Grand Ballroom 3

IETF New Participant Program

Session 3: Standards development

IETF®

Making the Internet work better

Welcome to the IETF New Participant Program!

Program agenda

1. Introduction to the IETF
   - About; Participants; Structure; Funding; Governance; Policies
2. Participating in the IETF
   - Mailing lists; Datatracker; IETF Meetings
3. Standards development **(this session)**
   - Areas; Working Groups; WG process; IESG process; Bringing new work
4. IETF Hackathon
   - Running code
5. Internet-Drafts and RFCs
   - Formats; Statuses; Streams; Structure; Content guidelines; Tools; Submitting; AUTH48
6. The Power of the Community
   - Community selects the leadership, Community Self Regulation, Disputes and Appeals
7. Summary and Wrap-up

Your presenter for this session
Barry Leiba

Barry Leiba is a Director of Internet Standards at Futurewei Technologies. He works on email and related technology and focuses on the "Internet of Things", messaging and collaboration on mobile platforms, security and privacy of Internet applications, and Internet standards development and deployment. Barry has been active in the IETF since the mid 1990s and has chaired many working groups in the Applications and Security Areas. He has served on the Internet Engineering Steering Group (IESG) and on the Internet Architecture Board (IAB). He is Associate Editor-in-Chief of IEEE Internet Computing magazine, in charge of departments and columns, including the "Standards" department. He is a member of the Internet Society Board of Trustees.

IETF Note Well

By participating in the IETF you agree to follow IETF processes and policies. This Note Well is a reminder of some of those policies. For a linked version of this text, please visit *www.ietf.org/note-well* or use the QR code below.

- IETF participants are expected to behave in a professional manner and extend respect and courtesy to their colleagues at all times (see *RFC 7154: IETF Guidelines for Conduct and IETF Anti-Harassment Policy*). If you have any concerns about behavior, please contact the *Ombudsteam* who have a duty of confidentiality and extensive powers to act, as set out in *RFC 7776: IETF Anti-Harassment Procedures*.

- If you are aware that any IETF contribution (as defined in *RFC 5378: Rights Contributors Provide to the IETF Trust*) is covered by patents or patent applications that are owned or controlled by you, your employer or your sponsor, you must disclose that fact, or not participate in the discussion (see *RFC 8179: Intellectual Property Rights in IETF Technology*).

- For detailed process information consult *RFC 2026: Internet Standards Process* and *RFC 2418: IETF Working Group Guidelines and Procedures* and updates to those.

- The IETF routinely makes public written, audio, video, and photographic records of IETF activities, including your personal information as set out in the *IETF Privacy Statement*.

For advice, please talk to Working Group chairs or Area Directors.

