic Impact of OTTs.

2.3 ITU-T SG13 created a new [ITU Focus Group on Machine Learning for Future Networks including 5G](http://www.itu.int/en/ITU-T/focusgroups/ml5g/Pages/default.aspx) (FG-ML5G), which will establish a basis for ITU standardization to assist machine learning in bringing more automation and intelligence to ICT network design and management.

2.4The [Fifth SG13 Regional Workshop for Africa on “ITU-T Standardization Work on Future Networks: Towards a Better Future for Africa”](http://www.itu.int/en/ITU-T/Workshops-and-Seminars/standardization/20170402/Pages/default.aspx)**, was organized in Cairo, Egypt, on 2-3 April 2017.**

2.5 The new ITU-T JCA-IMT2020 started its coordination activity on 5G/IMT-2020 among participating ITU-T Study Groups 5, 11, 13, 15, 20, IEEE, and the Broadband Forum (BBF). The JCA will continue to maintain the IMT-2020 roadmap document with expected inputs from external organizations.

2.6An ITU [IMT-2020/5G Workshop and Demo Day](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/201707/Pages/default.aspx), organized on 11 July 2017, in Geneva, Switzerland, gave an overview of the future plan on IMT-2020 wireline, as well as of the work of ITU-T SG13 and other ITU-T study groups on the topic.

2.7 The new ITU-T Focus Group on [“Data Processing and Management (DPM) to support IoT and Smart Cities & Communities”](https://www.itu.int/en/ITU-T/focusgroups/dpm/Pages/default.aspx) (FG DPM) had its first two meetings on 17-19 July 2017 and 20-25 October 2017 in Geneva, Switzerland.

2.8 The United for Smart Sustainable Cities (U4SSC) initiative is currently working on the following deliverables: Guidelines on tools and mechanisms to finance SSC projects; Guidelines on strategies for circular cities; City science application framework; Guiding principles for artificial intelligence in cities; Blockchain 4 cities and Toolkit for Smart Sustainable Cities.

2.9 Coordination through liaisons occurred between ISO/IEC JTC 1/SC6 and ITU-T SG11 on edge computing and managed P2P communications, and between oneM2M and ITU-T SG20 on Machine-to-Machine (M2M) and IoT standards.

2.10 The [7th IoT Week](http://iot-week.eu/), organized on 6-9 June 2017, in Geneva, Switzerland, provided an overview of the latest developments in the IoT domain, and concluded with the “[Internet of Things Declaration to Achieve the Sustainable Development Goals](http://iot-week.eu/internet-of-things-declaration-to-achieve-the-sustainable-development-goals/)“.

2.11An [**ITU Regional Workshop for CIS countries on “IoT and future networks”**](https://www.itu.int/en/ITU-D/Regional-Presence/CIS/Pages/EVENTS/2017/06_Saint_Petersburg/06_Saint_Petersburg.aspx), organized in St. Petersburg, Russia, on 19-20 June 2017, shared experiences on the IoTs and considered future developments within the CIS region.

2.12 An [**ITU Workshop on Performance, QoS and QoE for Multimedia Services**](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/qos/201707/Pages/default.aspx), organized on 24-25 July 2017, in Johannesburg, South Africa, discussed **KPIs and methods for measuring and evaluating the QoS/QoE in LTE and LTE-Advanced networks, QoS/QoE regulatory and policy aspects, network performance and QoS requirements for 5G networks, and ITU-T activities on QoS/QoE.**

2.13 TSB has not received feedback concerning any reported incidents with regard to [WTSA Resolution 69](https://www.itu.int/net/ITU-T/res69/Default.aspx) on “Non discriminatory access and use of Internet resources” (so far there have been 37 incidents since 2009, see all related [reports](https://www.itu.int/net/ITU-T/res69/secured/notifications.aspx)).

2.14 ITU-D SG 1 and SG 2 concluded their [2014-2017 study period](http://www.itu.int/itu-d/study-groups) and released a number of Internet-related reports and guidelines, particularly on Questions 1/1, 2/1, 3/1, 4/1, 5/1 and 1/2 (See [ITU-D SG1](https://www.itu.int/pub/D-STG-SG01) and [ITU-D SG2](https://www.itu.int/pub/D-STG-SG02) reports). Following WTDC-17, work will continue on IP-related issues such as NGN interconnection, VoIP, cloud services, and strategies, policies, and technologies for the deployment of broadband. The groups will explore the transition from narrowband to high-speed, high-quality broadband networks (including transition to IMT-2020 networks), taking into account interconnection and interoperability features. New Q1/1 will work on “Strategies and policies for the deployment of broadband in developing countries” (merging former Q1/1 and Q2/1). New Q3/1 will work on “Emerging technologies, including cloud computing, m-services and OTTs: Challenges and opportunities, economic and policy impact for developing countries” (merging former Q1/1 and Q3/1). Questions 4/1, 5/1 and 1/2 will continue their work from the previous study period with emphasis on the need to employ ICTs for sustainable social and economic development.

