Uncover the Missing Link

Creating clear linkage between open source and standards

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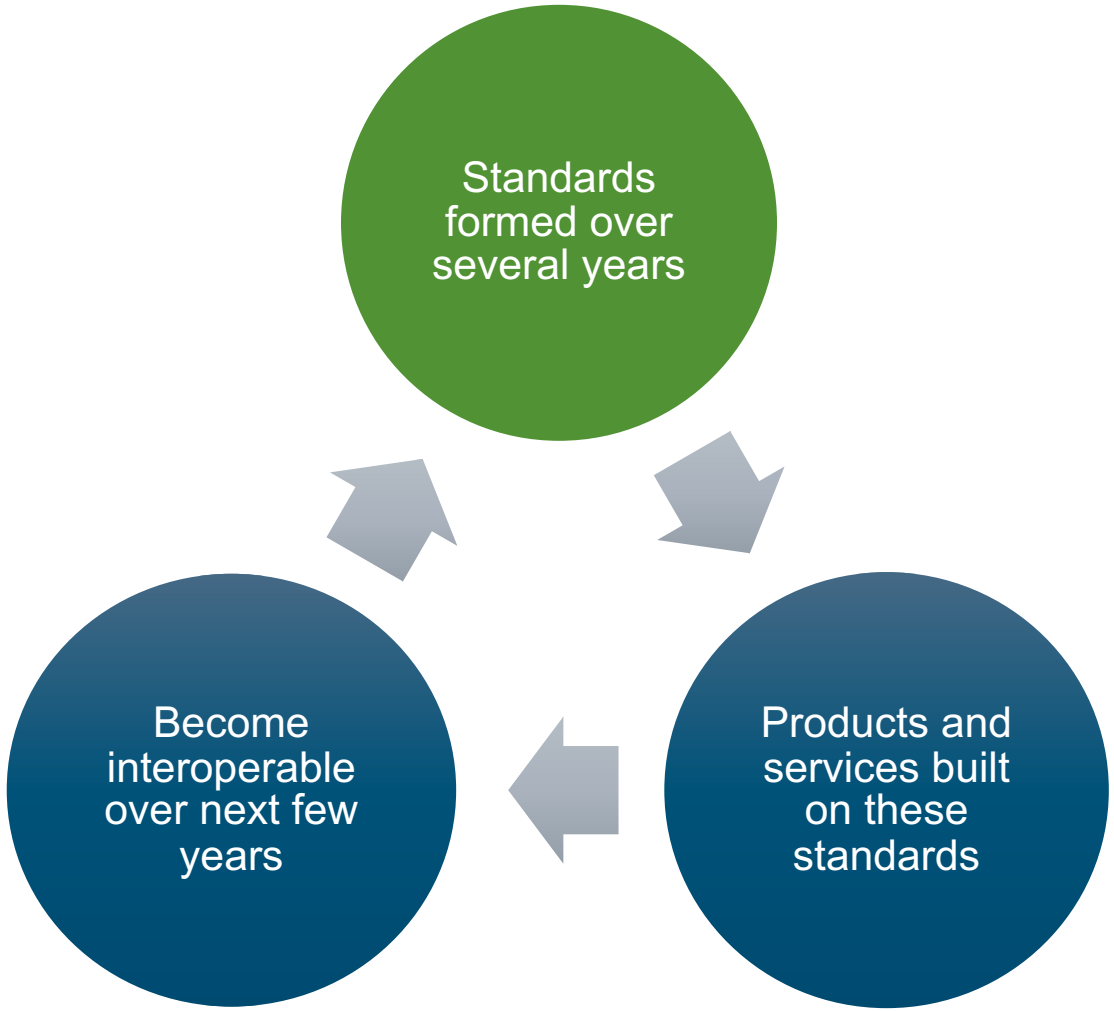
FOSDEM 2023

Credit: https://www.vanityfair.com/hollywood/2015/05/jon-snow-nights-king-hardhome-game-of-thrones

