

Human Rights

Infrastructure

ECP - The Hague April 4, 2024 Niels ten Oever - critical infrastructure lab





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1. Human Rights

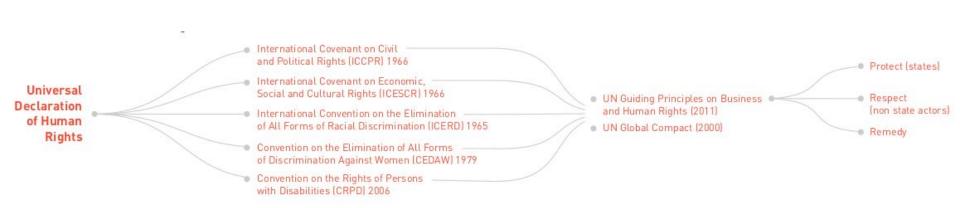


Universal Declaration of Human Rights

- International Covenant on Civil and Political Rights (ICCPR) 1966
- International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966
- International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) 1965
- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) 1979
- Convention on the Rights of Persons with Disabilities (CRPD) 2006

Key International Human Rights Treaties

- International Covenant on Civil and Political Rights (ICCPR, 16 December 1966)
- International Covenant on Economic, Social, and Cultural Rights (ICESCR, 16 December 1966)
- Convention on the Elimination of All Forms of Racial Discrimination (ICERD, 21 December 1965)
- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW, 18 December 1979)
- Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT, 10 December 1984)
- Convention on the Rights of the Child (CRC, 20 November 1989)
- International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICMW, 18 December 1990)
- Convention on the Rights of Persons with Disabilities (CRPD, 13 December 2006)



THREE PILLARS of the UN GUIDING PRINCIPLES

HUMAN RIGHTS

PROTECT

STATE

duty to protect

RESPECT

CORPORATE

responsibility to respect

REMEDY

VICTIMS

access to effective remedy

Integrated HRIAs

Human rights integrated into Environmental, Social and/or Health Impact Assessments

Children's rights impact assessments integrated into wider HRIAs

Stand-alone HRIAs

Company–led HRIAs

Community-led HRIAs

Issue based HRIAs

Product based HRIAs

Sector-Wide Impact Assessments

Looking at an entire sector rather than a project

Multistakeholder HRIAs

Do not exist yet – could this be the way forward?

Summary of criteria for human rights impact assessment Participation Rights-holders and duty bearers Process Throughout the process Non-discrimination Inclusive engagement and consultation Gender-sensitive Vulnerable individuals and groups

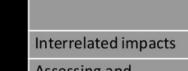
Empowerment

Transparency Accountability

Benchmark

Scope

Content



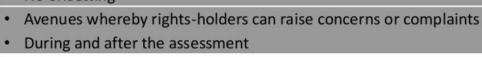
addressing impacts

Access to remedy

Interrelated impac
Assessing and

Interrelatedness of human rights is considered

No offsetting



Capacity building to participate

Process and outcomes

Human rights standards

Actual and potential impacts

Impacts are evaluated and addressed according to their severity

impacts which are linked through business relationships Legacy issues and cumulative impacts are considered

Assessment team is supported by human rights expertise

Responsibilities for mitigation are assigned and adequately resourced Entitlements of rights-holders and the duties of duty-bearers identified

Impacts caused by the business, impacts to which the business contributes and

International law is hard, EU to the rescue?

Company Focused Initiatives

B.1 Proposed Corporate Sustainability Due Diligence Directive

B.2 Corporate Sustainability Reporting Directive

B.3 European Sustainability Reporting Standards

Finance Focused Initiatives

C.1 Sustainable Finance Disclosure Regulation

C.2 The Green Taxonomy

C.3 Taxonomy Extension – The Social Taxonomy

Trade And Import/export Controls

D.1 Conflict Minerals Regulation

D.2 Timber Regulation

D.3 Regulation On Deforestation-free Products

D.4 A Proposed Import Ban On Goods Produced With Forced Labour

Green Transition

E.1 Batteries Regulation

E.2 Critical Raw Materials Act

Digital Ecosystem-focused Initiatives

F.1 Digital Services Act

F.2 Eu Artificial Intelligence Act

F.3 Artificial Intelligence Liability Directive

F.4 General Product Safety Regulation

F.5 General Data Protection Regulation

F.6 Regulation On Trade Of Dual-use Items

Public Procurement

International law is hard, NL to the rescue?

