CAN INTERNET PROTOCOLS AFFECT HUMAN RIGHTS?

IRTF RG
Human Rights Protocol Considerations
(hrpc)

IETF 96
Wednesday Juli 20 2016
15:50 – 17:20

Co-Chairs:
Niels ten Oever   –   Article19
Avri Doria (not here) –   APC

Administrivia

Mailinglist
- https://www.irtf.org/mailman/listinfo/hrpc

Github
- https://github.com/nllz/IRTF-HRPC
- Meetecho

  http://www.meetecho.com/ietf96/hrpc/
- Minutes

  http://etherpad.tools.ietf.org:9000/p/notes-ietf-96-hrpc
- Intro website

  https://hrpc.io

Agenda

Human Rights Protocols Considerations (hrpc) research group sessions at #IETF96 [time] UTC +2, July # 2016

- Beginning (5 min)

                      Jabber scribe, note takers

            Agenda Bashing

            Notewell

- Introduction
- Status of research group & documents (2 min)
- Context of research (5 mins)
- Presentation + Q&A - Laura DeNardis on Protocol Politics (15 mins)
- Presentation + Q&A - UN Special Rapporteur Human Rights David Kaye on report 'Freedom of expression and the private sector in the digital age' (15 mins)
- Presentation + Q&A - Alissa Cooper on lessons learned from RFC6973 (15 mins)
- Discussion of draft-tenoever-hrpc-research (15 mins)

                https://tools.ietf.org/html/draft-tenoever-hrpc-research

       - recent changes + reviews

       - experiences in using it while evaluating other drafts

         - Shane Kerr

         - Giovane C. M. Moura

       - next steps

- Open discussion other drafts, papers, ideas (15 min)
- Next steps (5 min)
- AOB

Note Well

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- Any IETF working group or portion thereof

- Any Birds of a Feather (BOF) session

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Document Review Request

- Document quality relies on reviews, please review documents in your working group and at least one other document from another working group.

- If you'd like documents you care about reviewed, put the effort in to review other documents.

Status of proposed research group

- October, 27, 2014 - Publication of Proposal for research on human rights protocol consideration

- IETF91 - November, 13, 2014: Presentation during saag session

- March 9, 2015 - Publication of Proposal for research on human rights protocol considerations - 01

- January 2015 - Proposed research group in the IRTF

- IETF92 - March 22 to 27, 2015 – Session & Interviews with members from the community

- June 2015 - Interim Meeting

- July 2015 - Publication of Methodology and Glossary drafts

- IETF93 - July 2015 – Session

- IETF94 November 2015 – Screening of film Net of Rights, updates of Glossary, Methodology, Report drafts, Users draft, paper, session

- December 2015 – Research Group chartered

- IETF95 April 2016 – Session, new Research draft, updated Report and Censorship draft, & 3 talks

- IETF96 July 2016 – Session new Research Draft – road tests, reviews, text & 3 talks

Context and objective of the RG

- To expose the relation between protocols and human rights, with a focus on the rights to freedom of expression and freedom of assembly.

- To propose guidelines to protect the Internet as a human-rights-enabling environment in future protocol development, in a manner similar to the work done for Privacy Considerations in RFC 6973.

- To increase the awareness in both the human rights community and the technical community on the importance of the technical workings of the Internet and its impact on human rights.

Context of research (ii)

(Another step is to choose leaders that we trust to exercise their
good judgement and do the right thing. But we're already trying to
do that.)

4. Issues with Scoping the IETF's Mission

4.1. The Scope of the Internet

A very difficult issue in discussing the IETF's mission has been the
scope of the term "for the Internet". The Internet is used for many
things, many of which the IETF community has neither interest nor
competence in making standards for.

The Internet isn't value-neutral, and neither is the IETF. We want
the Internet to be useful for communities that share our commitment
to openness and fairness. We embrace technical concepts such as
decentralized control, edge-user empowerment and sharing of
resources, because those concepts resonate with the core values of
the IETF community. These concepts have little to do with the
technology that's possible, and much to do with the technology that
we choose to create.

