Abstract

This document discusses the Internet technical community’s common document series and why its independence, and the professional status of the RFC Series Editor, must be stoutly defended.

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1. TL;DR

"I present here some of the tentative agreements reached and some of the open questions encountered. Very little of what is here is firm and reactions are expected." [RFC0001], Steve Crocker, 7 April 1969.

2. The Problems with the IETF’s use of the RFC Series

It’s very clear that there are problems with the way the IETF uses the RFC series. For example, [RFC0791] is so badly written that it would never pass an IETF working group last call, let alone an IETF last call or an IESG review today. Although updated by three other RFCs and having a dozen errata, it has never been replaced. Yet it will be exercised billions of times today and every day. Another example is that a newcomer wishing to implement even the simplest mail user agent will not find an RFC telling her how to do so. A method to mitigate this problem was proposed but not adopted [I-D.ietf-newtrk-sample-isd]. A related problem is that finding the latest version of a standard requires arcane knowledge; for example, someone looking for the latest IPv6 standard via the popular search tools is still quite likely to end up consulting RFC2460, although it was obsoleted almost two years ago. Another example is the frequency of references to RFC2616 for HTTP, obsoleted in 2014.

A major gripe about the RFC series is its limitation to ASCII and its reliance on typewriter-friendly formatting and its lack of good diagrams. Fortunately this is being worked on actively, so is not further discussed here.

An occasional annoyance is that since the RFC series is long established and serves a very wide community of authors, it includes only some documents that are formally agreed statements of IETF rough consensus and even fewer that are formally agreed statements of IETF
rough consensus about proposed standards or best current practice. The IETF has preferred to maintain a distinction between proposed standards and Internet standards, which means that there are even fewer RFCs designated as Internet standards. An attempt to fix that particular problem by reducing the number and hence complexity of the categories [RFC6410] has not appeared to make significant improvements in either the confusion or the ratio of Internet Standards to Proposed ones. Efforts to reduce the distinction and provide stable references to at least the current versions of updated standards (e.g., [I-D.klensin-std-numbers]) have received little interest. A proposal that reached IETF Working Group consensus to publish a new form of document summarising the status of particular complex standards [I-D.ietf-newtrk-repurposing-isd] did not satisfy the IESG and was not advanced.

This problem area has been well known for many years [RFC1796] and has occasionally led to concern that some vendors might mislead customers by claiming conformance with a non-standard RFC. For this reason, the header text on RFCs was clarified some years ago such that readers can clearly distinguish standards from non-standards. The original version of this was "This memo provides information for the Internet community. This memo does not specify an Internet standard of any kind." and has been used (with occasional updates to the wording) since 1994, well before [RFC1796] was published.

There is therefore no lack of clarity, and has been none since 1994, about which RFCs are normative statements of consensus and which are not. Certainly, some readers will bypass the header text as "TL;DR" (too long; didn’t read) or ignore it as "DK;DC" (don’t know; don’t care) but there is literally nothing the IETF can do about that. (In the new RFC format, it would be possible and perhaps desirable to use special typography to emphasise the document status, but it doesn’t solve the underlying problem of human behaviour, because nothing can.)

I conclude that this set of problems is really nothing to do with the RFC series as a publication venue and nothing to do with the format of RFCs. It is entirely the result of the IETF’s standards process; if the IETF wants it fixed, it must look inwards at that process, and not outwards at the community’s open publication process.

3. Who Owns the RFC Series?

I am not asking this question in a legal sense. To the extent legally possible, the copyright in the RFC series currently belongs to the IETF Trust in addition to the authors, but the Trust’s purposes are broad:
"Such purposes include, but are not limited to, the advancement of education and public interest by acquiring, holding, maintaining and licensing certain existing and future intellectual property and other property used in connection with the Internet standards process and its administration, for the advancement of the science and technology associated with the Internet and related technology."

(IETF Trust Agreement, 2005)

In any case, the important question is who "owns" the RFC series in an overall ethical and societal sense.

It's easier to answer the converse question: who doesn't own the RFC series?

1. It’s clear that the IETF doesn’t own it, because the series preceded the IETF by 17 years.

2. Therefore, of course, the IESG doesn’t own it.

3. At some point in history, both ARPA (who funded the ARPAnet) and ISI (who provided RFC editing under contract) could have made a claim. But that faded when a paid RFC Editor was directly contracted by ISOC.

4. ISOC could certainly make a claim, having funded the series for many years now. However, ISOC, like the IETF Trust, has a broad mission:

"Such educational, charitable, and scientific purposes shall include carrying on activities:

1. To facilitate and support the technical evolution of the Internet as a research and education infrastructure, and to stimulate the involvement of the scientific community, industry, government and others in the evolution of the Internet;
2. To educate the scientific community, industry and the public at large concerning the technology, use and application of the Internet;
3. To promote educational applications of Internet technology for the benefit of government, colleges and universities, industry, and the public at large;
4. To provide a forum for exploration of new Internet applications, and to stimulate collaboration among organizations in their operational use of the global Internet."

(Articles of Incorporation of the Internet Society)
5. The recently formed IETF LLC certainly doesn’t own the series, although it does channel the contracts and money formerly handled directly by ISOC.

6. Finally, the Internet Architecture Board could make a claim based on its charter [RFC2850], which states that:

"The RFC series constitutes the archival publication channel for Internet Standards and for other contributions by the Internet research and engineering community. RFCs are available free of charge to anyone via the Internet. The IAB must approve the appointment of an organization to act as RFC Editor and the general policy followed by the RFC Editor."

