

Fragmentation & centralization

Beyond “free” and “closed”

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**DAYLIGHT
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Future of the Internet Initiative White Paper

Internet Fragmentation: An Overview

What *is* Internet
fragmentation?

The intuitive picture

The supposedly “global” Internet is becoming *increasingly different in different countries*.

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The supposedly “global” Internet is becoming *increasingly different in different countries*.

Consequences for...

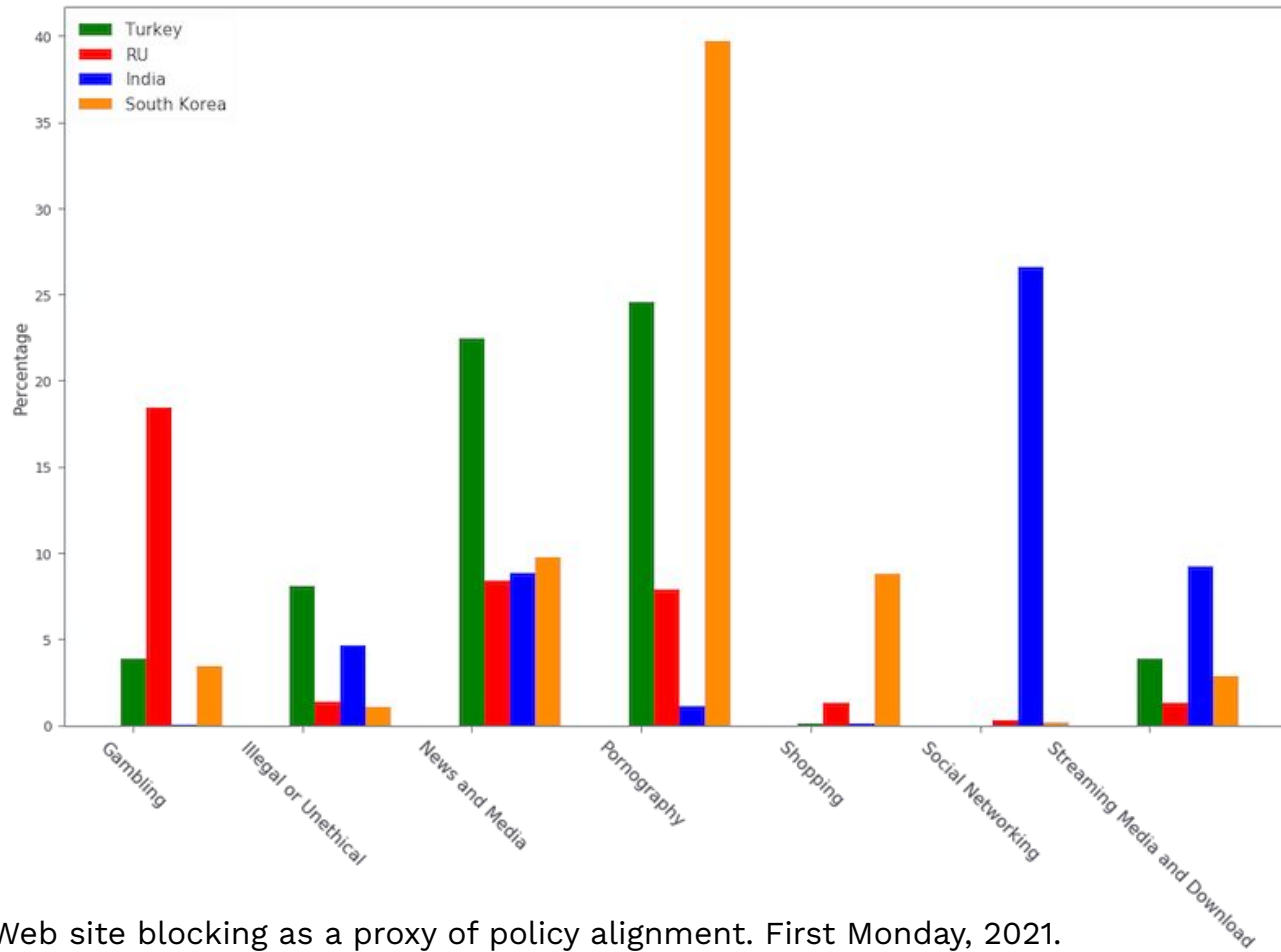
- freedom of speech
- investment/technological development
- political relations (more on this later...)

