

# Internet (De)Centralization

Collection of Breakout Session Thoughts

# Decentralization desired?

- Removal of dependencies
  - Single points of failures
  - Resilience
- But: fewer (centralized) actors mean less overhead, more efficiency
  - Better resource management, scalability
  - Economic advantages (economies of scale, network effects, user data)
  - Less competition
  - End user convenience
  - goal: service provider lock-in
- “Gatekeepers”, Digital Markets/Service Act, multidimensional problem

# When “decentralized” enough?

- Flat hierarchy
- Potentially: less than 50% market share
- No monopolies or oligopolies
- Services with discrete activities, rather than “single service”
- No difficulties when entering as new service
  - Current problems: reachability, discovery
- Ex.: Bitcoin
  - Storage decentralized
  - mining fairly centralized (mining pools)
  - consensus protocol implementation heavily governed/consolidated

# Communication Infrastructure

- Internet is critical infrastructure
- E.g., Starlink connectivity for Ukraine
- Dependencies bad to have for critical infrastructure

# Example: Search Index

- Has to contain all pages, costly to build
- No other competitors/alternatives?
- Google owns all of it
  - Data collection to improve their services, data economy
  - Data usage within acceptance/relevance of end users
    - No visible negative impact (not serving inappropriate ads although they would be relevant)
    - Intransparency of data usage to end users
  - Due to lack of policies and regulations?

# Some discussed Questions/Keywords

- Why did Google promote/push QUIC for IETF standardization?

Who controls:

- What information we see
- APIs
- Fonts
  
- Risk: Internet Fragmentation (national, echo chambers)
  - Cf. service fragmentation: Netflix, Disney+, Prime Video, ...
  - Solution: Interoperable standards?
  - See Digital Markets Act for messengers:
    - however, different security models might cause difficulties
    - Also: mobile phone number as identifier (permanent, consistent); no privacy, contradiction?