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## Measuring Shutdowns and More



**Internet Society**  
**Pulse**

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# Internet Society Pulse – Why?

Bridge the gap between Internet measurement research and non-scientific audiences (journalists, public policymakers, other researchers...)

Provide a trusted source of information about the Internet – make good, relevant data and interpretations easier to find, share, and reuse.

Help to inform and support other projects & communities of interest.



Photo by [Markus Winkler](#) on [Unsplash](#)



# Internet Society Pulse – What?

Curating trusted third-party Internet measurement data from various sources on a single platform.

Examine trends, generate reports, and tell data-driven stories.

Available to everyone, everywhere so that policymakers, researchers, journalists, network operators, civil society groups and others can better understand the health, availability, and evolution of the Internet.



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# Internet Society Pulse – How?

## Focus Areas

- Internet Shutdowns
- Enabling Technologies
- Internet Centralization
- Internet Resilience (Africa)
- ...

## And coming soon (Q4)

- Country & Region Reports



Photo by [Elisa Michelet](#) on [Unsplash](#)

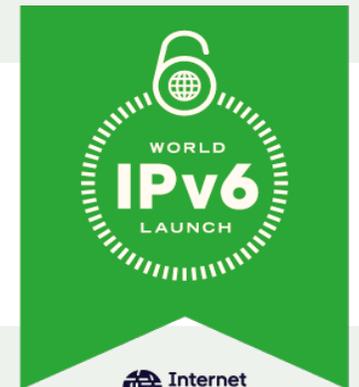


Data partners – thanks!



**OONI**

**W<sup>3</sup>Techs**  
Web Technology Surveys



Internet Society



# Internet Shutdowns

*An Internet shutdown is an intentional disruption of Internet-based communication, making it inaccessible or unavailable in a specific location.*

- Developing curated database of Shutdown events.
- Working with key partners to populate, archive, and verify events as they occur.
- Pulse supports queries by date and location.
- Provide a platform for Internet Society Chapters in impacted countries to share their experiences and first-hand accounts of impacts on social and economic life.
- Partners include OONI, Center for Applied Internet Data Analysis (CAIDA), AccessNow



## Internet Shutdowns

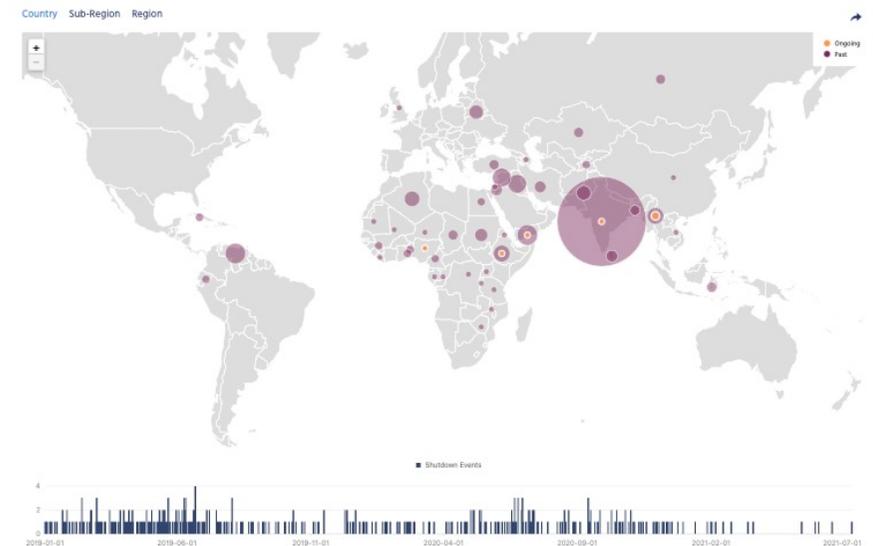
An Internet shutdown is an intentional disruption of Internet-based communication, making it inaccessible or unavailable in a specific location. Restrictions to Internet access are on the rise globally, with frequent news of government-mandated disruptions of Internet access. Driven largely by political and national security concerns, state-ordered Internet shutdowns have become the 'new normal' in many countries.

Internet Society Pulse curates information about Internet shutdown events occurring around the world, and looks at the economic and human impact of these actions. Data on regional and national scale disruptions to Internet connectivity is included, as well as on application-level blocking and content blocking (where Internet connectivity remains available but access to certain websites or applications is limited).

