Considerations of Gradual IPv6-only Deployment in 5G Mobile Networks

draft-ma-v6ops-5g-ipv6only-01

Chenhao Ma， Chongfeng Xie@China Telecom

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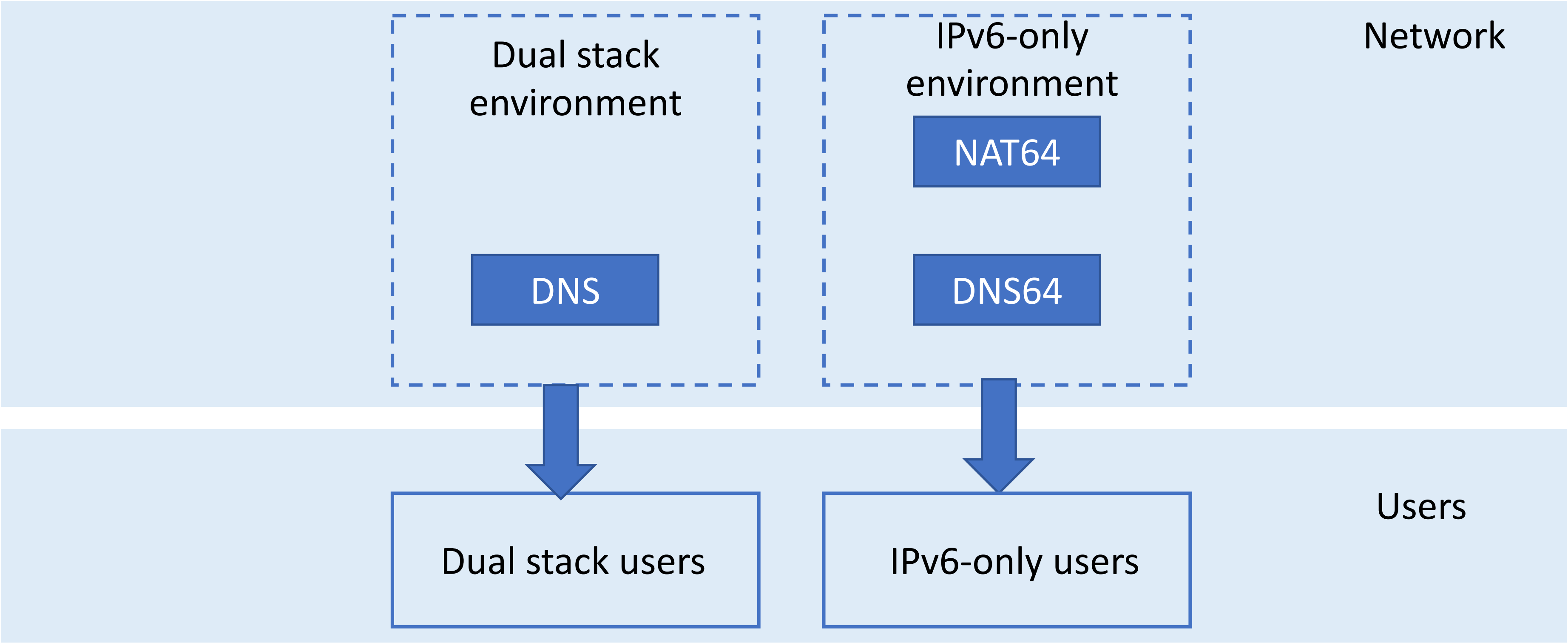
Recaps

- This document describes the approach of gradually deploying 464XLAT based IPv6-only tec hnology on user plane in 3GPP 5G networks. It also discusses the challenges and potential s olutions.
  - Challenges: Roaming , UEs, UP layer , DNS64 configuration;
  - Potential solution: IMEI Configuration, Option 108, PREF64 and DNS64 RAs.

- To address these challenges, propose using Router Advertisements (RA) to deliver PREF64 and DNS64 server addresses.

Use case

- When deploying IPv6-only in network, there are two environments. Should ensure the IPv6 -only users get DNS64 server addresses.



What has been updated in v01

- A method for advertising PREF64 (NAT64 prefix) and DNS64 configuration to hosts by combining PREF64 RA Option and DNS64 RA Option.
  - PREF64 Option: Carries the IPv6 prefix used by the network's NAT64 gateway for IPv4/IPv6 protocol translation. The format, semantics, and processing rules for this option are defined in [RFC8781].
  - DNS64 Option: Carries the IPv6 address(es) of DNS64 serverscapable of synthesizing AAAA records from A records. The format and semantics of this option are defined in RFC 8781 and [I-D.ma-6man-ra-dns64-flag].
- Host Behaviors
- Router Behaviors
- Backward Compatibility and Coexistence
  - Not surpport DNS64 Option, just ignore;
  - Coexists with DHCPv6-based method;
  - Different from RDNSS Option, easily distingusih two options.

What is the next?

- Operators are interested in this topic because it is necessary for Gradual IPv6-only Deployment in moblie networks, so we propose:
  - More comments and contribution from the WG
  - Adopted as a WG draft

Thank You