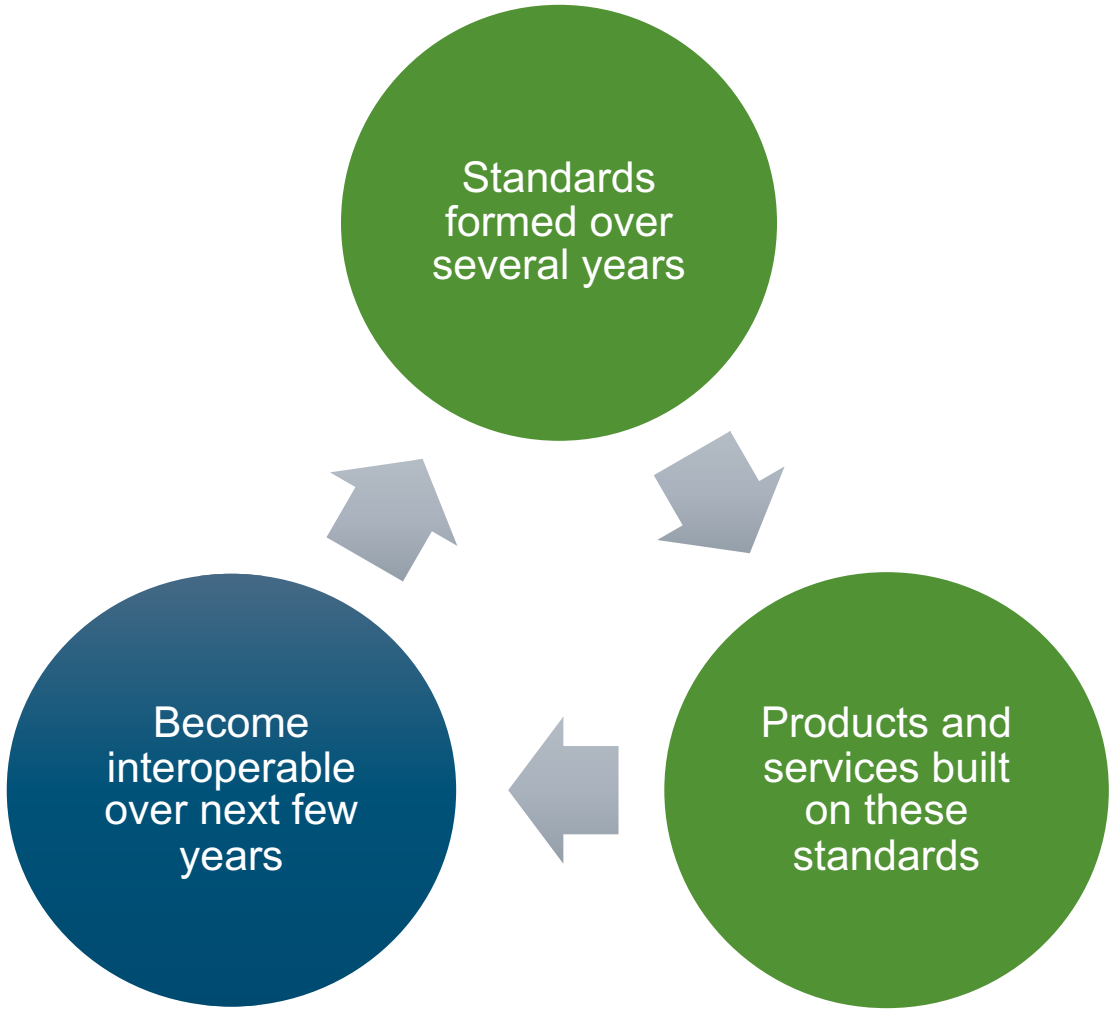
Standards

- Standards play key role in most major industries
  - E.g., communications, transportation, networking, …
- Industry demand standards compliance from vendors
  - Ensure interoperability, avoid lock-in
- Vendors work together to define standards
  - Establish credibility for products
  - Ensure interoperability with partners and competitors