Laura DeNardis

- Internet Governance Scholar
- Professor in the School of Communication at American University in Washington, D.C
- Senior Fellow of the Centre for International Governance Innovation (CIGI)
- Director of Research for the Global Commission on Internet Governance
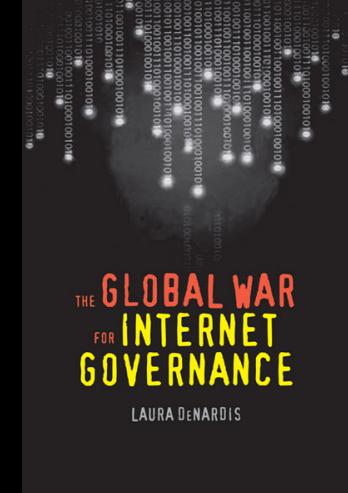
"Protocols are Politics by Other Means"

- Accessibility standards for the disabled
- Peer-to-peer file sharing protocols
- Standards for anonymizing technologies
- Encryption protocols and key length
- Standards-embedded patents & the right to innovate
- Proprietary standards in emerging technologies
- Interoperability and access to knowledge

# ISOC "Internet Invariants" – Enduring Technical Principles
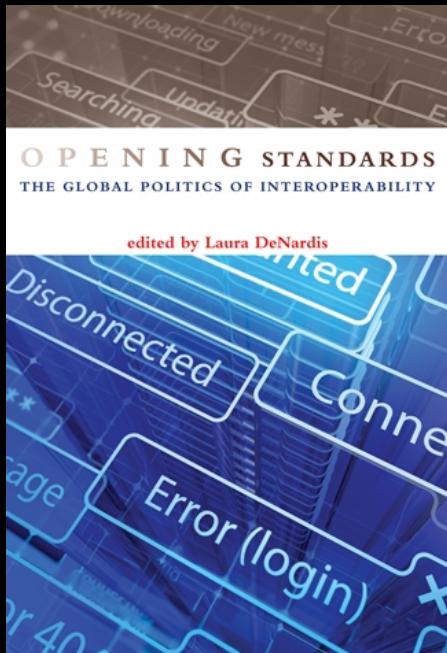
- Global Reach
- General Purpose
- Permissionless Innovation
- Accessibility
- Interoperability
- Mutual Agreement

"A network that does not have these characteristics is a lesser thing than the Internet as it has been experienced to date." -- Leslie Daigle

Standards Setting and the Public Interest

What are the procedural characteristics necessary for public accountability?

| Open in Development | Open in Implementation | Open in Use |
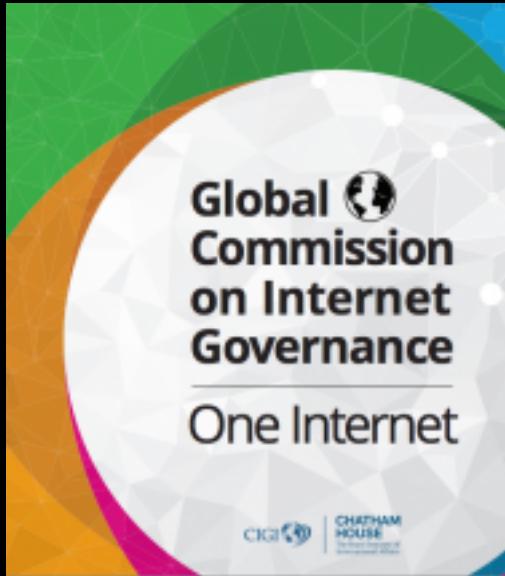
The IETF has a high degree of procedural openness but not all standards-setting organizations do.

OPENING STANDARDS
THE GLOBAL POLITICS OF INTEROPERABILITY

edited by Laura DeNardis

Protocols are only one component. Many other contextual factors shape human rights implications of Internet infrastructure.

Global Commission on Internet Governance

One Internet

- Market Forces
- National Laws and Policies
- International Agreements
- Private Industry Policies
- Culture and Language
- Implementation Approaches
- Technology Adoption Policies
- User Choices

THE TURN TO INFRASTRUCTURE IN INTERNET GOVERNANCE

EDITED BY FRANCESCA MUSIANI, DERRICK L. COGBURN, LAURA DENARDIS, AND NANETTE S. LEVINSON

INFORMATION TECHNOLOGY AND GLOBAL GOVERNANCE

Governments are increasingly co-opting systems of Internet infrastructure and governance for purposes completely outside of their original technical and policy functions.

