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## Report by the Secretary-General

### ITU INTERNET ACTIVITIES: RESOLUTIONS 101, 102, 133 AND 180

#### Summary

This report summarizes ITU's activities related to Plenipotentiary Conference Resolution 101 (Rev. Guadalajara, 2010): "Internet Protocol-based Networks"; Resolution 102 (Rev. Guadalajara, 2010): "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. Guadalajara, 2010): "Roles of administrations of Member States in the management of Internationalized (multilingual) domain names"; and Resolution 180 (Guadalajara, 2010): Facilitating the transition from IPv4 to IPv6 .

#### Action required

The Council is invited to **note** the activities described in this report.

#### References

[Resolution 101 \(Rev. Guadalajara, 2010\)](#), [Resolution 102 \(Rev. Guadalajara, 2010\)](#), [Resolution 133 \(Rev. Guadalajara, 2010\)](#), [Resolution 180 \(Guadalajara, 2010\)](#), [Council Resolution 1282 \(MOD 2008\)](#), [Resolution 1305 \(2009\)](#), [Resolution 1336 \(2011\)](#), [Resolution 1344 \(2012\)](#)

WTSA-12 Resolutions [47](#), [48](#), [50](#), [52](#), [59](#), [64](#), [69](#), [75](#) (Rev. Dubai 2012)

WTDC-10 [Programme 2](#), Resolutions [20](#), [30](#), [45](#) (Rev. Hyderabad, 2010) and [63](#) (Hyderabad, 2010)

Council Documents [C99/51](#), [C2000/27](#), [C2000/27Add.A](#), [C2000/27Add.B](#), [C01/EP/8](#), [C02/46](#), [C03/27](#), [C04/28](#), [C05/32](#), [C05/EP/10](#), [C06/4](#), [C07/42](#), [C08/32\(Rev.1\)](#), [C09/49](#), [C10/13](#), [C11/31](#), [C12/28](#)

## 1 Introduction

1.1 Resolution 101 (Rev. Guadalajara, 2010) on IP-Based Networks and Resolution 102 (Rev. Guadalajara, 2010) on 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, were initially adopted in 1998 and subsequently amended, most recently at PP-10. Related activities are covered in C99/51, C2000/27, C2000/27Add.A & Add.B, C01/EP/8, C02/46, C03/27, C04/28, C05/32, C05/EP/10, C06/4, C07/42, C08/32(Rev.1), C09/49, C10/13, C11/31 and C12/28.

1.2 Resolution 133 (Rev. Guadalajara, 2010) on the Role of administrations of Member States in the management of internationalized (multilingual) domain names was initially adopted in 2002 and subsequently amended, most recently at PP-10. Related activities are covered in C03/27, C04/28, C05/32, C06/4, C07/42, C08/32(Rev.1), C09/49, C10/13, C11/31 and C12/28.

1.3 Resolution 180 (Guadalajara, 2010) on Facilitating the transition from IPv4 to IPv6 was adopted at PP-10. Related activities are covered in C11/32 and C12/30.

1.4 In recognition of convergence between telecommunications and IP-based networks, especially in Voice over Internet Protocol (VoIP) services and Next-Generation Networks (NGN), Resolution 101 (Rev. Guadalajara, 2010) resolves that ITU shall identify Internet-related issues within its responsibility, collaborate with other organizations to maximize the benefits of IP-based networks and continue the study of international Internet connectivity (IIC) as an urgent matter as called for in §50 d) of the *Tunis Agenda*.

1.5 In relation to the WSIS outcomes, Resolution 102 (Rev. Guadalajara, 2010) instructs the Secretary-General to continue to take a significant role in international discussions and initiatives on the management of Internet domain names, addresses and other resources within the mandate of ITU, and to take the necessary steps for ITU to continue to play a facilitating role in the coordination of international public policy issues pertaining to the Internet (§35 d) of the *Tunis Agenda*). It instructs the Directors of the Bureaux to support these actions.

1.6 Resolution 133 (Rev. Guadalajara, 2010) instructs the Secretary-General and the Directors of the Bureaux to take an active part in all international initiatives and activities on the deployment and management of Internationalized Domain Names (IDN).

1.7 This report describes ITU activities related to these Resolutions since Council 2012 and those relating to Internet Governance, per the WSIS outcome documents and §29–82 of the *Tunis Agenda*.