Pillars of the Dutch internet policy

Governance on and off the internet

Protect the **public core** of the internet

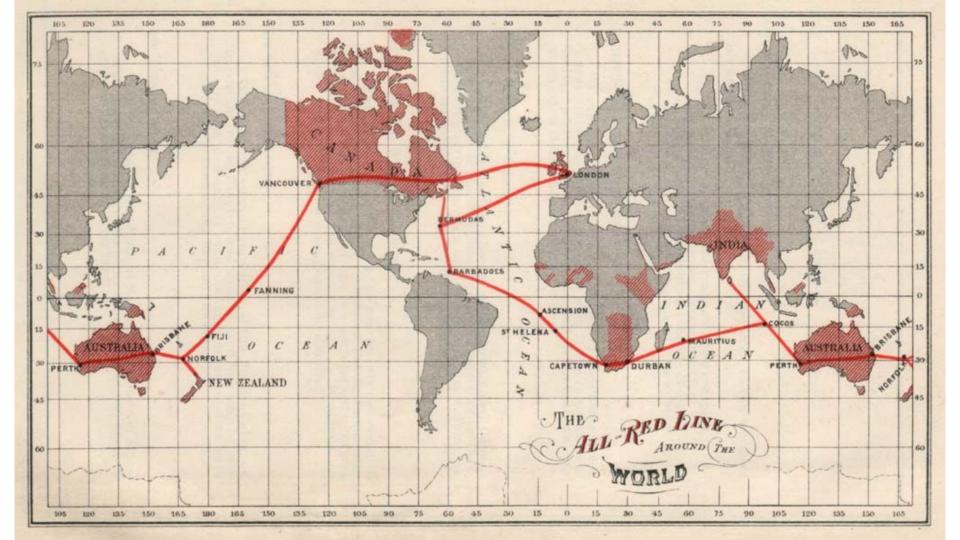
Values: open, free, and secure

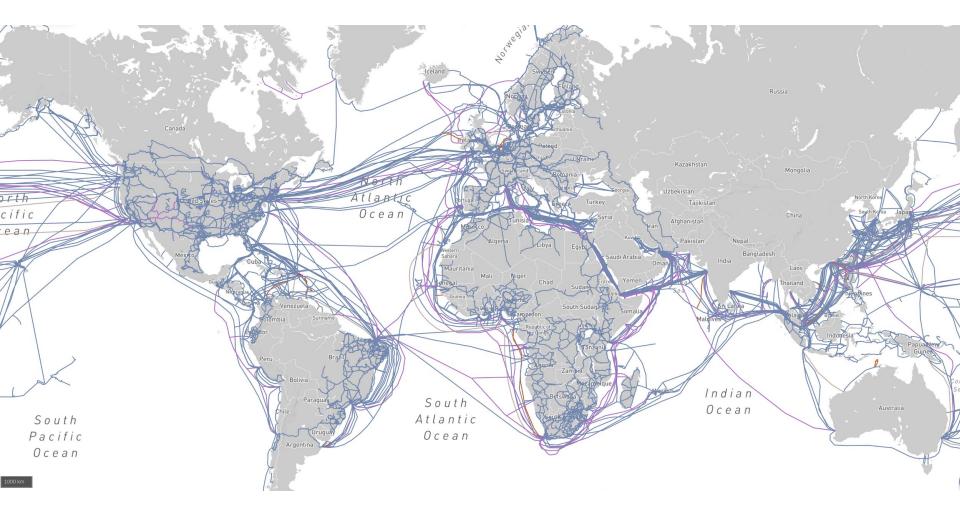
Multi-stakeholder governance

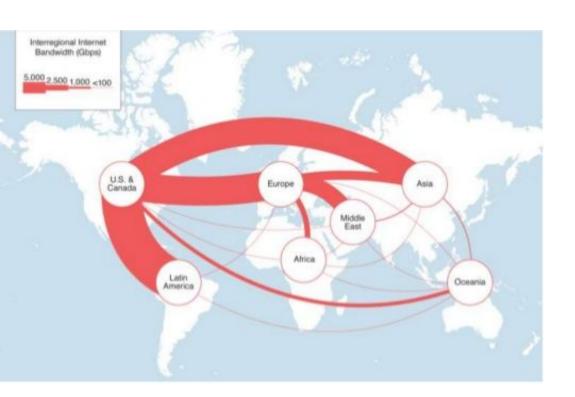
- Dutch National Cyber Strategy 2023
- Strategy Digital Economy 2022
- Dutch Digitalization Strategy 2021
- AIV report: The Internet (and cabinet response) 2016
- WRR report: the Public Core of the Internet
 (and cabinet response) 2015