2.14.1 Under Objective 3 of the Buenos Aires Action Plan, Output 3.3 was adopted on “Products and services on capacity building and human skills development, including those on international Internet governance, such as online platforms, distance and face-to-face training programmes to enhance practical skills, shared material, and taking into account partnerships with telecommunication/ICT education stakeholders”.

2.15 ITU-D continues implementing Internet broadband wireless connectivity and developing ICT applications to provide free or low cost digital access for schools and hospitals, and for underserved populations in rural and remote areas in selected countries (Burundi, Burkina Faso, Djibouti, Lesotho, Mali, Swaziland, Antigua & Barbuda and St. Kitts & Nevis etc.).

2.16 ITU-R approved Recommendation ITU-R M.2083 “IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond”, and Resolutions ITU-R 65 “Principles for the process of future development of IMT for 2020 and beyond” and ITU-R 66 “Studies related to wireless systems and applications for the development of the Internet of Things”.

2.17 ITU continues its cooperation with the Corporation for National Research Initiatives (CNRI) and the DONA Foundation on the use of the Digital Object Architecture (DOA) – an advanced architecture for information management – in the use of its advanced digital object management features in ITU and interested UN agencies.

2.18 Several trainings were provided through [ITU Academy](https://academy.itu.int/) and the [ITU Centers of Excellence](https://academy.itu.int/index.php?option=com_content&view=article&id=154&Itemid=588&lang=en) network, covering topics such as “Training on IPv6 deployment”, “Strategic Aspects for Internet Governance and Innovations”, “ICT Infrastructure and IoT”, “Technologies of Fiber Optics accesses and Next Generation Networks”, “Technologies of fourth Generation: LTE and LTE Advanced”, “The future of Interface towards 5G”, “The role of ICTs on Smart Sustainable Cities”, etc.

2.19 ITU is also supporting the Costa Rican Institute of Electricity (ICE) strengthen its capacity building, including on NGN Networks, through a project called “Desarrollo del conocimiento en tecnologías, para especialistas del ICE”.

2.20 The [“Forum on Internet of Things (IOT): Smarter Living in the Caribbean”](https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Pages/EVENTS/2017/16971a.aspx) was organized on 24 -26 April 2017 in Port-of-Spain, Trinidad and Tobago.

**3. IPv6**

3.1 ITU-T SG2 and SG3 continue to study the methodology and work items needed for the implementation of the relevant parts of WTSA Res. 64. ITU-T SG20 is also working on draft ITU-T Recommendations focusing on IPv6 and IoT.

3.2 BDT and MUST (Malaysia University of Science and Technology) continue working towards the establishment of an ITU IPV6/IoT Expertise Centre for supporting Member States in their transition from IPv4 to IPv6 for IoTs.

3.3 Work continues on the ITU IPTV IPv6 Global Testbed ([I3GT](http://www.itu.int/en/ITU-T/C-I/interop/I3GT/Pages/default.aspx)) project among ITU members with the support of the ITU secretariat to test various aspects of ITU-T’s IPTV standards, train academia on up-to-date IPTV technologies, showcase standardized IPTV to stakeholders, and also to promote IPv6 capability deployment in developing countries. ITU-T SG16 started working on the draft ITU-T Technical Paper [HSTP.IPTV-Guide.2](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=14423) on “IPTV service parameters for new IPTV service providers”.

3.4 BDT continues to provide assistance to countries on the implementation of IPv6 policies and IPv6 test bed as requested by Member States, e.g.: an IPv6 training workshop was conducted in Abidjan, Côte d’Ivoire in September 2017, based on the test bed implemented by ITU; country assistance was provided to Bhutan on IPv6 deployment and IPv6 Security; IPv6 test bed implementation is in progress in Cameroon and Zimbabwe.

3.5 On 4-8 December 2017 a training on “Internet and IPv6 Infrastructure Security Program” was held in Tonga for the Pacific region, in partnership with APNIC and Australia.

3.6 Through ITU Academy, a course on “IPv6 Technologies, Fundamentals, Design, and Deployment”, is being delivered in cooperation with INICTEL UNI (ITU Center of Excellence).

3.7 The [final report](https://www.itu.int/pub/D-STG-SG01.01.1-2017) in response to ITU-D SG1 [Question 1/1](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2014&rgq=D14-SG01-RGQ01.1&stg=1) explored through case studies the experiences of countries in transitioning from IPv4 to IPv6 to enable IoT, M2M, Internet of Everything (IoE), and other future technologies.

