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ETNO Common Position on ITU-TSB proposal for the future administration of IPv6 addresses

Executive Summary

ETNO believes that the current rules and organisation for IPv4 and IPv6 address management by the private sector is to be maintained, above all to guarantee the most appropriate technical operation and economic savings.
A situation where the IPv6 address space would be managed, even partially, through national authorities would lead to great confusion and would be the source of technical difficulties regarding routing.
ETNO believes that the current system based on RIRs, as part of the ICANN and in accordance with ICANN principles of transparency, bottom-up approach and geographic representation, must be maintained

Introduction

As part of the preparations for the second phase of the World Summit on the Information Society (WSIS – Tunis 2005), the creation of a Working Group on Internet Governance (WGIG) is an opportunity for the various players involved to present their viewpoints on a topic that is crucial for the present and future development of communication services.

The ITU-TSB as an active participant in WSIS, is using an ITU WG on WSIS to develop an ITU position with regard to the possible future administration of IPv6 address. The proposal from the ITU-TSB seeks to have a role for itself alongside Regional Internet Registries. This proposal represents a significant change from the current method, and as such would have a significant impact upon ETNO members.

ETNO members have a major interest in this issue, by being stakeholders in the Internet environment, participating in industry fora such as RIPE, and being sector members of the ITU-T. In addition, ETNO members are the largest European consumers of IP addresses, and therefore changes to the management of IPv6 allocation will have a major impact. As a consequence, ETNO wishes to express its view on this issue.

The global system for managing Internet addresses via Regional Internet Registries must be maintained

The problem of uneven geographical or player category distribution of IPv4 addresses is occasionally raised (eg, /8 blocks of 16 million addresses originally allocated, when the Internet was created mostly to North American companies).

These imbalances should not be blamed on ICANN nor on the RIR that provide these management services in their particular geographical areas of jurisdiction. On the contrary, it is noteworthy that since regional registries were implemented, there has been a satisfactory geographical balance in the distribution of allocations. Some 13 /8 blocks have been allocated to the Asia Pacific Network information Centre[1] (APNIC) serving the Asia-Pacific region, 17 to the American Registry for Internet Numbers[2] (ARIN) serving the North America region, 2 to the Latin American and Caribbean Internet Addresses Registry (LACNIC) and 16 to the RIPE Network Coordination Centre[3] (RIPE-NCC) serving Europe (data as at 30/06/2004).

Regardless of their country of residency, all players able to justify a need for IP addresses are now served equitably by the regional register they belong to. The management rules used by each of these registries, although differing on some points that mainly reflect regional diversity, are nevertheless coherent in their balanced distribution, as demonstrated by the comparisons regularly published by the Number Resource Organization[4] (NRO).

The creation of the Registry for Latin America and part of the Caribbean[5] (LACNIC) and the African Network Information Centre[6] (AFRINIC) for the African continent, whose provisional recognition was recently approved by ICANN, clearly shows that the system is not ossified and creates ties with the communities to be served by adapting itself and stimulating the development of the Internet.

The present system, which uses regional Registries, thus makes it possible to satisfy the three technical constraints driving management rules in a balanced manner:

1. The guarantee that addresses used in a public environment will be unique worldwide,
2. Economy of use by allocating addresses according to need,

[1] **http://www/apnic.net**
[2] **http://www.arin.net**
[3] **http://www.ripe.net**
[4] **http://www.nro.net**
[5] **http://www.lacnic.net**
[6] **http://www.afrinic.net**

3. The search for optimum address aggregation by managing them in a manner consistent with network structure and restricting the size of routing tables.

If we consider that the "economy of use" target is less restrictive in the short term in a IPv6 environment, which enables more extensive deployment and usage for new applications, **past experience should nevertheless incite us to be prudent.** Unlike the E.164 numbering plan, the way IP addresses are constructed means that they are not structured in a country-specific manner and a pre-determined distribution of a given volume or a partial volume on such a basis would make their management more inflexible and could even, in the longer run, adversely impact the availability of resources.

Turning to the aggregation target, such aggregation will be crucial for IPv6 in a much higher-volume usage environment. Yet it will only be possible to achieve this target by **deploying addressing plans consistent with the structure of networks** that are not (or are no longer) organized according to purely national divisions. Far from being an issue that can be addressed in marginal fashion, **the problems of routing tables and of the structure of addressing plans deployed by operators is a major technical factor that must be taken into account in an IPv6 environment**.

Conclusion and recommendations

While recognizing and supporting in general the ITU initiatives and actions ETNO believes that the proposal put forward by ITU-TSB for a system – even a partial one – of Internet address allocation by national authorities, as is the case with telephone numbering resources, could have a highly negative impact both at technical level (via a dispersion of blocks according to a logic which is not that of the networks) and in terms of the resulting management complexity.