IETF 122

IRTF
Decentralization of the Internet Research Group

2025-03-17

This session is being recorded

Internet Engineering Task Force
© 2022 IETF Trust
Production by Meetecho

IETF®

Note Well – Intellectual Property

- **The IRTF follows the IETF Intellectual Property Rights (IPR) disclosure rules**
- By participating in the IRTF, you agree to follow IRTF processes and policies:
  - If you are aware that any IRTF 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
  - The IRTF expects that you file such IPR disclosures in a timely manner – in a period measured in days or weeks, not months
  - The IRTF prefers that the most liberal licensing terms possible are made available for IRTF Stream documents – see RFC 5743
  - Definitive information is in RFC 5378 (Copyright) and RFC 8179 (Patents, Participation), substituting IRTF for IETF, and at https://irtf.org/policies/ipr

Note Well – Privacy & Code of Conduct

- As a participant in, or attendee to, any IRTF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public
- Personal information that you provide to IRTF will be handled in accordance with the Privacy Policy at https://www.ietf.org/privacy-policy/
- 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
- See RFC 7154 (Code of Conduct) and RFC 7776 (Anti-Harassment Procedures), which also apply to IRTF

Goals of the IRTF

- The Internet Research Task Force (IRTF) focuses on longer term research issues related to the Internet while the parallel organisation, the IETF, focuses on shorter term issues of engineering and standards making

- **The IRTF conducts research; it is not a standards development organisation**

- While the IRTF can publish informational or experimental documents in the RFC series, its primary goal is to promote development of research collaboration and teamwork in exploring research issues related to Internet protocols, applications, architecture, and technology

- See “An IRTF Primer for IETF Participants” – RFC 7418

DINRG Administrativia

- IRTF RG on Decentralized Internet Infrastructure
- Mailing list: din@irtf.org
- Web: https://irtf.org/dinrg
- Chairs
  - Dirk Kutscher, HKUST(GZ)
  - Lixia Zhang, UCLA
- This meeting
  - **Note takers: Saidu Sokoto, David Guzman**

DINRG publications

- Research outcome should be published via research channels
  - Already published RFCs, if any, are grandfathered
- Everyone is welcome to add contributions and relevant materials to DINRG wiki

https://wiki.ietf.org/en/group/dinrg

DIN RG - IRTF Decentralized Internet Infrastructure

IRTF Decentralized Internet Infrastructure (DIN RG)

Decentralization of the Internet Research Group (DINRG) Wiki

The Decentralization of the Internet Research Group (DINRG) aims to provide for the research and engineering community, both an open forum to discuss the Internet centralization phenomena and associated potential threats, and a platform to facilitate the coordination of efforts in identifying the causes of observed consolidations and the mitigation solutions.

DINRG Administrative Information

- Official DINRG web page
- Mailing list
- Charter
- Previous Meetings
- Current chairs dinrg-chairs@ietf.org
  - Dirk Kutscher
  - Lixia Zhang

KEY SUBJECTS

Groups

Meetings

POPULAR PAGES

IETF 118 Hackathon

IETF 118 Meeting Wiki

HELP

Contributing to this wiki

Sandbox

Please Contribute

Research Resources

Active Documents

- M. McFadden, Ed. "A Taxonomy of Internet Consolidation", October 2023.
  https://datatracker.ietf.org/doc/draft-mcfadden-consolidation-taxonomy/

Obvservations and Measurements

- Christian Huitema, Geoff Huston, Dirk Kutscher, and Lixia Zhang.
  "Report of 2021 DINRG Workshop on Centralization in the Internet"
  ACM Computer Communication Review 53, 2 (April 2023), 31–39. https://doi.org/10.1145/3610381.3610386
- Leonhard Balduf, Maciej Korczyński, Onur Ascigil, Navin V. Keizer, George Pavlou, Björn Scheuermann, and Michał Król
  "The Cloud Strikes Back: Investigating the Decentralization of IPFS" In Proceedings of 2023 ACM on Internet Measurement Conference (IMC '23). Association for Computing Machinery, New York, NY, USA, 391–405.
  https://doi.org/10.1145/3618257.3624797
- Gautam Akiwate, Kimberly Ruth, Rumaisa Habib, Zakir Durumeric; On the Centralization and Regionalization of the Web; 2024; https://arxiv.org/abs/2406.19569

New Designs and Technology

- Martin Kleppmann, Adam Wiggins, Peter van Hardenberg, and Mark McGranaghan. 2019. Local-first software: you own your data, in spite of the cloud. In Proceedings of the 2019 ACM SIGPLAN International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software (Onward! 2019). Association for Computing Machinery, New York, NY, USA, 154–178. https://doi.org/10.1145/3359591.3359737
- Navin V. Keizer, Onur Ascigil, Michał Król, Dirk Kutscher, and George Pavlou; A Survey on Content Retrieval on the Decentralised Web; ACM Computing Surveys; (March 2024; https://doi.org/10.1145/3649132
- Ash Wilson, Shumon Huque, Olle E. Johansson, Michael Richardson; An Architecture for DNS-Bound Client and Sender Identities; Internet Draft draft-ietf-dance-architecture (Work in Progress); May 2024;
  https://datatracker.ietf.org/doc/draft-ietf-dance-architecture/06/
- Tianyuan Yu, Xinyu Ma, Varun Patil, Yekta Kocaogullar, Yulong Zhang, Jeff Burke, Dirk Kutscher, Lixia Zhang; Secure Web Objects: Building Blocks for Metaverse Interoperability and Decentralization; IEEE MetaCom 2024; August 12-14 2024; Hong Kong, China; pre-print
- Tianyuan Yu, Xinyu Ma, Varun Patil, Yekta Kocaogullar, Lixia Zhang; Exploring the Design of Collaborative Applications via the Lens of NDN Workspace; IEEE MetaCom 2024; August 12-14 2024; Hong Kong, China; pre-print

Regulation

Economics

Agenda

1	DINRG Chairs' Presentation: Status, Updates	Chairs	05 min
2	CoNEXT DIN Workshop summary	Dirk Kutscher	15 min
3	DIN Review since re-chartering	Lixia Zhang	15 min
4	A Closer Look into IPFS: Accessibility, Content, and Performance	Ruizhe Shi	20 min
5	Looking at the Blue Skies of Bluesky	Gareth Tyson	20 min
6	Comparison of App implementations over TCP/IP and NDN	Tianyuan Yu	20 min
7	Discussion, Wrap-up & Buffer	Chairs	25 min

Presentations

DINRG Future Meetings

- Planning to meet at IETF-123 (Madrid)
    - Your input wanted