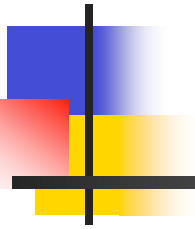


# RFC Editor Tutorial



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IETF 74

San Francisco, California

22 March 2009



# Overview of this Tutorial

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1. Background: The RFC Series and the RFC Editor
2. Contents of an RFC
3. How to Write an RFC
4. The Publication Process
5. Conclusion



# 1. The RFC Series

---

- Earliest document series to be published online.
  - 1969 – today: almost 40 years old.
  - 5000+ documents.
- *An ARCHIVAL series: RFCs are forever!*
- A comprehensive record of Internet technical history



# RFCs

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- RFC document series
  - Begun by Steve Crocker [RFC3] and Jon Postel in 1969.
  - Informal memos, technical specs, and much more.
- Jon Postel quickly became *the* RFC Editor.
  - 28 years: 1970 until his death in 1998.
  - He established and maintained the consistent style and editorial quality of the RFC series.
  - Jon was a 2-finger typist.

# Jon Postel

Postel had an enormous influence on the developing ARPAnet & Internet protocols – the “Protocol Czar” and the “Deputy Internet Architect” as well as the IANA and RFC Editor.

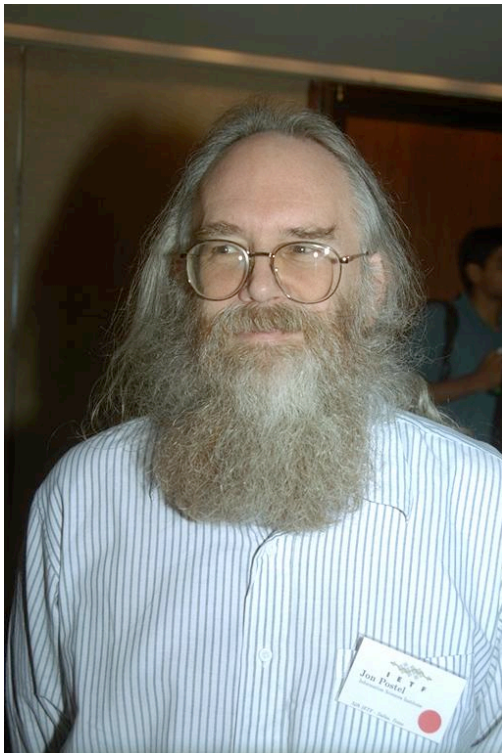
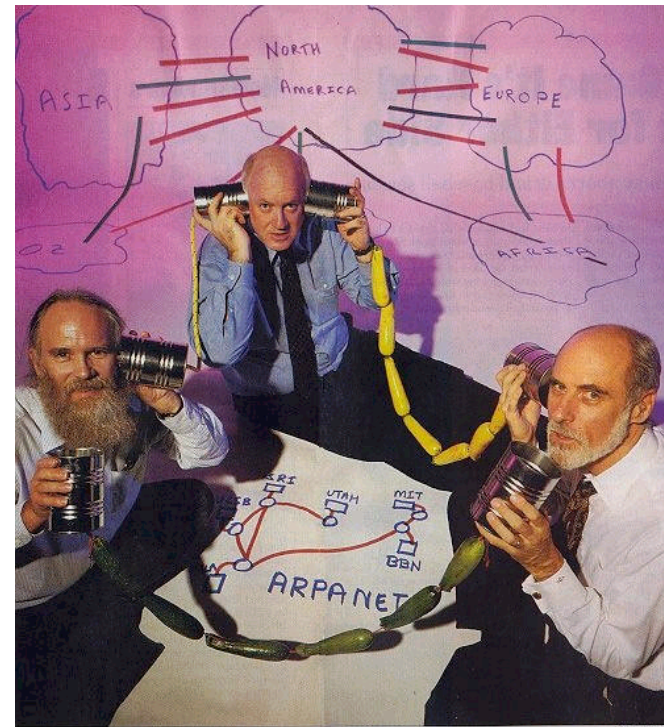


