Editor's Training

Paul Hoffman

IETF 61, Washington DC

November, 2004

This session

- Please let me know if this talk meets
  - your expectations
  - your needs
- Please send recommendations for improvement to:
  - paul.hoffman@vpnc.org
  - Education Team web page: http://edu.ietf.org

Goals and non-goals

- Goals
  - Gather information about RFC editorship in one place
  - Disseminate information so that quality can become more balanced
- Non-goals
  - Will not explain everything in detail
  - Not a class in technical writing
  - Covers primarily WG-based RFCs

Overview

- 3Rs of IETF editorship
  - Role of the editor in the WG
  - Responsibilities of the editor
  - Rights of the editor
- Constraints
- Tools
- RFC “end game”

Central collection of resources

- Maintained by the RFC Editor
- http://www.rfc-editor.org/howtopub.html
- Has links to most of the references given in this presentation

Role of the editor in the WG

- Work to achieve rough consensus in the text
  - with other WG participants
  - with design teams
  - with chairs
- Produce timely updates containing agreed-upon, or at least agreeable, text
- Produce a document that meets all the constraints established for an RFC

Responsibilities of the editor

- Translate the rough consensus of the WG into text
- Produce technically accurate text
- Produce technically lucid text
- Produce well-formed and understandable English text
- Produce a well formed document that meets the requirements for becoming an RFC

Rights of the editor

- Can the editor decide on content?
- Can the editor decide when the document is ready for last call?
- Can the editor control the language usage?
- What can the editor decide on his or her own?
- Can the editor be replaced?

Can the editor decide on content?

- **No**, you cannot override WG decisions
- **Yes**, you can have straw-man proposals or "filling in details" from a WG decision
- But:
  - Editors must be careful to not create a seemingly-unreversible situation with proposals that have not yet been adequately reviewed by the WG
  - Editors must be careful about the demons that lurk in details, even in small changes

Can the editor decide when the document is ready for last call?

- It is not up to the editor to make the decision
- Instead, the editor works with the WG chairs to enable the chairs to decide when the last call should be
- “I still have more nits to fix” can influence the decision strongly
- The editor should help the WG chairs set the timing and flow of WG work

Can the editor control the language usage?

- Language is a complicated subject
  - The primary goal is clear, unambiguous technical prose
- Preference is for American usage
- Two good style references:
  - Strunk and White, “The Elements of Style”
  - Diana Hacker, "A Pocket Style Manual”
- Do not rely on the RFC Editor to correct the language usage in the document

What can the editor decide on his or her own?

- Choice of words can be very complicated and is often a barrier to making progress with an otherwise complete document
  - For language reasons (idiomatic speech)
  - For technical reasons
    - Cannot assume everyone has same understanding of terms
    - Some words have specific defined usage (RFC 2119, described later)
  - For techno-political reasons
    - Word choice is often a content decision

What can the editor decide on his or her own?

- The editor has leeway when creating the document to choose a structure that will meet the requirements of the WG
- The editor is not a scribe who waits to be told what words to write. It is the editor's responsibility to create, or incorporate, text that meets the WG's intentions and requirements
- Note the editor is not an independent author
- In the end, the WG itself controls all decisions

Can the editor be replaced?

- It is the WG chair's option to choose the editor and to replace the editor
- Often someone who is the author of an independent draft becomes the editor of a WG draft
- This involves a radical change in roles
- It can be very difficult because it means giving up change control of the document

Constraints

- A well formed RFC starts with a well formed I-D
- Essential references
  - RFC 2026: Internet standards process
  - RFC 2119: Key words
  - RFC 3552: Writing security considerations sections
  - RFC 2434: Writing IANA considerations sections
- IESG review
  - Surviving nit patrol
  - http://www.ietf.org/ID-Checklist.html

Guidelines (1)

- A good start is to create a well-formed Internet Draft
  - http://www.ietf.org/ietf/1id-guidelines.txt
- Instructions to Request for Comments (RFC) Authors: draft-rfc-editor-rfc2223bis
- Alternative view: draft-hoffman-rfc-author-guide

Guidelines (2)

- RFCs are immutable
- Not all RFCs are standards
- Language - all RFCs are in English
  - RFC2026 allows for translations
- RFCs have a consistent publication format
  - ASCII
  - Also .ps or .pdf (special process for handling)

