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?