Photo by Peter Lothberg – IETF34 Aug 1995

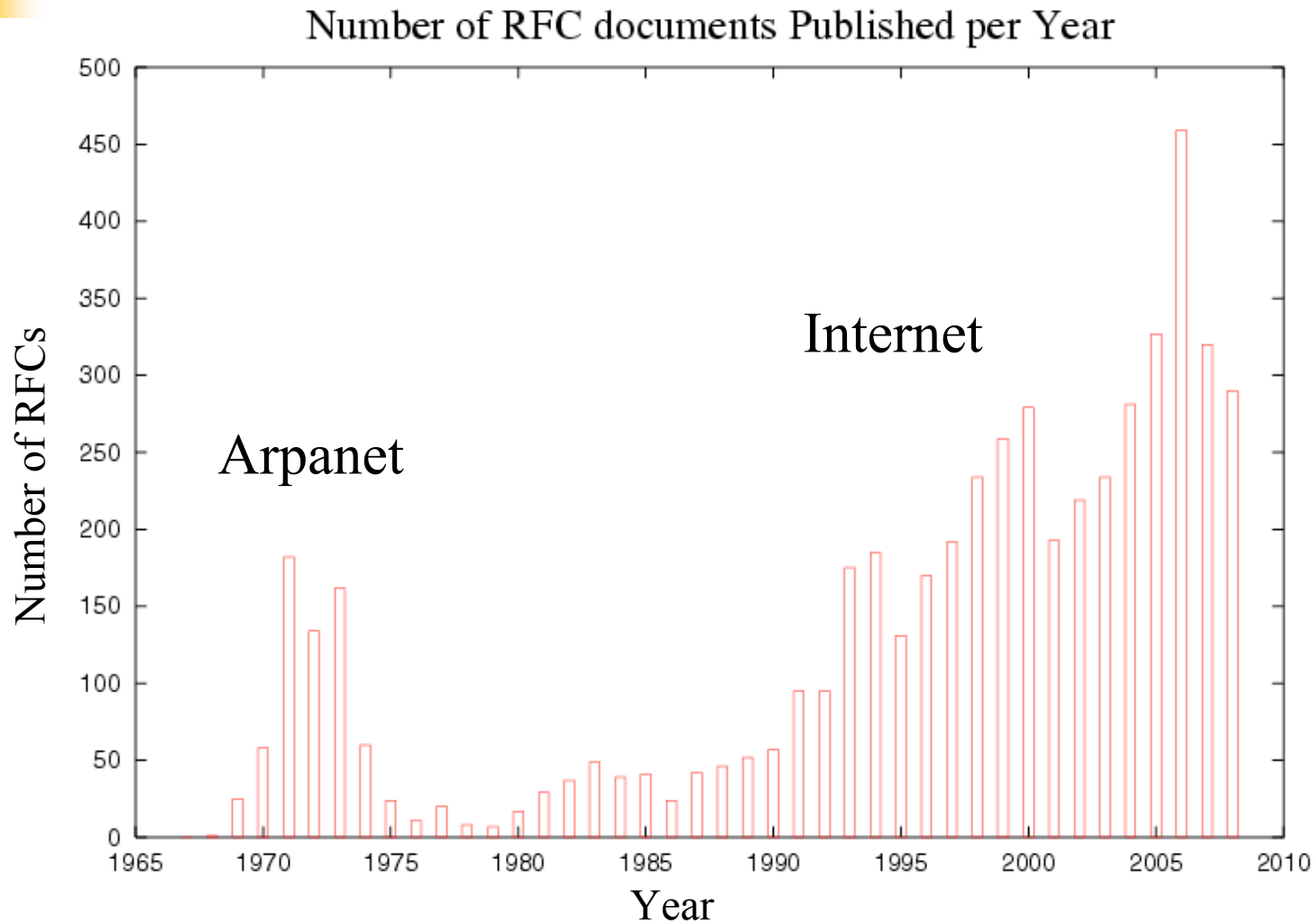


Newsweek Aug 8, 1994

# Historical Context of RFC Series

- 1969: Building ARPAnet RFC 1
- 1975: TCP/IP research begun ~RFC 700
  - Recorded in separate IEN series
- 1983: Internet born 1 Jan ~RFC 830
- 1985: IETF created ~RFC 950
- 1993: Modern IESG/IAB org ~RFC 1400
- 1998: Postel passed away ~RFC 2430
- Today ~RFC 5400

# RFC Publication Rate



# Jon Postel's Playful Side



- April 1 RFCs
  - A little humorous self-parody is a good thing...
  - Most, but not all, April 1 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 [RFC1149]
  - Evil Bit is a favorite [RFC3514]



# The RFC Editor today

---

- A small group at Jon's long-term home,
  - the Information Sciences Institute (ISI) of USC.
  - ~6 FTEs
- Under contract with ISOC/IASA
- Current leadership:
  - Bob Braden, colleague of Postel 1970-1998.
  - Sandy Ginoza, editor of RFCs for 9 years.
- RFC Editorial Board
  - Provides advice and counsel to the RFC Editor, particularly about independent submissions.



# The RFC Editor Web Site

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<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



# RFCs and the IETF

---

- It was natural to adapt the existing RFC series to publication of Internet standards specifications.
  - Informally: mid-1980s
  - Formally: RFC 1602 (1994), RFC 2026 (1996)

# 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).



# Sources for RFCs

---

- IETF submissions
  - Mostly from Working Groups.
  - Rest are *individual* submissions via the IESG.
  - All are submitted to the RFC Editor by the IESG after approval process [RFC2026].
- IAB submissions
  - Submitted directly by IAB Chair
  - Typically Informational category
- RFC Editor (*independent*) submissions
  - Only Experimental or Informational category.
- IRTF submissions

## 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/content/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 [www.rfc-editor.org/indsubs.html](http://www.rfc-editor.org/indsubs.html) and RFC 4846.

