Document Lifecycle Tutorial



IETF 70
Vancouver, Canada
2 December 2007

Overview of This Tutorial



- 1. Where do RFCs come from?
- 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
- 3. The lifecycle from Internet-Draft to RFC
- Common questions and where to look for more information

1. Where do RFCs come from?

4 document streams as defined in RFC 4844:

- 1. IETF
 - Working Group
 - AD-sponsored (aka Individual)
- 2. IAB
- 3. IRTF
- 4. RFC Editor (Independent Submission)

Streams in Relation to Categories

As described in RFC 3932:

- **IETF** IETF WG to Standards Track: Includes WG consensus, review in the IETF, IETF Last Call, and IESG approval
- IETF IETF WG to Experimental/Informational: Includes WG consensus, review in the IETF, and IESG approval
- **IETF** AD sponsored to Standards Track: Includes review in the IETF, IETF Last Call, and IESG approval
- **IETF** AD sponsored Individual to Experimental/Informational: Includes some form of review in the IETF and IESG approval

IAB / IRTF Documents for which special rules exist

RFC Editor RFC Editor documents to Experimental/Informational

RFC Categories

- RFC 2026 defines specification maturity levels:
 - Standards track: Proposed, Draft, Standard.
 - Non-standards track: Experimental, Informational, Historic.
 - "Almost standard": Best Current Practice.
- Shown on RFC header as "Category:"
 - Except, one category "Standards Track" for PS, DS, S.
 - Often called "status".
- A published RFC can NEVER change, but its category can change (see rfc-index.txt).

AD-sponsored (Individual)

RFC Editor (Independent)

Post as an Internet-Draft.

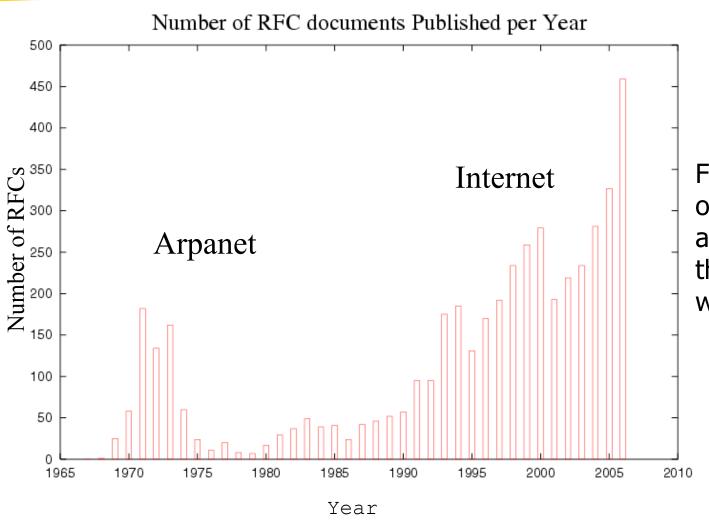
- Contact the relevant AD.
- Standards Track,
 Experimental, or
 Informational category.
- See ION

 http://www.ietf.org/IESG/c
 ontent/ions/ion-ad sponsoring.html

- Contact the RFC Editor.
- RFC Editor reviews and decides whether publication is appropriate.
- IESG reviews for conflict with any WG, makes publish/do-not-publish recommendation.
- RFC Editor has final decision, with advice from Editorial Board.
- Only Experimental or Informational category.
- See <u>www.rfc-editor.org/indsubs.html</u> and RFC 4846.

For a discussion of when a document cannot be processed as an independent submission, see RFC 3932.

RFC Publication Rate



For more informa on the RFC Series and its history, se the tutorial slides www.rfc-editor.or

Overview of This Tutorial

- ŧ
 - 1. Where do RFCs come from?
 - 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
 - 3. The lifecycle from Internet-Draft to RFC
 - Common questions and where to look for more information

Writing an Internet-Draft

- All RFCs start with an Internet Draft
- A well-formed RFC starts with a well-formed I-D.
 - http://www.ietf.org/ID-Checklist.html
 - http://www.ietf.org/ietf/1id-guidelines.txt
- Authoring tools
 - http://www.rfc-editor.org/formatting.html
 - http://tools.ietf.org//inventory/author-tools
 - More on this later.

