

RPC Self-Evaluation for 2023

In 2023, the RFC Production Center (RPC) continued to adapt to the RFC Editor model as it is defined in RFC 9280, prepare for tools modernization, and publish RFCs. This review highlights RPC performance regarding RFC editing and publication, improvements to processes, engagement with the community, and some challenges incurred throughout 2023. It also offers a glimpse of what to expect in 2024.

Terminology

The following terms are used within this document:

Cluster: A cluster is a set of two or more documents that are intended to be published together. They are usually linked by normative references. See [“What is a cluster?”](#) for more information.

DGTE (Documents Gone to EDIT): This is the number of documents entering EDIT state during a given time period. It includes newly approved documents that are entering EDIT and documents moving from MISSREF to EDIT. DGTE is the counterpart to PGTE, as it is the number of documents that make up PGTE.

EDIT: This state indicates that the document is awaiting editing or is actively being edited.

MISSREF: This state indicates that the document is waiting for one or more normative references to be added to the RFC Editor queue. Once the final document has been approved for publication, the cluster will move through the queue together. See the queue [definition](#) for details.

PGTE (Pages Gone to Edit): This is the number of pages entering EDIT state during a given time period. It includes newly approved documents that are entering EDIT and documents moving from MISSREF to EDIT. Per the current Service Level Agreement (SLA), PGTE determines the expected turnaround times on a quarterly basis. See [Reports](#) for more information.

RET (RFC-Editor Time): RET is the total of EDIT + RFC-EDITOR time in the queue. It represents the time the document is being actively managed and edited by the RPC; it excludes the time the document spends in third-party holds and/or MISSREF state.

SLA tier: There are three SLA tiers, each with different expected turnaround times. See [Reports](#) for more information.

Third-party hold: Work on a document can be suspended while the RPC waits for a third-party response. Holds include the RPC waiting for IANA to complete their actions or a stream manager asking the RPC to stop work while the authors or working group work on a recently discovered issue.

Document Throughput and Editorial Quality

Throughput

Table 1 shows the number of documents and page counts moving into and out of the queue over the last few years. It also provides some details about their processing times. Processing times increased in 2023, with more than half of the documents having processing times greater than 12 weeks.

Year	2018	2019	2020	2021	2022	2023
Docs to EDIT (PGTE)	235 (6663)	231 (7420)	180 (5389)	188 (7232)	203 (5936)	184 (5433)
RFC Pubs (pages)	208 (5631)	180 (5152)	209 (5212)	240 (6386)	194 (5811)	173 (4222)
RET <= 6 wks	46%	40%	12%	29%	39%	5%
6 < RET <= 12 wks	52%	47%	14%	45%	48%	27%
RET > 12 wks	2%	13%	74%	26%	14%	66%
Median RET	6.4	9	16.6	9	7.3	14.4
Clusters	34%	41%	33%	49%	44%	35%

Table 1. Document Production

Note: the publication number for 2021 is unusually high because a 47-document cluster (C238) was published. The number of documents moving into edit is not elevated, as the documents were approved over time, with a large number being released into the edit queue at the end of 2019 (in the midst of transition to v3 XML).

The RPC is not meeting the [currently defined SLA](#), as shown in Table 2. The SLA has not yet been updated to reflect the additional workload required by the transition to v3 XML or the additional responsibilities created by RFC Editor Model version 3. As noted in our report last year, there is agreement with the LLC that the SLA needs to be redefined. In addition, the RPC was asked to “focus resources on the transformational projects rather than trying to bring performance in line with the SLA” (e.g., tools modernization, document complexity, and RFC Editor Model v3 implementation). Because of the delay in when something begins to affect processing times, we are only now seeing the effect of the transformational projects on stats.









	2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Submissions								
Pages	1983	1589	1396	1707	1535	1077	1233	1221
Docs	60	49	48	46	53	51	35	37
PGTE	1590	1212	1435	1699	1316	1306	1234	1250
Publications								
Pages	1416	1715	1603	1077	967	770	1325	1160
Docs	44	58	56	37	37	33	57	46
Docs met SLA	15	20	18	21	5	1	1	2
SLA tier	Tier 1	Tier 1	Tier 1	Tier 1	Tier 1	Tier 1	Tier 1	Tier 1
SLA								

Table 2. Production Times and the Service Level Agreement

Figure 1 shows the annual submission, DGTE, and publication rates. Note that submissions include all documents approved by the streams in the given year, while DGTE represents the number of documents moved to EDIT in the given year.