This text makes it clear that the RFC series is much broader in scope than the IETF, and limits the IAB’s authority to matters of general policy.

The reasonable conclusion from the above is that none of the I* organisations (IETF Trust, IETF LLC, IETF, IESG, IAB or ISOC) can claim exclusivity of ownership or control over the RFC series. It is community property and must operate on behalf of the community as a whole.

A first important consequence is that major decisions about the future of the RFC Series must be taken by a consensus of a very broad community. That doesn’t mean the IETF or the IAB. It means the IETF and IAB, plus the IRTF, plus many other people who have contributed to, or made use of, the RFC Series over the last fifty years. How to reach out to this community is in itself a big question.

A second important consequence is that the position of RFC Series Editor answers to the community as a whole, not narrowly to the IAB. In particular the RFC Series Editor has considerable independence (in addition to the obvious independence of the Independent Series Editor). To quote from [RFC6635]:

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"The RFC Series Editor will exercise strategic leadership and management over the activities of the RFC Publisher and the RFC Production Center... [and]

- Represents the RFC Series and the RFC Editor Function within the IETF and externally.

- Leads the community in the design of improvements to the RFC Series.

- Is responsible for planning and seeing to the execution of improvements in the RFC Editor production and access processes.

- Is responsible for the content of the rfc-editor.org web site, which is operated and maintained by the RFC Publisher.

- Is responsible for developing consensus versions of vision and policy documents."

In other words, the RFC Series Editor must be a highly respected independent professional editor, not acting under orders, and serving a much wider community than just the IETF. Given the economic and social importance of the Internet, this is a very serious responsibility, comparable to the editorship of a major newspaper of record.

The community was very fortunate that the progenitors of the RFC Editor function, in particular but not exclusively Steve Crocker, Jon Postel, Joyce Reynolds and Bob Braden [I-D.flanagan-fiftyyears], were modest and wise enough to know their own limitations, to learn about professional editing as they went along, and to remain open and sensitive to the needs of the whole Internet technical community. When it eventually came time to appoint a professional series editor, this proved very hard and fundamentally different from either recruiting for technical leadership positions [I-D.carpenter-community-leaders] or for administrative or operational needs. Indeed the RFC Series Editor has always been, and must remain, a member of the same peer group as IAB members, IESG members, IETF and IRTF group chairs, and indeed participants in general, each with their own professional skills.

4. Request for Comments means Request for Comments

There is an inherent modesty in calling our documents "requests for comments". As the above quotation from RFC1 said right at the beginning, we get things wrong. We want comments, we want errata, we want operational feedback, and we want to go round that loop again
each time we update a specification. When we forget that, we are
getting dangerously close to arrogance and hubris.

Avoiding this trap is indeed the reason that the community has always
published a number of RFCs that are not the product of organised
groups, formalised some years ago as the Independent Stream of RFCs
[RFC4844]. Whether they document deployed solutions not invented in
the IETF, or alternative solutions not accepted by the IETF, or
informed technical opinions not discussed in the IETF, they remain
part of the broader community’s open record, and a useful counter-
balance to any occurrence of groupthink in the IETF, IRTF or IAB.

Calling IETF standards "requests for comments" is what distinguishes
the IETF from most other standards organisations, and it’s the right
thing to do.

5. Experiments

RFC1 started an experiment, which has been fairly successful so far,
certainly with consequences that were not foreseen at the time.
Another experiment was the IEN (Internet Experiment Note) series,
which ran from 1977 to 1982. Another one was the ION (IETF
Operational Notes) series, which ran briefly in 2006/7 [RFC4693].
Finally, the usage of the RFC subseries designated "FYI", "STD", or
"BCP" has had limited success. "FYI" has been dropped, "STD" is
fairly useless as it is only applied to full Internet standards
(despite proposals to widen it, as mentioned above), and "BCP" has
been reasonably successful.

The next planned experiment is the major upgrade of RFC formatting,
which will inevitably cause some disturbance to the document
production process when it goes live.

A full analysis of these various experiments, their goals, and their
successes and failures, seems necessary before designing any future
experiment in the area of document series.

6. Conclusion

The IETF has not made a serious attempt to fix known major bugs in
its standards publication process in the last 15 years. These are
not bugs in the RFC Series but in the way the IETF uses the Series.
The RFC Series exists for the Internet community as a whole, must
retain its independence and autonomy, and must continue to be managed
by a senior professional editor.
7. Security Considerations

Security issues are discussed in all recent RFCs. This uniformity illustrates the coherence of the RFC series and the way it has been used to ensure a degree of order in the chaotic world of Internet design, implementation and deployment.

8. IANA Considerations

This document makes no request of the IANA. Like the RFC series, the IANA is a service provided for the benefit of the entire Internet technical community in a coherent and consistent way.

9. Acknowledgements

Useful comments were received from various sources, but this document is very much a personal statement.

10. References

[I-D.carpenter-community-leaders]

[I-D.flanagan-fiftyyears]

[I-D.ietf-newtrk-repurposing-isd]
Klensin, J. and J. Loughney, "Internet Standards Documentation (ISDs)", draft-ietf-newtrk-repurposing-isd-04 (work in progress), March 2006.

[I-D.ietf-newtrk-sample-isd]
Klensin, J., "Internet Standards Documentation (ISDs) - Examples", draft-ietf-newtrk-sample-isd-00 (work in progress), October 2004.

[I-D.klensin-std-numbers]

Appendix A. Change log [RFC Editor: Please remove]

draft-carpenter-request-for-comments-00, 2018-06-06:
Initial version

draft-carpenter-request-for-comments-01, 2019-06-20:
Updated and extended.

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