

# Bringing New Work to the IETF (v1)

*IETF 103*

*Bangkok*



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# Why Alia cares about new work proposals

- IETF creates Standards for the Internet - with changing Technical Needs
- A vibrant Internet for all requires New Work, New Ideas, and New People engaging in the IETF.
- Served as Routing AD for 4 years and saw the challenges to bringing new work in.
  - Chartered 3 new WGs (bier, babel, and Isr) & rechartered rtgwg, i2rs, sfc, nvo3, bier, etc.
- Served as RTGWWG Chair - which WG tries to bring in and discuss new ideas around Routing
- My new work idea (IP/LDP Fast-Reroute) helped motivate creating RTGWWG.
- Worked on RIFT protocol - led to new RIFT WG.

# Why Spencer cares about new work proposals

- I'm currently serving as Transport Area Director (since 2013)
- From RFC 2418/BCP 25
  - "Area Directors are responsible for ensuring that working groups in their area produce coherent, coordinated, architecturally consistent and timely output as a contribution to the overall results of the IETF."
- Area Directors charter new work in the IETF
  - I've chartered 3 working groups, rechartered 6 working groups
- I previously served on the IAB (2010-2013)
  - IAB members provide architectural oversight for new work proposals
  - I usually provided feedback for 1-2 new work proposals per IETF cycle

# Why Spencer started caring about this topic

- I started out at the IETF with a proposal for TCP over cellular in 1996
  - I figured out how to get it chartered, after asking for a LOT of help
- My next proposal for new work wasn't chartered after two BOFs
  - All this seemed very complicated and mysterious to me. And it was.
- My next proposal for new work was DISPATCHed and chartered
  - I was getting better at this ...
- I've talked to a lot of people who don't know how to propose new work
  - Within my own companies and from other companies
  - As a working group chair, as an IAB member, and as an Area Director

***I kept thinking, "we can do better than this!"***

# What you can learn on your own



# The "Written Process"

- BCP 25/[RFC 2418](#) - IETF Working Group Guidelines and Procedures
  - Section 2 - Working group formation
    - Section 2.1 - Criteria for formation
    - Section 2.2 - Charter
    - Section 2.3 - Charter review & approval
    - Section 2.4 - Birds of a feather (BOF)
- Informational Guidance
  - [RFC 5434](#) - Considerations for Having a Successful Birds-of-a-Feather (BOF) Session
  - [RFC 6771](#) - Considerations for Having a Successful "Bar BOF" Side Meeting



# Commentary on the "Written Process"

- BCP 25/[RFC 2418](#) - IETF Working Group Guidelines and Procedures
  - The big picture hasn't changed a lot since RFC 1603 was issued in 1994
  - **ADs have a LOT of flexibility in what they charter**
  - **ADs rely a LOT on proponents to prepare and advance proposals**
- Informational Guidance - [RFC 5434](#) and [RFC 6771](#)
  - Good information, especially "start early" and "ask these questions"
- Almost all this material assumes you need a new working group
  - But you might not, and if you do, you might not need a BOF
- Spencer's opinion - many people think the process is deterministic
  - "If we follow these steps, we automatically get a working group"
  - The process is **not** deterministic, because every proposal is different

# The Unwritten Process





# Key Questions Before You Start

- Are you in the right place?
- Is This Really Engineering, or is it Research?
- Who have you talked to? Who should you talk to?
- Has this been tried before?
- How much work are you thinking about?