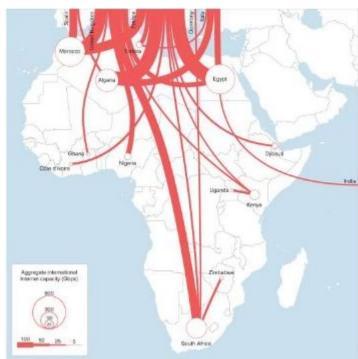
2. Infrastructure



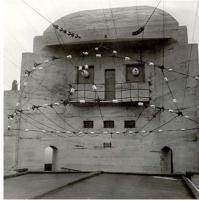




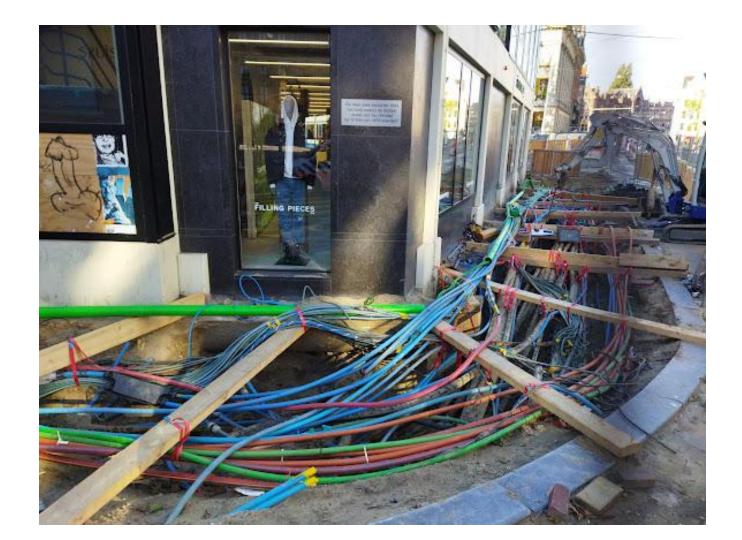












3. Infrastructure and Human Rights

3.1 Sanctions



February 2014 - Russia invaded Ukraine

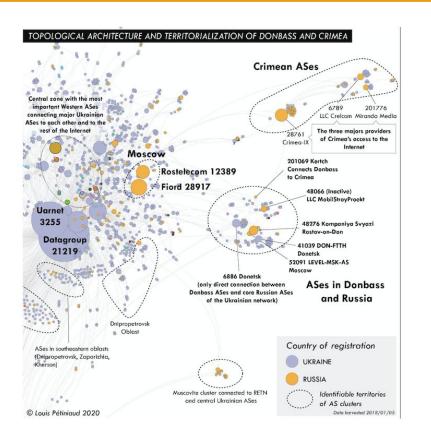
Annexation of Crimea and illegal military operations in Ukraine's eastern Donbas region by the Russian state.

EU create two sanctions packages:

"Council Regulation (EU) No 833/2014 of 31 July 2014 concerning restrictive measures in view of Russia's actions destabilizing the situation in Ukraine" and "Council Regulation (EU) No 269/2014 of 17 March 2014 concerning restrictive measures in respect of actions undermining or threatening the territorial integrity, sovereignty and independence of Ukraine"

February 2022 - Russia started a full scale invasion attempt of Ukraine.

Updates to the sanction packages



The Executive Board of the RIPE NCC believes that the means to communicate should not be affected by domestic political disputes, international conflicts or war. This includes the provision of correctly registered Internet numbering resources.

The Executive Board of the RIPE NCC is committed to taking all lawful steps available to ensure that the RIPE NCC can provide undisrupted services to all members across our service region and the global Internet community.

