                        Datatracker Extensions to
            Include IANA and RFC Editor Processing Information

Abstract

   This document captures the requirements for integrating IANA and RFC
   Editor state information into the Datatracker to provide the
   community with a unified tool to track the status of their document
   as it progresses from Internet-Draft (I-D) version -00 to RFC.
   Extending the Datatracker to hold document data from I-D version -00
   to RFC allows for increased automation between the Datatracker, IANA,
   and RFC Editor, thus reducing manual labor, processing errors, and
   potential delay. Therefore, this document also describes the
   requirements to make such automation possible.

Status of This Memo

Copyright Notice

1. Introduction

   The IETF Datatracker is a web-based system for managing information
   about Internet-Drafts (I-Ds) and RFCs, IPR disclosures, liaison
   statements, and several other important aspects of the document
   process [IDTRACKER]. In this document, the term "IETF Datatracker"
   is used as a generic name for the existing tool used to track state
   changes as Internet-Drafts are processed. The word "IETF" in the
   name "IETF Datatracker" is not meant to limit use of the tool to the
   IETF document stream; this document expands use of the tool to the
   other streams described in [RFC4844].

   The Datatracker is used to report on the status of I-Ds that have
   been submitted to the IESG for evaluation and publication. The
   Datatracker will be extended, according to the requirements defined
   in [RFC6174] and [RFC6322], to include tracking information about a
   document during its progression from version -00 to it being
   requested for IESG evaluation. However, the Datatracker, ICANN
   (performing the IANA function), and RFC Editor operate on separate
   systems with varying degrees of visibility into the processing that
   takes place once the stream managers have approved a document for

publication as an RFC. This document defines the requirements for
extending the Datatracker to include increased IANA and RFC Editor
state information, so that the Datatracker covers the lifetime of an
I-D from version -00 to RFC publication.

Additionally, this document lists the processes between the IANA, RFC
Editor, and Secretariat (via the Datatracker) that should be
automated for accuracy and timely processing. While this document
includes some details of the IANA, RFC Editor, and Secretariat
process, this document does not define any of the processes. The
processes are continually reviewed for process optimization and need
to remain flexible to adapt to new changes in policy and environment.
Processes are defined and set by each of the entities respectively.

The IANA and RFC Editor are functions independent of the IETF. When
an Internet-Draft enters the IANA queue, IANA retains ownership of
its own data, state names, and tracking systems. Similarly, when an
Internet-Draft enters the RFC Editor's queue, the RFC Editor retains
ownership of its own data, state names, and tracking systems. This
document discusses how the data from the IANA and RFC Editor queues
can be better reflected in the Datatracker to help inform the IETF
community what the state of a document is throughout its lifetime.

Prior to when an Internet-Draft is approved for publication as an
RFC, the Datatracker is the definitive source for tracking IANA
status information, and the IANA data is editable (by IANA and the
Secretariat) in the Datatracker. After an Internet-Draft is approved
for publication as an RFC, the IANA tracking system becomes the
definitive source for tracking IANA status information, and the data
can no longer be edited in the Datatracker. At that point, the data
in the Datatracker is only a reflection of the data in the IANA
tracking system. If there is a discrepancy between the two after
this point, the data in the IANA tracking system is assumed to be
correct.

The RFC Editor's tracking system is always the definitive source for
tracking the RFC Editor status of a document. RFC Editor data is not
editable via the Datatracker. The information in the Datatracker is
always a reflection of the information in the RFC Editor's tracking
system.

2. Integration of Data between the IANA and Datatracker

2.1. IANA Information to Be Added to the Datatracker

Currently, IANA reviews and touches IETF stream documents at 4
different stages in the process from I-D to RFC: IETF Last Call, IESG
Review, Document Approval (for publication), and RFC Publication.

Most of these state changes and issues are not captured in the
Datatracker. For the IRTF (Internet Research Task Force) and
Independent streams, the IANA review process begins when IESG Review
is requested. For the IAB (Internet Architecture Board) stream,
review would begin upon request for publication as an RFC.

This section specifies the requirements for including additional IANA
information in the Datatracker.