### Related Pulse Posts

- Understanding India's Internet Shutdowns
- Ethiopian Resources for Open Access and Digital Safety
- Another Internet Blackout in Syria During Exams

READ OUR POSITION ON INTERNET SHUTDOWNS



## Events



# Internet Shutdowns

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The screenshot shows the Internet Society Pulse website. The header includes the Internet Society Pulse logo and navigation links: Shutdowns, Technologies, Resilience, Pulse Blog, About, FAQ, Data Partners, and a language selector (EN). The main content area is titled "Internet Shutdowns" and features a section for "Cuba" with a date and time range: "July 11, 2021 20:00 - 21:00 (1 hour)". A button labeled "READ OUR POSITION ON INTERNET SHUTDOWNS" is visible. Below this, there are sections for "Affected services" (WhatsApp, Telegram), "Media coverage" (with a list of links to news articles), and "Related blog posts" (with a list of links to blog entries). The bottom of the page shows a tweet about internet disruption in Cuba.

# Enabling Technologies

*Enabling technologies contribute to improving the scalability, security, trust and availability of the open Internet.*

Presenting data on IPv6, TLS1.3, DNSSEC, HTTP/3, and HTTPS

Plan to add additional technologies over time

Will help with local and regional advocacy around technology deployment initiatives



## Enabling Technologies

New technologies are essential to enable the Internet to keep growing, evolving and meeting the changing expectations of users. Enabling technologies contribute to improved Internet scalability, security, trust and availability.

Internet Society Pulse curates information about levels of IPv6 adoption in countries and networks around the world, progress being made towards an encrypted web, indicators of DNSSEC adoption by the registries for country-code domain names, and data on worldwide adoption of TLS1.3 and HTTP/3.

### Related Pulse Posts

- Regulating IPv6 Deployment
- Three more countries join the DNSSEC club
- Uzbeks celebrate birthday of .uz by deploying DNSSEC



Current percentage of top 1000 websites globally that support secure HTTP.

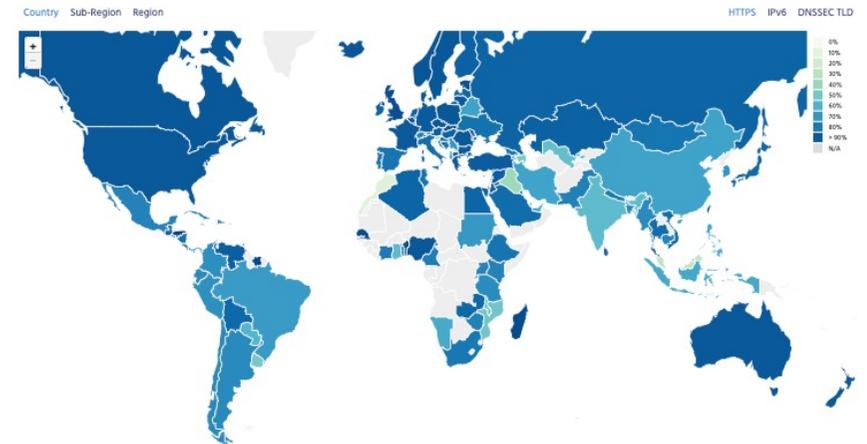


Current percentage of top 1000 websites globally that support IPv6.



Current percentage of top 1000 websites globally that support the latest version of TLS.

Map View Network View



## Global Growth of Enabling Technologies

The charts below show the global growth of key enabling technologies – TLS1.3, HTTP/3, IPv6 and DNSSEC – over time using the latest information from our data partners.



Many popular Internet applications like e-mail and web browsers use Transport Layer Security (TLS) to secure traffic against eavesdropping and against data being tampered with while in transit between clients and servers. Over time, flaws in early versions of TLS have been identified leading to substantial improvements to the



Hypertext Transfer Protocol (HTTP) is a fundamental part of the World Wide Web. In addition to powering the web, HTTP is increasingly used to transfer data between Internet-connected devices of all kinds. The latest version of HTTP (HTTP/3) marks quite a radical departure from the past by adopting a completely new transport

# Internet Centralization

Based on measurements of Top Websites

Includes analysis of 7 technology markets (CDN, SSL Cert, TLD, Hosting, DC, Name Server, Location)

Distilled into two metrics of centralization, tracked over time

- Gini coefficient
- Herfindahl-Hirschman Index (HHI)



# Internet Resilience

*Resilience is the ability to provide and maintain an acceptable level of service in the face of faults and challenges to normal operation.*