The RIPE NCC will publicly document all its efforts to ensure that the registry is not negatively affected by laws, regulations or political developments.

```
organisation:
               ORG-TFGS1-RIPE
org-name:
                The Federal Guard Service of the Russian Federation
                RU
country:
org-type:
                LIR
address:
                Bolshoi Kiselny per. 4
address:
                107031
address:
                Moscow
address:
                RUSSIAN FEDERATION
phone:
                +74956062863
fax-no:
                +74956060333
e-mail:
                noc@gov.ru
abuse-c:
                AR16670-RIPE
mnt-ref:
                tfgs-mnt
mnt-ref:
                RIPE-NCC-HM-MNT
mnt-by:
                RIPE-NCC-HM-MNT
mnt-by:
                tfgs-mnt
created:
                2008-12-30T14:07:36Z
last-modified: 2020-12-16T12:29:29Z
```

RIPE

source:

Sanctioned organisation	Hostname	Source	Remark/Date added
Russia Today English	www.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today UK	www.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today Germany	de.rt.com	Council Decision 2022/351 [11]	1 March 2022
	deutsch.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today France	francais.rt.com	Council Decision 2022/351 [11]	1 March 2022
	fr.rt.com	Council Decision 2022/351 [11]	1 March 2022
RT en español	actualidad.rt.com	Council Decision 2022/351 [11]	1 March 2022
1974	actualidad-rt.com	Council Decision 2022/351 [11]	1 March 2022
Sputnik	www.sputniknews.com	Council Decision 2022/351 [11]	1 March 2022
	sputniknewslv.com	Council Decision 2022/351 [11]	1 March 2022
	sputniknews.gr	Council Decision 2022/351 [11]	1 March 2022
	sputniknews.cn	Council Decision 2022/351 [11]	1 March 2022
	radiosputnik.ria.ru	Council Decision 2022/351 [11]	1 March 2022
	sputnikglobe.com	Council Decision 2022/351 [11]	Registered 29 March 2023, sput-
			niknews.com now redirects to this
			domain name.
Rossiya RTR / RTR Planeta	www.rtr-planeta.com	Council Decision 2022/884 [12]	3 June 2022
	rtr-planeta.ru	Council Decision 2022/884 [12]	3 June 2022
	vgtrk.ru	Council Decision 2022/884 [12]	3 June 2022
Rossiya 24 / Russia 24	www.vesti.ru	Council Decision 2022/884 [12]	3 June 2022
TV Centre International	www.tvc.ru	Council Decision 2022/884 [12]	3 June 2022
	tvci.ru	Council Decision 2022/884 [12]	3 June 2022
NTV/NTV Mir	ntv.ru	Council Decision 2022/2478 [9]	16 December 2022
Rossiya 1	smotrim.ru	Council Decision 2022/2478 [9]	16 December 2022
REN TV	ren.tv	Council Decision 2022/2478 [9]	16 December 2022
Pervyi Kanal	1tv.ru	Council Decision 2022/2478 [9]	16 December 2022
RT Arabic	www.rtarabic.com	Council Decision 2023/434 [15]	25 February 2023
			1의 보고 (프로그램 UNIO 10 10 10 10 10 10 10 10 10 10 10 10 10

