

# IETF Ornithology: Potential Public Policy Aspects in IETF 121

A Currated Overview

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October 23, 2024

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## Introduction

This document serves as an aid for people who are observing the work in the Internet Engineering Task Force (IETF) from a policy-based perspective. We have tried to indicate which activities might be of policy interest.

This is not the only curated list for people with other than technical interest of IETF activity. [Article 19 produced a web page](#) with an overview of working groups whose work that has human right considerations. Also, the IETF itself publishes lists of new topics at IETF meetings through its [blog](#). This curation may have some overlap with others. Completeness is neither claimed nor guaranteed.

This version of the Ornithology has been updated for IETF 121. Times are indicative only. Verify time slots of interest using the [IETF meeting agenda](#).

## 1 The IETF

The IETF work is organized in working groups that are themselves clustered in areas. There are currently 7 areas.

- Internet Area ([int](#)) - dealing with IP packets and how to Internetwork
- Routing Area ([rtg](#)) - about how to route those packets.
- Web and Internet Transport ([wit](#)) - provides abstract end to end connections for applications to use.
- Operations and Management Area ([ops](#)) - works on managing and operating IP based networks
- Applications and Real-Time Area ([art](#)) - provides building blocks for applications
- Security Area ([sec](#)) - provides security building blocks for it all.
- General Area ([gen](#)) - is about organizing the IETF and its governance.

The descriptions above are quite informal, more information about Areas can be found on the [IETF Areas webpage](#)



## 1.1 New Working Groups

Below is an inventory of working group chartered since IETF 119, none were chartered since IETF 120.

- ART: Mail Maintenance(MAILMAINT) was [chartered](#) 08 May, 2024
- INT: IPv6 over Networks of Resource-constrained Nodes(6LO) was [chartered](#) 19 March, 2024
- INT: [DNS Delegation\(DELEG\)](#) was [chartered](#) 26 June, 2024
- OPS: SRv6 Operations(SRV6OPS) was [chartered](#) 14 June, 2024
- RTG: BGP Enabled ServiceS(BESS) was [chartered](#) 20 March, 2024
- RTG: Link State Routing(LSR) was [chartered](#) 20 March, 2024
- RTG: Pseudowire And LDP-enabled Services(PALS) was [chartered](#) 20 March, 2024
- RTG: Time-Variant Routing(TVR) was [chartered](#) 20 March, 2024
- SEC: [Secure Patterns for Internet CrEdentials\(SPICE\)](#) was [chartered](#) 14 June, 2024
- SEC: Secure Shell Maintenance(SSHM) ([charter](#)) 27 September, 2024

The following groups are currently being proposed:

- WIT: [Standard Communication with Network Elements\(SCONE\)](#) ([charter](#)).
- GEN: Update to IANA Considerations(IANABIS) ([charter](#)).
- GEN: [MODeration PrOceDures\(MODPOD\)](#) ([charter](#)).

See the IETF datatracker for a full [overview of chartering or re-chartering groups](#)

## 1.2 Birds of a Feather (BoFs)

In general, BoFs (Bird of a Feather<sup>1</sup>) meetings are interesting because they discuss potential new streams of work. It is the place where new work often surfaces. Information on BoFs can be found on the [IETF data tracker](#).

Here we enumerate all BoFs that we identified. We provide a high-level summary and indicate their relation to what might be policy interests. Readers are advised to follow the link in the title to gather more background about the BoF and find links to related Internet drafts and other prior art.

Often, before working groups are formed, meetings are organized to assess if there is enough clarity and interest around a particular issue to form a working group.

At IETF121 we identified the following BoFs that may be of interest.

### 1.2.1 Digital Emblems (diem)

- IETF121: Tue 05 Nov 2024 09:30 - Liffey A
- [BoF request](#)
- Keywords: cyber stability, humanitarian law

Emblems such as the red cross, the crescent moon, or the blue helmets of UN peace keeping forces have special protection under the Geneva convention and other

<sup>1</sup>From "Birds of a feather flock together" an English proverb, also the inspiration for the esoteric title of this document.



international legal instruments. This BoF explores the problem space in creation and adopting emblems in the digital realm. This work covers multiple disciplines, including international and military (cyber) law, and diplomacy.