Overview of This Tutorial

- ŧ
 - 1. Where do RFCs come from?
 - 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
 - 3. The lifecycle from Internet-Draft to RFC
 - Common questions and where to look for more information

Change Control

- Who should have change control over your document?
 - The IETF has change control over all IETF documents (whether WG or AD-sponsored).
 - You may remain the editor of the document, but it will be you job to reflect IETF consensus
 - If you want to (or need to) retain change control, consider an RFC editor independent submission
 - Still subject to review, but document does not need to reflect IETF consensus
 - Example: Informational publication of a proprietary protocol should be submitted to RFC Editor with name of company in title

Copyrights and Patents

- Copyright Issues
 - Specified in RFC 3977/BCP 77 "IETF Rights in Contributions"
 - Independent submissions: generally follow IETF rules
- Patent ("IPR") issues
 - RFC boilerplate specified in RFC 3978/BCP 78
 "Intellectual Property Rights in IETF Technology"
 - Recently updated by RFC 4748/BCP 78.
- Generally, you supply the correct boilerplate in the Internet Draft, and the RFC Editor will supply the correct boilerplate in the RFC.



- Will the IETF publish standards that include patented technology?
 - Yes, but WGs may prefer non-patented technology
 - Licensing terms may affect WG acceptance and what implementations are available
- If you know of patented technology in your draft
 - Declare it immediately after publication
 - Carefully consider your patent terms

Text Formatting Tools

- Author tools: <u>www.rfc-editor.org/formatting.html</u>
 - xml2rfc
 - nroff
 - Microsoft word template
 - LaTeX
- RFC Editor does final RFC formatting using venerable Unix tool nroff –ms.

xml2rfc (http://xml.resource.org)

- The xml2rfc tool converts an XML source file to text, HTML, or nroff. RFC 2629 and its unofficial SUCCESSOr (http://xml.resource.org/authoring/draft-mrose-writing-rfcs.html) define the format.
- XML templates are available from <u>http://www.rfc-editor.org/formatting.html</u>:
 - For a generic I-D (by Elwyn Davies)
 - 2. For an I-D containing a MIB (by David Harrington)

Overview of This Tutorial

- ŧ
 - 1. Where do RFCs come from?
 - 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
 - 3. The lifecycle from Internet-Draft to RFC
 - Common questions and where to look for more information

4. Contents of an Internet-Draft

- Header
- Title
- Header boilerplate (Status of Memo)
- Abstract
- Table of Contents (not required for short docs)
- Body
 - IANA Considerations (RFC 2434 and 2434bis)
 - Security Considerations (RFC 3552)
 - Internationalization Considerations (RFC 2277)
- Authors' Addresses
- IPR boilerplate
 - See RFCs 3978, 3979, and 4748 (BCPs 78 and 79).

Internet-Draft Header

Network Working Group

Internet-Draft

Brandenburg InternetWorking

D. Crocker, Ed

Obsoletes: 4234 (if approved)

P. Overel

Intended status: Standards Track

THUS plc

Expires: April 11, 2008

October 9, 200

Augmented BNF for Syntax Specifications: ABNF

- Updates, Obsoletes: relation to earlier RFCs.
- Intended Status (Category)

RFC Header

Network Working Group

Request for Comments: 2396

Updates: 1808, 1738

Category: Standards Track

T. Berners-Lee

MIT/LCS

R. Fielding

U. C. Irvine

L. Masinter

Xerox Corporation

August 1998

Corresponding RFC Index entry (search on "2396")

RFC2396 T. Berners-Lee, R. Fielding, L. Masinter	1998	Obsoleted by RFC3986, Updates RFC1808, RFC1738, Updated by RFC2732 Errata	DRAFT STANDARD
--	------	---	-------------------

Red fields were not known when RFC was published

Authors in Header

- Limited to lead authors, document editors.
- There must be very good reason to list more than 5.
- Each author in the header must give approval during AUTH48 review.
- Each author in the header should provide unambiguous contact information in the Authors' Addresses section.
- Other names can be included in Contributors and/or Acknowledgments sections.