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



# Review of Independent Submissions

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- RFC Editor finds competent reviewer(s), with advice and aid from the Editorial Board.
- Possible conclusions:
  - Out of scope for RFC series.
  - Incompetent or redundant, not worth publication.
  - Important, but should go through IETF process first ("Throw it over the wall to the IESG!")
  - Serious flaws – report to author, reject for now.
  - Suggest changes to author, then OK to publish.
  - Great! Publish it.
- See [www.rfc-editor.org/indsubs.html](http://www.rfc-editor.org/indsubs.html) and RFC 4846 for more info



# RFC Sub-Series

---

- All RFCs are numbered sequentially.
- There was a desire to identify significant subsets of RFCs, so Postel invented “sub-series”. An RFC may have a sub-series designator.
  - e.g., “RFC 2026, BCP 9”
- Sub-series designations:
  - BCP Best Current Practice category
  - STD Standard category
  - FYI Informational category: user documentation



# STD Sub-Series



- Originally: all protocol specs were expected to quickly reach (full) Standard category.
  - Then the STD sub-series would include all significant standards documents.
  - Of course, it did not work out that way; most standards-track documents do not get beyond Proposed Standard.
  - See "Official Internet Protocol Standards"
    - See: [www.rfc-editor.org/rfcxx00.html](http://www.rfc-editor.org/rfcxx00.html) for the REAL list of current relevant standards-track docs.

# STD Sub-Series

- STDs were overloaded to represent “complete standards”; one STD # can contain multiple RFCs.
- Examples:
  - STD 5 = “IP”, includes RFCs 791, 792, 919, 922, 950, 1112  
NB: When multiple RFCs make up a sub-series doc (for example, <http://www.rfc-editor.org/std/std5.txt>) the file starts with  
[Note that this file is a concatenation of more than one RFC.]
  - STD 13 = “DNS”, includes RFCs 1034, 1035
  - STD 12 = “Network Time Protocol”, currently no RFCs.

# STDs as Protocol Names

- Really, "RFCxxxx" is only a *document name*.
  - But, people often talk about "RFC 821" or "821" when they mean "SMTP".
- As protocols evolve, RFC numbers make confusing names for protocols. Postel hoped that STD numbers would function as protocol names.
  - But reality is too complicated for this to work well.
  - It HAS been working for BCPs.
- We need a better way to name protocols.
  - ISD (Internet Standards Document) proposal?



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# Contents of an Internet-Draft

---

- Header
  - Title
  - Status of This Memo
  - Copyright Notice
  - Abstract
  - Table of Contents (not required for short docs)
- 
- Body
    - Introduction
    - ...
    - Security Considerations (see RFC 3552)
    - IANA Considerations (see RFC 5226)
    - References
- 
- Authors' Addresses

# RFC Header

Network Working Group  
Request for Comments: 3986  
STD: 66  
Updates: 1738  
Obsoletes: 2732, 2396, 1808  
Category: Standards Track

T. Berners-Lee  
W3C/MIT  
R. Fielding  
Day Software  
L. Masinter  
Adobe Systems  
January 2005

- STD sub-series number 66
- Updates, Obsoletes: relation to earlier RFCs.
  - Please note this information in a prominent place in your Internet-Draft; preferably the header.

