# Framework for Multi-domain IPv6-only Underlay Network and IPv4 as a Service
## *draft-ietf-v6ops-framework-md-ipv6only-underlay*

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# Overview

- This draft was proposed in Jan. 2022, aiming to
  - Provide end-to-end IPv4 service delivery over multi-domain IPv6-only underlay networks, and improve data forwarding efficiency by eliminating unnecessary IPv4/IPv6 conversion in a scalable way.
- First presented in IETF#113, adopted after IETF 115, the current version is -01.
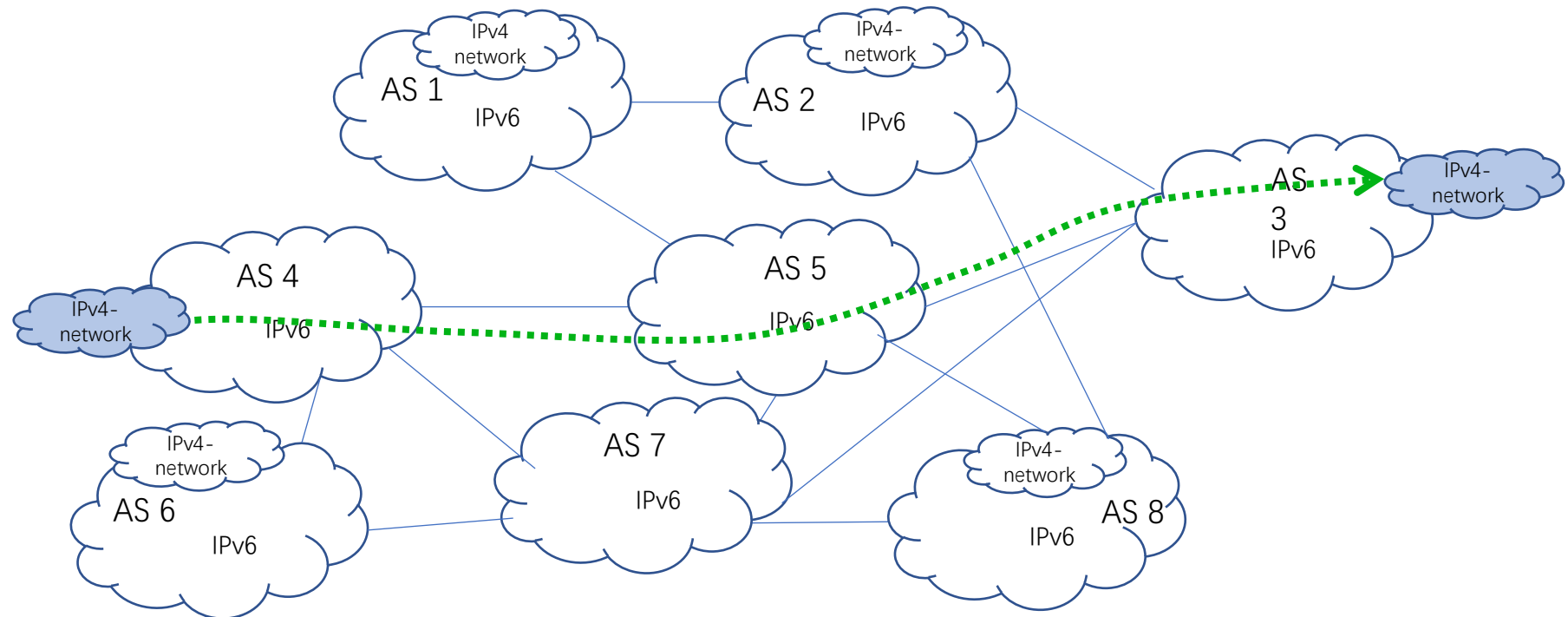
# Acknowledgement for your comments

- Comments were received from Brian E. Carpenter, Bob Harold, Dhruv Dhody, Xipeng Xiao, Eduard Metz, Giuseppe Fioccola, Qin Wu, Shuping Peng, Zhenbin Li, Ron Bonica, Cheng Li, Vasilenko Eduard, Jingrong Xie, Aijun Wang, Dhruv Dhody, Nick Buraglio, Linda Dunbar, Guoliang Han, Weiqiang Cheng, Tianran Zhou, Huaimo Chen, etc.


- All are appreciated!

# Revisions made since IETF 115(1/2)

- 1) In section 2, "underlay" is added to the definition of IPv6-only network.

- 2) The following sentence is added in section 5.

    - "At the ingress/egress an IPv4 forwarding function is needed to forward to the right egress network node (via encapsulation / translation) or right interface towards an external network."

- 3)The term "IPv4-IPv6" in the following statement in section 5 has been changed to "IPv6-IPv4".

    - "From UE to egress, the packets of IPv4 service can be translated (or encapsulated) into IPv6 packets within the UE or CPE, and there should be no IPv4-IPv6 conversion before they reach the egress of the network."

- 4) The format of IPv4-Embedded IPv6 address in section 6.1 has been corrected, an example of the new format is 2001:db8:100::192.0.2.33.

- 5) Integration with a transition mechanism at the UE/CPE has been put in a separate section, i.e., section 7.

# Revisions made since IETF 115(2/2)

- 6) The header title has been changed to "Multi-domain IPv6-only Underlay".
- 7) Several terms are optimized as below,
  - RM-->RP (Rule Processing Layer)
  - RP--> RT (Rule Transport Layer)
  - Cloud-data center-->Data center
  - VM-->instance
  - IPv6 transfer capability--> IPv6 forwarding capability
- 8) The following terms has been expanded on first use,
  - eBGP
  - XLAT
  - CLAT
  - PLAT
  - AFBR
  - ASBR
- 9)  Nits fixed

# Next Steps

- Further refinement is needed to improve the document

- Comments and suggestions are welcome, as usual

# Thank you !
# Q&A