

IETF 116 HotRFC

Brought to you by
Spencer Dawkins and Liz Flynn

Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam/>) if you have questions or concerns about this.

Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- [BCP 9](#) (Internet Standards Process)
- [BCP 25](#) (Working Group processes)
- [BCP 25](#) (Anti-Harassment Procedures)
- [BCP 54](#) (Code of Conduct)
- [BCP 78](#) (Copyright)
- [BCP 79](#) (Patents, Participation)
- <https://www.ietf.org/privacy-policy/> (Privacy Policy)

This session is being recorded

IETF 116 Meeting Tips

In-person participants

- Make sure to sign into the session using the Meetecho (usually the “Meetecho lite” client) from the Datatracker agenda
- Use Meetecho to join the mic queue
- *Keep audio and video off if not using the onsite version*
- **Wear masks unless actively speaking at the microphone.**



Remote participants

- Make sure your audio and video are off unless you are chairing or presenting during a session
- Use of a headset is strongly recommended

Resources for IETF 116 Yokohama

- Agenda
<https://datatracker.ietf.org/meeting/agenda>
- Meetecho and other information:
<https://www.ietf.org/how/meetings/preparation/>
- If you need technical assistance, see the Reporting Issues page:
<http://www.ietf.org/how/meetings/issues/>

The Ground Rules

- **HotRFC is how you make a Request For Conversation**
 - It's a good way to find IETF people to talk to, for various reasons
- Each person gets four minutes from “Go” to “Please Applaud”
 - At four minutes, we start applauding (see next slide)
 - When you hear applause, please hand the microphone over 😊
- We don't do questions here - each person provides follow-up info
 - (in-person attendees can follow presenters to the bar, of course)
- So you can follow along, we're using the datatracker for all slides
 - Let the conversations begin!

Please Applaud!!! (and the crowd goes wild)