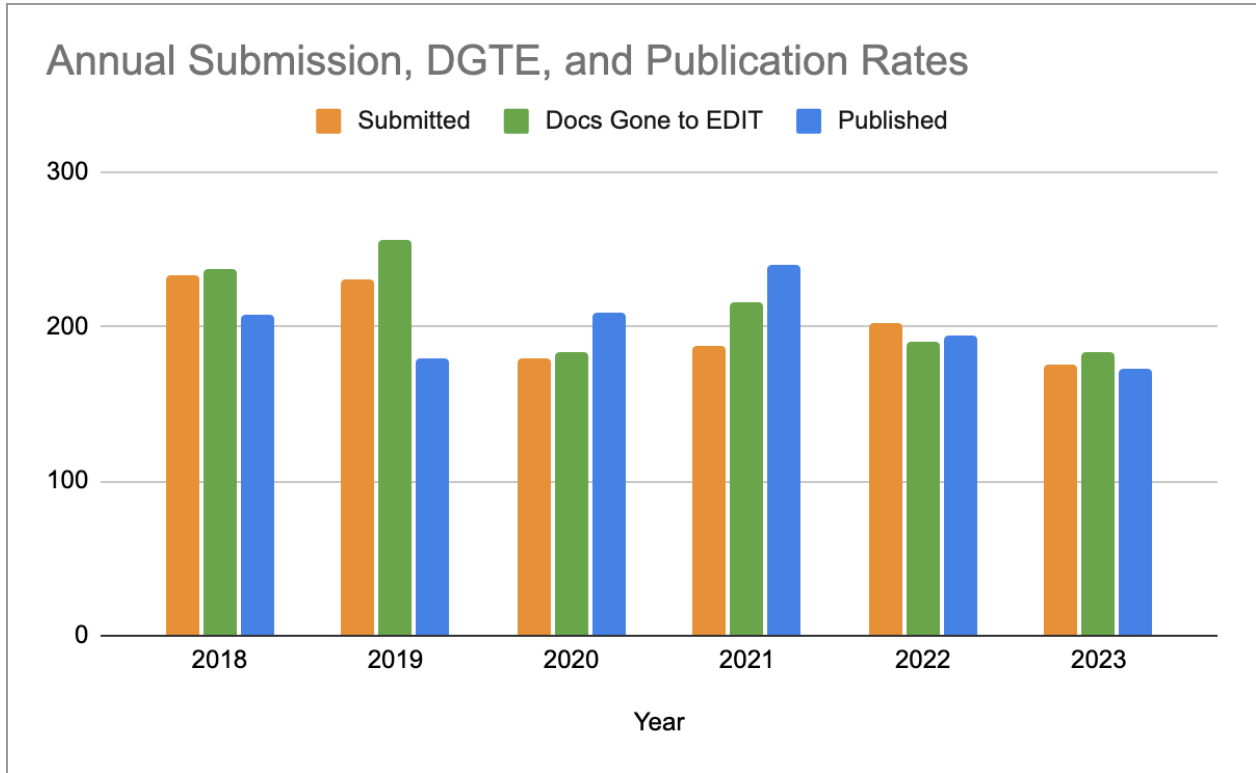


Figure 1. Annual Rates for Document Submission, Documents Gone To Edit, and RFC Publication

Document Sources

The number of v3 XML source files submitted by authors increased slightly in 2023 from 2022, the result was fewer drafts requiring [id2xml](#) to generate an XML file. As shown in Figure 2, id2xml was used fairly consistently in earlier years. However, in 2023, only 3% of the drafts were submitted without an XML-based source file, which is a decrease from 6% the year prior.

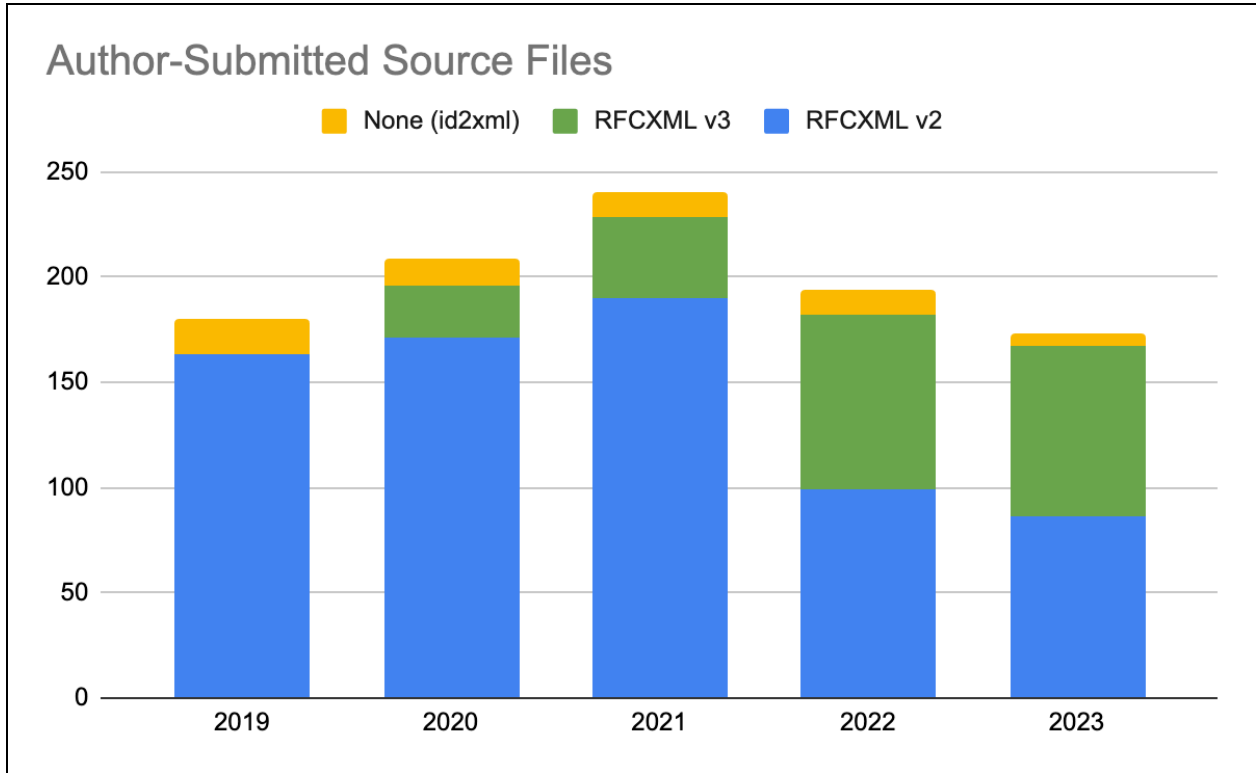


Figure 2. RFC Source Files Submitted by the Authors

When an XML source file is not provided, significant effort is required in using id2xml to create a working v3 XML source file. v2 XML source files sometimes require additional formatting, depending on which features authors have taken advantage of; for example, tables and complex lists may be included as artwork.