Titles

- Should be thoughtfully chosen
- No un-expanded abbreviations except for very well-known ones (e.g., IP, TCP, HTTP, MIME, MPLS)
- We like short, snappy titles, but sometimes we get titles like:
 - "An alternative to XML Configuration Access Protocol (XCAP) for manipulating resource lists and authorization lists, Using HTTP extensions for Distributed Authoring and Versioning (DAV)"

Abstracts

- Carefully written for clarity (HARD to write!)
- No un-expanded abbreviations (again, except well-known)
- No citations
 - Use "RFC xxxx", not "[RFCxxxx]" or "[5]"
- Less than 20 lines! Shorter is good.
- Not a substitute for the Introduction; redundancy is OK.
- We recommend starting with "This document..."

Body of an Internet-Draft

- First section should generally be "1. Introduction".
- Special sections that may appear:
 - Contributors, Acknowledgments
 - Internationalization Considerations
 - When needed -- see Section 6, RFC 2277/BCP 18.
- Sections that MUST appear:
 - Security Considerations
 - IANA Considerations
 - References (Normative and/or Informative)



- Security Considerations section required in every RFC.
- See RFC 3552: "Guidelines for Writing RFC Text on Security Considerations"
- Important!

IANA Considerations Section

- What is an IANA Considerations section?
 - A guide to IANA on what actions will need to be performed
 - A confirmation if there are NO IANA actions
- Section is required in draft
 - But "No IANA Considerations" section will be removed by RFC Editor.



 Forces the authors to 'think' if anything should be requested from IANA

 A clear IANA Considerations section will allow the IANA to process the IANA Actions more quickly

Establishes documented procedures



- +
- What actions is the document requesting of IANA
- Individual number or name registrations
- New registries (number or name spaces)
- Registration procedures for new registries
- Reference changes to existing registrations

BE CLEAR AND DESCRIPTIVE IN YOUR INSTRUCTIONS (IANA is not the expert for your name or number space)



- IANA Consideration sections are reviewed before the document is published as an RFC
 - During IESG Last Call
 - During IESG Evaluation
 - IANA will also review your section at any time by request
- If you do not have an IC section or if your IC section is not complete, your document will not move forward



- See RFC 2434, "Guidelines for Writing an IANA Considerations Section in RFCs"
 - Soon to be replaced by RFC2434bis
- Look at existing registries for examples
- Ask IANA
 - Available at the IANA booth at IETF meetings
 - Send an e-mail [iana@iana.org] or [michelle.cotton@icann.org]

References

- Normative vs. Informative
 - Normative refs can hold up publication.
- We STRONGLY recommend against numeric citations "[37]".
- Citations and references must match.
- Handy file of RFC reference text:
 - ftp://ftp.rfc-editor.org/in-notes/rfc-ref.txt
- Include draft strings of any I-Ds.



- Editorial guidelines
- Formal languages and MIBs

"Instructions to Request for Comments (RFC)
Authors". draft-rfc-editor-rfc2223bis-08.txt aka

ftp.rfc-editor.org/in-notes/rfc-editor/instructions2authors.txt

Writing Internet-Drafts

- Simple fact: writing clear, unambiguous technical prose is very HARD !!
- Not literary English, but comprehensibility would be nice!
 - Avoid ambiguity.
 - Use consistent terminology and notation.
 - If you choose "4-bit", then use it throughout (not "four-bit").
 - Define each term and abbreviation at first use.
 - Expand every abbreviation at first use.
 - See the abbreviations and terms lists available from <u>http://www.rfc-editor.org/howtopub.html</u>

Style

- Primary goal: clear, unambiguous technical prose.
- The RFC Editor staff generally follows two sources for style advice:
 - Strunk & White (4th Ed., 2000)
 - "A Pocket Style Manual" by Diana Hacker (4th Ed., 2004)
- In any case, internally consistent usage is objective.

Grammar Tips

- Avoid passive voice (backwards sentences).
 - "In this section, the network interface is described."
 vs. "This section describes the network interface."
- Some Protocol Engineers over-capitalize Nouns.
- "which" vs. "that"

For example:

(non-restrictive which: all RST attacks rely on brute-force)

 It should be noted that RST attacks, which rely on brute-force, are relatively easy to detect at the TCP layer.

