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RFC Streams, Headers, and Boilerplates

Abstract

RFC documents contain a number of fixed elements such as the title page header, standard boilerplates, and copyright/IPR statements. This document describes them and introduces some updates to reflect current usage and requirements of RFC publication. In particular, this updated structure is intended to communicate clearly the source of RFC creation and review.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

This document is a product of the Internet Architecture Board (IAB) and represents information that the IAB has deemed valuable to provide for permanent record. Documents approved for publication by the IAB are not a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc5741.

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1. Introduction

Previously, RFCs (e.g., [RFC4844]) contained a number of elements that were there for historical, practical, and legal reasons. They also contained boilerplate material to clearly indicate the status of the document and possibly contained "Notes" to indicate how the document interacts with IETF Standards Track documents.

As the RFC Series has evolved over the years, there has been increasing concern over appropriate labeling of the publications to make clear the status of each RFC and the status of the work it describes. Chiefly, there is a requirement that RFCs published as part of the IETF's review process not be easily confused with RFCs that may have had a very different review and approval process. Various adjustments have been made over the years, including evolving text of "Notes" included in the published RFC.

With the definition of the different RFC streams [RFC4844], it is appropriate to formalize the definition of the various pieces of standard RFC boilerplate and introduce some adjustments to ensure

better clarity of expression of document status, aligned with the review and approval processes defined for each stream.

This memo identifies and describes the common elements of RFC boilerplate structure, and provides a comprehensive approach to updating and using those elements to communicate, with clarity, RFC document and content status. Most of the historical structure information is collected from [RFC2223].

The changes introduced by this memo should be implemented as soon as practically possible after the document has been approved for publication.

2. RFC Streams and Internet Standards

Users of RFCs should be aware that while all Internet Standards-related documents are published as RFCs, not all RFCs are Internet Standards-related documents.

The IETF is responsible for maintaining the Internet Standards Process, which includes the requirements for developing, reviewing, and approving Standards Track and BCP RFCs. The IETF also produces non-Standards-Track documents (Informational, Experimental, and Historic). All documents published as part of the IETF Stream are reviewed by the appropriate IETF bodies.

Documents published in streams other than the IETF Stream are not generally reviewed by the IETF for such things as security, congestion control, or inappropriate interaction with deployed protocols. They have also not been subject to approval by the Internet Engineering Steering Group (IESG), including an IETF-wide last call. Therefore, the IETF disclaims, for any of the non-IETF Stream documents, any knowledge of the fitness of those RFCs for any purpose.

Refer to [RFC2026], [RFC5742], and [RFC4844] and their successors for current details of the IETF process and RFC streams.

3. RFC Structural Elements

3.1. The Title Page Header

This section describes the elements that are commonly found in RFCs published today. For the sake of clarity, this document specifies the elements precisely as a specification. However, this is not intended to specify a single, static format. Details of formatting are decided by the RFC Editor. Substantive changes to the header and

boilerplate structure and content may be undertaken in the future, and are subject to general oversight and review by the IAB.

An RFC title page header can be described as follows:

```
------------------------------------------------------------------------
<document source>                                        <author name>
Request for Comments: <RFC number>                [<author affiliation>]
[<subseries ID> <subseries number>]    [more author info as appropriate]
[<RFC relation>:<RFC number[s]>]
Category: <category>
                                                          <month year>
------------------------------------------------------------------------
```

For example, a sample earlier RFC header is as follows:

```
------------------------------------------------------------------------
Network Working Group                                        T. Dierks
Request for Comments: 4346                                  Independent
Obsoletes: 2246                                            E. Rescorla
Category: Standards Track                                   RTFM, Inc.
                                                            April 2006
------------------------------------------------------------------------
```

The right column contains author name and affiliation information as well as the RFC publication month. Conventions and restrictions for these elements are described in RFC style norms and some individual stream definitions.

This section is primarily concerned with the information in the left column:

<document source>
This describes the area where the work originates. Historically, all RFCs were labeled Network Working Group. "Network Working Group" refers to the original version of today's IETF when people from the original set of ARPANET sites and whomever else was interested -- the meetings were open -- got together to discuss, design, and document proposed protocols [RFC0003]. Here, we obsolete the term "Network Working Group" in order to indicate the originating stream.

