INTERNATIONAL TELECOMMUNICATION UNION

COUNCIL WORKING GROUP ON INTERNATIONAL INTERNET-RELATED PUBLIC POLICY ISSUES

Geneva – 30-31 January 2013

SOURCE:

I.R. of Iran

Proposed public policy statement on IPv4 transactions

1. Relevance to CWG-Internet

Council Resolution 1305, Annex 1, identified "international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses" as an issue relevant to the ITU mandate. Council Resolution 1336 defined the terms of reference for CWG-Internet as: identifying, studying and developing matters related to international Internet-related public policy issues, including those issues identified in Council Resolution 1305; as appropriate, initiating and conducting open consultations with all stakeholders in an open and inclusive manner, with the output of the open consultations presented for consideration in the deliberations of the CWG; and disseminating its outputs throughout ITU's membership and to all relevant international organizations and stakeholders actively involved in such matters for their consideration in their policy making processes.

Council Resolution 1344 resolved that: CWG-Internet will decide on the international Internet-related public policy issues for open consultation; and the CWG will hold online consultations for all stakeholders with the deadline for response being one month before the meeting of the Group. All responses received will be available to the Group on a dedicated webpage of the CWG-Internet website; in this regard:

- All stakeholders can submit their responses to a reflector set up by the ITU Secretariat.
- An email address will be provided to send responses to the ITU Secretariat.
- All responses received from stakeholders will be posted, without edits, to the CWG-Internet website for consideration in its next meeting.

2. Background on IPv4 transactions

IANA has allocated its last IPv4 blocks to the RIRs. Some RIRs have already exhausted or are close to exhausting their allocations and all other RIRs are expected to exhaust their allocations within a few years. Because of incompatibility between IPv4 and IPv6, parallel (dual-stack) operation is required and there will be a need for IPv4 addresses for an undetermined period until a critical mass of web-based services is available via IPv6 addresses, thereby allowing IPv4 to be taken out of service. Therefore, Internet service providers, including new entrants, will continue to require access to IPv4 addresses until that undetermined time when they can be taken out of service.

Approximately 40% of IPv4 address space was allocated in large blocks to individual companies and organizations prior to the establishment of the RIRs and this legacy address space is under-utilized. A growing market has developed in the transfer of IPv4 addresses between entities and the overwhelming proportion of transferred addresses is from legacy allocations which are not subject to the transfer and allocation policies of the RIRs.

If it were to develop, a black market in IPv4 addresses could threaten the viability of the WHOIS databases maintained by the RIRs, could result in scattering small blocks of IPv4 addresses thereby putting additional load on the Internet routers, and could eventually undermine the stability of the Internet. Such a black market and its potential consequences could be mitigated by requiring that all IPv4 transactions be reported to the relevant RIRs, including transactions of legacy addresses that are not necessarily subject to the policies of the RIRs regarding transfers, and that transactions be in blocks of no less than /24 (256 addresses).

The cost of transferred IPv4 addresses is orders of magnitude higher than the cost of new addresses from the RIRs and may be out of reach of smaller new entrant ISPs, particularly in developing countries. Further, the legacy IPv4 addresses are predominantly in North America but the need for additional IPv4 addresses is predominantly in Asia and other RIR regions, and there are no policies or procedures in place regarding inter-region transfers.

It is therefore appropriate to develop a statement of international public policy in this area to guide all relevant stakeholders in the development of their own policies.

3. Proposed statement of public policy

Considering the importance of the Internet to the everyday operations of governments and enterprises and its rapidly growing importance to all sectors of society and to all individuals in the world; the imminent depletion of IPv4 addresses and the need for parallel (dual-stack) operation of IPv4 and IPv6 for an undetermined period while IPv6 is being fully deployed; that a growing market has developed in the transfer of IPv4 addresses between entities and the overwhelming proportion of transferred addresses is from legacy allocations which are not subject to the transfer and allocation policies of the RIRs; that the cost of transferred IPv4 addresses is orders of magnitude higher than the cost of new addresses from the RIRs and may be out of reach of smaller new entrant ISPs, particularly in developing countries; that it is important to maintain the stability of the Internet by ensuring that all transactions are registered and recorded in the WHOIS databases and by avoiding the transfer of very small blocks of addresses; and that a mechanism is required

for inter-region transfers of IPv4 addresses, and particularly legacy addresses from North America to those markets where they are most needed, the following is offered as an international public policy statement for guidance by all relevant stakeholders in their own policy making processes.

Relevant stakeholders in their respective roles, shall collaborate to ensure the following:

A. *Procedures governing the reclamation of unused legacy IPv4 addresses are developed;*
B. *All IPv4 transactions are appropriately registered to ensure stable and accurate routing;*
C. *IPv4 transfers are in blocks no smaller than /24 (256 addresses) to ensure no negative impact on Internet routing;*
D. *A mechanism is developed for inter-region transfers of IPv4 addresses, and particularly legacy addresses from North America; and*
E. *There is a reserve allocated to allow sufficient IPv4 addresses for new entrant ISPs during the undetermined period before IPv4 addresses can be taken out of service.*