DHCPv6bis Update
draft-ietf-dhc-rfc3316bis-05

Tomek Mrugalski, Marcin Siodelski, Bernie Volz, Andrew Yourtchenko, Michael Richardson, Sheng Jiang, Ted Lemon, Tim Winters

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What was the goal

• Merge 3315 + 3633
• Incorporate errata
• Incorporate other “core” protocol RFCs (e.g., 7083)
• Address some core issues (e.g., 7550)
• Promote to Internet Standard

What was NOT the goal

• To merge all DHCPv6 related documents into one
A bit of history

• Started as archeology project (late 2013)
  – 3315 was written in nroff
  – developed nroff2xml + lots of manual effort gave us rfc3315.xml
• Published verbatim as draft-dhcwg-dhc/rfc3315bis-00 (Jan 2014)
• Adopted in March 2015 (5 revisions)
• We’re at -05 WG item
• WGLC in progress (ends August 8th, 2016)
A bit of statistics

- 12 revisions so far (6 individual, 6 as WG)
- Dhcpv6bis list (867 posts so far + many more to DHCWG list)
- 165 tickets (159 of them closed)
- 8 contributors
- 134 pages of text
- 6 tickets still open but minor edits (more likely from WGLC) or reminders
Wait, but why?

Unclear why certain change was done? Here’s how you can find out the context and why it was done:

• [https://tools.ietf.org/rfcdiff](https://tools.ietf.org/rfcdiff) - compare any two draft revisions

• [https://github.com/dhcwg/rfc3315bis](https://github.com/dhcwg/rfc3315bis)
  – Commits (feel free to review all 327 of them, but...)
  – Blame (list who changed each line last), see the commit
  – Track to specific ticket in

• [https://trac.tools.ietf.org/group/dhcv6bis/](https://trac.tools.ietf.org/group/dhcv6bis/)
  – Discussion for each ticket on dhcv6bis
  – See meeting minutes (posted to dhcv6bis)
Major changes (1/2)

• Adding the PD
  – This required changes throughout – introductory material, “leases” instead of “addresses”, ...

• Reworking the client/server processing sections
  – This is probably the KEY area people should look at. 3315 sections 17, 18, 19 with new section 17.

• Incorporating RFC 7550 (stateful issues)
  – Treating of IA_NA and IA_PD was inconsistent,
  – mostly in new section 17
Major changes (2/2)

- Removing Delayed Authentication Protocol
  - leaving only the Reconfigure Key Authentication Protocol
- Expanding Security/Privacy Considerations
- Incorporated: RFC3315 (dhcpv6), RFC3633 (pd), RFC3736 (stateless), RFC7083 (sol_max_rt, inf_max_rt), RFC7550 (stateful issues)
- CONFIRM is now an optional message (MUST send Confirm eased to SHOULD) (ticket #120)

List of most changes listed in Appendix A.
Outstanding issue: default duid type (#162)

Problem: new device being preconfigured in enterprise environment. With current approach (default DUID-LLT) it is impossible to preconfigure it without booting it up first.

- There are MAC addresses printed on boxes, but they’re useless without the timestamp
- Vendors can’t print DUID-LLT as the time of first boot is not known
- DUID can change dual-boot devices

Possible changes to draft:

- Change default type to DUID-LL
  - Would solve the problem, but ...
  - Likely take long time to deploy and legacy clients would never go away
- Remove the restriction: server MUST NOT look into DUID content
  - If you don’t do it carefully, you may get hurt badly
- Don’t do anything
  - Problem remains unsolved
Outstanding issue: Default IIDs (#166)

draft-ietf-6man-default-iids-13 proposes to replace:

Any address assigned by a server that is based on an EUI-64 identifier MUST include an interface identifier with the "u" (universal/local) and "g" (individual/group) bits of the interface identifier set appropriately, as indicated in section 2.5.1 of RFC 2373 [5].

with:

By default, DHCPv6 server implementations SHOULD NOT generate predictable IPv6 addresses (such as IPv6 addresses where the IIDs are consecutive small numbers). [I-D.gont-dhcpv6-stable-privacy-addresses] specifies one possible algorithm that could be employed to comply with this requirement. Another possible algorithm would be to select a pseudo-random value chosen from a discrete uniform distribution, while avoiding the reserved IPv6 Interface Identifiers [RFC5453] [IANA-RESERVED-IID].
Outstanding issue: advance standard?

• Original goal was to advance standard
• However, due to nature of some changes ...
  – Co-authors feel best to keep it where it is now
  – Revisit a year or so after publication
• Consider this question in your WGLC review and let us know if you feel we should advance instead
Call for reviewers

• WGLC will end around August 8th
• Ralph Droms will be the shepherd
• You have remaining part of Berlin meeting
• And 2 weeks after you get back home
• At IETF-95 from minutes we have:
  – Volunteers for review: Ted Lemon, Mohammed Boucadair, Tim Winters, Tim Chown, Francis Dupont, Paul Ebersman, Ian Farrer
  – Co-authors (who are supposed to review without explicitly volunteering): Bernie Volz, Sheng Jiang, Marcin Siodelski

• This is essential document, will not proceed forward without many independent reviewers
• Saying “I support” is nice, but getting thorough review is better