The <document source> is the name of the RFC stream, as defined in [RFC4844] and its successors. At the time of this publication, the streams, and therefore the possible entries are:

* Internet Engineering Task Force (IETF)

* Internet Architecture Board (IAB)

* Internet Research Task Force (IRTF)

* Independent Submission

Request for Comments: <RFC number>
This indicates the RFC number, assigned by the RFC Editor upon publication of the document. This element is unchanged.

<subseries ID> <subseries number>
Some document categories are also labeled as a subseries of RFCs. These elements appear as appropriate for such categories, indicating the subseries and the documents number within that series. Currently, there are subseries for BCPs [RFC2026], STDs [RFC1311], and FYIs [RFC1150]. These subseries numbers may appear in several RFCs. For example, when a new RFC obsoletes or updates an old one, the same subseries number is used. Also, several RFCs may be assigned the same subseries number: a single STD, for example, may be composed of several RFCs, each of which will bear the same STD number. This element is unchanged.

[<RFC relation>: <RFC number[s]>]
Some relations between RFCs in the series are explicitly noted in the RFC header. For example, a new RFC may update one or more earlier RFCs. Currently two relationships are defined: "Updates" and "Obsoletes" [RFC2223]. Alternatives like "Obsoleted by" are also used (e.g., in [RFC5143]). Other types of relationships may be defined by the RFC Editor and may appear in future RFCs.

Category: <category>
This indicates the initial RFC document category of the publication. These are defined in [RFC2026]. Currently, this is always one of: Standards Track, Best Current Practice, Experimental, Informational, or Historic. This element is unchanged.

3.2. The Status of this Memo

The "Status of This Memo" describes the category of the RFC, including the distribution statement. This text is included irrespective of the source stream of the RFC.

The "Status of This Memo" will start with a single sentence describing the status. It will also include a statement describing the stream-specific review of the material (which is stream-

dependent). This is an important component of status, insofar as it clarifies the breadth and depth of review, and gives the reader an understanding of how to consider its content.

3.2.1. Paragraph 1

The first paragraph of the Status of this Memo section contains a single sentence, clearly standing out. It depends on the category of the document.

For 'Standards Track' documents:
"This is an Internet Standards Track document."

For 'Best Current Practices' documents:
"This memo documents an Internet Best Current Practice."

For other categories:
"This document is not an Internet Standards Track specification; <it is published for other purposes>."

For Informational, Experimental, Historic and future categories of RFCs, the RFC Editor will maintain an appropriate text for <it is published for other purposes>. Suggested initial values are:

Informational:
"it is published for informational purposes."

Historic:
"it is published for the historical record."

Experimental:
"it is published for examination, experimental implementation, and evaluation."

3.2.2. Paragraph 2

The second paragraph of the "Status of This Memo" will now include a paragraph describing the type of review and exposure the document has received. This is defined on a per-stream basis, subject to general review and oversight by the RFC Editor and IAB. There is a specific structure defined here to ensure there is clarity about review processes and document types. These paragraphs will need to be defined and maintained as part of RFC stream definitions. Suggested initial text, for current streams, is provided below.

The paragraph may include some text that is specific to the initial document category; when a document is Experimental or Historic, the second paragraph opens with:

Experimental:
"This document defines an Experimental Protocol for the Internet community."

Historic:
"This document defines a Historic Document for the Internet community."

The text that follows is stream dependent -- these are suggested initial values and may be updated by stream definition document updates.

IETF Stream:
"This document is a product of the Internet Engineering Task Force (IETF)."

If there has been an IETF consensus call per IETF process, an additional sentence should be added:

"It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG)."

If there has not been such a consensus call, then this simply reads:

"It has been approved for publication by the Internet Engineering Steering Group (IESG)."

IAB Stream:
"This document is a product of the Internet Architecture Board (IAB) and represents information that the IAB has deemed valuable to provide for permanent record."

IRTF Stream:
"This document is a product of the Internet Research Task Force (IRTF). The IRTF publishes the results of Internet-related research and development activities. These results might not be suitable for deployment."

