IPv6 Prefix Length Recommendation for Forwarding

6MAN WG

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Context & Goal

- Discussions about the prefixes length is recurrent in IPv6-related mailing lists (including 6man and operational mailing list)

  – e.g., Recent discussions on the 64-bit boundary in IPv6 addressing revealed a need for a clear recommendation on which bits must be used by forwarding decision-making processes

- A clear statement is missing

  – A simple statement making it unequivocally clear is helpful for the operational community

A Simple Recommendation

- Forwarding decision-making processes MUST NOT restrict by design the length of IPv6 prefixes. In particular, forwarding processes MUST be designed to process prefixes of any length up to /128, by increments of 1.

Action Point for the Next Iteration of the I-D

- Comments from F. Gont
  - Suggest that (either):
    - The track is changed to "Informational", such that this document serves as a kind of "implementation guidance", or,
    - It clearly states which document it is updating.
- Any option about how to proceed?

More comments

- Example TCAM performance
- Faster for <= 64bit prefixes, but price
- Some peformance ratios are the same since decades
- CIDR like
- Is an RFC going to help?
- Relate to src-dependent routing work
- Useful to a wider audience
- Helps interpret 64bit in architecture

Next Step

- Fair support in the mailing list
- Request adoption