WGs and Areas

Areas and the IESG

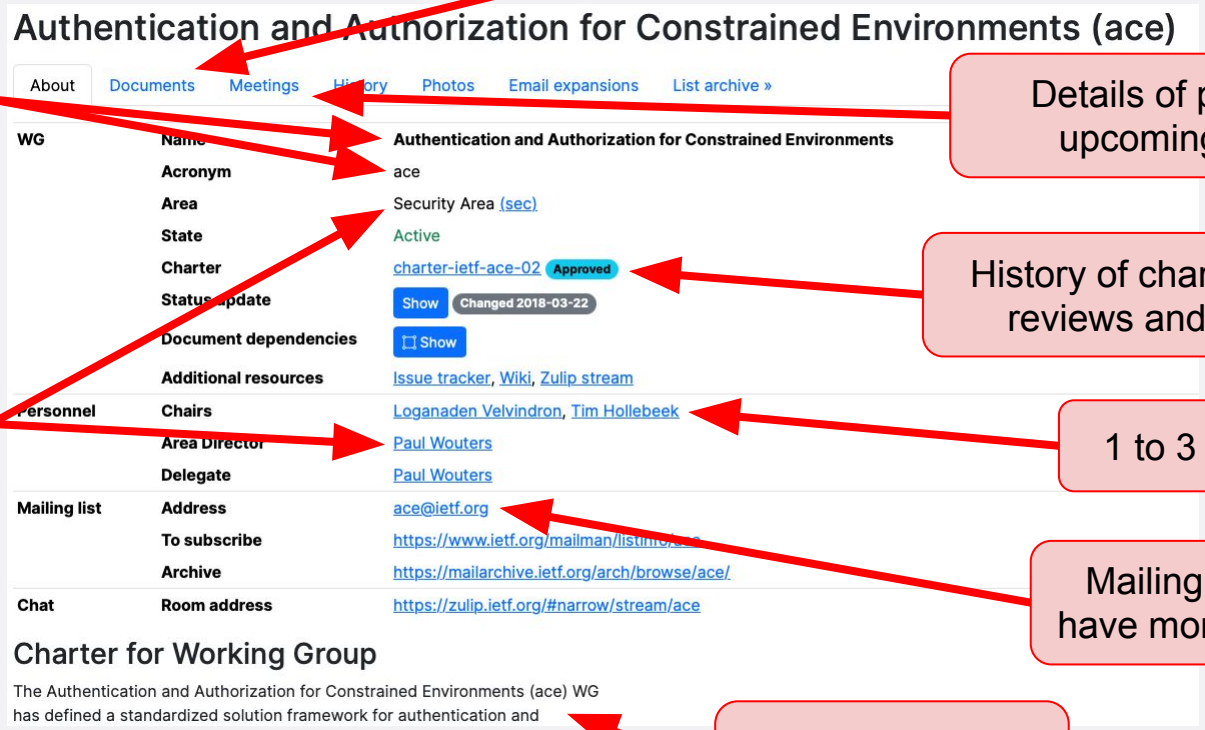
IESG has overall control of the IETF standards process

Applications and Real-Time (**ART**)	Protocols and architectures for real-time and near-real-time apps	2 ADs	24 WGs
General (**GEN**)	IETF processes	1 AD **IETF Chair**	3 WGs
Internet (**INT**)	IPv4/IPv6, DNS, DHCP, mobility	2 ADs	18 WGs
Operations and Management (**OPS**)	Network management issues and protocols. Operator issues and feedback	2 ADs	17 WGs
Routing (**RTG**)	Routing and signaling protocols	3 ADs	24 WGs
Security (**SEC**)	Security protocols and mechanisms	2 ADs	30 WGs
Web and Internet Transport (**WIT**)	Web and transport protocols	2 ADs	18 WGs

All the Working Groups
The IETF loves acronyms

ART		GEN	INT	OPS	RTG		SEC		WIT
asdf calext cbor cellar dconn diem **dispatch** dkim dmarc ecrit ediint emailcore jmap mailmaint mediaman mimi mlcodec ocm regex	rpp satp sipcore sml stir vcon wimse	**gendispatch** ianabis modpod procon	6lo 6man add bpf deleg dhc dmm dnssd drip dtn **intarea** ntp schc snac tiptop	anima bmwg dnsop green grow iotops ippm ivy mboned mops netconf netmod nmop **opsawg** sidrops srv6ops v6ops	bess bfd bier cats ccamp detnet idr lisp lsr lsvr manet mpls nvo3 pce pim rift roll	**rtgwg** savnet spring teas tvr	ace acme cose dance dult emu hpke ipsecme jose keytrans kitten lake lamps mls oauth ohai openpgp ppm pquip	privacypass radext rats scim scitt seat **secdispatch** spice sshm suit tls uta	aipref avtcore ccwg cdni core happy httpapi httpbis masque moq nfsv4 quic scone tcpm **tsvwg** webbotauth webtrans wish

Structure of a Working Group
Datatracker is your friend



Adopted I-Ds and current status

Name and acronym

Details of previous and upcoming meetings

History of charter changes, reviews and approvals

Area and Responsible AD

1 to 3 Chairs

Mailing list (some have more than one)

Charter, including milestones

Working Group documents
Full list in Datatracker

Authentication and Authorization for Constrained Environments (ace)

About | Documents | Meetings | History | Photos | Email expansions | List archive »