In addition, a sentence indicating the consensus base within the IRTF may be added:

"This RFC represents the consensus of the <insert_name> Research Group of the Internet Research Task Force (IRTF)."

or alternatively

"This RFC represents the individual opinion(s) of one or more members of the <insert_name> Research Group of the Internet Research Task Force (IRTF)."

Independent Stream:

"This is a contribution to the RFC Series, independently of any other RFC stream. The RFC Editor has chosen to publish this document at its discretion and makes no statement about its value for implementation or deployment."

For non-IETF stream documents, a reference to Section 2 of this RFC is added with the following sentence:

"Documents approved for publication by the [stream approver -- currently, one of: "IAB", "IRSG", or "RFC Editor"] are not a candidate for any level of Internet Standard; see Section 2 of RFC 5741."

For IETF stream documents, a similar reference is added for BCP and Standards Track documents:

"Further information on [BCPs or Internet Standards] is available in Section 2 of RFC 5741."

For all other categories:

"Not all documents approved by the IESG are a candidate for any level of Internet Standard; see Section 2 of RFC 5741."

3.2.3. Paragraph 3

The boilerplate ends with a reference to where further relevant information can be found. This information may include, subject to the RFC Editor's discretion, information about whether the RFC has been updated or obsoleted, the RFC's origin, a listing of possible errata, information about how to provide feedback and suggestion, and information on how to submit errata as described in [RFC-ERRATA]. The exact wording and URL is subject to change (at the RFC Editor's discretion), but current text is:

"Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>."

3.2.4. Noteworthy

Note that the text in paragraph 1 and 2 of the boilerplate indicate the initial status of a document. During their lifetime, documents can change status to e.g., Historic. This cannot be reflected in the document itself and will need be reflected in the information referred to in Section 3.2.3.

3.3. Additional Notes

Exceptionally, a review and publication process may prescribe additional notes that will appear as labeled notes after the "Status of This Memo".

While this has been a common feature of recent RFCs, it is the goal of this document to make the overall RFC structure adequately clear to remove the need for such notes, or at least make their usage truly exceptional.

3.4. Other Structural Information in RFCs

RFCs contain other structural informational elements. The RFC Editor is responsible for the positioning and layout of these structural elements. Note also that new elements may be introduced or obsoleted using a process consistent with [RFC4844]. These additions may or may not require documentation in an RFC.

Currently the following structural information is available or is being considered for inclusion in RFCs:

Copyright Notice
: A copyright notice with a reference to BCP 78 [BCP78] and an Intellectual Property statement referring to BCP 78 and BCP 79 [BCP79]. The content of these statements are defined by those BCPs.

ISSN
: The International Standard Serial Number [ISO3297]: ISSN 2070-1721. The ISSN uniquely identifies the RFC series as title regardless of language or country in which it is published. The ISSN itself has no significance other than the unique identification of a serial publication.

4. Security Considerations

This document tries to clarify the descriptions of the status of an RFC. Misunderstanding the status of a memo could cause interoperability problems, hence security and stability problems.

5. RFC Editor Considerations

The RFC Editor is responsible for maintaining the consistency of the RFC series. To that end the RFC Editor maintains a style manual [RFC-style]. In this memo we mention a few explicit structural elements that the RFC Editor needs to maintain. The conventions for the content and use of all current and future elements are to be documented in the style manual.

Adding a reference to the stream in the header of RFCs is only one method for clarifying from which stream an RFC originated. The RFC Editor is encouraged to add such indication in e.g., indices and interfaces.

6. References

6.1. Normative References

[RFC2026] Bradner, S., "The Internet Standards Process -- Revision 3", BCP 9, RFC 2026, October 1996.

[RFC5742] Alvestrand, H. and R. Housley, "IESG Procedures for Handling of Independent and IRTF Stream Submissions", BCP 92, RFC 5742, December 2009.

6.2. Informative References

[ISO3297] Technical Committee ISO/TC 46, Information and documentation, Subcommittee SC 9, Identification and description., "Information and documentation - International standard serial number (ISSN)", 09 2007.

[RFC0003] Crocker, S., "Documentation conventions", RFC 3, April 1969.

[RFC1311] Postel, J., "Introduction to the STD Notes", RFC 1311, March 1992.

