

# How Ossified is the Protocol Stack?

Proposed Research Group (hopsrg)

Prague, July 24, 2015

preliminary chairs:

Brian Trammell <[ietf@trammell.ch](mailto:ietf@trammell.ch)>

Mirja Kühlewind <[mirja.kuehlewind@tik.ee.ethz.ch](mailto:mirja.kuehlewind@tik.ee.ethz.ch)>

# Intellectual Property Rights (IPR)

The IRTF follows the IETF Intellectual Property Rights (IPR) disclosure rules. This is a summary of these rules as they relate to IRTF research group discussions, mailing lists and Internet Drafts:

- If you include your own or your employer's IPR in a contribution to an IRTF research group, then you must file an IPR disclosure with the IETF.
- If you recognize your own or your employer's IPR in someone else's contribution and you are participating in the discussions in the research group relating to that contribution, then you must file an IPR disclosure with the IETF. Even if you are not participating in the discussion, the IRTF still requests that you file an IPR disclosure with the IETF.
- Finally, the IRTF requests that you file an IPR disclosure with the IETF if you recognize IPR owned by others in any IRTF contribution.

**The IRTF expects that you file IPR disclosures in a timely manner, i.e., in a period measured in days or weeks, not months. The IRTF prefers that the most liberal licensing terms possible are available for IRTF Stream documents, see RFC 5743.** You may file an IPR disclosure here: <http://www.ietf.org/ipr/file-disclosure>

See RFC 3979 (BCP 79) for definitions of "IPR" and "contribution" and for the detailed rules (substituting "IRTF" for "IETF").

# Administrativa

## **Proposed charter**

<https://datatracker.ietf.org/doc/charter-irtf-hopsrg/>

## **Mailing list**

[hops@ietf.org](mailto:hops@ietf.org) (inherited from Bar BoF in Dallas)

## **Today's slides**

<https://datatracker.ietf.org/meeting/93/materials.html#irtf>

## **Remote participation**

**Audio:** <http://ietf93streaming.dnsalias.net/ietf/ietf935.m3u>

**Meetecho:** <http://www.meetecho.com/ietf93/hopsrg>

# Background

- Deployment challenges of new technologies and protocols blamed on intentional and unintentional interference by middleboxes such as NATs and firewalls
- More data from a large variety of access networks is needed to be able to draw conclusions about the significance of a certain middlebox interference problem!
- Goal: Coordinate efforts in research and industry on collecting and reporting statistics about middlebox impact on transport sessions

# Objectives

1. **Forum for discussion and exchange** of measurement insights, data, and techniques (on middlebox measurements) co-located with IETF meetings
2. Definition of a **common format for reporting on middlebox impairments**, whether these observations are made passively, actively, or as a side effect of some other operation
3. Specification of **methods for analysis of middlebox interference and associated active measurement techniques**, that can scale to much larger numbers of measured paths, while minimizing network measurement traffic load on the network

# Agenda

**9:00** Intro & Overview (*chairs*)

## **Passive Measurements**

**9:15** Results from deployment of QUIC, a UDP-based transport (*Jana Iyengar, Google*)

**9:40** Report on prevalence of NAT and forwarding of traceroute (*Aaron Falk, Akamai*)

## **Measurement Platforms for Active Measurements**

**9:55** Overview of RIPE Atlas (*Robert Kisteleki, RIPE*)

**10:15** Overview on the MONROE measurement testbed (*Anna Brunström, Karlstads University*)

## **Measurement Tools and Methodology**

**10:50** Tracking Middleboxes with Tracebox (*Korian Edeline, Université de Liège*)

**10:25** Lessons Learnt from Middlebox Measurement (*Michio Honda, NetApp*)

**11:15** Discussion on Next Steps (*chairs*)

# Questions

- Do we have the scope right? Are there things that we are missing? Or are there things that we do but shouldn't do (here)?
- Is there interest/energy to do work here?
- Will we be able to actually get access to this data at Internet scale?