Search

Document	Pages	Date	Status	IPR	AD/Shepherd
Active Internet-Drafts (11 hits)					
draft-ietf-ace-authcred-dtls-profile-01 **Additional Formats of Authentication Credentials for the Datagram Transport Layer Security (DTLS) Profile for Authentication and Authorization for Constrained Environments (ACE)**	28 pages	2025-03-03 New	I-D Exists WG Document		
draft-ietf-ace-coap-est-oscore-07 **Protecting EST Payloads with OSCORE**	23 pages	2025-03-03 New	I-D Exists WG Document : Proposed Standard		
draft-ietf-ace-edhoc-oscore-profile-07 **Ephemeral Diffie-Hellman Over COSE (EDHOC) and Object Security for Constrained Environments (OSCORE) Profile for Authentication and Authorization for Constrained Environments (ACE)**	83 pages	2025-03-03 New	I-D Exists WG Document		
draft-ietf-ace-group-oscore-profile-04 **The Group Object Security for Constrained RESTful Environments (Group OSCORE) Profile of the Authentication and Authorization for Constrained Environments (ACE) Framework**	56 pages	2025-03-03 New	I-D Exists WG Document		
draft-ietf-ace-workflow-and-params-04 **Short Distribution Chain (SDC) Workflow and New OAuth Parameters for the Authentication and Authorization for Constrained Environments (ACE) Framework**	54 pages	2025-03-03 New	I-D Exists WG Document		
draft-ietf-ace-wg-coap-eap-15 **EAP-based Authentication Service for CoAP**	41 pages	2025-02-19 New	RFC Ed Queue : EDIT Submitted to IESG for Publication : Proposed Standard Reviews: iotdir genart LC secdir LC iotdir Early secdir Early		Paul Wouters Loganaden Velvindron

Working Group documents
Example document

Additional Formats of Authentication Credentials for the Datagram Transport Layer Security (DTLS) Profile for Authentication and Authorization for Constrained Environments (ACE)

draft-ietf-ace-authcred-dtls-profile-01

Status | IESG evaluation record | IESG writeups | Email expansions | History

Versions:

00 01

Document	**Type**	Active Internet-Draft (ace WG)
	Authors	Marco Tiloca, John Preuß Mattsson
	Last updated	2025-03-03
	Replaces	draft-tiloca-ace-authcred-dtls-profile
	RFC stream	Internet Engineering Task Force (IETF)
	Intended RFC status	(None)
	Formats	txt html xml htmlized pdf bibtex bibxml
	Additional resources	Mailing list discussion
Stream	**WG state**	WG Document
	Document shepherd	(None)

Unadopted “Individual Submission”

Adopted by the Working Group

Basic standards process

Fundamental approach - Rough consensus
Humming and Polling, not Voting

The unofficial mantra of the IETF is:

We reject: kings, presidents and voting.