The following figure shows that 84% of the RFCs originated within the IETF (includes IETF working group and individual submissions) and that 64% of those are Standards Track. 8% originated from the IRTF, 6% from the Independent Submissions Editor, and 1% from the IAB. Note that the percentage of IETF Stream documents is similar to 2022, whereby 82% of the RFCs originated from the IETF.

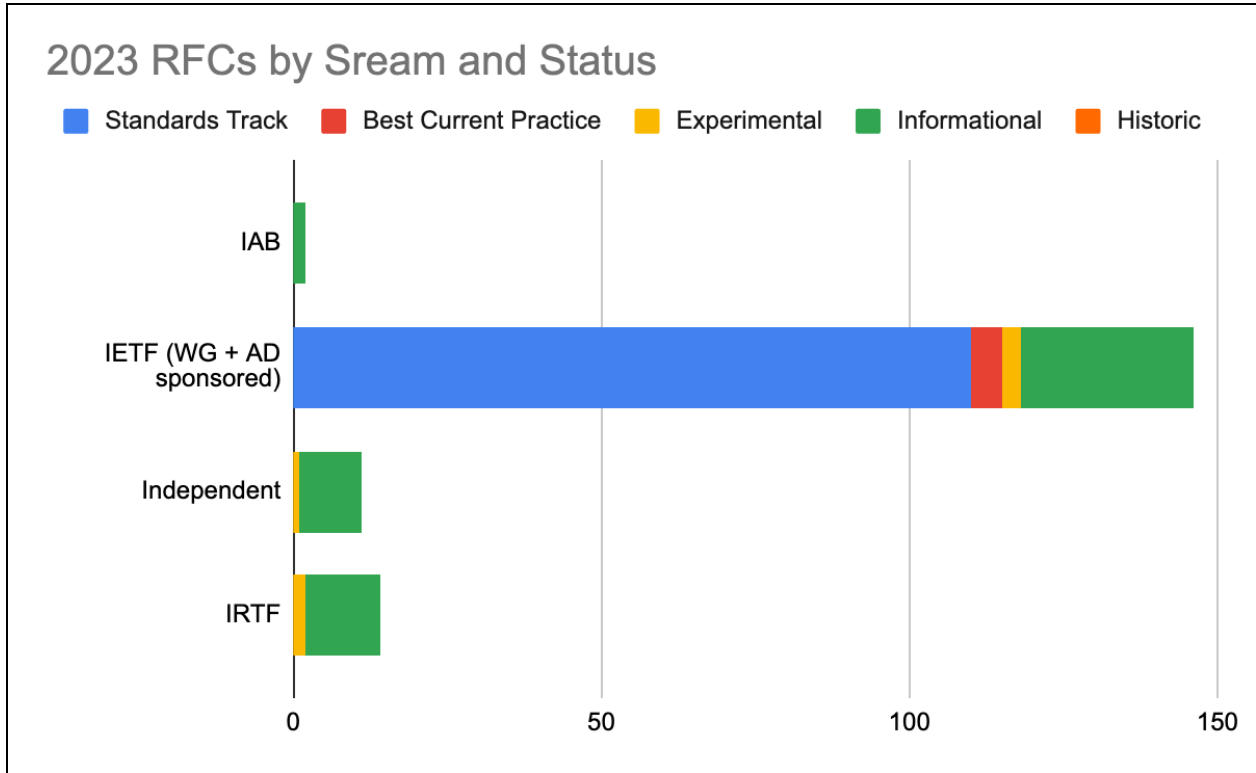


Figure 3. RFCs by Stream of Origin and Status

Author Feedback

Once an RFC is published, the authors and document shepherds are asked to provide feedback about their experience with the RPC. In 2023, the survey was sent to 614 individuals and had a 20% response rate. Figure 4 groups respondents by the number of RFCs they have published. It shows that just over half of the respondents are experienced authors, having authored 5 or more RFCs. 31% were first-time RFC authors, and 18% have authored between 1-5 RFCs.

