

2023-01: Reducing IXP IPv4 assignment default size to a /26

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Background

Marco Schmidt from RIPE presented a forecast on the depletion of the IPv4 IXP pool → depletion likely to happen until 2029

Depletion will create problems

- Either add new space to the IXP pool ...
- ... or accept new peering projects have to buy space (/24 ~11k USD)

→ Our proposal aims at reducing default assignments from the IXP pool to increase the overall lifetime of the pool

Current Policy (in a Nutshell)

New IXPs receive a /24 by default

If they require a larger assignment, IXPs must

- Return current assignment
- Receive up to a /22
- Utilization of new assignment must be 50% after one year

Problems of Current Policy

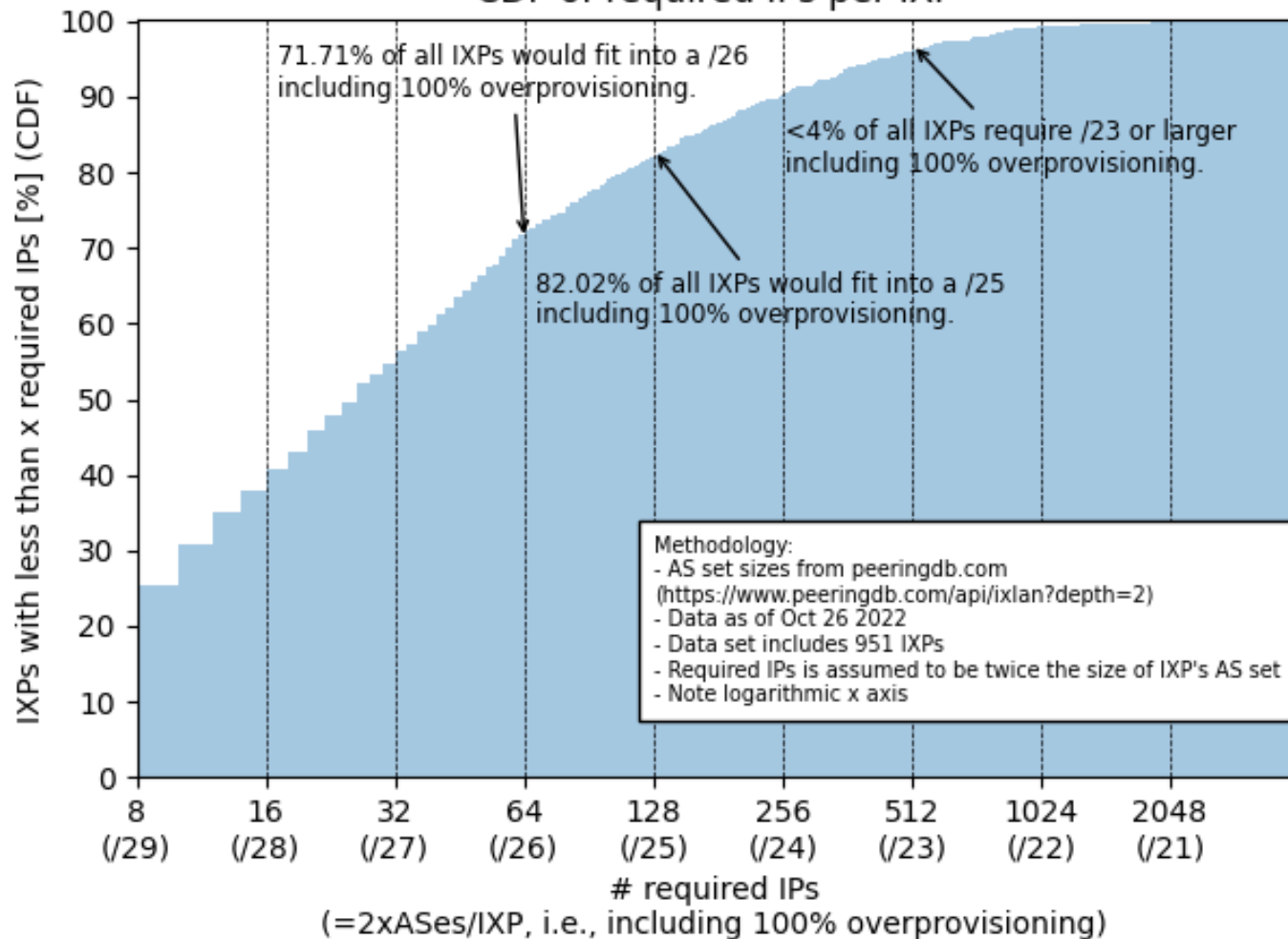
The average IXP is much smaller than 254 peers (/24)

- This mismatch wastes large amounts of space
- (for a measurement see next slide)

In addition, the number of IXPs grows with a high velocity

- >40% growth from 2019 to 2022 (672/961) according to PeeringDB

CDF of required IPs per IXP



Policy Proposal (in a Nutshell)



New IXPs receive a /26 by default

- Once they utilize >50% of the /26, they can request up to a /24
- Return current assignment

If they require a larger assignment than /24

- Return current assignment
- Receive up to a /22
- Utilization of new assignment must be 50% after one year

There's no free lunch

Proposal trades space utilization for increased likelihood of IXP renumbering (changing the prefix of a peering LAN)

Renumbering is pain

- Renumbering affects all peering router's interface configurations
- Chase IXP members for months to adapt their configuration

The proposed reduced default assignment of /26 has emerged from discussions on the mailing list

A person is holding a globe of the Earth in front of a wall covered in newspaper clippings. The globe is the central focus, showing the continents of Africa, Europe, and Asia. The person's hands are visible at the top and bottom of the globe. The background is a wall covered in various newspaper clippings, some of which are clearly visible, showing headlines and images. The overall scene suggests a global or international theme.

Thank you for your attention