

## RESOLUTION 180 (REV. BUCHAREST, 2022)

### Promoting deployment of Internet Protocol version 6

The Plenipotentiary Conference of the International Telecommunication Union (Bucharest, 2022),

*considering*

- a) United Nations General Assembly (UNGA) Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development;
- b) UNGA Resolution 70/125, on the outcome document of the UNGA high-level meeting on the overall review of the implementation of the outcomes of the World Summit on the Information Society (WSIS);
- c) the WSIS+10 Statement on the implementation of WSIS outcomes and the WSIS+10 Vision for WSIS beyond 2015, which were adopted at the ITU-coordinated WSIS+10 High-Level Event (Geneva, 2014), based on the Multistakeholder Preparatory Platform process, together with other United Nations agencies and inclusive of all WSIS stakeholders, were endorsed by the Plenipotentiary Conference (Busan, 2014) and were submitted to the UNGA overall review;
- d) Resolution 64 (Rev. Geneva, 2022) of the World Telecommunication Standardization Assembly, on Internet Protocol (IP) address allocation and facilitating the transition to and deployment of IP version 6 (IPv6);
- e) Opinion 3 (Geneva, 2013) of the World Telecommunication/Information and Communication Technology (ICT) Policy Forum, on supporting capacity building for the deployment of IPv6;

- f) Resolution 63 (Rev. Kigali, 2022) of the World Telecommunication Development Conference, on IP address allocation and encouraging the deployment of IPv6 in the developing countries<sup>1</sup>;
- g) Resolution 101 (Rev. Bucharest, 2022) of this conference, on IP-based networks;
- h) Resolution 102 (Rev. Bucharest, 2022) of this conference, 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;
- i) the results of the ITU IPv6 Group, which were endorsed by the ITU Council at its 2012 session,

*considering further*

- a) that the Internet has become a leading factor in social and economic development and a vital tool for communication and technological innovation, creating a major paradigm shift in the telecommunication/ICT sector;
- b) that fostering an enabling environment facilitates the deployment of IPv6 and growth of the Internet;
- c) that, in view of the exhaustion of IPv4 addresses and in order to ensure the stability, growth and development of the Internet, every effort should be made by all stakeholders to encourage and facilitate the deployment of IPv6;
- d) that in the deployment of IPv6, it is important to pay attention to the normal functioning of IPv4-based technologies;
- e) that many developing countries are experiencing some challenges in this process,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*noting*

- a) the progress towards deployment of IPv6 that has been made over the last few years;
- b) the importance of providing assistance from experts, including technical experts, in IPv4 and IPv6 deployment to those Member States and Sector Members that request it;
- c) the support and best practices which are available to Member States and Sector Members from ITU and relevant organizations (e.g. the regional Internet registries (RIRs), network operator groups and the Internet Society);
- d) the ongoing coordination between ITU and relevant organizations on IPv6 capacity building in order to respond to the needs of Member States and Sector Members;
- e) that not enough network operators and end users are actually using IPv6;
- f) that IPv6 traffic is growing gradually;
- g) that the deployment of IPv6 can happen in parallel with the continued use of IPv4, and should ultimately lead to a complete transition from IPv4 to IPv6;
- h) that governments play an important part as catalysts for the deployment of IPv6;
- i) that the private sector plays an important role in the investment in and deployment of the Internet;
- j) that academia produce practical tools, usage guidelines and resources to solve IPv6 development problems;
- k) that, in addition to governments, other stakeholders, including Internet organizations responsible for the IPv6 protocol, IPv6 address allocation and assignment, and the design and manufacturing of hardware and software, including for the Domain Name System (DNS), that are compatible with IPv6, have important roles to play in facilitating the transition to, and deployment of, IPv6,

*recognizing*

- a) that IP addresses are fundamental resources needed for the development of IP-based telecommunication/ICT networks and for the world economy and prosperity;
- b) that IPv6 deployment gives an opportunity for the development of ICTs, and that its deployment is the best way to avoid the scarcity of IPv4 addresses and the consequences that exhaustion of IPv4 addresses may entail, including high costs and slowdown in the growth of telecommunication/ICT infrastructures;
- c) that IPv6 can provide an environment which supports the continued growth of, and connectivity of users to, the Internet globally;
- d) that accelerating deployment of IPv6 is necessary in order to respond to global needs in this regard;
- e) that the involvement and cooperation of all stakeholders is crucial for success in this process;
- f) that technical experts are providing assistance regarding IPv6, and progress has been made;
- g) that capacity building and the sharing of best practices are fundamental to further progress;
- h) that there are countries that still need expert assistance regarding IPv6,

