DHCPv6bis update

DHC WG, IETF90
draft-dhcwg-dhc-dhcpv6bis-02

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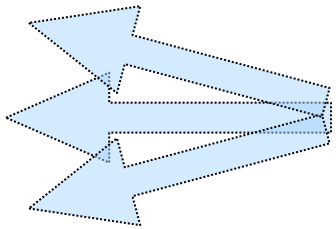
Status update / plan

- Publish -00 (verbatim RFC3315 copy)
- Apply trivial changes
- Publish -01
- Merge with RFC3633 (PD)
- Apply more complex changes  **We are here**
- Publish -02
- Apply changes that are difficult/require consensus
- Adopt
- Review, review, review
- WGLC

Ticket stats

- 118 tickets submitted
- A: easy, trivial (30 out of 30 done)
- B: moderate (23 out of 31 done)
- C: difficult/consensus needed (1 out of 34 done)

- 2 teleconf meetings
- Met face to face in London, Toronto

DHCPv6bis meeting summary

- Less than 10 attendees
- 7 tickets resolved
- Made progress on several ones
- 2 new tickets created
- Several interesting issues shown in following slides

Outstanding issues

- 8 depending on stateful-issues (#59-#66)
- What is a hint? (#114)
- Requesting sub-options (#38)
- Client rate limiting (#119)
- Review bakeoff issue: Can link-addr contain link layer address? (#73)
- Confirm no longer mandatory (#120)

What is a hint? (issue #114)

- Can server ignore hints completely?
  - T1,T2,valid, preferred lifetimes => Sure
  - Prefix length => Hmmm
- RFC3315, 17.1.1:

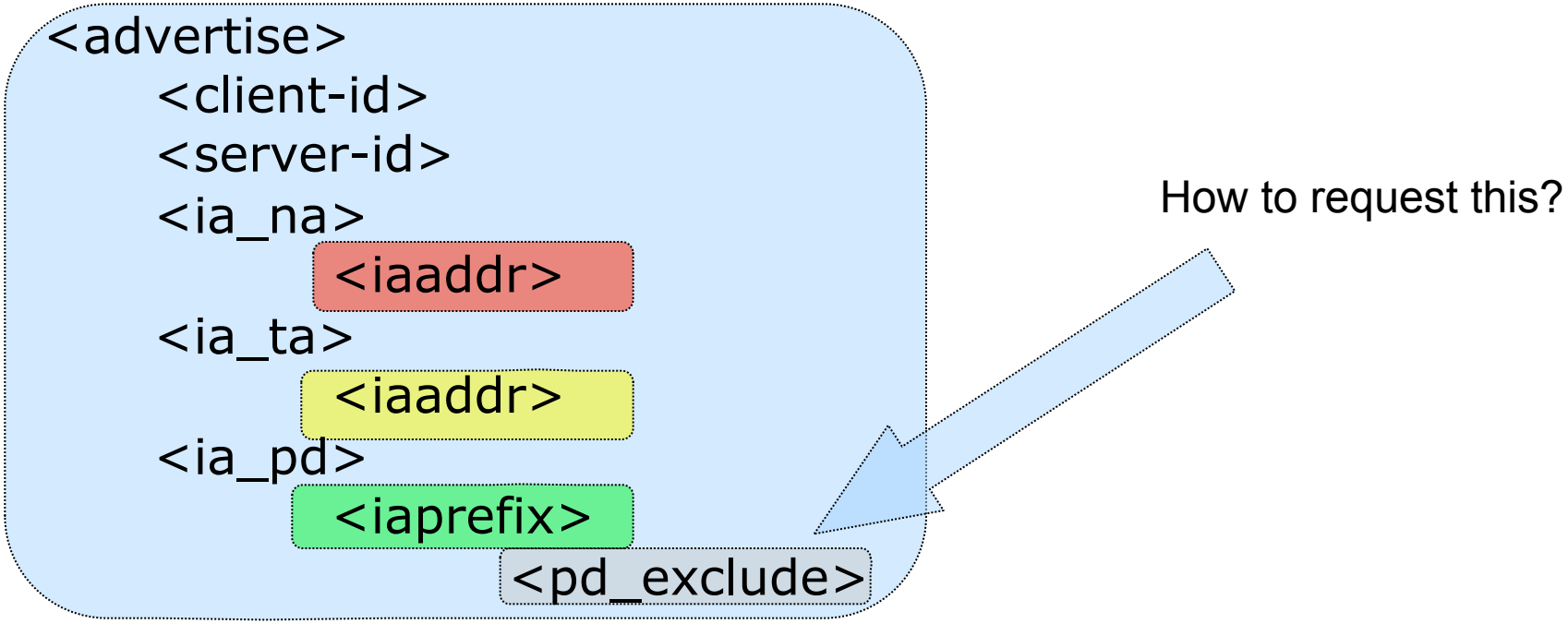
> **The client MAY additionally include instances of those options that are identified in the Option Request option, with data values as hints to the server about parameter values the client would like to have Returned.**

