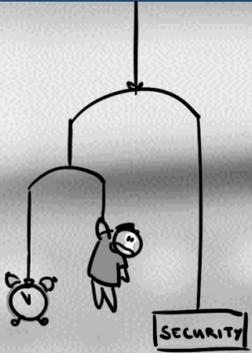


Computer Security



“An effect, not a goal.”

Tobias Fiebig

Max Planck Institute for Informatics



- B.Sc. Cognitive Science (2012)
- M.Sc. System & Network Engineering (2013)
- Dr.-Ing. Network Measurement and IT Security (2017)
- Until March 2022 Assistant Professor for Information System Security at TU Delft, since April 2020 permanent
- Since April 2022 Max-Planck-Institut für Informatik



Sysadmin, Researcher, Teacher



VIRT03.DUS01.AS59645.NET



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VIRT01.DUS01.AS59645.NET



E-Mail: contact@as59645.net

Phone:

Sysadmin, Researcher, Teacher



VIRT03.DUS01.AS59645.NET

“How can we build IT systems that are **reliable** and **secure**, which support society in answering the practical problems of our time **without** introducing new threats?”

Email: contact@as59645.net

Phone:

VIRT01.DUS01.AS59645.NET



Security is an effect, not a goal.

A Burning World

By Cameron Strandberg from Rocky Mountain House, Alberta, Canada - DSC_7139, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=12424098>



Related Publication:

13 Propositions on an Internet for a "Burning World", [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022*.

21 July 2021

22 July 2022

A Burning World



Related Publication:

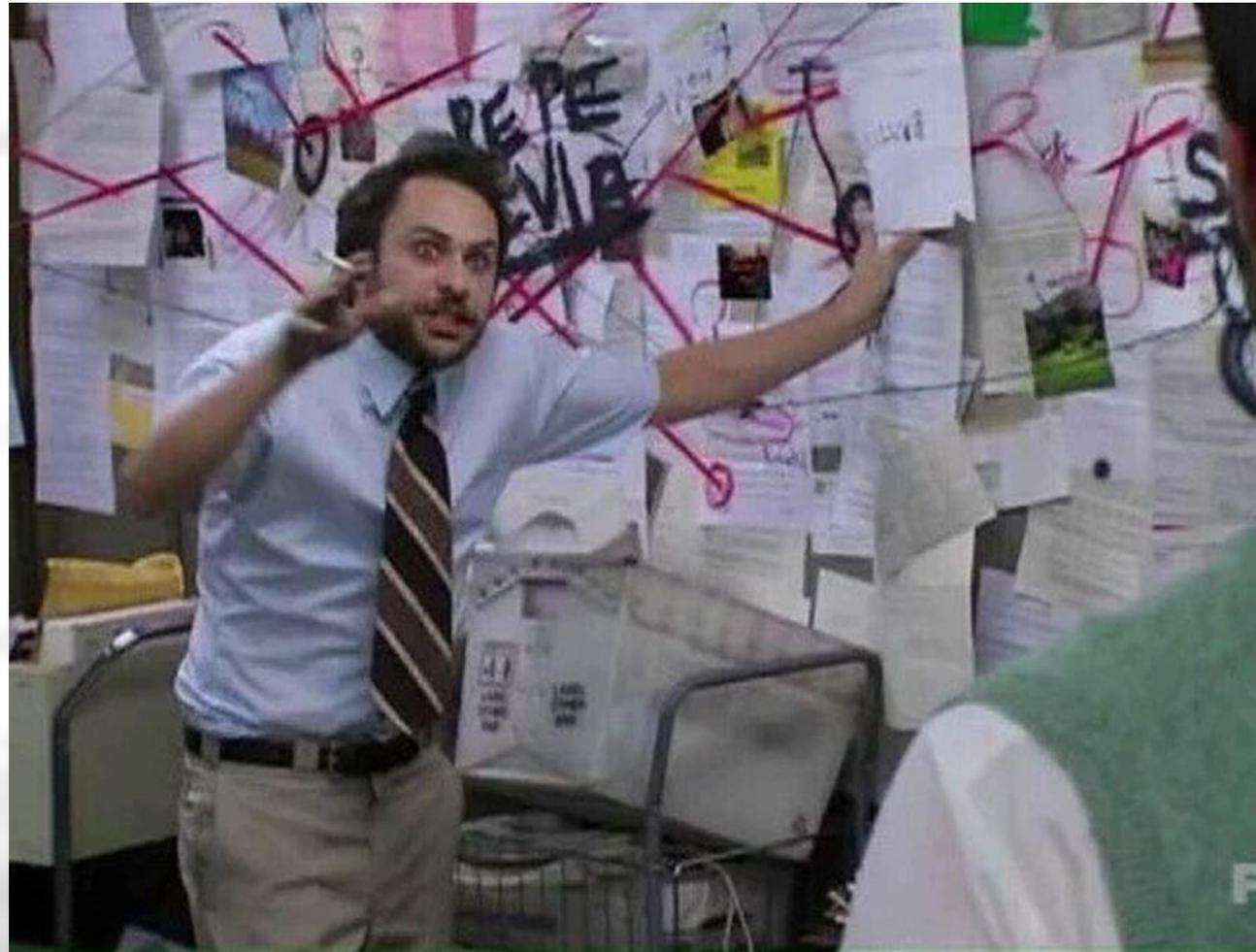
13 Propositions on an Internet for a "Burning World", [Tobias Fiebig](#) and [Doris Aschenbrenner](#), *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



PROGRAMME OF THE
EUROPEAN UNION



Bear with me... it will all make sense.





“We make things secure.”

Detlef's Granddaughter & the Ransomware

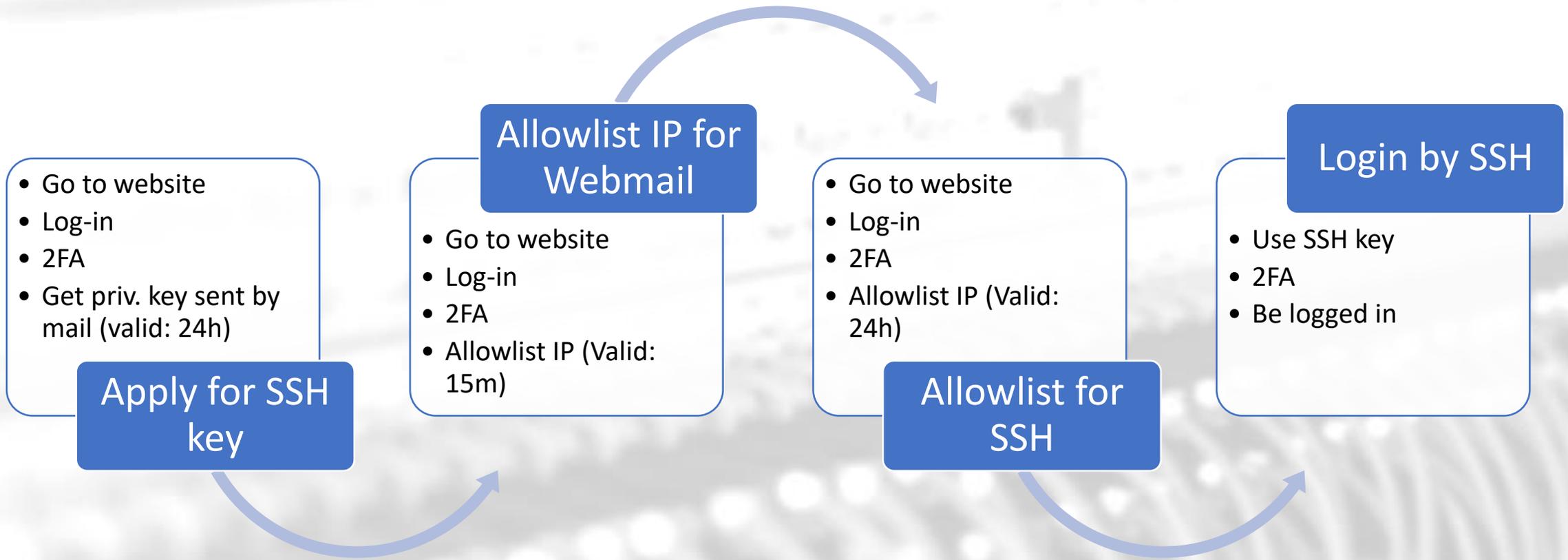


- Detlef, 58, with Elbemetal for 42 years. Internal tinkerer. CNC etc.; The old (manual) stuff.
- *NOT* good with „Computerse“; IT still looks shellshocked when they think back to the SAP rollout on the box for his new CNC machine.
- Grandpa since two weeks ago.
- That's why Elbemetal now has ransomware.
- Why?