#### 1.2.2 RESTful Provisioning Protocol (rpp)

- IETF121: Wed 06 Nov 2024 09:30 - Liffey Hall 1
- [BoF request](#)
- Keywords: DNS

This BOF discusses formation of a working group for the standardization of the communication protocol between registrars and registrars in the domain name system's (DNS) value chain. Whereas nowadays more and more registries offer a RESTful interface (web based APIs) the need for a standardized approach emerges.

#### 1.2.3 High Performance Wide Area Network (hpwan)

- IETF121: Mon 04 Nov 2024 13:00 - The Auditorium
- [BoF request](#)
- Keywords: QOS, high performance

This BoF seeks to identify requirement for the operation of high performance connections on shared potentially intercontinental networking infrastructure. It looks at use cases that are mostly relevant in scientific context such as those in high energy physics (e.g. the Worldwide Large Hadron Collider Computing Grid (WLCG), multiple peta bytes are moved on a daily basis through a multiple-tier infrastructure spanning over 170 sites in over 40 countries)

#### 1.2.4 Deepspace (deepspace)

- IETF121: Thu 07 Nov 2024 13:00 - Wicklow Hall 2B
- [BoF request](#)
- Keywords: space

Intended to form a working group to address the specific impacts on transport (e.g. TCP and QUIC) and application protocols because of the use of Internet protocol (IP) networks in deep space where round trip times and their variations are many times longer than on earth. Relevant because IP networks are specified in procurement for from US, European, and Japanese space agencies to build a flexible, extensible, and interoperable lunar communications and navigation architecture ([LunaNet](#)).

### 1.3 General Area

#### 1.3.1 IETF Wide Dispatch Session (alldispatch)

- IETF121: Mon 04 Nov 2024 15:30 - The Auditorium
- [About ALLDISPATCH](#)

Dispatch sessions typical look at incoming documents to assess where in they IETF they should be handled, e.g. in a specific working group, or under the responsibility of an Area director. They are good meetings to identify new work.

Listed as a BOF because combining all dispatch sessions into one is still an experiment.



### 1.3.2 MODeration PrOceDures working group

- IETF121: Mon 04 Nov 2024 13:00 - Wicklow Hall 2B
- [MODPOD](#)
- Keywords: IETF governance, culture

Moderation is a key element to creating a healthy and welcoming culture. This working group sets out to harmonize moderation practices within the IETFs, both on-line and off-line.

## 1.4 Applications and Real-Time Area

### 1.4.1 More Instant Messaging Interoperability (mimi)

- IETF121: Thu 07 Nov 2024 09:30 - Wicklow Hall 1
- [About MIMI](#)
- Keywords: messaging, Digital Market Act, interoperability

Defines interoperability mechanism between messaging platforms. A requirement that comes out of e.g., EU regulation.

### 1.4.2 Registration Protocols Extensions (regext)

- IETF121: Mon 04 Nov 2024 13:00 - Liffey Hall 1
- [About REGEXT](#)
- Keywords: DNS, registration data

EPP is the protocol used between DNS registrars and registries, this work group works on extending the base protocol with functionality needed across top level domains operations.

### 1.4.3 Secure Telephony Identity Revisited (stir)

- IETF121: Mon 04 Nov 2024 17:30 - Liffey Hall 1
- [About STIR](#)
- Keywords: spam, anonymity, telephony.

Specify Internet-based mechanisms that allow verification of the calling party's authorization to use a particular telephone number for an incoming call. Mainly used to prevent unwanted robocalls. This work was initiated on request from the US Federal Communication Commission.

### 1.4.4 Workload Identity in Multi System Environments (wimse)

- IETF121: Thu 07 Nov 2024 13:00 - Liffey Hall 1
- [About WIMSE](#)
- Keywords: Cloud service portability

The WIMSE working group will identify, articulate, and bridge the gaps and ambiguities in workload identity problems and define solutions across a diverse set of platforms and deployments, building on various protocols used in workload environments.



This work may have aspects related to platform interoperability and consumer (enterprises mostly) choice.

This work identifies on a specific type of technology within the broader workload ecosystem and liaises with IETF as well as external groups.

