Identifying Addresses of IPv6 Tunnel Packets at Tunnel Exit-point

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

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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

• 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:

<table>
<thead>
<tr>
<th>Tunnel Packet</th>
<th>Tunnel instance</th>
</tr>
</thead>
<tbody>
<tr>
<td>dest addr</td>
<td>whitelist of local addr</td>
</tr>
<tr>
<td>src addr</td>
<td>whitelist of remote addr</td>
</tr>
<tr>
<td>next header</td>
<td>protocol type</td>
</tr>
</tbody>
</table>

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?