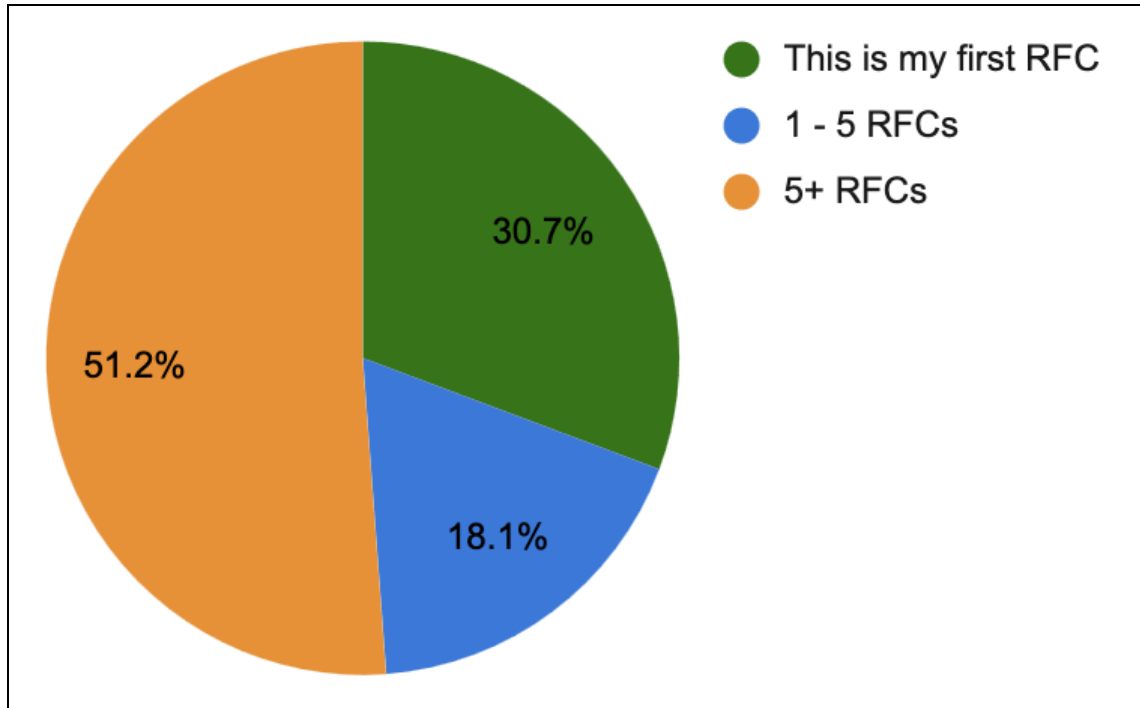


Figure 4. Number of RFCs Authored by Respondents

There was a 98% overall satisfaction rate per feedback via the post-publication surveys, which is a 4% increase in overall satisfaction from the year prior. Some of the respondents provided these comments of appreciation:

Thank you, this editing is highly valuable, especially for non native English speakers.

The editor team did a terrific job of keeping communication open, providing feedback, and helping to find good solutions to challenges. Thank you!

Generally very happy with RFC Editor services. Clear improvements in quality of text.

Figure 5 shows the overall satisfaction rates, whereby 41% of the respondents indicated that the editors made their documents “significantly better”; 56% indicated the editors made their documents slightly better; and 2% indicated the editing had no effect on the readability of their documents. There were 0 responses indicating that the editors made the drafts less readable.

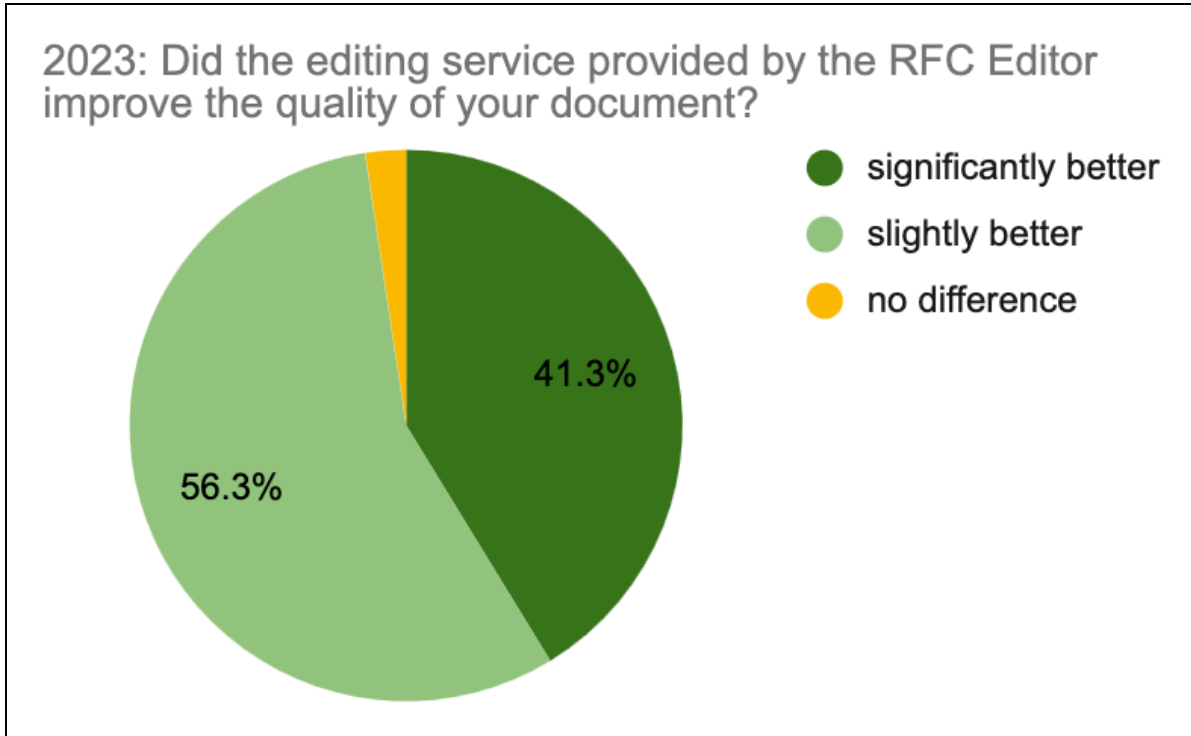


Figure 5. 2023 Post-publication Survey Results

Of the first-time authors and those that published between 1-5 RFCs, approximately half of the respondents indicated that the RPC improved their document significantly while the other half indicated that the editors slightly improved their document. Of the respondents that published 5 or more RFCs, 17% indicated that the RPC improved their document significantly, while 32% said the editors slightly improved their documents; 2% indicated that the editors had no effect on the readability of their documents.