# RFC Header: Another Example

```
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	August 1998	ASCII	Obsoleted by RFC3986, Updates RFC1808, RFC1738, Updated by RFC2732 Errata	<b>DRAFT STANDARD</b>
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Red fields were not known when RFC was published

# Authors in Header



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- 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)"*
- Choose a good abbreviated title for the running header (e.g., *"A WebDAV Alternative to XCAP"*)

# Copyrights and Patents



- Copyright issues
  - Specified in [RFC 5378 / BCP 78](#) “Rights Contributors Provide to the IETF Trust” (which recently obsoleted RFCs 3978 and 4748, and updates RFC 2026). See also <http://trustee.ietf.org/license-info>.
- Patent (“IPR”) issues
  - Specified in [RFC 3979 / BCP 79](#) “Intellectual Property Rights in IETF Technology” (which was updated by RFC 4879).
- Generally, you supply the correct boilerplate in the Internet-Draft, and the RFC Editor will supply the correct boilerplate in the RFC.

# 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”.
- Sections that **MUST** appear:
  - IANA Considerations
  - Security Considerations
  - References (Normative and/or Informative)
- Special sections that may appear:
  - Contributors, Acknowledgments
  - Internationalization Considerations
    - When needed -- see Section 6, RFC 2277/BCP 18.



# Security Considerations Section

---

- 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.



# Why is this section important?

---

- 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 should be included in the IANA Considerations section?

---

- 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)





# Review of IANA Considerations

---

- 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



## Where to get help on writing this section

---

- See RFC 5226, “Guidelines for Writing an IANA Considerations Section in RFCs”
- Look at existing registries for examples
- Ask IANA
  - Available at the IANA booth at IETF meetings
  - Send an e-mail [[iana@iana.org](mailto:iana@iana.org)] or [[michelle.cotton@icann.org](mailto:michelle.cotton@icann.org)]

# References



---

- Normative vs. Informative
  - Normative refs can hold up publication.
- We **STRONGLY** recommend against numeric citations "[37]" unless you are using an XML source file.
- 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.



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# Step 0: Write 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.



# General Editorial Guidelines

---

- Immutability – once published, never change
- Not all RFCs are standards
- All RFCs in English
  - RFC 2026 allows translations
  - British English is allowed in principle, but there is some preference for American English.
- Consistent Publication Format
  - ASCII (also .txt.pdf for Windows victims)
  - Also .ps or .pdf (special process for handling)



# RFC Formatting Rules

---

- ASCII, 72 char/line.
- 58 lines per page, followed by FF (^L).
- No overstriking or underlining.
- No “filling” or (added) hyphenation across a line.
- `<.><sp><sp>` between sentences.
- No footnotes.



# RFC Editing

---

- For correct syntax, spelling, punctuation: always.