(restrictive that: only *some* RST attacks rely on brute-force)

 It should be noted that RST attacks that rely on brute-force are relatively easy to detect at the TCP layer.



- A comma before the last item of a series:
 - "TCP service is reliable, ordered, and full-duplex"
 - Avoids ambiguities, clearly shows parallelism.
- Punctuation outside quote marks: "This is a sentence"{.|?|!}
 - To avoid computer language ambiguities.

Use of Formal Languages

- Formal languages and pseudo-code can be useful as an aid in explanations, although English remains the primary method of describing protocols.
- Pseudo-code judged on the basis of clarity.
- Formal Languages (e.g., ABNF, XML, ASN.1 (MIBs))
 - Requires a normative reference to language specification
 - RFC Editor will run verifier program.
- www.ietf.org/IESG/STATEMENTS/pseudo-code-in-specs.txt
- ftp.rfc-editor.org/in-notes/rfc-editor/UsingPseudoCode.txt

MIB RFCs: A Special Case

- MIB references
 - O&M Web Site at www.ops.ietf.org/
 - MIB doctors at <u>www.ops.ietf.org/mib-doctors.html</u>
 - MIB Review: See RFC 4181, BCP 111: "Guidelines for Authors and Reviewers of MIB Documents"
- Tools
 - http://www.ops.ietf.org/mib-review-tools.html
 - smilint at <u>www.ibr.cs.tu-bs.de/projects/libsmi/</u>
 - SMICng at <u>www.snmpinfo.com/</u>
- MIB boilerplate
 - The Internet-Standard Management Framework: www.ops.ietf.org/mib-boilerplate.html
 - Security Considerations: www.ops.ietf.org/mib-security.html

Hints to Authors

- Read your I-D carefully before submission, as you would read the final document in AUTH48!
- Respond promptly to all messages from RFC Ed.
- If your I-D is in the queue, and you see typos or have a new email address, send us an email.
- DON'T use numeric citations (unless you submit an XML file).
- Avoid gratuitous use of requirement words (MUST, etc.)
- Craft title and abstract carefully.
- Remember that your document should be understandable by people who are not deep experts in the subject matter.

Overview of This Tutorial

- ŧ
 - 1. Where do RFCs come from?
 - 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
 - 3. The lifecycle from Internet-Draft to RFC
 - Common questions and where to look for more information

WG documents go through the WG process...

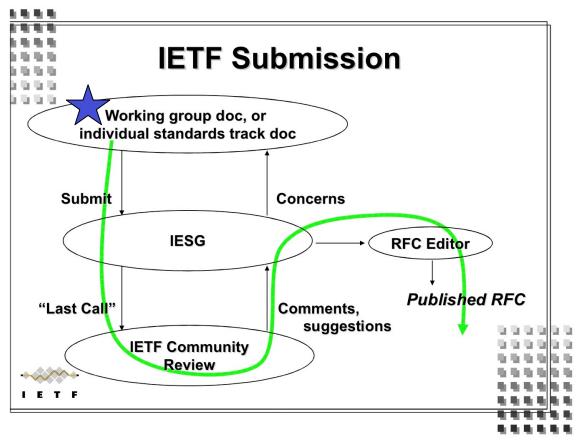


Diagram taken from Scott Bradner's Newcomers Tutorial

Steps in the WG process

- Initial Submission
- Author Refinement
- WG Acceptance
- Editor Selection
- WG Refinement
- WG Last Call
- WG Request to Publish



- Initial Submission
 - Original idea or issue is submitted to the WG
 - May be done via mailing list or at a meeting
 - Should become an Internet-Draft (or part of one)
 - Chairs will reject submissions that don't fit within the WG charter, in chair judgment
 - May refer submission to more appropriate groups or areas
 - Chairs should reject submissions that aren't relevant or don't meet minimal quality requirements
 - There is no admission control on IETF Internet-Drafts
 - Rejections can be appealed



- Author Refinement
 - Idea is more fully documented or refined based on feedback
 - May be done by the person who originally submitted the idea/issue, or by others
 - May be done by individual, ad hoc group or more formal designment
 team
 - Change control lies with author(s) during this phase