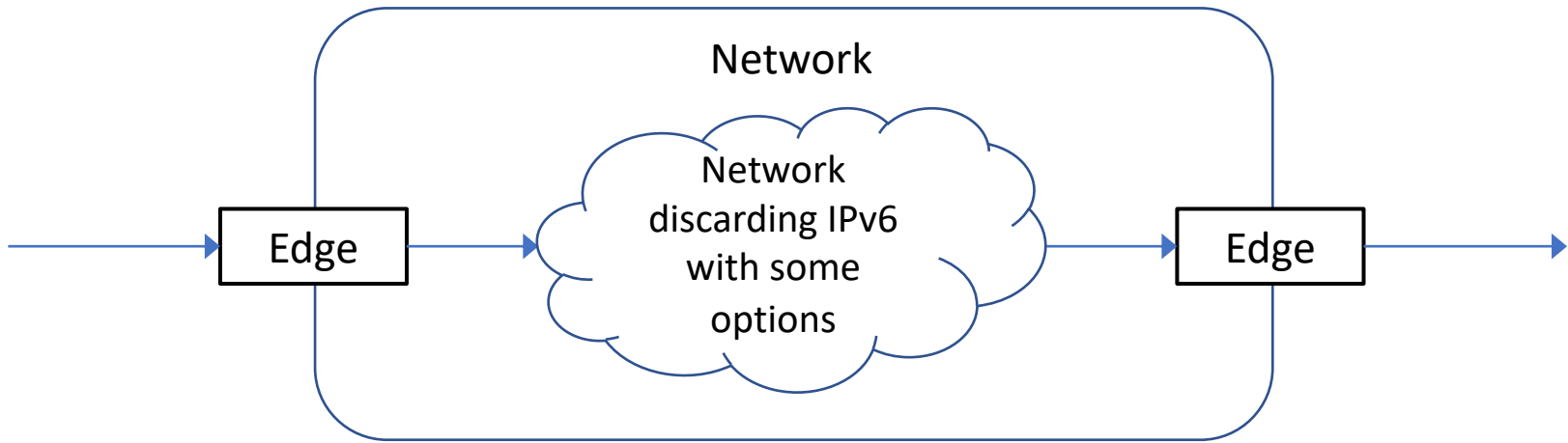
Hiding IPv6 Hop-by-Hop Options

draft-eastlake-6man-hide-options

Donald Eastlake 3rd (Futurewei Technologies) <d3e3e3@gmail.com>

Scenario

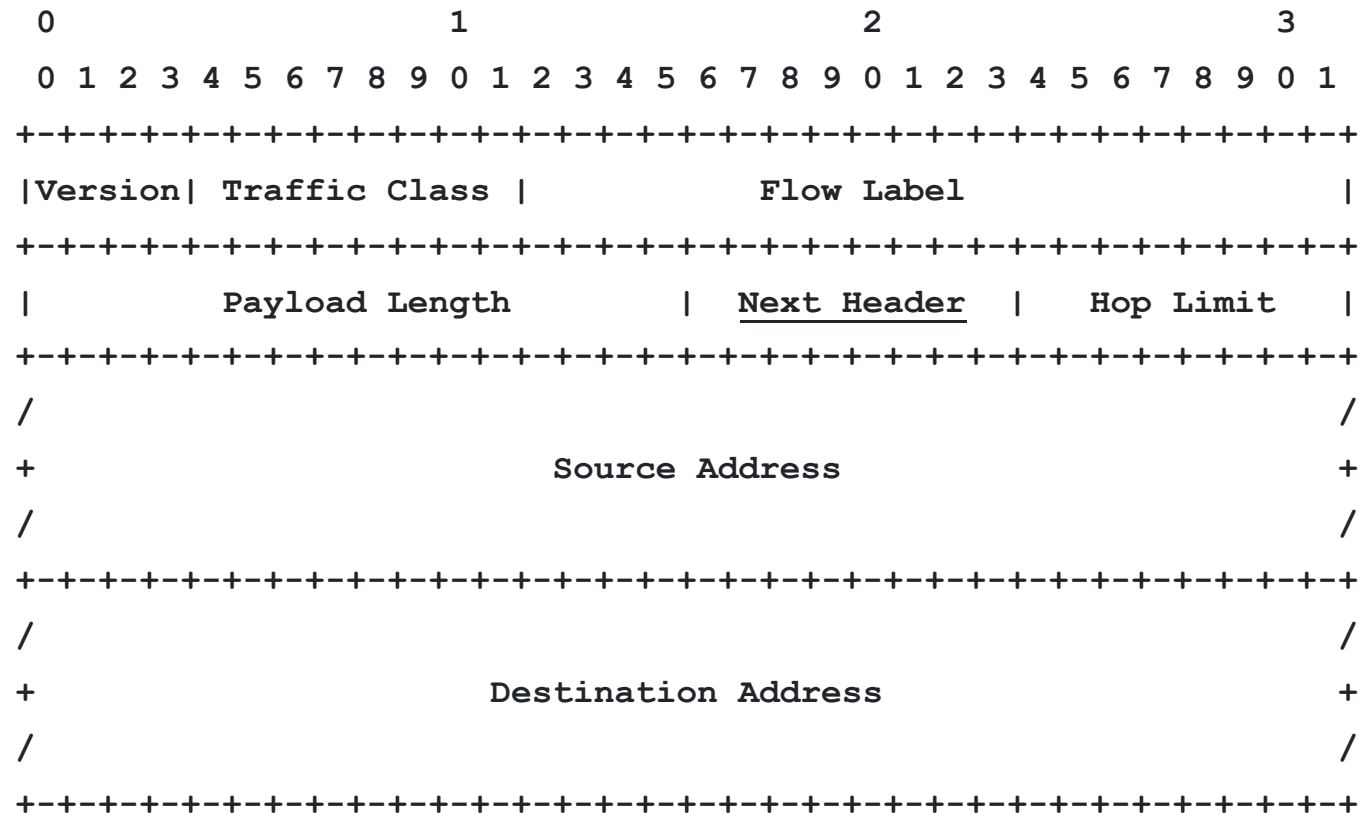
- Packets have a significant chance of being discarded in some network (perhaps the global Internet) if they have IPv6 hop-by-hop options.