The survey also asks for suggestions that would facilitate the AUTH48 review and allows authors to provide free-form comments. Of those providing comments, 38% suggested that no changes are needed; 24% indicated they would prefer a GitHub (or similar) process; and 8% requested that the RPC edit in markdown. The remaining 30% suggested some other process improvement.

Some of the suggested improvements include the following:

Be faster and enforce the AUTH48, that is two days, rule. Pinging after a week leads to much delay. Therefore, the authors don't take this AUTH48 process seriously.

We had several drafts in sequence. Some changes (tens to hundreds) seemed to be made in an automatic way, not considering complete change of meaning of sentences. Creating a lot of work to catch and undo the changes. Better thinking about the meaning of changes would help a lot.

Clarify a clear timeline when what processes must be completed.

We review the feedback received and explore whether suggestions are actionable regularly. As needed, we discuss specifics and update our practices. For example, while we do not make updates in an automated fashion, the team discussed the need to consider context when making changes. Although the author indicated that the editors “creat[ed] a lot of work”, the author felt the end result was an improvement to their document.

Note that the post-publication survey is not the only way authors provide feedback about their experience. We also receive the feedback directly from authors during AUTH48 and by way of errata. As an example of how we examine errata for ideas on potential process improvements, [EID 7784](#) reported a bad reference to a section within an RFC that was published simultaneously. While we check section references as the documents are being edited, this change to the section number occurred during AUTH48. As such, we are discussing when and where this check should occur to avoid duplication of effort and minimize these types of errors.

We note a few responses have a similar desire for RFCs to be produced more quickly and for AUTH48 to be quicker and smoother. It is difficult to improve production times while overhauling the tools used to track and produce RFCs. However, we are investigating whether the RPC can provide better predictive details about when authors should expect their document to enter AUTH48 (see Document Complexity below), and we expect tools modernization to increase transparency and improve visibility regarding action item holders. We are also exploring larger changes to AUTH48, such as wider use of GitHub for AUTH48 and authors and related parties providing their AUTH48 approvals via the Datatracker.

Stream Manager Feedback

In addition to author and document-shepherd feedback, we received the following from the ISE, the IRTF Chair, and the IAB Chair regarding the RPC’s performance of its primary responsibilities, for example:

- formatting, editing, and publishing RFCs in a timely manner
- liaising, training, and communicating with the community
- facilitating and experimenting with the publication process
- adopting new policies/guidance and v3 of the RFC Editor model

Eliot Lear, as the ISE:

- *formatting, editing, and publishing RFCs in a timely manner*

This is the primary job, and I think the team has done a great job and should be really proud of themselves, even when I've thrown them text that only vaguely resembles English.

- *liaising, training, and communicating with the community*

The team has done well, but I think it would help the RSAB and RSWG if we got quarterly updates as to what is working and what is not, what the RPC thinks would help authors and readers, etc. Also, it would help to understand tooling advances, what's next.

- facilitating and experimenting with the publication process

We did one experiment with Marc Nottingham's draft. The one thing I would like, and it is not too late, is a query from the team about how I felt things went.

- adopting new policies/guidance and v3 of the RFC Editor model

Here the team executed extremely well.

I'm really pleased to be a part of this process and to be able to collaborate with such a high quality team.

Colin Perkins, as the IRTF Chair:

From the IRTF side, everything seems to be running smoothly with the RPC.

The RFCs are being published in a timely manner, with the overwhelming majority of delays being due to unresponsive authors or documents blocked awaiting references. There have been a number of cases where tooling bugs have been found, due to some drafts pushing the envelope in formatting (e.g., math notation in RFC 9340), but there have been handled smoothly and the problems were resolved efficiently.

Interactions between the RPC and the IRTF community are running smoothly, as far as I can tell. The RSAB and stream manager meetings seem useful from my side and I hope are also for the RPC.

Experiments with GitHub for RFC production are taking place. Some authors seem very keen to proceed with these, others less so. I think the RPC is moving at about the right pace here.

Overall, I'm happy with the way the RPC is working. No concerns.

Mirja Kühlewind, as the IAB Chair:

- formatting, editing, and publishing RFCs in a timely manner

I think I can comment here more as an author than a stream manager, as I don't monitor the process for each IAB stream document that closely. I generally think that input and responses for the RPC are very timely. However, you know that there is a generally community discussion about efforts and delays in auth48. This is more on the authors and also because of the process we have for auth48. However, I think the current process is also not very author friendly as it is easy to "loose" a long email from the RPC in your already overfull mail inbox. This is to some extent related to tools and therefore might touch on other points below, however, I generally see room for improvements.

- liaising, training, and communicating with the community

I think your outreach to the community regarding e.g. the GitHub experiments was really good and well received by the community; and hopefully provided useful input to you as well. Generally I believe the RPC has good visibility and is well respected.

The RSWG and the whole new RFC editor model is still finding its way and interaction so far has been valuable and well received, I believe. However, I personally think the RPC, potentially in close collaboration with Alexis/the RSCE, could take an even more active role in the RSWG, e.g. in writing and proposing new drafts.