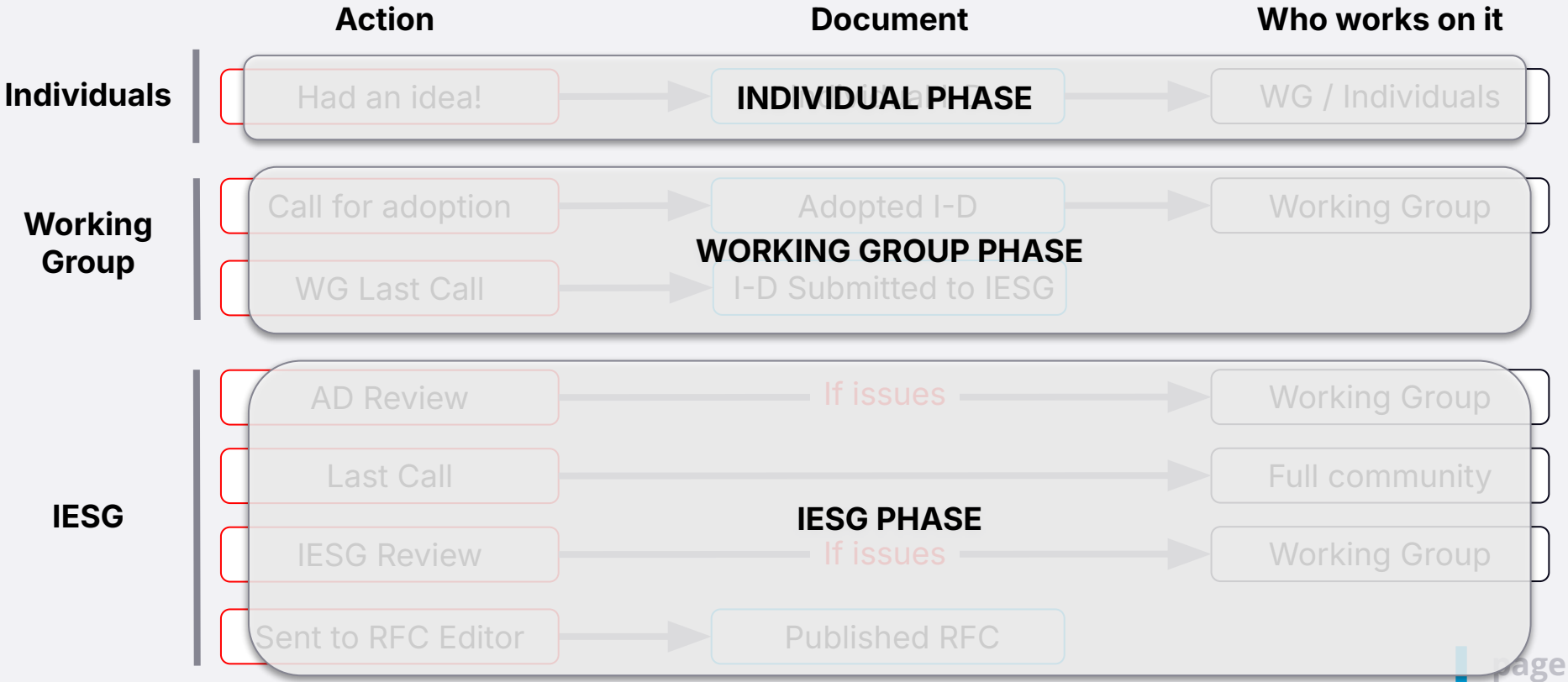
We believe in: rough consensus and running code.

Achieved when all issues are addressed, but not necessarily accommodated

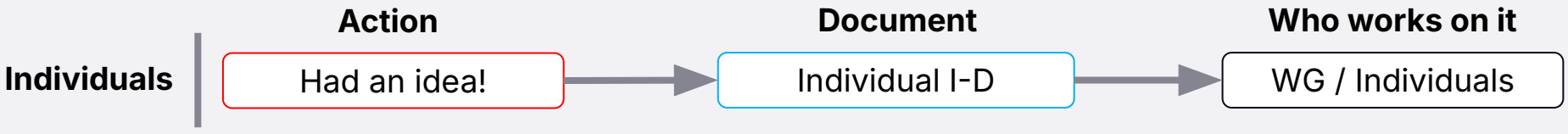
- Lack of disagreement is more important than agreement
- Humming [and polling] should be the start of a conversation, not the end
- Consensus is the path, not the destination
  - i.e. ongoing process not left to the very end
- One hundred people for and five people against might not be rough consensus
- Five people for and one hundred people against might still be rough consensus
  - i.e. technical opinions matter, not last minute +1 votes against

Reference: RFC7282 "On consensus and Humming in the IETF"