- IETF Last Call Comments

   Currently, IANA reviews I-Ds that have been sent to IETF Last
   Call, inputs comments in their data system, and then emails their
   comments to authors, WG chairs, and then to the IESG. These
   comments are also manually entered into the Datatracker for the
   public record. However, it is difficult to determine whether the
   IANA issues have been resolved. To help facilitate tracking of
   IANA issues, a display is needed to show 5 new IANA substates, in
   a similar fashion to how RFC Editor State is currently shown in
   the Datatracker (see the example, later in this section, of how
   IANA state information could appear in the Datatracker for
   draft-example-00).

   1) IANA Review Needed

      This substate will allow the community, Secretariat, and IANA
      to easily track which documents have or have not been reviewed
      by IANA. If this substate is NOT set to "IANA Not OK", "IANA
      OK -- Actions Needed", or "IANA OK -- No Actions Needed", the
      substate should be set to "IANA Review Needed" by default (this
      is the first substate for tracking IANA data). For documents
      that originate from a non-IETF stream, the default will be
      used.

   2) IANA OK -- Actions Needed

      This substate covers documents that require IANA actions, and
      the IANA Considerations section indicates the details of the
      actions correctly.

   3) IANA OK -- No Actions Needed

      This substate covers documents that require no IANA actions,
      and the IANA Considerations section indicates this correctly.

Note: The substate will be set to "IANA OK -- Action Needed" or
"IANA OK -- No Actions Needed" (from "IANA Not OK") once any
outstanding issues have been resolved. The comments section will
be used to provide details in the History log about whether there
are no IANA actions, the text is OK, or the issues have been
resolved.

4) IANA Not OK

If IANA has issues with the text of the IANA Considerations
section of a document, the substate should be set to "IANA Not
OK", and the comment field should be populated with a
description of the issues and questions. In addition to any
questions IANA may have, IANA will also include in the comments
field whether expert review is required, if the document is
dependent on another document (e.g., document B registers
values in a registry created by document A, which hasn't been
published yet), and if there is a registry expert appointment
required.

5) Version Changed -- Review Needed

This substate will allow the community, Secretariat, and IANA
to easily track which documents have been reviewed and
subsequently when a version of an Internet-Draft in Last Call
has changed, therefore requiring a second review of the
document by IANA to ensure that either the IANA considerations
have not changed, or any changes made to the document affecting
IANA actions are clear. This substate applies to I-Ds that are
in any substate except "IANA Review Needed" and "Version
Changed -- Review Needed".

When new versions are available, the Datatracker will
automatically set the IANA substate to "Version Changed --
Review Needed".

Information providing the status of the IANA review (one of the 5
substates listed above) should be included as part of the evaluation
message (sent to the IESG) so that IANA can determine if, and what,
further action is required.

All comments will be recorded in the History log. However, to reduce
redundancy and manual effort, the Datatracker should provide the
ability to receive state information and related comments from the
IANA tracking system. There should be a notification that comments
have been entered in the IANA-maintained system, and entry of those
comments into the Datatracker and distribution of those comments to
the authors should be automated.

   - IESG Evaluation

     As not all documents receive an IETF Last Call, this state is
     sometimes the first time that IANA reviews a document. For a
     document that wasn't IETF Last Called, IANA reviews the document,
     enters comments in their own tracking system, distributes email to
     authors and other interested parties (e.g., WG chairs, ISE
     (Independent Submissions Editor)), and then enters those same
     comments into the Datatracker, where they are recorded in the
     History log. In cases where a document was IETF Last Called, IANA
     checks for and reviews version changes and re-reviews documents to
     ensure that any identified IANA issues have been resolved.

     Comments will continue to be recorded in the History log.
     However, to reduce redundancy and manual effort, the Datatracker
     should provide the ability for IANA to enter substate information
     and related comments into the IANA tracking system, and
     distribution of those comments to the authors and entry into the
     Datatracker should be automated.