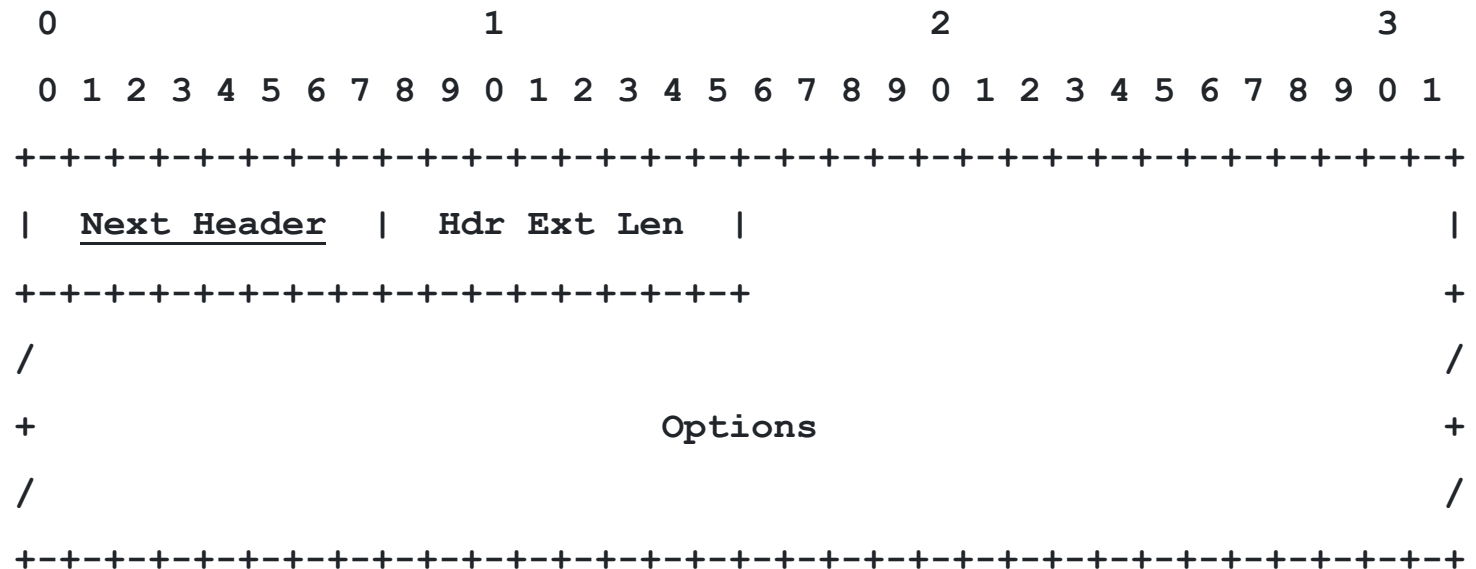
Assumptions

- Generally assuming the following:
 - There is a cooperating destination or destinations
 - Best Effort service is satisfactory

IPv6 Header



IPv6 Header



- Next Header = 0 indicates Hop-by-Hop options

An Elegant Solution

- Simply replace the 0 next header in the IPv6 header with TBD, a new “opaque” IP protocol number, before the problematic part of the network and switch it back to zero after that part of the network.
- The packet change is a trivial and reversible change to one byte which does not change packet size!

Looking For

- Comments on draft
- Implementers
- Dispatch as appropriate.

END

Please Applaud!!! (and the crowd goes wild)



The JSON format for vCon Conversation Data Container

Dan Petrie, SIPEz
Thomas McCarthy-Howe, Strolid

Exactly, what personal information has a business collected about you, and how it is used and shared?



Hard to Change Your Face. Especially for me.

1969

Name
Thomas Howe

Phone
(401) 847-6682

Mail To:
Newport, Rhode Island, USA



2023

Name
Thomas McCarthy-Howe

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(508) 364-9972

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Responsible Organizations treat Personal Data Responsibly

- **Communications systems generate data that is siloed**, opaque and exported in proprietary formats, if it's exported at all.
- Conversations have many modes: messaging, video, voice. **No standard to express omni-channel customer journeys.**
- Customer facing organizations record conversations, for very good operational, marketing and sales reasons, for the benefit of the shareholders and customers.
- **GDPR, CCDPA** and similar legislation world-wide demand the right of a person to be forgotten by a business, to remove that data from the business, to be as if the relationship between them never existed.
- How do you keep track of what customer biometric data was used in AI training? **Changing your name is way easier than changing your face or your voice**

The vCon Standard in Four Parts

Dialogs

Timestamped recordings of conversations, chat transcripts, video recordings. Can be from a single mode or many. Can be packed or external (URL)

Parties

Identification and location of the parties in the dialogs, including the authenticating organization or method, such as STIR PASSPORT

Analysis

A series of third party analysis of the conversations: sentiment :) :(, quality (MOS), agent compliance, transcriptions, translations, redactions, data labels

Attachments

Documents that provide the context of the conversation: PowerPoint, Sales Leads, NDAs

Use Case 1: Privacy and Customer Data Protection

- One company sent my customer recording to another for analysis.
 - How is the recipient assured of the integrity of the communication?
 - How are they sure of the privacy?
 - Where did this customer information come from?
- What information does a company have about me, and how can they express it when it's in analog form?
- In what machine learning models was my data used for training or testing?
- Does this recorded conversation contain personal information? Can they guarantee that it doesn't?
- How can I measure the effectiveness of customer redaction tools?
- I want to switch carriers. How is my conversation data moved between them?
- I want to consolidate the conversation data across all modes of communication which are spread across silos for different product support teams and communication modes (e.g. text, web chat, email, VoIP).

Use Case 2: Integration of Conversation Analysis Services

- Define a standard for containing all conversation related data to ease integration of services which consume or output conversation data and analysis
- Define a standard that describes the analysis that was performed on the contained conversation, to establish a relationship between the conversations and which systems accessed it.
- Define a standard by which I can modify a conversation, and indicate the original conversation, without exposing the contents of the original conversation.
- I want to definitively answer what customer data exists in a recorded conversation, and assure its redaction or deletion in compliance with "Right to be Forgotten" Laws.
- I want to express the source of the conversation, and the express the path by which it has travelled across security boundaries.
- I want to express the parties in the conversation, so I can relate identity to the data that's been collected, across security boundaries.
- My enterprise has multiple call centers (in house and hosted). The call data has different formats for each of them. I want to be able to feed the data into any hosted transcription server.
- I want to feed email, web chat, SMS and phone conversations for a given customer into machine learning based analysis to derive customer satisfaction over time or at specific points.
- I want to be able to easily switch from one call transcription service to another.
- My enterprise needs to label (or perform some analysis on) all email, web chat, SMS and phone conversations with the product(s) to which they reference.