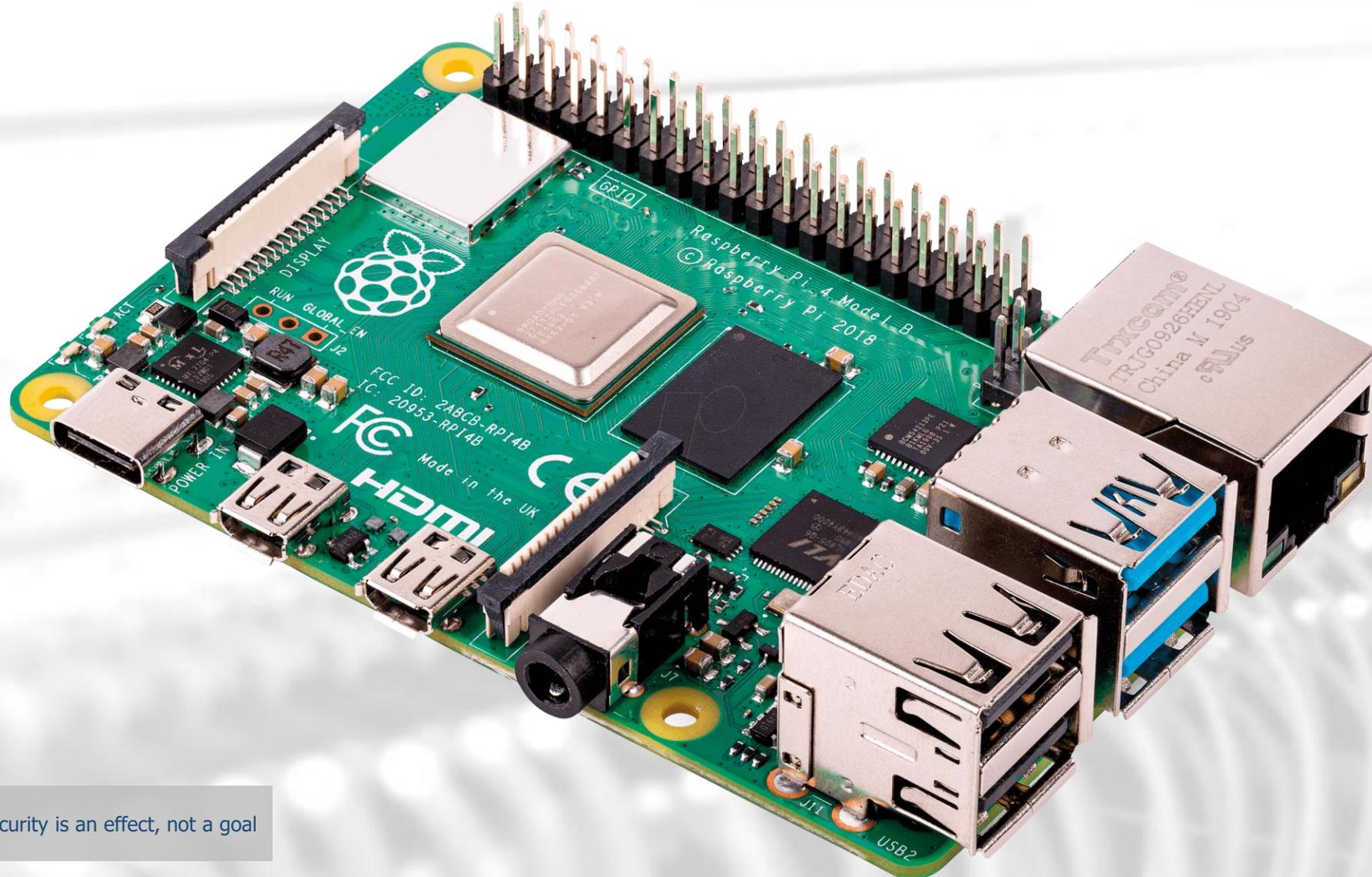


Logging in at work...

Imagine, to log into work you would have to do the following...



What would you do... ?





"Users will find a way."

People finding ways



Secure | <https://www.shodan.io/host/79.7.88.196>

79.7.88.196 host196-88-static.7-79-b.business.telecomitalia.it

City	Turin
Country	Italy
Organization	Telecom Italia Business
ISP	Telecom Italia Business
Last Update	2017-12-20T12:13:45.187316
Hostnames	host196-88-static.7-79-b.business.telecomitalia.it
ASN	AS3269

Ports

- 8080

Services

- 8080 tcp http
HTTP/1.0 200 OK
Content-Length: 1148
Cache-Control: no-cache no-store
Content-Type: text/html



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Related Publication:

Investigating System Operators' Perspective on Security Misconfigurations, Constanze Dietrich, [...], Tobias Fiebig, *ACM SIGSAC Conference on Computer and Communications Security (CCS '18)*, 2018.

Security Misconfigurations



- When security falls of the ledge
- Simple mistakes
- Oversights
- People doing people things



Related Publication:

Investigating System Operators' Perspective on Security Misconfigurations, Constanze Dietrich, [...], Tobias Fiebig, *ACM SIGSAC Conference on Computer and Communications Security (CCS '18)*, 2018.

Security Misconfigurations



Related Publication:

Investigating System Operators' Perspective on Security Misconfigurations, Constanze Dietrich, [...], Tobias Fiebig, *ACM SIGSAC Conference on Computer and Communications Security (CCS '18)*, 2018.

Prevention is not easy



Automation



Better Documentation



Clear (shared) Responsibilities



Better Processes
(not more)



Incident RPGs



Really Blameless
Post-Mortems

Related Publication:

Investigating System Operators' Perspective on Security Misconfigurations, Constanze Dietrich, [...], Tobias Fiebig, *ACM SIGSAC Conference on Computer and Communications Security (CCS '18)*, 2018.

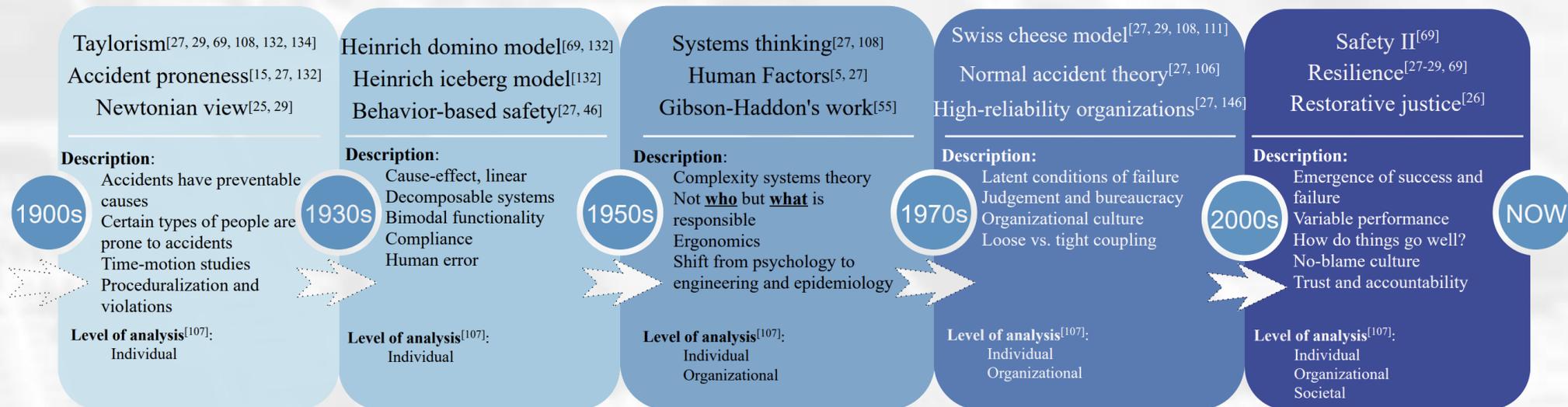


Figure 2: Overview of the development of human factors research in safety science [27]. Note how over time, the perspective shifted away from individual responsibility to, first, organizational factors, and finally to a societal perspective. Ultimately, the focus is no longer on how to prevent human error, but instead, on how to facilitate proper resilient operations.



- Look at what works instead of focusing on what does not
- Systems must be *resilient* as (human) error is *inevitable*
- Human error cannot be removed or prevented
- A system (organization) may lead to failure
- We need a just/blameless culture to *identify root-causes*

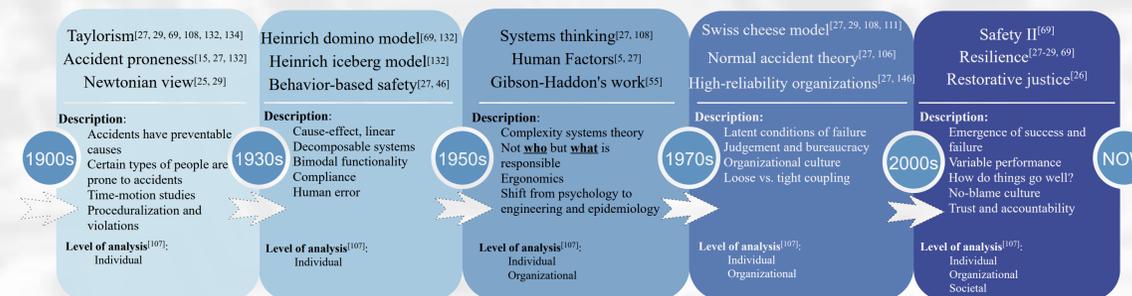


Figure 2: Overview of the development of human factors research in safety science [27]. Note how over time, the perspective shifted away from individual responsibility to, first, organizational factors, and finally to a societal perspective. Ultimately, the focus is no longer on how to prevent human error, but instead, on how to facilitate proper resilient operations.



“People will do people things.”

Sysyops: Who they are and what they do



- People running systems
- Not developers (well, DevOps, but no...)
- Not users (but it depends)
- What?



Sysyops: Who they are and what they do



- NIST says: *"individuals responsible for the installation and maintenance of an information system, providing effective information system utilization, adequate security parameters, and sound implementation of established Information Assurance policy and procedures."*
- Limoncelli et al. define a sysadmin as *"one who manages computer and network systems on behalf of another, such as an employer or a client."*

Enterprise Security



- Monitoring (SIEM, IDS, WAF, Mailgateway, Logs)
- Control (Endpoint Security, Antivirus)
- Isolation (Firewall, AD, VPN, Proxy)
- General Security (2FA, Keycards, Tokens)
- Standards and Certificates (CC, ISO27001)



Related Publication:

"How to stop crashing more than twice: A Clean-Slate Governance Approach to IT Security.", Fiebig, T. In: IEEE European Symposium on Security and Privacy Workshops (EuroS&PW), pp. 67-74. 2020.



"Equifax was ISO-27001 certified."

- Me

"And then he said: 'There is no way they are not getting certified, if they buy it from us.' "

- Anonymous Big-4 Intern



- Probably as close to the definition of 'Enterprise' you can get
- Still did not segment their network
- Still did not backup their active directory
- Did people just skip on doing their job?

Related Publication:

"How to stop crashing more than twice: A Clean-Slate Governance Approach to IT Security.", Fiebig, T. In: IEEE European Symposium on Security and Privacy Workshops (EuroS&PW), pp. 67-74. 2020.

