

Bringing New Work to the IETF

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Goals of this Presentation

- How to bring work to the IETF
- What kind of work to bring to the IETF
- What is the formal process?
- What is the “real” or informal process?
- How do I maximize my chances at success?
- Pitfalls to avoid
- Note: first time for this presentation, help me cover the actual concerns you have

Overview

- *IETF Culture*
- *IETF Deliverables*
- *Document types*
- *Avenues within the IETF*
- *BOFs and WGs*

Understanding IETF Culture

- IETF culture is “different” than other SDOs

Strength:

- Often leads to better engineering solutions
- Focus is on best engineering solution
- Engineering trumps politics

Drawback:

- Harder for outsiders to understand
- Difficult for outsiders to navigate
- Less predictable in terms of how an effort will play out

Key principle: be clear on what problem needs solving

Understanding IETF Culture (cont.)

- *IETF “consensus” really means:
Community believes that a solution adequately solves the problem at hand*
- *Note: can't answer that without understanding the problem*
- *Many “problematic” Last Call discussions center around the point
“solution doesn't address the real problem”
“solution doesn't solve a meaningful problem”*

ETF is a Meritocracy

- *Some voices more important than others*
- *Don't confuse this with "more political"*
 - Valid engineering arguments trump everything*
- *When senior/experienced voices raise issues, do not brush off or ignore concern*
 - Not good enough to say "they are just one person"*
 - Not good enough to say "I responded to that concern" (i.e., do others agree?)*
 - Need to understand whether objectors speak for others (e.g., a "silent majority")*

Importance of Socialization

- Bottom line: one **MUST** obtain consensus

Means: other people say “this work is OK and should go forward”

- Need to engage key persons

Not enough to just post to a list (silence is rarely viewed as agreement/acceptance)

Talk to WG Chairs, ADs, TAB & TESG members, former members, etc. Get them to say:

- “Yes, I support this”, or
- “Here is what you still need to do”

ADs and WG Chairs have key voice

Where is the Internet-Draft?

- A common refrain is “where is your draft?”
 - IDs provide sufficient detail/motivation so that a preliminary evaluation can be made
 - Mailing list posts are too short, don't provide sufficient detail, and are not easily referenced
 - Provide background/context for a general reader (not just one already familiar with the general area)
- However, can also be a brush off to make you “go away”
 - Necessary, but not sufficient

Realistic Time Lines

- Very hard to make things happen “fast”
- While you may be able to do things quickly, you can't make others work quickly

Everyone is busy, especially “key people”

Need to plan sufficient time for others to review/comment.

Formal requirements (like IESG approval) may involve Last Calls or other formal steps that cannot be rushed.

Build realistic time line by working backwards from goal

What Kind of Work Does IETF Do? (RFC 3935)

- The mission of the IETF is to produce high quality, relevant technical and engineering documents that influence the way people design, use, and manage the Internet in such a way as to make the Internet work better.
- These documents include protocol standards, best current practices, and informational documents of various kinds.

Standards Track Documents

- *Recommended way to solve a particular problem*
- *Strong requirement of achieving interoperability*
- *Satisfies IETF requirements (e.g., w.r.t., congestion control, security, etc.)*
- *From RFC 2026:*

“A Proposed Standard should have no known technical omissions with respect to the requirements placed upon it.”

Informational Documents

- *Background, architecture, frameworks, etc.*
- *Other protocol documents that*
 - May not be the “recommended” way*
 - May be proprietary*
 - May have issues (but better to document, than ignore)*
 - Document an existing, deployed approach*
 - Document a starting point for a Standards Track solution*
 - For the historical record*

Other Documents

- *Best Current Practices (BCPs)*

Operational recommendations (as opposed to protocol recommendations)

Policy documents (e.g., IETF processes)

- *Experimental Documents*

Protocols (but perhaps not fully “baked” or ready for use)

A true experiment, in which intention is to learn

Types of RFCs

- *Standards Track, Informational, etc.*
- *IETF Documents:*

Standards Track, BCP, produced by WG, etc.

Shepherded by an Area Director

Have had IETF review and there is some degree of IETF consensus on the work

Has an IETF “blessing”, though maybe only weak

RFC Editor Independent Submissions

- *Not blessed by IETF, Include an IETF “disclaimer” (see RFC 3932):*

“The IETF disclaims any knowledge of the fitness of this RFC for any purpose and in particular notes that the decision to publish is not based on IETF review for such things as security, congestion control, or inappropriate interaction with deployed protocols.”