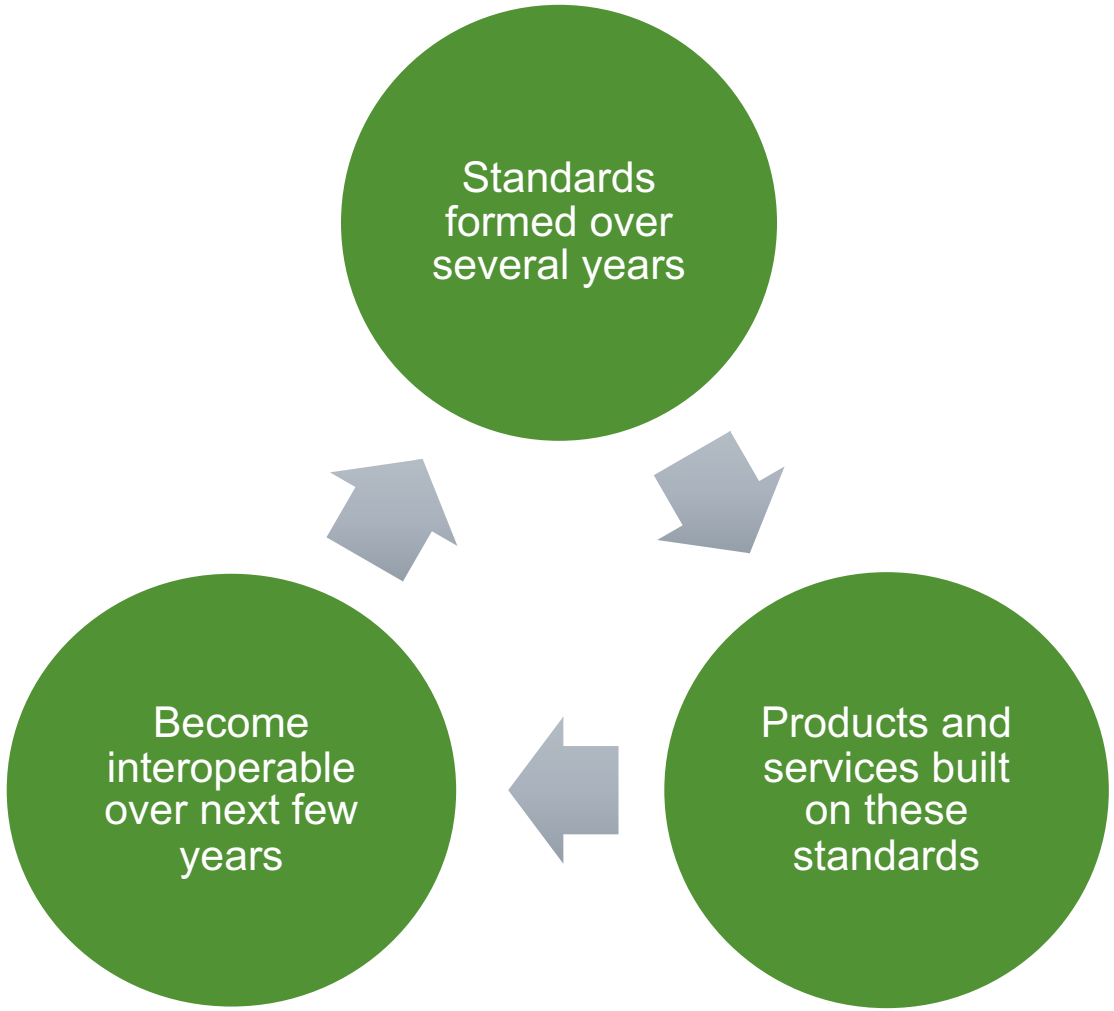
Challenges with Standards



Challenges with Standards



Challenges with Standards



Challenges with Standards

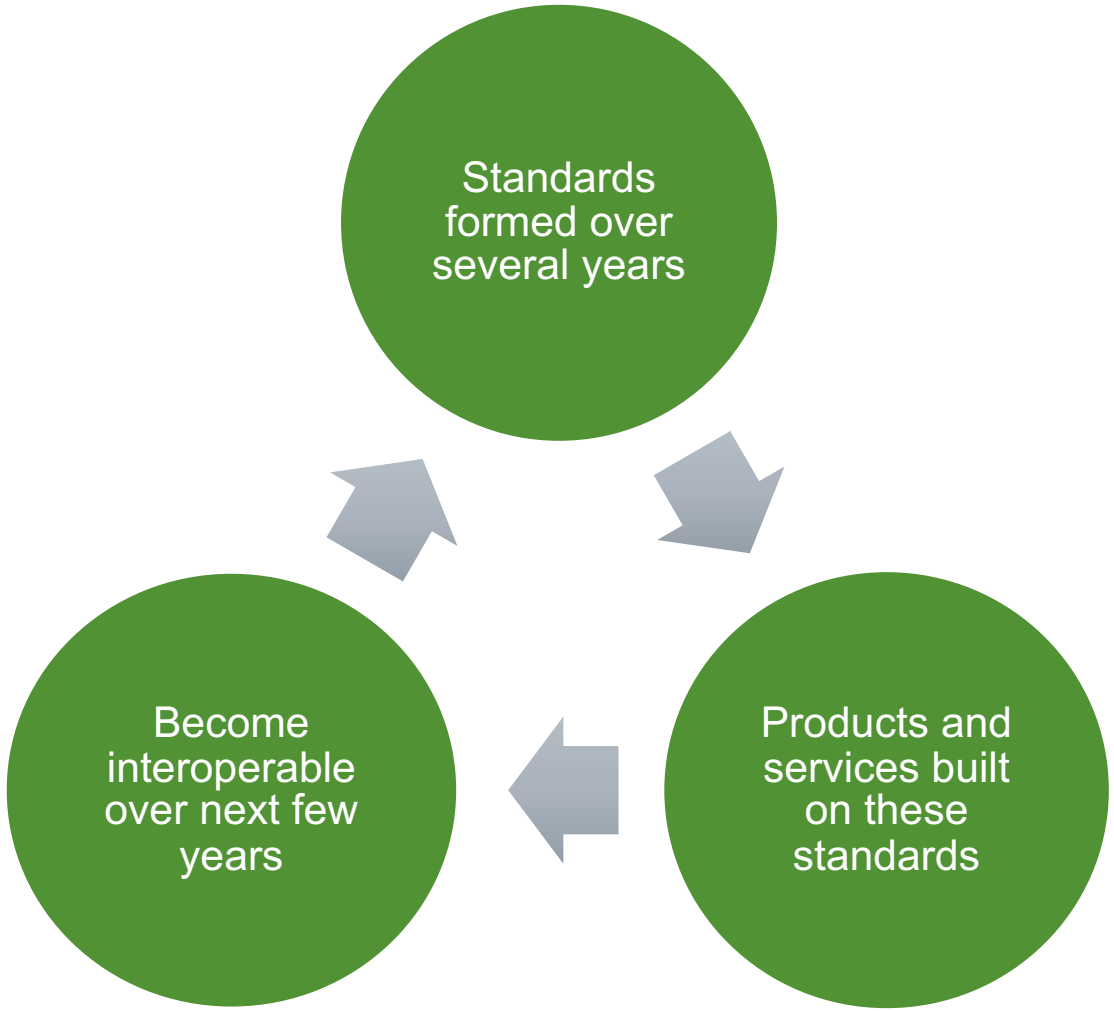
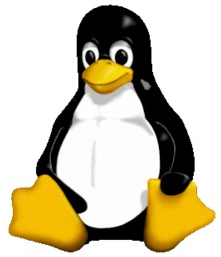


Photo credit:
https://play.google.com/store/apps/details?id=com.mobilerise.hourglass

Open Source

- Fuel industry transformation
- Engage a vast community
- Innovate at rapid pace
- Demanded by industry
- Result in de facto standard



Challenges with open source

- Some assembly required
- Poor documentation
- Moving target
- Projects fade away
- Fragments

Combine Open Source with Standards

Bring speed and collaborative spirit of open source to standards

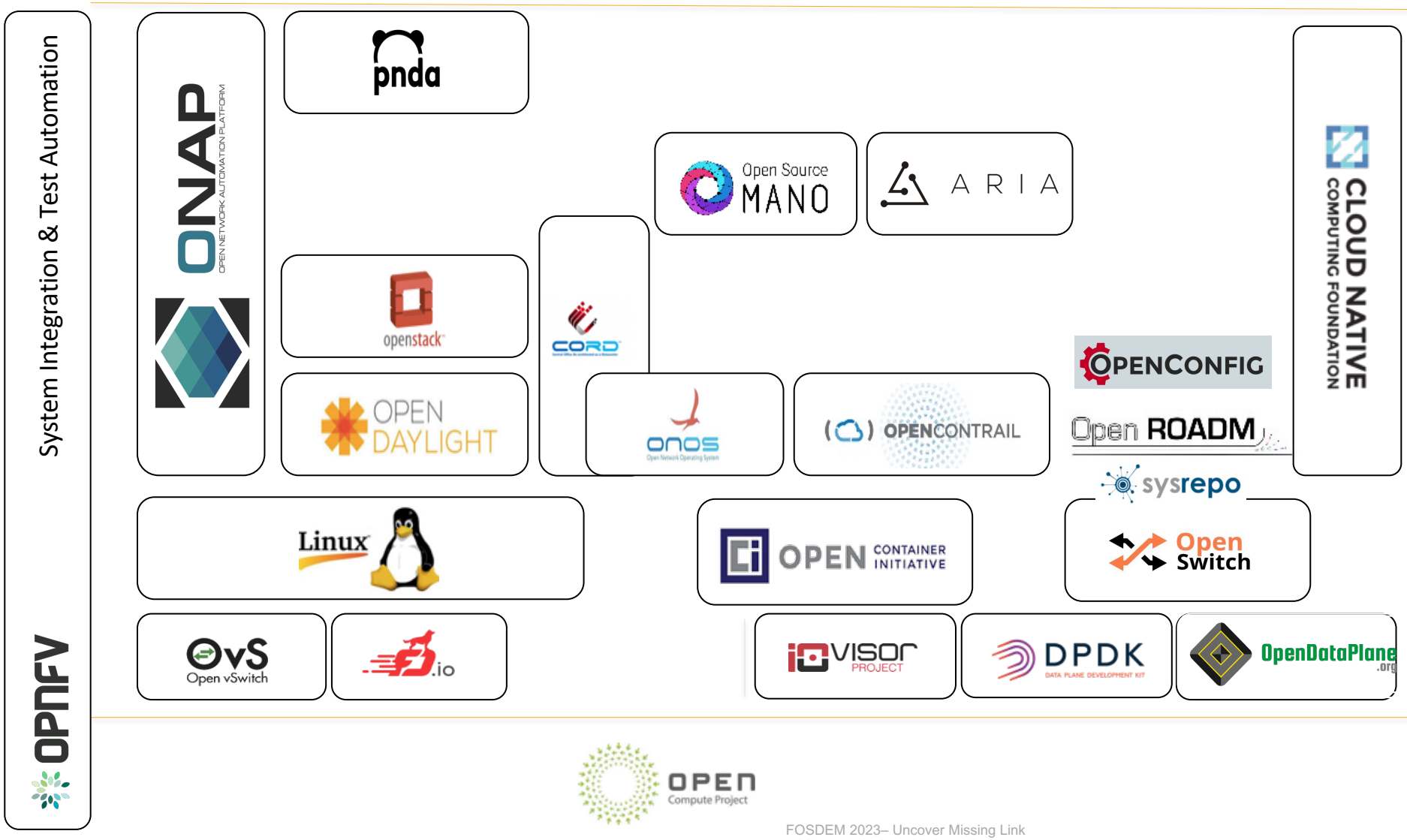
Validate correctness and completeness of evolving specifications