  - Sometimes exposes ambiguities
- To improve clarity and consistency: sometimes.
  - e.g., expand each abbreviation when first used.
- To improve quality of the technical prose: occasionally.
- By general publication standards, we edit lightly.
  - Balance: author preferences against consistency and accepted standards of technical English.





# Preserving the Meaning

---

- A comment that does not faze us:  
“How dare you change my perfect prose?”
  - Just doing our job as editors!
- A comment that concerns us very much:  
“You have changed the meaning of what I wrote”.
  - Often, because we misunderstood what you meant.
  - That implies that your prose is ambiguous.
  - You should recast the sentence/paragraph to make it clear and unambiguous, so even the RFC Editor cannot mistake the meaning. ;-)



# The RFC Editor checks many things

---

- Header format and content
- Title format
- Abstract length and format
- Table of Contents
- Presence of required sections
- No uncaught IANA actions
- Spelling
- ABNF/MIB/XML OK, using algorithmic checker
- Citations match references
- Most recent RFC/I-D cited
- Pure ASCII, max 72 char lines, hyphens, etc.
- Header and footer formats
- Page breaks do not create “orphans”
- References split into Normative, Informative
- Boilerplate OK

# Writing RFCs

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 at first use.
- Expand every abbreviation at first use.
- See the abbreviations and terms lists available from <http://www.rfc-editor.org/styleguide.html>

# Style



- Primary goal: clear, unambiguous technical prose.
- See the RFC style guide available from <http://www.rfc-editor.org/styleguide.html>
- The RFC Editor staff generally references:
  - Strunk & White (4th Ed., 2000)
  - *The Chicago Manual of Style Online* (15th Ed.)
  - *A Pocket Style Manual* by Diana Hacker (4th Ed., 2004)
- Internally consistent usage is the objective.



# Sentence Structure

---

- **Simple declarative sentences** are good.
  - Flowery, literary language is not good.
  - Goal: Simple descriptions of complex ideas.
- Avoid long, involuted sentences.
  - Use “;” | “, and” | “, or” sparingly to glue successive sentences together.
- Make parallel clauses parallel in syntax.
  - Bad: “... whether the name should be of fixed length or whether it is variable length”.

# 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.`



# Punctuation Conventions

---

- 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.

# Lean and Mean

- You often improve your writing by simply crossing out extraneous ~~extra~~ words.
  - Look at each sentence and ask yourself, “Do I need every word to make my meaning clear and unambiguous?”
  - English professors call it the “Lard Factor” (LF) [Lanham79]
  - *“If you’ve not paid attention to your own writing before, think of a LF of  $\frac{1}{3}$  to  $\frac{1}{2}$  as normal and don’t stop revising until you’ve removed it.”* [Lanham79]

[Lanham79] Richard Lanham, “Revising Prose”, Scribner’s, New York, 1979.



# Examples of the Lard Factor

- When the nature of a name is decided one must decide whether the name should be of fixed length or whether it is variable length.

*(25 words)*

**A name may have fixed or variable length.**

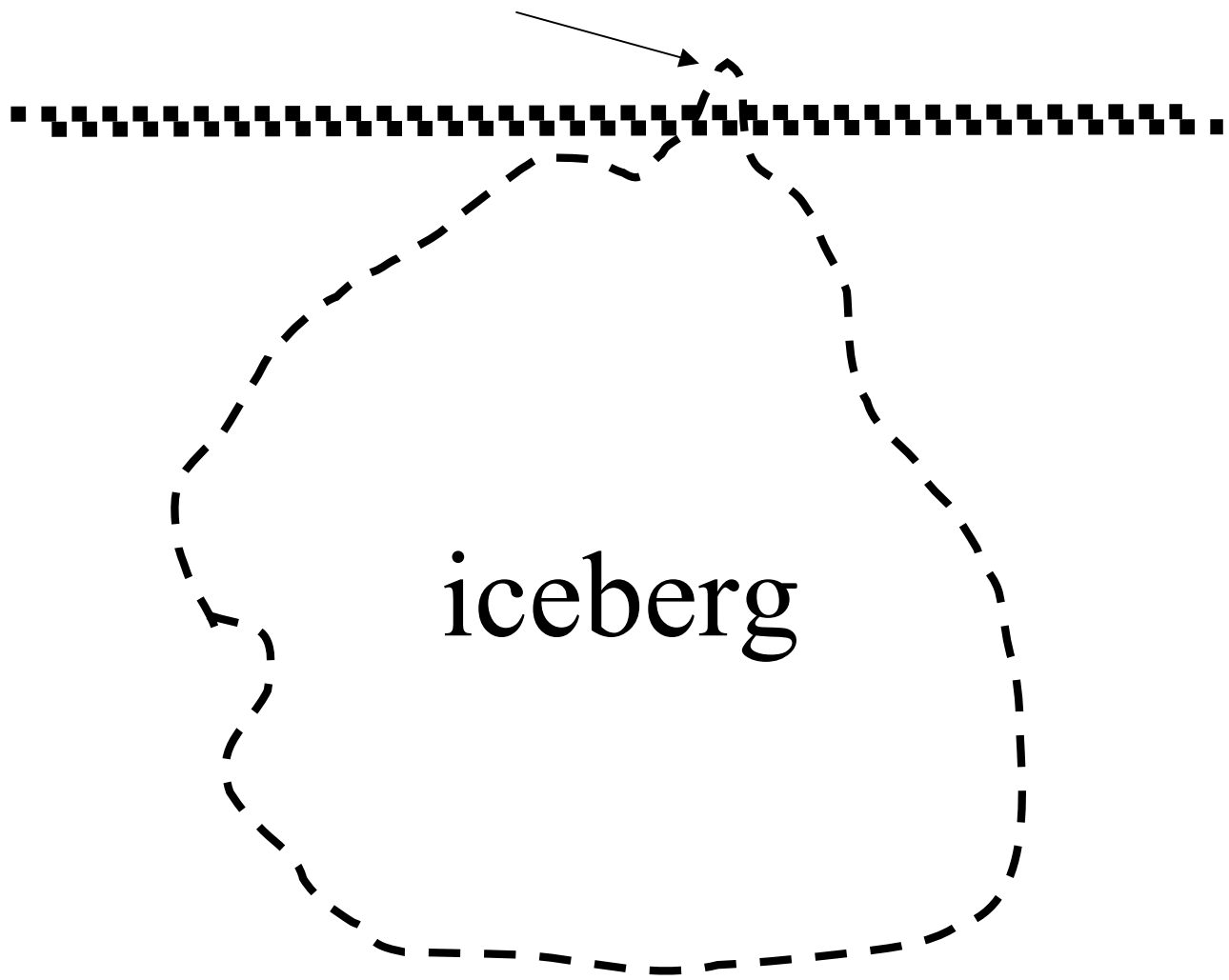