## 2 Activities related to Internet Protocol (IP) Networks, the development of NGN and *future internet*, including policy and regulatory challenges

2.1 WTSA-12 adopted a total of 50 Resolutions, one Opinion and six new ITU-T Recommendations, including the first ever ITU-T Resolutions on e-health, software-defined networks, e-waste, and engagement of academia in ITU-T's work.

2.2 All ITU-T study groups continue work in different areas of next generation network (NGN) and future network (FN) Recommendations. Major progress has been made recently in the following:

2.2.1 ITU-T SG13 progressed its work on future networks and approved new Recommendations ITU-T Y.3041 (Smart Ubiquitous Networks – Overview), and ITU-T Y.3042 (Smart Ubiquitous Networks –

Smart Traffic Control and Resource Management Functions) and agreed to the publication of two new ITU-T Technical Papers in March 2013: (1) Migration scenarios from legacy networks to NGN in developing countries, and (2) Mobility Management in ITU-T: Current Development and Next Steps Heading Towards Future Networks. SG13 continues to progress its work on software-defined networking (SDN) and cloud computing.

2.2.2 ITU-T SG15 is responsible for studies on optical transport networks and access network infrastructures, providing higher speed broadband access and core-network transport Recommendations required for IP-based networks, NGN and FN. This work includes studies focusing on timing, synchronization, measurement, performance, speed, reliability, installation and maintenance. DSL, optical and hybrid access technologies are now being complemented by next-generation home broadband networking transceivers, known as *G.hn* and a narrowband counterpart aimed at smart-grid applications, known as *G.hnem*. Following many years of collaboration with IETF, two Recommendations on Multiprotocol Label Switching – Transport Profiles (MPLS-TP), urgently required by operators to increase network efficiency and reduce costs, were approved. Recommendation ITU-T G.9980, which defines requirements for service providers' remote management of networked devices in customers' homes, was approved at WTSA-12.

2.2.3 The ITU-T SG5 meeting in Geneva from 29 January to 7 February 2013 consented the latest addition to the ITU-T's L.1400 series of standardized methodologies to assess the environmental impact of ICTs. The consent adds "ICT projects" to the list of ICT deployment scenarios covered by ITU-T's environmental impact assessment methodologies. The new methodology (ITU-T L.1430) provides a framework to measure reductions in Green House Gas (GHG) emissions and energy consumption resulting from implementations of ICT projects including smart buildings, smart transport, and telepresence or videoconferencing services. On 7 February 2013, SG5 agreed to the formation of a new Focus Group on Smart Sustainable Cities (FG SSC) to assess the standardization requirements of cities aiming to boost their social, economic and environmental sustainability through the integration of ICTs in their infrastructures and operations. The first meeting of FG SSC took place on 8 May 2013 in Turin, Italy back to back with the 8th Symposium on ICTs, Environment and Climate Change (6-7 May 2013).

2.2.4 Progress was observed in ITU-T SG16 work on media coding for a wide variety of applications, including content delivery over the Internet and managed IP networks, in particular addressing IPTV systems and the joint work with ISO/IEC JTC1 SC29/WG11 on a new video compression codec. The new Recommendation ITU-T H.265, known informally as High Efficiency Video Coding (HEVC), was consented in January 2013. Work has also progressed in SG16 on standardizing full interoperability between telepresence systems.

2.2.5 ITU-T SG17 is the lead study group on telecommunication security and identity management. It is developing security standards in the area of cybersecurity, anti-spam, identity management, X.509 certificates, information security management, ubiquitous sensors networks, telebiometrics, IPTV security, virtualization security towards cloud computing security, and security architecture and application security, often in cooperation with external standards development organizations (SDOs) and Consortia. In its April 2013 meeting, SG17 began work on best-of-breed platforms being developed and used by industry and establishing collaborative relationships with the principal forums of the cybersecurity community. An ensemble of key specifications for the trusted exchange of cybersecurity information necessary for making security measurable and enabling continuous security

monitoring are under study. Since the 2012 TSAG meeting, SG17 has approved ten new Recommendations on Cybersecurity Information Exchange (CYBEX) and additionally seven other security Recommendations.