- Data localization laws
- Encryption backdoors
- Access and interconnection blocking
- Local DNS redirection for censorship
- Search engine rankings and intellectual property rights enforcement

To what extent does this turn to infrastructure potentially extend to Internet protocols and how could this affect human rights?
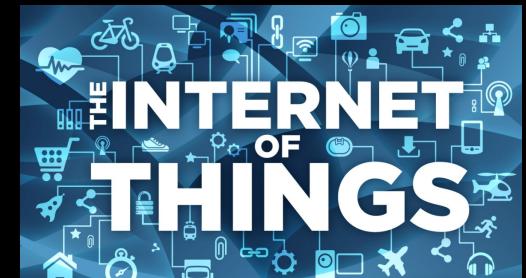
From Content to Objects. As the Internet shifts from a communication network centered on content to a control network reaching more directly into the material world, what are the prospects for human rights in this context and what standards decisions today can anticipate rights challenges tomorrow?

- Digital Currencies
- Augmented Reality and Gaming
- Cyber Conflict
- Digital Archiving of Virtual and Material Objects
- Internet of Things/Internet of Self

Thank You

denardis@american.edu   @LauraDeNardis

ourinternet.org
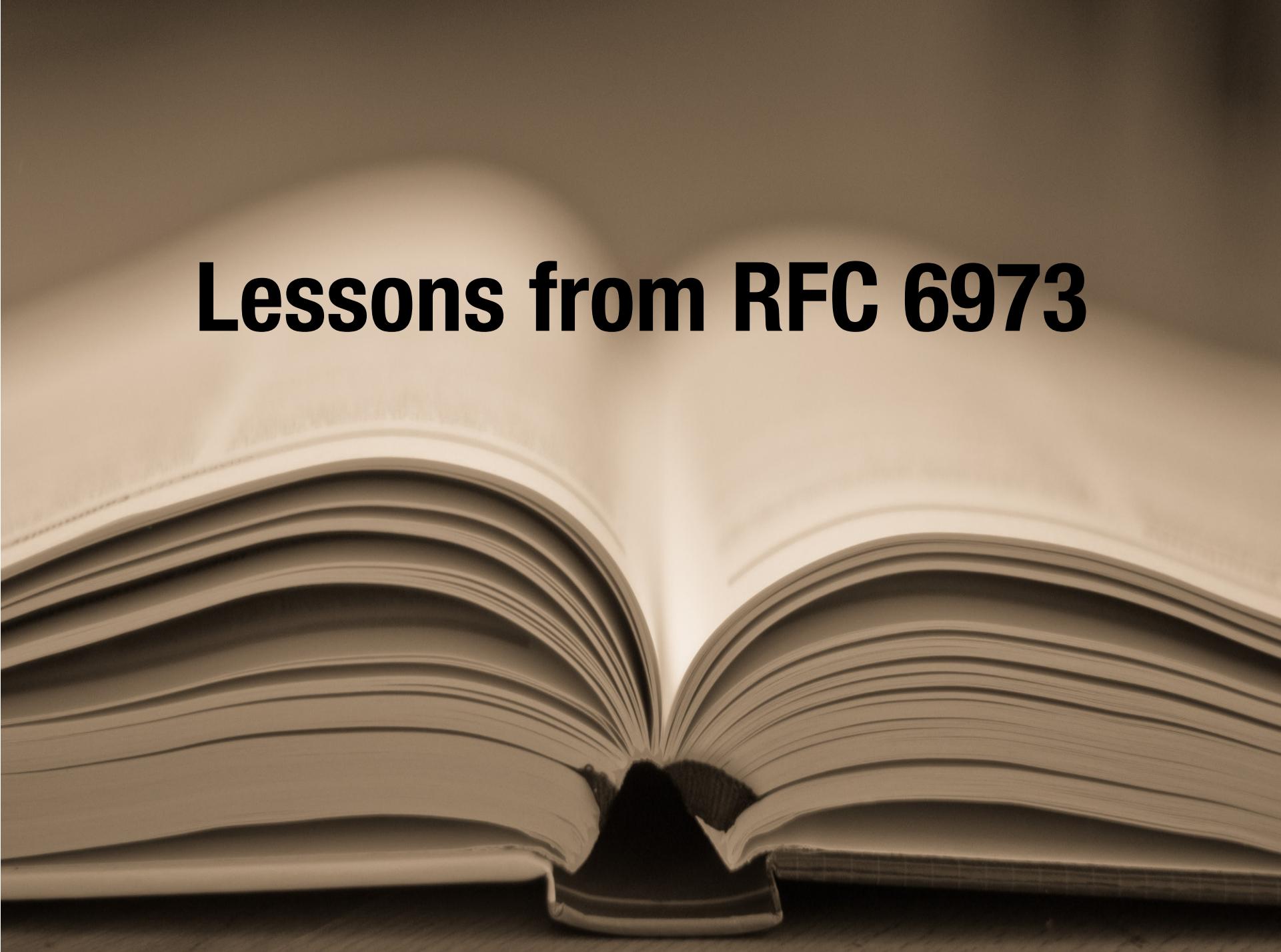
David Kaye

- UN Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression

- Clinical professor of law at the University of California, Irvine, School of Law

Alissa Cooper

- Distinguished Engineer at Cisco Systems

- Applications and Real-Time (ART) area director

- RFC6462, 6280, 5594, 7721, **6973, etc**

Lessons from RFC 6973

Why did we write RFC 6973?

- Security as an IETF design consideration (RFC 1543, 2223, 3552, 3365, …)
  - Realistically cannot design and standardize a new protocol without confidentiality, authentication, integrity, etc. protections or strong story for why not.
- Recognition within IAB and IETF of privacy as a design consideration.

How did we write RFC 6973?
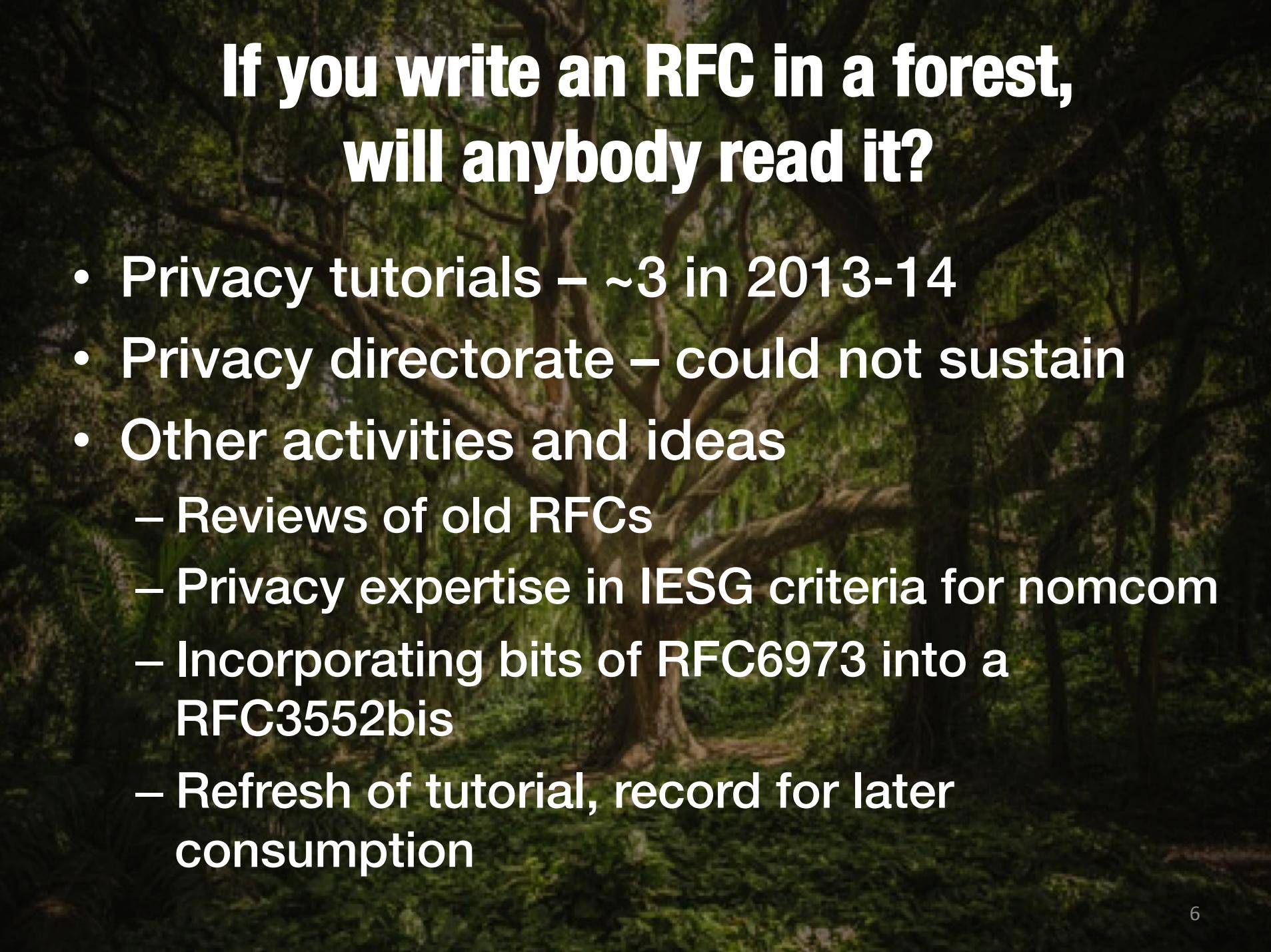
- Individual informational draft first published in 2010.