Guideline (3)

- Assignment of the RFC number is late in process
- Some sections, and some ordering, are mandatory
- Reference section
  - Difference between normative and informative
  - Use of URLs in references strongly discouraged
- Recommendations on titles
  - Expand all abbreviations - except for the most well known (such as IP, TCP …)

Guidelines (4)

- Authors list
  - Limited to lead authors or editors
  - While not strictly limited, there will need to be very good reason to list more the five
  - All authors in the header equally responsible for final pre-publication review
  - Authors address section should provide unambiguous contact points
  - Others can be included in contributor and acknowledgment sections

Guidelines (5)

- IPR (intellectual property rights) issues
  - Copyright issues
  - Technology use issues may lead to patent issues
  - IETF Rights in Contributions (RFC 3667)
  - Intellectual Property Rights in IETF Technology (RFC 3668)
  - Guidelines for Working Groups on Intellectual Property Issues (RFC 3669)

Guidelines (6)

- Use of formal languages
  - Do not rely on formal languages when words can do a better job
  - More coverage later in this presentation
- MIBs in RFCs
  - Guidelines for MIB Authors and Reviewers
  - draft-ietf-ops-mib-review-guidelines

How it all goes: RFC 2026 (1)

- This is a must-read document
- Defines the IETF standardization process
- Defines maturity levels
- Defines tracks
  - Experimental
  - Informational
  - Historical
  - Standards
  - Best Current Practices

How it all goes: RFC 2026 (2)

- Defines/describes the WG process
- Defines process for action on a document
- A WG RFC must be reviewed by the IESG
  - It is then is passed on the RFC Editor
  - Once it is passed on, the base I-D does not expire
- RFCs are unchanging after they have been published
  - Status can be changed, but not the content

MUSTs and SHOULDs: RFC 2119

- Defines use of words in standards
  - MUST, MUST NOT (REQUIRED, SHALL)
  - SHOULD, SHOULD NOT (RECOMMENDED)
  - MAY, MAY NOT (OPTIONAL)
- Gives guidance on the use of the imperatives
  - Use sparingly
    - required for interoperation and to limit harmful behaviour
  - Not to impose methods on implementers
  - Limited significance in non-standards-track documents

Security considerations: RFC 3552

- Covers the goals of security
- Contains recommendations on writing security considerations
- All RFCs must have a security considerations section
- Recommend attending security tutorial later today

Relationship to other RFCs

- The IETF has a spotty record with RFCs that “update”, “revise”, or “obsolete” other RFCs
- That is all the more reason to be clear in every RFC what other RFCs are related, and how they are related
- Check with your ADs early on this: other WGs might be updating the same RFC

Pre-approval checklists (1)

- Small items people often forget (“nits”)
- Great list at http://www.ietf.org/ID-Checklist.html
- Automatic checking tool at http://tools.ietf.org/verif-tools

Pre-approval checklists (2)

- Form of I-Ds, including
  - Formatting of text documents
  - Required sections
  - Additional sections

Pre-approval checklists (3)

- Content issues, including:
  - Security, IPR, RFC 2119 words
  - Internationalization of user-visible fields
  - Use of code and formal languages
  - Addresses used in examples
  - References

Pre-approval checklists (4)

- Protocol issues, including:
  - IPv4 versus IPv6
  - No causing catastrophic congestion
  - Be precise about checksum or integrity checks

Use of formal languages and pseudocode (1)

- IESG note: http://www.ietf.org/IESG/STATEMENTS/pseudo-code-in-specs.txt
- While formal languages are useful, there is no one formal language that can capture all syntax and semantics
- English remains the primary method of describing protocols
- Formal languages and pseudocode are useful as an aid in explanations

Use of formal languages and pseudocode (2)

- Pseudocode
  - The goal is clarity; the pseudocode will be judged on that basis
- Formal languages (C, ASN.1, XML, ...)
  - Requires normative reference of specification for the language
  - Language must be used properly
  - Does not need to be a reference implementation

IANA considerations

- Guidelines for Writing an IANA Considerations Section in RFCs: RFC 2434
- Need to provide procedure for ways that all extensible numbered fields are to be handled
- Must provide policy for delegation of specific name spaces and ranges within those name spaces
  - Private use, Hierarchical Allocation, First Come First Served, Expert Review, Specification Required, IESG Approval, IETF Consensus, IETF Standard
  - Others can be specified if done carefully

