        Definition of new tags for relations between RFCs
                   draft-kuehlewind-update-tag-02

Abstract

   An RFC can include a tag called "Updates" which can be used to link a
   new RFC to an existing RFC. On publication of such an RFC, the
   existing RFC will include an additional metadata tag called "Updated
   by" which provides a link to the new RFC. However, this tag pair is
   not well-defined and therefore it is currently used for multiple
   different purposes, which leads to confusion about the actual meaning
   of this tag and inconsistency in its use.

   This document recommends the discontinuation of the use of the
   updates/updated by tag pair, and instead proposes three new tag pairs
   that have well-defined meanings and use cases.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

   Internet-Drafts are working documents of the Internet Engineering
   Task Force (IETF). Note that other groups may also distribute
   working documents as Internet-Drafts. The list of current Internet-
   Drafts is at https://datatracker.ietf.org/drafts/current/.

   Internet-Drafts are draft documents valid for a maximum of six months
   and may be updated, replaced, or obsoleted by other documents at any
   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on September 10, 2020.

Copyright Notice

Table of Contents

1. Introduction

An RFC can include a tag called "Updates" which can be used to link a
new RFC to an existing RFC. On publication of such an RFC, the
existing RFC will include an additional metadata tag called "Updated
by" which provides a link to the new RFC. However, this tag pair is
not well-defined and therefore it is currently used for multiple
different purposes, which leads to confusion about the actual meaning
of this tag and inconsistency in its use.

The "Updates/Updates by" tag pair is currently used by different
working groups and different areas, which tend to apply different
meanings to it. They also differ greatly about the obligations on
the implementors of the Updated RFC. While updating an RFC never
makes the updated RFC invalid, updates can contain bug fixes or
critical changes. Some groups apply the update tag only to these
kind of changes with the expectation that new implementors are also
obliged to implement this new RFC. Some other groups use the update
tag to define optional extensions or use of extension points in the
current protocol. This disconnect leads to a situation where it is
desirable to add a "mandatory-to-implement" indication to an existing
RFC.

Groups or individuals that apply such restrictive conditions to the
Updates tag, consequently usually don't use the update tag for any
extensions or addition to a protocol. However, as there is no other
way in the current metadata scheme to link a new RFC to an existing
RFC, not using the Updates tag makes it harder to find these new
RFCs. While implementors might well benefit from some extensions or
additions, they might not be aware of them and either not use them
or, in the worst case, implement an alternate mechanism instead.

Currently the Updates/Updated by tag pair mainly provides a way to
link two documents. The cases mentioned above clearly benefit from
such a linkage which the expectation that readers of one RFC as least
look or also read the other RFC. Additionally, there are more cases
where such a linkage could be useful to improve awareness of some
newer related technology without providing any indication on the
importance of the linked document. As the conditions for the use of
the Updates tag are not clear, often it is not used in such cases.

This document recommends the discontinuation of the use of the
Updates/Updated by tag pair, and instead proposes three new tag pairs
that have well-defined meanings and use cases.

2. Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and
"OPTIONAL" in this document are to be interpreted as described in BCP
14 [RFC2119] [RFC8174] when, and only when, they appear in all
capitals, as shown here.

3. New Definitions

Based on the problems identified above this document defines three
new tag pairs with the following meanings:

Amends/Amended by: This tag pair is used with an amending RFC that
changes the amended RFC. This could include bug fixes, behavior
changes etc. This is intended to specify mandatory changes to the
protocol. The goal of this tag pair is to signal to anyone looking
to implement the amended RFC that they MUST also implement the
amending RFC.

Extends/Extended by: This tag pair is used with an extending RFC that
defines an optional addition to the extended RFC. This can be used
by documents that use existing extension points or clarifications
that do not change existing protocol behavior. This signals to
implementers and protocol designers that there are changes to the

extended RFC that they need to consider but not necessarily
implement.

See Also/See Also: This is intended as a catch-all tag where two
documents are related loosely but do not fit either of the above
categories. The main intention of this tag is to provide a forward
reference from the existing RFC to the RFCs that may be of interest
to read. However, it is not recommenced to use this tag extensively.

These three tags MUST only be used for the defined meanings, mostly
with respect to the implication on implementation requirements. This
document does not mandate the use of these tags if one of the
described use cases apply. Tags are optional metadata that are
useful to understand the context of RFCs and navigate the RFC series.
All three tags can only be used to reference other RFCs (and not as
reference to external sources).

As today with "updates", none of the new tags makes the extended/
amended RFC invalid. An implementation that conforms to the amended
RFC still conforms to that RFC, even when an amendment is published.
However, an implementation can, and hopefully should, of course be
updated to also conform to the new RFC with the amendment. If only
conformance to the new RFC is desired, obsoleting the respective RFC
with a new full (bis) specification may be more appropriate and
should be consider instead.