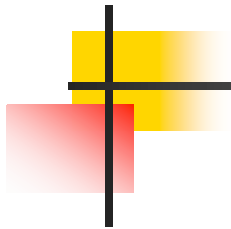
*(7 words, LF = .72)*

- One way to avoid a new administrative overhead would be for individuals to be able to generate statistically unique names.

*(20 words)*

**Allowing individuals to generate statistically unique names will avoid new administrative overhead.**

*(12 words, LF = .40)*





# Format for Readability

---

- Careful use of indentation and line spacing can greatly improve readability.
  - Goes a long way to compensate for single font.
  - Bullets often help.
  - High density on a page may be the enemy of clarity and readability.
- The RFC Editor will format your document according to these guidelines, but it is helpful if you can do it in the I-D.
- When using `xml2rfc`, try the `PI subcompact="no"` to get a blank line between list items.

# Hard to read

---

## 3.1 RSVP Message Formats

### 3.1.1 Common Header

The fields in the common header are as follows:

Flags: 4 bits

0x01-0x08: Reserved

No flag bits are defined yet.

Send\_TTL: 8 bits

The IP TTL value with which the message is sent. See Section 3.8.



# Formatted for Easier Reading

---

## 3.1. Message Formats

### 3.1.1. Common Header

The fields in the common header are as follows:

Flags: 4 bits

0x01-0x08: Reserved

No flag bits are defined yet.

Send\_TTL: 8 bits

The IP TTL value with which the message is sent. See Section 3.8.

# Text Formatting Tools



- Author tools: [www.rfc-editor.org/formatting.html](http://www.rfc-editor.org/formatting.html)
  - 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 define the format.
- xml2rfc FAQ:  
<http://xml.resource.org/xml2rfcFAQ.html>
- XML templates are available from  
<http://tools.ietf.org/tools/templates>:
  1. For a generic I-D (e.g., draft-davies-template-bare.xml)
  2. For an I-D containing a MIB (e.g., mib-doc-template-xml.txt)

# nroff, groff



- Handy templates for authors using nroff:
  - <ftp.rfc-editor.org/in-notes/rfc-editor/3-nroff.template>
    - Published in 1991 by J. Postel. Updated October 2006.
    - Gives instructions on using macros for creating RFCs.
  - [www.1-4-5.net/~dmm/generic\\_draft.tar.gz](http://www.1-4-5.net/~dmm/generic_draft.tar.gz)
    - Updated nroff template maintained by David Meyer.
- If you use nroff `-ms` (without a private `make` file), give the nroff source to the RFC Editor.



# 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. See [www.ietf.org/IESG/STATEMENTS/pseudo-code-in-specs.txt](http://www.ietf.org/IESG/STATEMENTS/pseudo-code-in-specs.txt)
- Formal Languages (e.g., ABNF, XML, MIBs)
  - Requires a normative reference to language specification
  - RFC Editor will run verifier program.

# MIB RFCs: A Special Case



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



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# A Generic Case: draft-ietf-wg-topic-05

Let's say your document has been approved by the IESG...

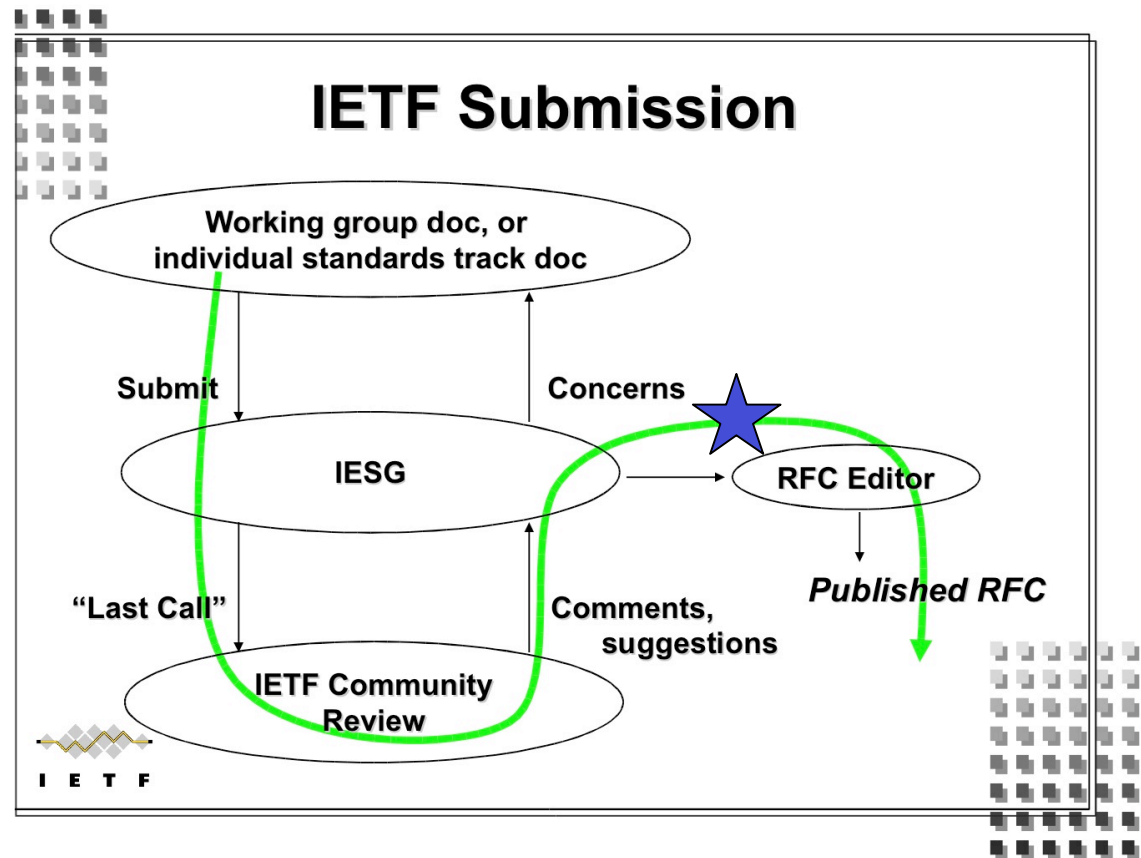
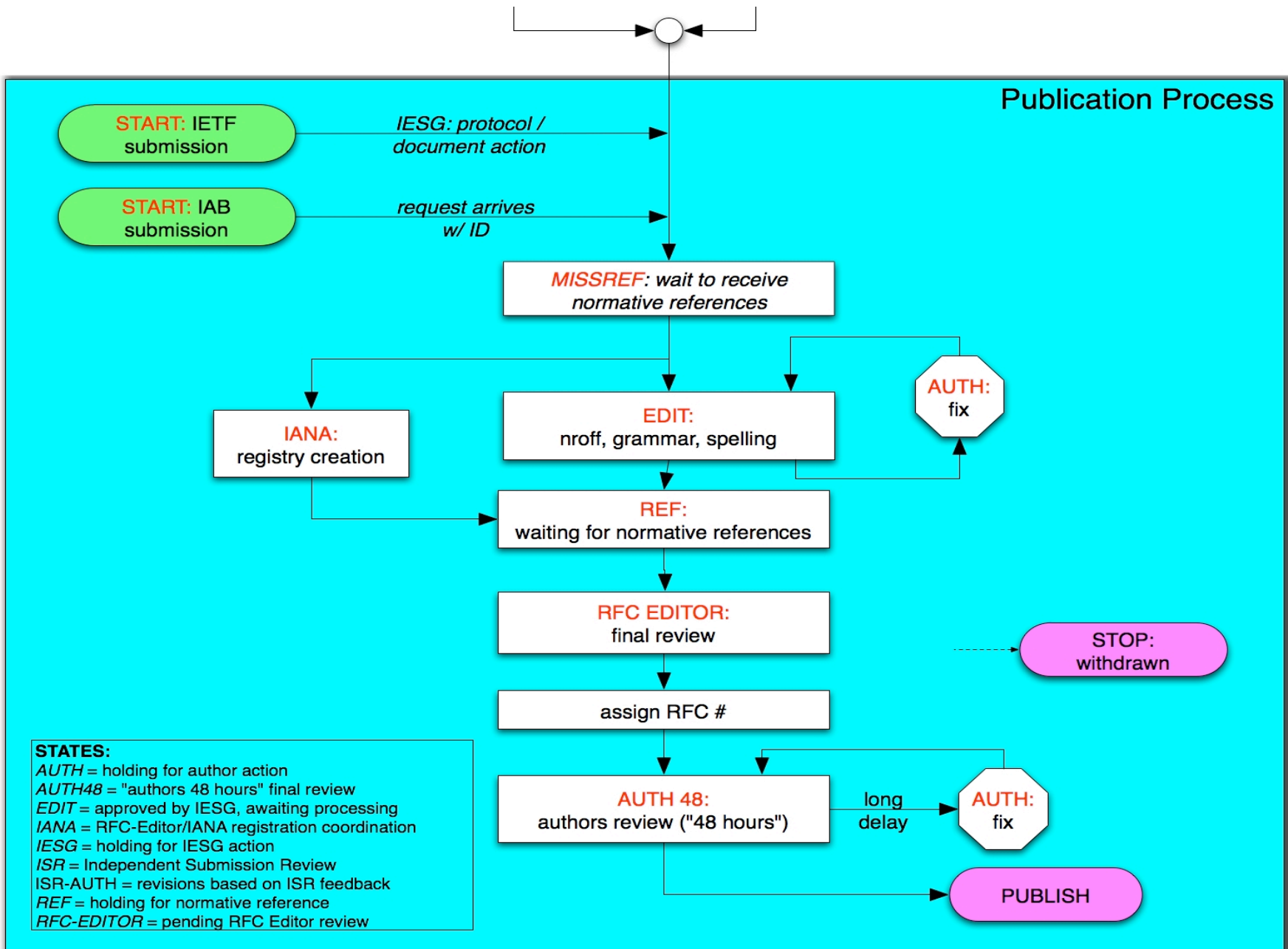


figure from Scott Bradner's Newcomer Presentation



Aaron Falk November 1, 2005, v.15

# Overview of Publication Process

**Step 0: Write an Internet-Draft.**

- *IESG approval -> your document is added to the queue*

