

The Amazing World of the IETF

Everything You Always Wanted To Know About The IETF
But Were Afraid To Ask

April 2016, SEE5, Matthijs Mekking, Dyn



About IETF

The Internet Engineering Task Force (IETF) is a large open, loosely self-organized, international community concerned with the evolution of the Internet architecture and the smooth operation of the Internet.

Its mission is to make the Internet work better by producing high quality, relevant technical documents (RFCs).

About Me

- Dutch software engineer working at Dyn
- Started IETF work in 2006 when starting research project at NLnet Labs



World of Acronyms

IETF

IASA

AD

IRSG

NTP

IAD

NOMCOM

BOF

ISOC

IRTF

INT

WG

RG

IAOC

IANA

BCP

IAB

IESG

RTG

DNSOP

CFRG

RFC

ICANN

STD



Today's Presentation

IETF Organizational Architecture

Creating some structure in the Acronym Jungle

The Document Lifecycle

How do I get an RFC published?

Personal Experiences

Theory versus Practice



Resources and Acknowledgements

- IETF TAO [rfc 4677]
 - <https://www.ietf.org/tao.html>
- Influential people
 - Jelte Jansen, Jan Žorž, Désirée Miloshevic



IETF Organizational Architecture



IETF Mission



Stéphane Bortzmeyer

@bortzmeyer

 Follow

"The IETF exists to solve problems on the
Internet
Not to write RFCs"

[#IETF95](#)

RETWEETS

3

LIKES

3

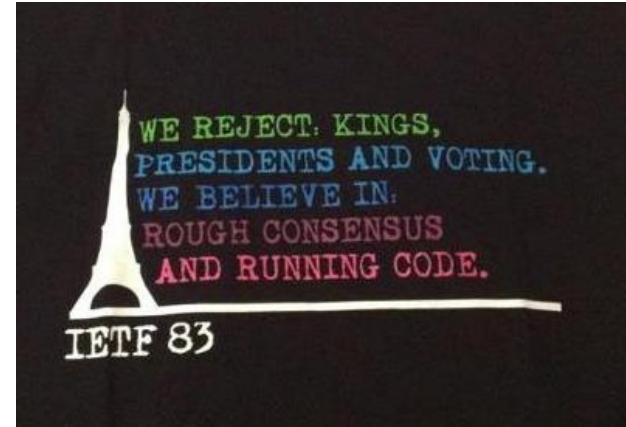


7:05 AM - 3 Apr 2016



IETF Mission [rfc 3935]

- To make the Internet work better
 - By publishing relevant documents
 - Through the following principles
 - Open process
 - Volunteer core
 - Technical competence
 - Rough consensus and running code
 - Protocol ownership



The IETF is not

- The IETF is not a corporation
- The IETF has no board of directors
- The IETF does not run the Internet
 - Makes standards, does not patrol
- There is no membership to the IETF

*No organization can be successful
without at least having some sort of structure*