     Ideally, the authors will have responded to and resolved any IANA
     issues prior to the document being slated for an IESG telechat.
     However, if any document continues to have an "IANA Not OK",
     "Version Changed -- Review Needed", or "IANA Review Needed"
     substate and is slated for the IESG telechat, it should be called
     out in the Agenda Package. For example, it could appear as
     follows:

      o draft-example-00
        Title of Internet-Draft
        Note: John Doe (jdoe@example.com) is the document shepherd.
        Token: Jane Doe
        IANA: IANA Not OK

     This will ensure that IANA and the Area Directors (ADs) are aware
     that there are still IANA issues to be addressed prior to
     publication, or that initial or follow-up IANA review is required
     and not yet completed (in cases where the substate is listed as
     "IANA Review Needed" or "Version Changed -- Review Needed").

   - Document Approved for Publication

      Once a document has been approved for publication, the document
      enters the IANA queue and is tracked using IANA-defined states.
      This state information is not currently available via the
      Datatracker. In order for the community to view the IANA
      processing states without being redirected to the IANA queue, the
      Datatracker should be extended to include IANA state information
      as defined by IANA. For example, IANA state information could
      appear in the metadata portion of the document as follows:

      Document type: Active Internet-Draft (FOO WG document)
      Last updated: 2010-09-20
      State: RFC Ed Queue
      RFC Editor State: EDIT IANA
      IANA State: In Progress
      Intended status: Proposed Standard

      IANA state-change information will link to the IANA queue, and
      will be captured as a line item in the History log. IANA will
      notify the Datatracker when changes are made in the IANA queue.

      Once the IANA actions have been completed, the Datatracker History
      log will be updated to include the actions completed by IANA
      (i.e., the author-approved actions). This information will
      include the same information that is sent to the RFC Editor upon
      completion of IANA actions.

      The IANA State field may be any of the states defined by IANA.
      The list of IANA state names in use at the time this document was
      published is provided in Appendix A; however, IANA states are
      defined by IANA and are subject to change. If there are any
      discrepancies between the state names listed in this document and
      those listed on the IANA queue page
      (http://www.iana.org/about/performance/ietf-draft-status/), the
      IANA queue is definitive. States may be added or removed by IANA;
      IANA will work with the IETF Administrative Oversight Committee
      (IAOC) to update the Datatracker as necessary.

   - RFC Publication

      References to the I-D are updated to refer to the RFC once it is
      published, and minor updates may be made to match the published
      RFC. This data will be tracked in the Datatracker to show when
      the references in the IANA registries were updated to include the
      newly assigned RFC number.

2.2. Future IANA Information to Be Available via the Datatracker

   The document "Definition of IETF Working Group Document States"
   [RFC6174] includes the following:

      4.3.1. Awaiting Expert Review/Resolution of Issues Raised

         This tag means that someone (e.g., an author or editor of the
         WG draft, or a WG Chair) has initiated an expert review of the
         document and the review has not yet been completed and/or the
         resolution of issues raised by the review has not yet been
         completed. Examples of expert reviews include cross-area
         reviews, MIB Doctor reviews, security expert reviews, and IANA
         reviews.

         WG drafts tagged with this annotation should retain the tag
         until the review is complete and possibly until any issues
         raised in the review are addressed.

   IANA is in the process of documenting how an expert review is
   conducted during the lifetime of an Internet-Draft. Once the process
   has been defined, the Datatracker should be updated to indicate if a
   document requires "Expert Review" [RFC5226] (either for the entire
   document or a portion thereof); if the expert reviewer has issues
   with what they are being requested to review; and, if applicable,
   whether the expert reviewer has approved or rejected the requested
   registration(s). There may be a need to complete expert reviews
   again before publication of a document if there have been changes to
   the text relevant to the review by the expert. In cases where a new
   registry is being created in the document, an indicator of whether an
   expert needs to be appointed by the IESG would also be useful.

2.3. Permissions to Change IANA State Information

   IANA state changes should be automated, but IANA should have the
   ability to log in to the Datatracker to manually update the system as
   well.

   The IETF Secretariat should also have the ability to change the IANA
   state if necessary.

   It is expected that this feature would only be used to correct
   issues; it is not intended to be part of regular operations.