Sysops' work isn't easy

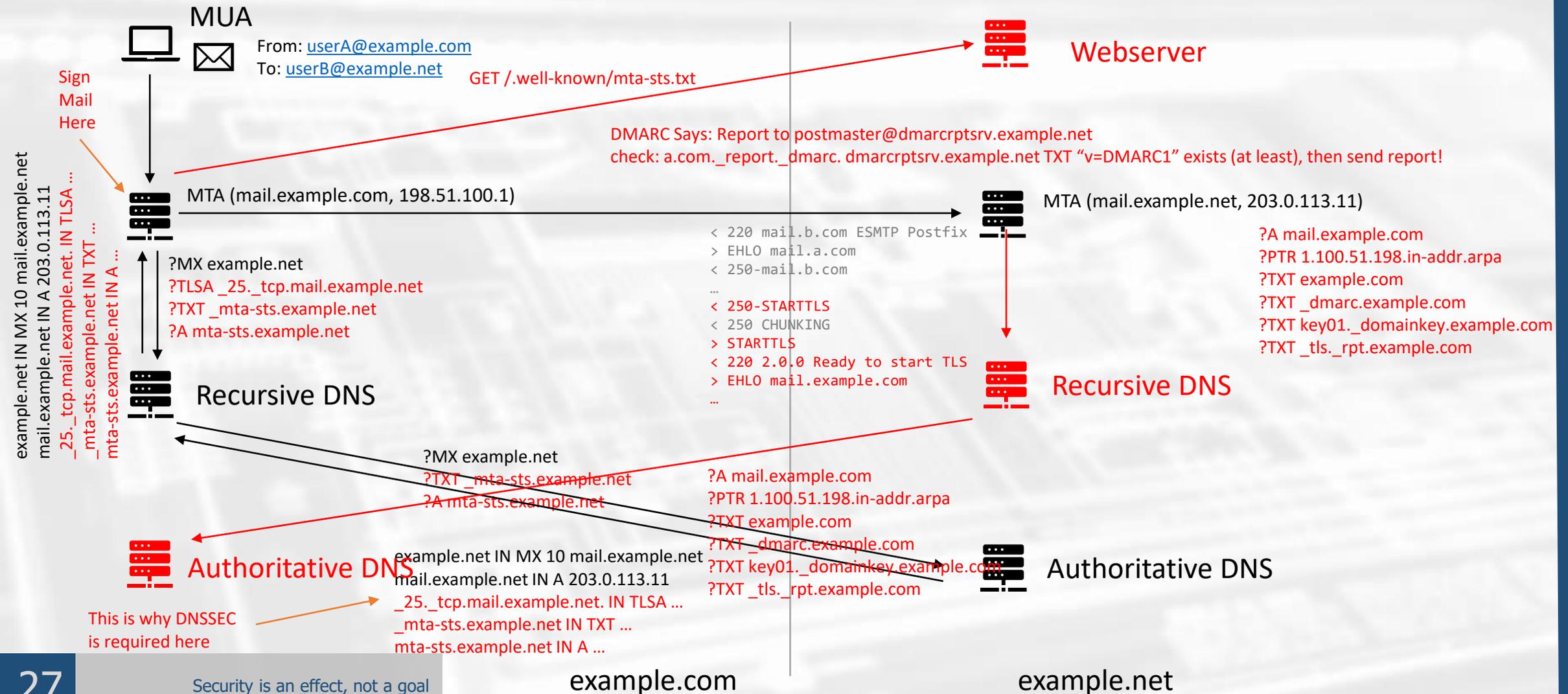


- There are complexities EVERYWHERE
 - Network services/protocols get increasingly complex
 - Resources are scares
 - Operational requirements always are 'Prio1!'
 - Networks grow organically(!);
 - Called 'accumulating entropy' in SysOps literature
 - Legacy is pain



SMTP2023

Now with: fcrDNS, SPF, DKIM, DMARC, MTA-STS, TLS-RPT, TLSA (DANE)
Still missing: IPv6 (Auth/Recursive DNS, delivery), BIMI, features & expansions for DMARC, DKIM, SPF & MTA-STS, DNS-RBLs, ARC, SRS, SPAM & Virus Checks



This is why DNSSEC is required here

Complexity: The history of email RFCs



- There has been an explosion of standards since dot-com
- Mail exceeds DNS(!)
- Whelp

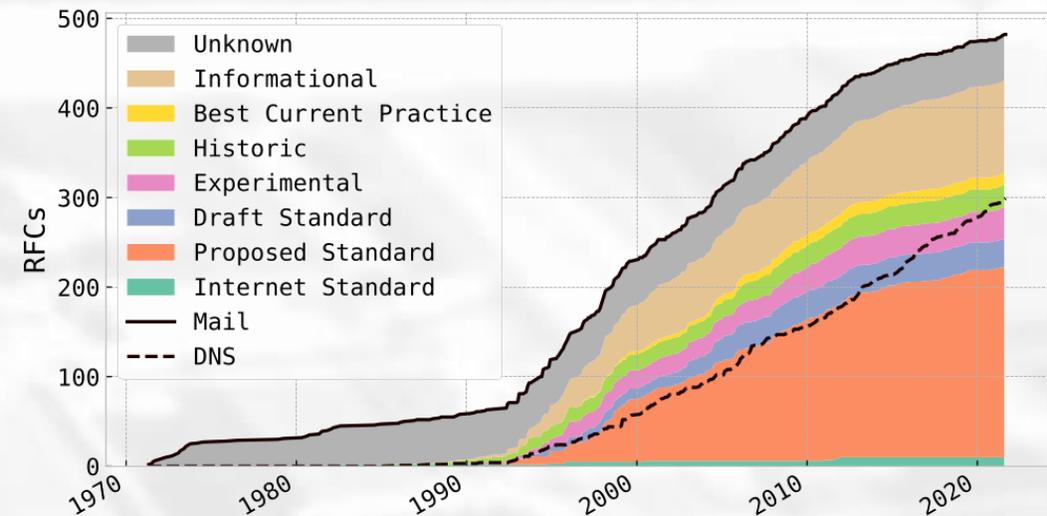
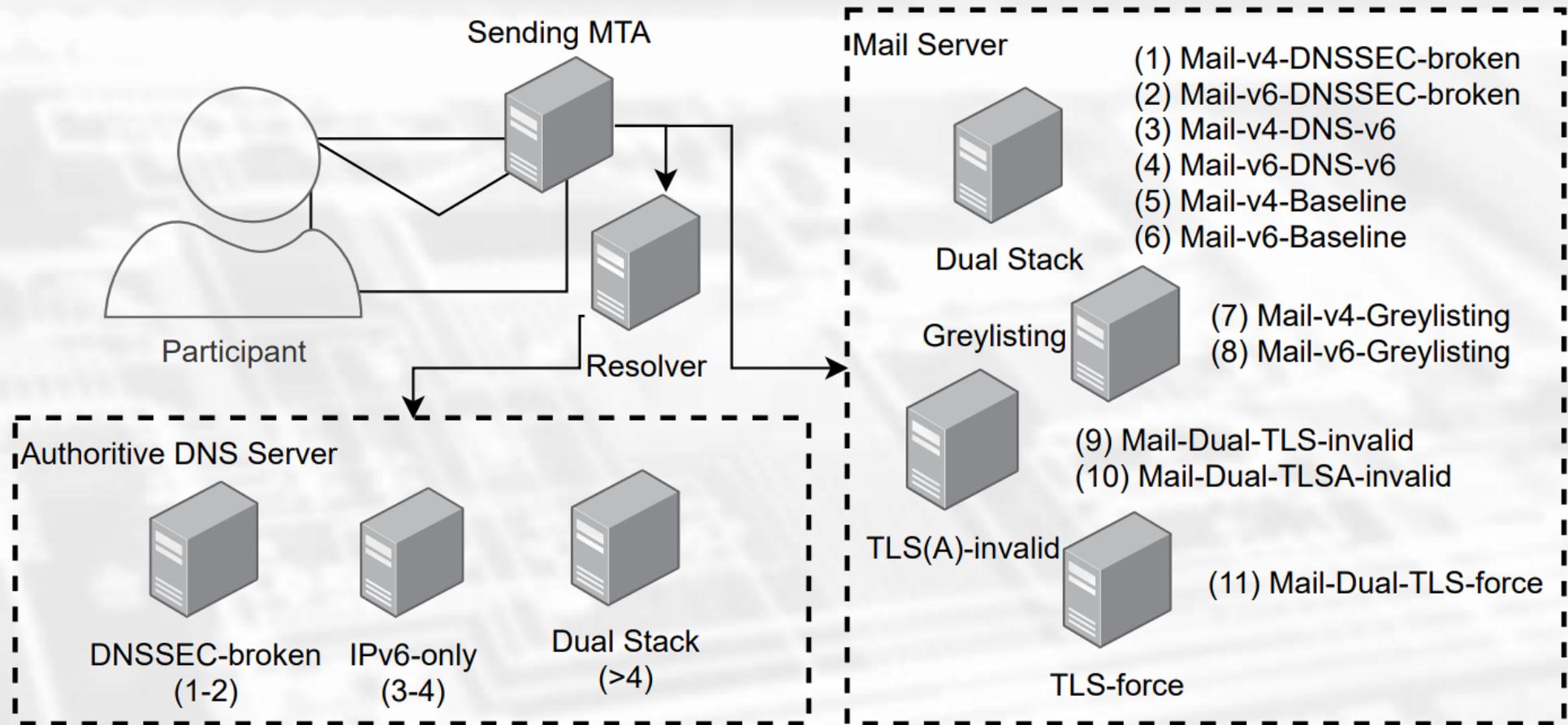


