

10 March 2009

**Informal Expert Group for the
ITU World Telecommunication Policy Forum**

The Internet Society has been actively engaged in the preparation of the next World Telecommunication Policy Forum (WTPF) that will be held from the 22nd to the 24th April in Lisbon. As a member of the Informal Expert Group (IEG) for the 2009 WTPF, ISOC values this opportunity for a multi-stakeholder dialogue and the opportunity to provide factual and technical information to ensure the discussions in Lisbon are constructive, and informed.

We encourage the ITU Secretariat General to continue opening its conferences to all interested stakeholders, and broadening participation, beyond its Member States and Sector Members, to the Civil Society, the Internet community and the research community. We strongly believe there is an overarching need to develop appropriate multi-stakeholder forums that involve knowledgeable, interested and capable people in crafting solutions that enhance the strength of the Internet as a vital tool for communication and innovation.

The Internet Society would like to submit this paper on “**IPv6 Address Allocation**” as an official background paper to the 2009 World Telecommunication Policy Forum. This factual paper has been elaborated by the Internet Society’s Standards and Technology department and we hope it will be able to provide valuable background to the discussions in Lisbon.

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ISOC Contribution to World Telecommunication Policy Forum:

IPv6 Address Allocation

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I. Introduction

The growth and success of the Internet continues to depend on collaboratively engineered and operated, robust technical infrastructure. The Internet Society is pleased to offer the following factual information to provide an overview of the organizations carrying out strategic roles in the development and deployment of IPv6. We hope it will inform discussions and be helpful to those seeking accurate information on IPv6 deployment in the various regions of the world or who would like to find contacts to help them address particular concerns they have in their region.

II. Internet Number Allocation and Policy

The five Regional Internet Registries (RIRs) oversee the allocation and assignment of Internet number resources in the various regions of the world. More information about the RIR structure can be found at <http://www.isoc.org/briefings/021/>.

The RIRs set policies by working together openly with their constituencies in their regions, including interested governments, to assure equitable treatment of number resources as well as policies for other aspects of network operations. All of them are active in supporting the deployment of IPv6 and maintain resources to facilitate economies in their regions in their own deployments of IPv6. They are listed here by region with pointers to their online resources and information about their next meetings.

a. Africa

AfriNIC is the Regional Internet Registry serving Africa. Their website is at: <http://www.afrinic.net>. “AfriNIC is a non-government, not-for-profit, membership based organization, based in Mauritius to serve African Internet Community. AfriNIC is the Regional Registry for Internet Number Resources for Africa. Membership is open to anybody.” AfriNIC is an Associate Member of the ITU, in the category of Regional and other International Organizations. They have an IPv6 resource center online with lots of accurate information about IPv6 deployment here: <http://www.afrinic.net/IPv6/index.htm>. AfriNIC is holding its next public policy meeting (AfriNIC-10) in Cairo, Egypt from 18-22 May, 2009, with an IPv6 workshop on 16 and 17 May.

b. Asia-Pacific

APNIC is the Regional Internet Registry serving the Asia-Pacific region. Their website is at: <http://www.apnic.net>. “APNIC is one of five Regional Internet Registries currently operating in the world. It provides allocation and registration services which support the operation of the Internet globally. It is a not-for-profit, membership-based organisation whose members include Internet Service Providers, National Internet Registries, and similar organisations. APNIC represents the Asia Pacific region, comprising 56 economies.” APNIC is an Associate Member of the ITU, in the category of Regional and other International Organizations. They have an IPv6 resource center online with lots of accurate information about IPv6 deployment at: http://www.apnic.net/services/ipv6_guide.html. APNIC is holding its next public policy meeting APNIC-28 in Beijing, China from 22-29 August, 2009.

c. Europe and the Middle East

RIPE NCC is the Regional Internet Registry serving Europe, the Middle East, and parts of Central Asia. Their website is here: <http://www.ripe.net>. “The RIPE NCC is an independent, not-for-profit membership organisation that supports the infrastructure of the Internet through technical co-ordination in its service region. The most prominent activity of the RIPE NCC is to act as the Regional Internet Registry (RIR) providing global Internet resources and related services (IPv4, IPv6 and AS Number resources) to members in the RIPE NCC service region. The membership consists mainly of Internet Service Providers (ISPs), telecommunication organisations and large corporations located in Europe, the Middle East and parts of Central Asia.” They have lots of accurate information about IPv6 deployment at: <http://www.ripe.net/rs/ipv6/index.html>. The next RIPE NCC meeting (RIPE-58) will be held in Amsterdam from 4-8 May, 2009.

