

10 March 2011

**Mohammed Al Khamis**  
Chairman of ITU IPv6 Group

Dear Mr Mohammed Al Khamis

I am writing on behalf of the Number Resource Organization (NRO), a coordinating body that comprises the five Regional Internet Registries (RIRs), the organizations responsible for managing the distribution of Internet number resources, including IP addresses.

The five RIRs are part of a structured Internet governance system. They are not-for-profit organizations that perform allocation and registration services in a neutral and impartial fashion within their respective geographical regions that, together, cover the world. Each region is served by a single RIR to avoid: a) fragmentation of address space; b) difficulties in inter-regional coordination; and c) confusion for stakeholders in the region. All RIRs are bottom-up, self-governing and multi-stakeholder structures. Through these structures, they develop allocation procedures applied at the regional level. The RIR communities also coordinate to develop global policies, i.e. those that have the agreement of all RIR communities and usually require specific actions or outcomes on the part of IANA<sup>1</sup>.

This letter refers to the ITU IPv6 Group “Liaison Statements”: LS 3 - C19 ‘Problems and solutions’; LS 4 - IPv4 issues; and LS 5 - Country Internet Registry (CIR) model. These statements contain an action line for the NRO to provide comments and/or views on specific sections of three different documents:

- A Contribution from the Syrian Arab Republic, IPv6 Group – C 19 ‘Problems and solutions’;
- A Temporary Document summarizing a contribution from Saudi Arabia, TD 14 ‘Effects of IPv6 rollout delays on public policy regarding IPv4’; and
- A Temporary Document commissioned by the Director of ITU-TSB, TD 3 ‘Concerns on Ipv4 Address Policy with regard to Ipv6 Deployment’

First, we, the NRO as a collective, and the RIRs that maintain a T Sector and/or a D Sector membership with the ITU, would like to thank you for the opportunity to share our views with the IPv6 Group. You can certainly share this letter with the members of the ITU IPv6 Group and introduce it, as you deem appropriate, during the next meeting in April. While there are proper submissions by the RIRs to the IPv6 Group in response to the documents mentioned above, please allow me to share with you general views from the NRO.

I notice that the three documents referenced above deal with questions related to both the area of expertise and operation of the RIRs. While the focal point in all of the

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<sup>1</sup> This structured system of the RIRs is well explained at the ITU’s IP Policy Manual. See: <http://www.itu.int/ITU-T/special-projects/ip-policy/>

documents is IPv6 take-up, a subject of shared interest, some of the issues identified as problematic could be outdated, given the recent depletion of the IANA IPv4 free pool. For example, the C 19 paper suggests that “...historical imbalances [in IPv4] are not being corrected” in IPv6 allocation methods. However, the early large IPv4 allocations were a phenomenon that predates the creation of the RIR allocation system, and is not in use in the IPv6 era<sup>2</sup>.

ITU IPv6 Group Liaison Statement 5, references TD 3 ‘Concerns on Ipv4 Address Policy with regard to Ipv6 Deployment’, a study commissioned by the ITU and performed by NAV6, a research group in Malaysia, in which students of this group propose “the creation of a parallel structure to the RIRs for the allocation and distribution of IPv6 addresses”. The NAV6 study suggests the ITU perform a role in designating IPv6 address blocks to a set of new entities called Country Internet Registries (CIRs). These CIRs then would allocate the addresses based on locally-defined policies.

The NRO’s view on this study has been exposed at length at the first meeting of the ITU IPv6 Group and it establishes that a departure from a hierarchical needs-based approach should consider carefully the risks to the Internet infrastructure. It is not clear what problems the CIR model attempts to solve, nor is it clear what the need is that motivates the introduction of such a disruptive element to the current functioning system.

ITU IPv6 Group Liaison Statement 4 references TD 14 ‘Concerns on Ipv4 Address Policy with regard to Ipv6 Deployment’. This Temporary Document 14, from the Director of the TSB, summarizes a contribution from Saudi Arabia that was made to the Dedicated Group on Internet Public Policy Issues. The document presents up-to-date topics that are currently being actively discussed in all of the RIRs. The RIRs share the belief that it is important that every effort be made to expedite implementation of IPv6. The objective proposed by Saudi Arabia and summarized in TD 14 is mutually shared by the Internet community: to find better ways to manage the use and transfer of IPv4 space during the IPv6 transition period, while providing all available incentives to encourage IPv6 deployment. Any outcomes from the ITU on how to encourage IPv6 deployment are of interest to the RIR communities and I am certain that they could enrich present discussions and influence future decisions. It is important, however, that such documents and records be publicly available, so that Internet stakeholders can participate in the deliberations of issues that have global ramifications.

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<sup>2</sup> In the earliest days of the Internet, addresses were allocated without significant attention to the need for conservation, and technical issues at the time resulted in very large allocations to those organizations that helped develop the Internet. While it is true that many of these organizations were in the United States, it also included organizations in Canada and Europe. A number of these large allocations were later returned for reuse by the global Internet community (see: <http://blog.icann.org/2008/02/recovering-ipv4-address-space>). More recently, however, address allocation trends have changed markedly. For example, the Asia Pacific region has experienced dramatic economic growth in recent years and has received the predominant share of the most recent address allocations.

Finally, we note with optimism the signs of increased collaboration, which are consistent with the outcomes of the recent Plenipotentiary Conference in Guadalajara Mexico—in particular Resolution 180 (Guadalajara, 2010), ‘Facilitating the transition from IPv4 to IPv6’— and the NRO will continue to be available to help the ITU to bridge the gap that exists between the concerns from some of its members and their corresponding technical implications as viewed from the perspective of the Internet community.

To follow up on any of the matters contained in this letter, please do not hesitate to contact me. I hope you find the contents of this letter useful for the activities of the ITU IPv6 Group.

Best regards,

A handwritten signature in blue ink, appearing to be "RE", written in a cursive style.

Raul Echeberría  
Number Resource Organization  
Chair

- Cc: **Malcolm Johnson**  
Director, ITU Telecommunication Standardization Bureau (TSB)
- Cc: **Brahima Sanou**  
Director, ITU Telecommunication Development Bureau (BDT)

#### The Number Resource Organization (NRO)

*Formed by the Regional Internet Registries (RIRs) to formalise their cooperative efforts, the NRO exists to protect the unallocated Number Resource pool, to promote and protect the bottom-up policy development process, and to act as a focal point for Internet community input into the RIR system.*

