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Internet Architecture Board
(IAB)

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On RFC Streams, Headers, and Boilerplates
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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.

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RFC Streams, Headers, Boilerplates

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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 labelling 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. These, and any other standards-related documents (Informational or Experimental) are reviewed by appropriate IETF bodies and published as part of the IETF Stream.

Documents published in streams other than the IETF Stream are not

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](#)], [[I-D.housley-iesg-rfc3932bis](#)], 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

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
Request for Comments: 4346
Obsoletes: [2246](#)
Category: Standards Track

T. Dierks
Independent
E. Rescorla
RTFM, Inc.
April 2006

The right column contains author name and affiliation information as well as RFC publication date. 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:

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<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
- * Internet Architecture Board
- * Internet Research Task Force
- * Independent

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](#)]. Variants like "Obsoleted by" are also used (e.g in [[RFC5143](#)]). Other types of relations may be defined elsewhere.

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.

From now on, 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.

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.

This memo is an Internet Standards Track document.

This memo documents an Internet Best Current Practice

This memo 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>. For example, with an Informational document this could read "it is published for informational purposes".

The second paragraph contains text as follows that is specific to the initial category:

Standards Track: "This document specifies an Internet standards track protocol for the Internet community. Please see the "Updates to the RFC" section of this document for information on where to find the status of this document and the availability of errata for this memo."

Best Current Practice: "This document specifies an Internet Best Current Practices for the Internet Community. Please see the "Updates to the RFC" section of this document for information on where to find the status of this document and the availability of errata for this memo."

Experimental: "This memo defines an Experimental Protocol for the Internet community. This memo does not specify an Internet standard of any kind. Discussion and suggestions for improvement are requested."

Informational: "This memo provides information for the Internet community. This memo does not specify an Internet standard of any kind. "

Historic: "This memo defines a Historic Document for the Internet community. It does not specify an Internet standard of any kind."

Note that the texts 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 3.4](#).

The third 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. From now on, these paragraphs will be defined as part of RFC stream definitions.

The following texts may be updated if the stream definitions are updated, but initial paragraphs for the existing streams are:

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: "This document represents a consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group."

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. This document has been approved for publication by the IAB and is therefore not a candidate for any level of Internet Standard; see section [Section 2](#) of RFCXXXX."

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. This document has been approved for publication by the IRSG. It is not a product of the IETF and is therefore not a candidate for any level of Internet Standard;

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 document 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. It is therefore not a candidate for any level of Internet Standard; see section [Section 2](#) of RFCXXXX."

[3.3.](#) Additional Notes

Exceptionally, a review and publication process may prescribe additional notes that will appear as labelled 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 element. 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 [BCP78](#) [\[BCP78\]](#) and an Intellectual Property statement referring to [BCP78](#) and [BCP79](#) [\[BCP79\]](#). 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.

Updates to the RFC A reference identifying where more information about the document can be found. This may include information whether the RFC has been updated or obsoleted, the RFC's originating stream, a listing of possible errata, and information on how to submit errata as described in [\[I-D.rfc-editor-errata-process\]](#).

[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.](#) IANA considerations

None.

[6.](#) 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.

[The rest of this section contains specific instructions towards editing this document and can be removed before publication]

The documents has two sections, including this one that need to be removed before publication as an RFC. This one and [Appendix C](#).

This memo introduces a number of modifications that will have to be implemented in various tools, such as the xml2rfc tool, the nit tracker and the rfc-erratum portal.

The number "XXXX" is to be replaced with RFC number of this memo.

References [[RFC-style](#)], [[BCP78](#)] and [[BCP79](#)] have been constructed. Please bring these in line with RFC Editorial conventions.

In section [Section 3.4](#): For the final publication, it should be warranted that the ISSN is **not** split by a line break, for clarity.

[7.](#) References

[7.1.](#) Normative References

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

[I-D.housley-iesg-rfc3932bis]
Alvestrand, H. and R. Housley, "IESG Procedures for Handling of Independent and IRTF Stream Submissions", [draft-housley-iesg-rfc3932bis-04](#) (work in progress), October 2008.