Finding #1: The Internet is multi-polar.

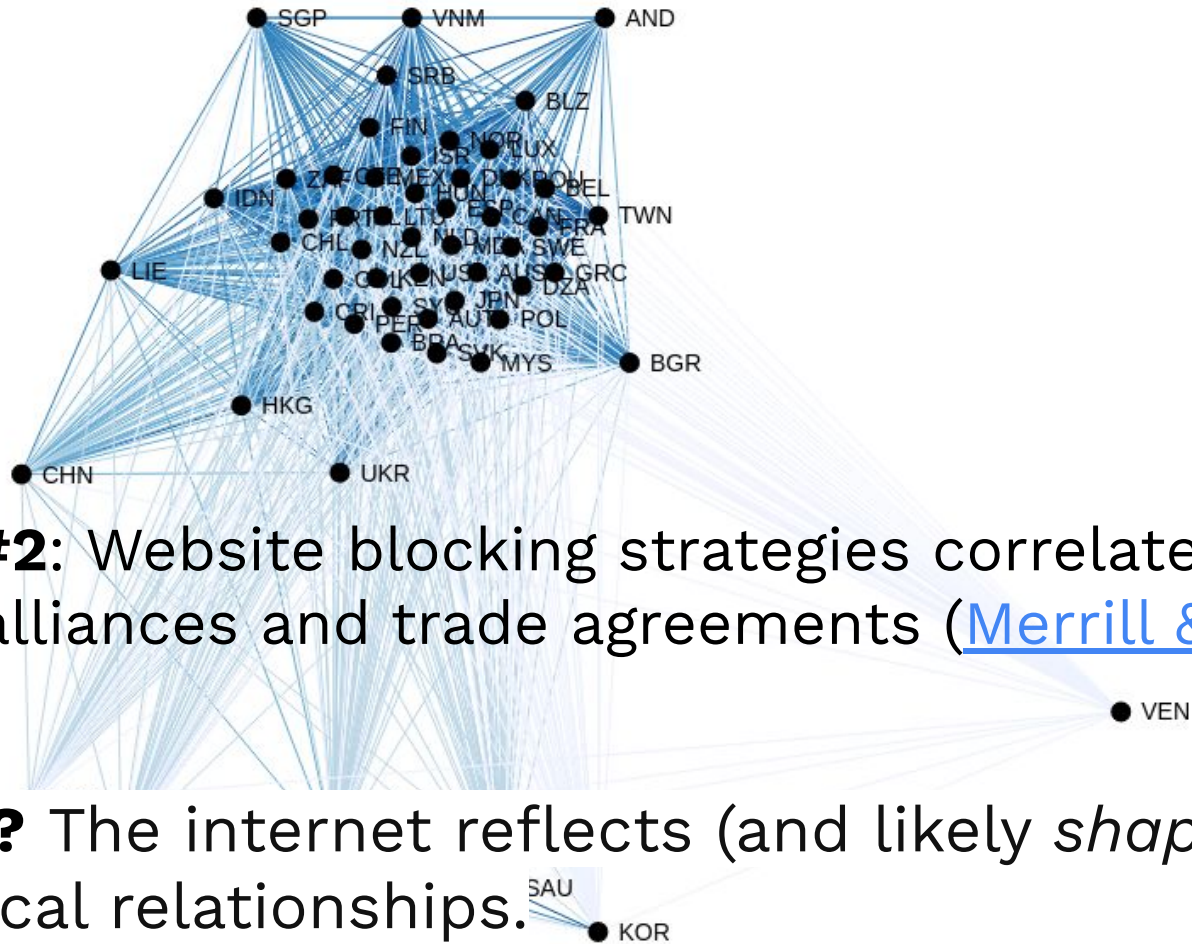
So what? Internet fragmentation is *much* more complex than “free/global” vs “closed/siloed.”