3. Integration of Data between the RFC Editor and Datatracker

   For quite some time, the RFC Editor was seen as a black box, where
   documents were submitted for publication, went through some process,
   and came out as RFCs. Over time, the community asked for a more
   transparent process; thus, state information was made available on
   the RFC Editor website. Currently, some of that state information is
   available from the Datatracker. However, for additional transparency
   about the RFC Editor process, the Datatracker should be extended to
   hold supplementary RFC Editor state and process (e.g., MISSREF)
   information. This section defines the requirements for RFC Editor
   state information to be added to the Datatracker to provide more
   transparency and allow for a unified end-to-end tracking system.

3.1. RFC Editor Information to Be Added to the Datatracker

   Once a document has been approved for publication, the document
   enters the RFC Editor queue and is tracked using RFC-Editor-defined
   states. Some RFC Editor state information is currently available via
   the Datatracker, but the information is not stored in the History
   log. RFC-Editor-defined state information will continue to be shown
   as is done currently. In addition, a line item will be entered into
   the History log each time a document changes state. The RFC Editor
   shall continue to provide a queue file to allow data extraction; in
   addition, there will be a machine-readable notification to the
   Datatracker when state changes are made.

   RFC Editor state information should continue to appear in the
   metadata portion of the document available using the Datatracker.
   For example, an entry might appear as follows (including the IANA
   State information):

      Document type: Active Internet-Draft (TLS WG document)
      Last updated: 2010-09-20
      State: RFC Ed Queue
      RFC Editor State: EDIT IANA
      IANA State: In Progress
      Intended status: Proposed Standard

   The RFC Editor State field may be any of the states defined by the
   RFC Editor. The list of RFC Editor state names in use at the time
   this document was published is provided in Appendix B, but RFC Editor
   states are defined by the RFC Editor and are subject to change. If
   there are any discrepancies between the state names listed in this

document and those listed on the RFC Editor queue page
(http://www.rfc-editor.org/queue2.html), the RFC Editor queue is
definitive. States may be added or removed by the RFC Editor; the
RFC Editor will work with the IAOC to update the Datatracker as
necessary.

Although RFC Editor state information is already available in the
Datatracker, the Datatracker should be updated to include some
additional data that may help individuals understand the status of
their document. In particular, the Datatracker should be updated to
include the following data:

1) links to AUTH48 pages

   AUTH48 pages provide information about which authors have approved
   the document for publication, whether AD approval is required, and
   sometimes a summary of issues that need to be resolved before the
   document can move forward.

2) links to the cluster pages

   Clusters are defined as documents with normative reference
   dependencies, and documents that have been requested for
   simultaneous publication. (For more information, see
   http://www.rfc-editor.org/cluster_def.html.)   The cluster pages
   provide a view of the entire set of state information for
   clustered documents.

   Note: The RFC Editor has been working with the cluster data to
   provide the community with accurate state information at the
   appropriate level of detail. The RFC Editor database may require
   significant updates before this data can be integrated with the
   Datatracker.

3) RFC metadata upon publication

   The RFC Editor will notify the Datatracker when a new RFC has been
   published, and the Datatracker should have the ability to
   automatically update the relevant fields with data related to the
   published RFC. In particular, the RFC number will be recorded in
   the Datatracker. However, note that all fields are subject to
   change during editing and should be updated; for example, the
   document title and the list of authors are sometimes changed, and
   character counts and page counts are always changed.

   4) notation when documents are withdrawn from the RFC Editor queue

      If a document is to be removed from the RFC Editor / IANA queues,
      the responsible party (e.g., AD or Secretariat) should change the
      state of the document in the Datatracker to something other than
      "RFC Ed Queue". The Datatracker should provide a text box to
      allow the responsible party to record details about the state
      change. The state change and the related details will be recorded
      in the History log. The state change in the Datatracker will
      trigger an email message to the RFC Editor and IANA as
      notification that the state of the document has been set to the
      newly assigned state, with the details provided in the text box.
      The RFC Editor and IANA will update their queues accordingly, and
      the document will disappear from their respective queues.

4. Other Updates to the Datatracker

   While the primary goal of this document is to update the Datatracker
   to display the IANA and RFC Editor process state information, the
   Datatracker could hold additional data for use by IANA and the RFC
   Editor that would allow for increased automation, thus reducing the
   potential for delays and processing errors. This section defines
   requirements for updates to the Datatracker to eliminate some of the
   administrative tasks currently performed by staff.