- IAB Privacy (now Privsec) program took it up 1 year later.

- Published in IAB stream July 2013.

- Retained significant content from individual draft and structure from RFC 3552.

(Hard-fought) decisions (1/2)

- Limited ambition, general applicability
  - No definition of "privacy."
  - No explicit prohibitions or requirements.
  - No required privacy considerations section.
  - No specific legal framework.

- Acknowledged scope limitations
  - What can be addressed in protocol design vs. deployment and operation.
  - What can be addressed at each network layer.

(Hard-fought) decisions (2/2)

- Made distinction between (negative) defending against exploits and (positive) building privacy tools.

- Provided specific examples.

If you write an RFC in a forest, will anybody read it?

- Privacy tutorials – ~3 in 2013-14
- Privacy directorate – could not sustain
- Other activities and ideas
  - Reviews of old RFCs
  - Privacy expertise in IESG criteria for nomcom
  - Incorporating bits of RFC6973 into a RFC3552bis
  - Refresh of tutorial, record for later consumption

Results

Results

- Privacy awareness has increased among protocol designers.
    - Demonstrated in many docs arriving for IESG review (and published).
- Specific checklist only occasionally used (extreme example: RFC 7594).
- Attention to privacy still highly dependent on authors, last call/secdir reviewers, ADs who happen to be there at the time.
- Deployment of more privacy-friendly features/protocols also clearly on the rise.

Thoughts about human rights considerations in protocol design

- Focus on one area at a time
  - Censorship resistance? Decentralization?
- Focus on areas lacking in guidance
  - Security, privacy, internationalization, extensibility all well-trod already
- Provide specific examples of application
  - If an existing protocol design had considered X, how would it have changed?
- Be specific about scope limitations
  - Protocol vs. implementation vs. deployment
  - Upper layers vs. lower layers

Discussion of draft-tenoever-hrpc-research

https://tools.ietf.org/html/draft-tenoever-hrpc-research

Corinne Cath

Discussion of RG ID

draft-tenoever-hrpc-research

Updates since IETF 95

Corinne Cath

Recap

CAN INTERNET PROTOCOLS AFFECT HUMAN RIGHTS?

Updates to RG ID
draft-tenoever-hrpc-research

4 Categories:

1) Typos, formatting, citation
2) Research methodology + test?
3) Mapping of protocols that impact human rights
4) Guidelines, questionnaire

Over **150** email threads, comments from more than **30** individual participants on draft, 7 hrpc sessions, over **15** offline screenings of the Net of Rights movie, and over **17.000** online hits on hrpc.io, over **450** commits on Github, **4** engineers tested the HRPC guidelines in the wild and over **20** hrs of frustration building IDs in MD & xml2rfc.

1. Typos, formatting, citations, dutchisms

2. Research methodology and test

- Clarified the research methodology

- Clarified how human rights impact was defined

- Discussed creating test to measure impact

- Still working on improving the method by which to define the impact of protocols on human rights

Example

- 1. Introduction language not precise enough
  - Nuanced by changing language on how Internet designed with FOE in mind, to how the openness of communication on the Internet enables FOE.
  - Added additional academic references.