[RFC1150] Malkin, G. and J. Reynolds, "FYI on FYI: Introduction to the FYI Notes", RFC 1150, March 1990.

[RFC2223] Postel, J. and J. Reynolds, "Instructions to RFC Authors", RFC 2223, October 1997.

[RFC2629] Rose, M., "Writing I-Ds and RFCs using XML", RFC 2629, June 1999.

[RFC4844] Daigle, L. and Internet Architecture Board, "The RFC Series and RFC Editor", RFC 4844, July 2007.

[RFC5143] Malis, A., Brayley, J., Shirron, J., Martini, L., and S. Vogelsang, "Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) Circuit Emulation Service over MPLS (CEM) Encapsulation", RFC 5143, February 2008.

[RFC-ERRATA] Hagens, A., Ginoza, S., and R. Braden, "RFC Editor Proposal for Handling RFC Errata", Work in Progress, May 2008.

[BCP78] Bradner, S., Ed. and J. Contreras, Ed., "Rights Contributors Provide to the IETF Trust", BCP 78, RFC 5378, November 2008.

[BCP79] Bradner, S., Ed. and T. Narten, Ed., "Intellectual Property Rights in IETF Technology", BCP 79, RFC 3979, April 2007.

Narten, T., "Clarification of the Third Party Disclosure Procedure in RFC 3979", BCP 79, RFC 4879, April 2007.

[RFC-style] RFC Editor, "RFC Style Guide", <http://www.rfc-editor.org/styleguide.html>.

Appendix A. Some Example 'Status of This Memo' Boilerplates

A.1. IETF Standards Track

The boilerplate for a Standards Track document that (by definition) has been subject to an IETF consensus call.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>.

A.2. IETF Experimental, with Consensus Call

The boilerplate for an Experimental document that has been subject to an IETF consensus call.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for examination, experimental implementation, and evaluation.

This document defines an Experimental Protocol for the Internet community. This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Not all documents approved by the IESG are a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>.

A.3. IETF Experimental, No Consensus Call

The boilerplate for an Experimental document that not has been subject to an IETF consensus call.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for examination, experimental implementation, and evaluation.

This document defines an Experimental Protocol for the Internet community. This document is a product of the Internet Engineering Task Force (IETF). It has been approved for publication by the Internet Engineering Steering Group (IESG). Not all documents approved by the IESG are a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>.

A.4. IAB Informational

The boilerplate for an Informational IAB document.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

This document is a product of the Internet Architecture Board (IAB) and represents information that the IAB has deemed valuable to provide for permanent record. Documents approved for publication by the IAB are not a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>.

A.5. IRTF Experimental, No Consensus Call

The boilerplate for an Experimental document that has been produced by the IRTF and for which there was no RG consensus. This variation is the most verbose boilerplate in the current set.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for examination, experimental implementation, and evaluation.

This document defines an Experimental Protocol for the Internet community. This document is a product of the Internet Research Task Force (IRTF). The IRTF publishes the results of Internet-related research and development activities. These results might not be suitable for deployment. This RFC represents the individual opinion(s) of one or more members of the <insert_name> Research Group of the Internet Research Task Force (IRTF). Documents approved for publication by the IRSG are not a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc<rfc-no>.

A.6. Independent Submission Informational

The boilerplate for an Informational document that has been produced by the Independent Submission stream.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

This is a contribution to the RFC Series, independently of any other RFC stream. The RFC Editor has chosen to publish this document at its discretion and makes no statement about its value for implementation or deployment. Documents approved for publication by the RFC Editor are not a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

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Appendix B. IAB Members at Time of Approval

The IAB members at the time this memo was approved were (in alphabetical order): Loa Andersson, Gonzalo Camarillo, Stuart Cheshire, Russ Housley, Olaf Kolkman, Gregory Lebovitz, Barry Leiba, Kurtis Lindqvist, Andrew Malis, Danny McPherson, David Oran, Dave Thaler, and Lixia Zhang. In addition, the IAB included two ex-officio members: Dow Street, who was serving as the IAB Executive Director, and Aaron Falk, who was serving as the IRTF Chair.

Appendix C. Acknowledgements

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This document was produced using the xml2rfc tool [RFC2629].

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