4.1. Datatracker to IANA

   When a document is approved for publication, data will be provided in
   a machine-readable format and will include (in addition to the usual
   Document/Protocol Action emails) the data requested by the RFC Editor
   in Section 4.2.

4.2. Datatracker to RFC Editor

   When a document is approved for publication, data will be provided in
   a machine-readable format and will include the following (in addition
   to the usual Document/Protocol Action emails):

      - I-D String

      - Document Title

      - Author List

      - Author Email Addresses

      - Author Organizations (if available)

- Expedited Goal Date (if applicable)

   Note: This field needs to be editable for post-approval
   changes.

- Publication Status (as defined in [RFC2026])

- Consensus (yes/no)

- Source (Working Group or Research Group name, Individual,
  or alternate-stream name)

   Note: The RFC Editor database may require updates before
   Research Group data can be received from the Datatracker.

- IESG Contact

- Document Shepherd <email>

   Note: This is the individual currently listed in the
   "Personnel" section of a Document/Protocol Action.

- IANA Actions Required

   Most of these items are already stored in the Datatracker. However,
   the following fields need to be added:

- Expedited Goal Date

- Consensus (yes/no)

- Document Shepherd <email>

- IANA Actions Required

   "Consensus" is as used in [RFC5741]; it determines the appropriate
   Status of This Memo text to be applied to IETF and IRTF documents.
   The Consensus field should be set by the responsible individuals, and
   it should be listed in the Agenda Package provided before an IESG
   telechat so that the Area Directors can quickly review the status of
   the documents under review and correct the field if Consensus was not
   received.

   Additionally, the Agenda Package provided before an IESG telechat
   should show the expiration date of the IETF Last Call. This will be
   helpful for the ADs and the Secretariat to track the IETF Last Call
   timeline.

When a document has been added to the RFC Editor queue (i.e., shows
an RFC Editor state in the Datatracker), an automated note should be
sent to the Secretariat as acknowledgment that the announcement has
been received.

4.2.1. Notifications

The Datatracker should notify the RFC Editor and the Sponsoring AD
when a version of an I-D has been made available after the document
has been approved for publication.

Additionally, the Datatracker should notify the RFC Editor and IANA
when the state of an I-D has been moved to something other than "RFC
Ed Queue" or "RFC Published" -- that is, when it should be removed
from the RFC Editor and IANA processing queues. See item 4) in
Section 3.1 for more details.

4.2.2. Datatracker Extensions for Alternate Streams

Once the Datatracker has been updated for the alternate streams
[RFC6322], the Datatracker should be updated so that the following
are automated:

- The Datatracker should not expire any I-Ds that are under review
   for publication.

- The Datatracker should automatically notify the approving body
   when an I-D that is under review has been updated (i.e., a new
   version has been made available).

- The Datatracker should be updated so that the Agenda package lists
   I-Ds according to the stream that requested publication. This
   should help provide additional clarity during IESG Reviews, as
   there will be a clear indication of from which stream a document
   originates.

4.2.2.1. Publication Requests

RFC 6322 [RFC6322] lists the requirements for extending the
Datatracker to account for alternate-stream states and annotations.
In particular, the document introduces the "Sent to the RFC Editor"
state, which means the document is complete and has been sent to the
RFC Editor for publication.

The Datatracker will provide a means for the alternate streams to
generate a uniform publication request. Using the Datatracker, the
stream managers should be able to generate a publication request that
contains the relevant information for any approved I-D.

Additionally, the Datatracker will provide the data (the same data
provided for any IETF publication request -- see Section 4.2) in a
machine-readable format. This data will be available to the IANA and
RFC Editor, so that data entry into the IANA and RFC Editor systems
can be automated.

This update will allow the IANA and RFC Editor to handle documents in
a similar manner, regardless of the document's stream.