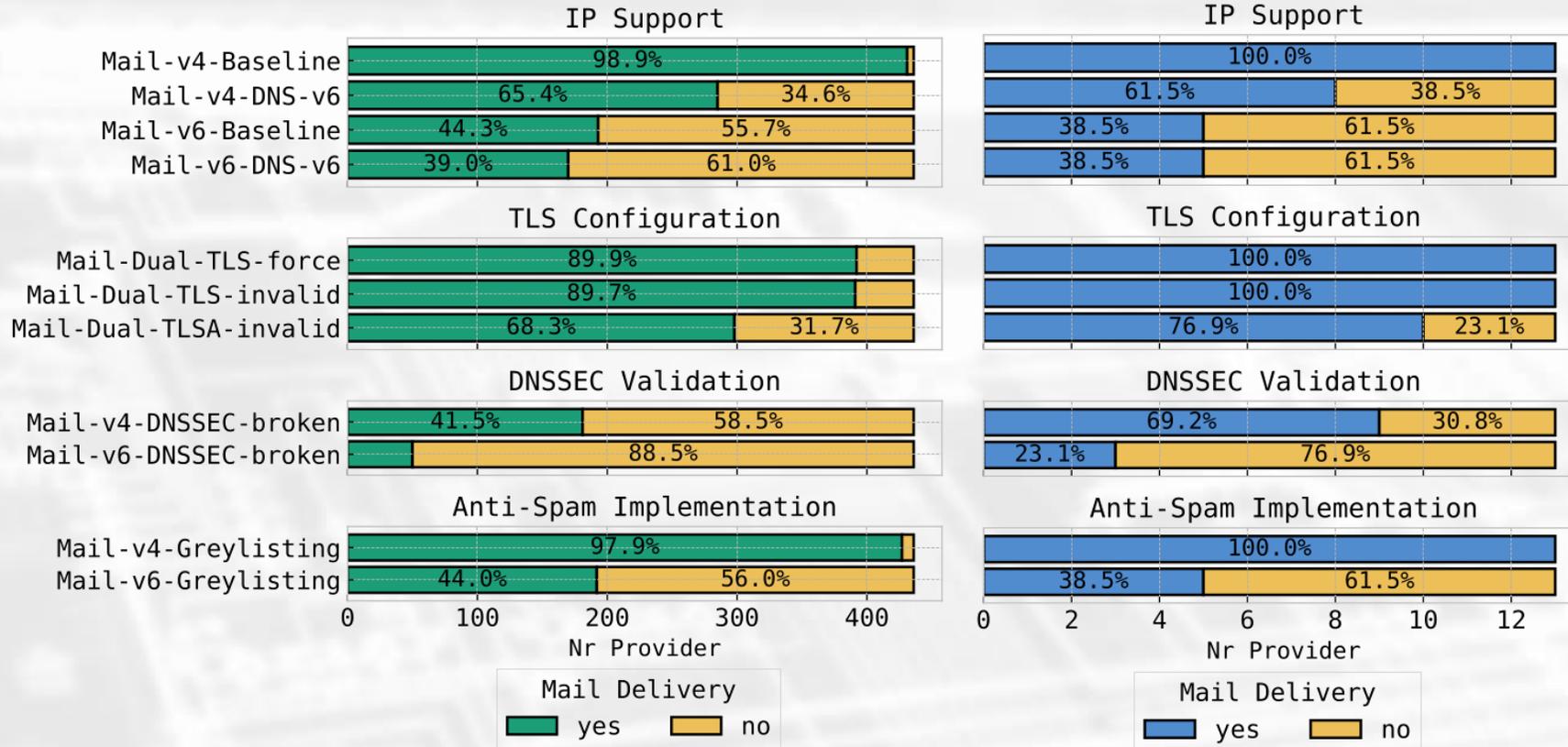
Figure 1: Overview of the explosion of email-related standards (“SMTP Camel”), compared to DNS-related standards.

Checkout: <https://email-security-scans.org/>
Test your own mail infrastructure (for fun and improvements)

Measuring Email Standard Compliance



Email Standard Compliance



(a) Regular Providers

(b) Large Providers

Email Standard Compliance: Implications



- The big ones move slow but when they move they do
- For small (self-hosted!) ones things are more difficult
 - Some are bleeding edge
 - Others are way behind
- Implications of deliverability
 - Google/MS tend to be stringy (and intransparent) when it comes to accepting (smaller) providers mails
 - Others (t-online.de ...) are not that compliant themselves
 - Forces centralization: *"If you don't like (your mail disappearing), just go to Google!"*

Dealing with Complexity



What we want

- Less people
- Running more services
- For more users
- Using less (work) time

What we do

- Cattle approach
- Get rid of pets/snowflakes
- Centralize
- Automate
- Standardize



Pets? Cattle? Zoo?



- Pets are special!
 - We love them
 - We care for them
 - They get the expensive cat food
 - They get LOOOOOOTS of toys
 - They can sleep in our bed
 - They get cuddles
 - They get the best doctors we can find
 - They are just awesome



Cattle though...



*No cattle was hurt in the making of this burger

Related Work: Thomas A Limoncelli, Christina J Hogan, and Strata R Chalup. 2016. The Practice of System and Network Administration: Volume 1: DevOps and other Best Practices for Enterprise IT. Vol. 1. Addison-Wesley Professional

Snowflakes



- Beautiful
- Unique
- None like the other

- A blizzard is still no fun at all.



Consistency is Key



- McDonalds coffee isn't the best
- It isn't even good
- It is... well... decent... "good enough"

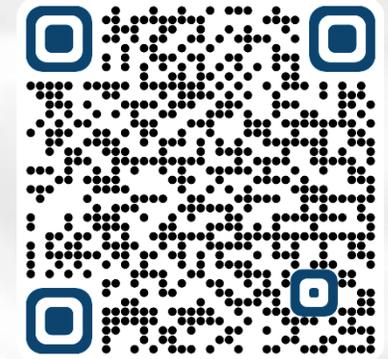
- BUT: It is always the same!



We do the same with systems...



- How we run servers
- How we support users
 - Try it; File a support ticket with google... try to talk to a human...



Blog Article

© Constanze Dietrich

“In a burning world, functionality is more important than security, but remains trumped by safety.”



Blog Article

© Constanze Dietrich

“Systems that are too complex to be understood by a single person cannot be sustainable.”



What about users, now?

Sponsored



try.bravesoftware.com

<https://try.bravesoftware.com>

Download Brave For Free - Fast, Private & Safe

A privacy-first, free **browser** that loads 3x faster — without slowing your computer down.

Download **Brave** for free today and start **browsing** with 40% less battery consumption.

Brave private browser

Fully private. And no Big Tech. Private browse, search, and more.

Earn tokens for browsing

No ads, Private search & more. The best privacy online.

1 click to ditch Big Tech

Safe browsing, search, VPN, & more. A Web browser that's user-first.

Block ads & trackers

Block ads for a fast, private Web. The browser that rewards you.



Brave Browser

<https://brave.com>

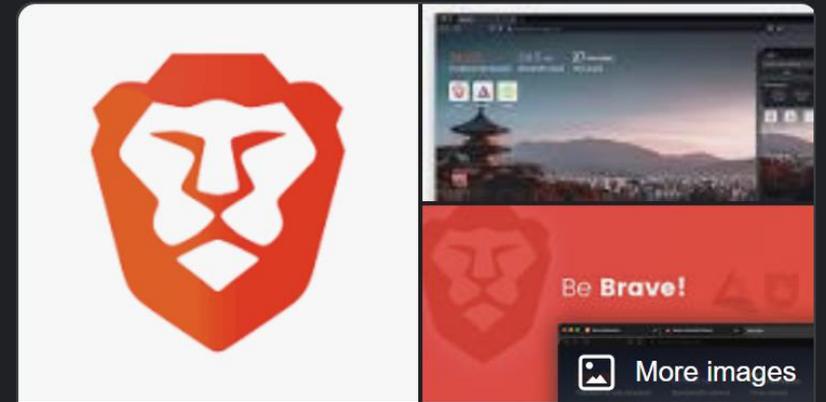
Brave Browser: Secure, Fast, & Private Web Browser with ...

The **Brave browser** is a fast, private and secure web browser for PC, Mac and mobile.

Download now to enjoy a faster ad-free browsing experience that saves ...

Download Brave

Brave is available for PC, Mac and mobile. Security is an effect, not a goal. web browser for your ...



Brave

Web browser

Brave is a free and open-source web browser developed by Brave Software, Inc. based on the Chromium web browser. Brave is a privacy-focused browser, which automatically blocks some advertisements and website trackers in its default settings. [Wikipedia](#)

Developer: Brendan Eich, Brave Software, Inc.

Initial release date: January 20, 2016

Programming languages: JavaScript, C++, Swift

Engines: Blink, V8, (WebKit on iOS)

License: MPL 2.0

Platform: x86-64, IA-32 (Windows only), ARM (Mac only)

Repository: github.com/brave/brave-browser



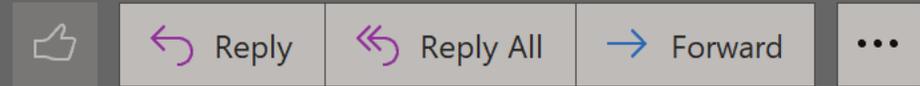
File Message Help Acrobat



A Data Management Plan in dmponline has been shared with you



do-not-reply@dcc.ac.uk
To t.fiebig@tudelft.nl



Tue 06/07/2021 00:48

Hello First Name Surname

Your colleague [\[redacted\]@tudelft.nl](#) has invited you to contribute to their Data Management Plan in dmponline

[Click here](#) to accept the invitation, (or copy https://dmponline.tudelft.nl/users/invitation/accept?invitation_token=z_e2+ into your browser). If you don't want to accept the invitation, please ignore this email.

All the best
The dmponline team

Please do not reply to this email. If you have any questions or need help, please contact us at dmponline@dcc.ac.uk or visit <https://dmponline.tudelft.nl/contact-us>



Care-Work in IT?!



- Looked at how operators experienced the COVID19 lockdowns
- Turns out:
 - Helping people is hard
 - Dealing with being overwhelmed while having to handle the overwhelmness of others is hard
 - You actually have *care* components in sysops work

Related Publication:

"I needed to solve their overwhelmness": How system administration work was affected by COVID-19, Mannat Kaur, [...], Tobias Fiebig, *ACM CSCW'22 / PACM HCI, 2022.*



"Uhm... do you... do you maybe have a backup of my home directory? My dissertation is due next week..."

Related Publication:

"I needed to solve their overwhelmness": How system administration work was affected by COVID-19, Mannat Kaur, [...], [Tobias Fiebig](#), *ACM CSCW'22 / PACM HCI, 2022*.

Component of Care



- Ops tend to be a bit... t-Ops-ic
 - BOfH stories
 - “King of the Hill” Operators having ‘their baby’
 - Lot’s of ‘strength’ culture
- But then there is also all this care work...

WARNING!



IF THE HELP DESK THINKS YOUR QUESTION
IS STUPID, WE WILL SET YOU ON FIRE

Operator Visibility Paradox



- Low visibility (Things work):
 - If you do a good job, nobody sees you, and everybody wonders why you are even getting paid, if you never do anything/things run without you.
- High visibility (Things don't work):
 - If things go wrong a lot (independent of whose fault it is), people constantly see you, and wonder why you're even getting paid if you constantly break stuff.

Related Publication:

"I needed to solve their overwhelmness": How system administration work was affected by COVID-19, Mannat Kaur, [...], Tobias Fiebig, *ACM CSCW'22 / PACM HCI, 2022*.

