

Measurement and Analysis for Protocols

Proposed Research Group (maprg)

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

Administrivia

- Proposed Charter: <https://datatracker.ietf.org/group/maprg/charter/>
- Mailing List: maprg@ietf.org
Subscriptions: <https://www.ietf.org/mailman/listinfo/maprg>
- Today's slides: <https://datatracker.ietf.org/meeting/96/session/maprg/>
- Remote participation
Audio: <http://ietf96streaming.dnsalias.net/ietf/ietf965.m3u>
Meetecho: <http://www.meetecho.com/ietf96/maprg>
Jabber: <xmpp:maprg@jabber.ietf.org?join>

Agenda (i)

- **Introduction & Overview** – Dave Plonka and Mirja Kühlewind, 5m
- **NOMA: Network Operator Measurement Activity** – Leslie Daigle, 10m
- **Beyond Counting: New Perspectives on the Active IPv4 Address Space**
– Philipp Richter, 15m
- **Measurement and Analysis for Internet of Things** – Dave Plonka, 15m
- **Anycast vs. DDoS: Evaluating the November 2015 Root DNS Event** –
Giovane C. M. Moura, 15m

Agenda (ii)

- **Callstat.io: WebRTC Measurements** – Varun Singh, 15m
- **Temporal and Efficient Analysis of Services Availability** – Johannes Klick, 15m
- **A View Through Happy Eyeballs: Client-Side IPv6 Metrics** – Tommy Pauly, 10m
- **DSCP and the Evil Bit** – Runa Barik, 15m
- **Open Discussion** – ~5m?

Our Proposed Charter

Premise: The deployment and operation of Internet protocols is clearly sometimes hindered by Internet conditions either unforeseen or otherwise unaccounted-for during development and standardization.

Protocol deployment, operation, and ongoing [re]design can benefit from insight provided by measurements that discover those current Internet conditions.

Likewise, the measurement community's studies are significantly relevant (to the IETF community) confronting obstacles that today's Internet conditions presents to existing IETF-defined protocols.

Our Proposed Charter

The *Measurement and Analysis for Protocols Research Group (maprg)* will focus on two topics:

- (1) Discussion of measurements and techniques that would inform *the development, deployment, and/or operation of existing IETF-defined protocols.*
- (2) Presentation of measurement results that inform *same.*

Presentations and work items must be obviously or explicitly “mapped” to those aspects of IETF-defined protocols, existing or works-in-progress.

Our Proposed Charter

- Our research group is meant to foster introductions of prospective collaborators, their resulting collaborations, and the sharing of the measurement techniques and their results.
- Membership is open to all interested parties.
- While maprg is an IRTF research group rather than an IETF working group, it will work in loose cooperation with working groups.

Recent Related Works

- Applied Network Research Workshop (ANRW) 2016, <https://irtf.org/anrw/2016/program>, selected measurement works:
 - **Measuring the Effects of Happy Eyeballs** (Bajpai & Schönwälder)
 - **PATHspider: A tool for active measurement of path transparency** (Learmonth et al.)
 - **Diurnal and Weekly Cycles in IPv6 Traffic** (Strowes)
 - **How to say that you're special: Can we use bits in the IPv4 header?** (Barik et al.)
 - **Towards an Observatory for Network Transparency Research** (Nehaus et al.)
 - **On the Cost of Using Happy Eyeballs for Transport Protocol Selection** (Papastergiou et al.)

Recent Related Works

- **A High-Performance, Scalable Infrastructure for Large-Scale Active DNS Measurements** (Roland van Rijswijk-Deij) – call for collaboration, next slide

OpenINTEL: large-scale active measurements of the DNS

- We operate a large-scale active measurement platform that measures over **65%*** of the global **DNS** name space once **every 24 hours**
* .com, .net, .org, .info, .mobi, .pro, most new gTLDs, .ca, .nl, .se., .nu
(over 180 million names, 2.2 billion records per day)
- Researchers with an interest in using this kind of data: ping me (r.m.vanrijswijk@utwente.nl)
- **Do you operate a (cc)TLD? We want your data :-)=)**
- for more information, see:
<http://bit.ly/jsac-openintel> (paper)
<http://www.openintel.nl/>

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