

RFC6434-bis

IPv6 Node Requirements update

Tim Chown, tim.chown@jisc.ac.uk

Tim Winters, twinters@iol.unh.edu

John Loughney, john.loughney@gmail.com

IETF 100, Singapore, 15 November 2017

Context

- Two previous IPv6 Node Requirements RFCs:
 - RFC4294, April 2006
 - RFC6434, December 2011
- New -bis document history:
 - First -00 version published October 2016
 - Draft adopted by WG after IETF98
 - Changes from 6man Chicago session made for -00 WG version
 - Discussion in Prague led to a number of further changes
 - Current version is draft-6man-ietf-rfc6434-bis-02
- Some open questions remain (more on these shortly...)

Changes since IETF99

- Includes:
 - Text on EH processing (more on this in a moment...)
 - Updated RFC references (8200, 8201, 8221, 8247)
 - Added note on RFC 7772 for power consumption
 - Added ‘Why /64?’ reference; RFC 7421
 - Removed jumbogram text
 - Added reference to draft-ietf-v6ops-unique-ipv6-prefix-per-host
 - For 3GPP, added ‘snapshot’ comment on RFC7066
 - Noted that RFC4191 is a MUST, but a SHOULD for Type C nodes
 - Added RFC8028 as a SHOULD (for Section 5.5 from RFC 6724)
 - Removed ATM over IPv6
 - Added reference to RFC8064
 - Added MUST for BCP 198, and ref to draft-ietf-v6ops-ipv6rtr-reqs
 - Added text on avoiding 1280 MTU for UDP (inc. DNS) traffic

Addressing the open issues and mail list comments

Section 20: List of changes

- A comment from the chairs that our list of changes is in note form and not 100% comprehensive, and reasons for the changes are not given
- Note: the list of changes in RFC6434 from its predecessor RFC4294 was not complete either
- Proposal: review list of changes, add brief rationale for changes where appropriate.

RFC4191

- We have changed RFC4191 support to be a MUST, with a SHOULD for Type C.
- Comments?
- Proposal: leave text as is

Text on IPv6 EH processing by receivers

- Topic raised on 6man list by Tom Herbert
 - https://mailarchive.ietf.org/arch/msg/ipv6/yq8MtabkHk0ZEIH_smMeAynHF4I
- Text has now been added
 - Supplied by Tom
 - It is quite long; five paragraphs
- Is this appropriate?
 - Or should we shorten the text for 6434-bis, and spin up a new draft on the issue?

DHCPv6-PD

- Not explicitly mentioned
- Suggestion in Prague to not preclude option to do PD in the future to clients, as alternative to RA-based method
- Proposal: leave out at this time; nothing in 6434-bis precludes future PD use

Unknown ULP issue

- Comment raised on the list
- RFC8200 says there is only:
 - Known EHs
 - Known ULPs
 - Unknown EHs
- RFC8200 did not acknowledge a fourth case (Unknown ULPs) and that they cannot be distinguished from unknown EHs
- Proposal: add note in RFC6434-bis as a clarification

Proposed Text for ULP

- Note that it is impossible for a node to distinguish between an unrecognized extension header and an unrecognized upper layer protocol. Therefore, a node will behave in the same way for either of these cases, in particular by returning an ICMP Parameter Problem message with code 1 ("unrecognized Next Header type encountered") even for an unrecognized upper layer protocol.

Cite RFC1122

- Proposed by Fred Templin on the list that we should add a reference to this RFC on “Requirements for Internet Hosts -- Communication Layers”
- No other support for this (yet!)
- Proposal: No need to add the reference

Update DHCP vs RA options text

- Currently discussed in Section 8.4
- What should we say?
- Keep it minimal?
- Comments?

IPv6 only host (NAT64)

- Based on the IPv6 Hackathon
- Application or Host Operating System
 - Must be able to do NAT64 prefix discovery (RFC6052)
 - Synthesise IPv6 address from an IPv4 literal (RFC7050)
- Should do local DNS64 to support DNSSEC (RFC6147)
(if you do validation)

Document status?

- We have deferred a decision on Informational vs BCP for the document; if we do move to WGLC we should propose one or the other before WGLC starts
- Proposal: make the document BCP

Anything else?

- Do we have consensus on the document, given what we've agreed on the open issues today?
- Are we ready for WGLC?
- Comments?