**Step 1: Send your source file (when applicable).**

- *RFC Editor edits your document and sends any questions.*

**Step 2: Answer questions.**

**Step 3: See your document progress.**

- *RFC Editor sends AUTH48 notification w/ pointer to edited document.*

**Step 4: Review your document carefully and  
send changes / approvals for publication.**

**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 ([www.rfc-editor.org/queue2.html](http://www.rfc-editor.org/queue2.html)).
- 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



# Example - missing subject

## ORIGINAL:

All addresses or published in DNS, and hence do not operate a two faced DNS.

- What does not operate a two-faced DNS?
- "or" --> "are"

## SUGGESTED:

All addresses are published in DNS, and hence [?] does not operate a two-faced DNS.

## AUTHOR REPLY:

**All addresses are published in DNS, and the site does not operate a two-faced DNS.**

# Example - repetitive text

## ORIGINAL:

A site **willing to use ULA address space** can have either

- (a) multiple /48 prefixes (e.g. a /44) and **wishes to use ULAs**, or
- (b) has one /48 and **wishes to use ULAs** or
- (c) a site has a less-than-/48 prefix (e.g. a /56 or /64) and **wishes to use ULAs**.

- Does “wish to use ULAs” mean “willing to use ULA address space”?

## SUGGESTED:

**A site that wishes to use ULAs can have**

- (a) multiple /48 prefixes (e.g., a /44)**
- (b) one /48, or**
- (c) a less-than-/48 prefix (e.g., a /56 or /64).**

# Example - unclear reference

## ORIGINAL:

The main purpose of IIDs generated based on [RFC4941] is to provide privacy to the entity using **this address**. While there are no particular constraints in the usage of **these addresses** as defined in [RFC4941] there are some implications to be aware of when using privacy addresses as documented in section 4 of [RFC4941].

- What do “this address” and “these addresses” refer to? (IPv6 addresses in general, or only those with IIDs?)

## SUGGESTED:

**The main purpose of IIDs generated based on [RFC4941] is to provide privacy to the entity using an IPv6 address. While there are no particular constraints on the usage of IPv6 addresses with IIDs as defined in [RFC4941], there are some implications to be aware of when using privacy addresses as documented in Section 4 of [RFC4941].**

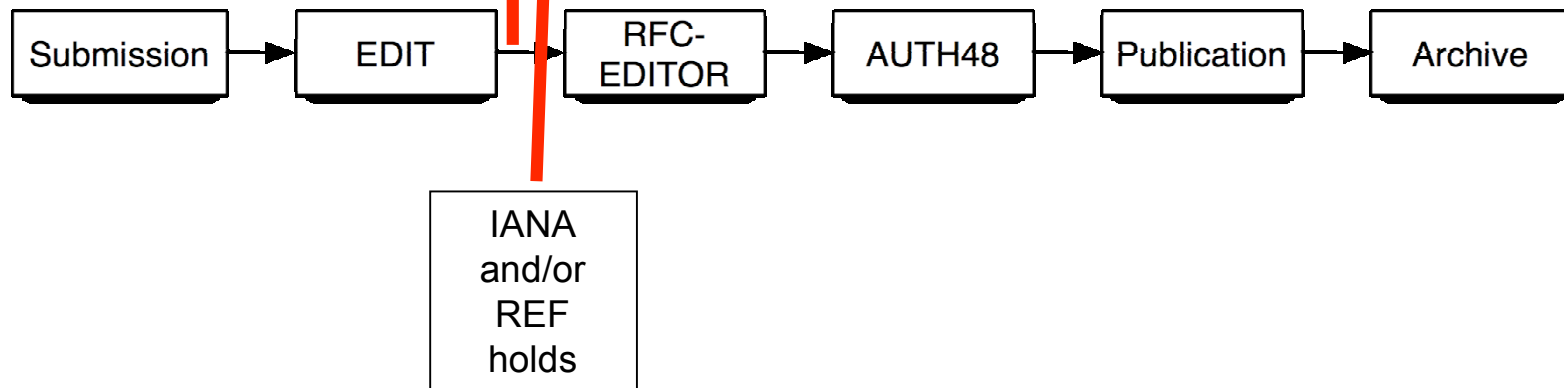
## Step 3: See your document progress.



From: rfc-editor@rfc-editor.org

Subject: [RFC State] <draft-ietf-wg-topic-05> has changed state

### Basic Process



Also, you can check <http://www.rfc-editor.org/queue2.html>



# More details on queue states

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## 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 RFC Editor.
  - REF state: a doc that is edited but waiting for dependent docs to be edited.

## IANA

- Acts on IANA Considerations section (as described earlier).
- 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.

## More about AUTH48: Final Author Review



- 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!*

## Step 5: Publication!

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- Announcement sent to lists:  
[ietf-announce@ietf.org](mailto:ietf-announce@ietf.org) and [rfc-dist@rfc-editor.org](mailto:rfc-dist@rfc-editor.org)