Council Decision 2023/434 [15] 25 February 2023

Sputnik Arabic

sputnikarabic.ae

	Austria	Belgium Bulgaria	Croatia	Cyprus	Denmark	Estonia	Finland	Germany	Greece	Hungary	Ireland Italy	Latvia	Lithuania	Luxembourg	Netherlands	Poland	Portugal	Romania	Slovenia	Spain	Sweden	United Kingdom	Switzerland	Russian Federation United States
ASes Upstream resolvers VPs		6 6 23 10 131 18	3	2 1 6 3 5 5	8 17	3	15 1	16 36 07 190 75 657	8	5 1	6 16 16 37 57 106	4	3	1 1 2 4 2 4	48			5 3 15 6 16 8	9	14		109	61	47 45 84 25 116 68
www.t.com de.rt.com ferr.com frrr.com frrr.com actualidad.rt.com actualidad.rt.com actualidad.rt.com www.sputniknews.com sputniknews.com sputniknews.gr sput	0 11 14 18 8 100 100 100 13 100 26 4 100 13 4 13 13 100 15 24 15	47 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 5 100 10 100 10 100 10 100 10 100 10 100 10 1	0 60 2 60 6 72 3 72 5 100 90 100 90 100 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90	0 0 0 0 0 100 100 0 0 0 0	2 100 2 100 1 4 100 1 51 100 1 52 1 52 1 52 1 52 1 53 3 6 1 53 5 6	2 94 4 24 99 99 4 26 57 61 55 57 99 100 00 100 93 99 00 100 00 33 56 99 56 81 00 33 60 30 99 30 99 37 59 85	9 0 100 100 100 100 100 100 100 100 100	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	277 28 277 98 277 98 277 98 277 277 277 277 28 277 28 277 28 277 28 277 28 270 100 270	50 50 50 50 50 50 50 50 50	0 100 0 100 100 100 100 100 100 100 100	0	1 700 77 700 99 10 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10	31 25 23 100 100 100 100 21 35 100 35 100 35 100 35 100	1 100 1 1 98 1 1 100 100 100 100 100 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	12 0 0 0 0 0 0 0 0 0 0 0 10 10 10 10 10 10	2 66 71 68 71 68 71 100 100 100 100 100 100 100 100 100	81 83 88 88 79 100 83 81 95 93 84 100 100 100 100 100 100 100 100 100 10	75 75 71 73 74 100 72 100 98 99 99 100 100 100 100 100 98 100 100 100 100 100 100	100 100 100 100 100 100 100 100	96 9 100 9 100 9 100 16 97 16 100 16 97 9 100 16 100 9
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a-russia.ru wwirt.com www.glaz.tv www.russisches-tv-fernsehen.d ontvime.tv spbtv.online www.coolstreaming.us www.livebdtv.net snanews.de duma.gov.ru www.sber-bank.by	100 : 100 :	100 10 100 10 100 10 100 10 57 10 100 10 100 10 100 10	0 100 0 66 0 60 0 60 0 100 0 100 0 100 2 50	100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 10	90 92 90 100 90 100 90 92 90 100 90 100 90 100 6 69	0 100 0 0 100 0 100	100 5 100 1 100 1 100 5 100 1 100 1	00 100 99 39 99 31 00 100 00 44 55 25	100 100 100 100 100 100 100 100	100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1	33 100 90 100 100 100 100 98 27 92 100 98	100	100 1 100 1 100 1 100 1 100 1 100 1 100 1	100 10 100 10 100 10 100 10 100 10	00 100 00 100 00 100 00 100 00 100 00 100 00 100 00 100	0 100 0 100 0 100 0 100 0 100 0 100 0 100 100	89 100 100 100 86 100 99 99	100 10 100 10 100 10 100 10 100 10 100 10 100 10	0 10 0 10 10 0 10 0 10 0 10 3	0 100 0 100 0 100 0 100 0 100 0 100 0 100 3 100	100 100 100 100 100 100 100	100 100 100 100 100 100 100 100	99 100 1	100 16 100 16 100 9 100 16 100 16 100 9 100 16 100 9

3.2 Standards

Internet Research Task Force (IRTF)
Request for Comments: 8280

Category: Informational

ISSN: 2070-1721

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ARTICLE 19
C. Cath
Oxford Internet Institute
October 2017

Research into Human Rights Protocol Considerations

Abstract

This document aims to propose guidelines for human rights considerations, similar to the work done on the guidelines for privacy considerations (<u>RFC 6973</u>). The other parts of this document explain the background of the guidelines and how they were developed.

This document is the first milestone in a longer-term research effort. It has been reviewed by the Human Rights Protocol Considerations (HRPC) Research Group and also by individuals from outside the research group.

8. Human Rights Considerations

At the time of publication of this document, there was a growing interest in considering the impacts that IETF (and IRTF) work can have on human rights; some related research is discussed in [RFC8280]. As such, the human rights considerations of TLS-PWD are presented here.

Harkins	Informational	[Page 30]
RFC 8492	TLS Password	February 2019

produces can be used to establish secure connections between two people to protect their communication. Implementations of TLS-PWD, like implementations of other TLS ciphersuites that perform

authentication and authenticated key establishment, are considered "armaments" or "munitions" by many governments around the world. The right to keep and bear arms is an example of this right.

