Identifying Addresses of IPv6 Tunnel Packets at Tunnel Exit-point

draft-liu-6man-ident-tunnel-packet-addr-00

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IETF 88th

Problem Statement

- When tunnel node receives a tunnel packet, if dest addr is not the *tunnel entry-point node address*, whether accept or not?
    - In some implementation (e.g. Linux), No
    - According to section3.3 of RFC2473, Yes
    - May cause packet loss / security problem

| dst=Addr::B | payload |

Addr::A *tunnel entry-point node addr*
Addr::B
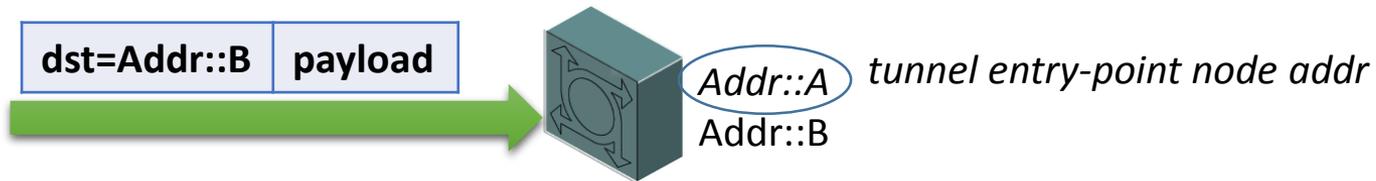
- When running multiple tunnel instances, how to decide which tunnel process the packet?
    - e.g. A node runs both point-to-point tunnel A and point-to-multipoint tunnel B
    - Tunnel packets to tunnel A should not be accepted by tunnel B
- => Address Identification is necessary

A possible solution

- Tunnel node SHOULD identify received tunnel packets, to decide which tunnel instance(s) to accept the packet, or discard the packet

- A tunnel packet is passed to a tunnel instance when all the 3-tuples match:

Tunnel Packet	Tunnel instance
dest addr	whitelist of local addr
src addr	whitelist of remote addr
next header	protocol type

IPv6 addresses/prefixes

- If no matches, return an ICMPv6 error

Next Steps

- Comments are welcome
  - Do you think this is useful?
  - Should we make an update to RFC2473?