DHCPv6 option for "4rd"

(IPv4 Residual Deployment across IPv6)

draft-despres-intarea-4rd-01

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## Problem space matrix

<table>
<thead>
<tr>
<th></th>
<th>IPv6 across v4</th>
<th>IPv4 across v6 + v4 address sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stateful</td>
<td>RFC5571 (L2TP) ✔</td>
<td>DS-Lite (draft) ✔</td>
</tr>
<tr>
<td>Stateless</td>
<td>RFC5969 (6rd) ✔</td>
<td>4rd (to be standardized)</td>
</tr>
</tbody>
</table>
4rd architecture

ISP IPv6

IPv6 backbone

IPv4 backbone

NAT44

DHCPv6

No NAT

Static v4 address sharing

v4 & v6
CE
BR
BR
4rd Mapping rules

CE IPv6 prefix ≤ 64

CE 4rd prefix ≤ 47

Parameter

Example: 2001:db8:cdab::/48 => 192.0.2.205, 0xAB
## Mapping-rule parameters

<table>
<thead>
<tr>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of CE IPv6 prefix</td>
</tr>
<tr>
<td>Domain IPv6 prefix</td>
</tr>
<tr>
<td>Domain 4rd prefix</td>
</tr>
<tr>
<td>Domain IPv6 suffix (optional)</td>
</tr>
<tr>
<td>BR IPv6 address (anycast)</td>
</tr>
</tbody>
</table>
No parameter needed to assign port sets

One Port set ID ➔ 4 port prefixes

- No CE has high-value ports 0-4095
- All other ports are assigned

4 heads: 1, 01, 001, 0001
DHCP format(s) needed

• The draft includes a proposal but with several questions still open
• More alignment with dhcp WG usual formats seems desirable
• Work with dhcp WG experts is expected
Questions?