What about content
blocking?

Category-wise blocking in countries



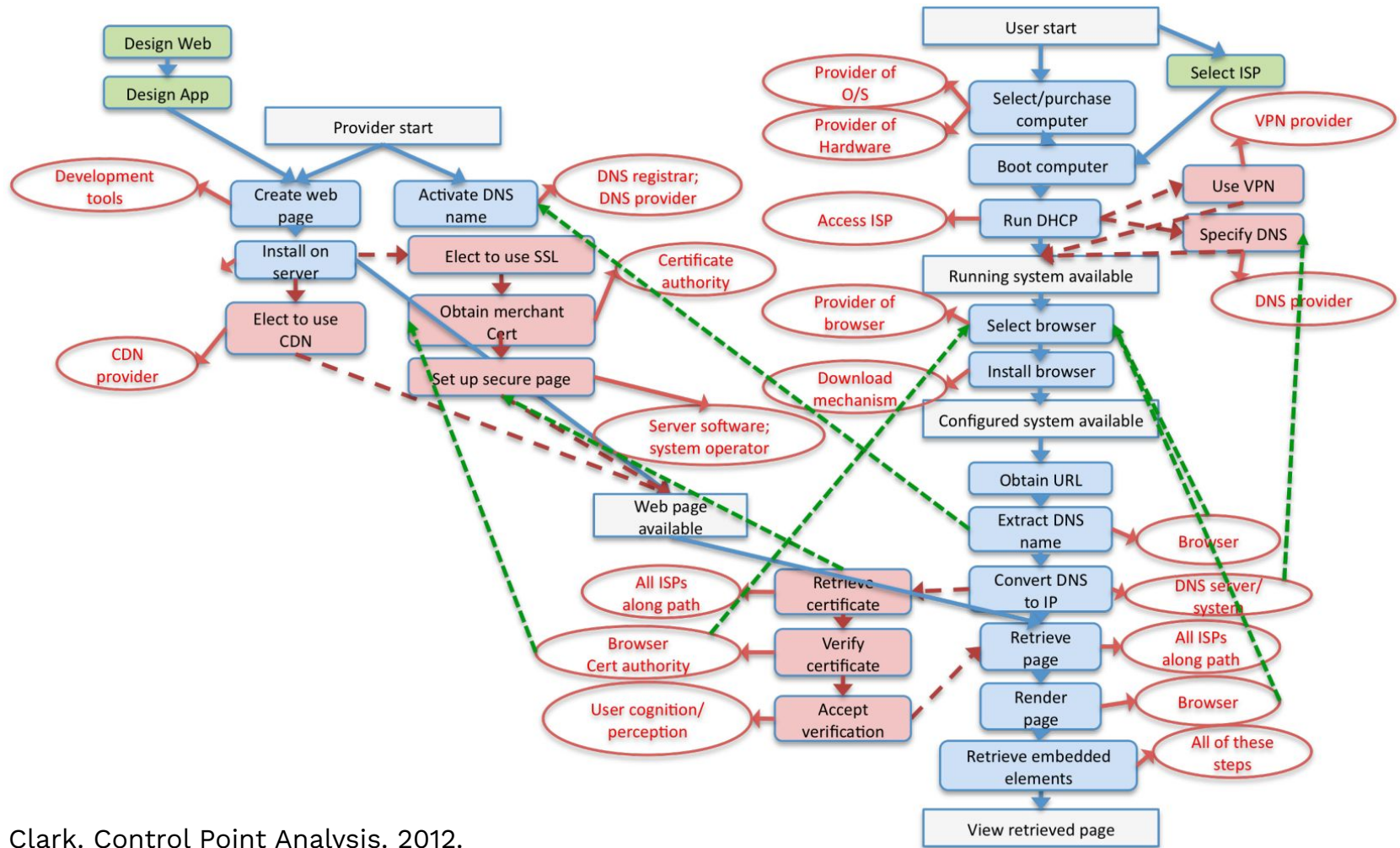
Merrill & Weber. Web site blocking as a proxy of policy alignment. First Monday, 2021.