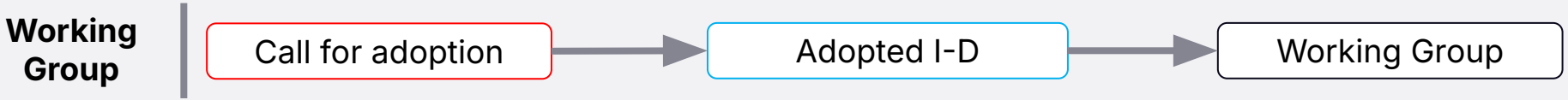
Process flow summary



Working Group Process
Part 1 - Individual I-D to Adopted I-D

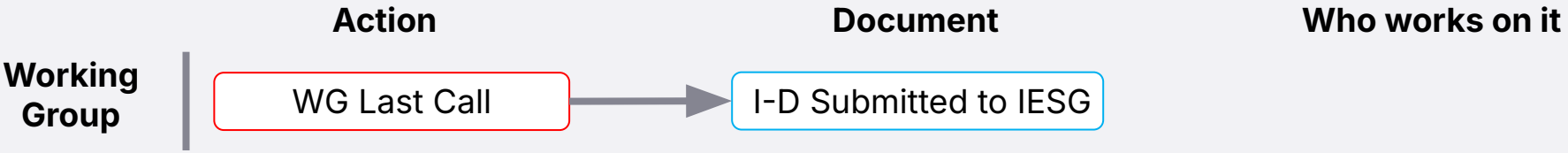


- **Participants:** Discuss issues/ideas
- **Participants:** Submit individual I-Ds for WG consideration
- **Participants:** Discuss and work on individual I-Ds



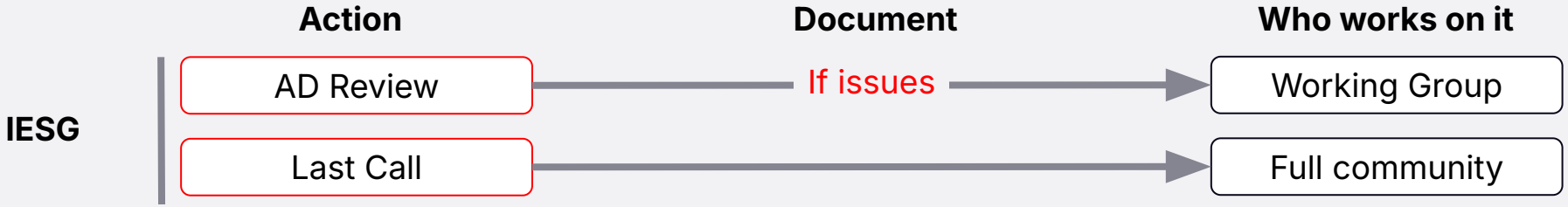
- **Chairs:** Decide if enough interest to issue call for WG adoption for an I-D
  - **Participants:** Discuss call for adoption
  - **Chairs:** Decide if rough consensus exists for WG to adopt the I-D
- **Participants:** Work on WG adopted I-D(s)

Working Group Process
Part 2 - Working Group Last Call (WGLC)



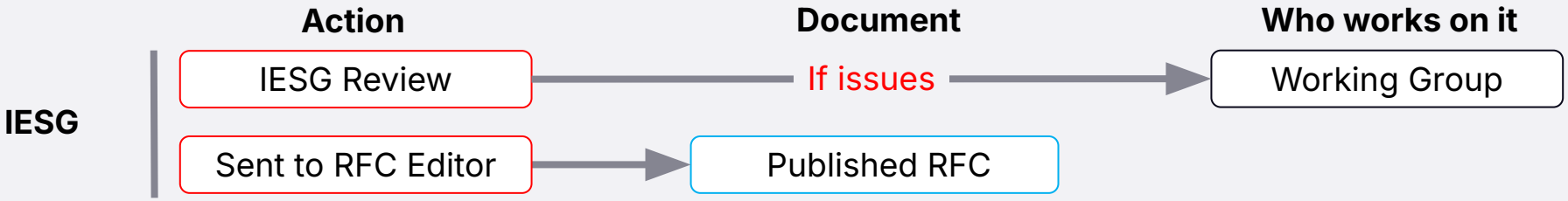
- **Chairs:** Decide if WG adopted I-D is ready and issue WG last call (**WGLC**)
  - **Participants:** Discuss WG last call
  - **Chairs:** Decide if rough consensus exists that I-D is ready for publication
  - **Chairs:** Select Document Shepherd to write-up document for IESG
  - **Chairs:** Submit to IESG for publication with Shepherd write-up
  - **Responsible AD(s)/Chairs:** May request Directorate reviews