The Toxic Loop



- Operators are grumpy and think users are stupid
- Users are demand-y and do not acknowledge operators care-work
- Operators get more grumpy and do less care work
- Users get grumpy (and/or angry, scared, etc.) making care work harder
- Operators get more grumpy cause care-work got harder...

Related Publication:

"Oh yes! over-preparing for meetings is my jam:"): The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023.*

IT and IT Operations: A Men's World



- Computer stuff has always been a man-dominated field
- Fundamental innovation in the field has been driven by men
- Without men, there would be no IT as we know it today

WRONG

Related Publication:

"Oh yes! over-preparing for meetings is my jam:"): The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023*.

A brief (incomplete) history of tech...



Rear Adm. Grace Hopper,
1st Bug, 1st Compiler,...



Hedy Lamarr, Frequency Hopping



Lorna Cockayne, Bletchley Park



Ada Lovelace, 1st Algorithm



Melba Roy, NASA
Teamlead ECHO Sat. Tracking



Margaret Hamilton, MIT
Teamlead Flight SW Apollo 11

Related Publication:

"Oh yes! over-preparing for meetings is my jam:"): The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023*.

IT and IT Operations: A sad reality



"[...] system administration, or IT work in general, is not a traditionally cis-men dominated field. Instead, this area of work was taken over when opportunities arose, while pioneers were forgotten or pushed out."

Related Publication:

"Oh yes! over-preparing for meetings is my jam:"): The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, [Tobias Fiebig](#), *ACM CSCW'23 / PACM HCI, 2023*.

Double-Invisibility



- People of marginalized genders experience a doubled version of the 'visibility paradox'
 - They are *double* invisibilized compared to cis-ad-men, especially when it comes to reward, success, and things working
 - They are double visibilized compared to cis-ad-men, when things go wrong or infrastructure does not work

Related Publication:

"Oh yes! over-preparing for meetings is my jam:~)": The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023*.

Toxic Culture Harms Everywhere



- The existence of sexism anywhere in the industry harms the career prospects of people of marginalized genders in good places:
 - Career advancement often ties in with changing jobs
 - If you are in a good place, changing jobs might mean you hit one of the toxic places
 - Participants even reported to feel stuck

Related Publication:

"Oh yes! over-preparing for meetings is my jam:~)": The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023*.

Care, Gender & a Feminist Lens



- Think back to safety science; Preconditions for dealing with security (misconfigurations) are:
 - Blameless/just culture
 - Being open when discussing issues/incidents
 - ...
- You must feel *safe* to contribute to a blameless culture
- You need an environment in which people can feel safe to be

Related Publication:

"Oh yes! over-preparing for meetings is my jam:"): The Gendered Experiences of System Administrators, Mannat Kaur, Harshini Sri Ramulu, Yasemin Acar, Tobias Fiebig, *ACM CSCW'23 / PACM HCI, 2023*.



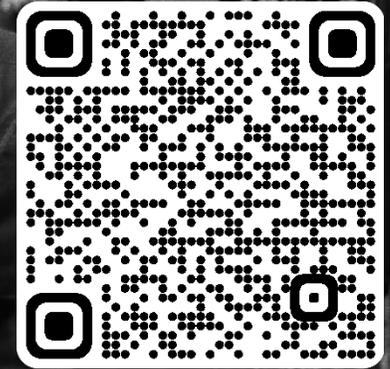
PUBLIC PARKING | **EVENTS DAILY** | **Blog Article**
MONTHLY PARKING AVAILABLE

SECOND CUP

“Operating systems requires operators to execute care, towards their system, their users, and the infrastructure as a whole.”

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and [Doris Aschenbrenner](#), *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



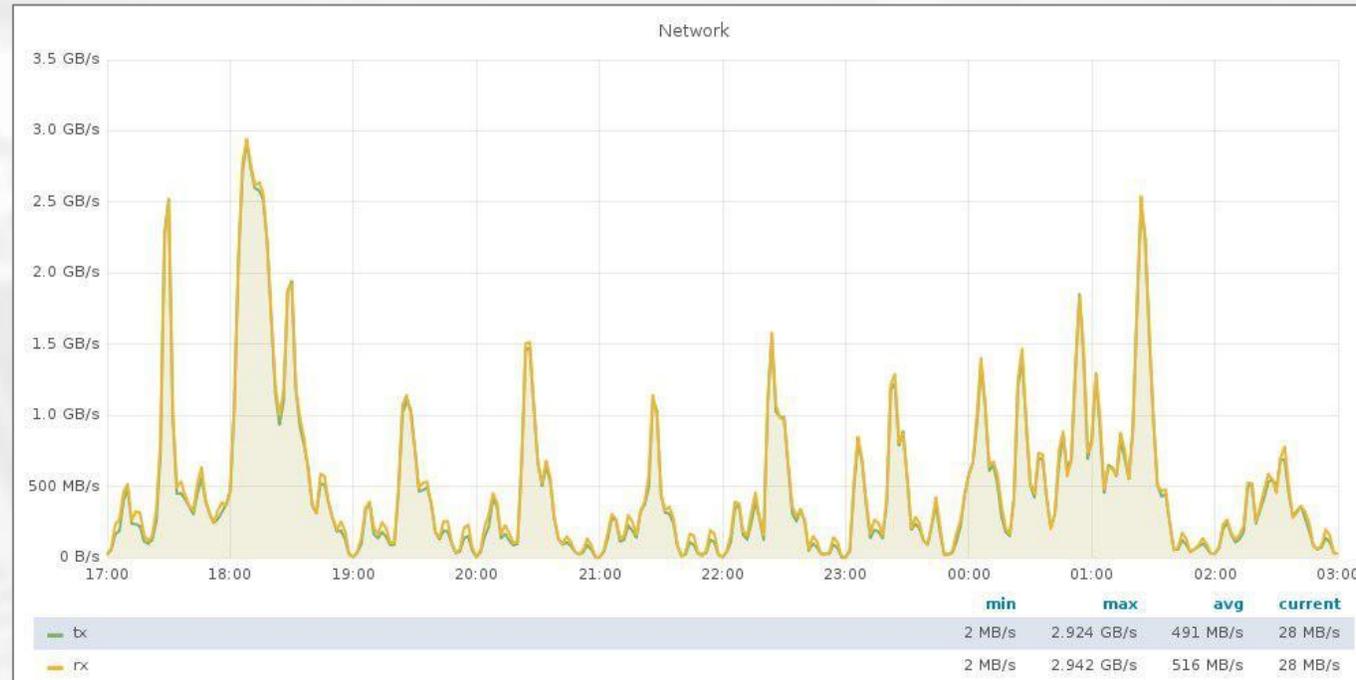
Blog Article

“Communities caring for local and distributed infrastructure are the future in a world falling apart.”

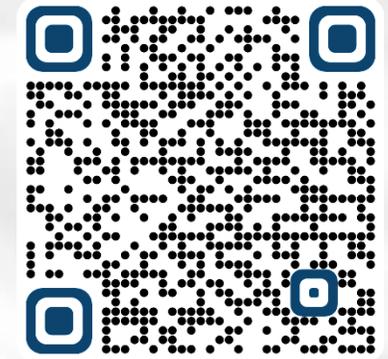
By Stougard - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=8922390>

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and [Doris Aschenbrenner](#), *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



https://commons.wikimedia.org/wiki/File:Network_traffic_during_September_2019_DDoS_attack_on_Wikipedia_%28small%29.jpg



Blog Article

“The centralization of the Internet has been promoted by a lack of care.”



Blog Article

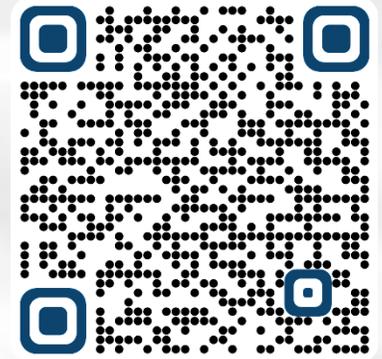
“Centralization and profit are inherently incompatible with care for infrastructures.”

By Jericho - hard money lender, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=11480660>

Related Publication:

13 Propositions on an Internet for a “Burning World”, Tobias Fiebig and Doris Aschenbrenner, ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.

Remember Misconfigurations?



