

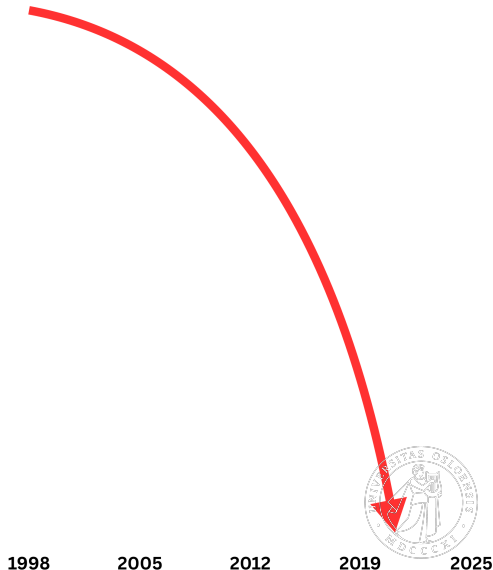
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Protocol Racing Is it really an advancement?

Joar Heimonen
contact@joar.me

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Available IPv4 blocks



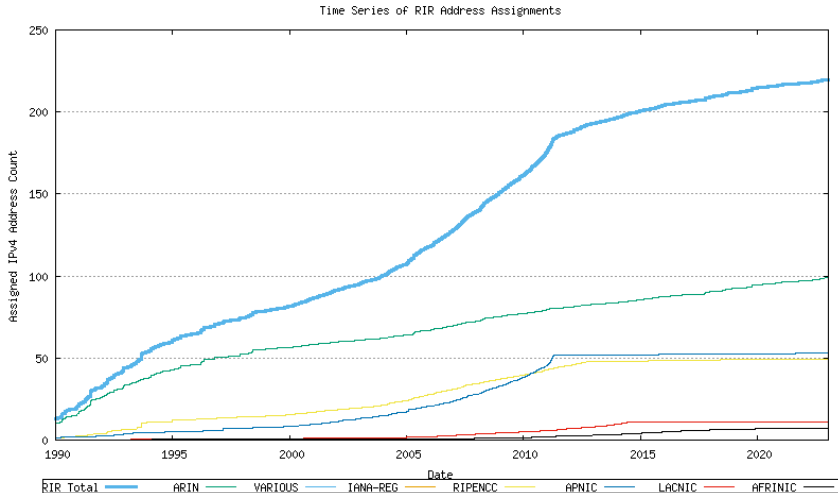
Agenda

- ① A bit of history
- ② Main
- ③ Wrap-up

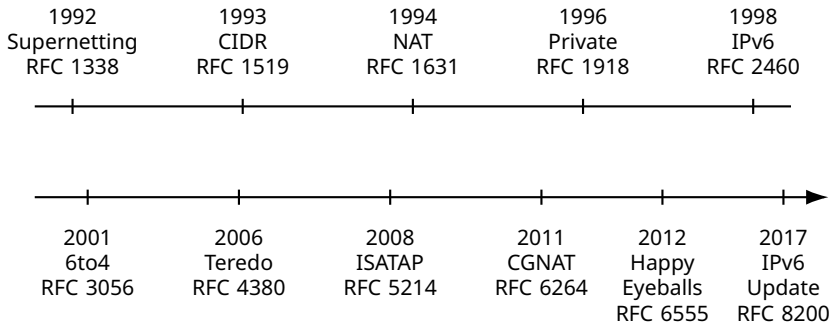
IPv4

- **RFC 791** – *Internet Protocol*
- Written for DARPA in 1981 (before the IETF existed)
- Designed to interconnect different packet-switched networks (ARPANET, SATNET, university nets)
- Created under the assumption that every device would have its own globally unique, routable address
- 32-bit address space — $2^{32} = 4,294,967,296$ possible addresses
- Sounds like a lot... until you remember that there are 8 billion people alive

The problem with IPv4



Timeline of stopgap measures



Timeline of stopgap measures from Supernetting (aggregation strategy) to IPv6 'v2'

Key Idea

Takeaway

Keep each slide focused on one idea.

Questions?

References I

 *IPv4 Address Report* (2025). <https://ipv4.potaroo.net/>. (**urlseen** 16/10/2025).

Joar Heimonen

E-post: contact@joar.me

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