IESG process
Part 1 - AD Evaluation and Last Call



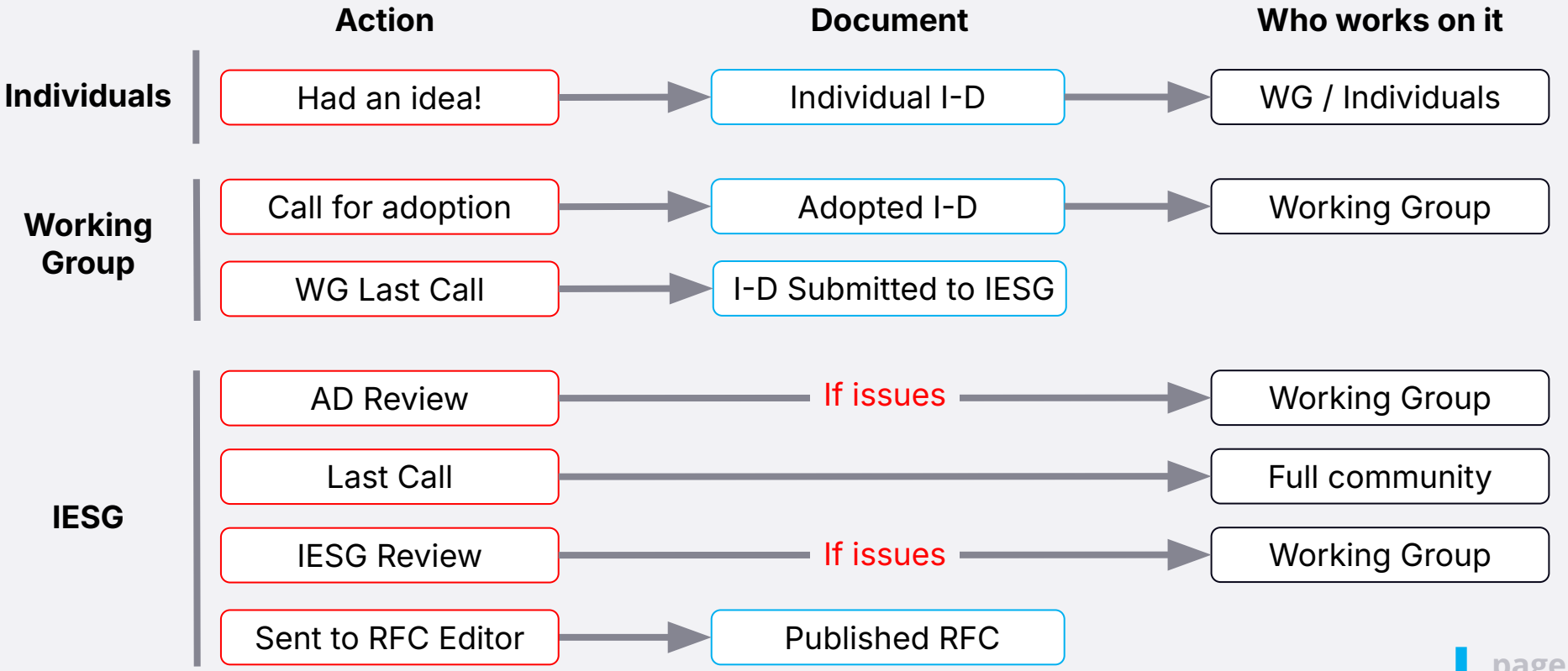
- **Responsible AD(s):** Conducts AD Evaluation of I-D
  - **Responsible AD(s)**: May return I-D to WG to address issues
    - **WG Chairs/Shepherd/Authors:** Revises I-D to address issues
- **IESG:** Issues community-wide Last Call
  - Directorate secretaries: Decide if Directorate review is needed
  - **IETF Community (any participant):** Discusses Last Call
  - **Responsible AD:** Assesses if I-D should proceed to IESG Evaluation

IESG process
Part 2 - IESG Evaluation and Publication



- **IESG:** Conducts IESG Evaluation of I-D: ADs choose to **ballot** on the I-D
  - **WG Chairs/Participants/Shepherd/Authors:** Revises I-D to address issues
- **IESG:** I-D passes IESG ballot
  - **IESG:** Submits I-D to RFC Production Center for publication

