

# DHCPv6bis Update

## draft-ietf-dhc-rfc3316bis-05

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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 8<sup>th</sup>, 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> - compare any two draft revisions
- <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/dhcpv6bis/>
  - Discussion for each ticket on dhcpv6bis
  - See meeting minutes (posted to dhcpv6bis)

# 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 (dhcpcv6), 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 8<sup>th</sup>
- 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