*resolves*

1 to explore ways and means, in accordance with the Tunis Agenda for the Information Society, for greater reciprocal collaboration and coordination between ITU and relevant organizations<sup>2</sup> involved in the development of IP-based networks and the future Internet in the context of emerging telecommunications/ICTs, through cooperation agreements, as appropriate, in order to increase the role of ITU in Internet governance, and to foster greater participation by Member States in Internet governance, so as to ensure maximum benefits to the global community through affordable international connectivity;

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<sup>2</sup> Including, but not limited to, the Internet Corporation for Assigned Names and Numbers (ICANN), the regional Internet registries (RIRs), the Internet Engineering Task Force (IETF), the Internet Society (ISOC) and the World Wide Web Consortium (W3C), on the basis of reciprocity.

2 to step up the exchange of IPv6 experiences and information with all stakeholders, with the aim of creating opportunities for collaborative efforts and ensuring that feedback enriches ongoing efforts on this matter;

3 to collaborate closely with the relevant international recognized partners, including the Internet community (e.g. RIRs, the Internet Engineering Task Force and others), in order to encourage the deployment of IPv6 through capacity building;

4 to support those Member States which, in accordance with the existing allocation policies, require and request assistance in management, allocation and capacity building in the deployment of IPv6 resources, including support from relevant organizations, pursuant to relevant resolutions;

5 to continue the studies of IP address allocation and use, both for IPv4 addresses and for IPv6 addresses, in cooperation with other relevant stakeholders, based on their respective roles,

*instructs the Director of the Telecommunication Development Bureau, in coordination with the Director of the Telecommunication Standardization Bureau*

1 to undertake and facilitate activities under *resolves* above in order that the relevant study groups of the ITU Telecommunication Standardization Sector and of the ITU Telecommunication Development Sector can carry out the work of promoting the deployment of IPv6;

2 while assisting those Member States that require support in the management and allocation of IPv6 resources, to monitor the current allocation mechanisms (including the equitable distribution of addresses) for ITU Member States or Sector Members, and to identify and point out any underlying flaws in the current allocation mechanisms;

3 to communicate proposals for improvements to existing policies and best-practice advice, if identified under the studies above, in accordance with the existing policy development process;

4 to develop statistics on progress made in IPv6 deployment, based on information that may be compiled regionally through collaboration with regional organizations, including RIRs;

5 in coordination and collaboration with other regional organizations and stakeholders, to collect and disseminate best practices on coordination efforts undertaken by governments, industry and other stakeholders at the national level to facilitate IPv6 deployment,

*invites Member States and Sector Members*

1 to continue to promote specific initiatives at the national level, which foster interaction with governmental, private and academic entities and civil society for the purposes of the exchange of information and coordination necessary for the deployment of IPv6 in their respective countries;

2 to encourage, with support from the ITU regional offices, RIRs and other regional organizations in coordinating research, dissemination and training actions with participation by governments, industry and the academic community in order to facilitate the deployment of IPv6 within the countries and in the region, and to coordinate initiatives between regions to promote its deployment worldwide;

3 to develop national policies to promote the technological update of legacy systems in order to ensure that the public services provided using IP and the communications infrastructure and relevant applications of the Member States are compatible with IPv6;

4 to encourage IP-based telecommunication/ICT services and infrastructure to support IPv6;

5 to foster multistakeholder coordination and develop communication mechanisms to share best practices in IPv6 deployment;

6 to encourage manufacturers and software developers to supply to the market fully-featured ICT equipment, applications and customer premises equipment that supports IPv6 in addition to IPv4;

7 to raise awareness among information service providers on the importance of making their services available over IPv6;

8 to encourage industry and academia participation in IPv6 deployment and capacity-building activities, for both the commercial and public sectors;

9 to encourage government agencies and private-sector organizations to ensure that their websites and services support IPv6,

*instructs the Secretary-General*

to submit to the Council and disseminate, as appropriate, one or more progress reports to the ITU membership and the Internet community, on the implementation of this resolution.

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*(Guadalajara, 2010) – (Rev. Busan, 2014) – (Rev. Dubai, 2018) – (Rev. Bucharest, 2022)*

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