7.2. 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 .

- [RFC3978] Bradner, S. , "IETF Rights in Contributions" , [BCP 78](#) , [RFC 3978](#) , March 2005 .
- [RFC3979] Bradner, S. , "Intellectual Property Rights in IETF Technology" , [BCP 79](#) , [RFC 3979](#) , March 2005 .
- [RFC4844] Daigle, L. and Internet Architecture Board , "The RFC Series and RFC Editor" , [RFC 4844](#) , July 2007 .

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- [RFC4748] Bradner, S. , "[RFC 3978](#) Update to Recognize the IETF Trust" , [BCP 78](#) , [RFC 4748](#) , October 2006 .
- [RFC4749] Sollaud, A. , "RTP Payload Format for the G.729.1 Audio Codec" , [RFC 4749](#) , October 2006 .
- [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 .
- [I-D.rfc-editor-errata-process]
Ginoza, S. , Hagens, A. , and R. Braden , "RFC Editor Proposal for Handling RFC Errata" , [draft-rfc-editor-errata-process-02](#) (work in progress) , May 2008 .
- [BCP78] Bradner, S., Ed. , "IETF Rights in Contributions" , [BCP 78](#) , October 2006 .
- [[RFC3978](#)]and[RFC4748]
- [BCP79] Bradner, S., Ed. and T. Narten, Ed., "Intellectual Property Rights in IETF Technology", [BCP 79](#), April 2007.
- [[RFC3979](#)]and[RFC4749]
- [RFC-style]
RFC Editor, "RFC Style Guide",
<<http://www.rfc-editor.org/styleguide.html>>.

[Appendix A.](#) 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 B.](#) Acknowledgements

Thanks to Bob Braden, Brian Carpenter, Steve Crocker, Sandy Ginoza, and John Klensin who provided background information and inspiration.

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Various people have made suggestions that improved the document. Among them are: Lars Eggert and Alfred Hoenes.

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

[Appendix C.](#) Document Editing Details

[To Be Removed before publication]

\$Id: headers-boilerplates.xml 53 2008-11-25 14:16:08Z olaf \$

[C.1.](#) version 00->01

Fixed the header so it appropriately shows that the document updates [RFC 4844](#), 2223. And added a link to 3932-bis that should appear in tandem with this publication.

Introduced the "Other structural information in RFCs" section and moved the ISSN number from the front matter to this section. The "Other structural information in RFCs" intends to give very rough guidance providing the RFC editor with sufficient freedom to move pieces around and edit them to please the eye and mind.

Modified the last sentence 3rd paragraph of the Status of this memo

section for the IRTF Stream in accordance to a suggestion by Aaron Falk; Indicating that review happened by the IRSG and not indicating that review did not happen by the IESG.

Introduced the square brackets around the <author affiliation> in the header. To highlight this is an optional element.

The definition of the "Clarifies" relation has been taken out. There are arguments that introducing the relation needs a bit more thought and is better done by a separate document.

Provided the RFC Editor with responsibility to maintain several text pieces.

In [Section 3.2](#) some modifications were applied to the text.

The <description> contains the full name of the stream.

[RFC2223](#) and 4844 moved to the informative reference section. Although I am not sure if those are not normative. Guidance!!!

[C.2.](#) version 01->02

Fixed some editorial nits and missing references.

Clarified that the status and category are initial.

Added boilerplate text for documents that are initially published as Historic.

Added members of IAB, and removed those members from acknowledgements

Added References to [BCP78](#) and [BCP79](#). The exact formatting of those references may need to be done by the RFC editor.

Added text to recognize occurrences of variations of "Obsolete" and "Update"

[C.3.](#) version 02->03

Stray language in the "IAB members at time of approval" section removed.

[C.4.](#) version 03->04

Addressed the minor nit from Brian Carpenter.

Reference to style guide stet to styleguide.html

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