# Are you in the right place?

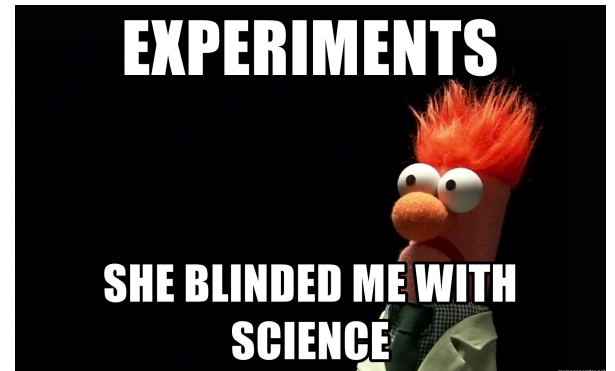
- Is this work usable on a global scale?
  - The "I" in "IETF" is still mostly "Internet"
  - We do work on widely used protocols that don't traverse the Internet
- Is this protocol work?
  - We want our work to be applicable across use cases and architectures
  - We also develop operational procedures for IP networks
- Is this at, or above, the IP layer?
  - Many protocols below IP are done in other SDOs and forums
- Does it need to be standardized?
  - Is interoperability valuable to you, or to your customers?



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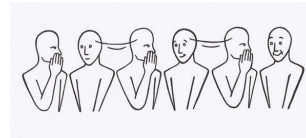
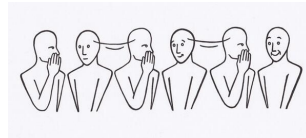
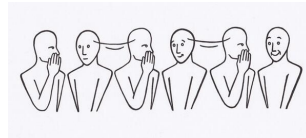
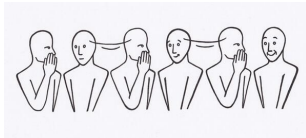
# Is This Really Engineering, or is it Research?

- The "E" stands for "Engineering" - "we know how to do this"
- Internet Research Task Force - "we will find out how to do this"
  - [RFC 7418: An IRTF Primer for IETF Participants](#)
  - IRTF research groups differ from IETF working groups in Scope, Time Frames, Alternatives, Process, Charters, Deliverables, and Completion
- If you need to discover things to succeed, talk to the IRTF Chair!



# Who have you talked to? Who should you talk to?

- IAB members and area directors know "the process"
- Area directors have a broad understanding of where work fits
- Working group chairs know whether work fits in an existing charter
- Other participants know whether a proposal interests them
- Lots of people know relevant history, especially roads not taken
- Always ask, "who else should I talk to about this?"
- And don't stop, when you run out of IETF people to talk to!
  - Do Open Source projects need to know about your proposal?
  - Often, your topic will be interesting to other SDOs. Which ones?



# Has this been tried before?

- The IETF has already attempted many things that didn't happen
- There are proposals that keep coming back in various forms
- Sometimes situations change, so previous failures would succeed
- Too often, not! ("Trying to guess initial path capacity without probing")
- You want to know whether something like your idea has been tried
- If it has, you want to know why this time, things will be different



# How much work are you thinking about?

- Small - updating a protocol or a procedure
- Large - creation or major extension to a protocol or procedure
- Huge - building new types of products or networks



# Key Questions to Be Answered

## **Small Proposals:** What WG?

Are others in the WG interested to do work on it (and why)

Do others agree it is useful/needed?

## **Large Proposals:** Is work needed understood & clear?

What stakeholders care?

Who will do the work?

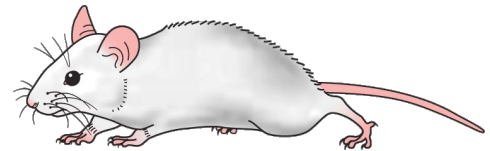
Does it break other things?

## **Huge Proposals:** Is it really new & needed?

Can it be broken down to be tractable?

What parts of the work are clearly understood?

# Small Proposals





# Small proposals COULD be pretty easy



- Already a community of interest, probably a working group
  - Some current working group charter likely covers your new proposal
  - Your job is to find the right place
  - Probably talking to working group chairs, maybe talking to area directors
- Most areas now have one or more "catch-all" working groups
  - Like TSVWG, for small proposals, or DISPATCH, to help find a home
- Your job is to explain why your proposal is needed
- Your job is to explain your proposal at a high level and clearly
- One key question: do the benefits outweigh the cost of not doing this?