- Canonical 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.



# Errata Page - [www.rfc-editor.org/errata.php](http://www.rfc-editor.org/errata.php)

- Search by RFC number (and other criteria) for Technical and Editorial errors that have been reported to the RFC Editor.
- Submit new errata using the online form.
- Status of errata indicates whether its accuracy has been reviewed by the relevant party.
  - **Reported** - not yet reviewed
  - **Verified**
  - **Held for Document Update** - held for consideration if there is a bis
  - **Rejected**
- See "IESG Processing of RFC Errata for the IETF Stream"  
<http://www.ietf.org/IESG/STATEMENTS/iesg-statement-07-30-2008.txt>
- The RFC Editor search engine results contain hyperlinks to errata, when present.



# Overview of this Tutorial

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1. Background: The RFC Series and the RFC Editor
2. Contents of an RFC
3. How to Write an RFC
4. The Publication Process
5. Conclusion

## 5. Conclusion: Hints to Authors

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- 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.

# Ongoing Issues

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- Normative references
  - Practical effect: can hold up publication
- MUST/MAY/SHOULD/... requirement words
  - Do they belong in Informational documents at all?
  - Tend to be overused or used inconsistently.
- URLs in RFCs
  - Some are more stable than others...
- *Updates* and *Obsoletes* relationships
  - Some disagreement on what they mean
  - At best, only high-order bit of complex relationship



## Q: Why hasn't my document been published yet?

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A: You can check the state of your document online at [www.rfc-editor.org/queue2.html](http://www.rfc-editor.org/queue2.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?

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A: You have a couple 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.

# Authoritative References

- Overview of RFC publication process:  
[www.rfc-editor.org/pubprocess.html](http://www.rfc-editor.org/pubprocess.html)
- RFC Style Guide: [www.rfc-editor.org/styleguide.html](http://www.rfc-editor.org/styleguide.html)
  - "RFC Document Style" - A comprehensive summary of the style conventions and editorial policies of the RFC series.
  - "Instructions to RFC Authors" - a.k.a. RFC 2223bis.
  - RFC Editorial Policies - A collection of policies on RFC editorial issues.
  - Abbreviations List - Expansions of abbreviations that appear in RFCs
  - Terms List - Table of decisions on consistent usage in RFCs
  - RFC Bibliographic Entries - Listing of all RFCs, formatted for direct insertion into the References section of an RFC. Also notes when the referenced RFC has been obsoleted.



# The IETF Web Site & IETF Tools

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<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



# Thank you

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Questions? Comments?

- Ask us now!
- IETF 74: Stop by the RFC Editor or IANA Desks.
- RFC Editor Interest List: [rfc-interest@rfc-editor.org](mailto:rfc-interest@rfc-editor.org)
- Email: [rfc-editor@rfc-editor.org](mailto:rfc-editor@rfc-editor.org)