Add support for key standards to open source projects

Speed adoption by providing usable code together with standards

Network automation

Open Source



Standards

IETF

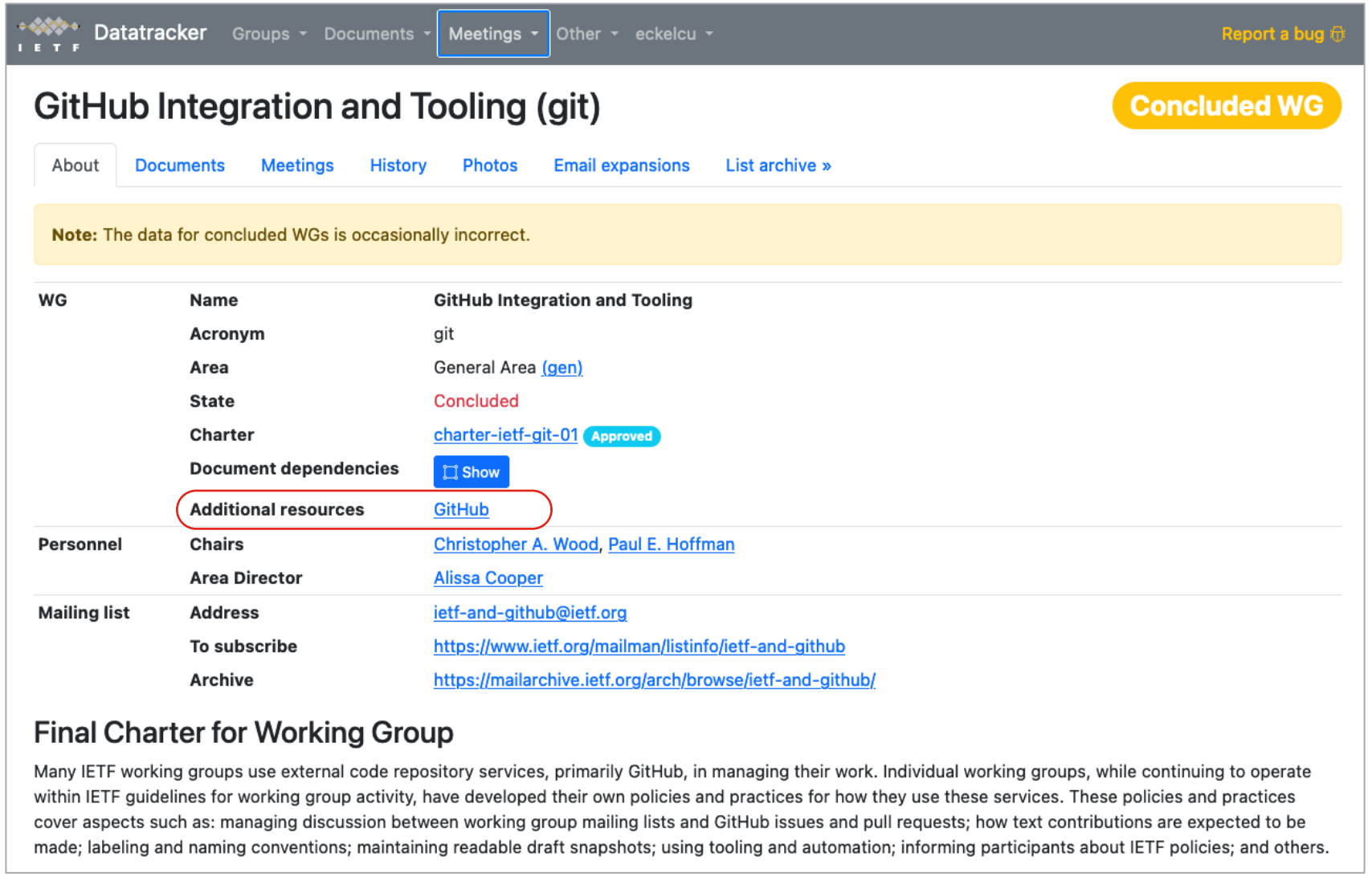
- Internet Engineering Task Force
- Founded in 1986
- Goal – Make the Internet Work Better
- Definition of Internet Drafts (I-Ds) and RFCs
- Networking protocols, e.g., TCP/IP, DNS, DHCP, HTTP, TLS, QUIC, SIP, YANG, NETCONF, RESTCONF, …

We reject kings, presidents and voting. We believe in rough consensus and running code.