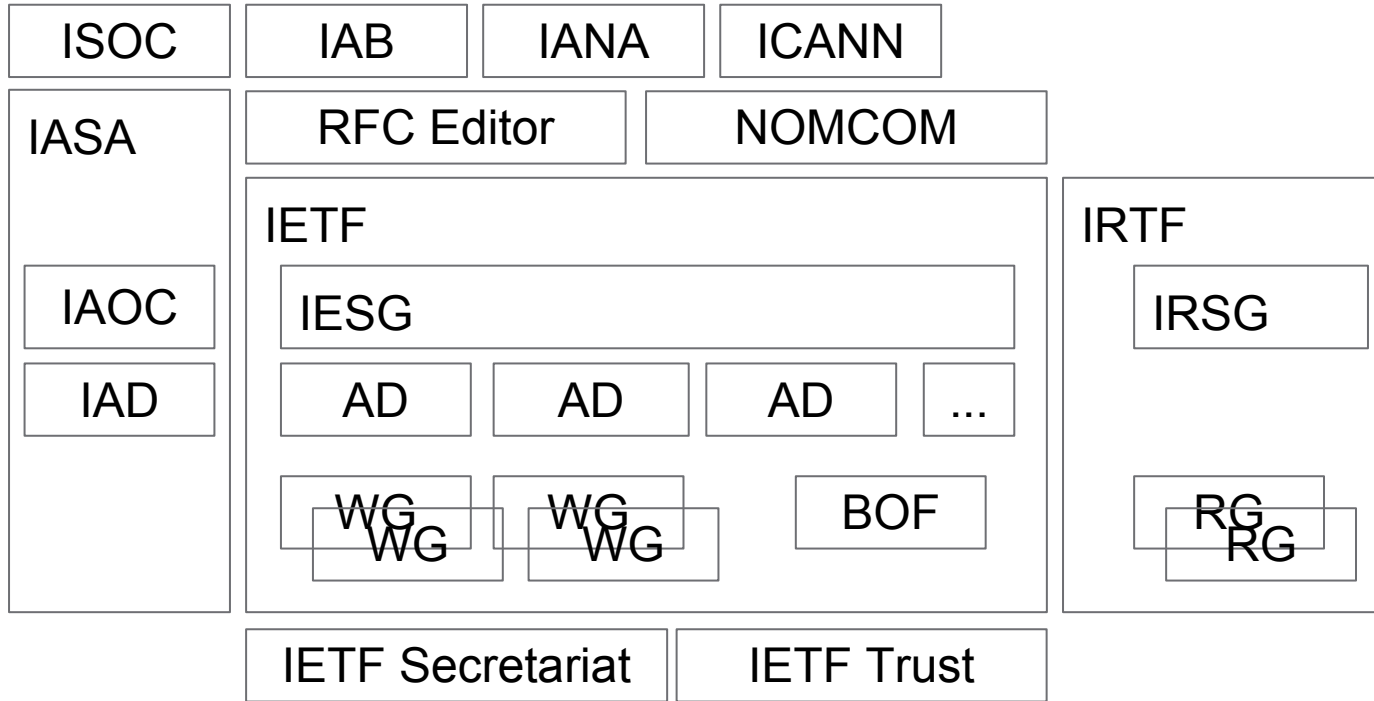
Basic Organizational Architecture

ISOC

IAB

IETF

Advanced Organizational Architecture



Internet Society (ISOC)