## 1.5 Internet Area

### 1.5.1 Adaptive DNS Discovery(add)

- IETF121: Tue 05 Nov 2024 15:00 - Liffey Hall 2
- [About ADD](#)
- Keywords: encryption, DNS

Encrypted DNS [DoH](#) and [DoT](#) as increased the security and privacy of users. However, in some network environments policies may require the use of specific resolution services. This working group develops discovery and selection mechanism for DNS clients in various environments. With the output of this group clients adopting encrypted DNS protocols can determine which DNS servers support those protocols, and which server to use for specific queries if multiple servers are available.

The group is chartered solely to develop technical mechanisms. Making any recommendations about specific policies for clients or servers is out of scope.

### 1.5.2 DNS Delegation(deleg)

- IETF121: Mon 04 Nov 2024 09:30 - The Auditorium
- [About ADD](#)
- Keywords: operations, DNS

This working group proposes a mechanism to signal capabilities between the technical elements within the DNS ecosystem (Currently only NS and DS records). The charter explicitly requires an operational impact assessment and include corresponding operational and deployment considerations sections in the specification. We do not believe this work will significantly impact the business relations between registrars, registrants, registries, and nameserver operators. However, that assumption will need to be checked against these considerations.

## 1.6 Operations and Management Area

### 1.6.1 Getting Ready for Energy Efficient Networking (green)

- IETF121: Mon 04 Nov 2024 09:30 - Wicklow Hall 2B
- [About GREEN](#)
- Keywords: energy, global warming

This group works on ways to measure and steer the energy use in networks. It intends to develop practical network operations building blocks and common reporting specifications. Building on earlier IETF community work such as the [IAB Workshop on Environmental Impact of Internet Applications and Systems\(RFC9547\)](#), an [RFC documenting requirements for energy management\(RFC6988\)](#), and an existing [energy management framework\(RFC7326\)](#) the working is chartered to \_ explore use cases, derive requirements, and provide solutions for identifying and characterizing energy



efficiency metrics, methods related to energy consumption of network devices, and optimizing energy efficiency across the network\_

Note that the charter declares out of scope several topics among which regulatory, compliance, and corporate responsibility-related matters.

### 1.6.2 Network Management Operations

- IETF121: Tue 05 Nov 2024 09:30 - Wicklow Hall 1
- [About NMOP](#)

This working group focuses on the issues operators may face in managing their network now or in the future. Potentially comparing IETF solutions to those developed in other SDOs. This is a relatively new working group that may surface requirements from the industry.

## 1.7 Security Area

### 1.7.1 Messaging Layer Security (mls)

- IETF121: Mon 04 Nov 2024 09:30 - Liffey MR 3
- [About MLS](#)

Designs protocol for secure communications between groups (think group chats). This working group is in an advanced state.

### 1.7.2 Post-Quantum Use In Protocols (pquip)

- IETF121: Thu 07 Nov 2024 15:30 - The Auditorium
- [About PQUIP](#)
- Keywords: encryption, confidentiality, quantum resistance.

As quantum computers evolve towards, the risk to encryption protocols we use in today's network protocols grows. A timely transition to quantum safe protocols is required if we want long term confidentiality and integrity for the communication today. This group sets out guidance for protocol developers to make that happen.

### 1.7.3 Remote ATtestation Procedures

- IETF121: Fri 08 Nov 2024 15:30 - Wicklow Hall 1
- [About RATS](#)
- Keywords: supply chain, transitive trust

Discusses mechanisms to attest about the trustworthiness of 3rd party components. Something that may be relevant e.g., in supply chains for (government) services. For instance, securing devices such as tokens for 2-factor authentication – where the manufacturer may not be the entity responsible for authenticating the device once it is deployed.

### 1.7.4 Supply Chain Integrity, Transparency, and Trust (scitt)

- IETF121: Wed 06 Nov 2024 15:00 - Liffey Hall 2



- [About SCITT](#)
- Keywords: supply chain, security

Develops mechanisms to increase accountability and interoperability in software supply chains.

#### 1.7.5 Software Updates for Internet of Things (suit)

- IETF121: Thu 07 Nov 2024 17:30 - Liffey MR 3
- [About SUIT](#)
- Keywords: IoT, security

The ability to securely update things connected to the Internet is an important issue for global cybersecurity. This working group creates solutions associated with updating devices that are small, might be hardly ever connected, long-lived, and have low storage and battery life. The work in this working group is in advanced stages.