2.2.6 Internet of Things (IoT) - Global Standards Initiative (GSI) (IoT-GSI) and the Joint Coordination Activity on IoT (JCA-IoT) continued to progress IoT standardization work in the fields of definition, overview and a work plan as a tool to maintain a global IoT standards roadmap.

2.2.7 IPTV standardization work continued in ITU-T with various new and revised standards produced since WTSA-12. Two IPTV-GSI events were held in the new study period, in Geneva (January 2013) and Johannesburg (May 2013). Both events had showcases to brief delegates attending various meetings on the progress of implementation of ITU IPTV standards.

2.2.8 The Focus Group on Machine-to-Machine (M2M) Service Layer established in January 2012 continued to study and evaluate the M2M landscape and M2M work currently being undertaken by regional and national SDOs, with a view to identifying a common set of requirements. FG M2M held seven meetings and progressed work on five deliverables: (1) M2M standardization activities and gap analysis: e-health; (2) M2M enabled ecosystems: e-health; (3) M2M use cases: e-health; (4) M2M service layer: Requirements and architectural framework; and (5) M2M service layer: APIs and protocols guideline.

2.2.9 Seventeen workshops have been organized by TSB since Council 2012 in order to raise awareness and facilitate discussions on NGN-related topics.

2.3 BDT is involved in many activities to integrate IP-based applications in telecommunication networks.

2.3.1 ITU-D SG1 and SG2 continue to address IP-related issues such as NGN Interconnection, VoIP, Access technology for broadband telecommunications including International Mobile Telecommunications (IMT) and migration strategies from existing networks to NGNs for developing countries.

2.3.2 BDT is 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. e.g. Mobile WiMax Broadband Network, standard IEEE802.16e, will be implemented and operational in Djibouti by the end of June 2013.

2.3.3 Implementation of IP-based Videoconference Network

- (a) Support for ITU/CISCO TelePresence implementation in Africa: The objective of this project is to use TelePresence and enhance communication among high-level decision-makers and to contribute to combatting climate change by reducing travel.
- (b) IP-Based Videoconference network for the CIS countries and the corresponding ITU Area Office (currently connected: Armenia, Azerbaijan, Belarus, Kyrgyzstan, Moldova, Russia, and Uzbekistan. Kazakhstan will be connected soon).

2.3.4 In 2012, an Arab regional workshop was organized on Internet Routing, Traffic Management and Hosting. In 2013, an Arab regional workshop on Cloud Computing is planned.

2.4 ITU-R has approved two deliverables relevant to Cross-layer QoS for IP-based hybrid satellite-terrestrial networks (Recommendation ITU-R S.1897 and Report ITU-R S.2222).

2.5 ITU continues its cooperation with the Corporation for National Research Initiatives (CNRI) on the use of the Digital Object Architecture (DOA) – an advanced architecture for information management - with the intention of using the advanced digital object management features of the DOA in ITU and interested agencies of the UN. In this regard, ITU signed another agreement with CNRI on February 2013.

### **3 IPv6**

3.1 WTSA-12 adopted revised Resolution 64 “IP address allocation and facilitating the transition to and deployment of IPv6”, which resolves to instruct ITU-T Study Group 2 and 3, to continue to study the allocation and economic aspects of IP addresses, and to monitor and evaluate the allocation of IPv4 addresses which may be still available, returned or unused, in the interests of developing countries. It also instructs the TSB Director, in close collaboration with the BDT Director, to continue assisting developing countries with IPv6 migration and deployment through BDT Programme 2 and 4, to maintain the ITU IPv6 portal with information about global IPv6 activities, and to provide roadmaps, guidelines etc. to assist in the establishment of IPv6 test-bed laboratories in developing countries in collaboration with appropriate relevant organizations. In its last meeting in January 2013, ITU-T SG2 set up a correspondence group to propose the methodology and work items needed to implement the parts of WTSA-12 Resolution 64 relevant to ITU-T SG2.

3.2 ITU-T SG16 had a transcontinental IPTV experiment over IPv6 in February 2012. After this experiment, upon requests from ITU membership, a global IPTV IPv6 test bed was set up among several ITU members, with the support of the ITU secretariat, connecting ITU headquarters and countries such as Japan, Singapore, etc., to test interoperability of IPTV equipment/service as well as other IPv6-based technologies and to also promote IPv6 capability deployment in developing countries. This test bed was updated for a second transcontinental IPTV experiment showcased in February 2013.