- RFC3315, 18.1.1:

> **The client MAY include options with data values as hints to the server about parameter values the client would like to have returned.**

- Proposal: text that explains the differences

Requesting sub-options (#38)



- Choice A: use top-level ORO
- Choice B: send ORO in IA_PD

The answer WG gave in Paris was strong favor for a).
Is this still the case?

- Do we want to propose generic way to request vendor options?

Client rate limiting (#119)

packet storm recipe

1. Client sends a Request and gets a Reply with an address
2. Client doesn't like the response, reverts back to Solicit
3. Client goes through Solicit->Advertise->Request->Reply
4. Client still doesn't like it, repeats steps 1-3 rapidly

- Other flavors available
  - Substitute Request with Renew, Confirm, or Decline, add Release/Reply etc.
  - Request IA_NA + IA_PD on a address only server
  - Set T1,T2 to 0 and enjoy fresh Renews in abundance
- Not retransmissions (SOL_MAX_RT style change won't help)
- Do we want to do this?
- Is this something for 3315bis or for separate I-D?

Possible mitigation: impose client rate limiting

Client MUST NOT send more than X messages per second.
Client MUST NOT initiate transmissions more frequently than Y ms.

Filling in link-addr (#73)

Link-addr field is used by the server to identify the link/subnet the client is connected to.

Can it be ::?

- RFC6221 says:

  ```
  DHCP server[…]MUST, for the purposes of address selection,
  ignore any link-address field whose value is zero.
  ```

- Does not say what to use instead.

Can it be link-local address?

- LL address does not identify a link, but…
- Can serve as a unique identifier

Proposed: Relay should use GUA if possible.

Is this something for 3315bis or topo-conf (or both: what in 3315bis, why in topo-conf)?

Confirm no longer mandatory? (#120)

RFC3315, section 18.1.2 says:

```
Examples of times when a client may have moved to a new link include:
o The client reboots.
o The client is physically connected to a wired connection.
o The client returns from sleep mode.
o The client using a wireless technology changes access points.

In any situation when a client may have moved to a new link, the
client MUST initiate a Confirm/Reply message exchange.
```

- Client that does not send Confirm after reboot is not compliant.
- Some clients are just not mobile.
- This caused IPv6 compliance testing headaches.

Proposed solution: MUST => MAY

Schedule & milestones

Milestone	Planned date	Updated date
Appoint editor, assemble design team	Oct 2013	Done!
Decide which RFCs/drafts to merge	Nov 2013	Done!
Adopt	Mar 2014	Dec 2014
WG last call	Nov 2014	June 2015
Submit to IESG	Apr 2015	Sep 2015

Links

- Issue tracker

  http://wiki.tools.ietf.org/group/dhcpv6bis/
- Mailing list

  https://www.ietf.org/mailman/listinfo/dhcpv6bis
- Working copies of I-D

  https://github.com/dhcwg/rfc3315bis

Thank you