#### 1.7.6 Secure Patterns for Internet CrEentials (spice)

- IETF121: Tue 05 Nov 2024 13:00 - The Auditorium
- [About SPICE](#)
- Keywords: identity, credential, verification, digital public infrastructure

Digital credentials based on IETF standards (and standards in other SDOs) have use cases ranging from individual credentials, such as driver's licenses, age-verification, and vaccination proofs, to business-to-business or business-to-government application. One example is fraud and counterfeiting prevention in cross-border trade documents by protecting digital representations of mill test reports, bills of materials, bills of lading, or commercial invoices. In order to meet privacy, security, and sustainability objectives, digital credentials need to be designed with awareness of computation and storage constraints associated with their use cases.

SPICE aims to document digital credential formats based on existing IETF standards, and extend them to support stakeholders that are building compliance and automation systems based on industry adopted cryptography and protocols. These building blocks are likely to show up in digital public infrastructure.

#### 1.7.7 Detecting Unwanted Location Trackers (dult)

- IETF121: Wed 06 Nov 2024 09:30 - Liffey Hall 2
- [About Dult](#)
- Keywords: privacy, personal safety

Location-tracking accessories provide numerous benefits to users (such as being able to figure out where they left their keys this time!), but they can also have security and privacy implications if used to track other individuals without their knowledge or consent.

A community of stakeholders is seeking input from the IETF around the technical requirements and best practices to allow tracker manufacturers to build location-tracking accessories that will be compatible with unwanted tracking detection and alerts on mobile platforms.





## 1.8 Web and Internet Transport

### 1.8.1 Multiplexed Application Substrate over QUIC Encryption (masque)

- IETF121: Wed 06 Nov 2024 15:00 - Wicklow Hall 2B
- [About MASQUE](#)
- Keywords: privacy, encryption

Proxies are an established mechanism to tunnel traffic across the network (VPNs being an example). This working group specifies a proxying mechanism based on the relatively new QUIC transport protocol.

### 1.8.2 Standard Communication with Network Elements (scone)

- IETF121: Thu 07 Nov 2024 09:30 - Wicklow Hall 2B
- [About SCONE](#)
- Keywords: access/content interaction, Quality of Experience (QoE), net neutrality (dare we say it)

This is a working group is forming as a follow up of the SCONEPRO BoF.

For both network management and business motivation networks may impose constrains on the amount bandwidth available to users when e.g. streaming video. Currently, applications will adapt heuristically to this throttling by adapting the bit rate and therefore the quality of video streams. This work seeks to signal a subset of applications (those that use QUIC to transport their content) with a so-called throughput advice. The intent is to improve the overall user experience.

Path signaling elements may be vectors for control, abuse, and side channel attacks (i.e. learn something about the encrypted traffic). The working group will therefore determine whether it is necessary for an endpoint to explicitly signal its capability of receiving throughput advice, and whether it is necessary for an endpoint to confirm its receipt of throughput advice.

[RFC8558](#) and [RFC9419](#) provides general architectural guidance in this space.

## 2 The IRTF

### 2.1 Research Groups

#### 2.1.1 Crypto Forum (cfrg)

- IETF121: Wed 06 Nov 2024 09:30 - Liffey A
- [About CFRG](#)

Although highly technical, the cfrg is the place where almost all cryptographic building blocks that are used in IETF protocols are evaluated. The open and peer reviewed nature of this work is critical for the security across the Internet – as such the existence of the group is of policy interest.

#### 2.1.2 Global Access to the Internet for All(gaia)

- IETF121: Wed 06 Nov 2024 09:30 - Liffey MR 2



- [About GAIA](#)
- keywords: equality, digital divide

Assesses means to bridge the digital connectivity divide.

#### 2.1.3 Human Rights Protocol Considerations (hrpc)

- IETF121: Fri 08 Nov 2024 15:30 - Wicklow Hall 2B
- [About HRPC](#)
- Keywords: Human rights

The Human Rights Protocol Considerations Research Group is chartered to research whether standards and protocols can enable, strengthen or threaten human rights.

#### 2.1.4 Decentralization of the Internet Research Group(dinrg)

- IETF121: Wed 06 Nov 2024 13:00 - The Auditorium
- [About DINRG](#)
- keywords: centralization, consolidation

Aims to provide for the research and engineering community, both an open forum to discuss the Internet centralization phenomena and associated potential threats, and a platform to facilitate the coordination of efforts in identifying the causes of observed consolidations and the mitigation thereof.