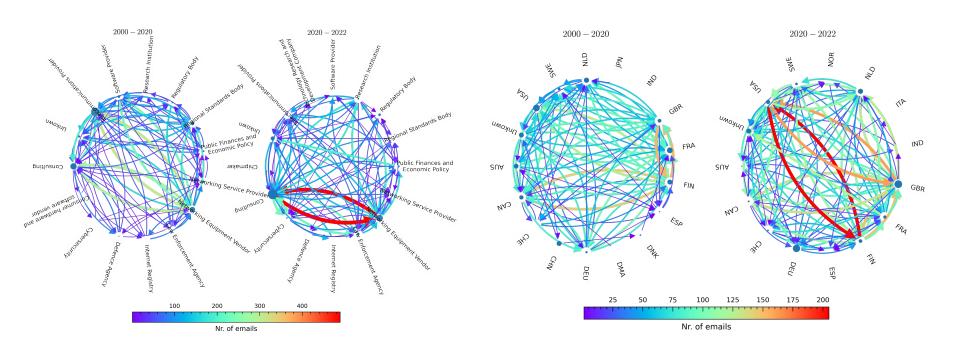
defend oneself against all manner of attackers -- criminals, governments, lawyers, etc. TLS-PWD is a powerful tool in the

promotion and defense of universal human rights.

The key exchange underlying TLS-PWD uses public key cryptography to perform authentication and authenticated key exchange. The keys it The most fundamental of human rights is the right to protect oneself. Implementations of TLS-PWD can be used as arms, kept and borne, to



5G is a tool for 'lawful intercept' (aka targeted surveillance)



5G is also a standard with maintained infrastructural insecurities

In this paper we look at responses in the 3GPP to three cases of telecommunication vulnerabilities:

- 1. **SS7**
 - a security flaw in Signaling System No. 7 (SS7) that allows for data interception and surveillance, SMS interception and location tracking by third parties
- 2. IMSI catchers
 - the lack of encryption of permanent identifiers that allowed for the deployment of rogue base stations, which allowed for man-in-the-middle attacks, resulting in interception of all voice and data traffic in a physical signal vicinity, and
- 3. Resistance to Static Key Exfiltration
 the lack of forward secrecy (PFS) between user equipment and the home network, which allows for the
 decryption of current encrypted data stream if credentials were obtained in the past.

Methods



 Quantitative analysis of communication patterns on mailing lists (by using BigBang)

- Studied the communication patterns between actors using the mailing lists:
 - of 3GPP's TSG SA working group three on Security and Privacy
 - and the subgroup of lawful interception (WG3_LI)
 - quantitative analysis
- Qualitative analysis of emails
- Qualitative analysis meetings reports
- Participant observation

Actors using the mailing lists:

Pon Security and Privacy
(WG3_LI)

Palanigounder

P. Nair (Nokia)

Baskaran

Liu

Tue, 17 Oct 20:

Mon, 16 Oc

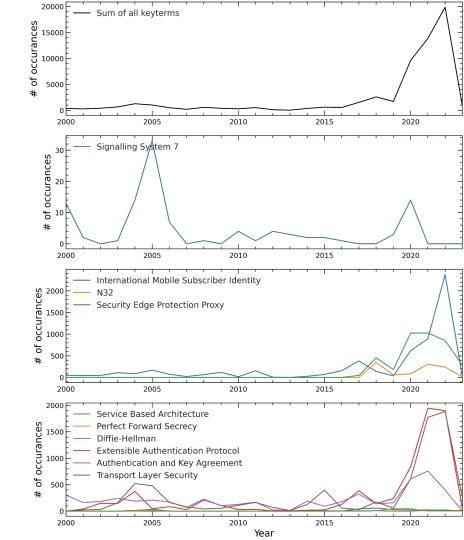
Coordinated Vulnerability Disclosure (CVD)



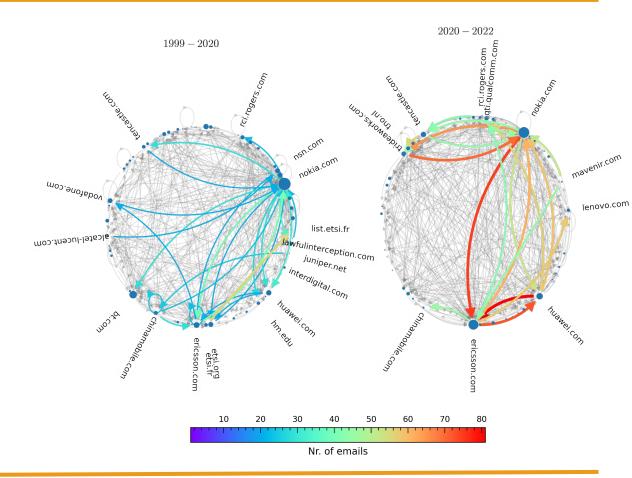
In conjunction with other Standards Development Organizations and related bodies, 3GPP has put in place a mechanism by which individuals or organizations can notify us of suspected or proven vulnerability caused by errors, omissions or ambiguities in our Technical Specifications, particularly those which could give rise to security breaches or loopholes which could compromize components of 3GPP networks, terminal equipment connected to those networks, or to other interworking networks or equipment.