The interaction with the RSAB works well I think. I believe and hope that the policy decision process that we established works well for you and supports your work in a positive way. I would say in the new RFC editor model the RPC has more responsibility, however, for me the RSAB also has a role in support the RPC when needed. We I don't see a requirement to inform the RSAB about "everything" you are doing, but I think you could use RSAB as a forum to also reach out informally to just sneak some input as you do with the stream managers (and it does also help the RSAB to have a good understanding what RPC issues are and how you are working).

Regarding training, I believe you did have some initiative at some point to support non-native writers (or probably writers in general). Is that still on-going? I don't think I'm actually aware of current training activities. Is that publicly document somewhere?

- facilitating and experimenting with the publication process

I think here are some of the major challenges for the coming years regarding the modernisation of tooling of processes, e.g. use of git. I think you are making good process here but I also feel that maybe there is a need to move a bit faster. E.g. I wasn't able to join the git workshops myself; I understood there was some good and valuable discussion. However, what the current state and future plan and time line?

- adopting new policies/guidance and v3 of the RFC Editor model

I don't think we even got the new RFC model to the point that we have any new policies yet. The RSAB process and resulting guidance is from my point of view rather a tool that should ensure that you can progress and don't get blocked. Thus it's mostly to support you. I think you have to tell us if the established processes and interactions so far actually addresses those goals and your needs!?

Our takeaways from the feedback are the following:

- We will provide regular reports to the RSAB and RSWG.
- We will continue to engage with RSWG and are planning to share I-Ds regarding the errata system and style guide.
- We also find interactions with RSAB to be useful and will continue to bring policy questions to them.

Though the RPC is not currently offering sessions to help authors improve the clarity of their I-Ds, the team continues to provide help by a) suggesting updates to author.ietf.org, b) hosting office hours at each IETF, and c) responding to various questions via email.

Process Improvements

GitHub Training and Experiments

The RPC widely expanded their GitHub training and experience in 2023. The team held multiple team-wide hands-on training sessions to boost familiarity and knowledge of GitHub. The training sessions provided a solid foundation that allowed two-thirds of the editors to engage in live experiments using GitHub for AUTH48.

GitHub experiments:

Document	Date of pub	GitHub Repo	Source files
RFC 9345	Jul 2023	Repo	kramdown-rfc
RFC 9380	Aug 2023	Repo	kramdown-rfc
RFC 9366	Mar 2023	Repo	kramdown-rfc
RFC 9518	Dec 2023	Repo	kramdown-rfc

Note that all of the experiments were carried out using kramdown-rfc as the sourcefile. Although the RPC does not currently support editing in kramdown-rfc and kramdown-rfc is not maintained by the IETF Tools Team, we have taken on the task of experimenting with editing in kramdown-rfc when using GitHub for AUTH48. The experiments have been challenging because of the following: we have been learning kramdown-rfc and documenting our use as we go, and we have been using the GitHub GUI exclusively because of a lack of tools integration. In addition, we make mistakes as we learn and also make decisions to meet our needs that don't necessarily meet author expectations.

Participant feedback on the use of GitHub has been mixed, but it is clear that the process needs improvement. The following are some of the comments received from the authors for the experiments noted above:

Q: What parts of the process would you like to see changed in a future experiment?

- 1. Please just use the WG repo. 2. Submit **all** RPC changes as PRs. 3. Every RPC version should be in GitHub, not just on the RPC Web site.
- n/a, I liked it!

Q: What were the advantages of using GitHub during AUTH48?

- easy track of changes
- We didn't use GitHub in the way it was supposed to be used during AUTH48, so it's hard to say.
- Clear and quick communication about the changes and author questions.

The RPC hosted a workshop to discuss the use of GitHub during AUTH48 at IETF 117 (July 2023) with the goal of finding a way forward where everyone would be happy. Many participants, including those who had negative views of our experimental processes, provided useful feedback, which has informed our more recent GitHub experiments and our thinking of branch management strategies. [Notes](#) for the meeting can be found on our wiki.

We are using these experiments to create and update procedures for using GitHub and kramdown-rfc, and continue training our staff on these experimental processes.

Document Complexity

In 2022, the RPC started to track data about the degree of complexity associated with Internet-Drafts in an attempt to determine better predictive information about items such as level of effort to edit a document, when a document will move to AUTH48, and overall staffing resources. We captured data about each document as Internet-Drafts progress through the editorial process. As part of this analysis, in addition to document length and cluster coordination, we looked at things such as:

- the author-submitted format and formatting workload to get into publication-ready shape
- the required updates to IANA-related text
- whether code needs to be formatted and checked; is there related boilerplate that needs to be checked
- the number of clarifying questions sent to the authors

In 2023, the RPC examined a year's worth of data and was unable to identify a relationship between the level of complexity and how long it takes to move a document to AUTH48. We note that there is a base level of effort associated with each document, and we attempt to mitigate extended processing times by assigning the most complex documents to more experienced editors. The RPC shared this data with the LLC, who contracted with a third party to further research the data.

RPC Training: Intro to Unicode

In May 2023, Peter Saint-Andre provided an overview of Unicode for the team to help the editors better understand the complexities associated with non-ASCII characters. For example, he explained confusable characters and highlighted some issues that may occur in RFCs (e.g., display of languages that are read RTL).