More information

Learn more at:

- **Mailing List:** <https://www.ietf.org/mailman/listinfo/Vcon>
- **I-D:** <https://datatracker.ietf.org/doc/draft-petrie-vcon/>
- **Open Source:** <https://github.com/vcon-dev/vcon>
- **White Paper:** <https://bit.ly/vcon-wp>

IETF 116:

- **Hackathon:** Saturday and Sunday
- **HotRFC:** 18:00 Sunday
- **Hackathon Happy Hour:** Mon 18:30
- **vCon BoF:** Wed 9:30, Breakout 3

Please Applaud!!! (and the crowd goes wild)



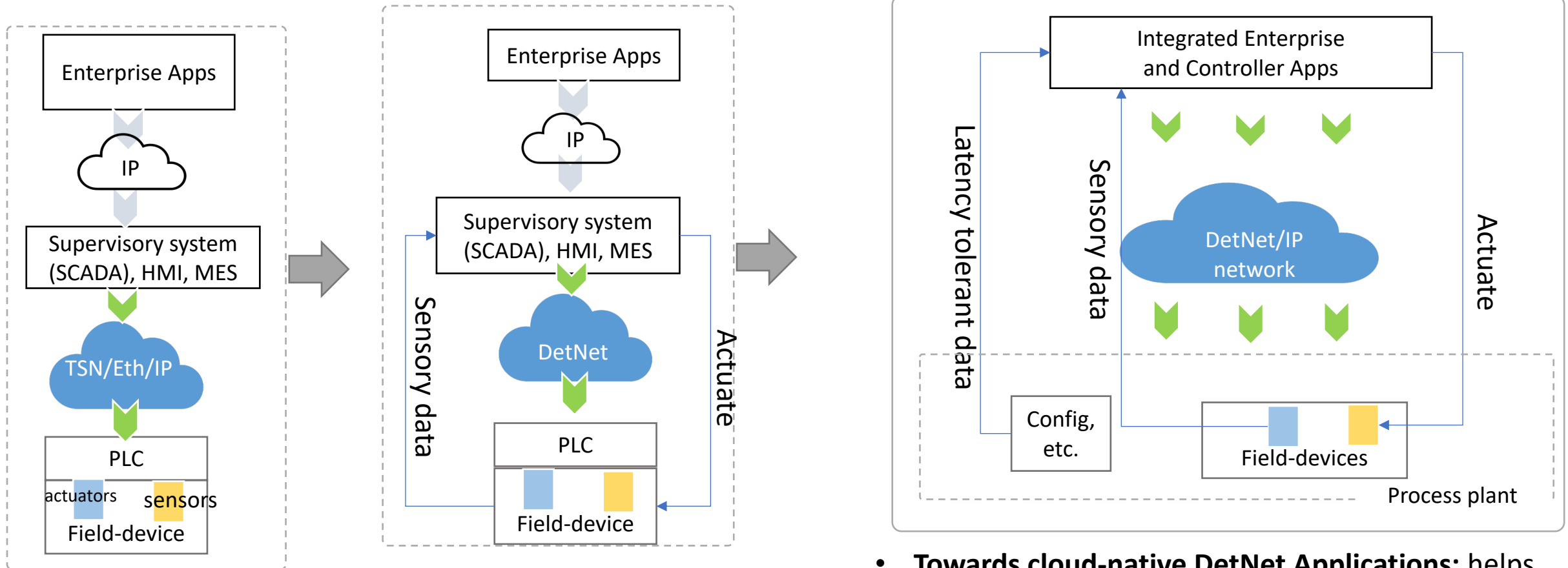
Using Deterministic Networks for Industry Operations and Control

Authors

Kiran M, Cedric Westphal, Richard Li (Futurewei), Tooba Faisal (King's College London)

IETF 116 HotRFC

To enable Remote (cloud-ish) process automation using IETF's Deterministic Network Technology



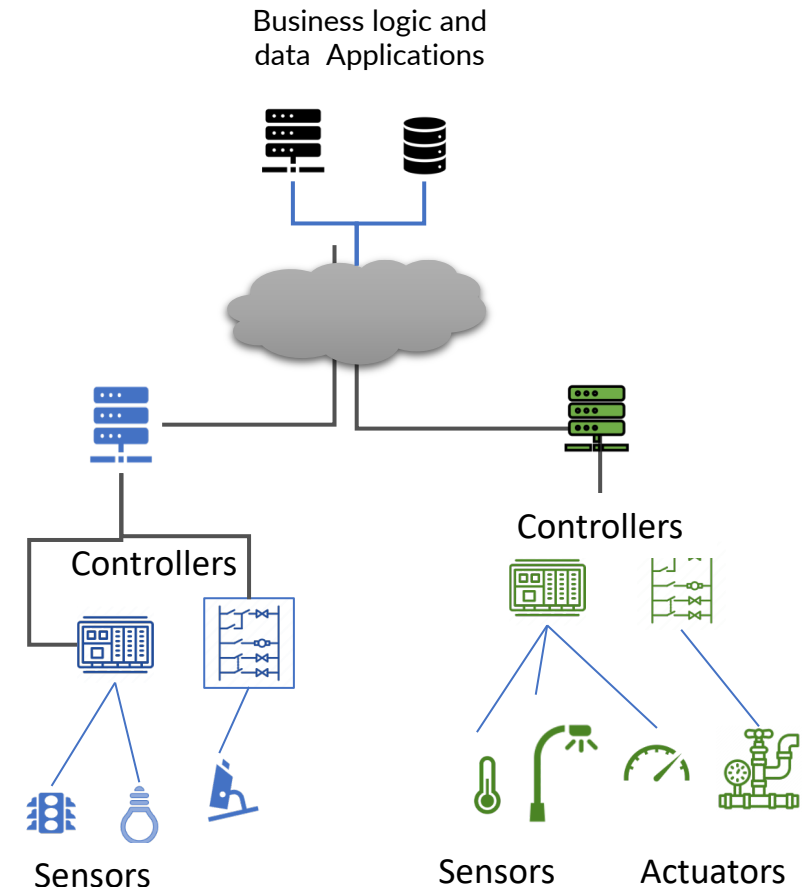
- **From L2 to L3:** DetNet helps with scalability by providing deterministic services over IP

