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RFC 9720
RFC Formats and Versions

Abstract

In order to improve the readability of RFCs while supporting their archivability, the definitive version of the RFC Series transitioned from plain-text ASCII to XML using the RFCXML vocabulary; different publication versions are rendered from that base document. This document describes how RFCs are published.

This document obsoletes RFC 7990. This document also updates the stability policy in RFC 9280.

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 RFC Series Policy Definition Process. It represents the consensus of the RFC Series Working Group approved by the RFC Series Approval Board. Such documents are not candidates for any level of Internet Standard; see Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at https://www.rfc-editor.org/info/rfc9720.

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1. Introduction

"RFC Series Format Requirements and Future Development" [RFC6949] discussed the need to improve the display of items such as author names and artwork in RFCs as well as the need to improve the ability of RFCs to be displayed properly on various devices. Based on discussions with communities of interest, such as the IETF, the RFC Series Editor decided to explore a change to the format of the Series. [RFC7990] was the culmination of that exploration.

This document is concerned with the production of RFCs, focusing on the published documents. It does not address any changes to the processes each stream uses to develop and review their submissions (specifically, how Internet-Drafts are developed). While I-Ds have a similar set of issues and concerns, directly addressing those issues for I-Ds should be discussed within each document stream.

The details described in this document are expected to continue to change over time as the community and the RFC Production Center (RPC) gain further experience implementing the policies described here.

Implementors of these components are advised to avoid assuming that all such changes will be backwards compatible.

1.1. Changes to RFC 7990

[RFC7990] defined a framework for how RFCs would be published, including new "publication formats" and a new "canonical format". It talked about "the XML file" as if there would only be one XML file for an RFC because that was the expectation at the time [RFC7990] was published. It also talked about "publication formats" as the versions of HTML, plain text, and PDF derived from the "canonical format".

After extensive experience with publishing RFCs in the RFCXML format [RFC7991], it has been decided that an RFC's XML file can be updated for narrowly limited purposes. This document changes [RFC7990] in significant ways:

- It defines four terms that replace the use of the term "canonical" and clarifies "format":
  - The "definitive format", which is RFCXML
  - The "definitive version", which is a published RFC in the definitive format
  - A "publication format", which is currently one of HTML, plain text, and PDF
  - A "publication version", which is a published RFC in one of the publication formats
- It defines a policy governing how the RFCXML format changes.
- It defines a policy for when the definitive version of an RFC can be updated and older definitive versions archived.
- It defines a policy for when the publication versions of an RFC can be updated and older publication versions archived.

When using the new terminology, it is important to note that [RFC7990] used the term "canonical format" to mean two very different things. Quoting from RFC 7990:

> Canonical format: the authorized, recognized, accepted, and archived version of the document

and

> At the highest level, the changes being made to the RFC format involve breaking away from solely ASCII plain text and moving to a canonical format that includes all the information required for rendering a document into a wide variety of publication formats.

This document uses two terms, "definitive version" and "definitive format", for the earlier term "canonical format".

This document also makes the following terminology changes:

- It changes the phrase "xml2rfc version 3" to "RFCXML".
- It changes the name of the body that publishes RFCs from "RFC Editor" to "RFC Production Center" (RPC).

Historical text from [RFC7990], such as Section 2 ("Problem Statement"), Section 4 ("Overview of the Decision-Making Process"), and Section 10 ("Transition Plan"), was purposely omitted from this document. Text from [RFC7990] that repeated what was in other RFCs, particularly Section 8 ("Figures and Artwork") and Section 9 ("Content and Page Layout"), was also removed.

1.2. Changes to RFC 9280

Section 7.6 of [RFC9280] says:

> Once published, RFC Series documents are not changed.

This document replaces that sentence with:

> Once published, RFCs may be reissued, but the semantic content of publication versions shall be preserved to the greatest extent possible.

This document also adds a new policy to Section 7 of [RFC9280]:

> 7.8. Consistency
>
> RFCs are copyedited, formatted, and then published. They may be reissued to maintain a consistent presentation.

Sections 2.1 and 3 in this document are based on this policy in [RFC9280].

1.3. Key Changes from the Earlier RFC Process

The first RFC to be published following the guidance of the group of RFCs described in [RFC7990] was [RFC8651], published in October 2019. In the time since then, all published RFCs have followed the general plan from [RFC7990].

