Unified CPE
(draft-ietf-softwire-unified-cpe-02)

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Background

- v01 expired a long time ago…
- Operators now have softwire mechanisms in testing/production
- OpenWRT now implements a ‘universal’ softwire client which supports all of the standards track 4in6 softwire mechanisms
- If an Operator supports and provisions more than one s46 mechanism, what’s the poor CPE supposed to do?
An Example…

• DS-Lite is quite widely implemented in CPEs (RFC 7084 based CPEs will implement it)
• Operators may favor a 4over6 mechanism which doesn’t require CGN (deployment-specific decision) – i.e. lw4o6, MAP-E, MAP-T
• Both DS-Lite and the new mechanism need to be supported and provisioned by the operator, but the ir preference is for the new mechanism where a CPE can use it
• A CPE which asks for DHCPv6 configuration for multiple s46 mechanisms will get it.
v02 Update

• Following discussions in Prague, the draft has been almost completely rewritten
• The older draft used patterns of provisioned configuration parameters to identify which s46 mechanism to activate
• With the publishing of RFC7598 (DHCP Options for Softwires) the older method no longer worked
• This version uses a new DHCPv6 option to explicitly prioritize s46 mechanisms
OPTION_V6_S46_PRIORITY

• Contains a list of S46 mechanism identifiers followed by an 8-bit priority field
• The client selects s46 mechanism with the highest priority (that it has conf. for)
### S46-option-codes

<table>
<thead>
<tr>
<th>Option Code</th>
<th>S46 Mechanism</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>DS-Lite</td>
<td>RFC6334</td>
</tr>
<tr>
<td>88</td>
<td>DHCPv6 over DHCPv6</td>
<td>RFC7341</td>
</tr>
<tr>
<td>94</td>
<td>MAP-E</td>
<td>RFC7598</td>
</tr>
<tr>
<td>95</td>
<td>MAP-T</td>
<td>RFC7598</td>
</tr>
<tr>
<td>96</td>
<td>Lightweight 4over6</td>
<td>RFC7598</td>
</tr>
</tbody>
</table>

- **S46 Mechanism identifier** is the DHCPv6 option code used to provision the mechanism.
**Multi-Softwires?**

- The draft currently allows for two (or more) mechanisms to have the same priority
  - In this case, the client should attempt configuration of all of the s46 mechanisms with the same priority
  - How the client uses these softwires is out of scope

- Is this a useful/desirable function?
  - If not, then the option can be simplified to an ordered list
Next Steps

• Please review / comment
• Move to WGLC
Thank you!

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