ISOC

IAB

International, non-profit organization

*Facilitates open development
of Internet standards, protocols*

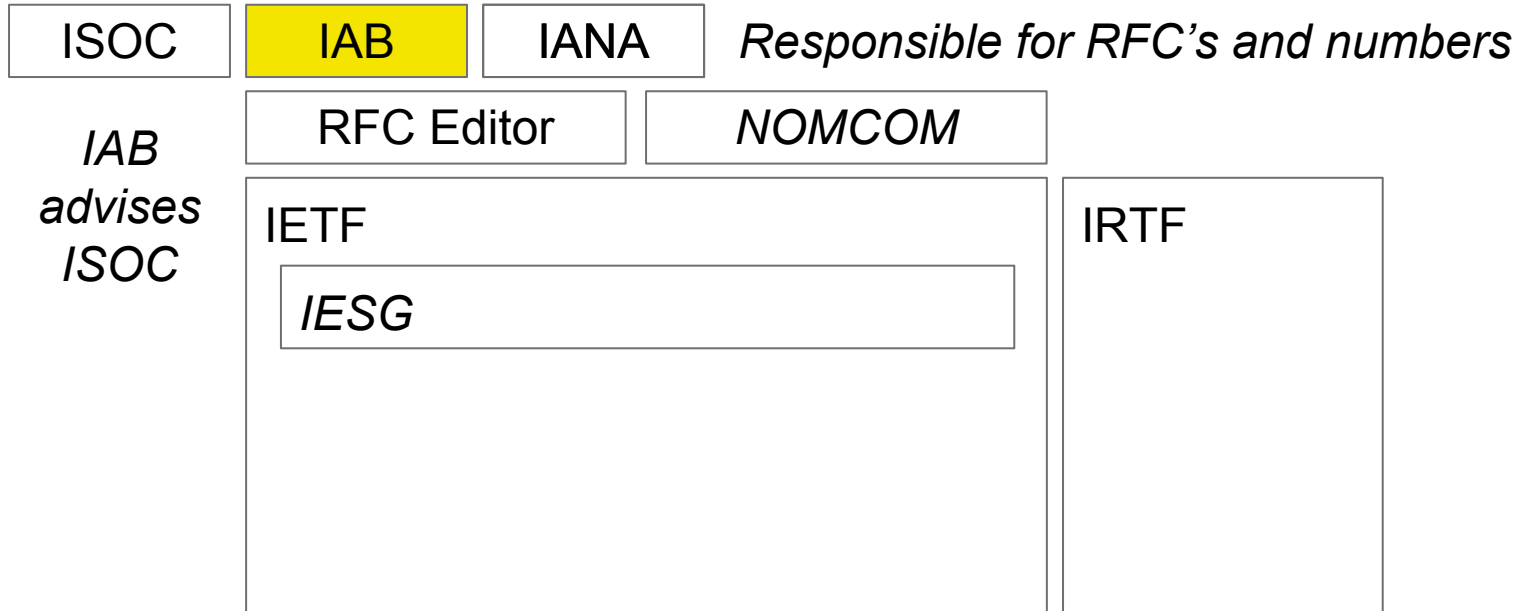
IETF

IESG



IRTF

Internet Architecture Board



Focuses on long-term strategy

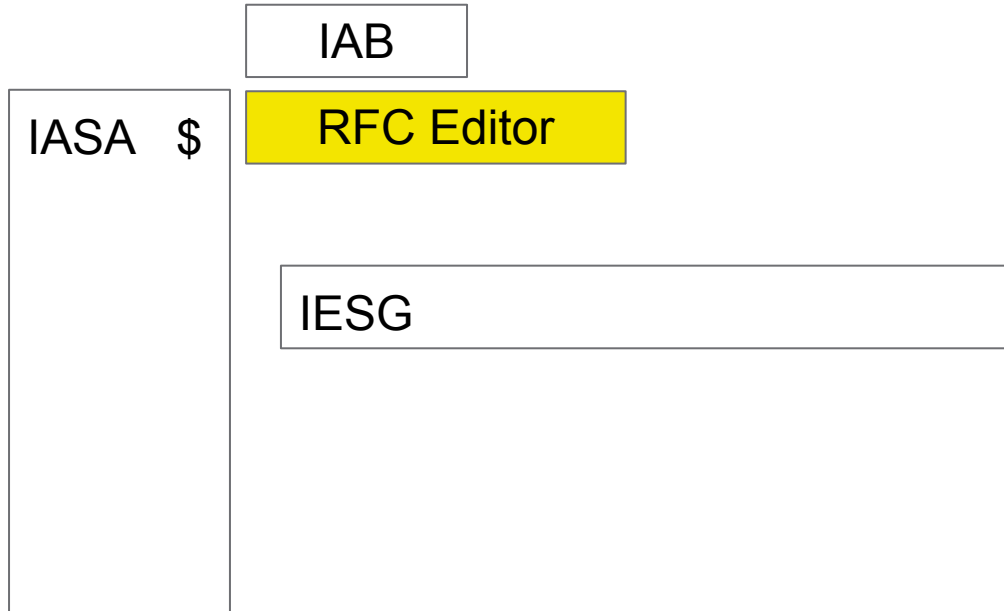
Internet Assigned Numbers Authority



The core registrar for IETF for Internet numbers

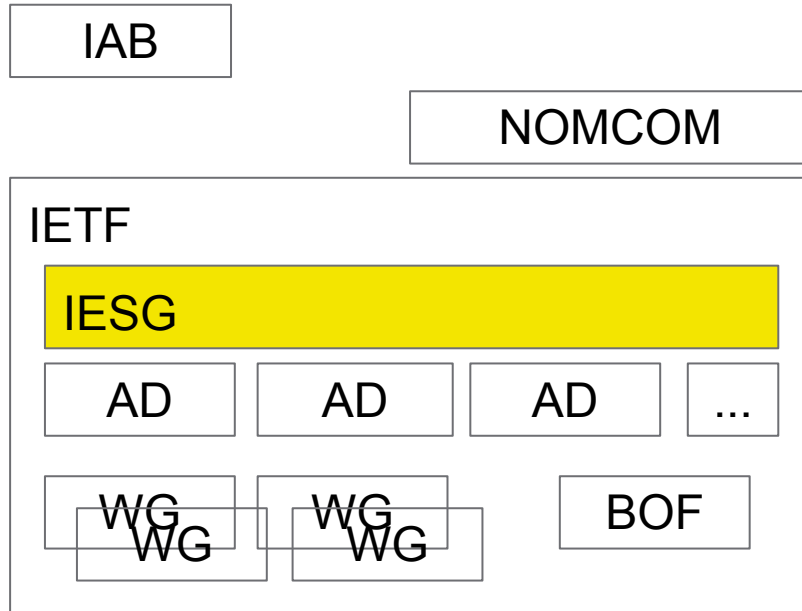
0	NoError	No Error	[RFC1035]
1	FormErr	Format Error	[RFC1035]
2	ServFail	Server Failure	[RFC1035]
3	NXDomain	Non-Existent Domain	[RFC1035]
4	NotImp	Not Implemented	[RFC1035]
5	Refused	Query Refused	[RFC1035]