2. Method to establish HR impact of protocols unclear
    - Is it a black box ?
     - Do we need a test?
     - How can we improve the method by which to define whether a feature could have an effect on a right?

3. Mapping of protocols that impact human rights

Mapping of protocols that impact human rights

- Improved language

- Brought in perspectives of four reviewers and testers (Thank you @James Gannon, Harry Halpin, Shane Kerr and Giovane Moura)

- Reduced language on DDoS & Middleboxes

Examples

- Network Address Translation (NATs) section did not include a section on how they can cause VPNs or other privacy enhancing connections to malfunction, undermining the rights to privacy.

- We missed several instances of technology undermining the end-to-end principle, vital for ensuring the right to FoE.

4. Guidelines and Questionnaire

5.2.2.1. Map cases of protocols that adversely impact human rights or are enablers thereof

- Positive feedback from reviewers who tested against active IDs (it actually impacted their IDs)

- Further explained rationale of impact on particular rights

- Reduced repetition in the text

Example

- The text on open standards and availability was similar, and thus we merged them.

- Improved text on adaptability

Next Steps

- Since IETF95 we've had
  - 3 extensive reviews before adoption as RG ID
  - 4 extensive reviews and road tests after adoption as RG ID
  - Issues seem resolved
- Schedule proposal: one more month of review, comments, suggestions and time to rework comments made at IETF96 before last call ?

Let's hear from the testers (i)

Shane Kerr

Trial Run of Guidelines
draft-song-dns-wireformat-http

- Draft: DNS protocol over HTTP protocol
- General observations:
  - Basically useful
  - Was (and maybe still is) a bit too long, unprioritized
- Should refer to <privacy@ietf.org>for advice
- Confused me with heterogeneity & adapability
- Possible duplicates:
  - Internationalization / Localization
  - Acceptability / Accessibility
  - Availability / Open Standards

Let's hear from the testers (ii)

Giovane C.M. Moura

Evaluating our dots draft using hrpc considerations

Giovane C. M. Moura
SIDN Labs
`giovane.moura@sidn.nl`

IPv6 DOTS Signal Option
`draft-francois-dots-ipv6-signal-option-00`

Introduction

- Draft: `draft-francois-dots-ipv6-signal-option-00`
- Joint-draft with J. Francois, A. Lahmadi, and M. Davids
- Very first version (pros and cons)
- Myself: 4th IETF, academic background
- Our draft in one sentence:
  - *Defines a fall-back signaling mechanism for devices under a DDos Attack*
- Meaning: does not involve users directly → machine2machine communications

Evaluating our draft

- ▶ Relevant questions to our draft: :
  - ▶ 5.3.2.1.(1,2,3,4,6,7,8) , 14 (it's not dependable since it is fall-back opportunistic),16,17,19
- ▶ More less relevant:
  - ▶ 12 (there was a heated discussion on the language issue in Buenos Aires, and if I am not mistaken, one of the conclusions was that (i) is very hard to have it in protocol design and (ii) maybe we should start at the application layer first, since it is the layer that directly interact with the users) , 15 (we employ fields and data specified by another draft by other authors)
- ▶ Not directly related:
  - ▶ 5 (since its machine to machine signaling), 9 10 11,13, 18, (since it does not handle end-user data),20 (same reasons),

Lessons learned

1. Help IETFers in questioning their **implicit values** in the protocol design
   - I had a previous experience with Value Sensitive Design (VSD) on my phd thesis
   - Our paper on this analysis: `http://doc.utwente.nl/87095/`
2. It's a **great checklist** for IETFers
   - So you don't miss important RFCs
3. It's a **win-win**: consider hr in your draft and you'll have a better (technically as well) draft
   - this should help IETFers adopting it
4. What we're gonna change in our draft: isn't clear yet, the draft is in the early stages, big things to fix still
5. And of course, as expected, it takes time and effort

- Open discussion other drafts, papers, ideas

- Next steps

- AOB

```python
if write code(protocols):
    consider human rights implications
elif run internet infrastructure:
    respect human rights
elif engage in internet governance:
    build in human rights protections
else
    carry on and use FLOSS
```