- David Clark, Tao of the IETF

Developer friendly standards process

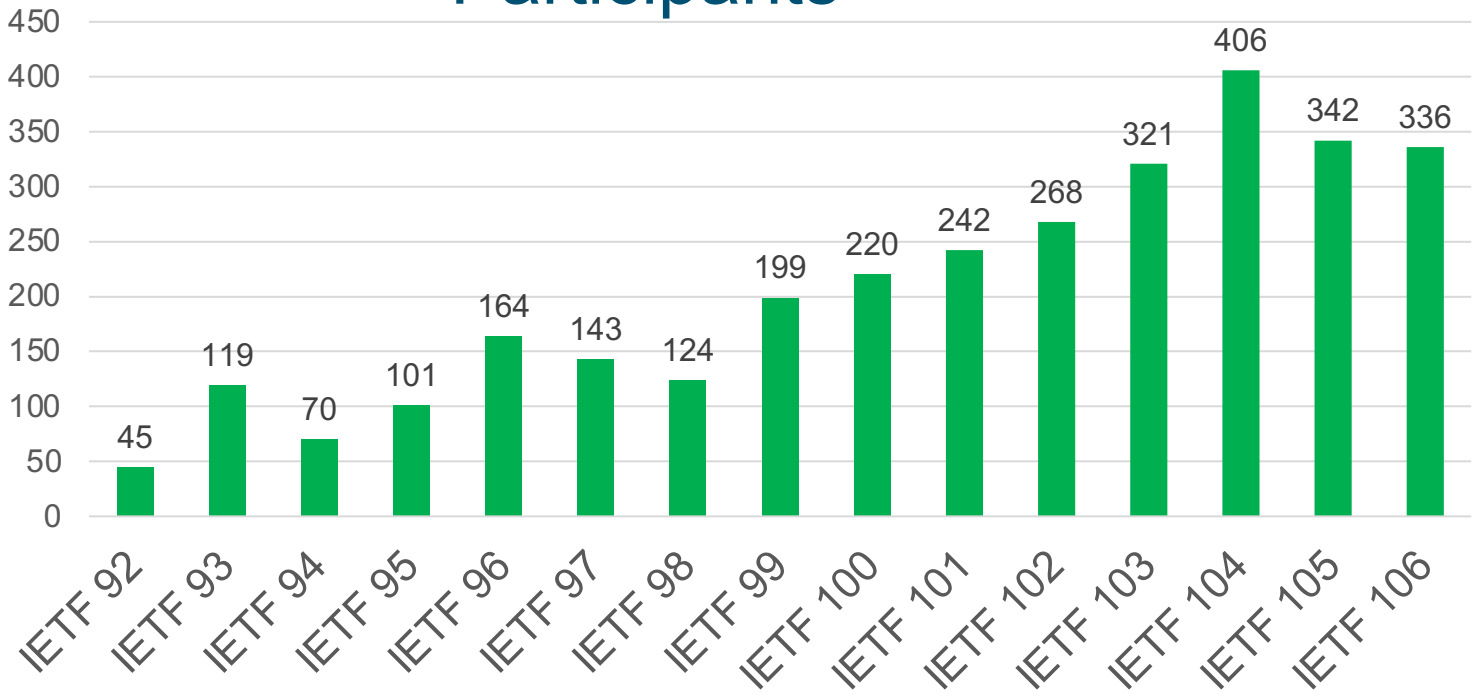
https://datatracker.ietf.org/wg/git/about/



IETF Hackathons

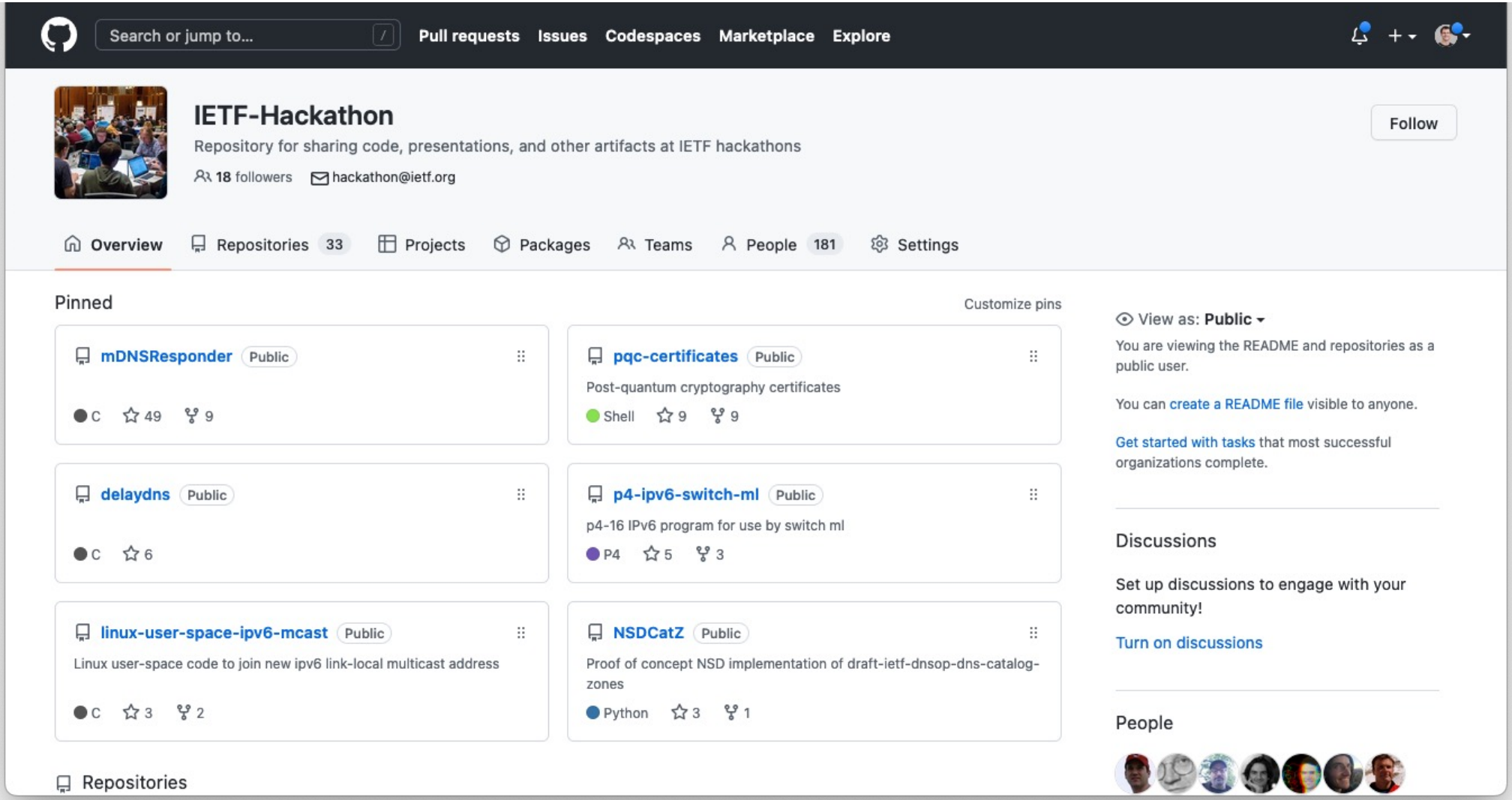
- Advance pace and relevance of IETF standards
  - Flush out ideas, feed back into working groups
- Attract developers, universities
  - Team newcomers with veterans
  - Reduce time to meaningful contribution
- Free, open to everyone
- Collaborative