6	YXDomain	Name Exists when it should not	[RFC2136] [RFC6672]
7	YXRRSet	RR Set Exists when it should not	[RFC2136]
8	NXRRSet	RR Set that should exist does not	[RFC2136]
9	NotAuth	Server Not Authoritative for zone	[RFC2136]
9	NotAuth	Not Authorized	[RFC2845]
10	NotZone	Name not contained in zone	[RFC2136]
11-15	Unassigned		

RFC Editor



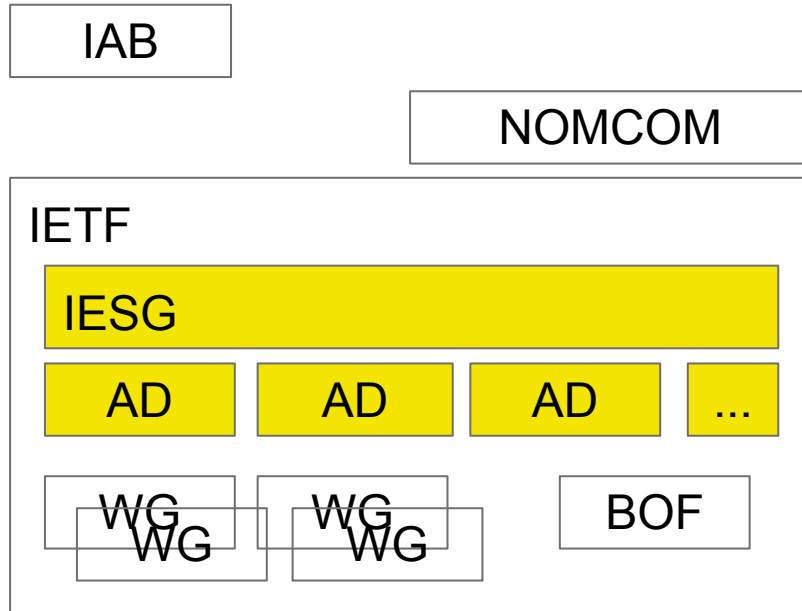
*The RFC Editor
edits, formats, and publishes
Internet-Drafts as RFCs*

Internet Engineering Steering Group



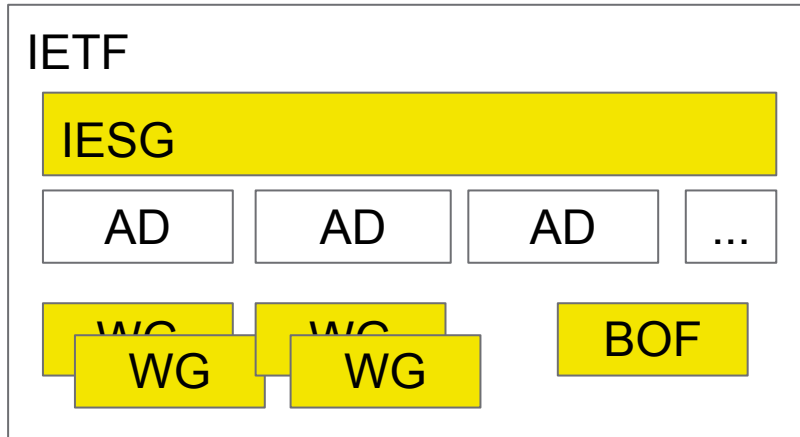
*Responsible for
technical management
of IETF activities
and the Internet
Standards process*

