

prop-124-v002:

Clarification on IPv6 Sub-Assignments

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Brief of Proposer

- ▶ Jordi Palet Martínez

- ▶ Title: CEO/CTO

- ▶ Company: The IPv6 Company

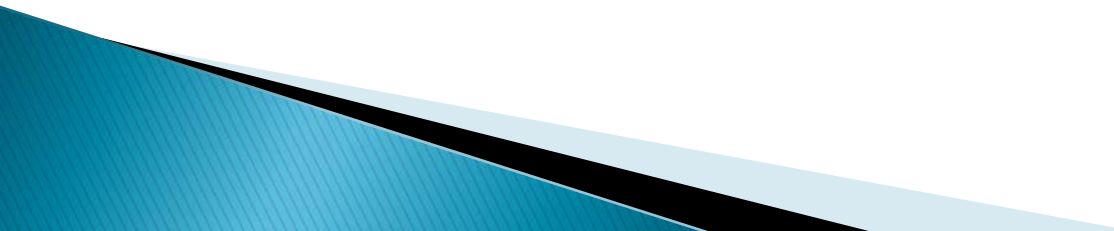
- ▶ Email: jordi.palet@theipv6company.com

- ▶ He has devoted most of his time on IPv6 R&D, standardization, training, and consultancy, having worked with IPv6 customers in 110 countries in the world

- ▶ He has co-authored a number of RFCs and books related to IPv6, and contributed to IPv6 training and policy making in all the RIRs.



Agenda

- ▶ Problem Statement
 - ▶ Objective of policy change
 - ▶ Situation in other regions
 - ▶ Proposed policy solution
 - ▶ Advantages / Disadvantages
 - ▶ References
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Problem Statement

When the policy was drafted, the concept of assignments/sub-assignments did not consider a practice very common in IPv4 which is replicated and even amplified in IPv6: the use of IP addresses for point-to-point links or VPNs.

In the case of IPv6, instead of unique addresses, the use of unique prefixes (/64) is increasingly common.

Likewise, the policy failed to consider the use of IP addresses in hotspots, or the use of IP addresses by guests or employees in Bring Your Own Device (BYOD) and many other similar cases.

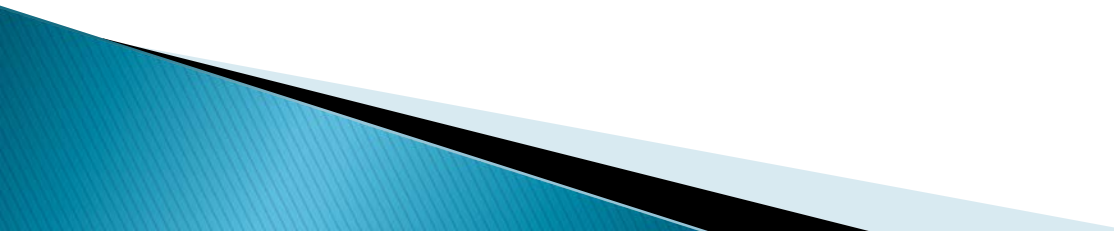
Finally, the IETF has recently approved the use of a unique /64 prefix per interface/host (RFC8273) instead of a unique address. This, for example, allows users to connect to a hotspot, receive a /64 such that they are isolated from other users (for reasons of security, regulatory requirements, etc.) and they can also use multiple virtual machines on their devices with a unique address for each one (within the same /64).

Objective of policy change

Section 2.2.3. (Definitions/Assigned Address Space), explicitly prohibits such assignments, stating that assigned ... may not be sub-assigned?

<https://www.apnic.net/community/policy/resources#2.2.3.-Assigned-address-space>

This proposal clarifies this situation in this regard and better define the concept, particularly considering new uses of IPv6 (RFC 8273), by means of a new paragraph.



Situation in other regions

This situation, has already been corrected in RIPE, and the policy was updated in a similar way, even if right now there is a small discrepancy between the policy text that reached consensus and the RIPE NCC Impact Analysis. A new policy proposal has been submitted to amend that, and the text is the same as presented by this proposal at APNIC. Same text has also been submitted to AfriNIC, LACNIC and ARIN.

Proposed policy solution

New text:

2.2.3. Assigned address space

Assigned address space is address space that is delegated to an LIR, or end-user, for specific use within the Internet infrastructure they operate. Assignments must only be made for specific, documented purposes and may not be sub-assigned.

The fact that a unique address or even a unique /64 prefix is non-permanently provided to third parties, on a link operated by the original receiver of the assignment, shall not be considered a sub-assignment. This includes, for example, guests or employees (devices or servers), hotspots, and point-to-point links or VPNs.

The provision of addressing for permanent connectivity or broadband services is still considered a sub-assignment. Only the addressing of the point-to-point link itself can be permanent and that addressing can't be used (neither directly or indirectly) for the actual communication.

Advantages / Disadvantages

Advantages:

Fulfilling the objective above indicated and making sure to match the real situation in the market.

Disadvantages:

None foreseen.