Participants



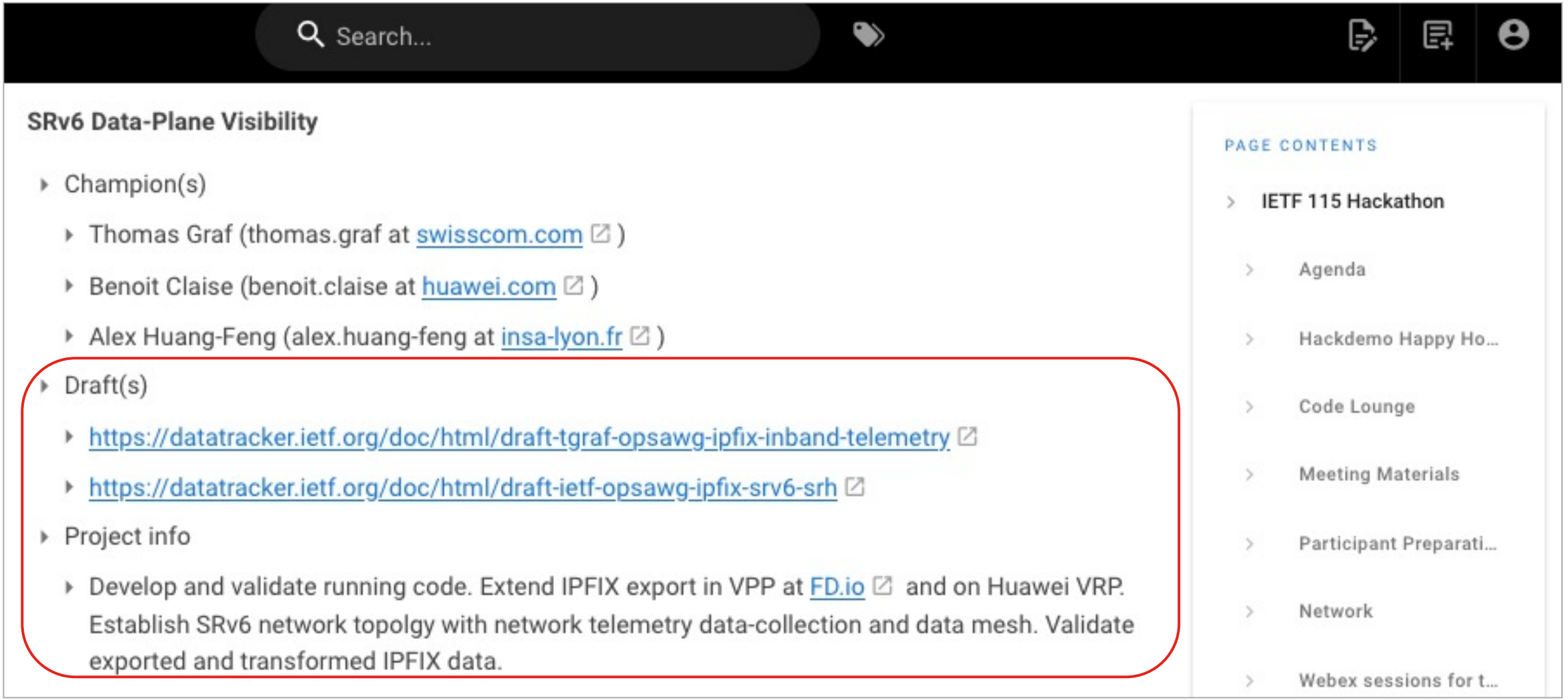
Code in Hands of Developers

https://github.com/ietf-hackathon



Links to standards and code in wikis

https://wiki.ietf.org/en/meeting/115/hackathon



Credit: https://www.amazon.com/Rainbow-Unicorn-Valentines-Candy-Lollipops/dp/B07X2TQXLS

Find Code Related to an Internet-Draft or RFC

https://datatracker.ietf.org/doc/draft-eckel-edm-find-code/

Workgroup:	edm
Internet-Draft:	draft-eckel-edm-find-code-02
Published:	10 January 2023
Intended Status:	Best Current Practice
Expires:	14 July 2023

Author:	C. Eckel
	Cisco Systems

Find Code Related to an Internet-Draft or RFC

Abstract

Code related to existing IETF standards and ongoing standardization efforts may exist and be publicly accessible in many places. This document provides a set of practices to make it easier to identify and find such code.

The RFC Editor will remove this note

Discussion Venues

This note is to be removed before publishing as an RFC.

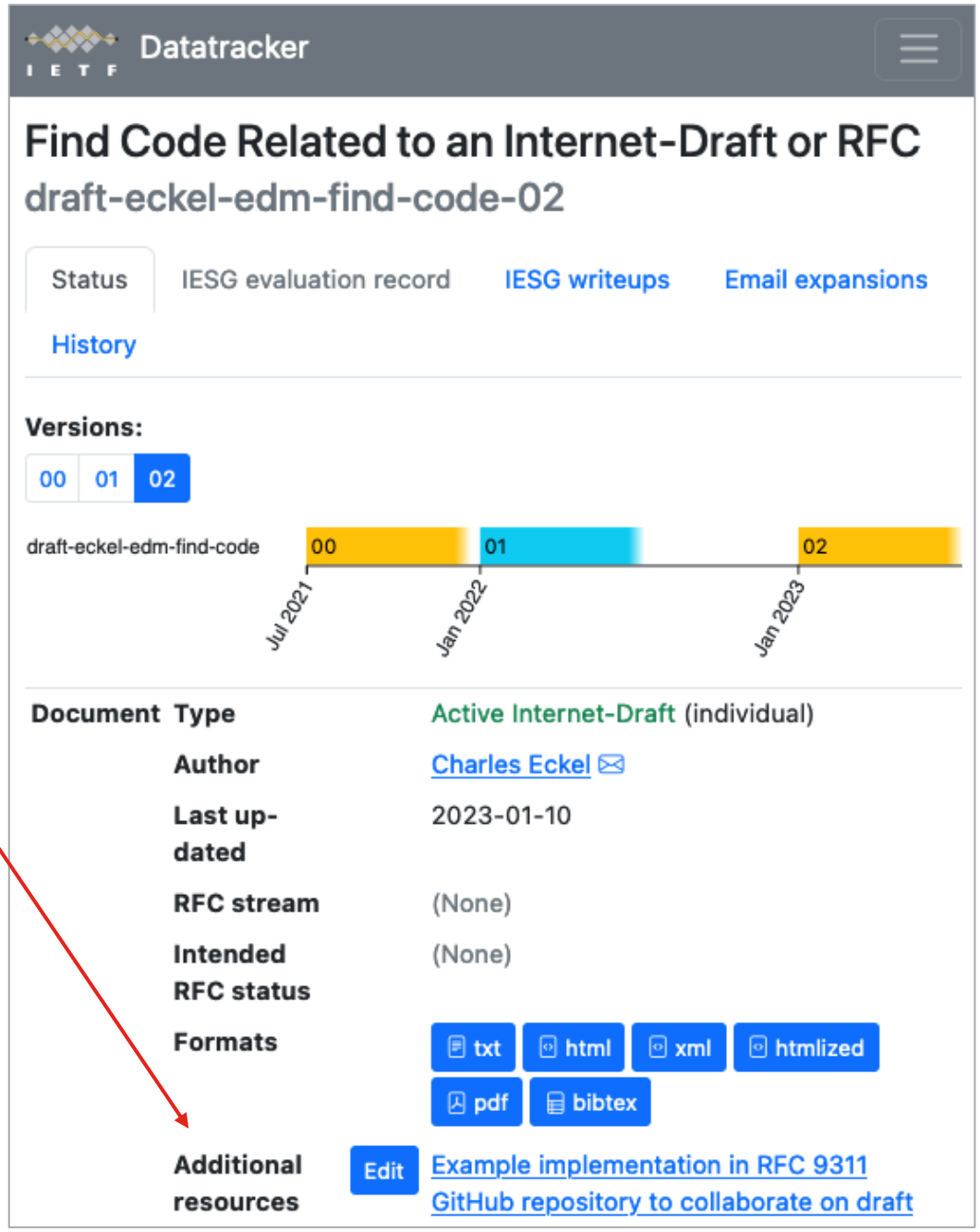
Discussion of this document takes place on the Evolvability, Deployability, & Maintainability mailing list (edm@iab.org), which is archived at https://mailarchive.ietf.org/arch/browse/edm/.