# 4. Internet-related public policy issues including the management of domain names and addresses

4.1 The [Council Working Group on international Internet-related public policy issues (CWG-Internet)](https://www.itu.int/en/council/cwg-internet/Pages/default.aspx) held two meetings, on 20-22 September 2017 and on 25-26 January 2018. It further conducted two rounds of Online Open Consultations: a) from June to September 2017 on [“Public Policy considerations for OTTs”](http://www.itu.int/en/council/cwg-internet/Pages/consultation-june2017.aspx), followed by a physical open consultation meeting on 18 September 2017; and b) from October 2017 to January 2018 on [“Bridging the Digital Gender Divide”](http://www.itu.int/en/council/cwg-internet/Pages/consultation-oct2017.aspx), followed by a physical open consultation meeting on 22 January 2018. More information on the activities of CWG-Internet can be found in [Document C18/51](https://www.itu.int/md/S18-CL-C-0051/en).

4.2 ITU participated in the three meetings of the CSTD [Working Group on Enhanced Cooperation on Public Policy Issues Pertaining to the Internet (WGEC)](http://unctad.org/en/Pages/CSTD/WGEC-2016-to-2018.aspx), held between May 2017 and January 2018. The Working Group discussed recommendation proposals submitted by various WGEC Members on how to further implement enhanced cooperation as envisioned in the Tunis Agenda, for their potential submission to the CSTD. Divergence of views during the discussions did not eventually allow the Group to agree on a set of recommendations.

4.3ITU participated in the 12th IGF meeting, held from 17 to 21 December 2017 in Geneva, Switzerland. The ITU Secretary-General represented ITU at the IGF 2017 Opening Ceremony and the High Level Thematic Session on [“Shaping our future digital global governance”](https://igf2017.sched.com/event/CSCf). Within the framework of IGF 2017, ITU and UN Women co-organized, on 19 December 2017, the fourth annual [EQUALS in Tech Awards](https://igf2017.sched.com/event/Czqe) (formerly GEM-Tech Awards) to celebrate initiatives that help close the gender digital divide. As a follow-up, an [EQUALS in Tech Panel Discussion](http://sched.co/CTsx) took place on 20 December 2017. ITU also co-organized two Open Forums: a) on [“WSIS Action Lines advancing the Achievement of SDGs”](http://sched.co/CTrs) co-organized by the WSIS Action Line Facilitators; and b) on [“Strengthening capacities in international Internet governance”](http://sched.co/CTt3) co-organized by ITU, DiploFoundation and SSIG. The latter was based on the report mentioned in section 4.6 and provided an overview of existing capacity development activities by different stakeholder groups.

4.4 ITU continues to follow the issue of protecting intergovernmental organization (IGO) names and acronyms in any new gTLDs, as part of the IGO coalition composed of approximately 35 IGOs including OECD, UN, UPU, WHO, WIPO, and the World Bank.

4.5 ITU-T SG2 continues to follow the issue of possible perceived mapping of the ITU-T E.164 numbering plan into the DNS, with regard to the provision of all-numeric domain names by TELNIC, the domain name registry operator for .tel gTLD. ITU-T SG2 is awaiting contributions from ITU-T membership after a call for contributions was made on this topic in its January 2016 meeting.

4.6 BDT continues to develop its capacity-building activities in the field of Internet governance. In 2017, it published the report [“Reviewing Global Internet Governance Capacity Development and Identifying Opportunities for Collaboration”](https://academy.itu.int/index.php?option=com_content&view=article&id=216&Itemid=686&lang=en), providing an overview of the core topics related to Internet governance, assessing existing capacity development programmes and identifying gaps.

4.7 BDT organized a regional workshop on “[Strengthening capacities in international Internet governance”](https://www.itu.int/en/ITU-D/Capacity-Building/Pages/events/2017/Internet-Governance/AMS/internet-governance.aspx) in Brasilia, Brazil on 14-16 August 2017, in partnership with DiploFoundation.

**5. ENUM**

[Updated Information on ENUM](http://www.itu.int/ITU-T/inr/enum/) is being maintained by ITU-T. This includes information on approved ENUM Delegations and on ENUM trials.

# 6. International Internet Connectivity (IIC)/Internet Exchange Points (IXPs)

6.1 BDT continues to provide assistance to countries on the creation of national IXPs, and on achieving efficient and cost-effective regional Internet connectivity by, e.g. developing model interconnection as a basis for formulating National and Regional IXPs, as in the case of Guatemala where the national model was defined between May and September 2017; supporting strengthening capabilities of the national IXPs (Montenegro) and the National Internet Exchange in Timor Leste; developing a new publication on “Internet Exchanges” including Renewable Energies for Rural Communications etc. The national IXP for Guatemala is currently in the implementation phase and is expected to be concluded by the third quarter of 2018.

6.2 ITU-T SG3 continues to work on IIC, including IP peering, regional traffic exchange points, cost models, and cost of provision of services.

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1. Detailed periodic reports on ITU’s activities have been submitted to previous CWG-Internet meetings. [↑](#footnote-ref-1)