This document does not impose any restrictions on the status or
maturity level of the RFC that uses these new tags in relation the
RFC that gets amended/extended. Further, no restrictions are made on
the use of these tags across RFC streams. However, it is expected
that some cases are less likely, e.g. an IETF-stream RFC gets amended
by an RFC from another stream. Examples exist where non IETF-stream
documents update IETF-stream documents. However, these updates
usually utilize an existing extension point and therefore the use of
"Extends" would be expected in future, e.g. RFC 3579 (RADIUS Support
For EAP) which is a document in the Independent Submission Stream
updates RFC 2869 (RADIUS Extensions), an IETF stream document. In
fact, this new, more clear definition of tags could even lead to an
increase in cross stream usage of the "Extends" tag (if adopted by
other streams, which is still open for discussion and may be
reflected in future versions of this document).

4. Additional Recommendations

4.1. Discontinuation of the Use of Updates/Updated by

[NOTE: This is open for discussion and we would like opinions on
whether the use of Updates needs to be discontinued for all future
documents or not. This requires further discussion with the RFC
Editor and the other stream managers to see if we can have a unified
policy for all streams]

This document makes the updates tag obsolete for future use: it MUST
NOT be used in new IETF stream documents. The new tags are to be
used instead, beginning with the publication of this document as an
RFC.

However, the Updates/Updated by tag pair will remain in existing
documents and there is no plans to change these metadata in order to
apply the new tags instead. Any such change would require
changing/updating/amending the RFC carrying the "Updates" tag and
building consensus for such a change might also not be straight
forward in all cases. Further, simply replacing the tag would any
way not be sufficient, as also RFCs that currently do not have an
updates tag would probably qualify to have one of the new tags
defined in this document.

4.2. Amendments

This document does not impose any requirements on the form of the
amendment made. Some RFCs use and OLD/NEW style to highlight actual
text changes others simply describe the changes in text. Both can
make sense in certain situation. However, this document does
recommend to use the OLD/NEW rather for smaller and a limited number
of changes, while if larger or many changes are needed, a new
document revision that obsoletes the old RFC should be considered.

4.3. Indication of Linkage in the Abstract and Introduction

The RFC style guide [RFC7322] recommends to indicate updates in the
abstract and introduction. Note that both is needed as the abstract
is meant to function in a stand-alone fashion. This document will
keep this practice for the new Amends/Amended by and Extends/Extended
by tag pairs as well. It is further recommended to provide
additional information about the extension in the abstract or
introduction for the Extends/Extended by tag pair in order to provide
the reader some assistance whether he or she also needs to read the
rest of extending RFC.

For the See Also/See Also tag pair, additional information of the
linked RFC may be added in the introduction but there is no
expectation to name these RFC in the abstract.

5. Future work

There will be a need to update the RFC Style Guide [RFC7322] (and
specifically Section 4.1.4.) in order to discuss the new tags if and
when this document is published.

Further, the "updates" attribute is part of the "xml2rfc" Version 3
Vocabulary [RFC7991]. Therefore an extension to [RFC7991] is need as
well. This may be done by a future version of this draft or in a
separate draft, e.g. with other extension or amendments to [RFC7991].

6. Security Considerations

The changes in this document do not have direct impact on the
security of any protocol or mechanism specified in the RFC series.
However, amendments or extensions can help to improve security or
discuss security-related issues. Therefore, the use of the proposed
tags and their clear definition can also support such RFCs in their
intended goals regarding security.

7. Acknowledgments

The authors would like to thank Alexey Melnikov, Alvaro Retana, Barry
Leiba, Eric Vyncke, Heather Flanagan, Martin Vigoureux, Brian
Carpenter and Sandy Ginoza for their reviews and comments that
improved this document.

8. References

8.1. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
           Requirement Levels", BCP 14, RFC 2119,
           DOI 10.17487/RFC2119, March 1997,
           <https://www.rfc-editor.org/info/rfc2119>.

[RFC7322] Flanagan, H. and S. Ginoza, "RFC Style Guide", RFC 7322,
           DOI 10.17487/RFC7322, September 2014,
           <https://www.rfc-editor.org/info/rfc7322>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC
           2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174,
           May 2017, <https://www.rfc-editor.org/info/rfc8174>.

8.2. Informative References

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

Authors' Addresses

   Mirja Kuehlewind
   Ericsson

   Email: mirja.kuehlewind@ericsson.com

   Suresh Krishnan
   Kaloom

   Email: Suresh@kaloom.com