Steps in the WG process

- WG Acceptance
 - For a document to become a WG work item, it must:
 - Fit within the WG charter (in the opinion of the chairs)
 - Have significant support from the working group, including:
 - People with expertise in all applicable areas who are willing to invest time to review the document, provide feedback, etc.
 - Current or probable implementers, if applicable
 - Be accepted as a work item by a rough consensus of the WG
 - Should reflect WG belief that the document is taking the correct approach and would be a good starting place for a WG product
 - Have corresponding goals/milestones in the charter
 - Goals/milestones approved by the Area Directors
 - Adopting a specific draft is not approved by Area Directors



- Editor Selection
 - Editor(s) will be selected by the WG chairs
 - Usually one or more of the original authors but not always
 - Must be willing to set aside personal technical agendas and change the document based solely on WG consensus
 - Must have the time and interest to drive the work to completic in a timely manner
 - Make this decision explicitly, not by default!
 - Some people are concept people, some are detail people
 - Some people start strong, some people finish strong
 - Some people have changes in life circumstances



WG Refinement

- Document updated based on WG consensus
 - All technical issues and proposed changes MUST be openly discussed on the list and/or in meetings
 - All changes must be proposed to the mailing list
 - Complex changes should be proposed in separate IDs
 - The WG has change control during this phase
 - Changes are only made based on WG consensus
 - During this phase, silence will often indicate consent



- WG Last Call
 - Generally the final check that the WG has rough consensus to advance the document to the IESG
 - The WG believes that this document is technically sound
 - The WG believes that this document is useful
 - The WG believes that this document is ready to go to the IESC
 - A disturbingly large number of people wait until WGLC to read drafts!



- WG Last Call
 - The document must be reviewed and actively supporte by a significant number of people, including experts in all applicable areas
 - ... or it should not be sent to the IESG
 - Silence does NOT indicate consent during this phase
 - Why would we want to waste IESG time on a documer that we can't be bothered to review ourselves?

Has anyone else read the draft?

- Standards-track documents reflect IETF views
 - Not just a working group's view
- Standards-track protocols run on the Internet
- Avoid the group-think trap
 - Ask "who else should be reading this draft?"
 - Your ADs are good sources of potential reviewers
- Don't wait until the last minute to share
 - Prevent the "last-minute surprise"
- Some "last minute surprise" examples
 - Discovering that no one plans to implement the new spec
 - Discovering that the security mechanism does not meet current requirements
 - Learning that work overlaps or conflicts with work in other WGs

When ready, documents are submitted to the IESG for approval...

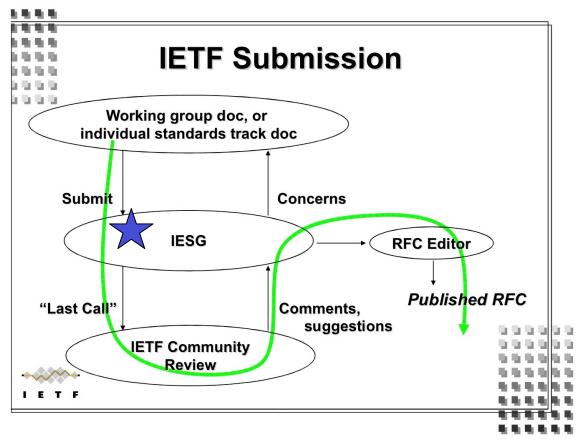


Diagram taken from Scott Bradner's Newcomers Tutorial



- Must be one Shepherd for every draft to be published
 - Usually a WG chair for a WG document
- Provide the PROTO write up as the request to your AD for publication
 - RFC 4858: Document Shepherding from Working Group Last Call to Publication
- During AD evaluation, manage discussion between editors, WG, and AD
- During IETF Last Call, follow up on feedback and comments
- During IETF, follow up on all IESG feedback
- Follow up on all IANA and RFC Editor requests

IESG review, early steps

- Document shepherd sends a Publication Request to the IESG, including a PROTO write-up
- After Publication Request, status of the document can be found in the Internet-Draft Tracker
 - https://datatracker.ietf.org/idtracker/
- Before moving to next steps, your AD must approve the document
 - May include review by area directorate(s) or other experts
 - Sometimes the AD asks for a revision to clear his/her own objections before advancing

AD sends standards track or individual documents for full IETF Review...