Process flow summary

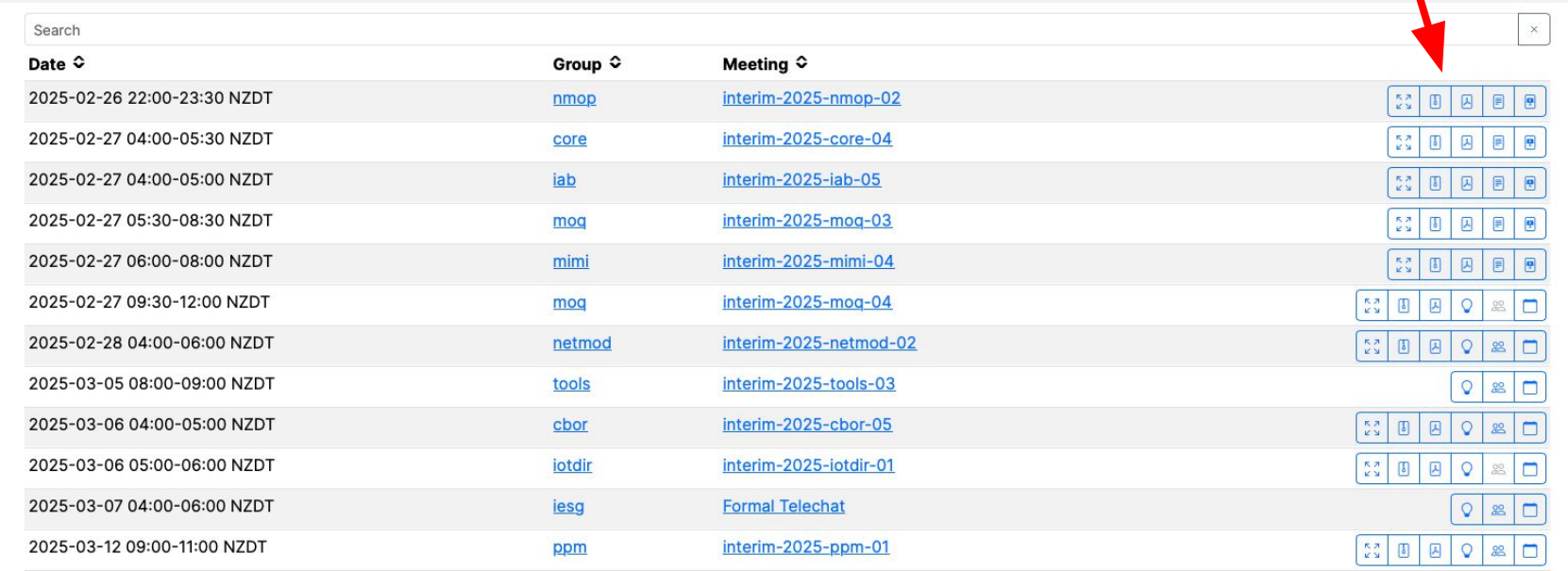


Differences in Working Group operations

- **GitHub** (or similar). Probably the biggest differentiator between WGs. Some use this extensively for authoring I-Ds and tracking issues, including automated build of publication formats, while others do not use it at all.
- **Interim meetings**. WGs are free to hold interim meetings in-between the main plenary meeting. Some do this on a regular schedule. Some meet in person.
- **Additional roles**. WGs can have a WG Secretary who records decisions and helps organize activities. Chairs can appoint delegates to carry out some of their duties.
- **Assigning authors/editors**. Once an I-D is adopted, the WG decides who the authors and can change them. The WG can also appoint an editor who assembles the work of multiple authors.
- **Design teams**. The WG may appoint a team to work on specific designs

[Interim] Meetings
Snapshot from Datatracker

Meeting resources



Search

Date	Group	Meeting
2025-02-26 22:00-23:30 NZDT	nmop	interim-2025-nmop-02
2025-02-27 04:00-05:30 NZDT	core	interim-2025-core-04
2025-02-27 04:00-05:00 NZDT	iab	interim-2025-iab-05
2025-02-27 05:30-08:30 NZDT	moq	interim-2025-moq-03
2025-02-27 06:00-08:00 NZDT	mimi	interim-2025-mimi-04
2025-02-27 09:30-12:00 NZDT	moq	interim-2025-moq-04
2025-02-28 04:00-06:00 NZDT	netmod	interim-2025-netmod-02
2025-03-05 08:00-09:00 NZDT	tools	interim-2025-tools-03
2025-03-06 04:00-05:00 NZDT	cbor	interim-2025-cbor-05
2025-03-06 05:00-06:00 NZDT	iotdir	interim-2025-iotdir-01
2025-03-07 04:00-06:00 NZDT	iesg	Formal Telechat
2025-03-12 09:00-11:00 NZDT	ppm	interim-2025-ppm-01

More on the IESG

A **formal meeting every two weeks** where it processes I-Ds and deals with other management issues. Open meetings with the agenda published in advance on Datatracker. These calls are also known as a **telechat**.