Finding #2: Website blocking strategies correlate with military alliances and trade agreements ([Merrill & Weber, 2021](#)).

So what? The internet reflects (and likely *shapes*) geopolitical relationships.

But not everyone's 'say'
in internet governance is
equal, right...?



“Control points”

SSL certificates

web hosting

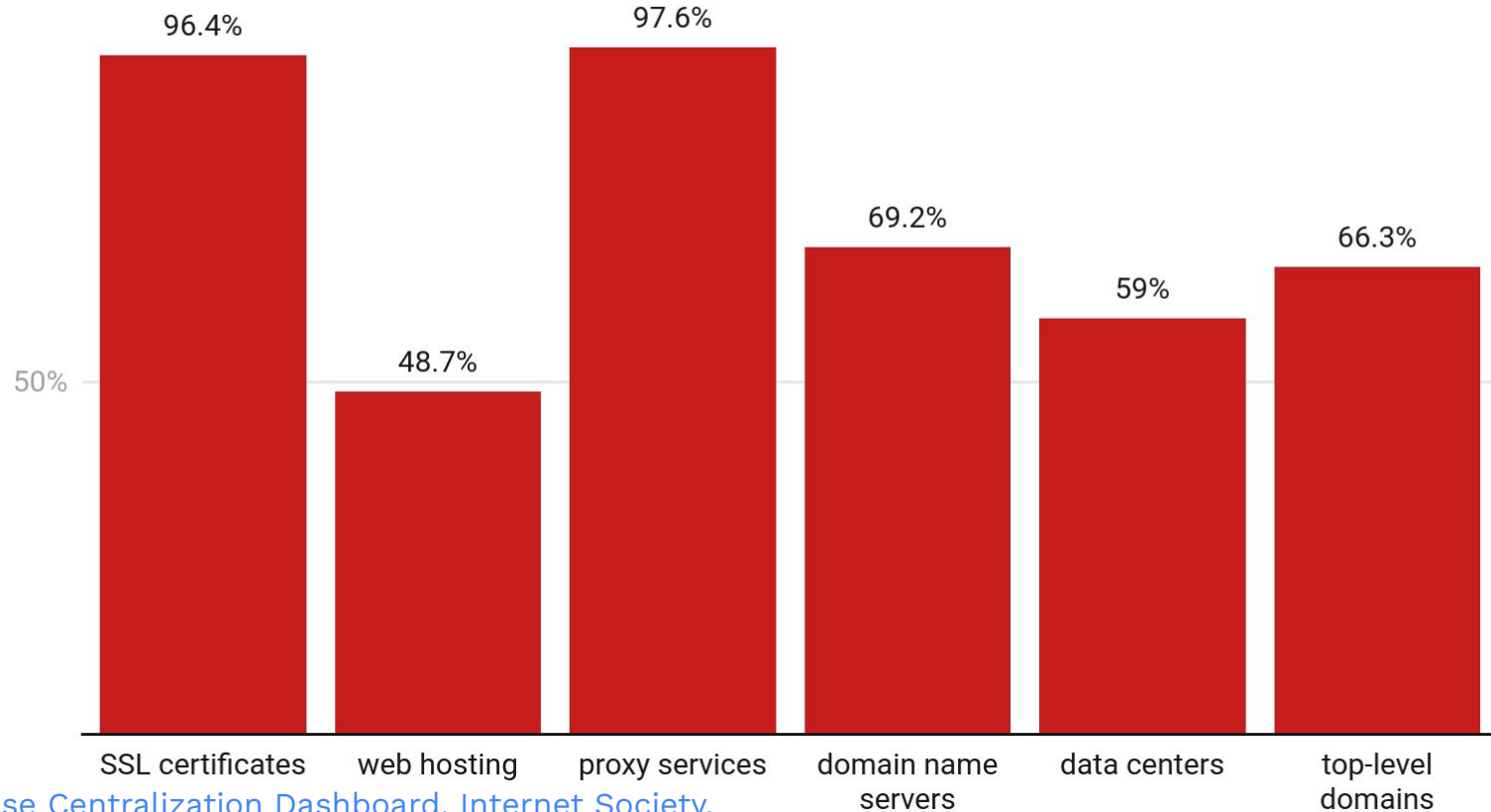
proxy services

domain name
servers

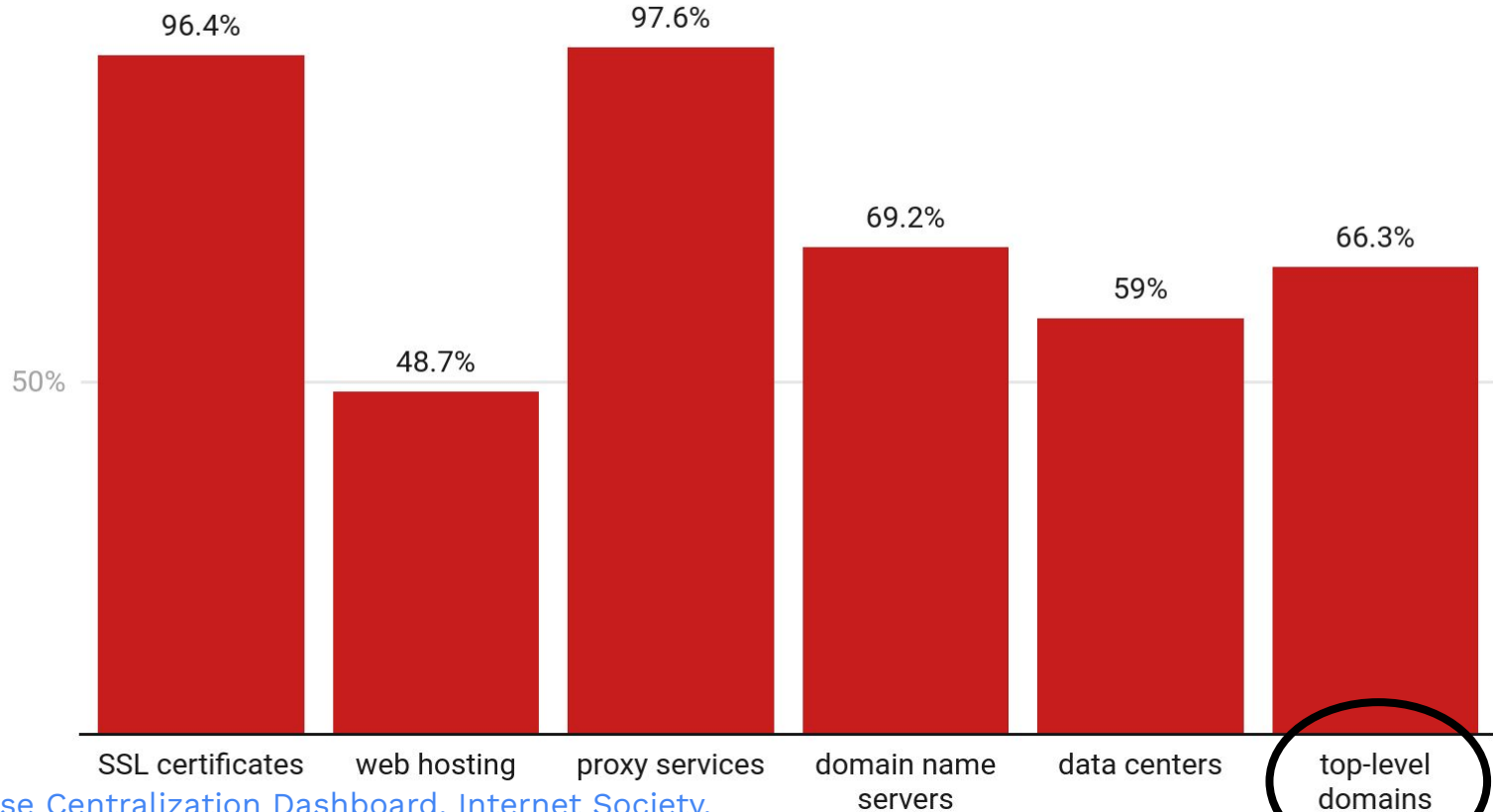
data centers

top-level
domains

The proportion of core internet services provided by U.S.-based companies by marketshare.