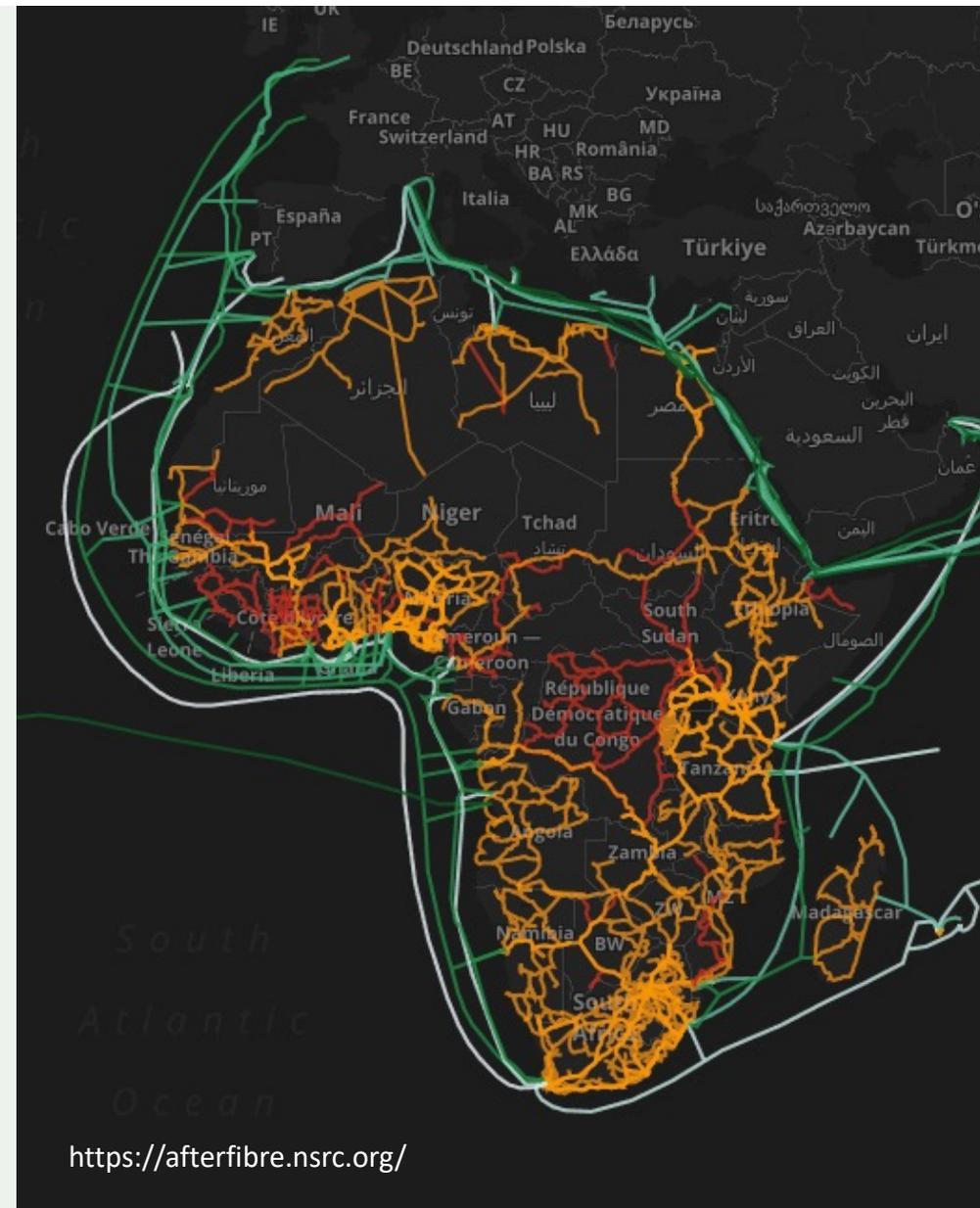
Initial scope is Africa, intention is to scale out to other regions. Joint work with AFRINIC.

Methodology white paper published

Working with initial target countries

Building strategic relationships with key measurement, technical, and regulatory communities across the region.

Check out our recent MIRA webinar



We're very interested in feedback and identifying additional data partners to help grow the platform and make it useful to as broad an audience as we can.



Follow us on Twitter - @isoc\_pulse

Contact us via [pulse@isoc.org](mailto:pulse@isoc.org) with suggestions, feature requests or offers of data

Visit [pulse.internetsociety.org](http://pulse.internetsociety.org) to sign up to our monthly newsletter

Thanks for your attention!



# Thank you.

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