Network Working Group
Request for Comments: 5237
BCP: 37
Updates: 2780
Category: Best Current Practice

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February 2008

IANA Allocation Guidelines for the Protocol Field

Status of This Memo

This document specifies an Internet Best Current Practices for the Internet Community, and requests discussion and suggestions for improvements. Distribution of this memo is unlimited.

Abstract

This document revises the IANA guidelines for allocating new Protocol field values in IPv4 header. It modifies the rules specified in RFC 2780 by removing the Expert Review option. The change will also affect the allocation of Next Header field values in IPv6.

1. Introduction

This document revises the IANA guidelines [RFC2780] for allocating new Protocol field values in IPv4 header [RFC0791]. The change will also be applicable for IPv6, as the IANA guidelines for IPv6 Next Header values [RFC2460] allocation refer to the IPv4 guidelines.

Previously, RFC 2780 allowed such allocations to happen through IESG Approval, Standards action, or Expert Review processes [RFC2780][RFC2434]. The Expert Review process was specified to be used only in the case where a non-disclosure agreement was involved:

> IANA allocates values from the IPv4 Protocol name space following an Expert Review, IESG Approval or Standards Action process. The Expert Review process should only be used in those special cases where non-disclosure information is involved. In these cases the expert(s) should be designated by the IESG.

The need for the Standards Action rule is obvious as the IETF keeps developing new protocols. It is equally obvious that there is a need to allow experimental allocations in this space; see RFC 4727 [RFC4727] for an example. Similarly, there are cases when it makes sense to allocate values out of this space for other non-Standards Track or non-IETF uses. However, the size of the field is 256 values, and 55% of these were in use at the time this document was written. As a result, a sanity check is needed to ensure that

allocations are not made needlessly. RFC 2780 specifies the IESG Approval rule to take care of these sanity checks for the non-Standards Track cases. The judgment call can take into account the existence of a stable protocol specification, constituency that wants to use it, need to avoid duplicated allocations for the same purpose, whether protocol number allocation is the right solution for this problem as opposed to, say, a TCP port, and so on.

However, we now believe that the non-disclosure agreement option is not appropriate for allocations in this space. Traditionally, non-disclosure agreements have been used by the IANA when a company was developing a proprietary protocol and did not want to disclose new areas of research or future products. The protocol space is limited enough that we no longer believe that it is reasonable to use the resource for such proprietary protocols. Thus, we believe that allocations should only be made using the IESG Approval or Standards Action processes when there are public specifications that can be reviewed.

As a result, this document revises the RFC 2780 rules by removing the option for Expert Review for the IPv4 Protocol and IPv6 Next Header fields. This document takes no position on the allocation of other parameters with non-disclosure agreements, as those parameters may require different policies.

2. IANA Considerations

This document replaces the RFC 2780 Section 4.3 rule [RFC2780] with the following:

> IANA allocates values from the IPv4 Protocol name space following an IESG Approval or Standards Action process.

This document also makes an implicit change to the rule for the IPv6 Next Header field in Section 5.3 of RFC 2780. That rule refers to the rule in Section 4.3 of the same RFC. From now on, this reference should be understood to refer to the rule revised here, i.e., without the Expert Review option.

3. Security Considerations

This specification does not change the security properties of the affected protocols.

4. Acknowledgments

Issues with the original RFC 2780 rules were uncovered in discussions of the IETF-IANA team. The team also provided background information on the practical difficulties encountered with non-disclosure agreements. The authors would like to thank Thomas Narten, Bill Fenner, and Michelle Cotton in particular.

5. References

5.1. Normative References

[RFC0791] Postel, J., "Internet Protocol", STD 5, RFC 791, September 1981.

[RFC2434] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 2434, October 1998.

[RFC2460] Deering, S. and R. Hinden, "Internet Protocol, Version 6 (IPv6) Specification", RFC 2460, December 1998.

[RFC2780] Bradner, S. and V. Paxson, "IANA Allocation Guidelines For Values In the Internet Protocol and Related Headers", BCP 37, RFC 2780, March 2000.

5.2. Informative References

[RFC4727] Fenner, B., "Experimental Values In IPv4, IPv6, ICMPv4, ICMPv6, UDP, and TCP Headers", RFC 4727, November 2006.

Appendix A. Changes from RFC 2780

Section 4.3 from RFC 2780 has been changed from:

> IANA allocates values from the IPv4 Protocol name space following an Expert Review, IESG Approval or Standards Action process. The Expert Review process should only be used in those special cases where non-disclosure information is involved. In these cases the expert(s) should be designated by the IESG.

to:

> IANA allocates values from the IPv4 Protocol name space following an IESG Approval or Standards Action process.

In addition, RFC 2780 Section 5.3 reference to IPv4 rules should be understood to refer to the rule revised here, i.e., without the Expert Review option.

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