Blog Article

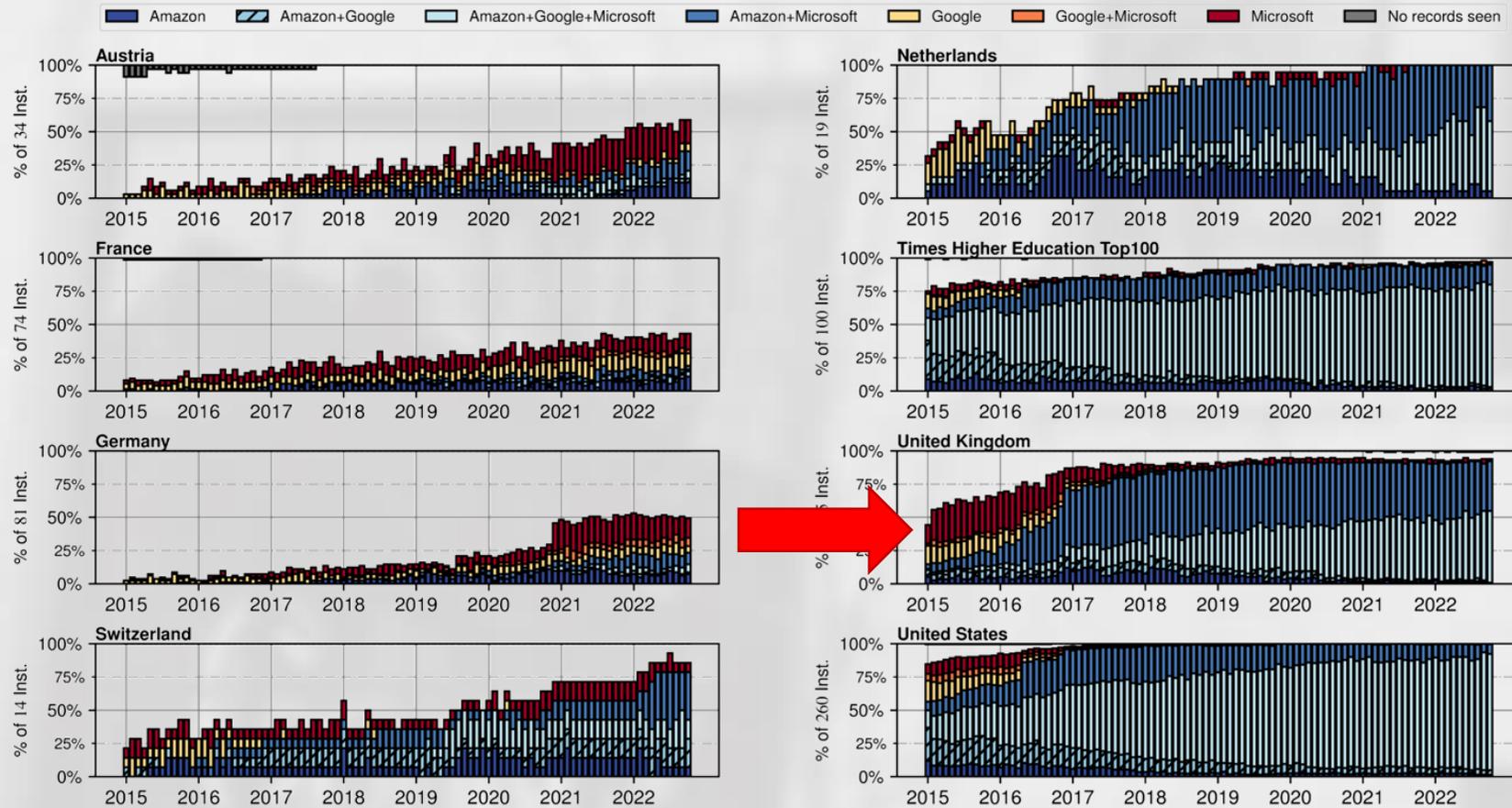
© Constanze Dietrich

“There is a tension between privacy and security pitting decentralization vs. centralization.”

Related Publication:

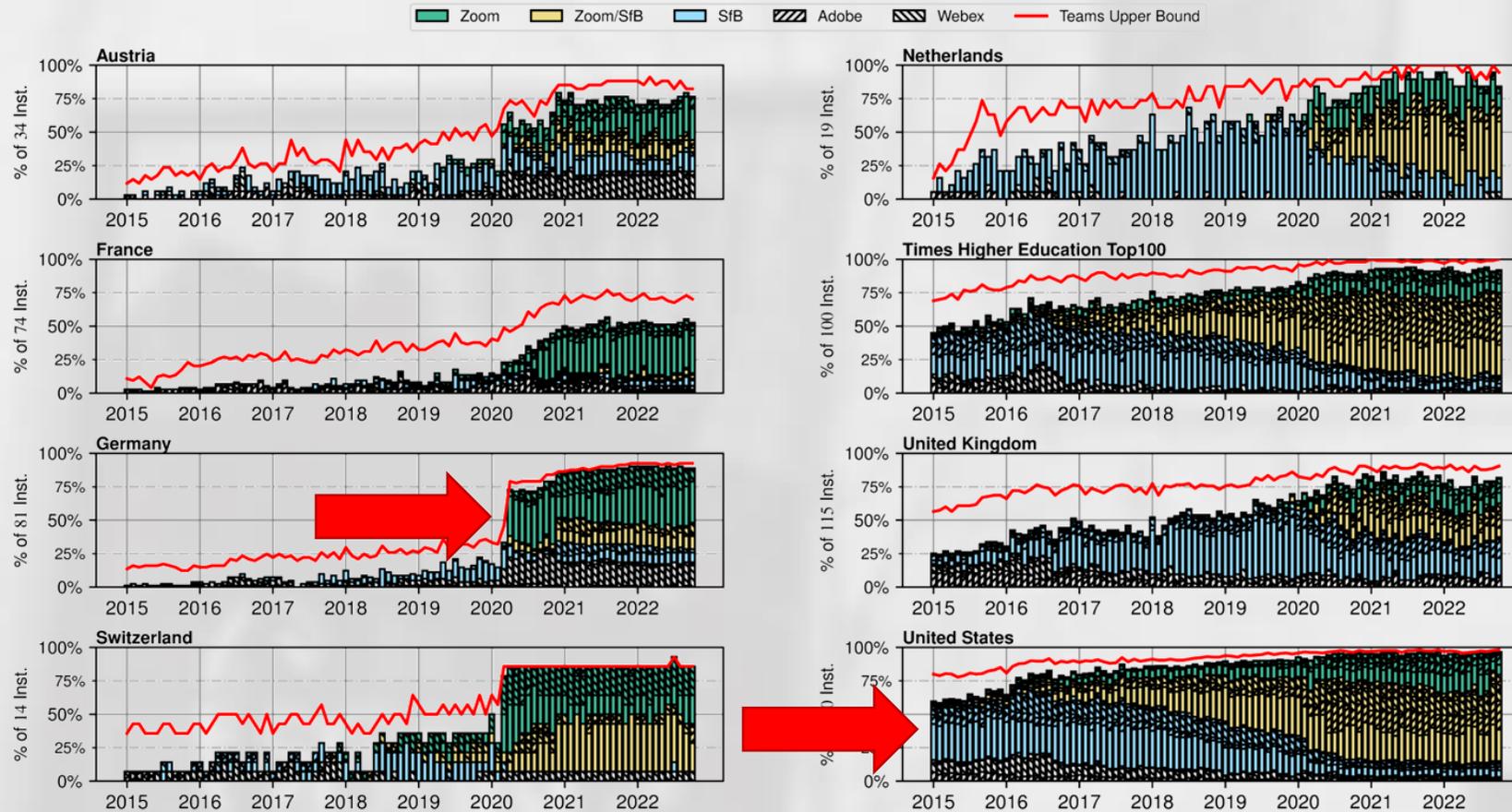
13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*