Improvements to the Current Toolchain

Programming efforts during 2023 included improvements to external pages and internal workflows, as well as providing data and documentation. Highlights include:

For the organization of code and files:

- moved the code for the RPC stats & metrics site to a GitHub repo (<https://github.com/rfc-editor/rsestats>)
- stopped serving XML reference files (as mentioned in [mail to rfc-interest](#))
 - redirects are in place (e.g., <https://www.rfc-editor.org/refs/bibxml/reference.RFC.2119.xml> to bib.ietf.org)
 - rsync 'refs' module removed; [rsync instruction page](#) updated.
- Removed the I-D mirror on rfc-editor.org as of 25 Sept.
 - Community was notified 8 Sept: [mail to rfc-interest](#)

For the errata system:

- updated to prevent submission of errata against RFC numbers that don't exist.
- edited text of the notification mail template to be clear that spam is handled by the RPC.
- deployed improvement of input validation on the errata submission form (section field).

For supporting the RSCE:

- added (and later removed) a link to a short Torchbox survey from www.rfc-editor.org.
- set up automated monthly mail of RFCs published each month.
- provided the data set of the RFC series and additional documentation.

For the internal staff pages:

- added a new staff view of the current queue which has a feature for sharing notes about the drafts in queue.
- documented and improved the method for updating errata verifier logins.
- made various improvements to the staff workflow (e.g., prevented edits to an essential field after publication, two separate fixes on the AUTH48 status edit page, which we use to edit the status page provided to authors during AUTH48).

For the public website:

- made various improvements to the RFC info pages
 - For “Cite this RFC”, added link to BibTeX file.
 - For “Discuss this RFC”, added words to indicate it's a mailing list.
 - For files, added link to “XML file for editing” ([notprepped.xml](#)).
- identified and corrected an issue that had caused CrossRef registration of DOIs to stop working.
- fixed various bugs (including on the cluster AUTH48 page (e.g., <https://www.rfc-editor.org/auth48/C461>) and the stats & metrics site)

Community Support & Engagement

Style Guide

The RPC created a GitHub [repo](#) to draft an update to the RFC Style Guide as defined in RFC 7322. The draft was updated minimally and posted to the Datatracker. The GitHub repo is public, so we are actively noting and discussing possible updates as they arise.

Errata Support

The RPC performs an initial review of all submitted errata, regardless of type (i.e., whether they are classified as Editorial or Technical). For example, the RPC determines if the report is junk or a duplicate of an existing report and checks that the report is valid (meaning the errors appear in one or more of the files available on [rfc-editor.org](#)), the section is correctly identified, and the erratum displays properly (e.g., bad line breaks).

As such, the RPC performed initial reviews on approximately 450 errata submitted in 2023. We verified 46 reports, marked one as Held For Document Update, and rejected 3. The editors changed the type of 36 to be Technical, and flagged 27 as needing further internal review. At least 175 reports were deleted from the system as junk (note that 71 were part of an attack in early 2023).

RSAB

The RPC met with RSAB in person at IETF 117 (see the [minutes](#)). In addition, as defined in RFC 9280, the RPC sought input from RSAB on the following during 2023:

- **using non-ASCII chars for math notation:** [thread](#)
RSAB was asked to clarify the policy about using non-ascii characters. The discussion resulted in an update to the [Online Portion of the Style Guide](#).
- **Headers and Boilerplate documentation:** [thread](#)
The RPC confirmed there were no concerns with replacing the draft replacement for the [Headers and Boilerplate material](#) that was hosted on the IAB site. The page now redirects to the RFC Editor [site](#).
- **Policy question: Request to RSAB regarding RFC-to-be 9458 <draft-ietf-ohai-ohttp>:** [thread](#)
RSAB was asked for input regarding whether links need to be distinct from surrounding text and the number of links included within a given document (they were used in draft-ietf-ohai-ohttp for internal section mentions, references, definitions, and index purposes).

RPAT

The RFC Production Center Advisory Team (RPAT) was created in mid-September 2022 to advise on operational practices and issues affecting production. The team has advised on many topics, for example, sourcecode types and rerendering. For more detail, see the [list archive](#). Peter Saint-Andre, editor of RFC 9280, former member of RSOC, and an inaugural member of RPAT, retired from RPAT in 2023. He had a significant impact on the evolution of the Series and the team.

RSWG

The RSWG has had active email discussions and has held six meetings (both at IETF and online interims) in 2023.

The following documents were adopted by the working group and are still under active discussion:

- draft-rswg-rfc7990-updates, "Updated RFC Format Framework"
- draft-rswg-rfc7997bis, "The Use of Non-ASCII Characters in RFCs"
- draft-rswg-xml2rfcv3-implemented, "The "xml2rfc" version 3 Vocabulary as Implemented"

Of interest to the RPC are the topics of rerendering outputs, updating XML files, embedding XML in the PDF output, and the completion of draft-rswg-xml2rfcv3-implemented so that new RFCXML features can be considered. We are looking forward to a bis of RFC 7992 that will address accessibility issues in the current HTML output.

The chairs made the following call for consensus in November:

What the chairs took away from the [118] meeting is that people in the room thought that the RPC, having performed well for the community over many years, should be generally empowered to use their best judgement and make decisions about how to handle changes to both the XML and publication formats for existing RFCs. Insofar as a policy is needed, the sense of the room was that the policy should be "The RPC should use their best judgement". We would like to call consensus on this.

...there are clearly going to be some overarching policy issues with regard to XML or publication formats that we're going to create policies for. The take-away was that as a "general" principle, we would default to allowing the RPC to use their judgement. We (the chairs) did think that outcome of the face-to-face session implied, e.g., that the recent list discussions of what particular formats needed to be archived or how frequently or under what circumstances rendered formats need to be regenerated fell under the category of "use their best judgement". That's not because coming to consensus around those questions was "too hard", but that they were the decisions that didn't need a particular policy statement from the group.