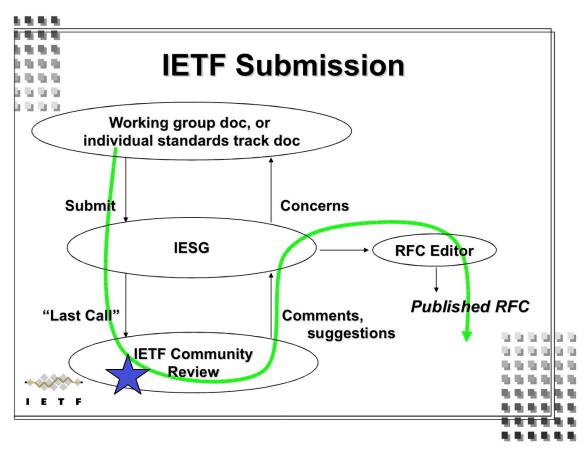


Diagram taken from Scott Bradner's Newcomers Tutorial

IETF Last Call

- After the AD approves the document, he/she may send th document for a final IETF review called "IETF Last Call" (IETF LC)
- Length of the IETF LC depends on document type and history
 - All standards track and BCP documents go to IETF LC
 - AD-sponsored individual submissions have a 4-week IETF LC
 - WG documents have a 2-week IETF LC
 - AD may choose to send informational or experimental documents for an IETF LC
 - Key architecture or framework documents
- During IETF LC, individuals, cross-area review teams and directorates will review the document
 - All comments must be addressed before the document advances

Document is reviewed and approved by the full IESG...

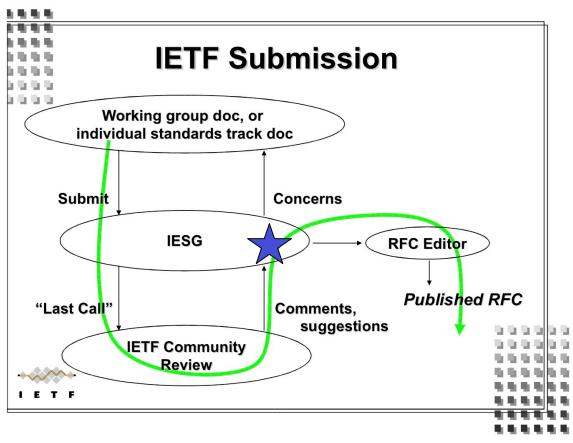


Diagram taken from Scott Bradner's Newcomers Tutorial

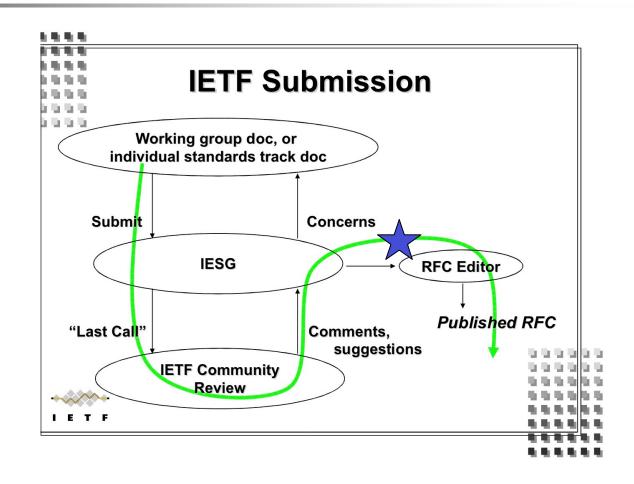


- Directorate Reviews
 - Many ADs/Areas have directorates that they use to review documents before approval
 - MIB Doctors, Security Directorate, Gen ART, etc.
 - If these reviews were not completed during IETF LC, they may be done now
- Preliminary IANA Review
 - Looks at IANA Considerations to start figuring out the namespaces that will need to be IANA managed and/or additional entries in existing namespaces



- Takes IETF Last Call comments into account
- Can decide to pass document on for publication
- Makes final decision on document track/status
- Can send document back to WG with comments and "DISCUSS" issues which must be resolved before the document proceeds to RFC
 - http://www.ietf.org/u/ietfchair/discuss-criteria.html
- If you negotiate significant changes with the IESC please show them to your WG before RFC publication!

