A Small Update on the Use of IPv6 Extension Headers

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Intro

- IPv6 EHs are reportedly (largely) dropped in the public Internet
  - See Fernando's IEPG 88 presentation, and,
  - Tim's post to the v6ops wg list

Summary

- HBH, DO, and RH:

  - Packet drop rates larger than 50%

- Packets violating RFC 7112:

  - Close to 100% dropped

- Long header chains:

  - The longer, the larger the packet drop rate

- Fragmentation:

  - Failure rate of about 50%

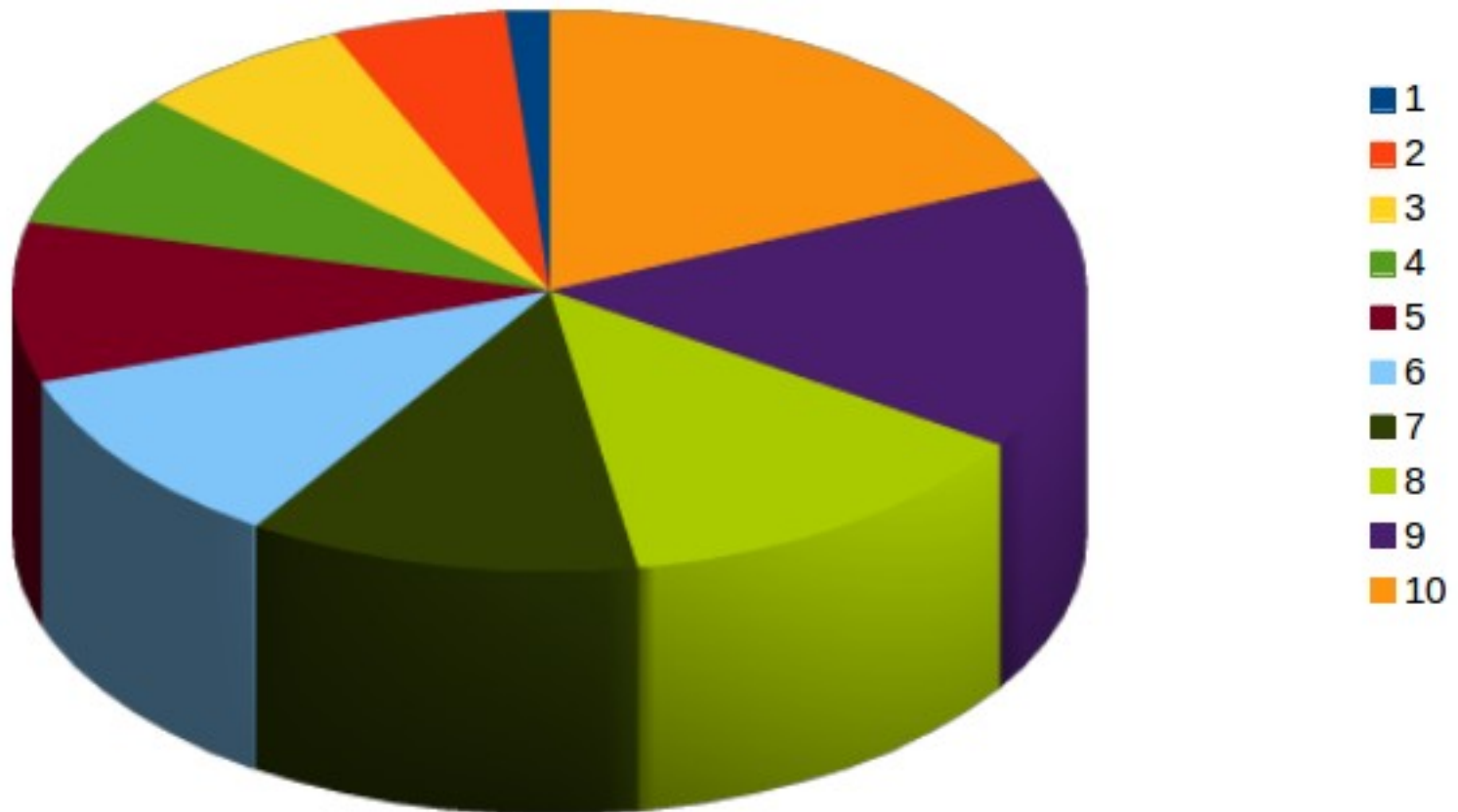# Further questions

- Where are packets with EHs dropped?
    - Close to the origin?
    - Close to the destination?
    - Closer to the core?

Some additional tests

- Produced more versatile traceroute
  - Different types of payloads (TCP, UDP, ICMPv6)
  - Support of IPv6 EHs
- https://github.com/fgont/ipv6toolkit

Some sample data

Packet Drops per delta-hops

Legend:
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

? Questions?

Thanks!

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