3.3 BDT is involved in many activities related to IPv6, under PP10 Res. 180, for the adoption of IPv6.

3.3.1 Several workshops and training sessions on IPv6 were organized and others are planned for the end of 2013.

- ITU regional workshop for the CIS countries on “Migration from IPv4 to IPv6: Regulatory and Technical aspects” was held in May 2012, Chisinau, Republic of Moldova.
- ASP COE Training was organized in Thailand in 2012 on "Certified IPV6 Network Engineer CNE6 L1 and L2. Thirteen persons from five countries were trained in the area of IPv6 deployment.
- In collaboration with APNIC and MICT in Thailand, a training was organized in 2012 on "IPv6 Network Migration Strategy for Telecom Service Providers”. Thirty-seven participants from nine countries attended the training on network migration strategy from IPv4 to IPv6. A workshop is planned in Q3 2013 on "IPv6 Infrastructure Security for Telecom Service Providers” in collaboration with APNIC and MICT in Thailand.
- A Symposium on IPv6 in the Americas will be held in Suriname from 23-26 June 2013. It will deal with Technical, Policy and Economic aspects of the introduction of IPv6.

- An Arab workshop on IPv6 is planned in 2013, hosted by NTC in Sudan as part of the Centers of Excellence Activities for 2013.
- In close collaboration with TSB, BR and the Regional Internet Registries, a Global IPv6 Symposium is planned in Geneva in September 2013 to assist developing countries to understand the Policy, Technical and Economic Aspects of the Introduction of IPv6.

**3.3.2** Activities related to Technical Assistance on IPv6 issues include:

- Implementation of an IPv6 test bed in Cote d'Ivoire.
- Assistance is ongoing to support Yemen on IPv6 integration/deployment and a national awareness campaign for IPv6 strategy.
- Supporting IPv6 deployment in the Americas Region; an IPv6 roadmap for Latin American countries is under preparation.
- An IPv6 roadmap is planned for Q4 2013 in order to support Caribbean countries.

## **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) - established as a separate group by Council 2011 Resolution 1336, in accordance with PP10 Resolutions 102 and 140 - held its second meeting on 30, 31 January 2013. In this meeting, CWG-Internet decided that, in line with Council 2012 Resolution 1344, Open Consultations would be convened on the following issues: effectively countering and combatting spam, international public policy issues concerning IPv4 addresses and developmental aspects of the Internet. The public website is now open for input and the closing date for submission is 1 August 2013. As of 31 May 2013, only two contributions have been received.

4.2 Under specific requests from Member States, BDT is currently undertaking the following activities:

4.2.1 Domain Name Registration using Arab Characters and Dot Arab as a top level domain has been supported by ITU. This support needs to be quantified and benchmarked against best practices and overall domain name registration. The related study involves research (online) of Saudi Arabian, Egyptian, and Moroccan markets.

4.3 Mr Alexander Ntoko (TSB) continued in his role as ITU representative in the ICANN Governmental Advisory Committee (GAC).

4.4 At Council 2012, the ITU Secretary-General was strongly urged to continue his efforts to protect Intergovernmental Organization (IGO) names and acronyms in new gTLDs. Recent developments and activities are summarized below:

4.4.1 IGO name protection was raised at the 24th Session of the UN High-Level Committee on Management (HLCM) in September 2012, where it was noted that this issue was of the highest importance for IGOs to properly perform their respective mandate in addition to the budgetary impact that the failure of such protection may entail for UN organizations and to the members who fund them.

4.4.2 The IGO coalition, composed of approximately 40 IGOs, which includes ITU, has sustained its efforts to discuss the issue with various constituencies of ICANN, including the GAC and the ICANN Board at the 45th meeting in Toronto (October 2012), and the 46th meeting in Beijing (April 2013).

4.4.3 At the Toronto meeting, the GAC issued advice to the ICANN Board that, in the public interest, implementation of IGO name protection at the second level must be accomplished prior to the delegation of any new gTLDs, and in any future round of new gTLDs, at the second and top level. The GAC further advised that it would collaborate with IGOs to develop a list of names and acronyms of IGOs, building on existing criteria for “.int” gTLD, to be protected in new gTLDs (GAC Toronto Communiqué). In response, the IGO coalition prepared “.int”- based qualifying criteria for IGOs and an initial list with both names and acronyms, which was forwarded to the GAC to be discussed with the ICANN Board.