- *IESG reviews for conflict with IETF work only
IESG can say “this needs to be an IETF document”*

Is IETF Right Place for Work?

- *Does IETF have the competence to produce good result?*

Core competency is Transport and below.

Less so in Applications

Security cuts across all levels

- *Are other existing SDOs/consortia better positioned for the work?*

- *Not always a clear answer*

Answer may depend on individual AD's expertise

- *Extension of an existing IETF technology?*

Where In IETF to Do Work

- (Mostly) outside of IETF, but publish within IETF
 - Can result in Informational or Standards Track
 - IETF simply verifies final result is acceptable, but not involved in doing the work.
- In conjunction with existing WGs
 - Not formally a WG activity, but WGs kept aware and given opportunity to review and comment
- Formally part of an existing WG
- A new Working Group
 - This is the hardest and most work!

Steps to Success

- *Develop problem statement*
- *Identify the key work deliverables*
- *Demonstrate critical mass of support*
- *Find the right venue for the work (demonstrate that IETF is that venue!)*
- *Demonstrate community consensus that IETF should do the proposed work*
- *Get formal agreement from IESG, etc.*

The Key Step: Problem Statement

- *Be clear: what is “broken” that needs fixing?*
 - What actual problem does customer/end user have?*
 - Why are existing solutions inadequate?*
 - Is another protocol (or extension) really needed?*
 - Don't confuse “solution” with “problem statement”*
- *What documents are needed?*
 - How many, what type?*
- *80% of the difficulty in engaging the IETF.*
 - Lack of clarity/consensus above*

Deciding How Best to do the Work

- Within an existing WG? (start here!)

Formally

Informally

- Outside of formal WG?

May not be sufficient interest to take on formally

This can be a perfectly OK way to do work!

- Need to create a specific new WG

Most work (both formally and informally)

Identifying an Appropriate WG

- *Maybe obvious, if work is an offshoot of existing IETF work*
- *Consult the online WG charters*
 - Not always current or 100% accurate*
 - Informal discussions with chairs often helpful*
- *Area lists (e.g., int-area, saag, etc.)*
 - Good place to ask “where should I do this?” or “Is anyone else interested in this topic?”*

Bringing Work to an Existing WG

- *Coordinate with chairs*
 - WG may have special rules governing new Ids*
 - May not be accepting any new work items*
- *Consult WG charter*
 - If questions, ask the chairs and/or WG*
- *Do not assume that just because you have posted to the list, that the WG actually supports your proposal*

When To Bring into IETF

- *Often better to flesh out some work before coming to the IETF*
 - To have something concrete to focus discussion*
 - But don't expect rubber stamp of a complete proposal*
- *IPR Considerations*
 - Must accept the IPR rules from the start*
- *IETF will have full change control*

Types of BOF

- *One-shot, no WG intended*
Information only (present on some timely topic)
- *One-shot, WG not expected immediately*
Work needed, unclear where/how to do it, want
community discussion on best path forward
BOF provides more visibility than presentation in existing
WG or area meeting
- *Clear desire to form WG*
Focused on demonstrating consensus to form a new WG
(clear charter, problem statement, etc.)

Formal Steps for WG Creation

- *IESG approves proposed WG charter*
Charter posted to IETF list for comment
IAB provides "advice" on proposed work
IESG approves during telechat
an AD sponsor/champion required
- *Note: BOF is not a requirement!*
In practice, BOFs usually precede WG formation
BOFs are a tool to demonstrate community support for charter/effort
BOFs are a means to an end, not the end itself

Step 1: Forming a WG

- The real work starts long before the BOF*
- Form “design team” to develop problem statement, identify work items*

Within existing WG?

Within an area, but in between multiple WGs?

If no existing WG, is effort big enough for new WG?

Produce Internet-Drafts

- Focus on problem statement*
- Solutions (in rough outline form) helpful, but can often be a distraction*

Step 2: Socialize Proposed Work

- *Determine what Areas and WGs work relates to*
- *Query appropriate mailing lists*
- *Talk to ADs*

Important to talk early and often (about scope, related work, etc.)