Source for this draft and an issue tracker can be found at https://github.com/eckelcu/draft-eckel-edm-find-code.

Table of Contents

related-implementations

- For individual drafts, authors can add code as “Additional resources”
- For working group drafts and RFCs, working group chairs can edit



related-implementations

- For individual drafts, authors can add code as “Additional resources”
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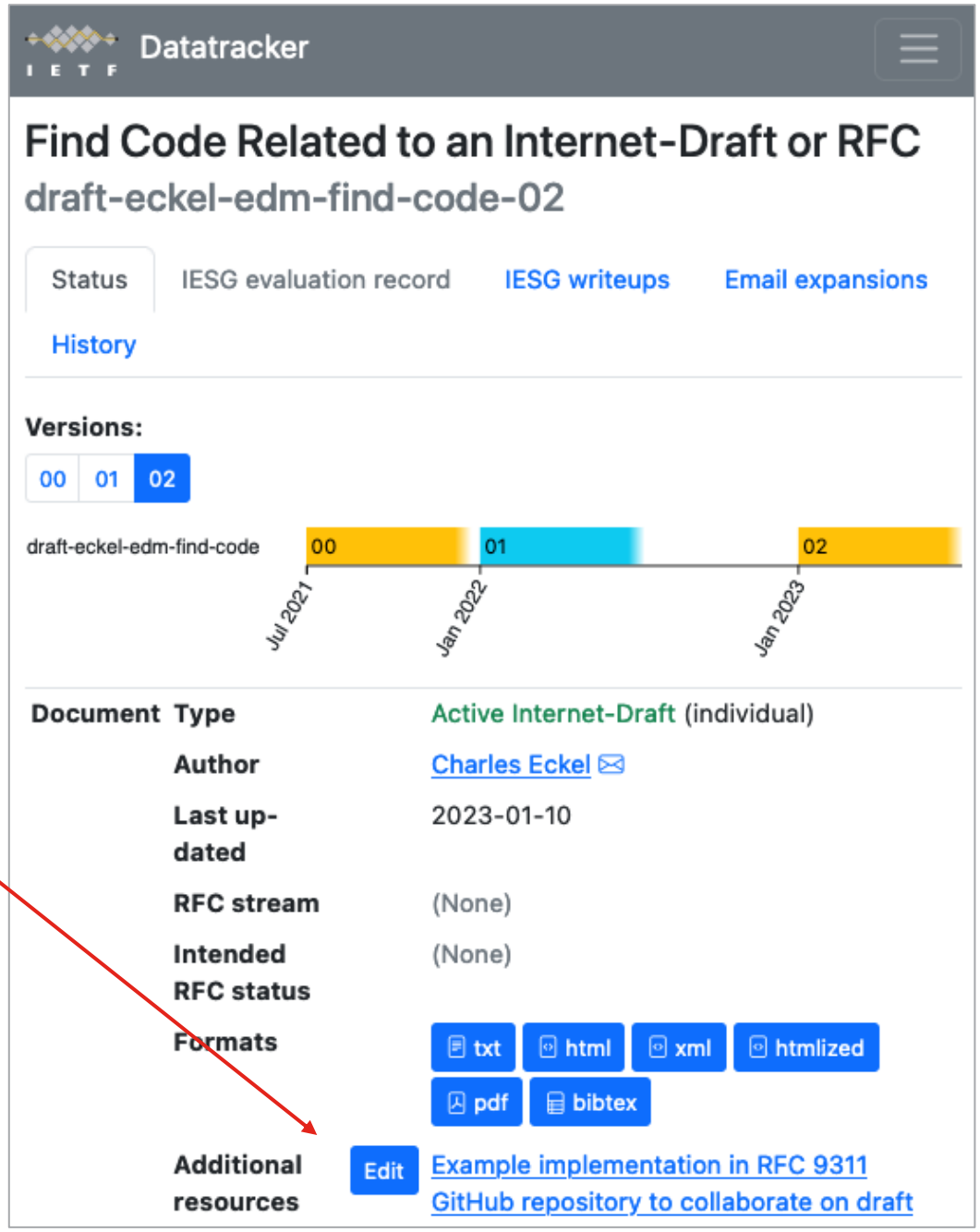
Additional Resources

```
github_repo https://github.com/eckelcu/draft-eckel-edm-find-code
(GitHub repository to collaborate on draft)
related_implementations https://datatracker.ietf.org/doc/rfc9311/
(Example implementation in RFC 9311)
```

Format: 'tag value (Optional description)'. Separate multiple entries with newline. When the value is a URL, use https:// where possible.



