IPv6 Mesh over Bluetooth(R) Low Energy using IPSP

draft-ietf-6lo-blemesh-01

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Status

• draft-ietf-6lo-blemesh-00
  – Presented in IETF 97 (Seoul)

• draft-ietf-6lo-blemesh-01
  – Last revision
  – Minor changes, stable
  – Implementation plan
Updates (I/II)

- 3.3.2. Neighbor discovery
  - Remove ambiguity of 6LN
    - Can be a host or a router

  - 1. Non-link-local address registration
    - OLD: 6LN
    - NEW: host

  - 2. Sending RSs / Processing RAs
    - OLD: 6LN
    - NEW: host

  - Rules for routers already present in items 3 and 4
Updates (II/II)

• 3.3.3. Header compression
  – Clarified that HC optimization can be applied for “packets transmitted (but not necessarily originated) by the neighbor of a 6LN to that 6LN”

a)  

```
Dest Address
Fully Elided
```

b)  

```
Dest Address
Fully Elided
```
# Implementation plan (I/II)

<table>
<thead>
<tr>
<th>Function</th>
<th>Same as RFC 7668?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stateless address autoconf.</td>
<td>Yes</td>
<td>IID can be based on Bluetooth device address for simplicity</td>
</tr>
<tr>
<td>Neighbor discovery</td>
<td>No</td>
<td>6LR needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi-hop DAD needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prefix/context dist needed</td>
</tr>
<tr>
<td>Header Compression</td>
<td>No</td>
<td>Source address (6LN sending) or destination address (6LN receiving)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fully elided if 6LN is the source or the destination, respectively</td>
</tr>
<tr>
<td>Multicast mapping</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Implementation plan (II/II)

• Platforms
  – PC + BLE dongles (at least 4.1)
  – Raspberry Pi

• Software
  – Linux kernel 3.18 or subsequent (IPSP support)
  – Kernel libraries
    • BlueZ (Linux BLE protocol stack)
    • radvd
    • libcap
  – Kernel modules
    • kmod-6lowpan (has services for 15.4 and BLE)
    • kmod-bluetooth
    • kmod-bluetooth_6lowpan
    • bluetooth_6lowpand

Please implement the draft as well!
Questions?