draft-ietf-6man-rfc3484-revise

-00 version

- Adopted as a wg item at IETF 78.
- Which was one of the conclusions of the Address Selection Design Team

-01 version

- restructured so that it describes “update proposal” rather than “considerations”.
Current Contents

- Change Private IPv4 Address Scope to Global
- Updates to the Default Policy Table
- A change to Longest Matching Rule
1. Change Private IPv4 Address Scope to Global

- It’s already implemented in major OSs.

- It’s reasonable now that IPv4 private address is NATed to global everywhere.
2. Updates to the Default Policy Table

- ULA(fc00::/7) is assigned its own label
  - to prioritize “ULA to ULA” access than “Global to Global”
  - to deprioritize “ULA to Global” than IPv4
- Teredo(2001::/32) is assigned its own label
  - used for only “Teredo to Teredo” access
- Deprecated addresses are assigned its own label and lower precedence not to be used

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Precedence</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>::1/128</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>fc00::/7</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>::/0</td>
<td>40</td>
<td>2</td>
</tr>
<tr>
<td>::ffff:0:0/96</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>2002::/16</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>2001::/32</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>::/96</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>fec::/16</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>
3. Change Longest Matching Rule

- To limit the calculation of common prefixes to a maximum length equal to the length of the subnet prefix.
- To avoid non-sense bias between the destination address in the same subnet.

When DA and DB belong to the same address family:

If $\text{CommonPrefixLen}(\text{DA} \& \text{Netmask}(\text{Source(DA)}), \text{Source(DA)}) > \text{CommonPrefixLen}(\text{DB} \& \text{Netmask}(\text{Source(DB)}), \text{Source(DB)})$, then prefer DA.
Similarly, if $\text{CommonPrefixLen}(\text{DA} \& \text{Netmask}(\text{Source(DA)}), \text{Source(DA)}) < \text{CommonPrefixLen}(\text{DB} \& \text{Netmask}(\text{Source(DB)}), \text{Source(DB)})$, then prefer DB.
One More Rule

- A new rule discussion started on the ML.

  Prefer an address as the source address that is assigned by/associated with the next-hop

- It is a simple extension of the existing interface based address selection (source selection rule #5)
  - It can solve some cases related to multihoming.
    - Such as ingress filtering, and rogue RA.
Next Step

- I had several good discussion on the ML. Mostly settled after 2 years passed.
- The remaining issues:
  - the new rule is good enough?
  - prefix for NAT64 64:ff9b::/96 in Policy Table?
  - The longest match rule should be scrapped?
- Reviewers are wanted towards WGLC.
Address Selection
Policy Enforcement

draft-fujisaki-6man-addr-select-opt-00
draft-hain-ipv6-rpf-icmp-00
History of these 5 years

- Problem Statement and Requirements RFCs published ‘08.
- The DT discussed intensively, and concluded with RFC 3484bis and Policy Table distribution.
- In Maastricht, the adoption of policy table distribution was delayed due to a upcoming proposal.
  - But, it was not new. It’s already in the analysis document: [draft-ietf-6man-addr-select-sol](http://example.com/draft-ietf-6man-addr-select-sol)
Next Step

- Consensus call for adoption here?
  - The protocol itself defined in draft-fujisaki-6man-addr-select-opt-00 is not changed for these 3 years.

- Or, consensus call in 6man mailing lists?
  - to kick-start discussion, and make the remaining issues clearer.