For more detailed information, see the [mail archive](#).

RSCE

We meet with the RSCE regularly to discuss various topics (e.g., what metadata needs to be retained when rerendering). As noted in the RSCE's [update to the RSWG](#), a revamp of rfc-editor.org is underway. The RPC met with the RSCE to discuss content organization during IETF 117. We expect to be heavily involved in moving content into a new CMS.

IETF Attendance

Editors represented the RPC at each of the in-person meetings during 2023. Of particular note, with the LLC's support, the majority of the RPC attended IETF 117 in person. For many, it was their first time attending an IETF meeting. Feedback indicates that attendance is beneficial - editors met with the authors, gained wider awareness of how the process works and where the RPC fits within the ecosystem, and are more engaged and committed to the communities with which they work. In addition to hosting daily office hours to meet with the community, the editors attended various working group sessions for general awareness (e.g., gendispatch), leadership meetings (e.g., IESG), and RFC-specific sessions (i.e., RSAB, RSWG). They also took advantage of the face-to-face time to have an additional GitHub team training session, and participated in the card-sorting exercise with the RSCE.

Tools Modernization

After the Tools Modernization PM had interviewed publishers at other standards development organizations and had researched off-the-shelf solutions, the RPC decided to take her recommendation to replace the queue management system with a datatracker application and to replace their current editing tool chain, in which Emacs along with myriad scripts are used, with editing software based on Visual Studio Code libraries. These applications are being created by the IETF Tools Team.

To support the development of these applications, the RPC documented the existing tools chain and reviewed the issues opened against it. The Tools Modernization PM is working closely with the IETF Tools Team while development is underway and has created user stories, flow diagrams, and wireframes to communicate requirements.

Work has also started on rethinking the errata system. The RPC met with Stream Managers to discuss what a new system might look like, and discussions are happening on the RSWG mailing list. The RPC is considering an archive mailing list similar to the auth48archive list as a temporary measure to address transparency concerns.

Challenges

Challenges for the tools modernization effort include the migration of the server that supports all RPC editing and publication activity to the cloud as a temporary measure before new systems are in place. This migration effort is taking most of the IETF Tools Team's cycles and development work has slowed on new RPC tools, making scheduling estimates difficult.

Last year, we noted editor turnover as a challenge, "because new-staff training is time intensive." Two additional editors were brought on at slightly different times in mid-2022, and an additional editor started mid-2023. Having three newer editors with varying levels of expertise on the procedures and practices continued to be a challenge throughout 2023, as each required training and mentoring from senior editors.

Errata processing has also proven to be a time-intensive task. Originally, the errata process was defined to remove the RFC Editor from the approval chain, as one of the goals was to "distribut[e] the responsibility for verification to the appropriate organization or person for each RFC stream" (see [draft-rfc-editor-errata-process](#)). With the [IESG Statement on Processing Errata](#) in May 2021, the RPC became the primary verifier for Editorial errata. As such, we inherited a backlog of Reported Editorial errata that needed to be reviewed. The IESG recently (in 2024) decided to focus on clearing the backlog of errata and has asked the RPC to partner with them in this effort. Keeping up with incoming errata has left little time to work on the backlog, so we will be devoting some additional time to clearing the backlog of editorial errata.

A major challenge has been for the RPC to balance timely production of RFCs while investing time in ongoing editor development and other needed projects, for example GitHub training and experimentation, tools modernization, and infrastructure transition to the cloud. In addition, the production times are affected by added complexities of v3 XML, for example, how and where non-ASCII characters are allowed, the appropriate display and number of links, and best practices for indexing.

Rerendering RFCs has been a frequent topic in the RSWG, and the working group has indicated that the RPC should use their judgment when deciding to rerender documents. Rerendering a few documents that have a particular issue in one output is not difficult; however, rerendering the entire set of RFCs that were published in v3 has time and tooling implications. For example, rerendering the PDF file of an already published RFC means checking to make sure that no other changes (beyond the intended corrections) have been introduced. We have not found a PDF diff tool that helps us quickly assess whether unintended changes have been made to the PDF output.

Looking Ahead

2023 laid the foundation for the metamorphosis expected in 2024 and beyond. Not only will our queue management system be replaced by an extension of the Datatracker, but the editors will learn a new editing system. The tools will increase transparency and automation, and will streamline processes. In addition, the team will continue to familiarize ourselves and experiment with GitHub and kramdown-rfc, and solidify a process that satisfies both the requirements of the authors and RPC editors. Note that wider use of GitHub and kramdown-rfc is tied to future tooling enhancements. We expect to support editing in kramdown-rfc in response to requests from the community and in recognition of the number of authors drafting their I-Ds in kramdown-rfc ([stats](#) from the Tools Team indicate that a sizable portion of I-Ds are being drafted in kramdown-rfc).

We will also be reviewing the output and recommendations of the third party reviewing complexity data, and reviewing if and how recommendations can be applied. In addition, the team expects to begin training on accessibility in order to provide guidance to authors regarding alt descriptions for figures and assist with website reorganization in collaboration with the RSCE.

Note that in addition to the transitions mentioned above, the RPC is also bringing on board a citation specialist to perform fact checking and to make recommendations for the style guide.

With so many large projects looming in 2024, we expect a temporary increase in document processing times and possibly a decrease in throughput as these transitions take place. However, the RPC will work diligently to minimize production delays while continuing to examine possible tool enhancements once the modernization foundation is in place (for example, we expect to explore and build consensus for an errata system overhaul).