d. Latin America

LACNIC is the Regional Internet Registry serving Latin America and the Caribbean region. Their website is at: <http://www.lacnic.net>. “LACNIC is an international non-profit organization established in October 2002 with headquarters in Uruguay. It is managed by a Board of Directors consisting of six members elected by member organizations.” They have an IPv6 Information Center with pointers to accurate information about IPv6 deployment here: <http://www.lacnic.net/ipv6/en/>. LACNIC will be holding its next meeting from 25-29 May, 2009, in Panama City, Panama.

e. North America

ARIN is the Regional Internet Registry for North America. Their website is here: <http://www.arin.net>. “Applying the principles of stewardship, ARIN, a non-profit corporation, allocates Internet Protocol resources; develops consensus-based policies; and facilitates the advancement of the Internet through information and educational outreach.” ARIN maintains an IPv6 information center with lots of useful information about IPv6 at: <http://www.arin.net/v6/v6-info.html> and an IPv6 Wiki page at: http://www.getipv6.info/index.php/Main_Page. The next ARIN meeting will be held in San Antonio, Texas from 26-29 April 2009.

f. The Number Resource Organization (NRO)

The Regional Internet Registries formed the NRO in 2003 to formalize their cooperative efforts. The NRO exists to protect the unallocated IP number resource pool, the bottom up policy development process, and act as a focal point for community input to the RIR process. They maintain a website at: <http://www.nro.net>.

III. Internet Number Assignment

The Internet Assigned Numbers Authority (IANA), which is currently carried out under contract by the Internet Corporation for Assigned Names and Numbers (ICANN), manages the allocation and maintenance of unique codes and numbers. ICANN is an internationally-organised non-profit organisation set up by the Internet community to help coordinate IANA's areas of responsibilities. The IANA contract does not directly set the policies by which it operates. Instead it provides for implementing agreed policies and principles in a neutral and responsible manner, relying on the policy setting forums provided by ICANN. Policy development for domain name operations and IP addressing is arrived at by many different stakeholders, including governments, through ICANN's structure of supporting organisations that contribute to deciding how ICANN runs, and in turn how the IANA functions develop. Those involved in the IANA function are actively involved in outreach, not only through ICANN forums, but also through participation in meetings and discussions with TLD operators, Regional Internet Registries, and other relevant communities. They maintain a website at: <http://www.iana.org>.

IV. Standards

The development of Internet protocols, which often dictate how protocol assignments should be managed, are arrived at within the Internet Engineering Task Force (IETF), with guidance from the Internet Architecture Board (IAB), through an open, transparent, bottom-up process open to all interested expert stakeholders. Their websites are at: <http://www.ietf.org> and <http://www.iab.org>.

Over the past 15 years the IETF has developed the standards that define IPv6. There are ongoing working group activities to define operational best practices as well as refinements of ancillary protocols. Working group activity is carried out continuously via electronic mailing

list discussion, and during regularly scheduled IETF meetings. The next plenary face to face meeting of IETF engineers will be in Stockholm, from 26-31 July 2009. The details of that meeting are here: <http://www.ietf.org/meetings/75> .

V. Operations

There are a number of operational meetings around the world where network operators come together to discuss aspects of the operations of their respective networks within the Internet. These include such organizations as AfNOG, the African Network Operators Group (<http://www.afnog.org>), NANOG, the North American Network Operators Group (<http://www.nanog.org>), APRICOT, the Asia Pacific Regional Internet Conference on Operational Technologies (<http://www.apricot.net>), MENOG, the Middle East Network Operators Group (<http://www.menog.net>), SANOG, the South Asian Network Operators Group (<http://www.sanog.org>), and PacNOG, the Pacific Region Network Operators Group (<http://www.pacnog.org>).

VI. The Internet Society

The Internet Society (ISOC) is an independent international nonprofit organization with headquarters in Geneva, Switzerland and Reston, Virginia, USA. ISOC acts as a global clearinghouse for technically-sound, unbiased information about the Internet, as a provider of education, and also as a facilitator and coordinator of Internet-related initiatives around the world. It provides the organizational home for the IETF, IAB and IRTF.

ISOC was founded in 1992 to provide leadership in Internet related standards, education, and policy. It is supported by an active, global network of members who help promote and pursue the ISOC mission in all parts of the Internet community and all parts of the world. The Society has more than 80 organizational and more than 28,000 individual members in over 80 chapters who contribute to regionalizing the scope of ISOC technical, educational and policy initiatives.

ISOC is a Sector Member of ITU-T (Standards) and ITU-D (Development) since 1995. The website is: <http://www.isoc.org>. The website is: <http://www.isoc.org> Useful information about IPv6 can be found at: <http://www.isoc.org/educpillar/resources/ipv6.shtml>.