- **Towards cloud-native DetNet Applications:** helps with simplification of process plant infrastructure.
- Advances applicability to broader set of use cases.

Process Automation in Industry Operations

Scenarios	Smart Factories/manufacturing - Running precision processes and operations on machines from remote locations Energy grids - Automatic monitoring of loads and fault and distribute power accordingly 5G URLLC applications needing cloud/edge-compute REMOTE-AUTAMTION IS NECESSARY FOR SEVERAL SITUATIONS
GOAL	To develop common interface for Remote Process Automation - Provide interfaces from connected IoT devices to network for latency, reliability and resource sensitive applications - In particular leverage Deterministic Network technology.
Problem	Observe that End-system (machine) side of DetNet is under-specified

Crosses over multiple WGs relating to IoT
may find it interesting



Specific Problems to work on

- **Operator vs Application view**
 - How application can use Deterministic Networks
- **Practical mapping of flow specific traffic treatment**
 - Enabling commands-control loops over DetNet
- **Split Traffic flows**
 - Architectural consideration for end-to-end latency sensitive telemetry streaming
- **Variety of traffic patterns support for different {controller-field-device} pairs**
 - Different latency bounds, urgent/alarm messages, closed control loops (bi-directional latency bounds) – these are per packet constraints
 - Generally long-lived DetNet flow reservations only provides coarse-granularity.

Call for Collaboration and Feedback

Come to DetNet meeting to hear about our proposal.

If you are busy that day please ask questions or

- use detnet@ietf.org mailing list for discussion on the draft.
- Find me in the hallway during the breaks (in-person).
- or contact authors

Draft:

<https://datatracker.ietf.org/doc/draft-km-detnet-for-ocn/00/>

Presentation Slot:

To be presented as the last item in DETNET WG.

Thursday, March 30, 2023 - Session I

09:30-11:30 JST (00:30 – 02:30 UTC)

Room: 3F G303

Please Applaud!!! (and the crowd goes wild)



Autonomous System Information Service (ASIS)

Caspar Schutijser (SIDN Labs) | HotRFC at IETF
116

25 March 2023



Autonomous System Information Service (ASIS)

- Early stage research project;
- A self-hosted approach for sharing interoperability and policy information of a communication network.



Current systems

Examples:

- WHOIS/RDAP
- PeeringDB

Disadvantages:

- Public only; lack of access control
- Centralized
- Rate-limited



Autonomous System Information Service (ASIS)

Types of information to share:

- Technical contact information;
- Security contact information (“AS-wide security.txt”);
- Routing policies and BGP communities;
- Preferred peering locations and methods;
- Which data laws apply to the network;
- Information useful for path control and planning;
- Information about energy footprint of devices;
- *Any more ideas?*



Finishing up

Questions to you, the audience:

- Has something similar been proposed earlier at the IETF?
- Do you see any interesting use cases for the ASIS?
- Would you like to collaborate?

Reach out! caspar.schutijser@sidn.nl

www.2stic.nl | www.sidnlabs.nl



Please Applaud!!! (and the crowd goes wild)



RASP RG: Research and Analysis of Standard-Setting Processes Proposed Research Group