4.3. Reporting Requirements

The Datatracker should have a "Show Discrepancies" feature. It
should show all records in the Datatracker that fit certain criteria
(that seem to be a discrepancy). In addition to showing data on
screen, it should send an email to defined interested parties at
regular intervals (e.g., weekly). This feature will only be
available to a subset of individuals (namely, IANA, RFC Editor, and
the Secretariat), to ensure that their queues are in sync. This will
be especially helpful as the Datatracker is extended (now and in the
future), to ensure that all parties are receiving the correct
messages/data.

An initial set of discrepancies should be defined, and additional
discrepancies could be defined over time. For example, the initial
set of discrepancies could include the following:

- Show drafts that have passed through the state "Approved
   Announcement sent" but do not have an RFC Editor state.

- Show drafts that have IANA state "In Progress", but RFC Editor
   State is not equal to "IANA" or does not contain "*A" (see
   Appendix B).

- Show drafts that have IANA state "Waiting on RFC Editor" or
   "RFC-Ed-Ack", but RFC Editor State is "IANA" or contains "*A"
   (see Appendix B).

- Show drafts that have a state of something other than "RFC Ed
   Queue" or "RFC Published" that are listed in the RFC Editor or
   IANA queues.

5. Security Considerations

This document does not propose any new Internet mechanisms, and has
no security implications for the Internet.

Appendix A. Current IANA States and Definitions

   The currently defined IANA states are listed below.

        * No value (blank) - A new document has been received by IANA, but
          no actions have been taken

        * In Progress - IANA is currently processing the actions for this
          document

        * Waiting on Authors - IANA is waiting on the document's authors
          to respond

        * Waiting on ADs - IANA is waiting on the IETF Area Directors to
          respond

        * Waiting on WGC - IANA is waiting on the IETF Working Group
          Chairs to respond

        * Waiting on RFC Editor - IANA has notified the RFC Editor that
          the actions have been completed

        * RFC-Ed-Ack - Request completed. The RFC Editor has acknowledged
          receipt of IANA's message that the actions have been completed

        * On Hold - IANA has suspended work on the document

        * No IC - Request completed. There were no IANA actions for this
          document

   IANA states are defined by IANA and are subject to change. If there
   are any discrepancies between the state names listed in this document
   and those listed on the IANA queue page
   (http://www.iana.org/about/performance/ietf-draft-status/), the IANA
   queue is definitive.

Appendix B. Current RFC Editor States and Definitions

   The currently defined RFC Editor Queue states are listed below.

      * AUTH = Awaiting Author Action

      * AUTH48 = Awaiting final author approval

      * EDIT = Approved by the stream manager (e.g., IESG, IAB, IRSG,
        ISE), awaiting processing and publishing

      * IANA = RFC-Editor/IANA Registration Coordination

      * IESG = Holding for IESG Action

      * ISR = Independent Submission Review by the ISE

      * ISR-AUTH = Independent Submission awaiting author update, or in
        discussion between author and ISE

      * REF = Holding for normative reference (followed by I-D string of
        referenced document)

      * RFC-EDITOR = Awaiting final rfc-editor review before AUTH48

      * TO = Time-out period during which the IESG reviews document for
        conflict/concurrence with other IETF working group work
        (followed by date)

      * MISSREF = Awaiting missing normative reference

   RFC Editor states are defined by the RFC Editor and are subject to
   change. If there are any discrepancies between the state names
   listed in this document and those listed on the RFC Editor queue page
   (http://www.rfc-editor.org/queue2.html), the RFC Editor queue is
   definitive.

   Currently, there are also a couple of state annotations used in RFC
   Editor state-change emails. These do not alter the Datatracker in
   any way, but are listed here for completeness:

      *A = indicates that IANA actions are required
      *R = indicates potential REFerence holds

Normative References

   [IDTRACKER] "The IETF Datatracker tool", Web Application:
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               RFC Series and RFC Editor", RFC 4844, July 2007.

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               IANA Considerations Section in RFCs", BCP 26, RFC 5226,
               May 2008.

   [RFC5741]   Daigle, L., Ed., Kolkman, O., Ed., and IAB, "RFC Streams,
               Headers, and Boilerplates", RFC 5741, December 2009.

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               Document States", RFC 6174, March 2011.

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