After your document has been approved by the IESG...



RFC Editor Publication Process

- > IESG approval -> your document is added to the queue
- Step 1: Send your source file.
 - questions from the RFC Editor
- Step 2: Answer questions.
 - > AUTH48 notification with a pointer to the edited version
- Step 3: Review your document carefully and send changes / approvals for publication.
- Step 4: See your document progress.
- Step 5: Publication!

Step 1: Send your source file.



From: rfc-editor@rfc-editor.org

Subject: [RFC State] <draft-ietf-wg-topic-05> has been added to

RFC Editor database.

- Your document has been added to the queue (<u>www.rfc-editor.org/queue.html</u>).
- Please send us your nroff or xml source file.
 - Let us know if there are any changes between the version you send and the IESG-approved version.
- If you don't have one, don't worry, we will use the Internet-Draft text to create an nroff file.

Step 2: Answer questions.

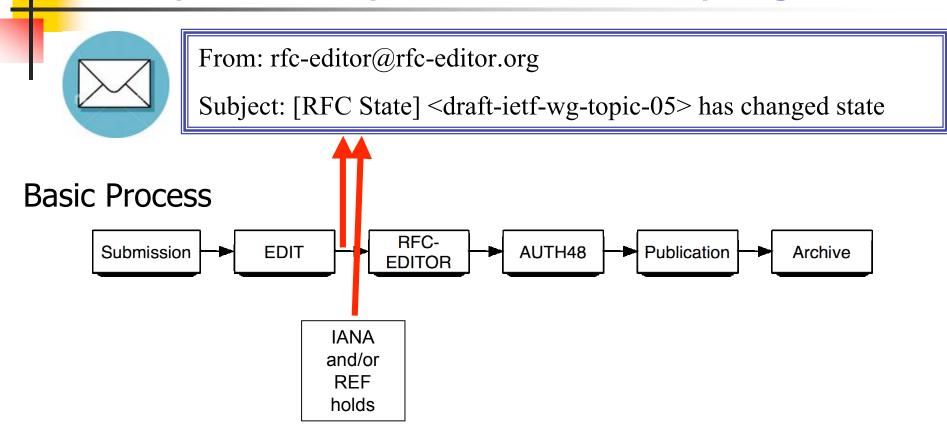


From: rfc-editor@rfc-editor.org or *@isi.edu

Subject: draft-ietf-wg-topic-05

- Please reply to questions about your draft.
 Typically, these questions are about
 - missing citations
 - Ex: [RFC4301] appears as a normative reference, where would you like to cite it in the text?
 - inconsistent terminology
 - Ex: Which form of the term should be used throughout?
 RESTART Flag / Re-Start flag / Restart Flag
 - unclear sentences

Step 3: See your document progress.



Also, you can check http://www.rfc-editor.org/queue.html

More details on queue states

Normative References

- Set of RFCs linked by normative refs must be published simultaneously.
- Two hold points:
 - MISSREF state: a doc with norm. ref to a doc not yet received by RF(Editor.
 - REF state: a doc that is edited but waiting for dependent docs to be edited.

IANA

- Acts on IANA Considerations section (more on this later).
- Creates new registries and assigns numbers.

Step 4: Review your document carefully



From: rfc-editor@rfc-editor.org

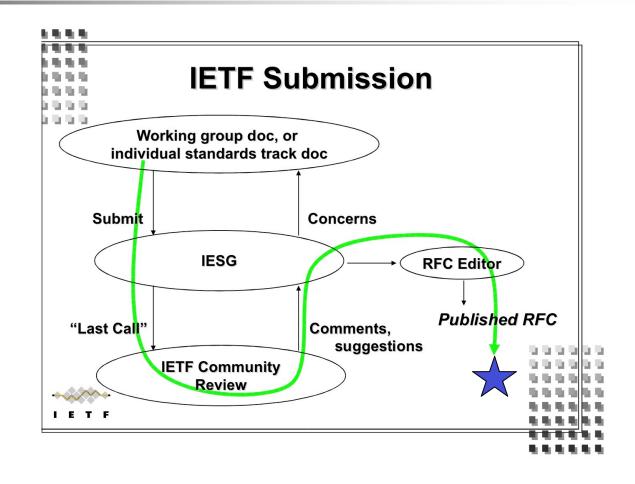
Subject: AUTH48 [SG]: RFC 4999 <draft-ietf-wg-topic-05>