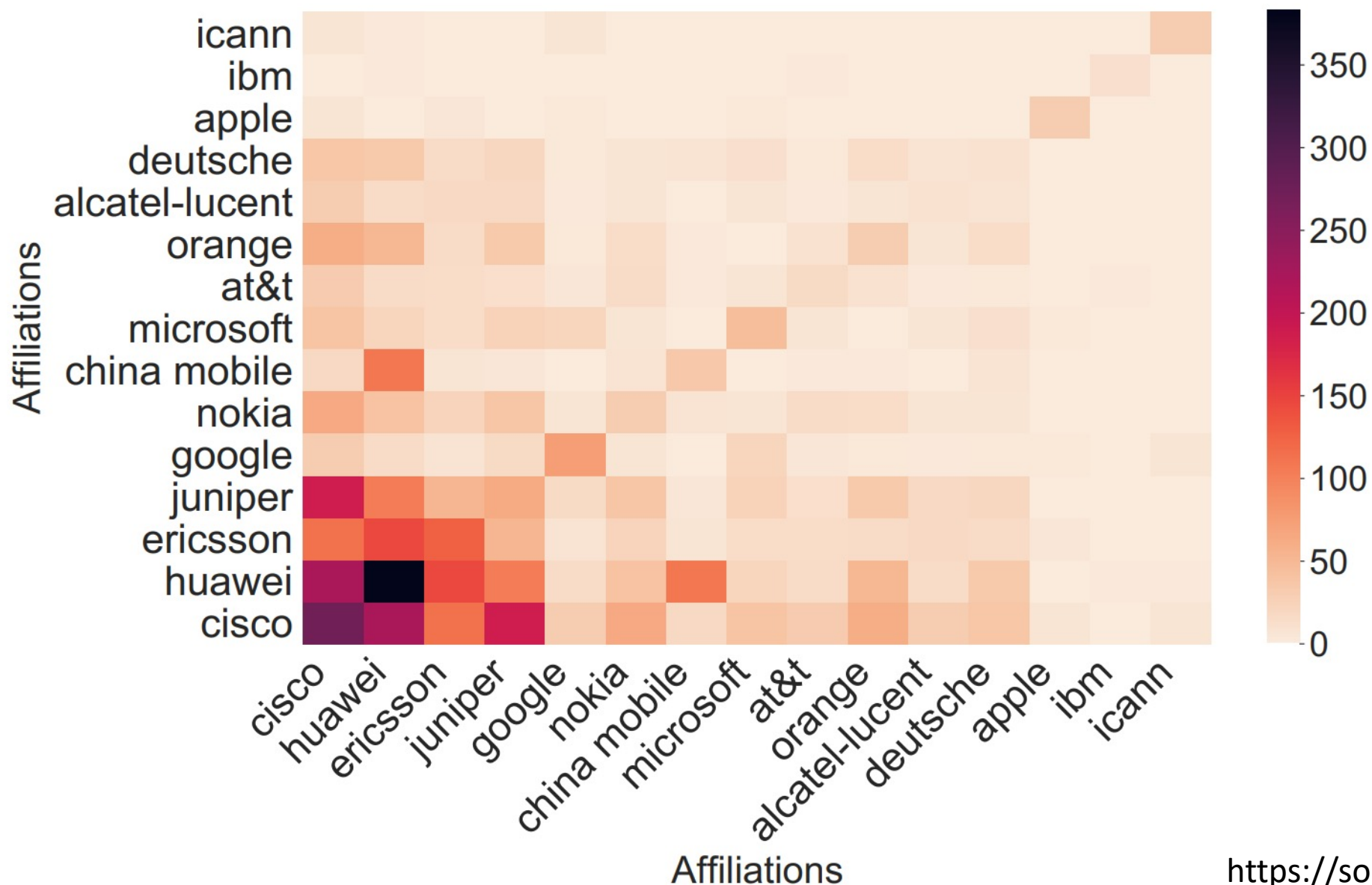
Ignacio Castro & Niels ten Oever

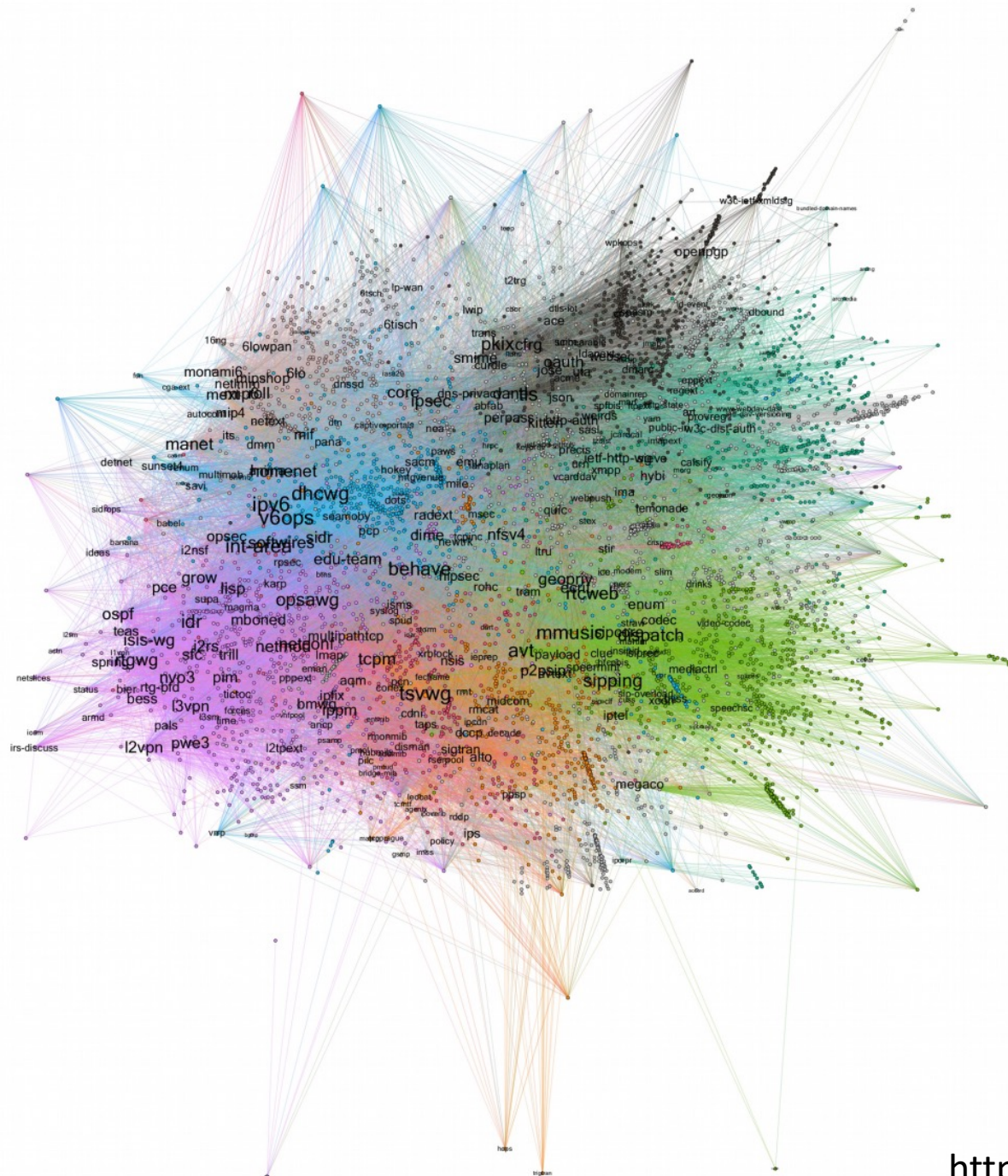
IETF 116 – HotRFC

RASP in a nutshell

- Further the understanding of the standardization process
 - At the IETF
 - Across Standard Development Organisations (SDOs)
- Outputs (expected/potential):
 - Joint reports to inform the IETF (and other SDOs) and the research community
 - Open datasets
 - Tools/Open-source software
- Charter: <https://datatracker.ietf.org/rg/rasprg/about/> →
- Chairs: Niels ten Oever & Ignacio Castro



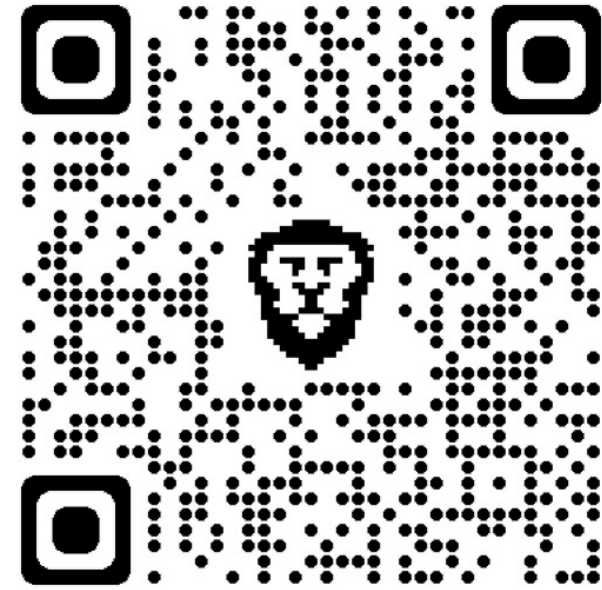




Do you...

- have questions you would us want to answer with IETF data?
- want to hack with us on IETF data?
 - We do network analysis, discourse analysis, statistics, and now also large language models!
 - Qualitative researchers are also welcome.

Join the RASP meeting at IETF116



- **When:** 1pm Thursday
- **Where:** G316
- **Agenda:**
 - Corinne Cath - The Hard Work of the Hum: using ethnography to study power and politics in the IETF
 - Stephen McQuistin - Data-driven Reviewer Recommendations
 - Sebastian Benthall - The Expanding Universe of BigBang
 - Priyanka Sinha - Some Research and Methodologies from IETF Data
 - Effy' Xue Li - Large Language Models in Standards Discourse Analysis
 - RASP RG going forward discussion

Please Applaud!!! (and the crowd goes wild)



Using DNS resolvers as certificate validators

Taekyoung (Ted) Kwon, Seoul National University

End hosts validate certificates

- Receive one or more certificates
 - End user certificate
 - Root CA certificate is already installed
 - Intermediate CA certificates may have to be downloaded
- Check whether certificates are not revoked
 - CRL or OCSP
 - Mostly soft-fail approaches
- Validate the certificate chain
- After the validation, its result is not reused

Certificate validation will burden CAs

- CRL servers
- OCSP servers
 - OCSP stapling will mitigate the burden substantially...