When ADs **ballot** on an I-D they raise issues in one of two ways:

- **DISCUSS**: Blocking - must be addressed and cleared for the I-D to proceed.
- **COMMENT**: Non-blocking, but is still generally addressed before the I-D proceeds. Also used to raise ‘nits’ - grammar, spelling, simple errors.

During IETF Meetings the IESG are extremely busy but there are **IESG Office Hours** for drop-in visits and many of them come to the New Participant Quick Connections (Sunday) and New Participant Social Hour (Thursday).

Output of the standards process
RFCs with one of the following statuses

- **Standards** (**STD**) have one of the following statuses:
  - **Proposed Standard** (**PS**). The first official stage. Many standards never progress beyond this level.
  - **Internet Standard** (**IS**). The final stage, when the standard is shown to be interoperable and widely deployed.
- **Informational**. Published for the general information of the Internet community.
- **Best Current Practice** (**BCP**). Used to document both IETF processes and common guidelines for Internet policies and operations.
- **Experimental**. Typically denotes a specification that is part of some research or development effort.

STDs and BCPs are considered subseries of the RFCs and have additional subseries numbering. More than one RFC can share the same STD or BCP number.

Bringing new work

Is the IETF the right place to bring this work?
Non-exhaustive list with exceptions

- **Is this an Internet-layer protocol or related operational best practice?** The IETF does not standardize transmission hardware or specialized application layer protocols but does standardize all the protocol layers in between.
- **Will it be used and who will use it?** The IETF prefers work where there is an identified set of likely users who are committed to working on the specification. If there are already non-interoperable alternatives, then the participation of the implementers of those alternatives would be an advantage.
- **Is this engineering and not research?** The IETF is an engineering body and not a research body. If your proposed work is closer to research, then it would be more appropriate for the IRTF.

But there are exceptions - lots of exceptions.

Prepare for engagement in the IETF
No shortcut for doing the work

- **Write up the idea as an Internet-Draft** or it is highly unlikely to be properly considered by other IETF participants. This allows you to clearly explain your idea, provide references to related work or other sources and set out your goals for the idea.
- **Understand rights and intellectual property.** You are free to patent your idea but you are required to disclose the existence of any such patent and this will be taken into account when deciding whether or not a particular proposed work item should progress.
- **Decide what outcome you are aiming for.** Some people write Internet-Drafts without a specific outcome in mind. Some just want to start a discussion and see where it goes, while some just want to record an idea and leave it to others to decide if they want to pick it up.

Choose your path for the work
Advice is often sought at this stage

If there is an **appropriate WG**, then share your I-D there. If not then consider:

- Taking your I-D the appropriate **area dispatch group** for a community discussion on the next steps.
- Forming a **community of interested participants**, often done by requesting a **non-working group mailing list** to discuss the idea.
- Requesting a **BOF** (Birds Of a Feather), which is a pathway to creating a new WG. This is normally only done when you know there is good community of interest and you have a clear idea of what the BOF will consider.

The other paths are **AD sponsorship** and publication on the **Independent Stream**, and both covered under advanced topics.

How to be successful
This is where many fall down

Success is finding a group of people who **agree there is a problem to be solved** and will work on the solution with you.

- Write up your idea as an Internet-Draft. This is crucial.
- Prepare a short, accessible presentation.
- Socialize your idea by talking to people
- Present at HotRFC
- If you ask to present at a WG session be aware of how busy they are

Respond positively to feedback and try to incorporate it - this is the essence of consensus. Remember: Everyone is a volunteer, nobody is obliged to read or listen.

Questions?

Thank you for attending this session

Please fill out the post-program survey that will be emailed to you