# Large Proposals

# Large proposals most closely match the BCPs

- There may be an appropriate working group now
  - Large proposals likely require re-charter of an existing working group
  - If not, you'll probably be proposing a new working group charter
- You're probably talking to working group chairs or area directors
- In addition to "small proposal" steps, you also build a community
  - This can involve informal side meetings, or formal "BOFs"
  - Don't forget that BOFs are not a required step on the way to a charter!
- You probably want to ask for help negotiating the maze of chartering
  - People may volunteer
  - You can ask chairs, area directors, or other participants for help



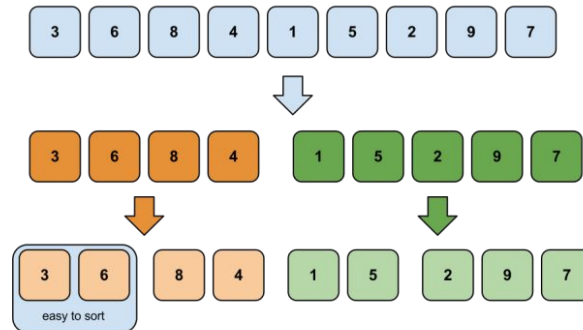
# What's the difference between "Large" and "Huge"?

- "Large" proposals match the BCP process for new work proposals
  - They fit in one area
  - They fit in one working group
- "Huge" proposals often map onto products or types of networks
  - Lots of interfaces to different things
  - Not all the interfaces would use the same protocols or procedures
- "Huge" proposals don't match the defined IETF standards process
  - "Success" is going to mean breaking "huge" into "Large" proposals
  - The IESG will try to do this, if they have no other choice
  - But you **really** want to do it for them!

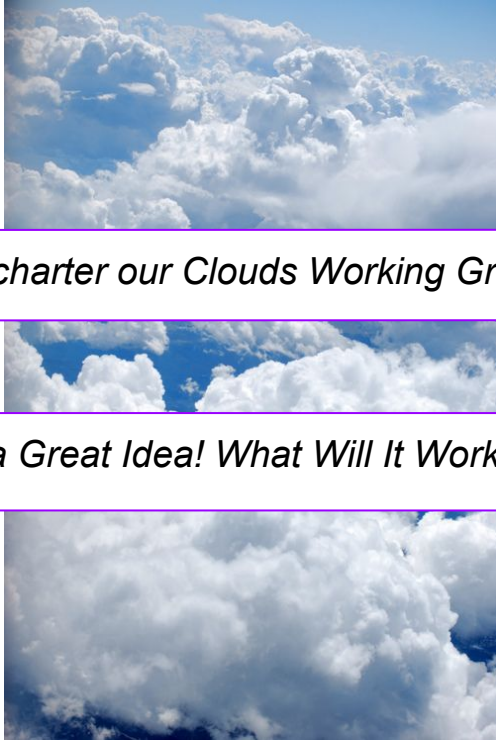
# Why do we want to break up "Huge" proposals?

- Current process was designed to charter one working group in one area
- Huge proposals often involve **multiple protocols/multiple interfaces**
- Huge proposals often involve **multiple working groups/multiple areas**
- Huge proposals often involve work in **more than one SDO**
- ADs see parts of the proposals that don't fit in their areas and don't say "yes"
- Handing off to another AD probably doesn't help, but burns time

***Divide first,  
THEN conquer!***



# Mismatch Between “Hot Topics” and IETF Structure



*“Please charter our Clouds Working Group!!!”*

*“That’s a Great Idea! What Will It Work On?”*

Cloud Applications (APP)

Cloud Transport (TSV)

Cloud Request RTG (RTG)

Cloud Hop by Hop (INT)

Cloud Security (SEC)

Cloud Operations (OPS)

# If you hear an AD say "maps and gaps", what's that?

- Proponents QUICKLY identify interfaces and rough functionality
- Proponents QUICKLY identify protocols that might provide that functionality
- **"Maps"** - What protocols will be **reused? Extended? Invented?**
- **"Gaps"** - Proponents QUICKLY develop "gap analysis" - **what's missing?**
- Identify existing working groups that will **extend existing protocols**
- Identify existing or new working groups to **invent new protocols**

*These steps are important for "Large" proposals*  
*These steps are critical for "huge" proposals!*