At the highest level, the changes that [RFC7990] made to the RFC format involved breaking away from solely ASCII [RFC20] plain text and moving to a definitive format that includes all the information required for rendering a document into a wide variety of publication formats. The

RPC became responsible for more than just the plain-text file and a PDF rendering that was created from the plain text at the time of publication; the RPC now creates the definitive version and three publication versions of the RFC in order to meet the diverse requirements of the community.

The final RFCXML file produced by the RPC is the definitive version for RFCs; it holds all the information intended for an RFC. Additional publication versions (HTML, plain text, and PDF) are also published by the RPC. The publication formats are fully specified in other RFCs.

2. Definitive Version of an RFC

The definitive version produced by the RPC holds all the information intended for an RFC. The RPC may change the definitive version of an RFC over time (that is, change the XML file), as described in Section 2.1. See [RFC7991] for the original complete description of RFCXML.

The XML may contain SVG line art, as originally described in [RFC7996]. That SVG will also appear in the HTML publication version. The XML may contain non-ASCII characters, as originally described in [RFC7997]. These characters will appear in all the publication versions.

The definitive version must contain all information necessary to render the specified publication versions; any question about what was intended in the publication will be answered from this file. It is self-contained with all the semantic content known at publication time. For instance, all features that reference externally defined input are expanded. It does not contain src attributes for <artwork> or <sourcecode> elements. It does not contain comments or processing instructions.

2.1. Updating the Definitive Version of an RFC

RFCs may be reissued, as described in Section 1.2. Such changes must preserve the semantics expressed in the original RFC. Reasons to make such changes include updates to the RFCXML schema, errors discovered in the XML, and changes to the tooling used to generate the publication versions of the definitive version of the RFC. The RPC will keep a public record of when it reissues any RFC and give a short description of its reasoning for each change.

2.2. Expected Updates to RFCXML

It is anticipated that [RFC7991] will be updated. Updates to the RFCXML specification that are applied to existing RFCs should preserve the semantics expressed in the original RFC to the greatest extent possible. The goal of limiting changes only to syntax is to preserve the semantic meaning encoded in the published document.

This policy does not require that updates to RFCXML avoid all risk of introducing semantic changes to existing RFCs. Instead, considering the potential for semantic changes, taking steps to understand the risk of a semantic change (either deliberate or inadvertent), and limiting associated risks are the only requirements.

3. Publication Versions

The RPC is permitted but not required to reissue publication versions of an RFC, as described in Section 1.2. In deciding whether to update the publication versions of an RFC, the RPC will take into account both the risk of semantic changes and consistency of the Series.

XML format errors and better design choices have been discovered by the community since the first RFCs were published using the RFCXML format. When the XML in a definitive version changes, the publication versions may change, even if this might not result in observable differences. Similarly, as production tools change, publication versions may be regenerated to ensure a consistent presentation.

4. Archived Documents

The RPC will keep an archived set of all definitive versions of RFCs as well as archived sets of the publication versions for an RFC that were previously published. These archived sets must be available using the same access methods as for current definitive and publication versions. Every archived set shall record the date that a definitive and/or publication version was created or reissued.

When the RPC archives definitive and publication versions, it does so in a manner that allows them to be found by people who want the historical (as compared to current) files.

This document does not specify how archives are maintained or how archived documents might be located or identified. The methods for storage and access will be determined by the RPC in consultation with the technical community.

5. IANA Considerations

This document has no IANA actions.

6. Security Considerations

Allowing changes to the definitive version and publication versions of RFCs introduces risks. A significant risk is that unintended changes could occur in either the definitive version or publication versions of an RFC as a result of an editing error. In addition, unintended changes may be introduced into a publication version when it is regenerated from the definitive version. This may result in the corruption of a standard, practice, or critical piece of information about a protocol, which may harm the reputation of the RFC Series.

The RPC is expected to identify, track, and actively mitigate risks introduced by this new policy.

7. References

7.1. Normative References

[RFC7991] Hoffman, P., "The "xml2rfc" Version 3 Vocabulary", RFC 7991, DOI 10.17487/RFC7991, December 2016, <https://www.rfc-editor.org/info/rfc7991>.

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7.2. Informative References

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[RFC8651] Cheng, B., Wiggins, D., and L. Berger, Ed., "Dynamic Link Exchange Protocol (DLEP) Control-Plane-Based Pause Extension", RFC 8651, DOI 10.17487/RFC8651, October 2019, <https://www.rfc-editor.org/info/rfc8651>.

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