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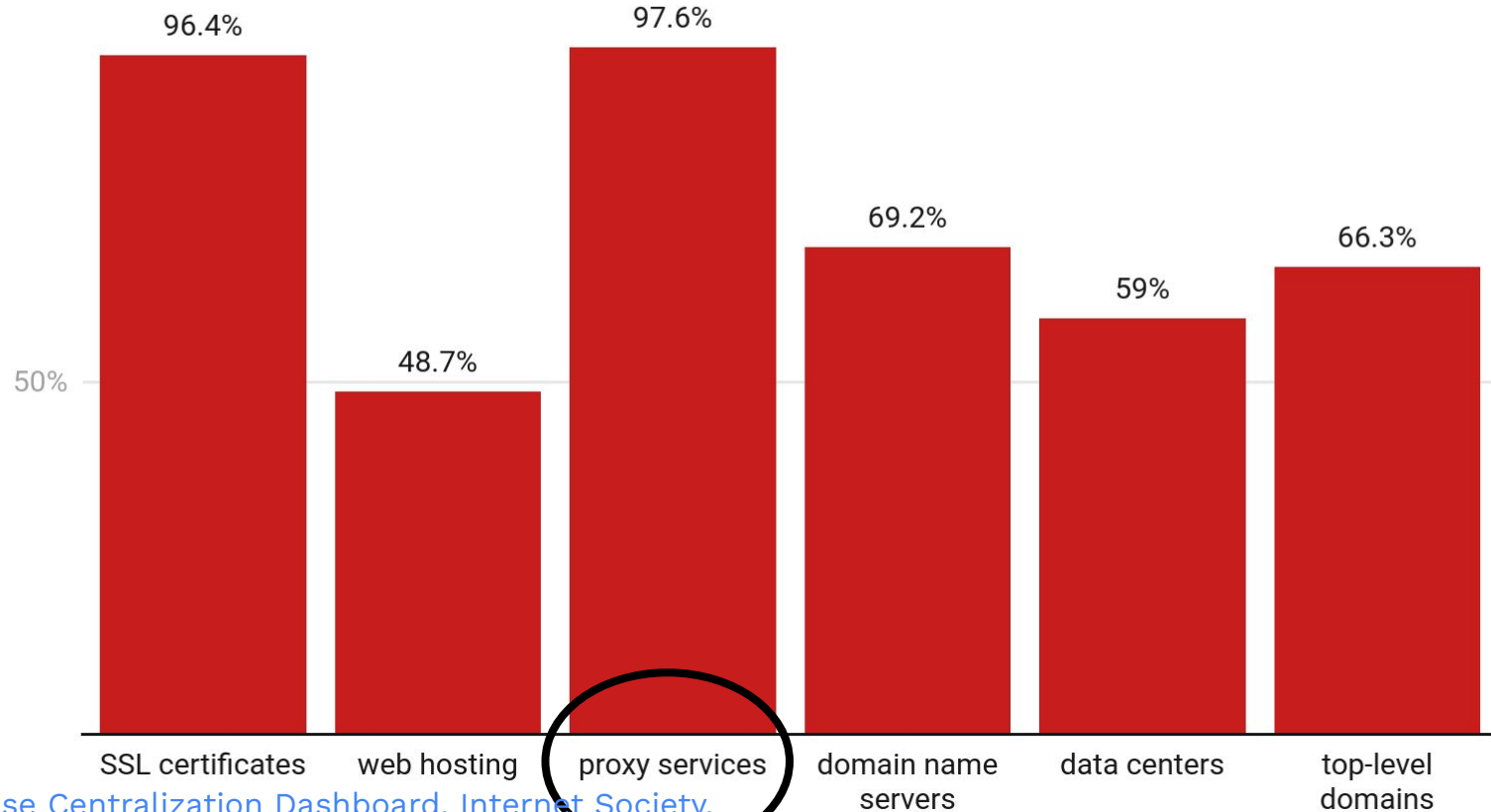




This domain name has been seized by ICE - Homeland Security Investigations, pursuant to a seizure warrant issued by a United States District Court under the authority of 18 U.S.C. §§ 981 and 2323.