At same time, don't burden AD with too much work

- *Talk to WG chairs, other current or former leaders (IESG, IAB, etc.)*

WG chairs of related work can provide guidance

Engage people with IETF experience

Step 3: Go Public (formally)

- *Create a public mailing list*
- *Send out public “call for participation”*
Area lists, related WG lists, IETF list, etc.
Intent is to invite those who have interest
Add entry to BOFWIKI

Step 4: Real Public Discussion

- *Discussion on public mailing list*
 - Problem statement, proposed work items, etc.*
- *Show critical mass of support for effort*
 - Need sufficient public support*
 - Need to flush out “this is a bad idea” early*
- *Need to give others a chance to participate and possibly write their own Internet-Drafts*
- *Best to focus on identifying agreement, and where there is lack of agreement*

Step 5: Formal BOF Request

- Submit formal request, per

<http://www.ietf.org/instructions/MTG-SLOTS.html>

<http://www.ietf.org/ietf/1bof-procedures.txt>

(Requires formal agenda to be approved)

- AD MUST approve request

AD should (by now) have information to respond

Omitting steps 1-4 likely to mean answer of “no”

Step 6: Preparing for the BOF

- Use mailing list to refine areas of agreement & disagreement
- Biggest reason BOFs fail: lack of consensus

Smart to address issues **before** the BOF

Where there is no consensus, prepare **neutral** summary of issues

Anticipate the questions that will be raised; address them head on

Step 7: Finalize Proposed Charter

- *Produce revised charter*

Address (where possible) all outstanding issues

In your own interest not to have people raise issues that could have been addressed prior to BOF

- *Key question for BOF:*

Is there support to form a WG “with this exact charter”?

Presumably, you want the answer to be yes

Step 8: Questions for the BOF

- *Often, a number of questions will be asked
e.g., is there support to form a WG?*
- *Wording is critical
Good to work out questions in advance
Good to have questions vetted by others in advance
Possibly even on the mailing list!*
- *Golden rule: avoid surprises during BOF*

Step 9: IETF Week

- *Organize a meeting with all presenters*
If nothing else, have them meet each other!
- *If there are disagreements, attempt to work them out*
BOFs work better when key players are in sync
- *Go over presentations*
Ensure they are relevant to the key goals of BOF

Step 10: Attend IETF Tutorials

- *Consider attending Sunday tutorial*
 - Working Group Chair training*
 - WG Leadership training*

Step 11: The BOF itself

- *Keep eye on the “eight ball”*
 - Keep discussions focused on the goals of BOF*
 - Cut off discussions that are ratholing*
 - This goes doubly for presentations (e.g., solutions)*
- *Assume many in the room have not followed work on mailing list*
 - Review the history*
 - Review the areas of agreement*
 - Anticipate the likely questions, and cover them in presentations*

Realistic Time Line

- Starting with an IETF meeting, and working backwards:

Consult Secretariat “Important meeting dates”

IESG imposes BOF deadline some 6 week before meeting

Public mailing list discussion: 1-2 months

Early socialization: 1-2 months

Time is now to be working toward BOF at next meeting!

Common Pitfalls

- *Waiting too long to get started*
- *Too much time spent talking about solutions*
Solutions come after the WG is formed
Too detailed and magnets for rathole discussions
- *Asking the wrong question during a BOF*
You may not get the answer you want
Goal of questions is to highlight understanding and agreement
- *Poorly advertised in advance*

Common Pitfalls (cont.)

- *Giving BOF time for “wrong” presentations*
Presentations need to be relevant; don’t automatically give agenda time to all who ask
- *Poor time management*
Allowing presentors to go over their time limits
Insufficient time for the critical presentations
Insufficient time for discussion about “next steps”

References

- BOFWIKI

<http://www1.tools.ietf.org/bof/trac/wiki>

- “Considerations for Having a Successful BOF”
draft-narten-successful-bof-01.txt
- RFC 2026: “The Internet Standards Process --
Revision 3”
- RFC 2418: “IETF Working Group Guidelines and
Procedures

Feedback on Session?

- *The EDU Team is responsible for IETF educational programs like this one*
 - Intended to improve the effectiveness of IETF leaders and participants*
- *EDU Team is holding an open meeting on Monday, 1300-1500 in Spinnaker*
- *Come and voice your opinions about*
 - This session & other current sessions*
 - Needs for education within the IETF*
 - What the EDU Team should do in the future*
 - Volunteer to help!*

Questions?