Amazon, Microsoft & Google

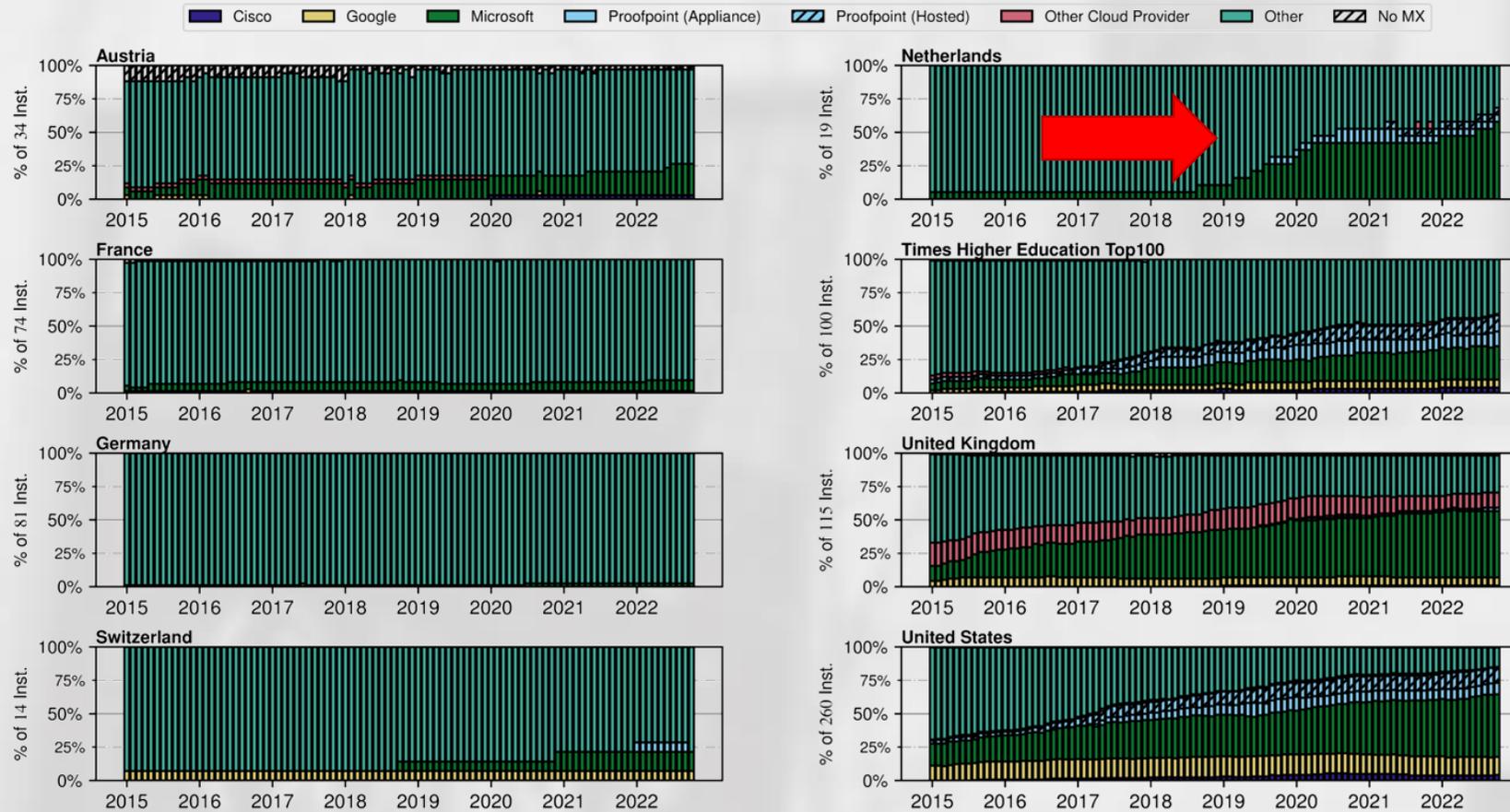


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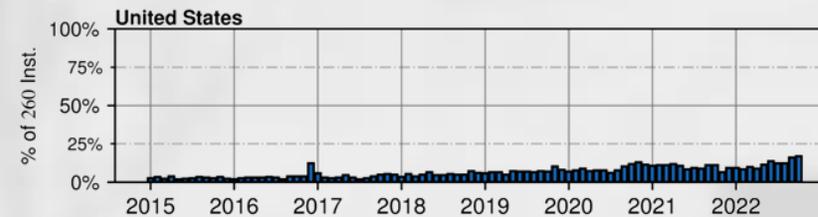
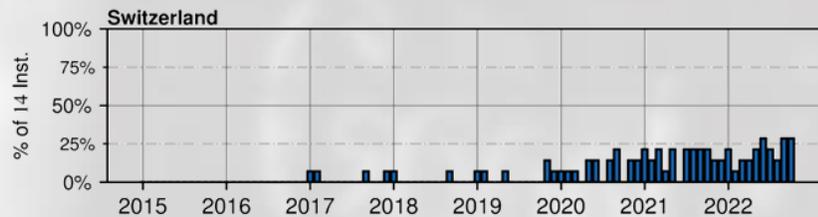
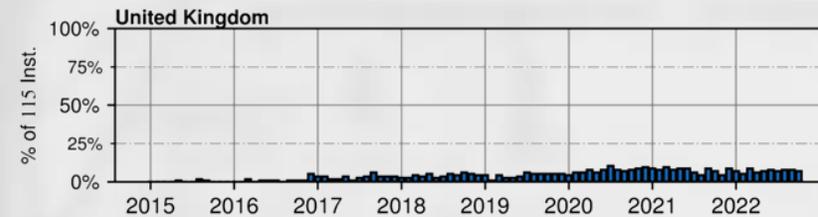
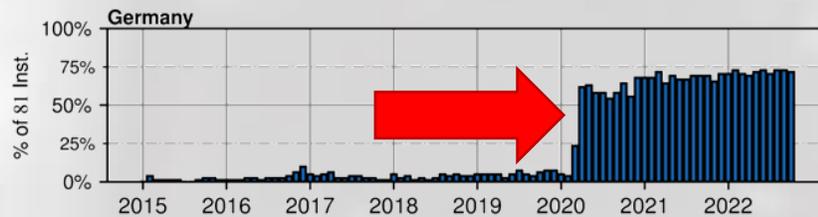
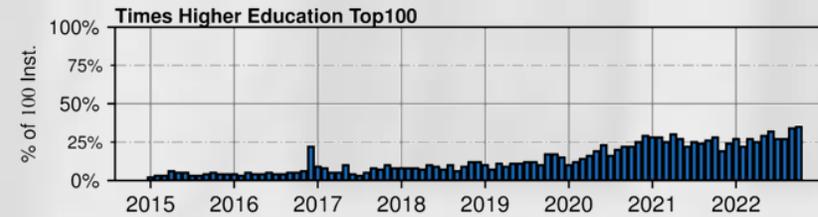
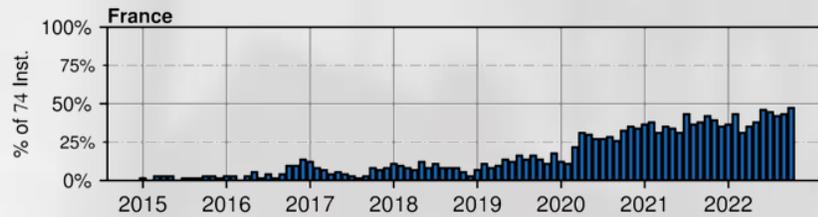
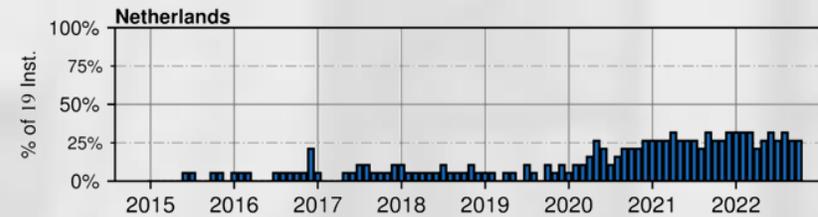
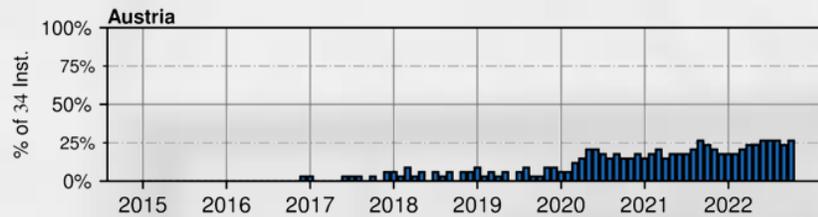
Heads in the Clouds? Measuring Universities' Migration to Public Clouds: Implications for Privacy & Academic Freedom, Tobias Fiebig et al., *Proceedings on Privacy Enhancing Technologies, 2023.2*.



Email



Self-Hosted Video Lecturing (BBB)



Academic Freedom vs. Centralization



- By relying on cloud infrastructures, universities become dependent
- Think: *"We are interested in good business relationships with our customers. That paper does not look like a good business relationship."*

The Washington Post
Democracy Dies in Darkness

Google hired Timnit Gebru to be an outspoken critic of unethical AI. Then she was fired for it.

Gebru is one of the most high-profile Black women in her field and a powerful voice in the new field of ethical AI, which seeks to identify issues around bias, fairness, and responsibility.

The Intercept

ZOOM CENSORSHIP OF PALESTINE SEMINARS SPARKS FIGHT OVER ACADEMIC FREEDOM

Zoom cited anti-terrorism laws to shut down an event with Palestinian activist Leila Khaled — and other events criticizing its censorship.



Alice Speri, Sam Biddle

November 14 2020, 1:00 p.m.



Patrick Breyer #JoinMastodon
@echo_pbreyer

Replying to @echo_pbreyer

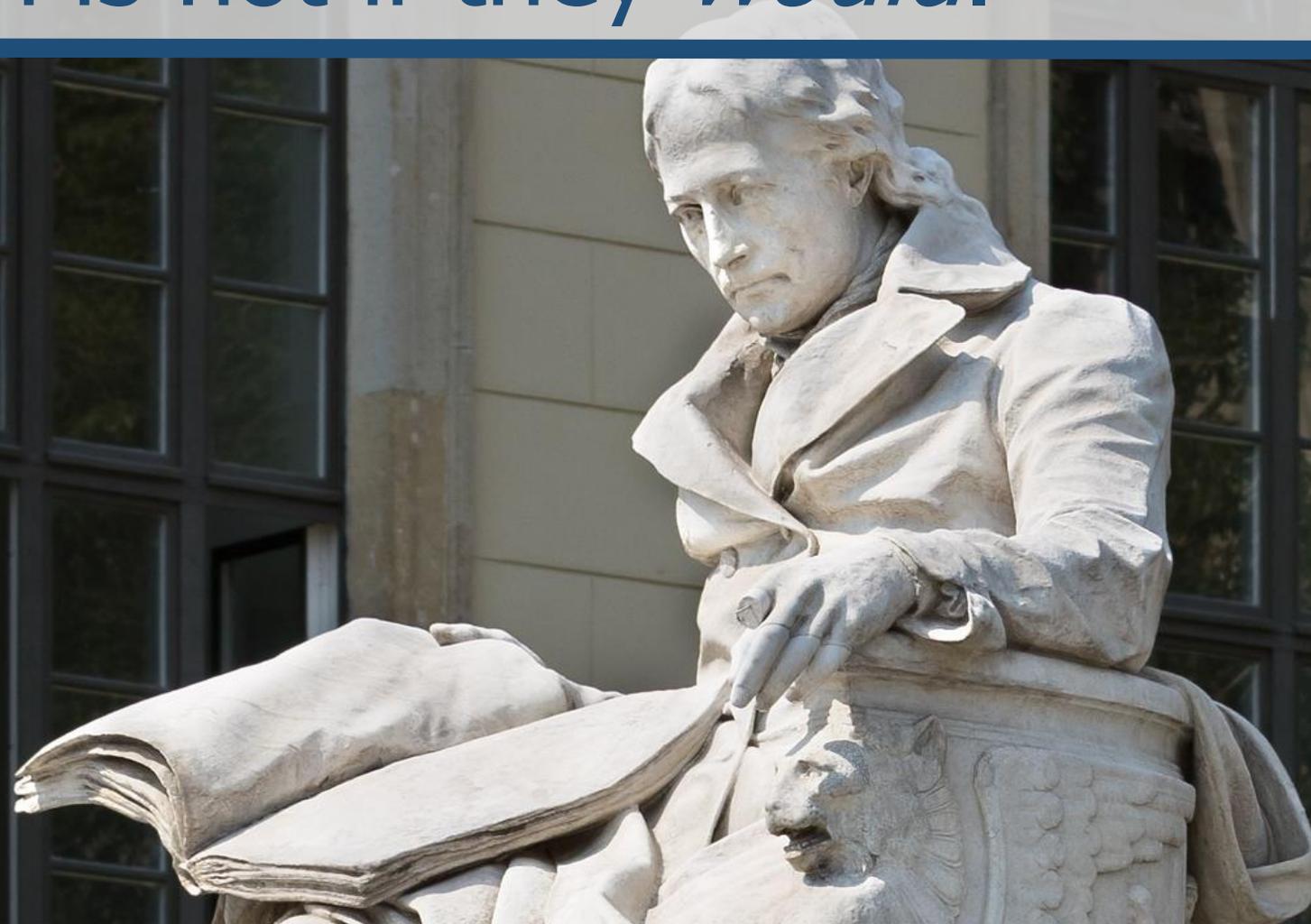
🇬🇧 Incredible: Microsoft decides which e-mail Members of the European Parliament get to read in their inbox. It's called Outlook spam filter and cannot be disabled.

3:14 PM · Feb 22, 2021 · Moa Bridge

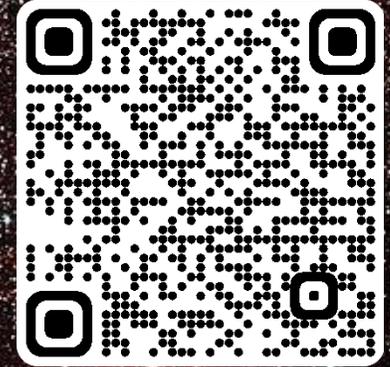
Related Publication:

Heads in the Clouds? Measuring Universities' Migration to Public Clouds: Implications for Privacy & Academic Freedom, Tobias Fiebig et al., *Proceedings on Privacy Enhancing Technologies, 2023.2.*

The question is not if they *would*.



66 It is if we want to get in a situation where they *could*.



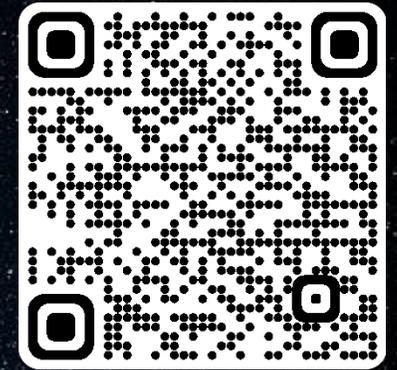
Blog Article

“We have to be prepared for hypergiants’ failing.”