Just as local DNS resolvers relieve authoritative DNS servers

- If local DNS resolvers perform certificate validation on behalf of clients
- And if the certificate validation results can be cached
- CA can reduce the cost of running CRL/OCSP servers
 - Cost-effective

Pre-conditions

- DoT/DoH connections between clients and local DNS resolvers
- Local DNS resolvers are trustworthy
 - Remote attestation is needed?

Issues

- How long can validation results be cached?
- Who will decide/recommend the caching period?
 - Local DNS resolver operator?
 - CAB forum?
 - Client?

Fundamental question is...

- End hosts vs intermediaries....

Thank you!

Please Applaud!!! (and the crowd goes wild)





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INTRODUCING THE **DCDR** FRAMEWORK

An IETF116 HotRFC



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CORE PROBLEMS

**THE
NATURE OF
DATA**

**PRODUCT
LIFECYCLE
(Software)**

**EXPERTS
/
CITIZENS**

**TECHNOLOGISTS
NOT
MOTIVATED**



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I PHYSICAL vs DIGITAL

CITIZENS
COMMUNITIES

THREATENED
BY

PROTECTED
BY

DEFINED
BY

ENACTED
BY



PERSONAL
HARMS

HUMAN
RIGHTS

INTERNATIONAL
UDHR BHR
UDDR*
OTHERS

GOVERNMENTS
AND
INTERNATIONAL
ORGANIZATIONS

DATA



DIGITAL
HARMS

DIGITAL
RIGHTS

NATIONAL
CONSTITUTION
OTHERS

SUPPORTED BY
OTHER
STAKEHOLDERS



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HARMS MATRIX

PHYSICAL
SPACE

ENTITY
A

DIGITAL
SPACE

DT
A

PHYSICAL
HARMS

ENTITY
B

DIGITAL
HARMS

DT
B





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UNPACKING THE DCDR FRAMEWORK

- 1 SET OF PREMISES
- 3 STRUCTURAL LAYERS
- 4 TAXONOMIES
- 3 PRINCIPLES
- 1 OATH
- 1 SET OF STAKEHOLDERS
- 1 SET OF POLICY GUIDELINES
- 1 SET OF PEDAGOGICAL MATERIALS
- 1 TIMELINE
- 1 DR SDK MVP
- 1 FINANCIAL MODEL
- 1 MESSAGING STRATEGY



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DCDR PRINCIPLES



PRINCIPLE I



PRINCIPLE II



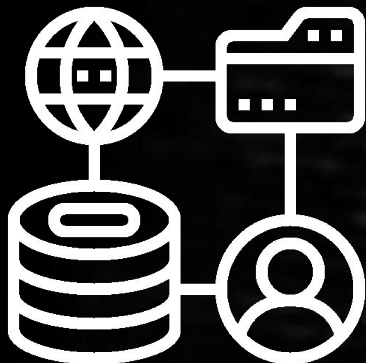
PRINCIPLE III

STATUS: READY



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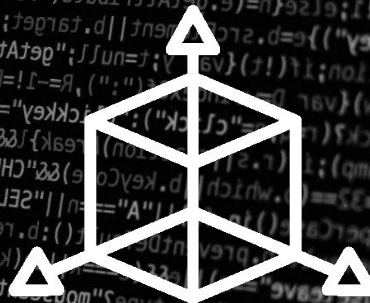
DCDR STRUCTURAL LAYERS



LAYER III



LAYER II



LAYER I

STATUS: WIP



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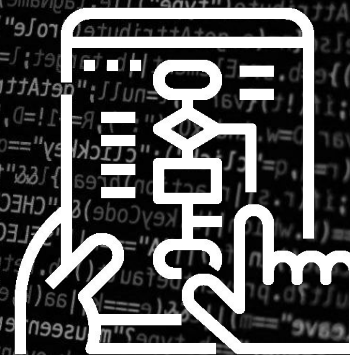
DCDR TAXONOMIES (LAYER II)



DIGITAL
HARMS



DIGITAL
RIGHTS



USE CASES

STATUS: WIP



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| NEXT STEPS

**WORKING
GROUPS**

RESEARCH

RELEASE MVP

LOOKING FOR COLLABORATORS

- RESEARCHERS
- STRATEGISTS
- IMPLEMENTERS (possible SDK)
- DOCUMENTERS
- POLICY MAKERS (anyone?)
- ANYONE THIS RESONATES WITH



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We ~~the people~~

We the **cyborgs**



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| MORE INFO

PRESENTATIONS

1 - Soft Launch

2 - With BHR in Tech

SLIDES

1 - Soft Launch

**2 - Devs #NEXTGEN
Rights Defenders**



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| INTERESTED?

WAYS TO CONTACT

1 - EMAIL: JFQueralt@TheIOFoundation.org

2 - THREAD ON IETF116 LIST



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CONTACT US

The IO Foundation, a global for-impact NGO advocating for
Data-Centric Digital Rights (DCDR)

EMAIL US



SUPPORT US



FOLLOW US



Image credits: Unsplash - Pixabay - Burst

Please Applaud!!! (and the crowd goes wild)





Found something new to say
when I leave a room.

*Thank you to
the presenters!*

*And please,
Do the Right Thing!!*