MIBs

- All MIBS must pass compilation test
- draft-ietf-ops-mib-review-guidelines
  - MIB boilerplate section
  - Narrative sections
  - Definitions section
  - Intellectual Property section
- MIB reference and tools
  - O&M Web Site at http://www.ops.ietf.org/
  - smilint at http://www.ibr.cs.tu-bs.de/projects/libsmi/
  - SMICng at http://www.snmpinfo.com/

Text formatting tools

- List at http://www.rfc-editor.org/formatting.html
- xml2rfc
- nroff
- Microsoft Word templates
- LaTeX

xml2rfc

- Based on RFC 2629
  - Explains use of DTD for RFC production
  - Includes DTD
- Tools at http://xml.resource.org/
  - TCL script
  - Web-based form so you do not have to run TCL
  - Converters to text, HTML, nroff, ...
  - Bibliographic references
  - xml2rfc mailing list

nroff and goff

- 2-nroff-templates
  - Published in 1991 - J. Postel
  - Gives instructions on using macros for creating RFCs
  - ftp://ftp.rfc-editor.org/in-notes/rfc-editor/2-nroff.template
  - David Meyer maintains an updated nroff template at http:www.1-4-5.net/~dmm/generic_draft.tar.gz

Microsoft Word templates

- 2-word-template.doc
  - Published in 2002 - T. Hain
  - RFC 3285: Using Microsoft Word to create Internet Drafts and RFCs
- Template and utility can be found at:
  - ftp://ftp.rfc-editor.org/in-notes/rfc-editor/2-Word.template.rtf
  - ftp://ftp.rfc-editor.org/in-notes/rfc-editor/crlf.exe

LaTeX

- Mostly private templates and methods
- Sometimes causes difficulty when documents are inherited by new authors
- Tool for conversion of LaTeX to text at http://www.cs.columbia.edu/IRT/software/l2x/

RFC end game

- Once you think you are done, there is still a long way to go
  - WG Last Call
  - IESG review
  - Final process

WG Last Call (1)

- Called by WG chair
- Optional but traditional
- First one usually lasts for at least two weeks
- Document should be extensively reviewed both within the WG and across other areas

WG Last Call (2)

- Substantive changes to the document often warrant a second WG Last Call
- It is still a WG chair decision
  - Can be shorter
  - Can be restricted to issues brought up and resolved from previous last call

IESG review, early steps

- IETF Last Call for Standards Track and BCP Documents (and sometimes Experimental and Informational)
  - Usually two weeks, but can be longer
- RFC Editor Review
  - Look so see if guidelines have been met
- Preliminary IANA Review
  - Looks at IANA consideration to start figuring out the namespaces that will need to IANA managed

IESG cross-discipline review

- Takes IETF Last Call comments into account
- Can decide to pass document on for publication
- Decides on track for document
- Can send document back to WG with comments and “discuss” issues which must be resolved before the document proceeds to RFC
- Can reject a document for a variety of reasons

Final process

- Editor(s)
  - Should also send the RFC Editor your nroff or XML source
  - Must send the RFC Editor any updates, especially editor contact info and known editorial changes
- RFC Editor
  - Create final nroff source
  - Works with editors on any issues (formatting, language, ...)
  - Assigns an RFC number
- IANA review
  - Creation of IANA registry

Editor's review of the pre-RFC text

- Historically called "48-hour review", but now usually lasts more than 48 hours
- Last minute changes are allowed as long as they are not technically substantive
- This is your last (ever!) chance for changes
- All editors must sign off on final document before release
  - Be prepared to help find your other editors
- It is critical that editors take this review seriously
  - Review the entire document, not just the diffs

It gets published!

- Announcement is sent out
- Some people read it for the first time
  - And some think that now is a good time to make corrections or bring objections

And later... the errata

- Guidelines are at http://www.rfc-editor.org/errata.html
- RFC Editor keeps set of errata for both technical and editorial errors in RFCs
- Errors are verified by the editors and the IESG

Thank you! Questions?

Can also ask edu-discuss@ietf.org
...or paul.hoffman@vpnc.org