- This is your chance to review the edited version.
- We send pointers to the txt and diff files
 - and the XML file (when AUTH48 in XML)
- Submit changes by sending OLD/NEW text or indicating global changes.
 - Insert directly into the XML file (when AUTH48 in XML)
- Each author listed on the first page must send their approval before the document is published.



- Last-minute editorial changes allowed, but should not be substantive or too extensive.
 - Else, must get OK from AD, WG chair.
- This process can involve a fair amount of work & time
 - AT LEAST 48 hours!
 - All listed authors must sign off on final document
 - Authors should take it seriously review the entire document, not just the diffs.
 - Your last chance to avoid enrollment in the Errata Hall of Infamy!

Congratulations! Your document is now an RFC...



Step 5: Publication!

• Announcement sent to lists:

ietf-announce@ietf.org and rfc-dist@rfc-editor.org

Canonicial URI:

http://www.rfc-editor.org/rfc/rfcXXXX.txt

Also available here:

ftp://ftp.rfc-editor.org/in-notes/rfcXXXX.txt

- Mirrored at IETF site and other sites.
- NROFF and XML source files archived for later revisions.



- www.rfc-editor.org/errata.php
 - A list of technical and editorial errors that have been reported to the RFC Editor.
 - Verified by the authors and/or the IESG, unless marked "Reported".
 - The RFC Editor search engine results contain hyperlinks to errata, when present.
- How to report errata
 - Use the online form available from the errata page

Overview of This Tutorial

- ŧ
 - 1. Where do RFCs come from?
 - 2. Writing an Internet Draft
 - Things to think about before writing your draft
 - Contents of an Internet-Draft
 - 3. The lifecycle from Internet-Draft to RFC
 - Common questions and where to look for more information

Q: Why hasn't my document been published

A: You can check the state of your document online at www.rfc-editor.org/queue.html

- "IANA" indicates waiting on IANA considerations
- "REF" indicates there are normative references
- "AUTH48" indicates each author must send final approval of the document

Q: What if one of the authors cannot be located during AUTH48?

A: You have several options:

 An AD can approve the document in place of the unavailable author. See http://www.ietf.org/IESG/STATEMENTS/auth48-announcement.txt

 The author can be moved to a Contributors or Acknowledgments section.

Q: What about April 1st RFCs?

- April 1st RFCs: Jon Postel's playful side
 - A little humorous self-parody is a good thing...
 - Most, but not all, April 1st RFCs are satirical documents.
 - We expect you can tell the difference ;-)
- April 1 submissions are reviewed for cleverness, humor, and topical relation to IETF themes.
 - Avian Carriers is famous (RFC 1149)
 - Evil Bit is a favorite (RFC 3514)
- Send submissions to the RFC Editor.



http://www.ietf.org

- Working Group charters, mailing lists
- Meeting agendas and proceedings
- I-D Submission and I-D Tracker
- IESG actions

http://tools.ietf.org

 Tools for preparing drafts, viewing drafts, communicating, following IETF meetings



http://www.rfc-editor.org

- Search engines for RFCs, Internet-Drafts
- RFC publication queue
- Master index of RFCs
 - ftp://ftp.rfc-editor.org/in-notes/rfc-index.txt, .xml
- "Official Internet Protocols Standards" list
- Policy changes, news, FAQ, and more
- Errata look-up and reporting

Thank you

- Questions? Comments?
- Ask us now!
- IETF 70: Stop by the RFC Editor or IANA Desks.
- RFC Editor Interest List: rfc-interest@rfc-editor.org
- Contact us later:
 - Alice Hagens, RFC Editor, <u>rfc-editor@rfc-editor.org</u>
 - Margaret Wasserman, ThingMagic, <u>margaret@thingmagic.com</u>