Area Directors



ART GEN INT OPS RAI RTG SEC TSV

Working Groups

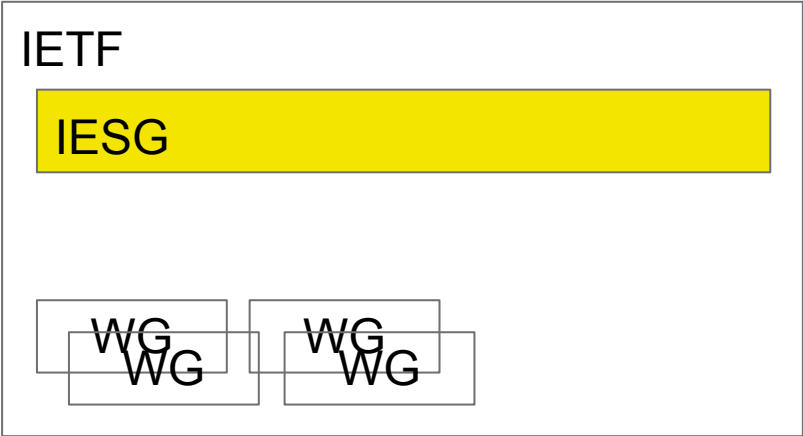


*Most WGs are started
after a Birds of Feather
(BOF)*

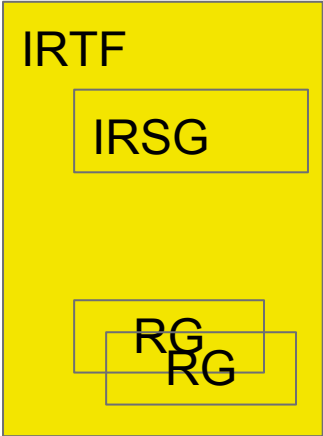
There are 100+ active WGs...

Internet Research Task Force

IAB

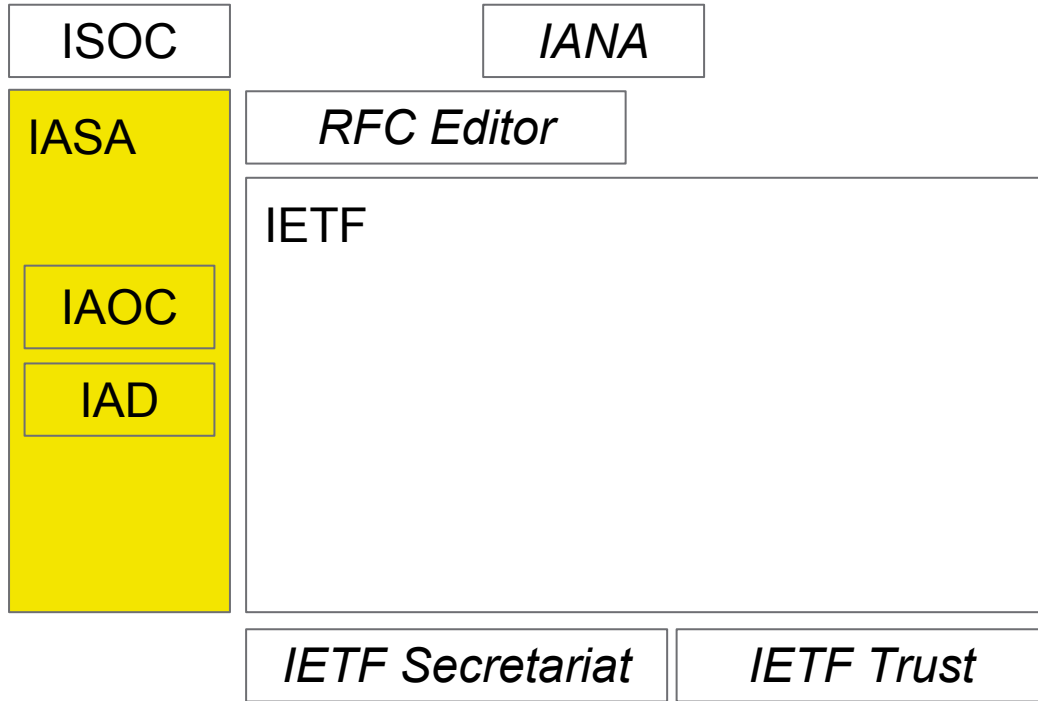


There are 100+ active WGs...