We take such threats seriously and will do our utmost to resolve any vulnerabilities notified to us so that users of our Technical Specifications can do so with confidence that they do not present opportunities for malicious third parties to discover and exploit any shortcomings in our Specs.

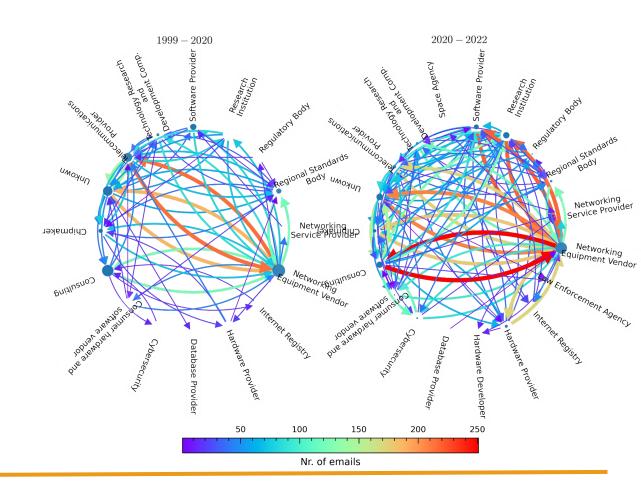
First we established people were discussing vulnerabilities on the selected mailinglists



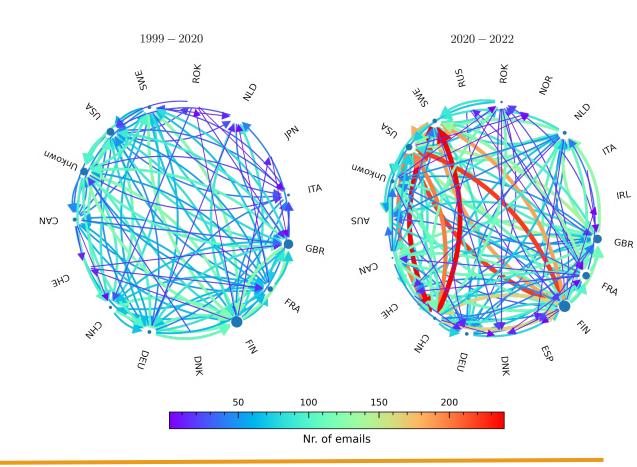
Then we sought to understand who were talking about this



We classified the actors into stakeholder groups, to understand whether a significant part of industry was represented

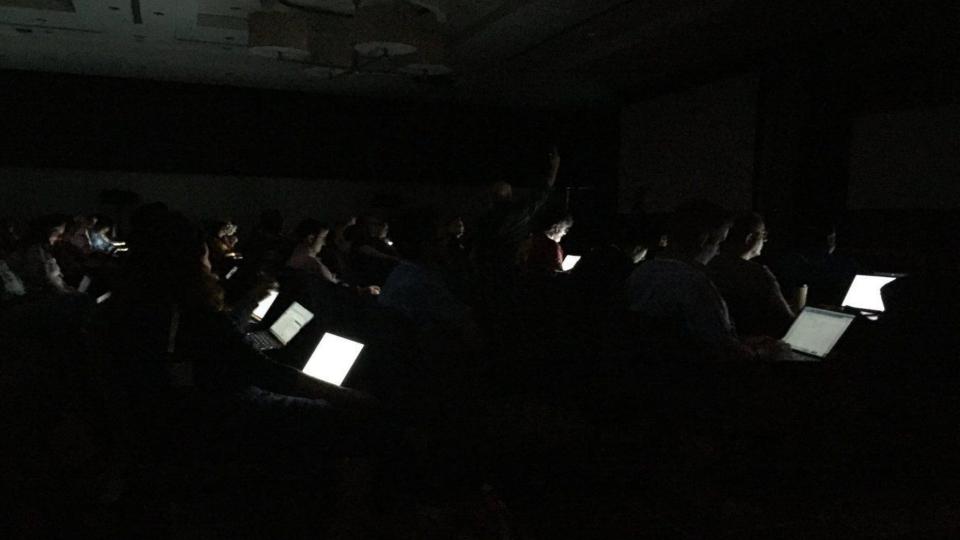


And then analyzed the actors according to the nationality of the companies they represented.