Hypergiant Star HR 5171 by ESO/Digitized Sky Survey 2, CC BY 4.0, <https://commons.wikimedia.org/w/index.php?curid=31577291>

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022*.



Blog Article

“We have to be prepared for hypergiants’ failing.”

Artist’s Impression of Supernova 1993J by ESA/Hubble, CC BY 4.0, <https://commons.wikimedia.org/w/index.php?curid=35306789>

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



“What can we build ourselves?”

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



Blog Article

INTERFACE MESSAGE PROCESSOR

Developed for
the Advanced Research Projects Agency
by Bolt Beranek and Newman Inc.

“Digital sovereignty is being used wrong.”

By FastLizard4 - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=17177042>

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*

Privacy-by-Compliance



- With the progressing cloudification data is going... somewhere
- It is *hard* to keep track
- DPAs are usually in place...
- And a privacy policy is written so generic that it stops meaning anything

Related Publication:

Fiebig, Tobias, Martina Lindorfer, and Seda Gürses. "Position Paper: Escaping Academic Cloudification to Preserve Academic Freedom." *Privacy Studies Journal* 1.1 (2022): 49-66.



“How can we build secure systems?”



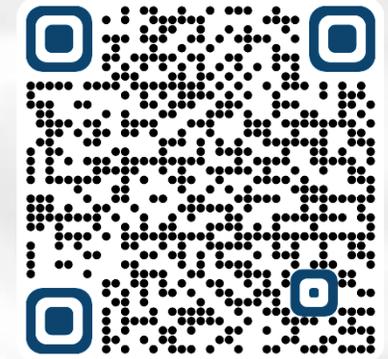
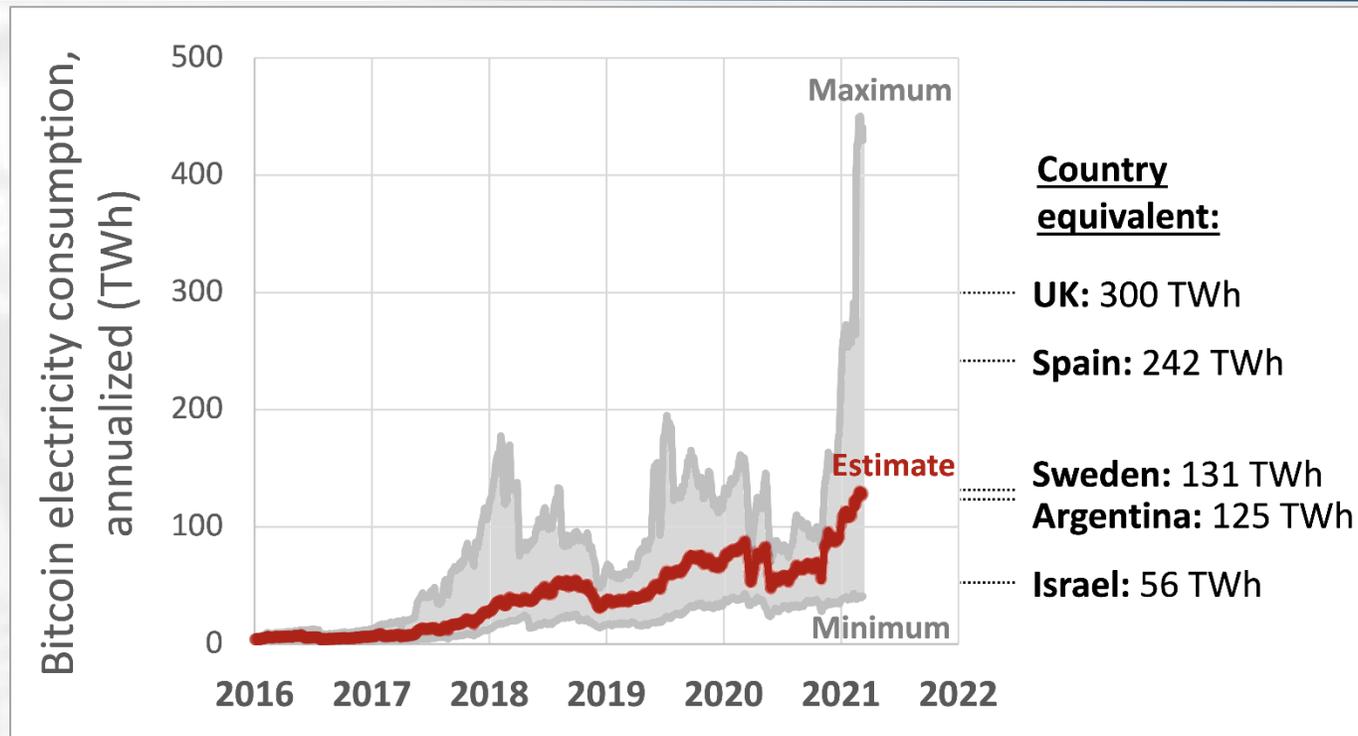
Blog Article

“There are no technical solutions for social and societal problems.”

<https://www.eff.org/pages/surveillance-cameras>

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022.*



Blog Article

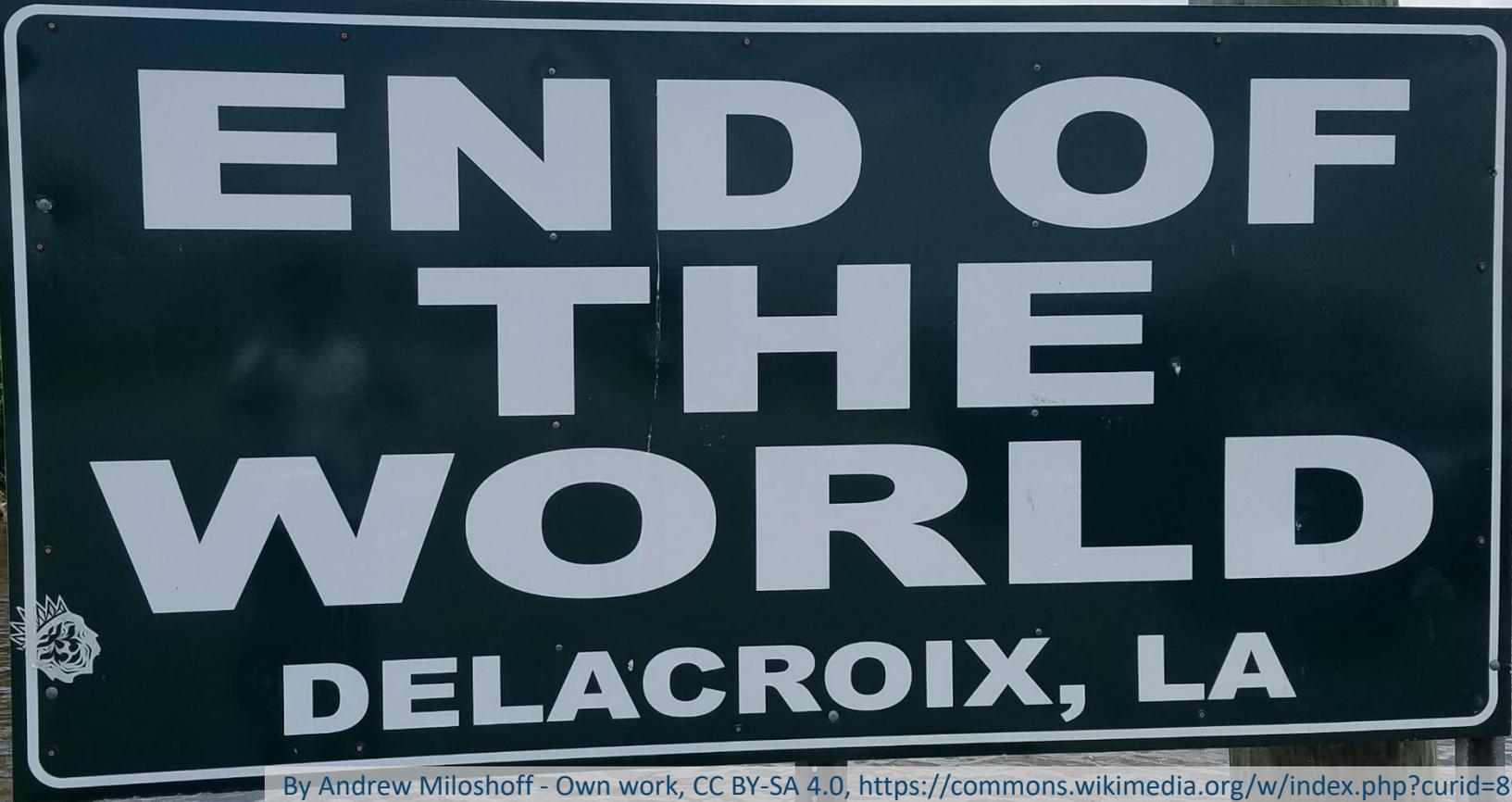
“Systems should enable a better tomorrow and not burn the world even further.”

https://commons.wikimedia.org/wiki/File:Bitcoin_electricity_consumption.png

Related Publication:

13 Propositions on an Internet for a “Burning World”, [Tobias Fiebig](#) and Doris Aschenbrenner, *ACM SIGCOMM 2022 Joint Workshops TAURIN+BGI, 2022*.

The future won't be bright...



By Andrew Miloshoff - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=89976070>

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The future won't be bright...



END OF
THE
WORLD

...as engineers it's our job to make it brighter.

By Andrew Miloshoff - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=89976070>

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Taking Responsibility



Getting Everything Right



Organizationally

- Caring for users
- Human Factors
- The feminist lens and a just culture
- Acknowledging care work
- Resilient design
- ...

Technically

- Doing the small things:
 - Chores
 - Updates
 - Backups
- Reducing complexity
- Caring about systems
- Caring for users' needs
- ...

If we get all of that right...



"Security becomes an effect of doing all these difficult (and often neither technical nor security specific) things, instead of a goal we reach by adding a security function to a system; No matter if by design or in the end."



Building a Secure Future

Keynotes, Papers, Slides