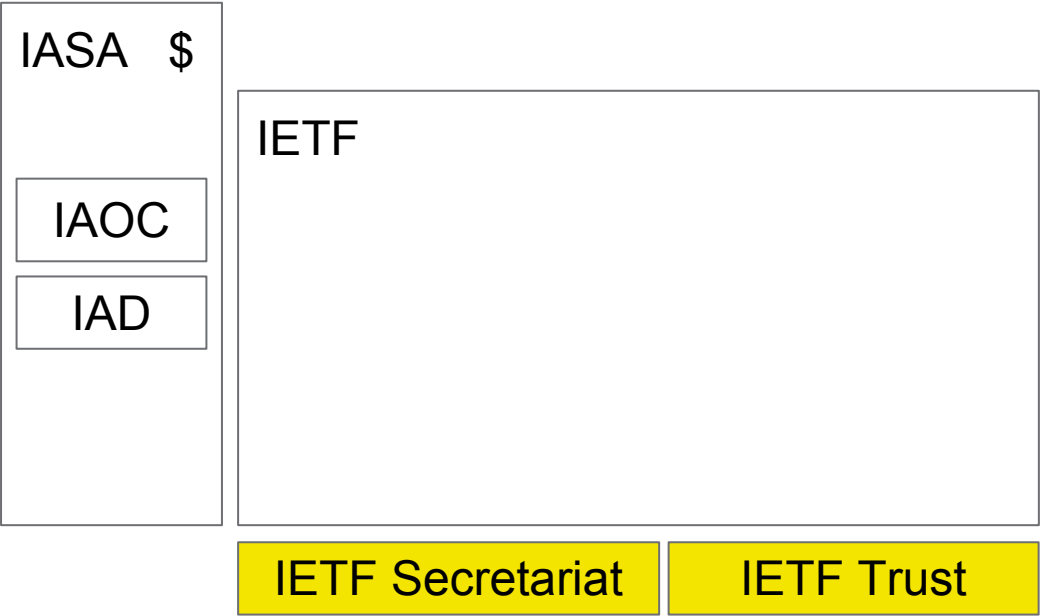


...and 11 RGs

IETF Administrative Support Activity



IETF Secretariat and Trust



Quick Recap

ISOC

IAB

IETF

IESG

AD

AD

AD

WG

WG

WG

WG

IRTF

Getting an RFC Published



Getting an RFC published

- Every RFC starts out as an Internet-Draft (I-D)
- Several document streams
 - IETF
 - WG
 - Individual
 - IRTF
 - IAB
 - Independent