OBJ

- Insecurities are structurally discussed in the 3GPP (mandated to address them)
- Direct fixes are postponed
- Insecurities are only addressed when a technology is phased out
 - o In the case of SS7 through the diameter protocol (which is taking 20+ years)
 - o In the case of Stingrays / IMSI catchers only with the deployment of 5G (through the introduction of encrypted identifiers in 5G, but only works in SA mode!)
- Other fixes are outright rejected
 - Perfect Forward Secrecy (PFS)
 - A solution to the vulnerability of static key exfiltration from the world's largest SIM card manufacturer
 Gemalto by the United States and Great Britain,
 - Structurally rejected by companies from the United States, the United Kingdom, and France
 - The inclusion of this security feature was supported by companies from China, Europe, and the United States.
 - This insecurity is of the nature that it can only be used by significantly resourced actors and has in the past been exploited by the secret services of the United States and the United Kingdom.



3.3 Non-Latin Scripts

```
(حدد آرسم-بونج (لامدا ()
                                                     (خلفیة ۳۲ ۳۲ ۳۲)
                  (احرف "بــونــج" (جمع (قسم (عرض-الرسم) ۲) ۰) ٤٠)
                            (احرف نتيجة-لاعب٢ (قسم (عرض-الرسم) ٤٠ (٤٠)
                    (احرف نتيجة-لاعبا (ضرب ٣ (قسم (عرض-الرسم) ٤)) ٤٠)
                                                (لون-الخطوط ٦٤ ٦٢ ٦٢)
(خط (قسم (عرض-الرسم) ۲) ٦٠ (قسم (عرض-الرسم) ۲) (طرح (طول-الرسم) ۲۰))
                                                              (لا-خطوط)
                                            (مربع (س-کرۃ) (م-کرۃ) ۱۰)
                                     (مستطیل (س-لاعب۲) (ص-لاعب۲) (۰۰ ۱۰ (
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(مستطیل (س-لاعب۱) (م-لاعب۱) (مستطیل (س-لاعب۱))



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000
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diff --git a/repl.html b/repl.html
index 3a61662..7aeb086 100644
 --- a/repl.html
+++ b/repl.html
@ -119,7 +119,8 @
                                                                              // enter
                                                                              if(evt.keyCode == 13) {
                                                                                       Repl.history.unshift(cm.getValue());
                                                                                       Qlb.execute(cm.getValue());
```

Python In Chinese

```
# -*- coding: utf-8 -*-
# this is a sample Python program
定義 範例_1(訊息,次數):
取 數 在 range(次數):
印出 "哈囉, %s!" % 訊息

範例_1("世界", 百)
```

Converted Python

```
# -*- coding: utf-8 -*-

# this is a sample Python program

def p0_1(p1,p2):

    for p3 in range(p2):

        print "哈囉, %s!" % p1

p0_1("世界", 100)
```





Some final thoughts

- Infrastructure and human rights are intertwined
- The translation from rights to technology is not easy
 - Neither companies, governments, standardization bodies (or academics for that matter) have worked out how to do this
- The translation from rights to technology is not in everyone's interest
 - Corporate and governmental interests and geopolitical tensions are significant
- Not (yet) clear who has which responsibilities and capabilities
- Strong rights language can contribute to contestation and fragmentation
- Where should these discussions be taking place, and who should enforce?
 What knowledges do we need for this and who should be at the table?

Further Reading:

Read my writings at: <u>nielstenoever.net/publications</u>

<u>How the Internet Really Works</u>

Wired Norms

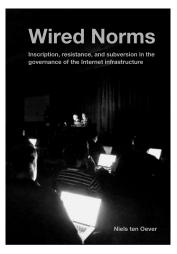
Human Rights Are Not a Bug

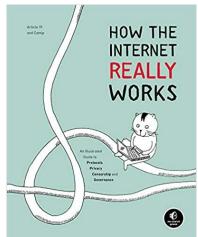
Loud Men Talking Loudly

Ramsey Nasr on Q'alb

<u>RFC8280 - Human Rights Protocol Considerations</u>

Guidelines for Human Rights Protocol and Architecture Considerations









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