• Background
• Current IETF solutions
• DAD Proxy
• Security
• Interaction with BBF
Background

- split-horizon model
Current IETF solutions

- DAD [RFC4862]
  - Direct exchanges between hosts not allowed
- ND Proxy [RFC4389]
  - Link-local scoped messages must not be forwarded
- draft-ietf-6lowpan-nd
  - Requires modifications in hosts
- IPv6 Mobility Manager [RFC3775]
  - Multicasted messages to hosts not allowed
DAD Proxy (1/4)

• DAD-Proxy Data structure
  – One per VLAN
  – For each entry:
    • IPv6 Address
    • Link-layer Address
DAD Proxy (2/4)

When a host performs DAD (i.e. sends a NA)

• Case (1) No entry for the tentative address
  – One entry is created
• Case (2) An entry already exists for the tentative address
DAD Proxy (3/4)

- Case (2) An entry already exists for the tentative address
  - (2.a) The same host is still performing DAD
  - (2.b) Another host is performing DAD for the same tentative address
DAD Proxy (4/4)

- (2.b) Another host is performing DAD for the same tentative address

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<tr>
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<th>CPE1</th>
<th>CPE2</th>
<th>BNG</th>
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(a) CPE1 generated a tentative address
(b) CPE1 performs DAD for this one
(c) BNG updates its Binding Table
(d) CPE2 generates a same tentative address
(e) CPE2 performs DAD for this one
(f) BNG informs CPE2 that DAD fails
Security

- Interaction with SEND [RFC3971]
- IP spoofing prevention
  - Linked with SAVI WG works
Interaction with BBF

• Reviews/comments from BBF community
• DAD-proxy accepted in WT-177
Next steps

• Adoption as WG document?
• Reviews/comments are welcome!
Questions?