Willful copyright infringement is a federal crime that carries penalties for first time offenders of up to five years in federal prison, a \$250,000 fine, forfeiture and restitution (17 U.S.C § 506, 18 U.S.C. § 2319). Intentionally and knowingly trafficking in counterfeit goods is a federal crime that carries penalties for first time offenders of up to ten years in federal prison, a \$2,000,000 fine, forfeiture and restitution (18 U.S.C. § 2320).

The proportion of core internet services provided by U.S.-based companies by marketshare.

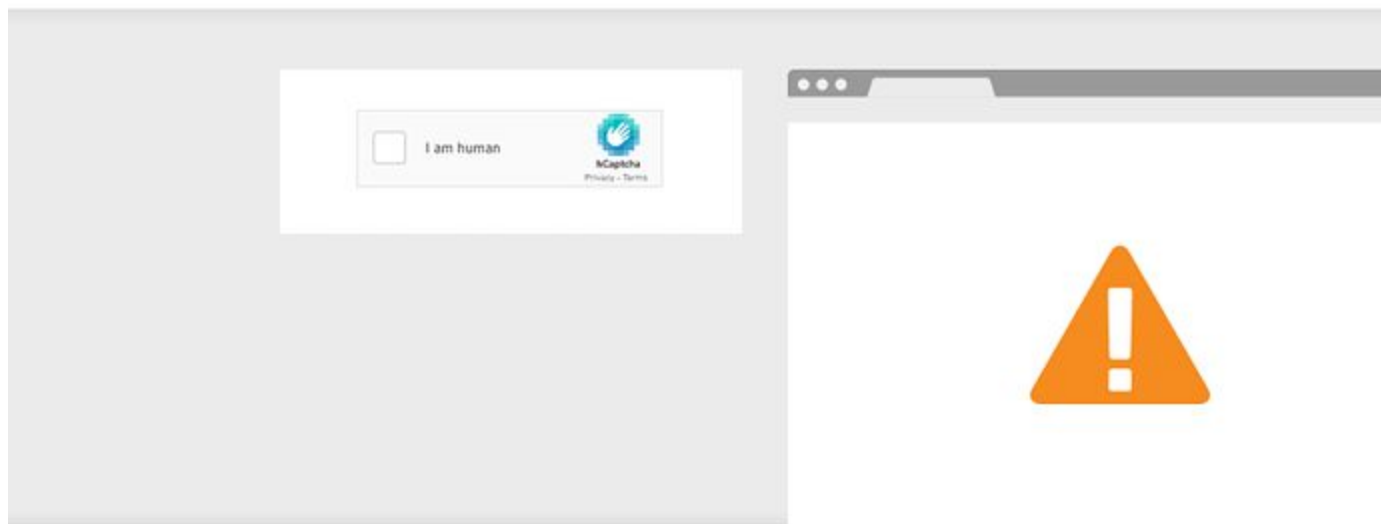


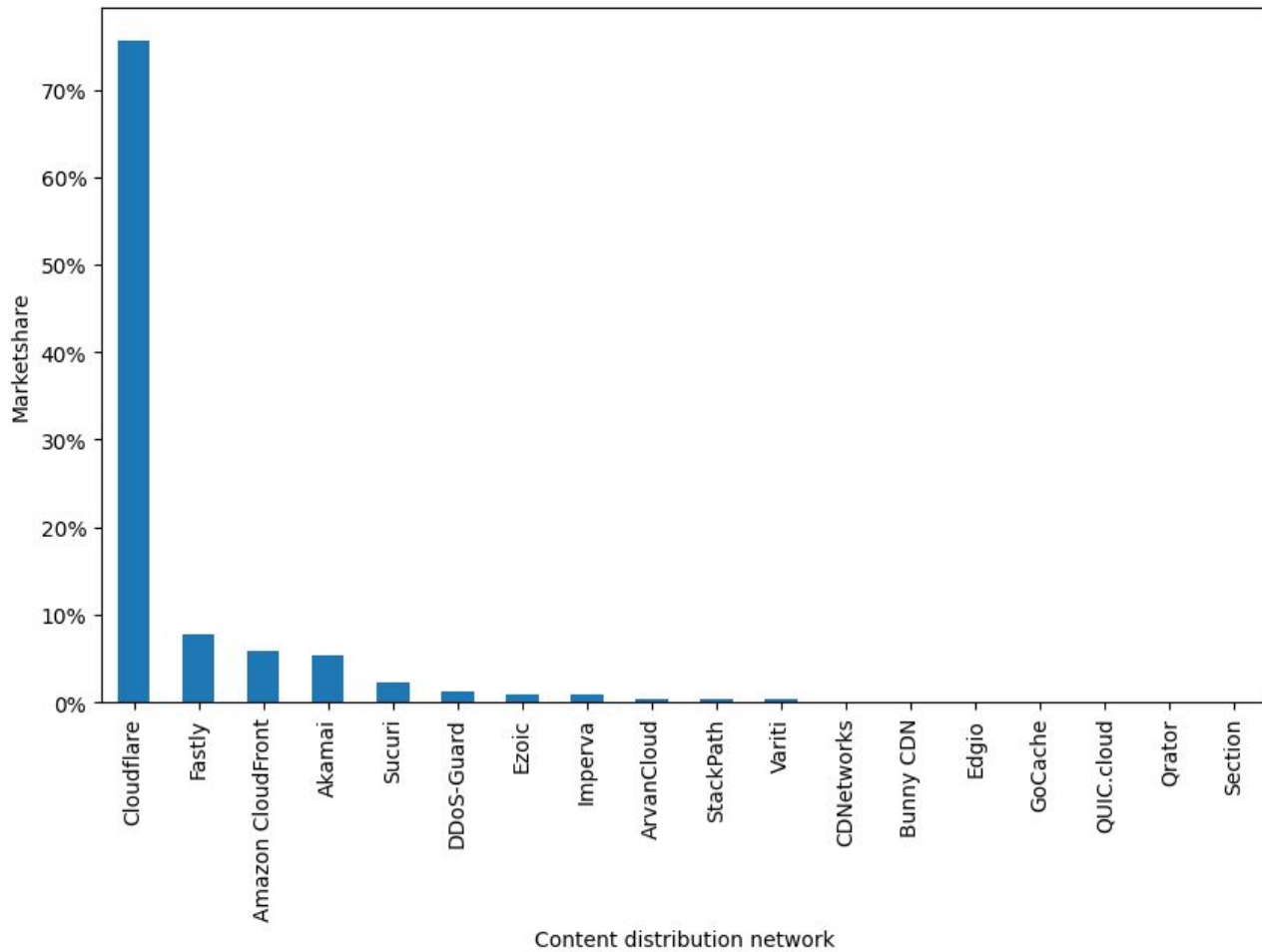
[Merrill, Pulse Centralization Dashboard, Internet Society.](#)



One more step

Please complete the security check to access www.dawn.com





[Merrill & Narechania. Inside the Internet. Duke Law Review, 2023 \(forthcoming\).](#)

Finding #3: U.S. organizations effectively control the global internet.

So what? Internet fragmentation not a response to a global internet; it's a response to a *U.S.-controlled* internet.



What now?

- The internet *reflects* (and likely goes on to *shape*) political realities.
- Discussions about the internet, and what to do with it are intrinsically political decisions
- If we want to change the distribution of power on the internet, we must first understand the **political economy of the internet**---including state and non-state actors.

Political economy question #1

How does the market for core internet services “fit together”?

→ Who is the customer for technologies that may introduce a modicum of decentralization (like Shenker et al.’s Interedge)? What are their (commercial) incentives to adopt these technologies?

→ What is the nature of the commercial relationships between CDNs and telecoms? (Particularly telecoms that own content delivery platforms, like AT&T/HBO MAX?)