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**Datatracker Extensions to
Include IANA and RFC Editor Processing Information**
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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

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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 [[ALT-STREAMS](#)], 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.

NOTE: The IANA and RFC Editor are independent functions and they retain ownership of their data, state names, and tracking systems once a document enters their queues. This document discusses how the data from the IANA and RFC Editor queues can be better reflected in the Datatracker for ease of the community. If there is any discrepancy, the IANA and RFC Editor data are definitive (post approval for publication). Prior to a document being approved for publication, the Datatracker is definitive for tracking IANA status information. The Datatracker should only allow for states in which it is definitive to be administratively edited.

RFC Editor data is not editable via the Datatracker. The only way for RFC Editor substates to be updated in the Datatracker is to retrieve data from the definitive RFC Editor database.

Post approval, IANA data is not editable via the Datatracker. The only way for IANA substates to be updated in the Datatracker is to retrieve data from the definitive IANA database.

2. Integration of Data between the IANA and Datatracker

2.1. IANA Information To Be Added to the Datatracker

Currently, IANA reviews and touches documents at 4 different stages in the process from I-D to RFC for IETF stream documents: 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 and INDEPENDENT streams, the IANA review process begins when IESG Review is requested. For the IAB 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 example of how IANA state information could appear in the Datatracker for [draft-example-00](#) below).

- 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 or IANA OK, 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 doc is dependent on another doc (e.g., doc B registers values in a registry created by doc 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 that 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".

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), 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" substates 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 ADs are aware that there are still IANA considerations 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 Revision - 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 (the author-approved actions). This will include the same information that is sent to the RFC Editor once the actions 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 IAOC to update the Datatracker as necessary.

- RFC Publication

References to I-Ds are updated to refer to the RFC once 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.

Additionally, 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 look 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/queue.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, 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 tab. The state change in the Datatracker will trigger an email message to the RFC Editor and IANA as notification that the state of the doc has been set to "state" (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 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 detail.

4.2.2. Datatracker Extensions for Alternate Streams

Once the Datatracker has been updated for the alternate streams [[ALT-STREAMS](#)], 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 to list I-Ds according to the stream that requested publication in the Agenda Package. 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

"Data Tracker States and Annotations for the IAB, IRTF, and Independent Submission Streams" [[ALT-STREAMS](#)] 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 our 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:

- 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. IANA Considerations

This document does not request any IANA registrations.

6. 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

- [ALT-STREAMS] Hoffman, P., "Data Tracker States and Annotations for the IAB, IRTF, and Independent Submission Streams", [draft-hoffman-alt-streams-tracker](#), September 2010.
- [IDTRACKER] "The IETF Datatracker tool", Web Application: <https://datatracker.ietf.org/>, September 15, 2010.
- [RFC2026] Bradner, S., "The Internet Standards Process -- Revision 3", [BCP 9](#), [RFC 2026](#), October 1996.
- [RFC4844] Daigle, L., Ed., and Internet Architecture Board, "The RFC Series and RFC Editor", [RFC 4844](#), July 2007.
- [RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", [BCP 26](#), [RFC 5226](#), May 2008.
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