#### 2.1.5 Research and Analysis of Standard-Setting Processes Proposed Research Group(rasprg)

- IETF121: Fri 08 Nov 2024 09:30 - Wicklow Hall 1
- [About RASPRG](#)
- keywords: standardization, stakeholder participation

The RASPRG aims to bring together researchers, practitioners, policymakers, standards users, and standards developers to study standardization processes across SDOs, with a particular focus on Internet standard-setting in the IETF. The research is aimed at informing the comprehension of standardization processes and policies, and possibly providing tools and insight.

#### 2.1.6 Quantum Internet Research Group(qirg)

- [About qirg](#)
- IETF121: Fri 08 Nov 2024 09:30 - Wicklow Hall 2B
- keywords: quantum

Quantum networking research is promising a set of exciting new opportunities, from new forms of encryption key distribution to networking between quantum computers.

Overall the goal of the QIRG is to address the question of how to design and build quantum networks, the research group intends to bridge the work done in the labs and the practical experience in the 'classical' Internet community.



## 3 The Internet Architecture Board

The Internet Architecture Board (IAB) is a leadership body associated with the IETF. It provides long-range technical direction for Internet development and manages the relation of the liaisons of the IETF with other SDOs and other external bodies.

The IAB Open session is where the Internet Architecture board presents what it is doing. Usually, it includes discussions of topics about the Internet Architecture and an update on liaisons. The latter is interesting as it provides an insight as to how the IETF relates to other SDOs and technical bodies.

### 3.1 IAB Open

- IETF121: Tue 05 Nov 2024 13:00 - Wicklow Hall 2B

The IAB Open meeting is where the IAB reports on its ongoing activities and presents on topics of architectural interest.

## 4 During a meeting

At IETF meeting a number of meetings take place that are of general interest.

The IETF plenary is where general administrative reporting takes place and where discussions are being held that are important to the whole community, e.g., about how the IETF governs itself.

The IAB Open Meeting is where the Internet Architecture board presents what it is doing. Usually, it includes discussions of topics about the Internet Architecture and an update on liaisons. The latter is interesting as it provides an insight as to how the IETF relates to other SDOs and technical bodies.

[The Internet Research Task Force \(IRTF\)](#) Open Meeting is where research topics are presented and progress in research groups is reported, it also features presentations of the [Applied Networking Research Prize \(ANRP\)](#) winners.

The Internet Engineering Protocol Group ([IEPG](#)), a meeting usually taking place on Sunday, features somewhat more operational presentations of “topical interest”. The presentations are technical but usually give an indication about the topics that are interesting to the Internet technical infrastructure’s operational community.

Further, the Tutorial: New Participants’ Overview is relevant for newcomers while during the Hot RFC session participants try to pitch their documents to make sure interested parties join sessions later in the week.

Finally, the Technology Deep Dive is a mini masterclass for the technical IETF audience on a specific topic.

## About this document

The information in this document is curated. The editor has made a rather subjective interpretation about what work might have public policy aspects.



Oftentimes work in the IETF may not have immediate impact on public policy. In fact, given the building block nature of IETF specification the effect of those building blocks may only be obvious after they have been deployed on the Internet as part of bigger systems or services. That makes identification of potential public policy impact harder. Sometimes public policy aspects may be obvious from the initial description of the work. In other cases a possible indication for (public) policy questions might be if a certain amount of control or visibility of the network changes from one entity to another.

In this document we include all BoFs that are organized for a certain meeting. Even though a BoF may not trigger any of the criteria loosely described in the previous paragraph, they are good meetings to see any issues surface.

Working groups that are clearly technical building blocks and do not have any identifiable public policy angles are not mentioned. For the working groups that are mentioned we have tried to indicate, with the keywords, where public policy issues might arise - if only during the use of the technical building blocks when designing and implementing systems.

This document is a living document. We try to update the information shortly before an IETF meeting, but may push new versions in between meetings too.

Readers are encouraged to contribute by using GitHub's collaboration tools or by sending mail to the editor ([kolkman@isoc.org](mailto:kolkman@isoc.org)).

Alternatively, you can contribute using GitHub collaboration tools. The repository for this document can be found at <https://github.com/internetsociety/IETF-Ornithology>.