# "Why is the IETF so slow?"

- We want to produce work on something important and urgent
- We could start working on it, but it's not chartered/re-chartered
- We could request a charter/re-charter, but we need a BOF first - or two
- We could request a BOF, but we think we need a side meeting first - or two
- (See a problem yet?)
- If we're trying to **finish** quickly, **waiting to start** is the wrong thing to do



# The IAB: perhaps the IETF's best-kept secret

- From [RFC 2850: Charter of the Internet Architecture Board \(IAB\)](#):

*IAB members pay special attention to emerging activities in the IETF and to "Birds of a Feather" sessions at IETF meetings. The IAB assists the IESG in evaluating such activities and in determining whether an IETF or an IRTF group is more appropriate. When a new IETF working group is proposed, the IESG will forward a preliminary version of the charter to the IAB for review of architectural consistency and integrity. The IAB shall review these proposed charters and give feedback to the IESG as appropriate*

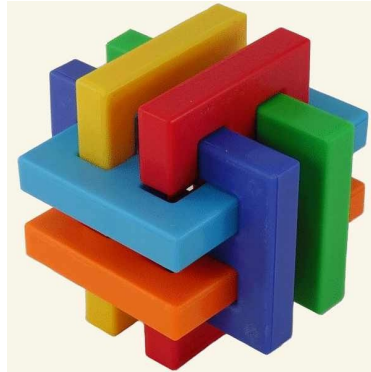
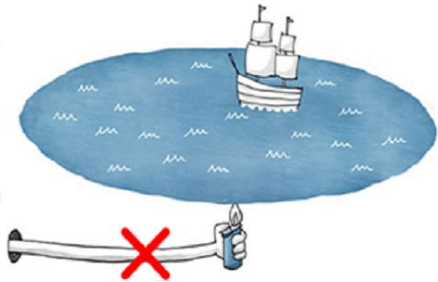
- And check out [IAB Member Roles in Evaluating New Work Proposals](#):
  - The IAB "covers" virtually all BOFs - they send one or more members to summarize BOFs and provide feedback to the IESG. You can ask to see feedback about your BOF. Most people don't.
  - The IAB provides "shepherds" for new work proposals upon AD request. Shepherds can provide architectural guidance, or help "improve" a BOF proposal to maximize the chances of a useful BOF outcome.

# Other stuff we hope you remember



# Classic Fails in BoF Requests and Charters

- “Boiling the ocean” - “short-term” and “limited scope” are usually preferred
- “Gordian Knot” - doing multiple things that can be used independently
- “Swiss Army Knife” - combining two or three efforts necessary for one product
  - Do all your interfaces need to be in the same working group" the same area?
  - Proposals for topics that really are on area boundaries aren't easy to manage!
- “Forgetting your Audience” - a charter that's only clear to people in your area
  - Most of the 27 people who evaluate new work proposals aren't expert in your area



# What other tools do you have at your disposal?

- We want to make it easy for you to find or form a community for your proposal
  - Most ADs are happy to approve most mailing list requests
  - Since IETF 99, we've been providing hoc “side meeting” rooms
  - Since IETF 100, we've been providing "IETF Lounge"/"Code Lounge"
  - Since IETF 101, we've been sponsoring "HotRFC Lightning Talks"
- **We hope people who bring in new work will focus on "maps and gaps"**
- **If they don't, ADs can charter a working group to do "maps and gaps"**
- We want to figure out what's in scope for IETF vs other SDOs
- We want to make a “charter a WG/hold a BOF?” decision
- We want proposals for new work to be transparent
  - Your AD may push you toward a formal BOF, sooner than you expect

A collage of various colored sticky notes (blue, pink, yellow, green, orange, white) scattered across the page. Each sticky note has a large, bold, black question mark drawn on it. The notes are overlapping and slightly tilted, creating a sense of movement and curiosity.

*Perhaps you have QUESTIONS???*

Did this tutorial help?  
*(We really want to know!)*

Survey is at <https://www.surveymonkey.com/r/newworktoietf>