4.4.4 The ICANN Board responded to the GAC raising certain issues regarding the “.int”- based criteria and list for IGOs names. The Board sought clarification on the mechanism for periodic review of the IGO list, along with clarification of how many languages in which protection of the various IGO names and acronyms is being sought. In addition, the Board raised rather fundamental concerns about how IGO name protection would be reconciled with other legitimate party’s attempts to register domain names corresponding to a protected IGO name.

4.4.5 Following further discussion with the IGO coalition at the ICANN Beijing meeting, the GAC stressed that the IGOs perform an important global public mission with public funds, they are the creations of government under international law, and their names and acronyms warrant special protection in an expanded domain name system (DNS), and that such protection should be a priority. This recognized that IGOs are in an objectively different category to other right holders, warranting special protection by ICANN in the DNS, while also preserving sufficient flexibility for a workable implementation. Therefore, GAC reiterated its advice to the ICANN Board in its Beijing Communiqué:

“appropriate preventative initial protection for the IGO names and acronyms on the provided list be in place before any new gTLDs would launch.”

4.4.6 The ICANN Board’s response to GAC’s advice made with the IGO coalition in Toronto and Beijing is still pending. The Board expressed its wish to work further on this issue and take a final decision at the next ICANN meeting in Durban, mid-July 2013.

## **5 Internationalized Domain Names (IDN)**

5.1 TSB continues to investigate emerging technologies such as DOA which, with a namespace based on Unicode 3.0, provides native support for IDNs.

5.2 As stated in 4.2.1, support has been provided to the Arab Region for the establishment of a new .arab gTLD and its Arabic equivalent. The main role of ITU was to fund and assist in the submission of the application. This was achieved by the deadline of 31 March 2013, set by ICANN. The domain name allocations have not yet been announced by ICANN. However, the role of the ITU has been fulfilled with the submission of the application. It is expected that this domain name would assist in the increase of Arabic digital content.

## **6. ENUM**

Updated Information on ENUM is being maintained by ITU-T. This includes information on Approved ENUM Delegations and on ENUM trials.

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

7.1 BDT continues to provide assistance to the East African Community (EAC) and South African Development Community (SADC) countries on the creation of national IXPs, and on achieving efficient and cost-effective regional Internet connectivity. An IXP Feasibility Study for the East African Region is ongoing. In 2012 and 2013, the Arab regional office held several meetings relating to Connect Arab Internet Networks (IXPs) projects as approved by the Arab Council of Ministers.

7.2 ITU-T SG3 is progressing work on a supplement to Recommendation D.50 on International Internet Connectivity, which will be discussed at the upcoming SG3 meeting in May 2013.

## **8. Internet Governance Forum (IGF)**

8.1 ITU continued its active participation at the 7th IGF in Baku, Azerbaijan, in November 2012. Three Dynamic Coalition meetings and several workshops, organized or co-organized by ITU, aimed at raising awareness of ITU initiatives in the areas of Internet and Climate Change, Accessibility and Disability, and Child Online Safety. Members of the ITU delegation were also involved in related workshops and events, to provide an ITU perspective on critical issues, including the issue of spectrum.

8.2 ITU co-hosted a High-level Ministerial Meeting with the Government of Azerbaijan, UN, UNESCO, ICANN and ISOC, which took place on 5 November 2012, just prior to IGF 2012, to address the challenges of a Hyper-connected World. The Secretary-General, Dr Hamadoun I. Touré, as the moderator of the Round Table Session, led the discussion on the Global Challenges of a Hyper-connected World: Long-Term Outlook into Broadband and Cybersecurity.

## **9 Fifth World Telecommunication/ICT Policy Forum (WTPF-13)**

WTPF-13, on International Internet-related public policy matters, was held in Geneva, Switzerland from 14-16 May 2013. In accordance with past practice, a Strategic Dialogue session on “Building our Broadband Foundations for the Future” was held on 13 May, the day before the opening of the WTPF 2013. Activities related to WTPF-13 and the Strategic Dialogue are included in [Document C13/64](#).

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