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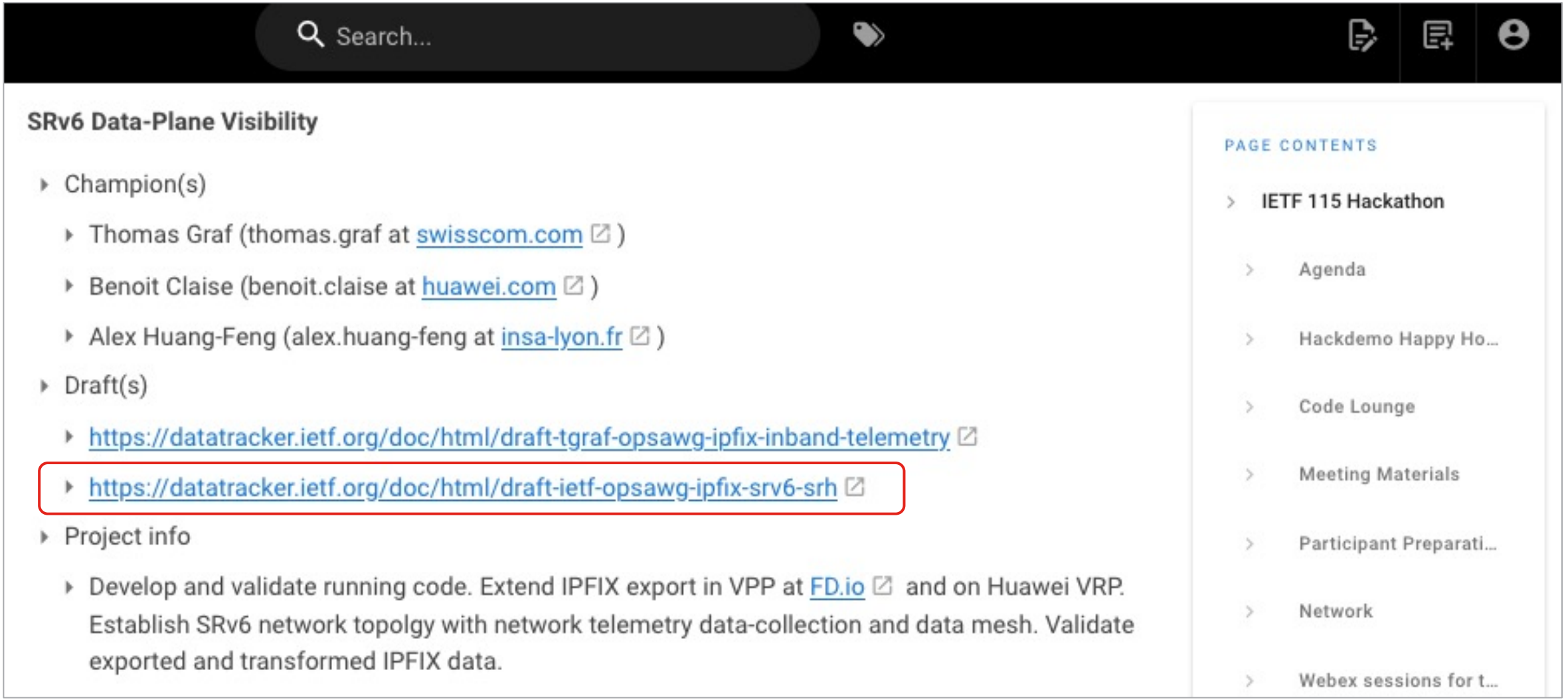


Datatracker

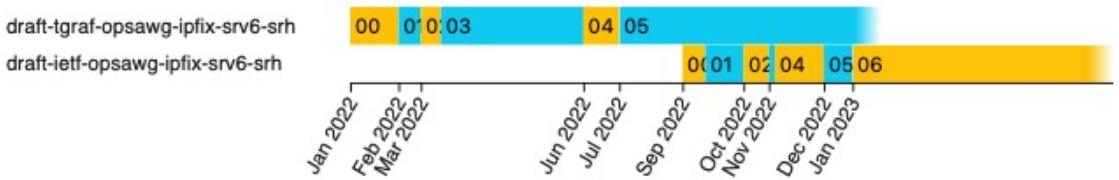
Export of Segment Routing over IPv6 Information in IP Flow Information Export (IPFIX)

draft-ietf-opsawg-ipfix-srv6-srh-06

Status | IESG evaluation record | IESG writeups | Email expansions | History

Versions:

00 01 02 03 04 05 06



Document	**Type**	Active Internet-Draft (opsawg WG)
	Authors	Thomas Graf, Benoît Claise, Pierre Francois
	Last updated	2023-01-06 (Latest revision 2023-01-05)
	Replaces	draft-tgraf-opsawg-ipfix-srv6-srh
	RFC stream	Internet Engineering Task Force (IETF)
	Intended RFC status	Proposed Standard
	Formats	txt html xml htmlized pdf bibtex
	Additional resources	Related Implementations Mailing list discussion
Stream	**WG state**	Submitted to IESG for Publication

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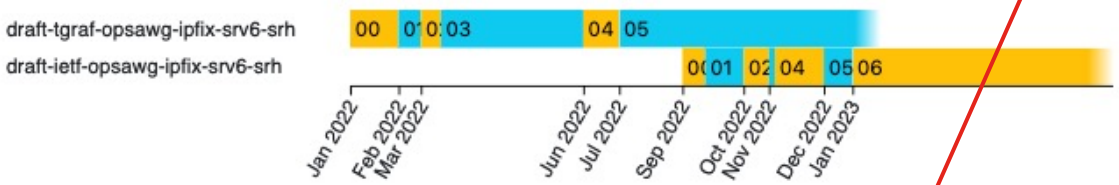

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insa-unyte / **vpp-srh-onpath-telemetry** Public

SRH and On-path telemetry export in IPFIX for VPP

Apache-2.0 license

4 stars 1 fork

Starred | Watch

Code | Issues | Pull requests 1 | Actions | Projects

master

ahuangfeng feat: update ioam patch reference ... 20 hours ago 48

View code

README.md

VPP topologies

This repository have the vpp configurations for the following POCs in VPP:

- draft-tgraf-opsawg-ipfix-srv6-srh
- draft-tgraf-opsawg-ipfix-on-path-telemetry

Dependencies

- VPP fork repository: INSA-unyte-vpp
- Tested in `ubuntu/focal64` using Vagrantfile

CALL TO ACTION!

Make it easy to find and use code related to standards

Create links between open source and standards

Make standards consumable by developers

Make open source consumable by industry

Thank you!