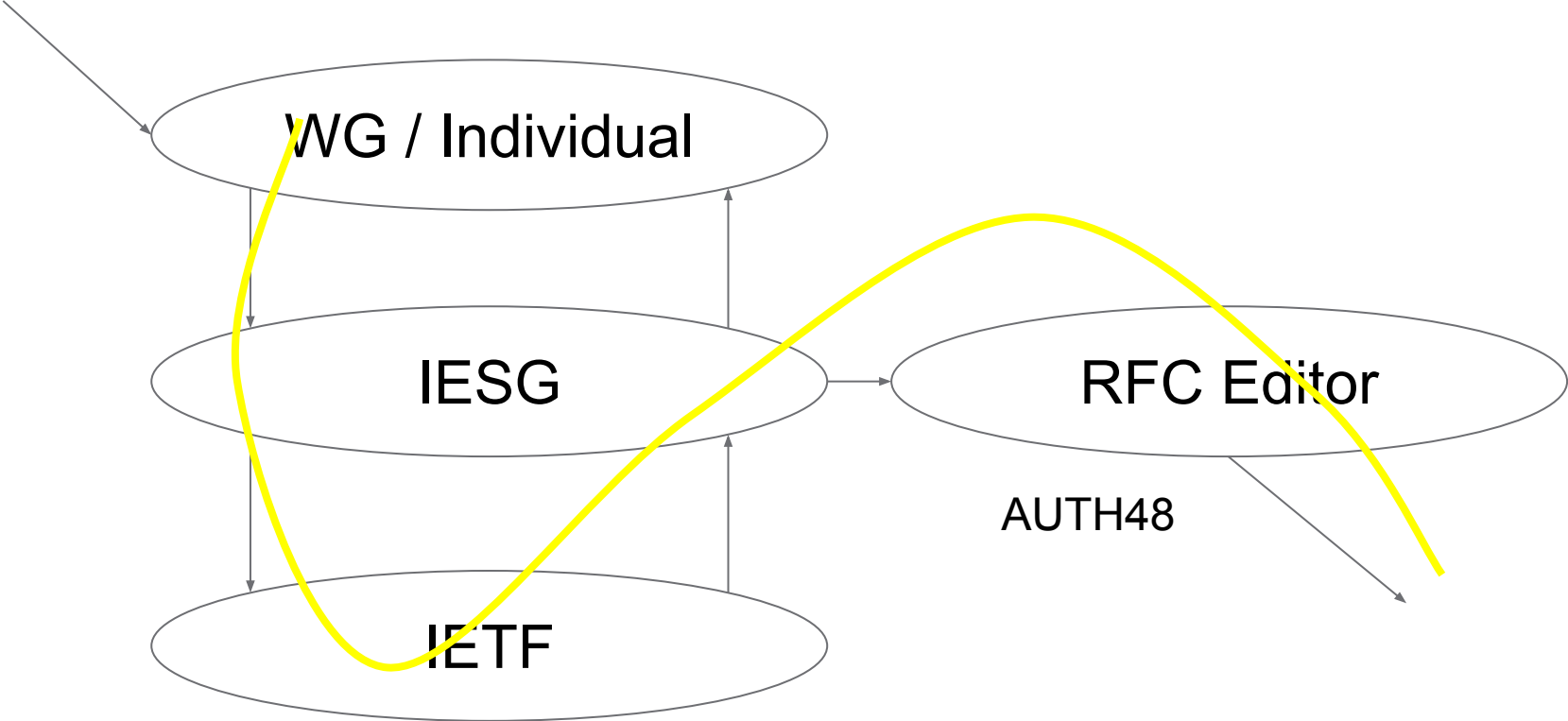
Getting an RFC published

- Not All RFCs are Standards
 - Standards Track
 - Proposed, Draft, and Internet Standards
 - Best Current Practices
 - Informational
 - Experimental
 - Historic

Getting an RFC published

- Pick a good name:
 - Example: *draft-fujiwara-dnsop-nsec-aggressiveuse*
- Editor tools:
 - xml2rfc and many others (pandoc2rfc)
 - ID-Nits
 - See <https://tools.ietf.org>
- Submit using the I-D Submission tool:
 - <https://datatracker.ietf.org/submit/>

IETF Document Lifecycle



Congratulations! Your doc is now RFC

- A published RFC can never change
 - Its Category can
- Error in RFCs: Reporting Errata



My Personal Experiences



IETF Meetings

- The very first IETF:
 - IETF 1: San Diego, 1986
- My first IETF: Taking the plunge
 - IETF 78: Philadelphia, 2008

TAO: “The IETF meeting is a gathering of the tribes”



Getting an RFC published

- RFC 6781: DNSSEC Operational Practices (Version 2)
- RFC 7129: Authenticated Denial of Existence in DNS
- RFC 7583: DNSSEC Key Rollover Timing

“Every RFC starts out as an (Internet) Draft”

Should you go to an IETF?

- Networking hardware/software vendors
 - Very relevant, in fact you probably already attend
 - Engineers/developers
- Operators
 - Many of the best operations documents come from real-world operators
- Academics
 - Great place for information on networking research
 - IRTF



Should you go to an IETF?

IETF meetings are of little interest to sales and marketing folks, but of high interest to engineers and operators.

There is no exposition hall, few tutorials, and no big-name industry talks.

Instead there is lots of work, as well as a fair amount of time for socializing for many participants

Questions?

