DHCPv6 class based prefix
(draft-bhandari-dhc-class-based-prefix-04)

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Problem

- A host has multiple prefixes to multiple networks or services
- How can a host pick the right source address for the right network/service?
Prefix metadata

- Prefix Property – Metadata that is universally understood e.g. Prefix provides mobility, Prefix does not provide internet connectivity
- Prefix Class – Metadata of local significance e.g. Prefix can be used to reach ISPs Video service
Prefix Property

<table>
<thead>
<tr>
<th>0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1</th>
</tr>
</thead>
</table>
| +---------------------------------------------------------------------------------+
| | OPTION_PREFIXPROPERTY              | option-length(2)               |
| +---------------------------------------------------------------------------------+
| | Properties                        |
| +---------------------------------------------------------------------------------+

option-code: OPTION_PREFIXPROPERTY (TBD1)
option-length: 2
Properties: 16 bits maintained as
OPTION_PREFIX_PROPERTY in
IANA registered namespace.
Each value in the registry represents a property.
Multiple properties can be represented by bitwise ORing of the individual property values in this field.
Example Prefix Properties:

- 0x0001: The prefix cannot be used to reach the Internet
- 0x0002: The prefix provides network based mobility
Prefix Class

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Option Length</th>
<th>Prefix Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTION_PREFIX_CLASS</td>
<td>2</td>
<td>16 bit integer with the integer value of local significance.</td>
</tr>
</tbody>
</table>
Related Work

• Prefix Property and class in IPv6 Neighbor Discovery messages
  – draft-korhonen-6man-prefix-properties-01
Next Steps

• Authors appreciate feedback from the WG
• WG draft?
Backup
In this example, two different services are being run on the same network. The service provider wishes that traffic is sourced from different prefixes by the home network clients for Video on demand service as against general Internet access.
Motivation: WLAN-EPC Integrated Architecture

- To support offload function for certain traffic in chained mobility scenario, the UE needs to use the right source address for the right application flows, based on the offload requirements. The obtained address configuration can be from EPC or from the local domains.